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SHUANG HAO

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A Comparative Study of Structured Early Intervention for Banks in  
the United States, the United Kingdom and China

Shuang Hao

Submitted in accordance with the requirements for the degree of  
Doctor of Philosophy

Durham University

Durham Law School

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## **Abstract**

Banks have always been key players in the financial sector nationally and internationally. After the Global Financial Crisis 2007-2009 (GFC), many countries have gone through reforms of banking regulatory frameworks, especially focusing on mechanisms of early identification and management of banks in distress at early stages (structured early intervention for banks). These mechanisms aim to equip banking regulators with chances and resources to take corrective measures to troubled banks before their financial conditions continue to deteriorate. The United States adopted such a mechanism, Prompt Corrective Actions (PCA), during the Savings and Loans Crisis in 1990s. The United Kingdom has reformed its bank regulatory framework and adopted a similar mechanism, Proactive Intervention Framework (PIF), to manage distressed banks before risks have been materialised, after the GFC. China has been in the process of designing and reforming a particular mechanism for early intervention of troubled banks.

However, existing literature rarely provides detailed and comprehensive breakdowns and analyses of structured early intervention for banks as to what components should be considered as essential and what types of components are effective in the context of early intervention for banks. For China, establishing a tailored mechanism of structured early intervention for banks is necessary, since the stability of the Chinese banking sector, with a great number of banks with global significance, is not only important for China but also for the stability of the international banking sector.

Therefore, this thesis provides a detailed breakdown of important components of structured early intervention for banks, namely triggering events and corrective actions, on the basis of current US, UK and Chinese practice, from a comparative law perspective. More importantly, this thesis analyses what types of components of structured early intervention for banks are effective and suitable for the Chinese banking regulatory framework and proposes a specific mechanism for Chinese structured early intervention for banks.

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## List of Abbreviations

BCBS	Basel Committee on Bank Supervision
BRRD	Bank Recovery and Resolution Directive
	CAMELS Rating
CAMELS	(Capital adequacy, Asset quality, Management, Earnings, Liquidity, and Sensitivity)
CBRC	China Banking Regulatory Commission
CBIRC	China Banking and Insurance Regulatory Commission
CIRC	China Insurance Regulatory Commission
CSRC	China Securities Regulatory Commission
DIS	Deposit Insurance Scheme
EU	European Union
FCA	Financial Conduct Authority
FDIC	Federal Deposit Insurance Corporation
FDICIA	Federal Deposit Insurance Corporation Improvement Act
FPC	Financial Policy Committee
FSB	Federal Reserve Board
FSA	Financial Stability Authority
FSCS	Financial Service Compensation Scheme
GAO	Government Accountability Office
GFS	Global Financial Crisis 2007-2009
IAIS	International Association of Insurance Supervisors
IOSCO	International Organisation of Securities Commission
PBoC	People's Bank of China
NPACR	Non-Performing Assets Coverage Ratio
OCC	Office of the Comptroller of the Currency
PCA	Prompt Corrective Action
PIF	Proactive Intervention Framework
UK	The United Kingdom
US	The United States

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## Introduction

### I. Background

Many countries have reformed or adjusted their banking regulatory frameworks in response to challenges identified during the Global Financial Crisis of 2007 to 2009 (GFC). One of the key challenges is the appearance of excessive costs due to the failure to identify financial risks at early stages and deal with them accordingly.<sup>1</sup> In order to monitor and identify these risks at early stages, one approach to reforming existing financial regulatory structures is to incorporate or improve structured early intervention systems or mechanisms for banks in a country's banking regulatory framework. Several countries have identified the importance of bank early intervention mechanisms. For example, the Prudential Regulation Authority (PRA), as the United Kingdom's (UK's) prudential banking regulator, incorporated the proactive intervention framework (PIF) into its regulatory approaches.<sup>2</sup> This mechanism enables the PRA to intervene in bank operations at earlier stages by imposing additional or stricter regulatory measures depending on the bank's financial condition. Developing countries have come to recognise the importance of bank early intervention mechanisms; India, for example, has incorporated the idea of prompt corrective action (PCA) into its banking regulatory frameworks as an essential part in achieving financial stability.<sup>3</sup> The Indian PCA is developed based on the PCA initiative of the United States.

The US's PCA and the UK's PIF are both structured early intervention mechanisms for banks. These early intervention mechanisms have the following features. First, they consist of thresholds of bank performance. These thresholds categorise banks into different groups depending on bank financial conditions and act as triggering events for

1 Stijn Claessens, Luc Laeven, Deniz O Igan and Giovanni Dell'Ariccia, 'Lessons and Policy Implications from the Global Financial Crisis' (IMF Working Paper 1 February 2010) <<https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Lessons-and-Policy-Implications-from-the-Global-Financial-Crisis-23637>> last checked 19 August 2019

2 The Prudential Regulation Authority, 'The PRA's Approach to Banking Supervision' (31 October 2018) <<https://www.bankofengland.co.uk/prudential-regulation/publication/2018/pru-approach-documents-2018>> last checked 19 August 2019

3 Viral Acharya, 'Prompt Corrective Action: An Essential Element of Financial Stability Framework' (Reserve Bank of India Bulletin November 2018) 21 <[https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/0RBIBULLETIN\\_F79C0C7C6BA824813B9F651BD63C21176.PDF#page=7](https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/0RBIBULLETIN_F79C0C7C6BA824813B9F651BD63C21176.PDF#page=7)> last checked 19 August 2019

the following corrective measures. Second, banks are subject to a growing level of intervention or intensity of supervision if they fail to meet certain requirements established by thresholds/triggering events. The importance of structured early interventions for banks is threefold. First, they provide banking regulators with sufficient resources, including timely signals of bank financial status and appropriate corrective measures, with which to intervene in bank operations with and deal with troubled banks at early stages. Second, structured early interventions for banks set a scope for banking regulators' authority and responsibilities at early stages in relation to managing troubled banks and require banking regulators to take corrective measures when banks fail to meet triggering events, thereby to some extent limiting regulatory forbearance. Third, structured early interventions for banks provide incentives for banks to meet regulatory requirements and to avoid the need for additional and more stringent interventions from banking regulators.

In the context of the Chinese banking sector, Chinese banks have an important role in the financial sector and in providing financing to different types of enterprises.<sup>4</sup> The Chinese banking sector also has a growing significance, especially with several global systemically important financial institutions. However, the Chinese banking regulatory framework is less comprehensive and sophisticated in comparison with the US and UK equivalents. Structured early interventions for banks constitute one of the aspects in the Chinese banking regulatory framework that requires further development and reform. Currently, Chinese banking regulators have limited resources in relation to dealing with troubled banks at early stages and the state's intervention in managing troubled banks can be problematic and inefficient.

In this thesis, the term 'troubled banks' refers to banks that fail to meet prudential regulatory requirements. Depending on their financial performance, these banks can be economically viable or nonviable.

## **II. Necessities of This Thesis**

The necessities of this thesis are as follows. First, in relation to the Chinese banking regulatory framework, structured early interventions for banks that deal with

<sup>4</sup> Eswar S. Prasad, 'Financial Sector Regulation and Reform in Emerging Markets: An Overview' (2010) NBER Working Paper No.16428 <<https://www.nber.org/papers/w16428.pdf>> last checked 19 August 2019

troubled banks at early stages have been rarely discussed to date from the perspective of components of the mechanism. The literature has only touched upon this topic when discussing other aspects of the Chinese banking regulatory framework. In relation to the deposit insurance scheme in China, some existing research discusses the roles of the Chinese deposit insurer in early interventions for troubled banks and explains why the deposit insurer should be the responsible regulatory agency for bank early interventions.<sup>5</sup> In relation to dealing with failed banks, research has focused on discussing the structure and design of bank resolution regimes, which outline resolution tools, procedures, and regulatory agencies to resolve failed banks within a particular insolvency procedure for banks.<sup>6</sup> The regulation and supervision of troubled banks together constitute an increased level of supervision over normal and regular banking regulations that occurs before the actual resolution of troubled banks. This thesis focuses on this phase of managing of troubled banks from the perspective of regulatory agencies, triggering events, and corrective measures in China.

Second, this thesis discusses components of structured early interventions for banks from a comparative perspective. This thesis incorporates US, UK, and Chinese structured early interventions for banks and discusses the advantages and disadvantages of these three countries' structured early intervention mechanisms for banks. The US, UK, and Chinese mechanisms provide a spectrum of the development of structured early interventions for banks. The structured early interventions for US banks are the most developed within the three countries, while the structured early interventions for US banks are more developed than the structured early interventions for Chinese banks, which remain at the beginning stage of the mechanism. Both the US and UK experiences provide models for structuring Chinese structured early interventions for banks.

Third, this thesis identifies differences between the understanding of several terms in the Chinese literature and in the US and UK literature, respectively, thereby clarifying

5 Jiliang Guo, 'Exploration the Problem of Power of Early Correction by the Deposit Insurance Fund Management Institution' (2017) 1 Zheng Fa Lun Cong 55; Yan Lin and Haifeng Ma, 'The Scope of Deposit Insurance Agency's Authority – Discussion on International Experience and Assessment of Section 7 of Deposit Insurance Regulation' (2015) 11 Shanghai Finance 68

6 Dongqin Yang, 'On the Establishment of Commercial Bank Insolvency Legal System of China' (UIBE Doctoral Thesis 2016); Xin'an Li, 'Research on Dealing with Bank Insolvency Risks' (2018) 2 Huabei Finance 48

the actual meaning in the context of discussing structured early interventions for banks. Two important terms in this context are ‘early intervention’ and ‘takeover’. In the Chinese literature, the term ‘early intervention’<sup>7</sup> is associated with resolution tools that are applied within the bank resolution regime, such as bridge bank or purchase and assumption.<sup>8</sup> Conversely, in the US and UK literature, ‘early intervention’ refers to the supervision and regulation of banks before their actual resolution and represents an increased level of intervention by banking regulators. In this thesis, ‘early intervention’ is presented aligning with the understanding in the US and UK literature.

Separately, in the Chinese literature, the term ‘takeover’<sup>9</sup> in banking law specifically refers to administrative procedures of banking regulators that are enacted to temporarily manage a troubled bank.<sup>10</sup> The term shares the same meaning in the context of company law. ‘Takeover’ in the US and UK literature, however, instead normally refers to assuming control of a corporation, which is achieved either through mergers or the purchase of shares, and does not have a particular meaning in banking law.

The original contribution of this thesis is twofold. First, this thesis bridges the gap in relation to research of structured early interventions for banks in the Chinese banking regulatory framework and provides policy recommendations for designing and establishing structured early interventions for Chinese banks. Second, this thesis discusses two main components of structured early interventions for banks in-depth—specifically, triggering events and corrective measures—and further explores the advantages and disadvantages of each component in the three countries. This provides a reference as to what types of triggering events and corrective measures can be considered when establishing structured early interventions for banks in a certain country.

### **III. Research Questions**

This thesis covers the following four research questions.

7 In Chinese, it means ‘早期干预’ (Zao Qi Gan Yu)

8 Industry Development and Research Committee of China Banking Association, ‘Three Steps for Troubled Banks to Exit the Market Under Chinese Deposit Insurance Scheme’ (2016) 1 China Banking 35

9 In Chinese, it means ‘接管’(Jie Guan)

10 Law of the People’s Republic of China on Commercial Banks, s 64

- The first question is how are US, UK, and Chinese structured early interventions for banks designed and do the current US, UK, and Chinese mechanisms have advantages and disadvantages?
- The second question is what types of triggering events of structured early interventions for banks are applied in the US, the UK, and China? This question focuses on elucidating the advantages and disadvantages of different types of triggering events and provides two perspectives of why triggering events are different.
- The third question is what are the corrective measures of US, UK, and Chinese structured early interventions for banks? This question concentrates on exploring different corrective measures in the three countries and identifies similarities and differences between them.
- The final question is what are suitable structured early interventions for banks in the context of Chinese banking regulatory framework? This question pushes one to consider the appropriate banking regulator, types of triggering events, and corrective measures for the Chinese structured early interventions.

#### **IV. Literature Review**

This section provides a brief literature review in relation to the main aspects of the thesis. It includes a literature review on the design of structured early interventions for banks; an important precondition of structured early interventions for banks; triggering events of structured early interventions for banks; and, finally, corrective measures of structured early interventions for banks.

##### **A. Design of Structured Early Interventions for Banks**

This section briefly reviews how to design structured early interventions for banks. The focus of this section is on the following two aspects: the fundamental theory underlying PCA in the United States and relevant factors that are worth considering when establishing and reforming structured early interventions for banks.

The structured early intervention and resolution (SEIR) approach provides the theoretical basis for PCA in the United States. The SEIR initiative includes a set of rules

that specify when and how US banking regulators can impose additional regulatory requirements on banks if the bank's capital adequacy falls below standards.<sup>11</sup> The following four relevant factors: supervisory independence and accountability, adequate authority, adequate resolution procedures, and accurate and timely financial information, that contribute to effective early interventions for banks and act as the foundation for a successful implementation of early interventions for banks.<sup>12</sup> The necessity of banking supervisors having a comprehensive understanding of bank information, there being cooperation amongst several cross-border authorities within the European Union (EU), and there existing early preparations to achieve an optimal outcome in the context of early intervention in the EU are conceptualised factors which are relevant and essential to establishing an early intervention structure within a banking regulatory framework.<sup>13</sup> Structured early interventions for US and UK banks both consider many of these factors but focus on different elements in establishing structured early interventions for banks in their banking regulatory framework.

## **B. Comprehensive Banking Regulatory and Resolution as a Precondition**

In this section, a focus is placed on reviewing the presence of an adequate banking regulatory and resolution framework as a precondition to ensure effective structured early interventions for banks in the context of the Chinese banking sector. Good banking regulatory and resolution frameworks are one of the relevant factors leading to effective structured early interventions for banks. In the US and UK regulatory frameworks, both structured early intervention regimes have taken the impact and necessity of resolution procedures into consideration. On the other hand, this is a missing factor in current Chinese early interventions for banks. Therefore, much of the Chinese literature focuses on discussing the importance of covering resolution authorities and procedures for troubled banks in the banking regulatory framework.

11 George J. Benston and George Kaufman, 'Risk and Solvency Regulation of Depository Institutions: Past Policies and Current Options' (1988) 1 Monograph Series in Finance and Economics 33

12 Maria Nieto and Larry Wall, 'Preconditions for a Successful Implementation of Supervisors' Prompt Corrective Action: Is There a Case for a Banking Standard in the EU?' (Banco De Espana Documentos de Trabajo. No. 0702 2007) <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=965365](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=965365)> last checked 10 Aug 2019

13 David G Mayes, 'Early Intervention and Prompt Corrective Action in Europe' (2009) Bank of Finland Research Paper <<http://ssrn.com/abstract=1456404>> last accessed 20 Aug 2019

In the context of early interventions for troubled banks, the recent literature identified the importance of having an exit mechanism—namely, banking resolution and insolvency proceedings—for troubled banks. Chinese banking regulators and supervisors deal with troubled banks and their risks in the five following ways: liquidity assistance, administrative takeover, mergers and reorganisations, administrative closure, and bankruptcy procedures.<sup>14</sup> These measures cover all recovery and resolution measures. Some of these measures are corrective in nature. The necessity of establishing a complete procedure, which should include steps like resolution plans, purchase and assumption, asset transfer, insolvency proceedings, and loss distribution, to resolve troubled banks when the banks are not viable is argued.<sup>15</sup> A lack of proper arrangement between the Chinese deposit insurance management agency and bank liquidator in China has been highlighted, especially the need to establish bank insolvency proceedings to deal with the remaining troubled banks after intervention measures like purchase and assumption are enacted by the deposit insurance management agency.<sup>16</sup> The impact of the market should be considered as a factor when designing exit mechanisms for troubled banks, including the resolution of troubled banks.<sup>17</sup> This means that troubled banks could be allowed to exit the market after early intervention and corrective measures fail.<sup>18</sup>

In the context of bank resolution and insolvency proceedings, a hybrid type of legal structure for insolvency proceedings to manage failed commercial banks in China has been proposed.<sup>19</sup> This legal structure combines administrative authority and judicial power to deal with troubled banks from the perspective of rescue before insolvency, exiting the market, and protection after insolvency.<sup>20</sup> Pre-insolvency arrangements for troubled banks as a part of special bank insolvency proceedings for banks has been

14 Wenhui Ye, 'Regulatory Framework and Practice for Dealing with Troubled Banks: Comparisons between US and China' (2019) 1 Zhejiang Finance 33

15 *ibid.*

16 Yu Jin, 'Structured Early Intervention for Banks by Deposit Insurance Agency: Theories and Practice' (2018) 6 Shanghai Finance 53

17 Yong Zhang, Wei Chen, Min Mi and Lin Lin, 'Identification, Regulation and Resolution of Troubled Banks – International Perspectives and Practice' (2016) 8 Financial Perspective Journal 28

18 *ibid.*

19 Dongqin Yang, 'On the Establishment of Commercial Bank Insolvency Legal System of China' (UIBE Doctoral Thesis 2016)

20 *ibid.*

discussed and argued for Chinese situations.<sup>21</sup> Another alternative arrangement is that the Chinese court with judicial power should play a core role in bank insolvency proceedings for failed commercial banks, while administrative authorities such as the prudential banking regulator in China should play a secondary and supplementary role.<sup>22</sup>

To summarise, bank resolution and insolvency proceedings are necessary for the function of a comprehensive legal framework in the banking sector. In a general context, whether the combination of administrative authority and judicial power or only judicial power plays a major role in resolving failed banks, a legal structure for failed banks is needed in the Chinese banking sector. In the context of structured early interventions for banks, a formal legal structure with specific rules in relation to bank resolution and insolvency proceedings will provide a guarantee for structured early interventions as the last resort if a troubled bank fails.

### **C. Triggering Events**

This section briefly reviews objective standards as indicators of bank financial performance and risks to trigger early intervention by banking regulators, from the perspectives of capital adequacy as triggers and noncapital triggers, respectively.

In terms of capital ratios as triggering events of structured early interventions for banks, capital ratio is a reflection of a bank's capability to deal with its own financial losses, and so, in theory, with higher capital adequacy, banks are more likely to recover from financial losses and less likely to be influenced by the possibilities of insolvency.<sup>23</sup> From this perspective, if a bank's capital adequacy falls, the bank is less likely to withstand the negative impact of financial losses and insolvency risk.<sup>24</sup> In relation to Basel capital regulation, the following three key lessons are summarised from the evolution from the Basel I to Basel III: 1) requiring banks to have more capital; 2) the level of capital should be equivalent or compatible to the level of risks of the banks; and 3) some types of capital

21 Degang Zou, 'The Theoretical Logic of Bank Bankruptcy Law in Perspective of Law and Economics' (Jilin University Doctoral Thesis 2013)

22 Tingjun Zhao, 'Research on the Design of Commercial Bank Insolvency Mechanics' (China University of Political Science and Law Doctoral Thesis 2007)

23 Frederic Mishkin, *The Economics of Money, Banking and Financial Markets* (Pearson 2012)

24 *ibid.*

are better than other types.<sup>25</sup> The evolution of the capital regulation of banks starts from a vague definition to a specific definition of capital ratios and as a specific minimum standard of capital adequacy for regulating banks in the US to deal with Savings and Loan Crisis in the 1980s.<sup>26</sup> There is also a range of empirical models that explain higher capital ratios or why holding additional capital is beneficial for banks, especially with helping the banks survive financial losses and even crises. For example, the function of capital in small banks is to improve their possibilities of survival and to increase their market share both during normal times and crises while the function of capital on medium and large banks is to help them survive during crises.<sup>27</sup> Taking into consideration capital adequacy requirements, deposit insurance, and a bank's franchise value, when it comes to bank capital structure, the additional capital held by banks is helpful to protect their franchise value.<sup>28</sup> To summarise, capital ratio is an indicator of banks' performance and can reflect whether a bank is in trouble. In general, a bank with a higher capital ratio is more likely to survive financial losses and make it through a crisis. On the other hand, capital ratio has disadvantages as a triggering event of early intervention, as it has been critically reviewed by a number of studies over the two decades. Capital ratios that are based on book values of banks are lagging indicators and are not true reflections of the economic values of banks.<sup>29</sup> There have been doubts about the function and results of the minimum capital ratios at each threshold that are designed to provide timely information about and indications of the banks' performance.<sup>30</sup>

In addition to capital ratios, noncapital triggers are alternative indicators of bank performance and the possibilities of potential failure. Noncapital triggers are designed to

25 Bruce Arnold, Claudio Borio, Luci Ellis and Fariborz Moshirian, 'Systemic Risk, Macroprudential Policy Frameworks, Monitoring Financial Systems and the Evolution of Capital Adequacy' (2012) 36 *Journal of Banking and Finance* 3125

26 Eric Posner, 'How Do Bank Regulators Determine Capital-Adequacy Requirements?' (2015) 82 *University of Chicago Law Review* 1853

27 Allen Berger and Christa Bowman 'How Does Capital Affect Bank Performance During Financial Crises?' (2013) 109 *Journal of Financial Economics* 146

28 John Harding, Xiaozhong Liang and Stephen Ross, 'Bank Capital Requirements, Capital Structure and Regulation' (2013) 43 *Journal of Financial Services Research* 127

29 Eliana Balla, Edward Prescott, Laurel Mazur and John Walter, 'A Comparison of Community Bank Failures and FDIC Losses in the 1986-92 and 2007-13 Banking Crises' (2019) *Journal of Banking and Finance* Forthcoming

30 Joe Peek and Eric Rosengren, 'The Use of Capital Ratios to Trigger Intervention in Problem Banks: Too Little, Too Late (1996) September/October *New England Economic Review* 49

complement the disadvantages of capital triggers with the same function of indicating banks' conditions. Noncapital triggers can be categorised into single-variable triggers, which means that one indicator determines the financial condition and risks of a bank, and multivariable triggers, which involve a set of indicators that determine the initiation of early interventions by banking regulators. The nonperforming asset coverage ratio (NPACR) is an effective indicator of bank financial performance and risk levels that offers more benefits in predicting banks' financial conditions than risk-based capital ratios do.<sup>31</sup> The effectiveness of NPACR and its function to reduce the loss of the US Federal Deposit Insurance Corporation (FDIC) has further been explained.<sup>32</sup> In terms of multivariable triggering events, measuring the capital adequacy of banks by using two or more noncapital indicators to assess whether the banks are in trouble or in good operations can be achieved.<sup>33</sup>

#### **D. Corrective Measures**

This section briefly summarises corrective measures of structured early interventions for banks. Country-specific corrective measures are presented in either laws or banking regulators' handbooks as to what corrective measures can be applied to troubled banks under certain circumstances that are dependent on triggering events. The main source of US corrective measures is 12 U.S.C. § 1831o Prompt Corrective Actions.<sup>34</sup> The main source of UK corrective measures is the PRA handbook (the PRA's approach to banking regulation). Sources of Chinese corrective measures include the Banking Supervision Law of the People's Republic of China, Law of the People's Republic of China on Commercial Banks, Deposit Insurance Regulation, and Notice of the China Banking Regulatory Commission on Issues Concerning Transitional Arrangements for the

31 Lucy Chernykh and Rebel Cole, 'How Should We Measure Bank Capital Adequacy for Triggering Prompt Corrective Action? A (Simple) Proposal' (2015) 20 *Journal of Financial Stability* 131

32 Paul H. Kupiec, 'Fixing Prompt Corrective Action' (2016) AEI Economic Policy Working Paper 2016-03 <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2724120](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2724120)> last accessed 26 August 2019

33 Ahlem Selma Messai and Mohamed Imen Gallali, 'Financial Leading Indicators of Banking Distress: A Micro Prudential Approach - Evidence from Europe' (2015) *Asian Social Science* 78; Robert DeYoung and Gokhan Torna, 'Nontraditional Activities and Bank Failures during the Financial Crisis' *Journal of Financial Intermediation* (2013) 22 *Journal of Financial Intermediation* 397; Rebel Cole and Lawrence White 'Déjà Vu All over Again: The causes of U.S. Commercial Bank Failures This Time around' (2012) 42 *Journal of Financial Services Research* 5

34 12 U.S.C. § 1831o

Implementation of the Administrative Measures for the Capital of Commercial Banks (for Trial Implementation). A range of informal and formal corrective measures that could have an impact on bank shareholders, bank managers, bank directors, and the banks themselves are provided by the International Association of Deposit Insurers. Restoration plans as a tool for early intervention are argued as important and necessary.<sup>35</sup> The relationship between discretion-based and rule-based early intervention regimes has been highlighted, especially the use of discretion-based measures which is necessary for banking regulators to remain flexible when dealing with troubled banks under specific circumstances.<sup>36</sup>

## **V. Methodology**

This thesis adopts doctrinal, comparative, and historical research methods. In relation to the doctrinal method, this thesis was conducted by the means of selecting, reviewing, and evaluating materials on structured early interventions for banks; structured early intervention for banks' relationships with banking regulation and bank resolution; triggering events; and corrective measures. These carefully chosen materials include primary and secondary sources in the US, the UK, and China that range from laws and regulations to books and journals. These materials provide the basis for the analysis of theories, designs, and components of structured early interventions for banks and policy recommendations for China.

With regard to the comparative method, this thesis analyses and examines structured early interventions for US, UK, and Chinese banks in detail. This method helps to identify advantages and disadvantages of different triggering events and corrective measures in each country and identify weaknesses and potential development areas of structured early interventions for Chinese banks. Concerning the use of structured early interventions for banks as a mechanism, this method provides three national approaches and designs of said mechanism. Structured early interventions for US, UK, and Chinese

35 Jean-Philippe Svoronos, 'Early Intervention Regimes for Weak Banks' Bank for International Settlements Financial Stability Institute Insight on Policy Implementation No.6 (April 2018) 4 <<https://www.bis.org/fsi/publ/insights6.pdf>> last accessed 26 Aug 2019

36 Fernando Restoy, 'Early Intervention Regimes: The Balance between Rules vs. Discretions' (2017) FSI-IADI Meeting on early Supervisory Intervention, Resolution and Deposit Insurance <<https://www.bis.org/speeches/sp170912.pdf>> last accessed 26 August 2018

banks are selected because developments of the mechanisms in the three countries constitute representatives of structured early interventions for banks at different stages.

In relation to the historical method, considerations of a country's banking regulatory structures, history and reforms of the banking and financial sectors, and preferences toward the regulation and supervision of banks are necessary and critical for suitable policy recommendations. Therefore, understanding US, UK, and Chinese backgrounds of structured early interventions for banks is helpful in making decisions about each of the components of structured early interventions for banks. In addition, with the understanding of the history and background of the Chinese banking regulatory framework, policy recommendations for structured early interventions for Chinese banks can be made more suitable and applicable.

## **VI. Structure of the Thesis**

Followed by the introduction, this thesis is structured as follows.

Chapter 1 provides a foundation and background of structured early interventions for banks. This chapter defines the scope of the regulation and supervision of banks by structured early interventions for banks and differentiates structured early interventions for banks from mechanisms of bank resolution. It also examines theories that are relevant to structured early interventions for banks.

Chapter 2 examines current mechanisms of structured early interventions for US, UK, and Chinese banks. This chapter discusses how structured early interventions for US, UK, and Chinese banks are organised and designed and examines the advantages and disadvantages of each country's structured early interventions for banks.

Chapter 3 explores and compares triggering events of structured early interventions for US, UK, and Chinese banks. It discusses different types of triggering events and their effectiveness in the context of the US, UK, and Chinese banking sectors and identifies similarities and differences of each type of triggering event.

Chapter 4 explores and compares corrective measures of structured early interventions for US, UK, and Chinese banks. It discusses similarities and differences of corrective measures that are incorporated into structured early interventions for US, UK,

and Chinese banks and provides thoughts on what types of corrective measures should be incorporated into such mechanisms.

Chapter 5 discusses and provides policy recommendations of structured early interventions for Chinese banks from the perspective of the responsible banking regulator, triggering events, and corrective measures on the basis of comparisons of structured early interventions for US, UK, and Chinese banks as well as the history and culture of Chinese banking regulations.

The final conclusion summarises the findings of the thesis.

## **Chapter 1 Background of Structured Early Intervention for Banks**

Regulating banks when banks are solvent differentiates dealing with failed banks under bank resolution. From banking regulation to bank resolution, aims and approaches for dealing with banks change. Regulatory authorities may change from banking regulators to the court when it comes to resolving failed banks. A bank's condition can change swiftly from solvent and profitable to insolvent and unstable within the banking sector. The changes in banks' condition lead to a transformation from banking regulation by regulatory authorities to bank resolution or even bank insolvency proceedings by the court. Because of the importance of banks to the financial system, administration and insolvency rules that generally apply to non-bank firms do not necessarily apply to banks in some situations.<sup>37</sup> The rules for banks are designed to deal with their special characteristics.

The pre-insolvency stage between a healthy operation and a troubled situation of a bank can be an important phase. Early intervention with troubled banks by banking regulators is necessary when banks' financial condition continues to worsen. This chapter focuses on the importance of pre-insolvency arrangements for banks. A high-level understanding of structured early intervention for banks and its importance contributes to the basis of this dissertation. This chapter lays the groundwork for the chapters to follow, in particular, discussing definitions and core concepts associated with the pre-insolvency stage and relevant arrangements for troubled banks.

This chapter has four sections. The first section explores core concepts associated with structured early intervention for banks and defines those arrangements at the pre-insolvency stage. The second section discusses the most influential theory that underpins structured early intervention, other relevant theories or proposals to solve issues that are related to US deposit insurance reform in the 1990s. The third section examines rationales for structured early intervention for banks, especially from the perspectives of the special characteristics of banks compared with non-bank firms and the objectives of the arrangements and managing risks involved in banks' operation. The fourth section

<sup>37</sup> Andrew Lilico, 'How is Banking Regulation Changing, and How Could it be Better?' (2012) 32 *Economic Affairs* 6

explores corrective measures associated with bank resolution, to differentiate the corrective measures of structured early intervention for banks at early stages.

## **I. What Is Structured Early Intervention for Banks?**

This section first discusses the differences between failure of non-bank firms and banks to clarify some key concepts associated with bank insolvency and provide the basis for discussion of structured early intervention for banks. Then this section introduces the different stages of bank insolvency, especially early stages of bank insolvency. A discussion of the different stages of bank insolvency identifies the process that a bank undergoes from a situation with moderate but potentially severe financial problems to a situation in which no corrective measures can manage. This process is the foundation for discussing the definition and coverage of the structured early intervention for banks. On the basis of these different stages of bank insolvency, a clearer understanding of early stages of bank insolvency can be achieved, thereby leading to an accurate context for the definition of structured early intervention for banks.

### **A. Non-Bank Firm Insolvency and Bank Insolvency**

To be clear, the term 'insolvency' refers to financial concepts that a business is cash-flow insolvent and balance sheet insolvent. Cash flow insolvency means that a firm cannot pay its debts when they are due, and balance sheet insolvency means that liabilities of a firm exceed its assets and the realisation of the firm's assets is the only way to meet its liabilities.<sup>38</sup> This means that the firm cannot make a reasonable return on its owners' investment.<sup>39</sup> The term 'bankruptcy' refers to the legal determination of the insolvent situation of a firm; the firm will be liquidated and closed after the determination of bankruptcy.

A non-bank firm may experience the following stages before it reaches insolvency: the firm encounters losses, and its creditors may require higher interests or repayment because of the increased risks caused by the losses, and then the firm is unlikely to raise

<sup>38</sup> Roy Goode, *Principles of Corporate Insolvency Law* (4th ed Sweet & Maxwell 2011) 114

<sup>39</sup> John R Walter, 'Closing Troubled Banks: How the Process Works?' (2004) 90 Federal Reserve Bank of Richmond Economic Quarterly 51

more funds and perform its obligations.<sup>40</sup> In the end, depending on the firm's specific situation, it may voluntarily or involuntarily settle the obligations with the creditors, either by reaching voluntary arrangement or being forced into insolvency by the creditors, and the firm may decide to dissolve.<sup>41</sup> This means that the firm can close its business on its own or the firm can attempt recovery by seeking additional funds that is subject to its creditors or new investors' willingness.

When it comes to bank insolvency, the Deposit Insurance Scheme (DIS) ensures that insured depositors are guaranteed to receive a certain amount of their deposits.<sup>42</sup> This means that insured depositors have less incentives to start bank runs and therefore avoid disruptive impact of contagious bank run on individual banks and the banking system.<sup>43</sup> From the perspective of insured depositors of banks, under the circumstance of insolvency, they may have less incentives require closure of banks and demand repayment because of the DIS compared creditors of non-bank firms. When a bank reaches insolvency, its owners can decide to close the bank on its own, such as liquidating the bank and selling its assets and liabilities to another bank. The bank can also attempt recovery by seeking new funds. An insolvent bank can access new funds more easily from its depositors than other non-bank firms from their creditors because insured depositors are more willing to provide additional funding to the bank when their losses are covered by the DIS.<sup>44</sup>

In terms of incentives to close a bank or a non-bank firm, different reactions of banks' depositors and non-bank firms' creditors shows that with the DIS banks are more likely to remain open even though they are insolvent. This means that insolvent banks are closed later than the time that they should have been closed. Banking regulators are the ones who intervene in, close insolvent banks and initiate the bankruptcy proceedings when insured depositors are not motivated to force the banks into bankruptcy and other stakeholders (e.g. the banks' shareholders and uninsured depositors) suffer losses.

40 *ibid.*

41 *ibid.*

42 Dirk Schoemaker, 'Building a Stable European Deposit Insurance Scheme' (2018) 4 *Journal of Financial Regulation* 314

43 Deniz Anginer and Asli Demirguc-Kunt, 'Bank Run and Moral Hazard: A Review of Deposit Insurance' (2018) World Bank Group Policy Research Working Paper 8589, 2

44 Walter (n 39) 54

Based on the comparison between non-bank firm insolvency and bank insolvency, with the DIS, banks can be insolvent and open at the same time. In this thesis, a 'troubled/failing bank' refers to a bank that is insolvent but is not closed by banking regulators. 'financial hardships' of a troubled banks refers to the situation that the troubled bank is financially insolvent and cannot perform its obligations while remain open.

## **B. Different Stages of Bank Insolvency**

Moving from a bank's situation with some minor or moderate financial problems to the eventual resolution/closure of the bank takes time, though the time frame can be short. This process involves different stages: the pre-insolvency stage, insolvency stage and bankruptcy stage.<sup>45</sup>

The pre-insolvency stage is the stage where banks start to have financial problems in a their businesses and operations. These minor or moderate financial problems are likely to become severe problems or even financial hardships if they are not dealt with properly early on. In the pre-insolvency stage, there should be early procedures and tools for intervention.<sup>46</sup> Corrective measures in the pre-insolvency stage are likely to solve these relatively minor problems and prevent banks from moving into the next two stages. Benefits of taking these corrective measures include reduced possibilities of bankruptcy, thereby reducing or eliminating the cost of liquidating a troubled bank. The pre-insolvency stage connects the healthy operation of banks with the troubled situation of banks. Banks are in good financial situations without these minor financial problems, and if problems continue to worsen, banks are likely to end up in the next two stages. The pre-insolvency stage is an important stage for banks with minor financial problems, and this stage can determine whether a bank can continue to conduct its business or whether it is likely to fail in the future. With triggering events and corrective measures, an early intervention mechanism at the pre-insolvency stage can improve the possibility of rehabilitating troubled banks.

45 Eva Hupkes, 'Insolvency—Why a Special Regime for Banks?' (2002) 3 *Current Development in Monetary and Financial Law* 1

46 Rosa M. Lastra, *Cross-Border Bank Insolvency* (Oxford University Press 2011) 57

The insolvency stage refers to the stage where a bank has been cash flow insolvent and balance sheet insolvent so the bank is economically insolvent. These two standards to determine whether a bank is insolvent are the same as the standards for non-bank firms.<sup>47</sup> Apart from the cash-flow and balance sheet tests, the regulatory standard for banks also determines whether the bank should stop operating as a going concern and be managed by regulatory authorities. Corrective measures taken in this stage may be less effective than the same measures taken in the pre-insolvency stage. Stricter measures are required in the insolvency stage before or at the initiation of bankruptcy proceedings. These measures reduce the possibility of a bank run by depositors and maintain the values of the troubled bank.<sup>48</sup> For example, measures like moratorium and payment suspension can be taken in the insolvency stage. These measures can prevent some banks' activities, and creditors are not allowed to claim their rights during moratorium and payment suspension. The difference between the insolvency stage and bankruptcy stage is that the bankruptcy stage is a legal determination of an insolvent situation of banks and the bank is legally insolvent in the bankruptcy stage.<sup>49</sup>

The bankruptcy stage is the eventual resolution of the troubled bank. In this stage, the insolvent situation of a troubled bank has been determined legally. In other words, the bank is legally insolvent. The focus of the bankruptcy stage is on methods for effective and efficient resolution or liquidation. All measures in the previous two stages to save the troubled bank have been used and the troubled bank is not likely to continue its business. Regulatory authorities or the court will dominate the liquidation procedure of the insolvent bank depending on whether there are special rules designed to cover the characteristics of bank insolvency. If there are general insolvency rules that are applied to non-bank firms, then the court is responsible for the appointment of an administrator and liquidator.

47 Andrew Keay and Peter Walton, *Insolvency Law Corporate and Personal* (3rd edition Jordan Publishing 2012)

48 Legal Department of International Monetary Fund, 'Orderly and Effective Insolvency Procedures: Key Issues' (1999) <<http://www.imf.org/external/pubs/ft/orderly/>> last accessed 20 Aug 2019

49 Lastra (n 46)

### **C. Structured Early Intervention for Banks at the Pre-Insolvency Stage**

In the pre-insolvency stage, banks are faced with minor or moderate financial problems that may lead to financial hardships. In relation to banks with minor or moderate financial problems, structured early intervention for banks, as a type of early intervention mechanism, can be applied to these banks at the pre-insolvency stage to identify problems and risks associated with these banks and take respective corrective measures to rectify these problems and risks. In this context, structured early intervention for banks can be regarded as a set of standards for triggering events to identify troubled banks at the pre-insolvency stage and relevant corrective measures to intervene in a bank's operation to correct problems and reduce the risks of troubled banks' businesses and operations can be put in place. These standards for triggering events assess the banks' financial condition and determine whether an increased level of intervention is necessary. Respective corrective measures serve as specific methods to deal with problems and risks associated with banks' financial performance and business operation and represent an increased level of intervention by stricter corrective measures.

According to the practice in the US and the UK, capital ratio and supervisory assessment are two main types of triggering events that could identify problems in a bank's financial condition and therefore determine whether a bank is in the pre-insolvency stage. The first type of triggering events is the application of capital ratio, which is the practice in the US. Capital ratio means that capital is over, or divided by, risk-weighted assets.<sup>50</sup> When the capital ratio of a bank is below a specific standard but the bank is still solvent, Prompt Corrective Action (PCA), a US version of structured early intervention for banks, can be triggered.<sup>51</sup> Whether PCA is triggered for a particular troubled bank at pre-insolvency stage depends on its capital ratio. Another type of triggering events is on the basis of supervisory assessment where banking regulators' judgement plays a role in determining the bank's financial condition. This is the case in the UK banking sector. Specifically, UK banking regulators determine bank performance in accordance with the following two standards: whether the bank is failing or likely to fail to meet threshold

50 Herve Hannoun, 'The Basel III Capital Framework: A Decisive Breakthrough' (BoJ-BIS High Level Seminar on Financial Regulatory Reform: Implications for Asia and the Pacific, 22 November 2010) <<http://www.bis.org/speeches/sp101125a.pdf>> last accessed 20 Aug 2019

51 Peter G. Weinstock, 'Prompt Corrective Action' (2009) 126 *Banking L.J.* 317

conditions; and the other is that no measures will be taken.<sup>52</sup> In general, the standard to determine whether a bank enters pre-insolvency can be that a bank fails to meet certain regulatory requirements and there are remaining values of the bank. This is a difference between the US and the UK approach of determining whether a bank enters the pre-insolvency stage. The US approach is more objective and the UK approach is more subjective.

The growing focus on the pre-insolvency stage of banks and the relevant early intervention mechanism are associated with the following factors. First, identifying problems and risks associated with banks could eventually reduce possibilities of bank failures. Before the formal initiation of insolvency proceedings, it is likely that an unidentified troubled bank will continue to operate its business and let problems that could potentially lead to the troubled situation evolve, thereby causing an unavoidable and costly bank crisis. Early intervention mechanisms allow regulatory authorities to detect and address problems and risks associated with troubled banks at early stages and to some extent prevent banking crises. This is because in the pre-insolvency stage regulators can identify the problems that are likely to trigger a future banking crisis by assessing bank performance against relevant standards and increasing the level of intervention.<sup>53</sup> Controlling troubled banks before the initiation of formal insolvency proceedings has a long-lasting effect in reducing the possibility of banking crises.

Second, regulatory authorities may be reluctant to liquidate a troubled bank because of the complexity and difficulties in the liquidation process. The delay of initiating liquidation could lead to the situation where a bank is legally solvent but economically insolvent bank.<sup>54</sup> In some cases, regulatory authorities may choose to save the troubled bank, despite the fact that saving troubled banks may not always be an optimal choice and may involve and financially burden other firms and the society. Compared with initiating bank insolvency and liquidating troubled banks, regulatory authorities can be

52 The Bank of England, 'The Bank of England's Approach to Resolution' (2 October 2017) <<https://www.bankofengland.co.uk/paper/2017/the-bank-of-england-approach-to-resolution>> last accessed 20 Aug 2019

53 Matej Marinc and Vasja Rant, 'A Cross Country Analysis of Bank Bankruptcy Regimes' (2014) 13 *Journal of Financial Stability* 134

54 Rosa Lastra, 'Northern Rock, UK Bank Insolvency and Cross-Border Bank Insolvency' (2008) 9 *Journal of Banking Regulation* 165

more willing to take corrective measures to restructure or resolve troubled banks for two reasons. First, as a complicated and difficult process, the initiation of bank insolvency procedures means that more parties will be involved in the process, such as the state, creditors and other counterparties of troubled banks.<sup>55</sup> This would also involve multiple banking regulatory authorities, such as the prudential regulator, resolution authorities or even the court in some countries. Second, early intervention mechanisms can be less complex for banking regulators to deal with troubled banks where fewer participants are involved in the process and the banking regulators can focus on managing troubled banks and coordinating among different regulatory authorities. Using corrective measures at pre-insolvency stages can be effective because measures like moratorium can suspend the payments of troubled banks to their counterparties. This can reduce the possibility of a bank run and the consequences of losses to the counterparties of the bank and society.

Third, in the banking sector, the division between illiquidity and insolvency can be unclear. To some extent, these two factors are correlated. In bank insolvency, the liquidity problem is a major factor contributing to insolvency. In the event of a bank run, illiquidity is likely to cause loss of confidence of its depositors. A bank run can lead to the insolvency of the bank. From the perspective of banks' operations, an economically insolvent bank is likely to be illiquid if it is still in operation. The illiquidity of a bank may lead to insolvency and insolvency is likely to worsen the illiquid situation of a bank. In this way, the pre-insolvency stage and insolvency stage may not always be clearly distinguished. Therefore, early intervention mechanisms that could potentially detect and identify minor bank problems, including financial hardships in liquidity at the pre-insolvency stage are essential for banking regulators to manage troubled banks. Eventually these mechanisms could help deal with the troubled bank before formal insolvency procedures are required to reduce the impact and cost of bank failures.

## **II. Structured Early Intervention for Banks and Relevant Legal Theories**

In the context of the Savings and Loan Crisis in the United States in the 1980s, many savings and loan associations became insolvent and this led to the bankruptcy of

<sup>55</sup> David Mayes and Aarno Liuksila, *Who Pays for Bank Insolvency?* (Palgrave Macmillan 2016) 348

the Federal Savings and Loan Insurance Corporation (FSLIC) and huge losses to the FDIC.<sup>56</sup> This demonstrated the potential costs of the DIS in the context of a crisis. The losses of the FDIC were regarded as a result of insufficient and inadequate supervision from regulators.<sup>57</sup> The improved banking regulation and supervision can be a way to reduce costs of the DIS, and this requires that banking regulators are capable of and willing to detect banks' problems and affect banks at an early stage to reduce potential costs of the DIS.<sup>58</sup> Many proposals and legal theories were brought up to deal with problems involved in the DIS and insufficient supervision by reforming the DIS in that particular background and incentivising banking supervisors to take actions. Among these proposals, Structured Early Intervention and Resolution (SEIR) proposed changes to the US deposit insurance system and provided solutions to address problems associated with banking regulation and supervision, such as moral hazard and regulatory forbearance. Other proposals or legal theories, in the context of the deposit insurance reform in the early 1990s, provides methods to manage moral hazard and regulatory forbearance, such as adjusting risk exposure and increasing costs for banks or banks' creditors to incentivise early intervention. After the GFC, many countries has reformed their banking sectors, for example, the United Kingdom has incorporated the ring-fencing concept into its banking structure. The structural reform is adopted by these countries to reduce moral hazard caused by bailouts of systematically important financial institutions by the government in the case of a failure. The UK approach of ring-fencing is relevant to structured early intervention for banks as both arrangements intend to reduce the implicit government guarantee and moral hazard issues associated with managing troubled banks.

This section first discusses the reasons why a reform is needed in the US banking regulatory framework in the early 1990s. Then this section discusses SEIR as a method to determine banks' financial performance and incentivise banking regulators to take timely measures at early stages. The next section explores other relevant proposals and legal theories in the context of the US deposit insurance reform. The final section

56 George E. French, 'Early Corrective Action for Troubled Banks' (1991) 4 FDIC Banking Review 1

57 *ibid.*

58 *ibid.*

discusses UK ring-fencing arrangements in its structural reform after the GFC to reduce the impact of moral hazard in its banking sector.

### **A. Moral Hazard and Regulatory Forbearance**

In the context of the US deposit insurance reform in the early 1990s, the Savings and Loan Crisis in the 1980s revealed problems associated with the US DIS and the banking regulation framework. It is argued that the US deposit insurance at that time and deregulation contributed to the Savings and Loan Crisis in the 1980s.<sup>59</sup> Before the deposit insurance reform, the US federal deposit insurance had a flat-rate premium for banks, and this created the moral hazard problem that banks can take risks without bearing the costs of their own funds.<sup>60</sup>

The cause of moral hazard in deposit insurance is a provision of a guarantee for banks' insured depositors by the deposit insurance and thus banks are more likely to take on risks.<sup>61</sup> Several evidence has shown the significance of moral hazard problem in the US deposit insurance in the 1980s. Based on the data of 2500 banks from the Tenth Federal Reserve district during the 1980s, the differences and variation in banks' losses among those banks are large and deliberate bank risk taking contributes to this variation.<sup>62</sup> This means that to some extent banks tended to take more risks than others and lend their funds even with a higher default rate under the flat-rate premium deposit insurance in the context of loan losses in the 1980s.<sup>63</sup> This shows that bank deliberate risk taking aligns with the concept of moral hazard from the perspective of loan losses.

During the period of 1978-1985, stockholder-controlled banks tended to take more risks than managerially-controlled banks and this was consistent with moral hazard problem associated with the deposit insurance.<sup>64</sup> In particular, regarding stockholder-controlled banks, stockholders' interests are the most satisfied by increasing risks and

59 Richard S. Grossman, 'Deposit Insurance, Regulation, and Moral Hazard in the Thrift Industry: Evidence from the 1930s' (1992) 82 *The American Economic Review* 800, 819

60 *ibid.*

61 John Douglas, 'Deposit Insurance Reform' (1992) 27 *Wake Forest Law Review* 11

62 William R. Keeton and Charles S. Morris, 'Why Do Banks' Loan Losses Differ?' (1987) 72 *Economic Review* 3

63 *ibid.*

64 Anthony Saunders, Elizabeth Strock and Nickolaos G. Travlos, 'Ownership Structure, Deregulation and Bank Risk Taking' (1990) 45 *Journal of Finance* 643

taking advantages of the FDIC.<sup>65</sup> This shows that bank ownership has an impact on bank risk taking and stockholder-controlled banks could encourage the exploitation of the FDIC, thereby increasing moral hazard in a certain type of banks.

An empirical research also found that the least solvent thrift institutions which had developed and grown much faster during 1983-1985 than other savings and loan associations were disposed by the FSLIC in 1988.<sup>66</sup> This means that these least solvent thrift institutions tended to take more risks and have a riskier portfolio than average thrift institutions during the time frame.<sup>67</sup> This shows the connection to the moral hazard problem, in particular, these least solvent thrift institutions were more incentivised to make use of and exploit flat-rate deposit insurance when approaching failure and insolvency.<sup>68</sup>

In addition to moral hazard, during the Savings and Loan Crisis, regulators of the thrift institutions chose to cover the actual financial performance of the failing thrift institutions and provide forbearance to those institutions by relaxing regulatory standards.<sup>69</sup> Banking regulators were unwilling to enforce rules and take actions to regulate and supervise banks effectively while they were willing to grant forbearance to banks in the 1980s in the US banking industry.<sup>70</sup> Banks were declared insolvent when the book value of the banks exceeds the value of their insured claims and the market value of the banks were less than the value of their insured claims.<sup>71</sup> Because of banking regulators' tendencies not to close insolvent banks or initiate formal insolvency proceedings immediately, the regulators' choices of forbearance ensured that the market value of insolvent banks is less than the value of their insured claims.<sup>72</sup> This had led to the deposit insurance agency being the risk-bearer of insolvent financial institutions and

65 *ibid.*

66 James R. Barth, Phillip F. Bartholomew and Carol J. Labich, 'Moral Hazard and the Recent Thrift Crisis: An Analysis of 1988 Resolution' (1989) Federal Home Loan Bank Board Office of Policy and Economic Research Research Paper No. 160

67 Mitchell Berlin, Anthony Saunders and Gregory F. Udell, 'Deposit Insurance Reform: What Are the Issues and What Needs to Be Fixed?' (1991) 15 *Journal of Banking and Finance* 735, 739

68 Barth, Bartholomew and Labich (n 66)

69 Berlin, Saunders and Udell (n 67)

70 Edward Kane, *The S&L Insurance Mess: How Did It Happen* (The Urban Institute 1989)

71 David H. Pyle, 'Capital Regulation and Deposit Insurance' (1986) 10 *Journal of Banking and Finance* 189, 194

72 *ibid.*

caused huge losses to the deposit insurance funds.<sup>73</sup> It is argued that some institutions survived because of forbearance and improved their financial performance or attracted potential buyers by continuing operation and the survival rate should justify regulatory forbearance as a cost-minimising method.<sup>74</sup> However, increased oversight by regulators, such as frequent monitoring and strict closure standards is likely to greatly reduce huge losses that are caused by failure.<sup>75</sup>

Moral hazard caused by the US deposit insurance during the 1980s and regulatory forbearance in the US regulatory framework were the two relevant issues of the Savings and Loan Crisis. Changes in the deposit insurance and the banking regulatory framework were regarded as a method to avoid similar thrift crisis in the banking sector.<sup>76</sup>

## **B. Structured Early Intervention and Resolution**

SEIR was a proposal for the deposit insurance reform in the US during the early 1990s. This proposal was first brought up and further developed by Benston and Kaufman.<sup>77</sup> The most obvious change of SEIR to the deposit insurance system and banking regulation was the increased incentives given to banking regulators to take timelier actions.<sup>78</sup>

SEIR has two main characteristics. One characteristic is the application of capital ratios as standards to determine the financial situation of banks and determine whether banking regulators should intervene to take timely measures. The increased level of intervention derived is then divided into four categories depending on capital ratios of the bank. In essence, the lower capital ratios of a particular bank are, the stricter the level of banking regulation and supervision will be. SEIR proposed that capital ratios of a bank should be at the same level of those financial institutions that are not supported by the

73 Michael Dotsey and Anatoli Kuprianov, 'Reforming Deposit Insurance: Lessons from the Savings and Loan Crisis' (1990) Federal Reserve Bank of Richmond Economic Review 10

74 William G. Gissy, 'Regulatory Forbearance: A Reconsideration' (2000) 6 International Advances in Economic Research 722

75 Deborah Lucas and Robert L. McDonald, 'An Option-based Approach to Evaluating the Risk of Fannie Mae and Freddie Mac' (2006) 53 Journal of Monetary Economics 155

76 Berlin, Saunders and Udell (n 67)

77 Benston and Kaufman (n 11)

78 George Benston and George Kaufman, 'Deposit Insurance Reform in FDIC Improvement Act: The Experience to Date' in James Rosenfeld (ed) *The Selected Works of George J. Benston Vol 1 Banking and Financial Services* (OUP 2010) 298

implicit and explicit guarantee of a safety net.<sup>79</sup> Adequately capitalised banks are banks with an equivalent capital ratio to non-bank financial institutions without a safety net and banks in this category are subject to regular banking regulation and supervision without any intervention.<sup>80</sup> If a bank's capital ratio falls below this certain standard, there are three different levels of increased intervention by banking regulators. Banking regulators can conduct frequent supervision and monitoring of a particular bank and impose certain restrictions on a bank's businesses following a small fall of capital ratios.<sup>81</sup> With further deterioration of a bank's financial condition, banking regulators then can impose stricter restrictions such as suspension of dividends to force the bank to recapitalise itself if capital ratio continues to fall.<sup>82</sup> At last, banking regulators are allowed to intervene with the bank's business to resolve it by selling the bank, conducting a merger or eventually liquidation if the capital ratio of the bank falls below certain standards.<sup>83</sup>

Another characteristic of SEIR is the adoption of market value to determine the capital of banks. SEIR proposed that the incorporation of market value would improve the accuracy of determining banks' financial situations and banking regulators would have a more reliable source of banks' conditions.<sup>84</sup> The reason for the adoption of market value in this proposal is that banks, as depository institutions, have situations where insufficient capital is reserved for absorbing loan losses and potential losses because of changes of interest rates, and thus the book value of banks is likely to show inaccurate information about their financial situation during certain times.<sup>85</sup>

The moral hazard problem of banks and regulatory forbearance of banking regulators can to some extent be resolved by the proposal of SEIR without major changes to the former deposit insurance scheme and the banking system. Under this proposal, the moral hazard problem is dealt with by imposing stricter restrictions on banks' businesses and limitations on their operations. The more restrictions on banks' businesses and

79 *ibid.*

80 George Benston and George Kaufman, 'The Intellectual History of the Federal Deposit Insurance Corporation Improvement Act of 1991' in George Kaufman (ed) *Reforming Financial Institutions and Markets in the United States* (Kluwer 1994) 5

81 *ibid.*

82 *ibid.*

83 *ibid.*

84 Benston and Kaufman (n 78) 300

85 *ibid.* 301

operations, the less freedom there is in the banks' decision making. This way, banks are more likely to reduce their risk-taking behaviour and activities and to maintain capital ratio to a standard required by banking regulators to get more control of their business with fewer restrictions imposed by banking regulators.

The problem of regulatory forbearance is dealt with by requiring banking regulators to take mandatory actions with banks on the basis of bank capital ratios under this proposal. Regulators have discretion to determine the banks' capital conditions in the beginning and they are also required to intervene in banks' business if the capital condition of banks continues to fall below the required standards. Discretion of banking regulators and compulsory intervention measures could work and complement each other. Compared with banking regulators' discretion, they have less discretion under this proposal concerning when to take measures with troubled banks and delays in taking measures with banking regulators can to some extent be reduced.

Based on this proposal of structured early intervention and regulation, improvements were made by the Shadow Financial Regulatory Committee in 1989, by specifying and clarifying several other requirements and characteristics of structured early intervention, including supervisory costs and accountability of banking regulators.<sup>86</sup> The Committee outlined the impact of SEIR on banks' management as follows: banks are responsible for improving their capital to meet standards; and deposit insurance is not a remedy for risk-taking decisions and insolvent situations of banks.<sup>87</sup> After the adoption of SEIR, the Committee identified and considered the need for transition and dealing with losses occurred before in the outline.

SEIR provided the theoretical basis for PCA in the FDICIA. PCA can be regarded as a modified version of SEIR.<sup>88</sup> The primary differences of SEIR and PCA formulated in the FDICIA can be seen from the following aspects. First, capital requirements of SEIR are based on market value of banks and the minimum capital requirement of a bank includes subordinated debt as a bank's capital. An adequately capitalised bank is defined

86 Shadow Financial Regulatory Committee, 'An Outline of a Program for Deposit Insurance Reform' (13 February 1989) <[http://www.aei.org/wp-content/uploads/2011/11/-an-outline-of-a-program-for-deposit-insurance-and-regulatory-reform\\_153123658173.pdf](http://www.aei.org/wp-content/uploads/2011/11/-an-outline-of-a-program-for-deposit-insurance-and-regulatory-reform_153123658173.pdf)> last accessed 20 Aug 2019

87 *ibid.*

88 Benston and Kaufman (n 11)

as 10% market value leverage, while PCA in the FDICIA requires at least 8% risk-based capital on book value for a 'well capitalised' bank. Second, concerning capital ratio for initiation of resolution, SEIR requires 3% market value while PCA requires 2% book value of a bank. Third, with SEIR, the expected losses for FDIC are zero in theory compared with less than 2% of losses of PCA with the exception of Too-Big-To-Fail. Finally, immediate resolution of banks that fall below requirements will be initiated under SEIR while there may exist some delay of initiation of resolution of PCA.

### **C. Relevant Proposals and Legal Theories**

In addition to SEIR, many relevant proposals and legal theories provided methods to deal with problems that were caused by the US deposit insurance structure in the 1980s. With the background of the US deposit insurance reform in the early 1990s, these proposals and legal theories focused on managing problems of moral hazard and regulatory forbearance. These two problems are closely related to early intervention of troubled banks and regulatory forbearance. The following discusses these proposals and legal theories that aimed to resolve these two problems from the perspectives of banks' depositors, banks and their stakeholders, and narrow banking.

#### **1. Increased Risk Exposure – From the Perspective of Banks' Depositors**

There are proposals that aim to reduce the impact of moral hazard on deposit insurance by increasing the level of risk monitoring by depositors. This intends to encourage depositors to monitor and have an interest in the financial stability of their chosen banks rather than them having lowered risks with a high coverage provided by deposit insurance.<sup>89</sup> Due to costs and skills needed to monitor risks of banks' business by depositors, only a certain group of depositors who have the knowledge to assess the banks' risks are exposed to increased risks.<sup>90</sup> Increased risk exposure for banks' depositors leads to increased monitoring from depositors, and this would require

89 George McKenzie and Manzoor Khalidi, 'The EU Directive on Deposit Insurance: A Critical Evaluation' (1994) 32 J Common Mkt Stud 171

90 George Hanc, 'Deposit Insurance Reform: State of the Debate' (1999) 12 FDIC Banking Review 1 <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.494.217&rep=rep1&type=pdf>> last accessed 20 Aug 2019

depositors to analyse banks' overall performance from management to finances.<sup>91</sup> Small depositors may have difficulties in monitoring banks' overall performance because of their lacking in time and money for training to acquire professional skills.<sup>92</sup> The DIS needs to balance the situations of small depositors who need some protection and the situations of banks which need market discipline to reduce moral hazard.<sup>93</sup> This subsection discusses two proposals, reduced maximum coverage of deposit insurance and co-insurance that increase depositors' risk exposure and requires depositors to monitor and discipline banks.

#### **a. Reduced Maximum Coverage of Deposit Insurance**

The DIS not only causes moral hazard for financial institutions, it also creates moral hazard for depositors. Depositors are less incentivised to monitor banks' performance with the existence of the deposit insurance.<sup>94</sup> The amount of maximum coverage of deposit insurance has an impact on the level of risk monitoring of depositors. Reducing the amount of maximum coverage of deposit insurance may improve the level of risk monitoring of depositors. Depositors are more likely to monitor banks' risk-taking behaviours if there are more funds at risk that are not covered by deposit insurance. The maximum deposit insurance for an individual depositor has grown from \$2,500 when deposit insurance was first introduced in 1934, to \$100,000 in 1980s and to \$250,000 at the moment in the United States. Although the increasing maximum amount of deposit insurance gives individual depositors more protection against bank failures, it is likely to increase the possibility of more risk-taking behaviours by banks and increased costs in dealing with bank failures. Reducing the amount of maximum deposit insurance coverage can reduce some risk-taking behaviours by banks, thus reducing the impact of the moral hazard problem and improving the level of monitoring by depositors. However, in the context of a very low deposit insurance coverage, depositors may have a lowered level

91 Robert Merton, 'An Analytic Derivation of the Cost of Deposit Insurance and Loan Guarantees: An Application of Modern Option Pricing Theory' (1977) 1 *Journal of Banking and Finance* 3

92 McKenzie and Khalidi (n 90) 184

93 Sebastian Schich, 'Financial Turbulence: Some Lessons Regarding Deposit Insurance' (2008) 1 *OECD Journal: Financial Markets Trends* 69

94 Sebastian Schich, 'Financial Crisis: Deposit Insurance and Related Financial Safety Net Aspects' (2008) 2 *OECD Journal: Financial Market Trends* 94

of confidence in the DIS and its credibility and this would increase the possibility of a bank run when having a crisis.<sup>95</sup> This proposal of reduced maximum coverage of deposit insurance was considered but not adopted by the US in the deposit insurance reform in the early 1990s.

#### **b. Co-Insurance**

Co-insurance is another proposal that intends to reduce moral hazard by both depositors and banks, and requires both insured depositors and insuring banks to cover losses based on certain proportions.<sup>96</sup> Co-insurance could potentially increase incentives of depositors to monitor risk-taking behaviours and business activities of banks. In the context of the US deposit insurance reform, co-insurance means that the coverage of the deposit insurance would be limited to a certain percentage of each deposit and would be account for full repayment for some accounts with low level deposits.<sup>97</sup> In addition, the design of co-insurance is on a sliding scale which means 'the lower the amount is deposited, the higher the percentage of the insurance; however, each dollar is at risk for some percentage'.<sup>98</sup> The rationale for this proposal is that depositors whose deposits are not fully covered would monitor banks' risk levels and would therefore demand higher interest rate when their banks take on more risks.<sup>99</sup> One advantage of co-insurance is that it ensures a fast and prompt repayment for at least a fraction of insured deposits.<sup>100</sup>

On the other hand, it is argued that co-insurance would have some disadvantages in practice, focusing on depositors' actual abilities to monitor banks and the increased possibility of a bank run. The actual abilities of unsophisticated depositors is not sufficient to be vigilant.<sup>101</sup> An average consumer of banks is in the position where they are less likely to assess and evaluate their banks' risks and performance even given the most up-

95 *ibid.*

96 Schich (n 94) 70

97 R. Alton Gilbert, 'Market Discipline of Bank Risk: Theory and Evidence' (1990) 1 *Review* 3

98 Marilyn B. Cane, 'The Eagle or the Ostrich: A United States Perspective on the Future of Transnational Banking' (1992) 25 *Vand J Transnat'L* 183,196

99 Gilbert (n 98).

100 Gillian Garcia, 'Deposit Insurance and Crisis Management' (2000) IMF Working Paper WP/00/57 25

101 Ross Cranston, *The Single Market and the Law of Banking* (2<sup>nd</sup> Lloyds of London Press)

to-date information.<sup>102</sup> In the sense of co-insurance, information available to depositors can cause confusion and even be misleading for them when they assess banks' risks and financial performance. Because of depositors' difficulties and insufficient abilities in monitoring banks' risks, their methods of market discipline for banks can be very limited and have an adverse impact on banks, particularly withdrawal of funds.<sup>103</sup> With depositors methods of market discipline, bank run on troubled banks is more likely to happen when depositors bear five percent risk.<sup>104</sup> An appropriate proportion of payment should be negotiated between insuring banks and insured depositors when it comes to co-insurance in reality.<sup>105</sup> In addition, it is argued that co-insurance is likely to increase transaction costs because depositors may put their deposits in different banks to ensure they get the maximum payment with the least cost and by doing this it may also increase difficulties in calculating the overall limit of the amount of funds of each depositor.<sup>106</sup>

### **c. Disadvantages of the Proposals That Increase Depositors' Risk Exposure**

Several other proposals, such as mandatory loss for uninsured depositors and restricted coverage of deposit insurance for certain groups of depositors, have a similar nature to reduced maximum coverage of deposit insurance and co-insurance. These proposals intend to incentivise depositors to monitor banks' risks and financial performance and increase market discipline for banks. This category of increasing depositors' risk exposure may not be the optimal option. The two issues associated with this category of proposal are the actual ability of depositors to monitor bank risk and the potential negative impact on the financial stability.

Acquiring information can be very costly for financial institutions and banking regulators. This is even more so for individual depositors when they are trying to get information and monitor risk-taking behaviours and other activities of banks. Compared with banking institutions, individual depositors are in a more disadvantaged. Individual

102 Andrew Campbell and Peter Cartwright, 'Co-Insurance and Moral Hazard: Some Reflections on Deposit Protection in the UK and USA' (2003) 5 *Journal of international Banking Regulation* 9

103 Krishna G. Mantripragada, 'Depositors as a Source of Market Discipline' (1992) 9 *Yale J on Reg* 543

104 Cane (n 99) 197

105 Benston and Kaufman (n 11)

106 Lawrence J. White, 'The Reform of Federal Deposit Insurance' (1989) 3 *The Journal of Economic Perspectives* 11

depositors have less analytical skills and resources compared with large financial institutions and governmental agencies. It can be more difficult for individual depositors to tell the difference between healthy and troubled banks, and more difficult to analyse risk-taking behaviours and activities of banks based on the resources and skills of depositors.

Increased risk exposure for depositors may have a negative impact on financial stability because depositors have limited ability to analyse the business activities of banks and they are more likely to make biased decisions and withdraw their deposits, and consequently this is more likely to cause a bank run. Under the proposals of increased risk exposure for depositors, depositors may need to access more information about banks' operations while other professional institutions could be more efficient in analysing and make the best use of this kind of information by monitoring the risk-taking behaviours of banks.<sup>107</sup> When considering potential costs of monitoring bank risks by increasing risk exposure to depositors, these proposals may not be the most efficient way to reduce risk-taking activities of banks and achieving a balance between an effective deposit insurance and moral hazard,

## **2. Increased Cost – From the Perspective of Banks and Their Stakeholders**

Increasing costs for banks and their shareholders is another category of proposals in the US deposit insurance reform in the early 1990s. These proposals intended to incentivise banks to manage or reduce their risk levels and focused on providing incentives for bank owners to control risk and risk-taking behaviours in banks. The main proposals of the category, increasing banks' costs in relation to their risks, include risk-related insurance premiums, risk-related capital requirements and increased capital requirements.

### **a. Risk-Related Insurance Premiums**

The proposal of risk-related insurance premiums is related to methods in private insurance that are based on different levels of risks of insured parties. The higher the level of risks of a particular insured party, the higher the insurance premiums will be. As

<sup>107</sup> Hanc (n 91)

a result, this proposal is likely to reduce risk-taking behaviours of bank management and the risk level of the bank, and therefore reduce the impact of the moral hazard.<sup>108</sup> The proposal of risk-related insurance premiums is also likely to provide an effective way for banking regulators to supervise and monitor solvency of banks as the increasing insurance premiums can act as an indicator of risk level of particular banks so that banking regulators can take timely measures to intervene.<sup>109</sup>

However, those who are not in favour of risk-related insurance premiums suggest that a flat rate premium is not the only factor that leads to risk-taking behaviour of bank management. Also, excessive risk exposure of banks and reform of deposit insurance to risk-related insurance premiums may not be the way to reduce incentives of risk-taking of banks.<sup>110</sup> Other arguments of opponents of this proposal are that the risk levels of particular banks may be hard to measure for determining insurance premiums and it is more likely to cause bank failure if the bank with a higher risk level is charged a higher premium, as the bank with higher risks is more likely to be in trouble.<sup>111</sup>

## **b. Risk-Related Capital Requirements**

Risk-based capital requirements have a similar function as risk-related insurance premiums, which aim to reduce the banks' risk level by increasing the costs of the banks' risk level. Risk-based capital requirements refer to a 'different capital minimum percentage to be held against different categories of assets according to their perceived risks.'<sup>112</sup> This proposal also requires that capital should be held against both on and off balance sheet activities, which is different from capital regulation of the US before the introduction of this proposal in the 1990s. One of the advantages of risk-based capital requirement is that this proposal is an improvement based on the US capital regulation at

108 J. David Cummins, 'Risk-Based Premiums for Insurance Guaranty Funds' (1988) 43 *Journal of Finance* 823

109 Philip F. Bartholomew, 'Reforming Federal Deposit Insurance' (Congress of the United States Congressional Budget Office September 1990) 92 <<https://www.cbo.gov/sites/default/files/101st-congress-1989-1990/reports/199009reformingfederaldeposit.pdf>> last accessed 20 Aug 2019

110 Kose John, Teresa A. John and Lemma W. Senbet, 'Risk-Shifting Incentives of Depository Institutions: A New Perspective on Federal Deposit Insurance Reform' (1991) 15 *Journal of Banking and Finance* 895

111 Kenneth E. Scott and Thomas Mayer, 'Risk and Regulation in Banking: Some Proposals for Federal Deposit Insurance Reform' (1971) 23 *Stan.L.Rev.* 857, 889

112 Robert B. Avery and Allen N. Berger, 'Risk-Based Capital and Deposit Insurance Reform' (1991) 15 *Journal of Banking and Finance* 847

that time and it does not require a significant change of capital regulation compared with risk-related insurance premiums.<sup>113</sup>

Similar to risk-related insurance premiums, one of the drawbacks of risk-based capital requirements is the difficulty to measure the risk level of banks. Moreover, evidence shows that risk-based capital standards have a limited effect on risk-taking behaviours of banks. With risk-based capital requirements, an undercapitalised bank can comply with capital requirements only by improving its capital without consideration of reducing its portfolio risk and this shows little differences between original capital requirements and risk-based capital requirements because risk-taking behaviours have not been fully considered in this proposal.<sup>114</sup> Another argument that is used to oppose this proposal is that risk-based capital requirement entails reshuffling of capital in the banking industry, and has little impact on reducing risks of banks and overall stability and safety of the financial system.<sup>115</sup>

### **c. Increased Capital Requirements**

Increased capital requirements could be a more effective and direct way to curb the moral hazard problem because shareholders of banks put their own money at more risk and they are more likely to reduce risk-taking behaviours of banks. However, there is a limit of increased capital requirements because there could be an adverse effect on the economy, including insufficient market entry of new banks and lack of competition on the market if there is no highest limit for the capital requirement of banks.<sup>116</sup> As a result, capital requirements of banks should have a balance between reducing risk-taking behaviours and activities of banks and maintaining healthy competition on the market to maintain the operation of the economy. Additionally, capital requirements should show the real capital situation and net worth of banks.

113 Benston and Kaufman (n 11) 39

114 Paul Calem and Rafeal Rob, 'The Impact of Capital-Based Regulation on Bank Risk Taking' (1999) 8 *Journal of Financial Intermediation* 317, 341

115 Benston and Kaufman (n 11) 40

116 Berlin, Saunders and Udell (n 67)

### 3. Narrow or 'Fail-Safe' Banking

Narrow banking is also a category of proposals during the US deposit insurance reform in the 1990s. Narrow banking is generally defined as banks that conducts deposit-taking and payment activities and are prohibited from lending.<sup>117</sup> Narrow banks provide deposit accounts which is backed with currency and low risk marketable securities.<sup>118</sup> Assets of narrow banks derive from restructured investment with a slight chance of declination of value and are used to meet the needs of deposits withdrawals.<sup>119</sup> Operational costs of narrow banks are covered by the interest of secure investments and service charges of any transactions.<sup>120</sup>

There are several narrow banking proposals that differs slightly, depending on the extent of narrow banks' investment choices. This means that the extent of services provided by narrow banks varies and a narrow bank can provide different deposits and different types of coverage of insurance.<sup>121</sup> The first narrow banking proposal separates financial holding companies into two subsidiaries, bank subsidiaries and lending entities, where bank subsidiaries are responsible for processing transactions, managing deposits and investing in highly liquid and safe securities and lending entities provide lending services that involve in commercial paper, debenture, equity etc.<sup>122</sup> Another narrow banking proposal separate banks into two financial institutions, including one institution that manages bank accounts, money transfers and holds a limited extend of assets and another institution that can provide services for all other activities.<sup>123</sup> This proposal has a clearer division of services as a depository institution and services of other financial activities than any other proposals and it represents the core feature of narrow or 'fail-safe' banks. The next narrow banking proposal was established on the basis of the first

117 Shuji Kobayakawa and Hisashi Nakamura, 'A Theoretical Analysis of Narrow Banking Proposals' (2000) 18 Institute for Monetary and Economic Studies 105, 107

118 Kenneth Spong, 'Narrow Banks: An Alternative Approach to Banking Reform' (1993) Federal Reserve Bank of Kansas City Working Paper No.90 <<http://www.levyinstitute.org/pubs/wp90.pdf>> last accessed 20 Aug 2019

119 George J. Benston and George Kaufman, 'Narrow, Fail-Safe or Money Market Banks: Analysis and Evaluation' (1988) 1 Monograph Series in Finance and Economics 71

120 Spong (n 120)

121 James B. Burnham, 'Deposit Insurance: The Case for the Narrow Bank' (1991) 14 Regulation 35

122 Robert Litan, *What Should Banks Do?* (Brookings Institution 1987)

123 James Pierce, *The Future of Banking* (Yale Univerisity Press 1991)

banking proposal where the extent of assets that banking subsidiaries can hold is wider, including some mortgage loans.<sup>124</sup>

Because of the limited extend of safe assets, narrow banks would be low risks and their risks of insolvency would also be reduced, and therefore insured deposits in narrow banks would be affordable for taxpayers.<sup>125</sup> By eliminating risky decisions by managers of federal insured deposit institutions, narrow banking would help banking regulators manage and supervise insured institutions and better protect depositors. One advantage of narrow banking is that backed assets of loans of traditional banking are replaced by low risk marketable assets which can meet the needs of depositors almost anytime. This means that the mismatch of the maturity of deposits and loans is reduced. Because a narrow bank is backed with ready and liquid assets, which resolves the problem of commercial banking by eliminating the mismatch of deposits and loans, and therefore it is likely to improve the confidence of depositors concerning the safety of their deposits, and to reduce potential costs for taxpayers in the case of bank failures. Another advantage of narrow banks, in relation to banking regulators and the government, is that narrow banks are likely to reduce the burden of banking supervision as well as the cost of governmental protection in the case of banking crises.<sup>126</sup>

It is argued that narrow banking proposals addresses only consequences of problems related to the deposit insurance, not causes of the problems, and narrow banking would create some other issues.<sup>127</sup> The first problem of narrow banking is the feasibility of these proposals. Firstly, as backed assets of narrow banks are investments of low risk securities, particularly US Treasury securities, the total amount of US Treasury securities with a low risk may be less than the total amount of deposits held by narrow banks.<sup>128</sup> If treasury securities are all held by a narrow bank, it may be difficult for other financial institutions to acquire treasury securities and deal with withdrawals, thus posing a negative effect on the ability of other financial institutions to back their assets with low risk securities. Secondly, some narrow banking proposals argue for exemptions for small

124 Lowell Bryan, 'Core Banking' (1991) 1 McKinsey Quarterly

125 Bert Ely, 'The Narrow Bank: A Flawed Response to the Failings of Federal Deposit Insurance' (1991) 14 Regulation 44

126 James Tobin, 'A Case for Preserving Regulatory Distinctions' (1987) 30 Challenge 10

127 Ely (n 127)

128 Benston and Kaufman (n 80)

banks to address the feasibility issue related to the narrow banking concept. Small banks exemption suggested by Burnham means that small banks with assets under \$100 million would be exempted from requirements of narrow banking and banks with assets from \$100 million to \$ 500 million would be partially exempted from requirements of narrow banking.<sup>129</sup> Practically, the exemption would encourage the establishment of small banks, especially in large urban areas where the cost savings and economies of scale can be achieved, and this would increase fragmentation of the US banking industry and the financial instability.<sup>130</sup> Thirdly, the effectiveness of narrow banking is in doubt. Narrow banks may face difficulties to attract a great number of depositors because the low risk nature of a narrow bank means it provides return of deposits at a lower rate.<sup>131</sup> The banks' interests that are payable to their depositors is related to the earnings on their assets, and low risk marketable securities cannot yield high returns to provide depositors with a competitive interest rate. Therefore, depositors may choose other financial institutions for their deposits and narrow banks may not be as effective as designed in the deposit insurance reform.

#### **D. Ring-Fencing – An Aspect of UK Structural Reform of the Banking Sector**

Ring-fencing is one of the aspects of UK banking reforms to cope with issues identified through the GFC which ensures financial stability and reduce the impact of 'too-big-to-fail' problem on UK taxpayers and the economy.<sup>132</sup> Ring-fencing refers to the separation of core retail banking functions (e.g. payments, deposits and overdrafts) used by UK customers from other banking activities.<sup>133</sup> Entities that carry out these core banking functions are 'ring-fenced bodies' (RFB)<sup>134</sup>. RFB are prohibited from doing a number of banking activities, such as investments.<sup>135</sup> The purpose of ring-fencing is to ensure that RFB and its clients are free from risky activities that are carried out in the rest

129 Burnham (n 123) 38

130 *ibid*

131 Benston and Kaufman (n 80).

132 Katie Britton, Lindsey Dawkes, Simon Debbage and Talib Idris, 'Ring-Fencing: What Is It and How Will It Affect Banks and Their Customers?' (2016) Bank of England Quarterly Bulletin 2016 Q4 165

133 *ibid*.

134 Financial Service and Markets Act 2000, s 142

135 Financial Service and Markets Act 2000 (Regulated Activities) Order, article 5

of a banking group.<sup>136</sup> This structural reform has led to changes in banking groups in the United Kingdom where banks have been split into retail banks and investment/wholesale banks.

Under the current legislation, RFB is required to be able to make decision independently from other entities in the banking group,<sup>137</sup> and carry out its activities in the context of insolvency of other entities in the group.<sup>138</sup> RFB is subject to stricter regulatory requirements, specifically stricter capital requirements, than other banks.<sup>139</sup> As a result of ring-fencing, deposit-taking institutions would be much safer than the situation before this structural change and risks presented to taxpayers would be massively reduced, because RFB is designed to separate from risky activities conducted by other entities in the rest of the banking group.<sup>140</sup>

The UK approach of ring-fencing is particularly suitable in the context of UK banking sectors compared with approaches of structural reforms in other countries. In contrast to the French and German approach of restricting the scope of proprietary trading and investment in leveraged investment funds by deposit-taking institutions, the UK approach focuses on protecting deposits.<sup>141</sup> As many global banks are based in or headquartered to the UK, the deposit-taking activity is a part of the whole business of those banks. The separation between retail banking and investment/wholesale banking would remove risks existed in investment banking entities from RFB, therefore removing the necessity of the government bailing out these too-big-to-fail institutions and to some extent reducing moral hazard associated with the failure of those institutions<sup>142</sup>.

### **III. Rationales for Structured Early Intervention for Banks**

This section discusses why structured early intervention for banks at the pre-insolvency stage is necessary from the following two perspectives: bank characteristics and their roles in the financial sector; and functions of structured early intervention for

136 Britton, Dawkes, Debbage and Idris (n 138)

137 Financial Service and Markets Act 2000, s 142H(4)(b)

138 Financial Service and Markets Act 2000, s 142H(4)(c)

139 Financial Service and Markets Act 2000, s 142Y(1)

140 Matthias Lehmann, 'Volcker Rule, Ring-Fencing or Separation of Bank Activities – Comparison of Structural Reform Acts around the World' (2016) 17 *Journal of Banking Regulation* 176

141 *ibid.*

142 *ibid.*

banks. The perspective of the bank explains why banks are special and in need of early intervention by regulatory authorities. The perspective of functions of structured early intervention for banks explains why these mechanisms work compared with day-to-day banking regulation and bank resolution at pre-insolvency stage.

## **A. The Perspective of Banks**

Compared with non-bank firms, banks play important roles in the financial system and are vulnerable to risks, particularly to certain risks involved in their operations, such as liquidity risk and credit risk. Risks involved in a bank's operation are more likely to lead to systemic risk in the banking sector, which is influential and dangerous to the financial system and society.

### **1. Important Roles of Banks in the Financial System**

The roles and functions of banks and the banking sector within the economy are irreplaceable.<sup>143</sup> Banks are connected to the economy of a country and hold deposits from the public who may have limited knowledge about banks and their roles in the payment system.<sup>144</sup> One of the banks' characteristics is maturity transformation, which means that there is a mismatch of liabilities and assets of banks due to their roles in transferring short-term liquid deposits to long-term illiquid loans.<sup>145</sup> This can easily influence the solvency state of banks in the situation of loss of public confidence and lead to mass-withdrawals of funds.<sup>146</sup> The inability of banks to provide credit and liquidity can cause loss of confidence among the public, and depositors can be largely influenced because banks hold credits for the public and liquid assets in the financial system. With the loss of confidence and bank runs, there is likely to be turbulence in financial stability. Due to the importance of the banks' role in the payment system, a bank failure is likely to cause payment failure. Some of the banks' roles can be performed by other non-bank

143 Michael Schillig, 'Bank Resolution Regimes in Europe I – Recovery and Resolution Planning, Early Intervention' (25 August 2012) <<http://ssrn.com/abstract=2136101>> last accessed 20 Aug 2019

144 Robert R. Bliss and George G. Kaufman, 'U.S. Corporate and Bank Insolvency Regimes: An Economic Comparison and Evaluation' (2006) Federal Reserve Bank of Chicago Working Paper 2006-01, <<https://www.chicagofed.org/publications/working-papers/2006/wp-01>> last accessed 20 Aug 2019

145 Anat Admati and Martin Hellwig, *The Bankers' New Clothes: What's Wrong and What to Do about It?* (Princeton University Press 2013)

146 Hupkes (n 45) 3

firms, but not all of them. A way to reduce the negative impact of banks on financial stability can be the application of pre-insolvency arrangements because such arrangements deal with banking problems at early stages.<sup>147</sup> In this way, the impacts of bank failures can be reduced or avoided.

## 2. Vulnerability of Banks to Risks

Banks are likely to encounter market risk, credit risk, liquidity risk, operational risk and systemic risk.<sup>148</sup> Banks are more likely to be affected by these risks compared to non-bank firms, especially the potential impact of these risks on banks' solvency. These risks can be divided into two groups that are relevant to two different types of bank insolvency. Like non-bank firms, banks face two types of insolvency: cash flow insolvency and balance sheet insolvency. One group is liquidity risk, which is related to cash flow insolvency. Cash flow insolvency means that banks cannot pay their debts when they are due.<sup>149</sup> Another group is credit risk, market risk and operational risk, which are more related to balance sheet insolvency. Balance sheet insolvency means that the liabilities of banks exceed their assets and they have a negative net worth on their balance sheets.<sup>150</sup> Because of the interconnectedness of credit and the market via the payment system in the banking sector, no matter what type of the insolvency a bank is facing, it is likely to cause problems associated with other banks' solvency.<sup>151</sup> In other words, risks of individual banks could have an impact on the solvency of other banks and the whole banking system, which is correlated with systemic risk.

147 Eva H G. Hupkes, *The Legal Aspects of Bank Insolvency A Comparative Analysis of Western Europe, The United States and Canada* (Kluwer 2000)

148 Darrell Duffe and Kenneth J. Singleton, *Credit risk: pricing, measurement and management* (Princeton University Press 2003)

149 International Monetary Fund and World Bank, 'An Overview of the Legal, Institutional, and Regulatory Framework for Bank Insolvency' (17 April 2009) <<https://www.imf.org/external/np/pp/eng/2009/041709.pdf>> last accessed 20 Aug 2019

150 *ibid.*

151 David Murphy, *Understanding Risk: The Theory and Practice of Financial Risk Management* (Chapman and Hall 2008)

## a. Liquidity Risk and Cash Flow Insolvency

Liquidity risk is the possibility that withdrawals of funds by banks' depositors all happen at the same time, causing the banks to have insufficient funds.<sup>152</sup> There are two categories of liquidity risks: funding liquidity risk and market liquidity risk. Funding liquidity risk means that banks are not able to make payments to their counterparties by cash or other forms of assets when debts are due unless they begin the liquidation process.<sup>153</sup> The Bank for International Settlements (BIS) defines funding liquidity risk as 'the possibility that over a specific horizon the bank will become unable to settle obligations with immediacy.'<sup>154</sup> BIS states that the distinction between funding liquidity and funding liquidity risk is that the future funding liquidity may influence current funding liquidity risk.<sup>155</sup> Market liquidity risk means that banks cannot exchange assets for cash or liquid assets in a short time by selling them at a fair price, which means that selling the banks' assets to get liquidity is disadvantageous to banks and their losses may reduce their equity and ability to absorb future losses.<sup>156</sup> Moreover, market liquidity risk refers more to market function than the situation of banks. It can lead to funding liquidity risk in a short time.<sup>157</sup>

Liquidity risk can lead to systemic risk. Banks take deposits and make loans and payments to each other using the payment system.<sup>158</sup> The result is that one bank's underperformance can affect other banks' operations. Banks are likely to keep a small part of deposits in cash to meet the needs of depositors. If a bank is out of liquidity and fails to perform its obligations to its counterparties, it is likely to cause the default of other banks. The result of a systemic risk can be the inability of one bank to perform its obligation because of its liquidity risk.

152 Marc Farag, Damian Harland and Dan Nixon, 'Bank capital and liquidity' (2013) Bank of England Quarterly Bulletin Q3 201-215 <<https://www.bankofengland.co.uk/-/media/boe/files/quarterly-bulletin/2013/bank-capital-and-liquidity>> last accessed 20 Aug 2019

153 *ibid.*

154 Mathias Drehmann and Kleopatra Nikolaou, 'Funding Liquidity Risk and Measurement' (2010) BIS Working Papers Monetary and Economic Department No.316 <<https://www.bis.org/publ/work316.pdf>> last accessed 20 Aug 2019

155 *ibid.*

156 Farag, Harland and Nixon (n 158)

157 *ibid.*

158 Steven L. Schwarcz, 'Systemic Risk' (2008) 97 Georgetown Law Review 193

Banks can to some extent solve the problem of illiquidity by using interbank markets to borrow from another banks. Another way is to get liquidity from the central bank as the lender of the last resort. The problem of short liquidity can be solved by maintaining the stability of the financial system. In Basel III, a framework on bank regulation with the focus on capital ratio and liquidity risk and stress testing,<sup>159</sup> there are liquidity coverage ratios and principles as guidance for liquidity management to keep the bank's cash flow solvent and to be accountable for the financial market.<sup>160</sup>

A bank's liquidity risk relates closely to its activities of taking deposits and lending money. There is a mismatch between the assets and liabilities of banks because banks take short-term deposits and make long-term loans. The mismatch results in the inherent vulnerability of banks to bank runs because there are more depositors to claim payments from banks and fewer borrowers to repay banks.<sup>161</sup> Consequently, banks are easily influenced by withdrawals of funds by depositors.<sup>162</sup> If a bank suffers a great loss in its business, it is likely to have less liquidity, and there is a possibility of a bank run. If a bank cannot pay its depositors when they claim their funds, the bank is experiencing cash flow insolvency. Liquidity risk is also connected to balance sheet insolvency. The connection is that the fear of the counterparties about the possibility that the bank will default, increases the possibility that they will withdraw their funds, which may worsen a bank's illiquid condition and increase the likelihood of a bank run.<sup>163</sup>

#### **b. Credit Risk, Market Risk, Operational Risk and Balance Sheet Insolvency**

Credit risk, market risk and operational risk have an impact on banks' assets and liabilities. The occurrence of these risks is likely to lead to the balance sheet insolvency of a bank. Credit risk is the possibility that the bank's debtors will not repay the bank.<sup>164</sup>

159 Bank for International Settlements, 'International Regulatory Framework for Banks' <<http://www.bis.org/bcbs/basel3.htm>> last accessed 20 Aug 2019

160 Bank for International Settlements, 'Principles for Sound Liquidity Risk Management and Supervision' (September 2008) <<http://www.bis.org/publ/bcbs144.pdf>> last accessed 20 Aug 2019

161 Basel Committee on Bank Supervision, 'Liquidity Risk Management and Supervisory Challenges' (Bank for International Settlements 2008) <<https://www.bis.org/publ/bcbs136.pdf>> last accessed 25 Aug 2019

162 Jan H Dalhuisen, *Dalhuisen on Transnational, Comparative, Commercial, Financial and Trade Law, Vol 3* (4th ed Hart 2010) 442

163 Admati and Hellwig (n 151)

164 Basel Committee on Banking Supervision, 'Principles for the Management of Credit Risk' (27

According to the Joint Forum of Basel Committee on Bank Supervision (BCBS), International Organisation of Securities Commission (IOSCO) and International Association of Insurance Supervisors (IAIS), credit risk occurs when ‘a counterparty will fail to perform fully its financial obligations, and can arise from multiple activities across the sector.’<sup>165</sup> To be more specific, parties such as borrowers and guarantors that are obliged to make payments to the bank and cannot perform their obligations in their agreements are credit risks, as is failure to perform obligations like bond and derivative agreements.<sup>166</sup> Non-repayment by borrowers affects banks’ balance sheets. The characteristic of credit risk is that it is involved with lending, which is the core business of a bank.<sup>167</sup> Lending includes the possibility of non-repayment by the borrower.<sup>168</sup>

Market risk is ‘the risk of losses in on- and off-balance-sheet positions arising from movements in market prices.’<sup>169</sup> Positions in the banks’ trading books to commodity and foreign exchange positions in the balance sheets can lead to market risk.<sup>170</sup> The increasing presence of credit risk and illiquid positions in banks’ portfolios are likely to cause difficulties in trading compared with traditional trading book portfolios with liquid positions,<sup>171</sup> which are likely to affect banks’ balance sheets.

BCBS defines operational risk as ‘the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events and this definition includes legal risk, but excludes strategic and reputational risk.’<sup>172</sup> The insolvency of the Barings Bank because of unsupervised banking activities of its employees illustrates the

September 2000) <<http://www.bis.org/publ/bcbs75.htm>> last accessed 20 Aug 2019

<sup>165</sup> The Joint Forum of Basel Committee on Bank Supervision (BCBS), International Organization of Securities Commission (IOSCO) and International Association of Insurance Supervisors (IAIS), ‘Developments in Credit Risk Management across Sectors: Current Practices and Recommendations’ (June 2015) <<https://www.bis.org/bcbs/publ/joint38.pdf>> last accessed 20 Aug 2019

<sup>166</sup> *ibid.*

<sup>167</sup> Basel Committee on Bank Supervision (n 175)

<sup>168</sup> John B. Caouette, *Managing Credit Risk: The Great Challenge for Global Financial Markets* (2nd edition Wiley 2008)

<sup>169</sup> Basel Committee on Bank Supervision, ‘Amendment to the Capital Accord to Incorporate Market Risk’ (4 January 1996) <<https://www.bis.org/publ/bcbs24.htm>> last accessed 20 Aug 2019

<sup>170</sup> European Banking Authority, ‘Market Risk’ <<https://www.eba.europa.eu/regulation-and-policy/market-risk>> last accessed 20 Aug 2019

<sup>171</sup> *ibid.*

<sup>172</sup> Basel Committee on Bank Supervision, ‘Principles for the Sound Management of Operational Risk’ (June 2011) <<http://www.bis.org/publ/bcbs195.pdf>> last accessed 20 Aug 2019

connection between operational risk and bank insolvency. One characteristic of operational risk is that it is hard to regulate and can only be found when it crystallises.<sup>173</sup>

Credit risk, market risk and operational risk may have an impact on banks' financial performance and solvency. From the perspectives of banks, several methods can be applied in their daily operations to reduce the possibility and impact of these risks. Hedging facilities can be one method for banks to manage these risks and reduce the impact of these risks on balance sheet insolvency. For credit risk, banks can reduce the risks of default by their counterparties by credit default swaps or asset-backed securitisation. A credit default swap contract is like insurance. The seller bank pays fees to the buyer bank and will get a contingent payment from the buyer bank if the borrowers of the seller bank are insolvent,<sup>174</sup> thus improving the diversification of credit risk. Credit default swaps can change the exposure of banks from direct borrowers to more diversified borrowers. In this way, the credit risk of direct borrowers of the bank can be reduced. Another benefit for banks is that it can be less costly for them to raise funds because the cost of using these facilities is lower than investments with the same level of risk.<sup>175</sup> Whether banks are sellers or buyers of securitisations and facilities like credit default swaps, they benefit because buyer banks can raise funds by issuing debts secured by securitised assets and seller banks can reduce their credit risks from loans and credit card debts and keep a safer balance sheet.<sup>176</sup>

For both credit risk and market risk, derivatives can be a method for banks to manage. Derivative means that 'financial instruments whose value is derived from the performance of a secondary source such as an underlying bond, commodity, or index.'<sup>177</sup> By using derivatives, banks can transfer their market risk to the future's market to risk-takers or speculators. Banks' use of derivatives can help manage interest rate risk and

173 John Thirlwell, 'Operational risk: the banks and the regulators struggle' (2000) 10 *Balance Sheet* 28

174 Frank Heyde and Ulrike Neyer, 'Credit Default Swaps and the Stability of Banking Sector' (2010) 10 *International Review of Finance* 27

175 Darrel Duffie, 'Innovations in Credit Risk Transfer: Implications for Financial Stability' (2008) Bank for International Settlement Monetary and Economic Department BIS working paper No.225 <[http://papers.ssrn.com/sol3/Papers.cfm?abstract\\_id=1165484](http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=1165484)> last accessed 20 Aug 2019

176 Georges Dionne and Tarek M.Harchaoui, 'Banks' Capital, Securitization and Credit Risk: An Empirical Evidence for Canada' (2008) 75 *Insurance and Risk Management* 459

177 Timothy E. Lynch, 'Derivatives: A Twenty First Century Understanding' (2011) 43 *Loyola University Chicago Law Review*

exchange rate risk.<sup>178</sup> From a theoretical perspective, participating in off-balance sheet activities, such as derivatives, can be a way for banks to reduce risks, and banks will benefit from using derivatives under favourable conditions to reduce their risks.<sup>179</sup> By using derivatives that mature before the time that loans mature, counterparty risks that derived from the credit market and friction assets (e.g. loans) and are difficult for banks to monitor can be reduced.<sup>180</sup> In the context of post-GFC, it is argued that aggregate derivatives together with its components (i.e. interest rate and exchange rates) reduce risks of large and profitable banks.<sup>181</sup> On the other hand, from the perspective of empirical research, even though banks can use swaps (as one type of derivatives) to transfer credit risks of their loans to others and reduce the possibility of default loans causing the financial underperformance or even insolvency in a short term, with a credit-derivatives market, banks' using credit derivatives may lead to failure of loan risk-sharing in other markets in the long term.<sup>182</sup> Even if banks use derivatives only for the purpose of hedging their credit exposure, credit derivative trading is still a potential risk to the financial stability.<sup>183</sup> The dependence of derivatives on the future market is likely to increase the credit risk of banks' counterparties,<sup>184</sup> because the basis of derivatives of one party is the performance of obligations of another party at a future date. From an empirical research of banks' derivatives usage in 18 developed countries, it is suggested that banks' ex-ante derivatives use would lead to ex-post risks and this proves that generally using derivatives increases banks' risks, especially aggressive usage of derivatives.<sup>185</sup> In the context of

178 Joe Peek and Eric S. Rosengren, 'Derivatives Activities at Troubled Banks' (Financial Institutions Centre The Wharton School University of Pennsylvania 1996) <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=886](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=886)> last accessed 20 Aug 2019

179 Kabir Hassan, 'The off-balance-sheet banking risk of large US commercial banks' (1993) 33 Quarterly Review of Economics and Finance 51

180 Bernadette Minton, Rene Stulz, and Rohan Williamson 'How much do banks use credit derivatives to reduce risk?' (2005) Working Paper NBER 11579

181 Amit Ghosh, 'How Do Derivative Securities Affect Bank Risk and Profitability? Evidence from the US Commercial Banking Industry' (2017) 18 The Journal of Risk Finance 186

182 Gregory Duffee and Chunsheng Zhou, 'Credit Derivatives in Banking: Useful Tools for Managing Risk?' (2001) 48 Journal of Monetary Economics 25

183 Norvald Instefjord, 'Risk and Hedging: Do Credit Derivative Increase Bank Risks?' (2005) 29 Journal of Banking and Finance 333

184 *ibid*

185 Xing Huan and Antonio Parbonetti, 'Financial Derivatives and Bank Risk: Evidence from Eighteen Developed Markets' (2019) 49 Accounting and Business Research 847.

European banks, using derivatives by banks also increases these banks' risks and value.<sup>186</sup>

These methods of transferring risks on the one hand can be helpful to reduce these risks and improve banks' ability to manage risks involved in their businesses and activities. On the other hand, these methods link banks in close relationships, which means contagion is likely to happen and the close relationships among banks are more likely to contribute to systemic risk. Contagion can begin in a simple situation of a borrower's insolvency and failure to perform its obligations to its creditors. In the interbank system as well as payment and settlement systems, the failure of one party to perform its credit or liquidity obligations is likely to have a negative effect on other banks' or financial institutions' solvency.<sup>187</sup> In particular, banks are more likely to contribute to a contagion compared to other non-bank firms and financial institutions.<sup>188</sup> With the interconnectedness of banks and financial institutions, the contagion effect is more likely to occur. In this way, it is more likely to drag the whole system down because of the default of a bank or financial institution.

Banks are constantly faced with risks that can lead to cash flow insolvency and balance sheet insolvency. Banks' methods to deal with these risks may increase their risks and increase the interconnectedness of the banking system. One way to reduce the possibility of balance sheet insolvency is capital regulation. Regulating the banks' capital is a direct way to improve the ability of banks to absorb losses potentially caused by these risks.<sup>189</sup> The regulation of a bank's capital structure can make the bank less depressed on debts. The more capital a bank has, the more incentives the bank has to manage

186 Chuang-Chang Chang, Keng-Yu Ho and Yu-Jen Hsiao, 'Derivatives Usage for Banking Industry: Evidence from the European Markets' (2018) 51 Rev Quant Finan Acc 921

187 Sheri Markose, Simone Giansante, Mateusz Gatkowski and Ali Rais Shaghaghi, 'Too Interconnected To Fail: Financial Contagion and Systemic Risk in Network Model of CDS and Other Credit Enhancement Obligations of US Banks' (2010) Discussion Paper No.683 Centre for Computational Finance and Economic Agents Economics Department University of Essex 1 <<http://repository.essex.ac.uk/3716/1/dp683.pdf>> last accessed 20 Aug 2019

188 Alexei Karas and Koen Schoors, 'Bank Networks, Interbank Liquidity Runs and the Identification of Banks That Are Too Inter-Connected to Fail' (2012) <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.367.8027&rep=rep1&type=pdf>> last accessed 20 Aug 2019

189 Admati and Hellwig (n 151)

these risks.<sup>190</sup> Shareholders and managers of banks are likely to make sure the operation of banks involves appropriate levels of risks.<sup>191</sup> Banks with more capital can absorb more losses. Even if the bank with more capital is insolvent, the cost of liquidating that bank for the public will be lower. Improving the capital of banks can reduce the impact of these risks on their balance sheets and manage these risks. Basel III includes improved requirements and standards for the level and quality of banks' capital to improve the banks' ability to absorb losses and maintain stability.<sup>192</sup> Bank supervision is the direct way to reduce and mitigate the impact of these risks.<sup>193</sup> The aim of pre-insolvency arrangements is to make banks less susceptible to government bail-outs and the use of public funds to rescue failing banks.<sup>194</sup> The design of pre-insolvency arrangements for banks is based on the special characteristics of banks compared with non-bank firms.

## **B. The Perspective of Structured Early Intervention for Banks**

In addition to characteristics and importance of banks, structured early intervention for banks takes bank risks into consideration, thereby providing banking regulators with timely identification of banks' financial condition and sufficient resources to manage troubled banks at early stages. Structured early intervention for banks matters because of its contribution to reduce costs of dealing with troubled or failed banks and its role as a bridge between banking regulation and bank resolution.

190 Jaime Caruana and Aditya Narain, 'Banking on More Capital' (International Monetary Fund Finance & Development June 2008) <<https://www.imf.org/external/pubs/ft/fandd/2008/06/pdf/caruana.pdf>> last accessed 20 Aug 2019

191 Chris Cooper, 'How Good Are Banks at Managing Business Risk?' (2000) 8 Balance Sheet 15

192 Marianne Ojo, 'Basel III and Responding to the Recent Financial Crisis: Progress made by the Basel Committee in relation to the Need for Increased Bank Capital and Increased Quality of Loss Absorbing' 'Capital' (IGI Global; North West University 2010) <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1680886](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1680886)> last accessed 20 Aug 2019

193 Erlend Walter Nier, 'Financial Stability Frameworks and the Role of Central Banks: Lessons from the Crisis' (International Monetary Fund 2009) <<https://www.imf.org/external/pubs/ft/wp/2009/wp0970.pdf>> last accessed 20 Aug 2019

194 Stephan Madaus, 'Bank Failure and Pre-emptive Planning: The Special Requirements of a Bank Resolution and a Default Resolution Option' (2013) <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2277452](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2277452)> last accessed 20 Aug 2019

## 1. Contribution to Reduced Costs of Dealing with Troubled Banks

Structured early intervention for banks can reduce delays of interventions by regulatory authorities, which is likely to reduce costs of the management of the troubled banks. The minimum loss of a troubled bank to the public arises when the bank's market value reaches zero,<sup>195</sup> because the shareholders of the bank suffer all the losses at this stage. If the market value of the troubled bank is negative, then the losses of the bank will be absorbed by both shareholders and other stakeholders. Reluctance in initiating bankruptcy is likely to cause delays in managing the troubled bank and worsen the situation. In other words, delay in intervention by a regulatory authority may lead to the loss of market value of the troubled bank. Structured early intervention by regulatory authorities of troubled banks is likely to reduce the losses suffered by creditors and taxpayers, when the market value of the troubled bank is still positive. This way, the losses and costs of resolution of a troubled bank can be less. Without early signals of banks' deteriorating financial condition that can be intervened with by structured early intervention for banks, banking regulators of troubled banks may not be aware of potential problems and risks at early stages. This means that a heightened supervision of troubled banks and relevant corrective measures play an important role in achieving an effective and efficient banking regulation and resolution regime.<sup>196</sup>

Regulatory authorities can intervene to take measures based on specific situations and problems that troubled banks face.<sup>197</sup> Structured early intervention for banks is likely to avoid fire sales of a bank's assets and corrective measures of structured early intervention for banks are different from the sale of banks' assets in liquidation. This is because structured early intervention for banks allows regulatory authorities to intervene before troubled banks reach balance sheet insolvency, and manage the troubled situation of the banks in a way that may maintain the values of the bank.<sup>198</sup> The fire sale of assets can spread distress to other banks and financial institutions.<sup>199</sup> In liquidation procedures,

<sup>195</sup> Rosa Lastra, *Legal Foundation of International Monetary Stability* (OUP 2006) 129

<sup>196</sup> Lastra (n 54) 165

<sup>197</sup> Dalvinder Singh, 'The UK Banking Act 2009, Pre-Insolvency and Early Intervention: Policy and Practice' (2011) 1 *Journal of Business Law*

<sup>198</sup> Mayes (n 13)

<sup>199</sup> Robin Greenwood, Augustin Landier and David Thesmar, 'Vulnerable Banks' (2015) 115 *Journal of Financial Economics* 471

the sale of banks' assets to pay creditors and counterparties is likely achieved by selling pieces rather than large parts, which may reduce potential gain from the sale. Therefore, structured early intervention for banks can be timely measures with lower costs compared with liquidation in relation to dealing with troubled banks.

## **2. Bridge Function between Banking Regulation and Bank Resolution**

The pre-insolvency stage is a phase between banking regulation and bank resolution where troubled banks start to be more problematic and risky. The financial condition of a troubled bank can deteriorate quickly. Banking regulators need to be able to scrutinise the bank's financial condition and take respective measures accordingly if necessary during this in-between phase. Structured early intervention for banks is the mechanism at this stage where it can function as a bridge between bank supervision and bank insolvency proceedings.<sup>200</sup> This means that structured early intervention for banks can to some extent determine whether a troubled bank can continue to do business with additional regulatory restrictions or proceed to insolvency proceedings with its financial condition of bank failing to meet any regulatory requirements set by structured early intervention for banks. In a troubled situation, structured early intervention for banks is needed so regulatory authorities can react in a timely manner and take corrective measures to reduce the negative impact caused by the troubled bank to the financial system.

The importance of this function, as a bridge between banking regulation and bank resolution, is the consideration of the objectives of financial stability and public confidence. In comparison with bank resolution and bank insolvency proceedings, the primary objectives of general insolvency law for corporations are to achieve fair distribution of the debtor's assets and to maximise the debtor's assets for the benefit of creditors.<sup>201</sup> There is the risk that resolving a troubled bank may cause instability to the whole financial system, which can to some extent be reduced by regulatory intervention.<sup>202</sup> Intervention

200 Madaus (n 211)

201 Henry N Schiffman, 'Legal Measures to Manage Bank Insolvency in Economics in Transition' in Rosa M Lastra and Henry N Schiffman (eds), *Bank Failures and Bank Insolvency Law in Economics in Transition* (Kluwer Law International 1999)

202 The Bank of England (n 52)

by regulatory authority can reassure creditors that regulatory methods are able to protect their interests.

#### **IV. Corrective Measures That Are Not for Structured Early Intervention for Banks**

Banking regulators are entitled to take different types of measures with banks, depending on the bank's financial condition and regulatory requirements. For example, normal regulatory measures ensure banks operate in compliance with the regulatory requirements to maintain safety and soundness while resolution measures ensure a smooth resolution of troubled banks with a minimised impact on the banking sector. This means that banking regulators may take different regulatory measures or actions with banks to deal with each bank condition at different stages. Specific measures show the level of regulation and supervision by banking regulators.

Corrective measures of structured early intervention for banks represent a heightened level of supervision by banking regulators at the pre-insolvency stage. Identification of differences between corrective measures at the pre-insolvency stage and other regulatory measures for banking regulation and bank resolution is important. This narrows down the scope of corrective measures for discussion in the following chapters. Generally, measures for regulatory authorities to intervene in a bank's operation range from less invasive to more invasive. Enforcement action, corrective measures and resolution measures are the primary regulatory measures for banking regulators.<sup>203</sup>

Enforcement actions are preventive measures that work before banking problems arise. Enforcement action should reach the balance between cooperative-based compliance requirements and compulsory corrective measures that prevent banks from doing certain activities.<sup>204</sup> The action represent a minor level intervention of in the bank's businesses by a regulatory authority.<sup>205</sup> The purpose of an enforcement action by a regulatory authority is to solve and correct minor problems when banks are in violation of requirements of prudential supervision in their operations.<sup>206</sup> When the bank participates

203 Tobias M.C. Asser, *Legal Aspects of Regulatory Treatment of Banks in Distress* (International Monetary Fund 2001) 52

204 Eva Hupkes, Marc Quintyn and Micheal Taylor, 'Accountability Arrangements for Financial Sector Regulators' (2006) 39 IMF Economic Issues 1, 5

205 Tobias (n 220) and Hupkes (n 45)

206 *ibid.*

in businesses that are not in accordance with safe and sound prudential regulation, the regulatory authority will give the bank orders emphasising stopping and not taking part in those businesses.<sup>207</sup>

However, corrective measures and resolution measures have a blurred line between them. Without further clarifications on differences between corrective measures and resolution measures, discussion on corrective measures of structured early intervention in the following chapters can be difficult to achieve. This section first briefly discusses the difference between corrective measures for structured early intervention for banks and corrective measures that are included in the bank resolution regime. Then it focuses on discussing how corrective measures for bank resolution work to differentiate the corrective measures for structured early intervention to be discussed in the following chapters.

#### **A. A Brief Explanation of Two Different Types of Corrective Measures**

Corrective measures are designed to deal with problems and bring troubled banks back to healthy and normal operation, which could help maintain important functions of the troubled banks.<sup>208</sup> In the literature, both regulatory measures that have an increased level of intervention with bank business operation and regulatory measures that deal with bank resolution to maintain economic values of troubled banks can be regarded as corrective measures. There is a subtle difference between these two types of corrective measures, though both types of corrective measures represent an increased level of intervention with banks by banking regulators. The first type of corrective measures focuses on recovery of the banks' ability to perform and operate by enforcing stricter regulatory requirements and restrictions on them. The second type of corrective measures, however, concentrates more on resolution of the banks by stabilising their financial condition to restore solvency of the banks. The second type of corrective measures is often discussed together with, or regarded as a part of, resolution measures. At the pre-insolvency stage, banks are commonly faced with financial problems and higher risks that might have a direct impact on their solvency instead of an immediate

<sup>207</sup> *ibid.*

<sup>208</sup> The Bank of England (n 52)

solvency problem. The following chapters in this thesis focus on discussion of the first type of corrective measures as an important part of structured early intervention for banks.

In practice, with the background of the Chinese banking regulatory framework, the understanding of these two types of corrective measures may cause confusion. The Chinese equivalent of 'corrective measures' in fact refers to the second type of corrective measures with the aim of stabilising troubled banks' financial condition and promoting a smooth resolution of troubled banks while the understanding of the Chinese equivalent could refer to either the first type or the second type of triggering events. These measures are similar to resolution measures that existed in the US and UK banking regulatory framework.

In general, corrective measures that are related to bank resolution are applied in the context of failed banks where stricter regulatory measures and restrictions fail to work. The corrective features of these measures focus more on maintaining value of troubled banks rather than aiming to restore a safe and sound operation of these banks.

## **B. How Corrective Measures for Bank Resolution Work**

The key feature for corrective measures associated with bank resolution is the stabilisation function of troubled banks to prepare for a smooth resolution and winding-up of particular troubled banks. These corrective measures with a focus on maintaining the critical functions of banks, together with measures to restructure and measures to exit, are the measures in bank resolution. Transfers of a bank's property, bridge banks and bail-in are specific corrective measures associated with bank resolution. The application of these corrective measures needs to satisfy both general requirements and specific requirements.

### **1. Main Corrective Measures Associated with Bank Resolution**

Transfers of a bank's property are a way to sell parts of or all of the shares, assets and liabilities to a private sector purchaser.<sup>209</sup> The purchaser should be able to accept the transferred part in a short time and should be a qualified buyer appropriately authorised

209 Michael Schillig, 'Bank Resolution Regime in Europe II—Resolution Tools and Powers' (26 August 2012) <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2136084](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2136084)> last accessed 20 Aug 2019

by the regulatory authority.<sup>210</sup> To do so, the regulatory authority needs sufficient power to authorise a private sector purchaser. Under troubled circumstances of a bank, the regulatory authority is entitled to exercise the rights of the bank's shareholders to transfer the bank's assets. These powers are exempt from the approval of other counterparties that normally need to approve transfer of the bank's assets.<sup>211</sup> However, the power of the regulatory authority is limited to protecting creditors and counterparties. For example, the set-off and netting arrangements should all be transferred to the private sector purchaser or held in the troubled bank for maintaining economic value.

There are three ways to conduct the sale of a bank's assets. The most direct is to transfer the insured deposits of a troubled bank to another healthy deposit-taking institution.<sup>212</sup> This can better continue the obligations of the troubled bank to its depositors and can be a more efficient way for the healthy bank to get new clients. A more complicated way is to transfer the bank's insured deposits and other assets such as cash, loans and portfolios. In the US, purchase and assumption is the application of transfers of a bank's property. Selling these assets together with insured deposits is likely to generate more value than selling them separately. In the application of transferring assets together, a large coverage of depositor preference can be a way to improve efficiency.<sup>213</sup> Depositor preference means the purchaser can assume deposits and buy assets without separating them and damaging the interests of some unsecured creditors.<sup>214</sup> If there is no depositor preference, the deposit guarantee agency has to find a way to protect the interests of unsecured creditors and guarantee that their interests are no worse off than those of depositors.<sup>215</sup> Without deposit preference, more time is needed to achieve resolution. With the coverage of deposit preference the buyer institution can purchase

210 The Bank of England, 'Tools Available with the Resolution Regime' <<https://www.bankofengland.co.uk/financial-stability/resolution>> last accessed 20 Aug 2019

211 European Commission, 'Proposal for a Directive of the European Parliament and of the Council Establishing a Framework for the Recovery and Resolution of Credit Institutions and Investment Firms and Amending Council Directives 77/91/EEC and 82/891/EC, Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC and 2011/35/EC and Regulation (EU) No 1093/2010'. Art 32(1) and 121

212 Annemarie van der Zwet, 'Crisis Management Tools in the EU: What Do We Really Need?' (2011) 9 DNB Occasional Studies 21

213 Daniel C. Hardy, 'Bank Resolution Costs, Deposit Preference and Asset Encumbrance' (International Monetary Fund 2013) <<https://www.imf.org/external/pubs/ft/wp/2013/wp13172.pdf>> last accessed 20 Aug 2019

214 *ibid.*

215 Schillig (n 227)

assets and assume deposits without considering these creditors so that the resolution of the troubled bank can be achieved with efficiency and the values of the troubled bank can be maintained more than the application of 'no creditors worse off.'<sup>216</sup> Another possible way is to separate the underperforming part of the troubled bank from the healthy part so the bank's balance sheet can be cleaned. It is easier to sell the bank if the underperforming part is sold first.<sup>217</sup>

The institution of the bridge bank is one corrective measure for bank resolution. A bridge bank can be used when there are no private sector purchasers and the regulatory authority can transfer the shares, assets and liabilities to it. A bridge bank is created to perform part of or all functions of a troubled bank and it is owned by public authorities.<sup>218</sup> The purpose of a bridge bank is to gain more time for the regulatory authority to control the situation and conduct a proper resolution before finding an appropriate private sector purchaser.<sup>219</sup>

The implementation and practice of the bridge bank differs from country to country. In the US, a bridge bank is a newly chartered bank by the Office of the Controller of the Currency (OCC). The Federal Deposit Insurance Corporate (FDIC) operates the bridge bank for two years.<sup>220</sup> The bridge bank allows the insurer to deal with the situation of the troubled bank, transfer assets to purchasers, and manage its asset portfolios.<sup>221</sup> The bridge bank in the US performs its obligations by accepting deposits and making loans with low risk to meet the needs of the public for banking services and to lessen the impact of the troubled bank on society.<sup>222</sup> In the UK, a bridge bank has not been used very

216 International Monetary Fund, 'Changes in Bank Funding Patterns and Financial Stability Risk' (IMF October 2013) <<https://www.imf.org/External/Pubs/FT/GFSR/2013/02/pdf/c3.pdf>> last accessed 20 Aug 2019

217 Zwet (n 230)

218 Schillig (n 227)

219 The FDIC, Managing the Crisis: The FDIC and RTC Experience <<https://www.fdic.gov/bank/historical/managing/index.html>> last accessed 20 Aug 2019

220 Adam B. Ashcraft, 'Are Banks Really Special? New Evidence from the FDIC-Induced Failure of Healthy Banks' (2003) Federal Reserve Bank of New York Staff Report No.176 <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=497102](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=497102)> last accessed 20 Aug 2019

221 *ibid.*

222 The FDIC (n 237)

often.<sup>223</sup> Setting up a bridge bank in the UK means setting up a new bank.<sup>224</sup> The new institution will maintain the business of the troubled bank and can accept deposits and conduct other banking activities. One feature of the UK bridge bank option is that the troubled bank cannot continue its business and a new institution is created to keep some of the troubled bank's businesses going.<sup>225</sup>

Compared with property transfer and bridge banks, bail-in is more commonly used in the general bankruptcy proceedings for non-bank corporations. Bail-in in bank resolution uses the assets and resources of a troubled bank to recapitalise itself.<sup>226</sup> Bail-in records a bank's liabilities or converts them to equity. The result of the bail-in is to erase these liabilities from its books.<sup>227</sup> This measure provides no additional liquidity. Bail-in can be unhelpful if the bank is still troubled afterwards. In some cases, bail-in can be applied together with other methods such as a bridge bank and the creditors of a troubled bank can become shareholders of the bridge bank.<sup>228</sup>

Bail-in has several features. It cannot be applied when liabilities are backed with collateral, and liabilities such as deposits, interbank lending, salaries, taxes and pensions are excluded from bail-in.<sup>229</sup> Another feature is that the application of the measure should be in accordance with the order of capital structure ranking, from shareholders first to creditors next.<sup>230</sup> Regulatory authorities have discretion to decide whether a liability can be converted into equity or be written down.

223 John Raymond LaBrosse, 'International Experience and Policy Issues in the Growing Use of Bridge Banks' in John Raymond LaBrosse, Rodrigo Olivares-Caminal and Dalvinder Singh (eds) *Financial Crisis Management and Bank Resolution* (Lloyd's Commercial Law Library 2009)

224 The Banking Act 2009, s 12

225 David G. Mayes, 'Bridge Banks and Too Big to Fail: Systemic Risk Exemption' in Douglas D Evanoff, George G Kaufman and John R LaBrosse (eds) *International Financial Instability: Global Banking and National Regulation* (Hackensack: World Scientific, 2007) 331

226 The Bank of England (n 52)

227 Christoph Thole, 'Bank Crisis Management and Resolution—Core Features of Bank Recovery and Resolution Directive' (University of Tuebingen 22 July 2014) <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2469807&rec=1&srcabs=2610594&alg=1&pos=3](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2469807&rec=1&srcabs=2610594&alg=1&pos=3)> last accessed 20 Aug 2019

228 *ibid.*

229 Thomas Conlon and John Cotter, 'Eurozone Bank Resolution and Bail-in – Interventions, Triggers and Writedowns' (University College Dublin 12 January 2015) <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2548770&rec=1&srcabs=2610594&alg=1&pos=2](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2548770&rec=1&srcabs=2610594&alg=1&pos=2)> last accessed 20 Aug 2019

230 *ibid.*

The main function of these corrective measures is to maintain the market value of troubled banks and keep some of their functions performing. The asset separation tool and bank administration procedure are two additional corrective measures that deal with failed banks where they possess no economic value and need to be liquidated.<sup>231</sup>

The assets separation tool is for regulatory authorities to separate good assets from bad assets. Via this method, the regulatory authority has the power to transfer shares, assets and liabilities of the troubled bank to a new institution controlled by the public authorities. The power of the regulatory authority can only be applied to assets that have a negative effect on the bank's condition and financial market in the insolvency proceedings.<sup>232</sup> Separating good assets from bad assets is a way to manage the assets of the troubled bank and clean the bank's balance sheet. However, asset separation is likely to cause a moral hazard problem because the bank may care less about the risks involved in its activities and businesses.<sup>233</sup> Consequently, banks may rely on this measure and take more risks. Asset separation can be applied by the bridge bank or the private sector purchaser. The regulatory authority can separate the good assets of the bank and transfer them to the private sector purchaser.<sup>234</sup>

Another measure used in conjunction with main corrective measures is the bank administration procedure, which is used to deal with the residual bank or the bad assets of the troubled bank that are not transferred to a private sector purchaser or a bridge bank. The purpose of the bank administration procedure is to keep the residual bank's basic services until arrangements are made to deal with them.<sup>235</sup>

## **2. Requirements for Initiation of Corrective Measures Associated with Bank Resolution**

As explained above, these corrective measures associated with bank resolution available to regulatory authorities have different aims. The application of these corrective measures needs to satisfy both general and specific requirements. General requirements

231 The Bank of England (n 52)

232 Schillig (n 227)

233 Emilio Avgouleas, *Governance of Global Financial Markets* (Cambridge: CUP, 2012) 414

234 HM Treasury, 'Banking Act 2009, Special Resolution Regime: Code of Practice' (November 2010) para 8.6

235 The Bank of England (n 52)

for application of corrective measures in different countries are similar. However, specific requirements for application of each corrective measure vary from country to country on the basis of nuances that exist in the rules of each country's banking law.

**a. General Requirements for Corrective Measures Associated with Bank Resolution**

The regulatory authorities' decision on whether to take corrective measures associated with bank resolution with a troubled bank depends on the bank's specific financial condition and importance in the financial sector. Regulatory authorities have discretion to decide which measure to take. The discretionary power allows regulatory authorities to take a corrective measure that fits the situation of the troubled bank best under bank resolution. Requirements for regulatory authorities to initiate bank resolution are normally general requirements for initiation of these corrective measures to a bank: the bank is not in accordance with regulatory requirements for a period of time; the bank is not viable economically; measures like enforcement actions have failed; and/or there are risks whose losses the bank's capital buffer cannot cover in the process of resolution due to the decline of the level of capital of the bank.<sup>236</sup> In relation to measures that may have a negative effect on shareholders' rights and the application of public funds, additional requirements may apply.

**b. Specific Requirements for Corrective Measures Associated with Bank Resolution – Examples in the US and the UK**

In the US, the Federal Deposit Insurance Corporation Improvement Act (FDICIA) has formulated five categories of capital standard of banks and restrictions of activities on each category. FDIC is required to take action with banks based on their capital standards. The prudential regulator of a bank can decide whether to close it or not and the chartering authority will take the bank under its control when it is authorised by the chancellor. FDIC will be appointed the receiver of the bank.<sup>237</sup> Thereafter, FDIC is likely

236 Wim Fonteyne, Wouter Bossu, Luis Cortavarria-Checkley, Alessandro Giustiniani, Alessandro Gullo, Daniel Hardy, and Seán Kerr, 'Crisis Management and Resolution for a European Banking System' (2010) IMF Working Paper <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1578668](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1578668)> last accessed 20 Aug 2019

237 Kathryn Reed Edge, 'Anatomy of Bank Failure' (2012) TNBJ 25

to take purchase and assumption measures to contract other healthy banks to sell some of the assets and liabilities. This measure is preferable for the regulatory authority because this measure does not involve any responsibilities to make payments to depositors of the failing bank and there is no need to go through an administrative process for the payment.

The bridge bank has been used many times by FDIC, especially in effectively resolving large and complicated banks and it is likely to be used more in case of liquidity problems. In the FDICIA, banking regulators are required to take actions before a bank reaches balance sheet insolvency. This action by banking regulators is likely to cause withdrawals of funds by depositors as the public learns about the measures being taken with the bank by the regulator. The Federal Reserve has limited power to provide assistance for the troubled bank,<sup>238</sup> which may also make the bank's liquidity problem worse.

Open bank assistance is another way to solve the problems of a troubled bank by using financial assistance from the government to keep the bank operating. FDIC provides different types of assistance from cash and loans to liabilities purchase. The precondition for this type of assistance is that the open bank assistance will have to be the least costly way for dealing with troubled banks.<sup>239</sup> This method is effective in certain types of troubled situations but may be less effective when regional economic problems are the primary reason for the troubled situation of a bank.<sup>240</sup> Open bank assistance is available to both big and small failing banks, but it is used more often in resolving large banks. This method is used less frequently these days because some restrictions are imposed such as the requirement of the least cost and there are other available methods such as purchase and assumption and bridge banks.

In the UK, there are more requirements for the application of measures in the Special Resolution Regime (SRR). Apart from the general requirements for the application of SRR, there are specific requirements for each measure. According to the

238 Jack Reidhill, Lee Davison, and Elizabeth Williams, 'The history of bridge banks in the US' (Federal Deposit Insurance Corporation 2005) <<https://slideplayer.com/slide/6031077/20/images/1/The+History+of+Bridge+Banks+in+the+United+State+s.jpg>> last accessed 20 Aug 2019

239 The FDIC (n 237)

240 *ibid.*

Banking Act 2009, the use of private sector purchase and bridge banks has to satisfy the condition of maintaining the public interest.<sup>241</sup> To use temporary public ownership, two specific conditions have to be met. One is maintaining the public interest, and the other is for the purpose of the financial system's stability. Requirements of SRR measures in the Banking Act 2009 provide more specific instructions concerning the choice of measures for regulatory authorities. Especially for the requirement of temporary public ownership, 'a serious threat of the stability of the financial system' is a precondition for financial assistance from the treasury.<sup>242</sup> This shows that the measure of temporary public ownership has to be the last resort, which means the private sector purchase and the bank's merger should be attempted first and shareholders of the bank should not benefit from public ownership.<sup>243</sup> Bank insolvency procedures formulated in the Banking Act 2009 can be applied according to the general conditions, and regulatory authorities will apply these procedures based on the objectives of SRR. It can also show that liquidation is likely to be applied and the bank or other financial institutions cannot count on assistance from other SRR measures. In this way, moral hazard problems can to some extent be reduced.

## **V. Conclusion**

This chapter discusses the differences among the pre-insolvency stage, insolvency stage and bankruptcy stage when banks encounter financial hardships. From the perspective of banking regulators, in order to deal with these problems and risks associated with troubled banks, an early intervention mechanism for troubled banks is needed. Structured early intervention for banks is a type of early intervention mechanism to deal with troubled banks. It consists of triggering events and corrective measures, providing timely signals and respective regulatory actions for banking regulators to determine the financial condition of banks and providing resources to manage and intervene with troubled banks.

241 The Banking Act 2009, s 8

242 The Banking Act 2009, s 11 and s 12

243 International Monetary Fund and World Bank (n 155)

From the theoretical perspective, SEIR was the main theoretical basis for the actual implementation of structured early intervention with banks in practice. In the background the US deposit insurance scheme in the 1990s, SEIR and other proposals or theories were brought up to solve issues with the deposit insurance scheme, especially moral hazards and regulatory forbearance.

Banks' characteristics and importance in the financial sector and functions of structured early intervention for banks are the two main reasons that explain why structured early intervention with banks is necessary. From the perspective of banks, banks are important to the operation, safety and soundness of the financial system whilst being vulnerable to risks that have a direct impact on the solvency of them. Therefore, banks are special compared with non-bank firms and are in need of regulation at each stage of their operations. From the perspective of structured early intervention for banks, it considers the banks' importance in the financial system and banks' vulnerability to risks at the pre-insolvency stage. It could help reduce the costs in relation to dealing with troubled banks by providing banking regulators sufficient resources to intervene, especially at the pre-insolvency stage where an increased level of intervention is needed.

The term 'corrective measures' may have two understandings: corrective measures that are applied in bank resolution and corrective measures that are increased levels of regulation and intervention. Without clarification between these two types of corrective measures, the scope of corrective measures of structured early intervention for banks is left undefined. Discussing corrective measures that are included in bank resolution is a way to a clearer understanding of differences between two types of corrective measures and a defined scope of corrective measures of structured early intervention for banks.

## **Chapter 2 Overviews of Structured Early Intervention for Banks in the United States, the United Kingdom and China**

The United States, the United Kingdom and China have different arrangements and designs in their legal frameworks for banking regulation and resolution pertaining to structured early intervention for banks. In addition, the development and implementation of structured early intervention for banks vary among these three countries. Specifically, structured early intervention for US banks are at a more advanced level; in comparison, structured early intervention for UK banks have gone through changes and developments after the Global Financial Crisis of 2007 to 2009 (GFC) but still continue to require refinement, and structured early intervention for Chinese banks are at a beginning stage.

A comparative study of structured early intervention of banks in the US and the UK would serve as a reference point or baseline for the development of structured early intervention for banks in China. The US and UK have large, sophisticated, and more mature banking systems and have previously made changes to their systems in response to the global financial crisis in 2009. Like China, these countries are headquarters for very large, systemically important banks. Comparing and analysing these countries' systems and changes will offer insights into how to best go about developing a comprehensive system of structured early intervention for the banking sector in China. Moreover, considering the special problems and situations of the Chinese banking sector will contribute to a more suitable and effective intervention system for Chinese banks.

This chapter provides an overview of structured early intervention for banks in the US, UK, and China. On the basis of understanding structured early intervention for banks, this chapter, from a comparative perspective, provides arrangements of structured early intervention for banks in legislation in the US, UK, and China and explores relevant changes and developments in reaction to said changes in the financial and banking worlds, respectively.

### **I. Structured Early Intervention for Banks in the United States**

Prompt Corrective Action (PCA) is the US version of structured early intervention for banks. The concept of PCA was first introduced and adopted in the Federal Deposit

Insurance Corporation Improvement Act (FDICIA) of 1991<sup>244</sup> (the on the basis of the Structured Early Intervention and Resolution (SEIR) theory. This early intervention mechanism enables banking supervisory authorities to impose sanctions, such as mandatory corrective actions, on banks when bank capital ratios fall below the levels dictated by certain regulatory requirements.<sup>245</sup> PCA is the first structured early intervention system to be established amongst early intervention mechanisms in the US, UK, and China. Currently, PCA is the only early intervention mechanism that has been through and tested by the 2007 GFC with regard to its efficiency and effectiveness in a real-life crisis. This section explores the history of structured early intervention for US banks, discusses the current PCA, and then evaluates the US PCA approach in two contexts.

### **A. History of US Structured Early Intervention for Banks**

The enactment of the FDICIA in 1991 and the establishment of PCA are both results of efforts to restructure the US financial system to correct weaknesses and flaws that existed in the US financial sector during the 1980s. Both the Federal Savings and Loans Insurance Corporation (FSLIC) and the FDIC experienced great losses, including especially the FSLIC. The reform of the US deposit insurance scheme and banking regulatory system thus aimed to correct the following weaknesses and flaws, which were also identified to be the main reasons for the Savings and Loans Crisis, thereby leading to the adoption of structured early intervention for banks. The four weaknesses and flaws included (1) excessive risk-taking encouraged by the first US deposit insurance scheme, especially for those depository institutions whose capital has been greatly reduced; (2) the inability or unwillingness on the part of regulators and supervisors to take actions in relation to risk level and exposure of information systems at that time; (3) the inability or unwillingness on the part of regulators and supervisors to take sufficient and timely measures to reduce losses to the deposit insurance scheme in relation to severe financial hardships and an inclination toward insolvency of depository institutions; and (4) the

<sup>244</sup> 12 USC § 1831o

<sup>245</sup> George J. Benston, 'Safety Nets and Moral Hazards in Banking' in Kuniho Sawamoto, Zenta Nakajima and Hiroo Taguchi (eds) *Financial Stability in a Changing Environment* (St. Martin's Press 1989) 362

occurrence of undesirable effects or results on the protection of creditors and insured depositors caused by intervention measures taken by banking regulators to insolvent depository institutions.<sup>246</sup> From a high-level perspective, the main theme of these weaknesses and flaws revealed by the Savings and Loan Crisis can be summarised as moral hazards caused by deposit insurance and regulatory forbearance in detecting risks and taking timely measures.<sup>247</sup>

On the basis of theories and proposals to deal with the Savings and Loan Crisis discussed in the previous chapter, SEIR was one of the theories and proposals that intended to resolve moral hazards and regulatory forbearance in the US financial sector at the time of its introduction. Other proposals, including reduced maximum coverage of depositors<sup>248</sup>, coinsurance<sup>249</sup>, risk-related insurance premiums<sup>250</sup>, risk-related capital requirements<sup>251</sup> and increased capital requirements, were also brought up to solve the two main problems by either improving incentives for depositors to monitor banks or by increasing bank risk exposure. Additionally, the idea of narrow banks, as one of the proposals, was also introduced as a means to restructure banks whose deposit accounts are backed with currency and low-risk marketable securities.<sup>252</sup>

The problems of moral hazards and regulatory forbearance and the relationship with these theories and proposals provide the context for the origin and establishment of the concept of PCA. PCA was established and incorporated in the FDICIA in 1991 on the theoretical basis of SEIR for the reform of the US deposit insurance scheme.<sup>253</sup>

## **B. Current Structured Early Intervention for Banks in the United States**

PCA, as the current US version of structured early intervention, provides banking regulators with triggering events and corrective measures by which to take timely actions to intervene in bank business actions and operations before these banks become

<sup>246</sup> George J. Benston, R. Dan Brumbaugh Jr., Jack M. Guttentag, Richard J. Herring, George Kaufman, Robert E. Litan and Kenneth E. Scott, *Blueprint for Restructuring America's Financial Institutions Report of a Task Force* (The Brookings Institution 1989) 2-7

<sup>247</sup> John Douglas, 'Deposit Insurance Reform' (1992) 27 Wake Forest Law Review 11

<sup>248</sup> Hanc (n 91)

<sup>249</sup> White (n 107)

<sup>250</sup> Bartholomew (n 111)

<sup>251</sup> Avery and Berger (n 114)

<sup>252</sup> Spong (n 120)

<sup>253</sup> Benston and Kaufman (n 11)

insolvent. PCA has been structured to have two main aspects: triggering events and corrective measures. This structure is a combination of the mechanisms of structured early intervention for banks. US triggering events are based on objective standards—namely, capital ratios, and corrective measures that intervene in and deal with troubled banks' operations depend on bank capital ratios.<sup>254</sup> On a federal level, US banking regulators who are entitled to determine whether PCA is necessary vary depending on specific banks.

## 1. The Related Regulators

In relation to US competent banking regulators for early intervention, specific PCA banking regulators for troubled banks are different. This is derived from differences in bank chartering authorities and prudential banking regulators at the federal level of each individual bank. Because of the dual system of banking regulation and supervision in the US, the responsibilities of bank regulation and supervision are shared by multiple banking regulators rather than a single regulatory authority.<sup>255</sup> Therefore, a US bank is under the regulation and supervision of both federal and state regulators. The chartering authority of a bank and the bank's choice about whether to become a member of the Federal Reserve System<sup>256</sup> determine its specific federal banking regulator. The specific federal banking regulator for a particular bank is entitled to conduct PCA.<sup>257</sup> This means that whether the chartering authority of a bank is at a federal or state level and whether a bank decides to be a member of the Federal Reserve System both can have an impact on the bank's specific federal regulator assigned to conduct PCA.

The way to determine the specific federal banking regulator of each individual bank is related to the chartering authority of each bank. A domestic US bank can choose to be chartered by either a state or federal authority.<sup>258</sup> If a domestic bank is chartered by a

254 12 USC § 1831o (b) (1), (d), (e) and (f)

255 Edward Murphy, 'Who Regulates Whom and How? An Overview of US Financial Regulatory Policy for Banking and Securities Markets' (Washington DC: Congressional Research Series 2013) 10 <<https://fas.org/sgp/crs/misc/R43087.pdf>> last accessed 26 Aug 2019

256 The Federal Reserve System refers to the central bank of the United States. <<https://www.federalreserve.gov/aboutthefed/structure-federal-reserve-system.htm>>

257 12 USC § 1831o (a) (2)

258 Christine E Blair and Rose M Kushmeider, 'Challenges to the Dual Banking System: The Funding of Bank Supervision' (2006) 18 FDIC Banking Review Series <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=869043](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=869043)> last accessed 26 Aug 2019

federal authority, specifically the Office of the Comptroller of the Currency (OCC), then the bank is regarded as a national bank.<sup>259</sup> The OCC is responsible for the regulation and supervision of national banks, being their chartering authority. US federal deposit insurance covers all deposit-taking institutions and therefore national banks are also subject to the regulation of the FDIC.<sup>260</sup> If a bank is chartered by a state authority, it is regarded as a state bank. This means that one of the dual banking regulators for state banks is the state chartering authority. A state bank can choose to be a member of the Federal Reserve System.<sup>261</sup> If a state bank decides to be a member of the Federal Reserve System, it is regarded as a state member bank. The state chartering authority and Federal Reserve examiners<sup>262</sup> are the banking regulators at the state and federal levels, respectively, for such banks. If a state bank chooses not to become a member of the Federal Reserve System, it is regarded as a state nonmember bank. In addition to the state chartering authority for a state nonmember bank, the FDIC acts as the banking regulator at the federal level.<sup>263</sup> From the perspective of a state bank, one of its banking regulators is the state chartering authority and the other is either the Federal Reserve Board or FDIC depending on whether it is a member bank or not.

On the basis of the discussion of federal banking regulators, potential PCA regulators are as follows: the OCC, Federal Reserve regulators, and the FDIC. Specifically, the OCC is the appropriate federal banking regulator for national banks, the Board of Governors or its appointed examiners of the Federal Reserve System are the appropriate federal banking regulators for state member banks, and the FDIC is the appropriate federal banking regulator for state nonmember banks.<sup>264</sup> PCA regulators and the FDIC as the insurer of depository institutions are responsible for determining if and when PCA is initiated and corrective measures are to be applied to troubled banks.<sup>265</sup>

259 Henry Butler and Jonathan Macey, 'Myth of Competition in the Dual Banking System' (1988) 73 Cornell Law Review 677, 685

260 Murphy (n 273)

261 12 USC § 321

262 12 USC § 325

263 Murphy (n 273)

264 12 USC § 1813 (q)

265 12 USC § 1831o (a) (2)

## 2. Triggering Events and Corrective Measures

In relation to PCA triggering events, depending on bank capital ratio, US banks can be placed into five different categories. The five categories are ‘well-capitalised’, ‘adequately capitalised’, ‘undercapitalised’, ‘significantly undercapitalised’ and ‘critically undercapitalised’.<sup>266</sup> A ‘well-capitalised’ bank refers to a situation where the bank’s capital significantly exceeds the required minimum level of capital requirements.<sup>267</sup> More specifically, a ‘well-capitalised’ bank has at least a 10% risk-based capital ratio and at least a 5% leverage ratio.<sup>268</sup> A ‘adequately capitalised’ bank means that the bank’s capital meets the required minimum level of capital with a risk based-capital ratio of 8% and a leverage ratio of 4%.<sup>269</sup> An ‘undercapitalised’ bank refers to a bank that fails to meet the required minimum level of capital, having a less than 8% risk-based capital ratio and a 4% leverage ratio.<sup>270</sup> A ‘significantly undercapitalised’ bank or a ‘critically undercapitalised’ bank are those that significantly fail to meet the required minimum capital standard with less than a 6% risk-based capital ratio and a less than a 3% leverage ratio or one that fails to meet any capital requirements with a leverage ratio of below 2%, respectively.<sup>271</sup> Banking regulators are required to classify banks into one of five categories based on these standards before they implement respective measures. PCA triggering events are based on these objective indicators of bank financial condition and risk level.

Bank Category	Capital Requirements	
	Risk-based Capital Ratio	Leverage Ratio
Well-capitalised	≥ 10%	≥ 5%
Adequately capitalised	≥ 8%	≥ 4%
Undercapitalised	< 8%	< 4%
Significantly undercapitalised	< 6%	< 3%
Critically undercapitalised	-	< 2%

Table 2 US Triggering Events

266 12 USC § 1831o (b) (1) (A) – (E)

267 12 USC § 1831o (b) (1) (A)

268 Weinstock (n 51)

269 12 USC § 1831o (b) (1) (B)

270 12 USC § 1831o (b) (1) (C)

271 12 USC § 1831o (b) (1) (D) – (E)

In relation to PCA corrective measures, the levels of regulation and intervention increase when a bank's financial conditions worsen. This means that corrective measures that are relevant to PCA become stricter and more stringent when banks grow increasingly more and more undercapitalised. With stricter and more stringent PCA corrective measures, the levels of regulation and intervention applied by banking regulators on bank business and operation increase. US PCA corrective measures are composed of compulsory and discretionary measures. In general, banks with relatively sufficient capital and sound operation have less limitations set by corrective measures, while banks with insufficient capital and troubled operation are more likely to be addressed by corrective measures. Well-capitalised banks and adequately capitalised banks are only subject to compulsory measures, while undercapitalised, significantly undercapitalised, and critically undercapitalised banks are subject to both compulsory and discretionary measures.<sup>272</sup> For example, compulsory measures that can be applied to adequately capitalised banks include capital distribution restrictions and management fees payment.<sup>273</sup> In relation to compulsory and discretionary corrective measures for undercapitalised, significantly undercapitalised, and critically undercapitalised banks, these measures have a progressive feature where the level of intervention increases in relation to the greater supervision in dealing with troubled bank business. Specifically, compulsory corrective measures for undercapitalised banks include close supervision and regulation, capital restoration plans, restrictions on asset growth, mandatory preapproval for acquisitions, branching, and the addition of new lines of business by regulators.<sup>274</sup> Compulsory measures for significantly undercapitalised banks include recapitalisation, restricted transactions with affiliates, restricted interest rates payment, restricted asset growth and activities, improved management, prohibited deposits from correspondence banks, required divestitures, required preapproval for capital distribution of bank holding companies, and any other necessary actions.<sup>275</sup> In addition to these specific actions, restrictions on compensation for senior executives often apply to

272 12 USC § 1831o (d), (e) and (f)

273 12 USC § 1831o (d) (1) – (2)

274 12 USC § 1831o (e) (1) – (5)

275 12 USC § 1831o (f) (2)-(3)

significantly undercapitalised banks.<sup>276</sup> Compulsory measures for critically undercapitalised banks include restricted activities, prohibited payments on subordinated debt and mandatory conservatorship, receivership or other actions.<sup>277</sup> In addition, critically undercapitalised banks are required to get preapproval by regulators for a number of activities, including entering any material transactions, extending credit for highly leveraged transactions, amending charters, making material changes in accounting rules, making covered transactions,<sup>278</sup> paying excessive compensation and bonuses, and paying interest rates on new liabilities with higher rates.<sup>279</sup>

<b>Bank Category</b>	<b>Corrective Measures</b>
Well-capitalised	Compulsory measures
Adequately capitalised	Compulsory measures
Undercapitalised	Compulsory and discretionary measures
Significantly undercapitalised	Compulsory and discretionary measures
Critically undercapitalised	Compulsory and discretionary measures

Table 3 US Corrective Measures

**C. Evaluation of US Structured Early Intervention for Banks**

PCA, as the means for structured early intervention for US banks, has been adopted as a mechanism by which to manage and deal with troubled banks before they reach insolvency. The use of PCA has been ongoing for more than two decades and has the longest history in relation to structured early intervention for banks in the US, UK, and China. This subsection evaluates advantages and disadvantages of PCA during two periods of time: the first decade after the adoption of PCA and during the GFC.

**1. Assessment of PCA in the First Decade**

This subsection discusses the advantages and immediate effects of the introduction of PCA after the enactment of the FDICIA in 1991, including the direct impact on banks, the performance of banking regulators, and the effect on the recovery of the US banking industry in the 1990s. This subsection also discusses an advantage of the enactment of FDICIA in a wider context, which contributes to achieving the goal of PCA

276 12 USC § 1831o (f) (4)  
 277 12 USC § 1831o (h) (1)-(3)  
 278 Covered Transactions as defined in 12 USC § 371 (C) (B) (7) (A) – (G)  
 279 12 USC § 1831o (i) (2) (A)-(G)

of reducing losses to deposit insurance funds. Next, this subsection identifies weaknesses and shortcomings of the PCA approach.

Concerning the results of PCA after the enactment of the 1991 FDICIA, the PCA initiative has since improved the safety and soundness of the US banking industry in comparison with during the 1990s. On the one hand, with the introduction of PCA, banks were recapitalised and banking regulators had more incentives and mandatory requirements to take corrective actions to troubled banks in the early stages. On the other hand, specific standards concerning the numerical value of capital ratios and existing conflicts between the need for discretion and the need to reduce forbearance as well as the impact of the interest rate risk on bank capital may to some extent have contributed to a degree of ineffectiveness following the implementation of PCA.

#### **a. Identified Advantages of PCA in the First Decade**

In relation to advantages of PCA in the first decade, the two main advantages of PCA are as follows: incentives for banking regulators to take corrective measures in a timely way and incentives for banks to raise additional capital to satisfy PCA requirements.

First, after the establishment of PCA in the 1991 FDICIA, PCA was believed to have improved the performance of banking regulators in taking measures early and therefore reducing risk-taking behaviours of banks, which was evidenced by changes in the banking industry of the US.<sup>280</sup> Banking regulators perceive that they are provided with incentives and resources to reduce reluctance by taking timely measures and are encouraged to intervene in the business operations of the banks categorised as undercapitalised, significantly undercapitalised, or critically undercapitalised.<sup>281</sup> The changes in the banking sector, for example, included a steady decline in the number of bank failures from 1991 to 1996 and a decline in the number of banks categorised as undercapitalised banks.<sup>282</sup> Bank management staff members have been encouraged to

280 Kashi Nath Tiwari, 'Assessing Bank Reform: FDICIA One Year Later (Book Review)' (1994) 61 Southern Economics Journal, 249

281 Kenneth E Scott, 'Implementing FDICIA - An Interim Assessment' in George Kaufman and Robert E. Litan (eds) *Assessing Bank Reform, FDICIA One Year Later* (The Brookings Institution 1993) 70

282 Eugene A. Ludwig, 'The OCC and FDICIA' in George Kaufman (eds) *Research in Financial services: Private and Public Policy FDICIA: Bank Reform Five Years Later and Five Years Ahead* (JAI Press 1997)

pursue identifying and controlling risks in a more effective way after the establishment of PCA.<sup>283</sup> These changes reveal PCA's direct impact on the US banking sector, though PCA as a practical mechanism has less strict capital requirements as triggering events in comparison with the original SEIR theory.

Second, PCA encouraged banks to increase funds and raise additional capital to satisfy capital requirements, in relation to its effectiveness in the recovery of the US banking sector in the 1990s. Requiring banks to raise additional capital enabled them to reduce risk-taking behaviours and operate in a safer way.<sup>284</sup> This means that, with an increased amount of capital and funds, banks can better absorb losses that may be results of risky decisions made by bank management. This additional capital would absorb the losses of banks in the first place before FDIC comes in to compensate by using deposit insurance funds. On this basis, banks are less likely to be involved in risky business processes than before. Even if banks tend to hold less capital than other nonbank firms, an increased capital level contributes to better safety of bank operations. In a wider context, the FDIC tended to provide less protection to uninsured depositors of failed banks in order to reduce losses caused by failed banks to deposit insurance funds.<sup>285</sup> This means that the FDIC started to leave uninsured depositors of failed banks behind and let these depositors suffer losses. Comparing the pre-FDICIA and post-FDICIA experience of the FDIC, FDIC mostly transferred losses from itself to uninsured depositors, which potentially reduced losses to the FDIC and incentivised uninsured depositors to be careful about uninsured deposits.<sup>286</sup> This change increased the burden on uninsured depositors in relation to monitoring banks and their capital adequacy.

283 *ibid.*

284 George Benston and George Kaufman, 'FDICIA after 5 Years' (1997) 11 *Journal of Economic Perspectives* 139, 154

285 George Kaufman and John Smith, 'FDICIA: The Early Evidence' (1994) 37 *Challenge* 53, 55

286 Andrew Davenport and Kathleen McDill, 'How Depositors Discipline Banks': A Micro-Level Case Study of Hamilton Bank (FDIC September 2004) <<https://www.fdic.gov/bank/analytical/cfr/bank-research-conference/annual-4th/2004-13-davenport.pdf>> last checked 4 August 2019

## **b. Identified Disadvantages of PCA in the First Decade**

In relation to PCA during the first decade of implementation and operation, issues with the effectiveness of PCA capital ratios as triggering events and the effectiveness of PCA to reduce regulatory forbearance are identified as two main disadvantages.

Discussions of effectiveness of PCA have focused on weaknesses and shortcomings of PCA after its establishment and implementation, especially including a concern that capital ratios are set too low to be effective and may even slow down responses as well as cause unwillingness on the part of banking regulators to take corrective measures to address troubled banks.<sup>287</sup> The problem inherent in the capital ratios of PCA is the low numerical value of capital ratios that have been assigned as an objective standard to triggering regulatory intervention and, in comparison with noninsured financial institutions in the market, this is also the case.<sup>288</sup> In terms of critically undercapitalised banks, the amount of capital required in the context of PCA is too low to absorb losses and shocks and cannot fulfil the purpose of closing a troubled bank with a positive market value.<sup>289</sup> For example, a 2% capital ratio threshold for initiating a resolution process could be insufficient and hardly achieve the goal of early intervention. Therefore, capital ratios as triggering events need further consideration with regard to the setting of specific numerical values as standards.

PCA banking regulators' discretion and PCA's implications on regulatory forbearance is another weakness of the approach observed during the first decade. PCA regulators are entitled to apply their discretion in relation to choices of discretionary corrective measures, which contributes to regulatory forbearance, though the mechanism of PCA provides banking regulators with incentives to deal with troubled banks at early stages.<sup>290</sup> The mechanism of PCA requires banking regulators to take respective corrective measures to address troubled banks and reduce their inclinations to

287 George Kaufman, 'FDICIA after Five Years: What Has Worked and What Has Not?' in George Kaufman (eds) *Research in Financial services: Private and Public Policy FDICIA: Bank Reform Five Years Later and Five Years Ahead* (JAI Press 1997) 35

288 George Kaufman, 'FDICIA and Bank Capital' (1995) 19 *Journal of Banking and Finance* 71

289 George Kaufman (n 305) 38

290 Frederic S. Mishkin, 'Evaluating FDICIA' in George Kaufman (eds) *Research in Financial services: Private and Public Policy FDICIA: Bank Reform Five Years Later and Five Years Ahead* (JAI Press 1997) 23

forbearance when banks fall below certain capital ratios. Because the application of PCA measures is not entirely automatic, the discretion of PCA regulators is necessary when it comes to comparing and analysing capital ratios of banks and capital ratios as triggering events. This means that PCA regulators could be uncertain of the market value of banks and must take discretion to first elucidate the current financial condition of banks and then determine whether to apply certain measures to particular banks at certain times. The discretion of the PCA approach contributes to regulatory forbearance in the following two ways. First, when determining bank performance and financial condition, capital ratios as triggering events are calculated on the basis of traditional accounting data and book value, and this calculation provides a lagging or delayed reflection of a bank's financial status.<sup>291</sup> Therefore, regulatory forbearance may happen because of the failure of capital ratios as triggering events to identify a troubled bank in a timely fashion. Second, PCA regulators are able to apply discretion to decide specific corrective measures for a particular troubled bank. They may choose not to impose strict restrictions on a troubled bank even when that measure is really necessary whilst causing regulatory forbearance. On a practical and implementation level, PCA may not be effective enough to determine a bank's financial condition and reduce losses to the deposit insurance funds.<sup>292</sup> There seems to be a conflict between preventing regulatory forbearance and providing banking regulators with discretion, especially when PCA regulators' discretions are necessary in the contexts of triggering events and corrective measures in dealing with troubled banks, respectively.

## **2. Assessment of PCA in the GFC**

In terms of PCA performance in the GFS, the efficiency and effectiveness of PCA were first tested under real-world conditions after its establishment in the 1991 FDICIA in response to the Savings and Loans Crisis in the 1980s. Unfortunately, during the GFS, PCA did not perform as designed. This means that improvements to PCA are needed to achieve the goal of enabling banking regulators to apply timely corrective measures to

291 Richard S Carnell, 'The FDIC Improvement Act of 1991: What Has Worked and What Has Not' (Treasury News No. RR-1417 1996), 11

< <https://www.treasury.gov/press-center/press-releases/Pages/rr1417.aspx>> accessed 26 Aug 2019

292 James Bothwell 'Evaluating the Prompt Corrective Action and Least Cost Provisions of FDICIA the Watchdogs' Perspective', in George Kaufman (eds) *Research in Financial services: Private and Public Policy FDICIA: Bank Reform Five Years Later and Five Years Ahead* (JAI Press 1997) 47, 52

troubled banks and reduce potential losses to the FDIC. This subsection discusses the outcomes of PCA in the GFS and analyses reasons that contributed to the underperformance of PCA during the crisis.

#### **a. PCA Performance in the GFS**

The implementation of PCA offered certain advantages in terms of dealing with troubled banks. For example, bank failures were greatly reduced in the 1990s after the establishment of PCA. Because of the PCA initiative, the FDIC received the authority and resources to deal with and manage failed banks during the 2007 GFS more effectively as compared with in previous crises, wherein no banking regulatory authorities had the legal authority and resources to intervene. However, PCA is not the only factor that led to the falling number of failed banks and the growth of deposit funds in the 1990s.<sup>293</sup> The economic growth of the US in the 1990s was also a convincing factor that may have had an impact here.<sup>294</sup> This means that the actual outcome of PCA performance may not be as effective as was designed for. Additionally, though PCA has been implemented to manage troubled banks at early stages, the costs of resolving failing banks are higher than the expected outcomes on the basis of the designed implementation of PCA.<sup>295</sup> Losses derived from bank failures to FDIC funds remain enormous, even though, in the GFS, banks were subject to increased capital requirements. The following comparisons from the perspective of statistics show the losses of the FDIC. In terms of capital ratios on the basis of a failed bank's book value, in the previous Savings and Loans Crisis, a failed bank had a capital ratio of around -1.5% with large losses to the FDIC, while, during the GFS, a failed bank had a capital ratio of around 1.5%.<sup>296</sup> Bank capital ratios have increased under PCA while losses of failed banks to the FDIC have grown at the same

293 The FDIC, 'Crisis and Responses: An FDIC History 2008 – 2013' (2017) <<https://www.fdic.gov/bank/historical/crisis/overview.pdf>> last checked 4 August 2019

294 *ibid.*

295 Robert Eisenbeis and Wall Larry, 'The Major Supervisory Initiatives Post-FDICIA: Are They Based on the Goals of PCA? Should They be?' in George Kaufman (eds) *Prompt Corrective Action in Banking: 10 Years Later* (Emerald 2002)

296 Eliana Bella, Edward S Prescott and John R Walter, 'Did the Financial Reforms of Early 1990s Fail? A Comparison of Bank Failures and FDIC Loss in the 1986-92 and 2007-13 Periods' (2015) Federal Reserve Bank of Richmond Working Paper 15-05 <[https://www.richmondfed.org/-/media/richmondfedorg/publications/research/working\\_papers/2015/pdf/wp15-05.pdf](https://www.richmondfed.org/-/media/richmondfedorg/publications/research/working_papers/2015/pdf/wp15-05.pdf)> last accessed 26 Aug 2019

time; thus, currently, an estimated extra 3% equity capital of a failed bank may not be sufficient to absorb its losses.<sup>297</sup>

## **b. Contributing Factors of PCA Underperformance during the GFS**

Several factors are related to PCA underperformance in the GFS, including the delay of PCA triggering events in identifying troubled banks, regulatory forbearance in relation to PCA regulators, and the economic downturn in the GFS.

The most important factor that is related to the underperformance of PCA during the GFS is using capital ratio as the main triggering event to identify troubled banks. The main problem of using capital ratios as triggering events is the lagging nature of capital as an indicator of bank financial condition and risk levels.<sup>298</sup> The lagging nature of capital ratios means that, before capital ratios as triggering events identify a bank as being troubled, in accordance with PCA capital standards, the bank has already been in the state of financial hardship and high risk for some period of time.<sup>299</sup> This lagging feature causes a delay in identifying the accurate financial condition of a bank by using PCA capital ratios as triggering events, thereby failing to provide banking regulators with timely and accurate information concerning the financial performance and risk levels of troubled banks. In some cases, using capital ratios as triggering events for PCA may not be enough to detect problems with a bank's financial condition early enough.<sup>300</sup> This means that additional triggering events that are able to detect problems with the financial condition of a troubled bank in a timelier way may be necessary to complement the application of capital ratios.

During the first decade of the implementation of PCA, capital ratios appear to be too low to be effective. In the context of the GFS, on the basis of this disadvantage, with the benefits of hindsight, a comprehensive understanding and further clarifications identify weaknesses of PCA capital ratios in the form of triggering events as being insufficient,

<sup>297</sup> *ibid.*

<sup>298</sup> Mayes (n 13)

<sup>299</sup> Jon Rymer, Eric Thorson and Mark Bialek, 'Evaluation of Prompt Corrective Action Implementation' (Offices of Inspector General 30 September 2011) <<https://www.treasury.gov/about/organizational-structure/ig/Audit%20Reports%20and%20Testimonies/OIG-CA-11-008.pdf>> last checked 4 August 2019

<sup>300</sup> Mayes (n 13)

indirect, and implicit.<sup>301</sup> These features are likely to cause unnecessary investigations for some banks under PCA or cause a lack of investigations for other banks that are faced with potential financial condition problems under PCA.<sup>302</sup> Therefore, the accuracy of capital ratios as triggering events is in doubt under current PCA protocols. To summarise, the timeliness and accuracy of capital ratios as triggering events of PCA are two problems that contribute to the underperformance of PCA to identify troubled banks.

Another factor that contributes to the underperformance of PCA is PCA regulators' inconsistency in applying corrective measures to individual troubled banks. According to a Governmental Accountability Office (GAO) report, when the financial condition of a bank starts to deteriorate, some of these troubled banks are on the receiving end of enforcement actions to correct their management weaknesses or reduce risk-taking behaviours prior to entering into the PCA process, while other troubled banks are not.<sup>303</sup> The inconsistency in applying timely regulatory measures exists not only in pre-PCA enforcement actions but also in PCA corrective measures. Based on the GAO report, about 8% of failed banks that were reviewed by said report did not go through the PCA process.<sup>304</sup> These banks should have gone through different PCA categories and experienced an increased level of regulatory intervention by corrective measures in accordance with the PCA mechanism before being regarded as failed banks. The report also found that, prior reaching insolvency, failed banks were placed in the PCA process when they were in different capital categories based on the total 270 banks in the review.<sup>305</sup> This means that corrective measures that are applied to troubled banks of a particular category can be less strict and sufficient to increase the level of intervention due to the need to address a wider range of scenarios, and this happened within several categories of troubled banks.

Finally, a sharp economic downturn in the GFS is a factor that contributed to a faster deterioration of bank financial performance where PCA was designed to detect and

301 *ibid.*

302 *ibid.*

303 GAO, 'Bank Regulation Modified Prompt Corrective Action Framework Would Improve Effectiveness' (GAO-11-612 23 June 2011) 32 <<https://www.gao.gov/assets/330/320102.pdf>> last checked 4 August 2019

304 *ibid.*

305 *ibid.* 34

react, including in situations of sudden and severe liquidity problems and depletion.<sup>306</sup> Even though these troubled banks had been put under PCA, the outcomes of applications of corrective PCA measures were not satisfying. During the period from 2006 to 2010, most banks (295/569 reviewed by the GAO study) that went through the PCA process were identified and categorised as undercapitalised, significantly undercapitalised, or critically undercapitalised banks.<sup>307</sup> The financial conditions and performance of these banks were not improved and many of these banks failed eventually.<sup>308</sup> In terms of the remaining banks that did not fail after the PCA process, their financial conditions and performance did not improve significantly and most remained in the undercapitalised categories, which made it harder for these banks to recover.<sup>309</sup> This means that PCA is unlikely to function effectively in the context of an economic downturn with a larger number of bank failures happening simultaneously.

In the GFS, the lagging nature and inaccuracy of capital ratios as triggering events, the inconsistency of corrective measures applied by PCA regulators to each individual troubled bank, and the context of an economic downturn are relevant to the underperformance of PCA in identifying and correcting problems shown by troubled banks. On the basis of the identified advantages and disadvantages of PCA in the first decade of its implementation and the actual testing of PCA during the 2007 GFS, the current PCA mechanism may require further modifications to become effective.

### **3. PCA and Regulatory Improvements in the Dodd–Frank Act**

After the GFS, the Dodd–Frank Wall Street Reform and Consumer Protection Act (the Dodd–Frank Act) was introduced in 2010 to correct shortcomings and weaknesses in the US financial regulatory framework, including imposing higher capital and liquidity requirements for systemically important banks and nonbank financial institutions.<sup>310</sup> As

306 *ibid.* 17

307 *ibid.* 18

308 *ibid.*

309 *ibid.* 15

310 Joseph Mason, Jeff Balcombe and W. Scott Dalrymple, 'Financial Supervision and Regulation in the US – Dodd-Frank Reform' (Study for the Committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg, 2018)

<[http://www.europarl.europa.eu/RegData/etudes/STUD/2018/631017/IPOL\\_STU\(2018\)631017\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2018/631017/IPOL_STU(2018)631017_EN.pdf)>  
last checked 4 August 2019

part of the Dodd–Frank Act, the US Congress established the Financial Stability Oversight Council (FSOC) to control and monitor risks in the financial system and required the FSOC to report implementations of PCA by banking regulators in relation to suggestions proposed in the GAO research.

In its report on PCA, the FSOC identified one of the suggestions from the GAO report to develop additional ways to initiate PCA instead of depending on capital ratios as the only set of triggering events so as to improve the effectiveness of PCA and reduce delays in regulatory intervention.<sup>311</sup> One of these additional ways suggested that, in the post crisis phase, with increased capital requirements in place, banks should be assessed in accordance with the PCA mechanism well ahead of time before new ways of initiating PCA are established and incorporated into the PCA mechanism.<sup>312</sup> This was suggested because current PCA triggering events have been established on the basis of capital ratios of a bank and are a lagging indicator for reflecting changes in the financial condition of the bank.

In addition to developing new triggering events for PCA, a comprehensive identification and assessment of bank risks by banking regulators may contribute to greater effectiveness of PCA.<sup>313</sup> According to the GAO report, in relation to the management practice of banks, the current CAMELS<sup>314</sup> rating can assess and reflect risks of banks in a short-term period, while future risks of banks cannot be assessed accurately based on the CAMELS rating.<sup>315</sup> Therefore a forward-looking approach toward risk assessment has been suggested by the GAO report. Currently, based on the current CAMELS rating, the quality of management, as a component that influences bank performance as well as safe and sound operation, is assessed on the basis of capital and earning of banks. Even if the management of a bank has been noted to be risky according to other measures, CAMELS will rate the management of the particular bank as good in

311 GAO, 'Bank Regulation: Lessons Learned and a Framework for Monitoring Emerging Risks and Regulatory Response,' (GAO-15-365 June 2015) <<http://www.gao.gov/assets/680/670997.pdf>> last accessed 26 Aug 2019

312 Financial Stability Oversight Council, 'Report to Congress on Prompt Corrective Action', (December 2011) <<https://www.treasury.gov/initiatives/fsoc/studies-reports/Documents/FSOC%20PCA%20Report%20FINAL.pdf>> last accessed 26 Aug 2019

313 GAO (n 243) 8

314 *ibid.* CAMELS Rating refers to a reflection of a bank's condition in six areas: capital, asset quality, management, earnings, liquidity, and sensitivity to market risk.

315 *ibid.* 32

terms of quality based on the existence of sufficient capital and earning of the bank.<sup>316</sup> As a result, potential problems in management are unlikely to be detected, thereby leading to future problems based on the current CAMELs rating. Identifying potential problems and future risks of a bank may enable banking regulators to react to and deal with growing problems in advance.

## **II. Structured Early Intervention for Banks in the United Kingdom**

The proactive intervention framework (PIF) is the UK version of structured early intervention for banks. Unlike PCA in the US, the PIF is an early intervention mechanism introduced to the UK regulatory framework after the 2007 GFS and the reform of UK banking regulations. Based on the Bank Recovery and Resolution Directive (BRRD), the Prudential Regulation Authority (PRA), as the UK prudential banking regulator, has the authority to take corrective measures to troubled banks when the banks fail to or is likely to fail to meet a series of requirements.<sup>317</sup> PIF is the early intervention mechanism for the PRA to identify and react to emerging and future risks of banks at early stages.<sup>318</sup> This section discusses the PIF from the perspectives of its related regulator, triggering events, and corrective measures to provide an overview of how it performs in identifying and managing risks of troubled banks. Then, this section assesses the PIF to explore the advantages and disadvantages of its mechanism.

### **A. The PIF Regulator**

Before discussing the PIF regulator, providing a general overview of the UK banking regulatory framework can help to lay the foundation. The current UK banking regulatory framework is a result of changes in the Financial Services Act of 2012.<sup>319</sup> Under the current framework, the PRA, as an affiliation of the Bank of England, is the prudential banking regulator at a micro-level for systemically important institutions.<sup>320</sup> These systemically important institutions include banks, building societies, credit unions,

<sup>316</sup> *ibid.*

<sup>317</sup> Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014, Article 27 (1)

<sup>318</sup> The Prudential Regulation Authority (n 2)

<sup>319</sup> The Financial Services Act 2012

<sup>320</sup> The Prudential Regulation Authority (n 2)

insurers, and certain systemically important investment firms that have been designated by the PRA.<sup>321</sup> The Financial Conduct Authority (FCA), as an independent body, is responsible for regulating the conduct of the business of institutions and ensuring that the market functions well in order to protect consumers and financial markets and to promote competition.<sup>322</sup> The Bank of England's Financial Policy Committee is the macro-prudential regulator in the UK banking sector and is responsible for monitoring and taking relevant measures to reduce systemic risks.<sup>323</sup> At the micro-level, from a perspective of a bank, the bank is dual-supervised and regulated by the PRA and the FCA for prudential and conduct purposes, respectively.

For the micro-prudential regulation of banks, the PRA is the responsible regulator. The PRA has two primary objectives: promoting the safety and soundness of its regulated firms<sup>324</sup> and regulating insurance firms to protect potential customers.<sup>325</sup> Further, the PRA has a secondary objective of facilitating market competition in a 'reasonably possible' way for the services provided by its regulated firms.<sup>326</sup> In order to fulfil its objectives, the PRA is entitled to 'make rules, to prepare and issue codes, and to determine general policy and principles for performing particular functions'.<sup>327</sup> Specifically, the PRA's approaches to achieving its objectives are developed on the basis of forward-looking, judgement-based, and risk-focused approaches in prudential banking regulations. Concerning the forward-looking feature of the PRA's approaches, the PRA focuses on dealing with both current and future risks of banks.<sup>328</sup> Regarding the judgement-based feature, the PRA applies its judgement on bank risks that individual banks are faced with in their business operations, and these judgements are made on the basis of evidence and analysis gathered from daily regulations.<sup>329</sup> Third, regarding focusing on risks, the PRA constantly

321 The Bank of England, 'Which Firms Does the PRA Regulate?' (12 July 2019) <<https://www.bankofengland.co.uk/prudential-regulation/authorisations/which-firms-does-the-pra-regulate>> accessed 5 August 2019

322 Financial Conduct Authority, 'About the FCA' (9th April 2018) <<https://www.fca.org.uk/about/the-fca>> last accessed 26 Aug 2019

323 Marcus Kikkick, 'Twin-Peak- A New Series or a New Chimera? An Analysis of the Proposed New Regulatory Structure in the UK' (2012) 33 *The Company Lawyer* 370

324 The Financial Service Act 2012, s 6 2B

325 The Financial Service Act 2012, s 6 2C

326 The Prudential Regulation Authority (n 2)

327 The Financial Service Act 2012, s 6 2 J (1)

328 The Prudential Regulation Authority (n 2) para 29

329 *ibid.*, para 26 and 27

monitors issues and banks that may pose great risks to the UK financial system and increases the intensity and frequency of supervision to deal with these risks where warranted.<sup>330</sup>

On the basis of the PRA's approaches to banking regulations, specifically in accordance with the PRA risk framework, the PRA has a structured mechanism constructed with four layers to assess bank risks. The first layer assesses the gross risk of a bank, including potential impact, external context, and business risk.<sup>331</sup> The potential impact refers to the importance of a bank in the UK financial stability scheme and its possible adverse effects on the financial stability when the bank operates its business, is in a stressful situation, or fails.<sup>332</sup> The external context refers to the environment that the bank is operating in, which necessitates considerations of system-wide risks.<sup>333</sup> Finally, business risk refers to evaluations of bank business models in relation to bank viability and potential impacts on the financial system.<sup>334</sup> In the second layer, in relation to bank operation, the PRA evaluates the following two aspects of a bank: (1) management and governance and (2) risk management and controls.<sup>335</sup> In the third layer, in relation to the bank's financial condition, the PRA considers bank capital and liquidity.<sup>336</sup> Finally, the PRA evaluates the resolvability of a bank.<sup>337</sup>

With a similar approach to assessing a bank's proximity to failure, the PRA, on the basis of the PIF, forms a judgement about a bank's likelihood to reach failure and identifies potential risks at early stages. When approaching the PIF, the PRA assesses bank risks by using the same mechanism, with exclusions made for considerations about a bank's potential impact and resolvability.<sup>338</sup>

330 *ibid.*, para 30

331 *ibid.*, para 31

332 *ibid.*, para 32

333 *ibid.*, para 36

334 *ibid.*, para 38

335 *ibid.*, para 31

336 *ibid.*

337 *ibid.*

338 *ibid.*, para 128

## B. PIF Triggering Events and Corrective Measures

The PIF has two objectives. One objective is to recognise and identify risks that may have a threat to a bank's viability so that the PRA can take actions to avoid or reduce the possibility of a disorderly bank failure, while another objective of the PIF is to cooperate with other banking regulators to take actions to address a failing bank and reduce the impact of the bank failure.<sup>339</sup>

The PIF has five stages and each stage is characterised by a different proximity to bank failure.<sup>340</sup> Based on the PRA's assessment on banks' external context, business risk, management and governance, risk management and controls, capital, and liquidity, the PRA assesses these aspects based on relevant rules<sup>341</sup> and then forms a judgement on a bank's viability or proximity to failure.<sup>342</sup> For example, when the PRA assess a bank's regulatory capital, the PRA considers both Basel and EU risk-weighted capital requirements and forms a judgement on the bank's capital status based on these capital requirements.<sup>343</sup> This means that each bank will be categorised into one specific stage depending upon the PRA's judgements and assessment on the abovementioned aspects. In addition to the PRA's judgement on a bank's proximity to failure as a triggering event, because of BRRD, the following two conditions are also triggering events of early intervention: 'material changes or anomalies identified in the monitoring of key financial and nonfinancial indicators under Supervisory Review and Evaluation Process'<sup>344</sup>

339 Allen & Overy, 'The Prudential Regulation Authority: An Overview' (1 April 2013) <<http://www.allenoverly.com/SiteCollectionDocuments/The%20Prudential%20Regulation%20Authority%20April%202013.pdf>> last accessed 26 Aug 2019

340 The Prudential Regulation Authority (n 2), para 128

341 For example, these rules may include the requirements of Regulation (EU) No 575/2013, Directive 2013/36/EU, Title II of Directive 2014/65/EU or any of Articles 3 to 7, 14 to 17, and 24, 25 and 26 of Regulation (EU) No 600/2014, as seen in Article 27 (1) of Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014.

342 *ibid.*, para 126

343 *ibid.*, para 80

344 Supervisory Review and Evaluation Process refers to yearly supervisory assessment that measures and checks business model, governance and risk, capital and liquidity of banks to identify issues in their business in the euro area under the Single Supervisory Mechanism. <<https://www.bankingsupervision.europa.eu/about/ssmexplained/html/srep.en.html>>

revealing that the conditions for early intervention are met'<sup>345</sup> and 'significant events indicating that the conditions for early intervention are met'.<sup>346</sup>

In terms of corrective measures under PIF, based on the PRA's judgement on bank, the level of intervention represented by these corrective measures varies in different stages. Stage one of the PIF represents a status of a bank where the bank is unlikely to have problems with its financial condition and there is a low level of risk to its viability.<sup>347</sup> No additional restrictions on any aspects of a bank's business would be imposed at stage one of the PIF and the PRA would simply conduct normal banking regulation and risk assessments for these banks.<sup>348</sup> Stage two of the PIF refers to the condition of a bank wherein the bank has vulnerabilities and deficiencies in its financial condition related to its risk management and governance protocols.<sup>349</sup> Corrective measures at this stage include recovery measures and resolution measures. Specifically, in relation to recovery measures, the PRA will increase the level of supervision, with more requirements imposed on the bank such as additional reporting requirements, and enforce updating and activating of the recovery plan of the bank.<sup>350</sup> Stage three of the PIF represents the condition of a bank where it is faced with material threats to its viability, safety, and soundness.<sup>351</sup> Corrective measures at this stage include recovery measures and resolution measures and the level of intensity of these measures increases on the basis of stage two corrective measures. For example, the PRA may change the management or board of the bank, place restrictions on the distribution of capital, or limit bank activities at this stage.<sup>352</sup> Stage four of PIF refers to the condition of a bank where the bank is faced with a real risk of failure though, at this stage, corrective measures, including recovery and resolution measures, may still be able to work.<sup>353</sup> For example, the PRA may impose recovery measures in relation to improving capital and liquidity and, in relation to resolution measures, may work with banking resolution authorities at stage four to collect

345 European Banking Authority, 'Guidelines on triggers for use of early intervention measures pursuant to Article 27(4) of Directive 2014/59/EU' 8 May 2015, para 7(b)

346 *ibid.*, para 7(c)

347 The Prudential Regulation Authority (n 2)

348 *ibid.*

349 *ibid.*

350 *ibid.*

351 *ibid.*

352 *ibid.*

353 *ibid.*

more information of a bank and work on possible resolution plans in the future for the bank.<sup>354</sup> Stage five of the PIF denotes a scenario when the bank is no longer viable and the problems and risks of the bank are unlikely to be rectified.<sup>355</sup> Resolution measures would be enacted for banks at stage five of the PIF.

Most of the firms regulated by the PRA, including banks, are categorised in stages one and two. According to the PRA's statistics, about 86% of firms regulated by the PRA are regarded to have a low or moderate level of risk to viabilities of firms, and firms in stages three to five consisted of 14% of all firms in 2014.<sup>356</sup> The first two stages of PIF are more open to solution through recognising risks and enabling regulators to take timely actions. At early stages, these risks are included or are likely to be included in banks' business, yet banks themselves may not be able to recognise or see these risks because of their management and governance system.<sup>357</sup> Therefore, corrective actions on the part of the regulators may contribute to ruling out these risks at early stages.

PIF Stage	Triggering Events	Corrective Measures
Stage 1	Supervisory judgements on a bank's external context, business risk, management and governance, risk management and controls, capital and liquidity <sup>358</sup>	Normal risk assessments; no additional requirements
Stage 2		Recovery measures and resolution measures
Stage 3		Recovery measures and resolution measures
Stage 4		Recovery measures and resolution measures
Stage 5		Resolution measures

Table 4 Proactive Intervention Framework

### C. PIF as the Current UK Structured Early Intervention

This subsection evaluates PIF as the current UK structured early intervention by exploring its advantages and potential problems. Both advantages and disadvantages of PIF in the UK are related to the PRA's approach in banking regulation, which relies on

354 *ibid.*

355 *ibid.*

356 Jan Putnis, *The Banking Regulation Review* (5th ed, Law Business Research Ltd 2014)

357 International Monetary Fund, 'United Kingdom: 'The Future of Regulation and Supervision Technical Note' (11 July 2011) <<https://www.imf.org/external/pubs/ft/scr/2011/cr11230.pdf>> last accessed 26 Aug 2019

358 The Prudential Regulation Authority (n 2)

the PRA's judgement of bank risks to the financial system. As compared with the capital triggers of PCA in the US, the PRA's judgement could provide a more comprehensive assessment of the financial conditions of a bank and more accurate information in relation to bank risk levels. On the other hand, a potential disadvantage in relation to the PIF is that the judgement of the PRA as a trigger could cause delays in initiating the PIF, which correlates with regulatory forbearance. Another potential disadvantage of the PIF in the UK is a lack of structured measures available to deal with troubled banks at the different stages.

### **1. Advantages of PIF as a Structured Early Intervention for Banks**

In terms of PIF in the UK, triggering events of PIF can be an advantage because these events provide a comprehensive assessment and analysis of the financial conditions and risk levels of banks. Based on the judgement of the PRA, PIF triggering events consider multiple factors that are relevant to the financial conditions and risk levels of banks as deemed by the PIF regulator before the initiation of the following PIF corrective measures. In the case of the PIF, judgement-based triggering events share many similarities with supervisory judgements for normal banking regulations. Even though PIF judgement-based triggering events cover less aspects of banking operations than do supervisory judgements for normal banking regulations, PIF judgement-based triggering events still cover a broader range of aspects in comparison with US triggering events, which consider only the capital adequacy of banks. Because of a relatively comprehensive assessment of bank business procedures and operations, the PRA is more likely to detect potential problems of banks by taking advantage of signals from several factors instead of relying on only capital-based triggering events, thereby avoiding the lagging nature of capital ratios as triggering events. In a general context, when triggering events of structured early intervention for banks share similarities to supervisory judgements for normal banking regulations, a majority of aspects that are considered in the normal banking regulation could be assessed and rated separately on a scale from the worst to the best for the purpose of forming a judgment for triggering early intervention. On the basis of the assessment and considerations of each aspect for early intervention,

the responsible regulator should assign each bank a final score that determines the bank's status.<sup>359</sup>

## **2. Disadvantages of PIF as a Structured Early Intervention for Banks**

In relation to potential disadvantages of PIF, the following two problems are relevant to the actual implementation of early intervention: (1) the correlation between judgement-based triggering events and regulatory forbearance and (2) a lack of structured corrective measures.

First, because of the judgement element in PIF triggering events, the PRA has discretion in relation to determining bank performance in accordance with the following aspects: external context, business risk, management and governance, risk management and controls, capital, and liquidity.<sup>360</sup> The discretion may contribute to regulatory forbearance in assessing and initiating early intervention for banks. Because of its ability to pursue discretion and judgement, the PRA has more flexibility compared with US capital ratios in choosing supervisory actions, and this increases the possibility of regulatory forbearance in cases where the PRA should have taken stricter and more intrusive corrective measures. In greater detail, the judgement-based regulatory approach provides the PRA with flexibility to tailor specific responses and corrective actions for banks with different proximities to failure. This means that the PRA has the power to take respective appropriate supervisory corrective actions to fit the specific conditions of an individual bank, especially when banks may have different problems and weaknesses in their operations. On the other hand, the discretion of the PRA can be a reason that contributes to regulatory forbearance in dealing with troubled banks in practice. In the case of dealing with a troubled bank, banking regulators are more likely to be reluctant to initiate intrusive measures because the banking regulators tend to find excuses for the poor performance on the basis of their agency.<sup>361</sup> In addition, supervisory

359 Svoronos (n 35)

360 The Prudential Regulation Authority (n 2)

361 Frederic S. Mishkin, 'The Causes and Propagation of Financial Instability: Lessons for Policymakers' (1997) Proceedings – Economic Policy Symposium – Jackson Hole Federal Reserve Bank of Kansas City 55, 70

forbearance can be an universal problem for any type of regulatory framework or structured early intervention, as this problem tends to be apparent with hindsight.

Second, another potential disadvantage of the PIF is related to the supervisory measures and actions taken by the PRA. Corrective actions of the PIF tend to start with informal corrective measures such as moral suasion.<sup>362</sup> This is a way to convince managers and directors to work to correct the weaknesses and problems of a bank. However, these informal corrective measures may have limited functions and effects in relation to correcting the problems and weaknesses of troubled banks as compared with more intrusive corrective measures. Additionally, the PIF corrective measures are normally not disclosed to the public.<sup>363</sup> This means that only a particular bank and the PRA have knowledge of specific corrective measures being taken, thereby causing a lack of transparency regarding enforcing these corrective measures.

### **III. Structured Early Intervention for Chinese Banks**

Structured early intervention for US and UK banks provide two different arrangements: formal and regularly structured early intervention for banks. The US' PCA technique is a formal structured early intervention approach for banks and provides specific triggers and respective corrective measures to deal with troubled banks at early stages.<sup>364</sup> In comparison, the UK's PIF is a regularly structured early intervention for banks and provides the UK banking regulator with the chance to apply their regular supervisory power to deal with troubled banks at early stages based on judgement.<sup>365</sup> The structured early intervention for US and UK banks both represent explicit frameworks, no matter what types of structured early intervention frameworks have been adopted—that is, whether formal or regular.

Unlike the US and UK comprehensive legal frameworks in relation to banking regulations, the Chinese regulatory framework for banking regulations, including structured early intervention for banks, is in need of more development. Since the Reform and Opening Up Policy was introduced, there has been a relatively short timeline and

362 Svoronos (n 35)

363 *ibid.*

364 *ibid.*

365 *ibid.*

development phase of Chinese banking regulations, thereby explaining why structured early intervention for Chinese banks are still at a beginning stage. Considering current Chinese legislation on banking regulations, there has not yet been an explicit regulatory framework enacted that enables banking regulators to intervene in bank operations when bank financial conditions deteriorate. However, rules in the current legislation share the feature of a progressive level of intervention. The intensity of intervention for troubled banks is initiated by a combination of capital ratios and supervisory assessment triggering events.

This section is structured as follows. The first section examines the history and current structure of Chinese banking regulations as a background, then explores structured early intervention for banks implicit in the current legislation from the perspective of triggering events and corrective measures. Finally, this section discusses problems related with the current arrangements of structured early intervention for Chinese banks.

## **A. Chinese Banking Regulation**

The Chinese banking and financial system has gone through many changes. A brief history of the development and changes of Chinese financial and banking regulations provides a background and context of the Chinese financial sector. This lays the foundation for further discussion about structured early intervention for Chinese banks and explains some differences in Chinese banking regulations. This subsection first briefly explores the history of the Chinese financial regulation from the establishment of China. Then, this subsection discusses the current regulatory structure for banking regulations established after the latest institutional reform in 2018.

### **1. The History of Chinese Banking Regulations**

China has gone through a transformation from a planned economy to a more open and market-based economy since the Reform and Opening Up Policy in 1978.<sup>366</sup> Because of the historical existence of a planned economy, one distinct feature of the

<sup>366</sup> Qiong Li, Diandian Jia, Qing Ye and Hong Yan, 'The 40th Year of Reform and Opening Up' (2019) 3 *China Review of Political Economy* 100

Chinese financial system in comparison with the US and UK financial systems is the degree of control and intervention seen from the government and the state.<sup>367</sup> In the planned economy, the state was in control of every aspect of bank business and operation, including sizes and recipients of bank loans, and this means that there was no concept of financing between banks and corporate entities or banks and individuals.<sup>368</sup> Because of this, there was no need to establish any legal frameworks for banking regulations given that the state made decisions on behalf of banks. This was the starting point of Chinese banking regulations.

In the beginning stages, right after the Reform and Opening Up Policy, the Chinese financial system was gradually established with weak banking regulations wherein the Central Bank of China played a dominant role in the Chinese banking sector from 1979 to 1984.<sup>369</sup> The Chinese banking regulations at early stages caused many problems, including nonperforming loans, systemic risks, and inflation in the Chinese financial system.<sup>370</sup> Following this stage with weak and loose regulations of the financial sector, the regulations of the financial sector became stricter from 1984 onward.<sup>371</sup> Specifically, the following restrictions were imposed on banks in order to tighten the financial regulations: controlling entry to the market, limiting different types of businesses or professionals to enter the financial market by the way of strict administrative approvals, and controlling the deposit interest rate and loan interest rate.<sup>372</sup> Laws and regulations related to the financial and banking regulations were formulated and came into effect. These included fundamental rules about institutional structures and regulations of the financial sector to replace the state or the government's policies as the main approach to

367 Yan Ma, Zeli Liu and Xinyang Song, 'A Study on the Early Exploration Stage of the Reform of Socialist Market Economy System with Chinese Characteristics' (2019) 21(4) *Journal of Shanghai University of Finance and Economics* 4

368 Guogang Wang, 'The Path of Reform for China's Financial System' (2014) 28 *Financial Market Studies* 7

369 Hongyan Cui, 'Development in the Institutional Design of Chinese Financial Regulation Since 1949' (Fudan University Doctoral Thesis 2012) 69

370 Yifu Lin and Zhiyun Li, 'China's State-Owned Enterprises and Financial System Reform' (2005) 4 *China Economic Quarterly* 920

371 Qiongxiao Ji, 'Development and Changes in the Chinese Financial Regulation' (Wuhan University Doctoral Thesis 2005) 56-58

372 Bin Xia, *Interpretations on China's Financial Laws and Regulations* (China Finance Press 2008) 1

financial regulation.<sup>373</sup> On the basis of the established rules and institutional structures, the legal framework provided an initial design and arrangements of the Chinese financial regulations.

Joining the World Trade Organization in the early 2000s led to agreements to impose standards, including enabling foreign market participants to enter the Chinese financial market and requiring China to adopt international standards and rules for the Chinese financial sector. This further opened up the Chinese financial market. In response to this, the legal regulatory framework in relation to the Chinese financial sector continued to develop further with the establishment of the idea of ‘one bank and three commissions’ in 2003. One bank referred to the People’s Bank of China (PBOC), which was responsible for formulating and implementing monetary policies and supervising financial risks to maintain the stability of the financial sector. Meanwhile, the three commissions were the China Banking Regulatory Commissions (CBRC), the China Securities Regulatory Commissions (CSRC), and the China Insurance Regulatory Commission (CIRC), which were responsible for the regulation of the banking, securities, and insurance sectors, respectively, in the financial market. The main responsibilities of these three commissions were to ensure the stability and compliance of specific financial institutions in each of these sectors from the perspective of micro-prudential regulations.<sup>374</sup> In addition, the reform in the Chinese financial sector was deepened by revising and reorganizing existing laws and regulations in relation to the financial regulations to deal with inconsistencies and overlaps in power in the legislation.<sup>375</sup>

## **2. Current Regulatory Framework of the Chinese Financial and Banking Sector**

From 2003 to 2018, the Chinese financial regulations were produced on the basis of the regulation of different types of financial institutions—specifically, banks, insurers, and securities firms—and financial regulators were appointed to the institutions on the

373 World Bank, ‘The Chinese Economy: Fighting Inflation Deepening Reforms’ (1996) Vol.1 Report No.15288-CHA

374 Yingshuang Liu, ‘Financial Regulatory Role of the People’s Bank of China – From the perspective of Macro-Prudential View’ (2014) 3 Contemporary Law 125

375 Siqi Li, *China’s Banking Law and Institutions Reform* (Wuhan University Press 2013) 2

basis of the institutions (e.g., banking, insurance, and securities regulators).<sup>376</sup> In April 2018, according to the Plan for the Institutional Restructuring by the State Council, the CBRC and the CIRC formally combined and formed a new regulatory agency, the China Banking and Insurance Regulatory Commission (CBIRC).<sup>377</sup> The CBIRC became the regulator for banks and insurance institutions and is responsible for supervising these firms in the banking and insurance sectors. The PBOC has since been given additional responsibilities and functions in relation to formulating banking and insurance laws and regulations as well as continuing their prudential oversight of the banking and insurance sectors.<sup>378</sup> The new regulatory structure has started to show the difference between prudential regulations and the regulation of business conduct of banks and insurance institutions from the responsibilities and authority that are given to the PBOC and CBIRC. This regulatory structure tends to share some similarities with the regulatory structure of the ‘twin peaks’ model, where the prudential regulation of the banking sector is separate from the regulation of the conduct and consumer protection of banks.<sup>379</sup>

Once the institutional changes of the Chinese financial regulations were made, three main financial regulators came to exist, including the PBOC as the central bank, the CBIRC, and the CSRC. Because of the redistribution of regulatory authority and responsibilities, the PBOC as the central bank is not only responsible for monetary policies and regulation of the financial sector at a macro-level but also for prudential oversight of the banking and insurance sectors. The CBIRC focuses on supervising banks and insurance institutions, especially those with systemic importance, and managing the conduct of the banking and insurance sectors. The CSRC is responsible for the regulation of the securities sector.

On the basis of the transformation of the Chinese economy from a planned economy to a market-based economy, the Chinese financial system has been established and gradually developed. In response to these changes, the regulation of the financial sector went through developments and changes from the weak regulation of firms to an

376 Andrew Godwin, ‘Introduction to Special Issue – the Twin Peaks Model of Financial Regulation and Reform in the South Africa’ (2017) 11 *Journal of Law and Financial Markets Review* 151

377 Plan for the Institutional Restructuring, s 2.3

378 *ibid.*

379 Andrew Godwin, ‘Australia’s Trek Toward Twin Peaks – Comparison with South Africa’ (2017) 11 *Journal of Law and Financial Markets Review* 183

institutional model of financial regulation. Despite the recent changes in the regulatory structure, specific rules dealing with the supervision and regulation of banks have not been changed. With this background information about the Chinese financial and banking regulations, problems of structured early intervention for Chinese banks in the following subsections can be further explored. Because of the recent nature of the changes in regulatory structure, there has not been a detailed and comprehensive explanation given as to how these banking regulators conduct supervision and regulation. Discussions on the structured early intervention for Chinese banks are based on rules and mechanisms established under the regulatory structure of an institutional model, specifically the 'one bank and three commissions' framework in China.

## **B. Implicit Structured Early Intervention for Banks**

In the context of Chinese banking regulations, without an established and explicit legal framework for structured early intervention for banks, the Chinese prudential banking regulator for banks manages troubled banks and increases the level of intervention and supervision in accordance with current rules. These rules include certain triggering events and corrective measures. In nature, these rules have similar functions as a well-established framework for structured early intervention for banks. Because of the current implicit arrangements of structured early intervention for banks in China, it is not necessary to determine the type of structured early intervention for Chinese banks with regard to whether they are formal or regular structured early intervention for banks. Triggering events and corrective measures of structured early intervention for banks share resemblances with regular structured early intervention for banks, where both triggering events and corrective measures are on the basis of and related to standards of normal banking regulations.

In relation to triggering events of the structured early intervention for Chinese banks, these triggering events are a combination of both capital ratios as triggering events and supervisory assessment as triggering events, which to some extent causes overlaps in the initiation of regulatory corrective actions. This design is different from both the US and UK triggering events. The first set of triggering events is related to capital ratios. According to the Notice of the China Banking Regulatory Commission on Issues

Concerning Transitional Arrangements for the Implementation of the Administrative Measures for the Capital of Commercial Banks (for Trial Implementation), a departmental regulatory document, Chinese banks are categorised into four groups based on capital adequacy ratio, tier 1 capital ratio, and core tier 1 capital ratio.<sup>380</sup> The CBIRC can evolve supervisory actions from informal actions to corrective actions when bank capital ratios fail to meet certain requirements. Another set of triggering events of the structured early intervention for Chinese banks is based on the Chinese prudential banking regulator's full supervisory assessment. This set of triggering events refers to an assessment of the following seven aspects of a bank's operation, including capital adequacy, asset quality, management and governance, earnings, liquidity risk, market risk, and information and technology risk, respectively.<sup>381</sup> A composite rating is eventually assigned to individual banks and this is calculated on the basis of each individual rating for the seven aspects of bank operation.<sup>382</sup> Each rating carries different weights to the final composite rating.<sup>383</sup> The assessment of bank operations and business is based on the CAMELs rating system, with adjustments made to better conform to Chinese situations. The level of intervention and supervisory actions depend upon the composite rating of the bank. In relation to the assessment of capital adequacy, capital carries the second largest weight to the composite rating of a bank. This reflects that dramatic declines in capital adequacy of banks have a direct impact on the overall rating of the bank. Additionally, this influences capital ratios and therefore causes a failure to meet certain capital requirements as well as an increased level of intervention by the first set of triggering events.

In relation to corrective measures of structured early intervention for Chinese banks, these corrective measures include both informal actions and formal corrective actions.<sup>384</sup> These corrective measures represent different levels of intervention and

380 Notice of the China Banking Regulatory Commission on Issues Concerning Transitional Arrangements for the Implementation of the Administrative Measures for the Capital of Commercial Banks (for Trial Implementation), s 153

381 *ibid.*

382 Notice of the China Banking Regulatory Commission on Issuing the Internal Guideline for the Regulatory Rating of Commercial Banks, s 6

383 *ibid.*

384 The Banking Supervision Law of the People's Republic of China and Notice of the China Banking Regulatory Commission on Issues Concerning Transitional Arrangements for the Implementation of the Administrative Measures for the Capital of Commercial Banks (for Trial Implementation)

intensity of supervision on a range of aspects of bank business and operation.<sup>385</sup> These corrective measures are reviewed by the Chinese prudential banking regulator annually in accordance with two sets of triggering events. For example, concerning rules and measures in the Banking Supervision Law,<sup>386</sup> supervisory corrective measures range from informal corrective measures, such as suasion and talks, to formal corrective actions that have direct impacts on bank business and operation, management, and governance as well as bank capital distribution.<sup>387</sup> These measures have been listed in a progressive way, ranging from less intrusive measures to more intrusive measures to reflect a growing level of supervisory intensity. These supervisory corrective measures provide general guidance as to how the prudential banking regulator should approach troubled banks. Additionally, in accordance with rules and measures in the Notice,<sup>388</sup> corrective measures are less discretionary and these corrective measures are assigned with banks with different capital ratios. Concerning the first category of banks based on their capital ratios, corrective measures are informal and function as early warnings to bank management.<sup>389</sup> Concerning the second category of banks, the level of intervention increases and corrective measures focus on supervising the banks so as to resolve risks and problems by themselves with more frequent supervision and assessment.<sup>390</sup> Corrective measures for the third category of banks concentrate on placing restrictions on all aspects of business and operations.<sup>391</sup> For the last category of banks with the lowest capital ratios, the level of intervention and the intensity of supervision increase significantly, with more restrictions imposed on the banks, and these banks could even be dealt with by means of enforcing administrative closure.<sup>392</sup>

385 *ibid.*

386 The Banking Supervision Law of the People's Republic of China

387 The Banking Supervision Law of the People's Republic of China, s 35 and s 37

388 Notice of the China Banking Regulatory Commission on Issues Concerning Transitional Arrangements for the Implementation of the Administrative Measures for the Capital of Commercial Banks (for Trial Implementation)

389 Notice of the China Banking Regulatory Commission on Issues Concerning Transitional Arrangements for the Implementation of the Administrative Measures for the Capital of Commercial Banks (for Trial Implementation), s 154

390 *ibid.*, s 155

391 *ibid.*, s 156

392 *ibid.*, s 157

In terms of the current structured early intervention for banks in China, the mechanism is implicit in the legislation without an established framework that contains systematic triggering events and corrective measures. Current rules that enable a banking regulator to intervene in bank business and operation share the feature of a growing level of intervention with the US and UK systems of structured early intervention.

Triggering events of the current structured early intervention for Chinese banks combine indicators of capital ratios and supervisory assessment. The prudential banking regulators have a range of corrective measures, including both informal and formal supervisory corrective measures, to use to manage and deal with troubled banks at early stages. However, the current arrangement of structured early intervention for Chinese banks is not the perfect one and has many problems, making further improvements necessary.

### **C. Problems of Structured Early Intervention for Chinese Banks**

Based on an understanding of the current arrangements for structured early intervention for banks, though the current implicit arrangements have both triggering events and corrective measures in place, there are several disadvantages able to be observed regarding the current structured early intervention for Chinese banks. This subsection discusses these problems from the following two perspectives: (1) the perspective of the relationship between normal banking regulations and structured early intervention for Chinese banks and (2) the perspective of examining whether the preconditions of structured early intervention for banks have been met by the current arrangements.

From the perspective of the relationship between normal banking regulations and the structured early intervention for Chinese banks, the main problem is a lack of a specific framework that systematically increases the level of supervision in response to different bank financial conditions. For example, in relation to the second set of triggering events on the basis of supervisory assessment, corrective measures are not structured to be a list of logical and progressive measures to use to deal with troubled banks with different financial conditions. The reason for this is a lack of specified rules as to what

corrective measures should be applied in the relevant regulation.<sup>393</sup> This regulation provides only the legal basis for triggering events on the basis of a supervisory assessment regarding how banks should be rated rather than both triggering events and corrective measures.<sup>394</sup>

From the perspective of preconditions of structured early intervention for banks, said preconditions refer to the following four factors: independence and accountability of regulatory agencies, accurate and timely financial information, adequate authority, and adequate resolution procedures.<sup>395</sup> In terms of independence and accountability of the regulatory agency as one of the preconditions for successful structured early intervention for banks, the first step necessary is one to determine which banking regulatory agency should be responsible for structured early intervention for banks in China. Before the recent changes in the banking regulatory structure, both the CBRC and the deposit insurance funds management agency were entitled to take corrective actions to troubled banks at early stages to deal with potential problems and risks of the banks.<sup>396</sup> This arrangement caused overlaps in the power and authority spheres of the CBRC and the deposit insurance funds management agency in dealing with troubled banks and could be a factor that prompted an inconsistency in the application of rules and corrective actions by the two banking regulators. Even with the more recent changes in the regulatory structure, the overlap of authority and power spheres still exist. Concerning the current Chinese situation, the primary problem being considered is which banking regulatory agency should be responsible for managing structured early intervention for banks. Subsequently, once this is determined, attention should be focused to improve independence and accountability.

In terms of having timely and accurate information reflecting bank financial conditions and risk levels as another precondition of structured early intervention for Chinese banks, the combined triggering events can provide signals of bank financial conditions. However, this may not be an effective way to gather this data, and the reasons

393 Notice of the China Banking Regulatory Commission on Issuing the Internal Guideline for the Regulatory Rating of Commercial Banks

394 *ibid.*

395 Nieto and Wall (n 12)

396 The Banking Supervision Law of the People's Republic of China, s 37-39, and Deposit Insurance Regulation, s 7(6)

for this statement are twofold. One reason is that supervisory assessment is conducted on a yearly basis. This means that signals of bank financial conditions are provided in this manner only once a year and so this may not be a timely reflection of bank performance. In addition, in the arrangement of current structured early intervention for Chinese banks, capital ratios as triggering events have an important role in determining bank financial conditions. However, capital ratios as triggering events tend to be lagging indicators of bank financial conditions; this is further discussed in the following chapter. Because of the lagging nature of capital ratios as triggering events and the importance of capital ratios in the structured early intervention for Chinese banks, the consideration of triggering events of the structured early intervention for Chinese banks may not be as effective given the way they are currently structured now.

In terms of the adequate authority of banking regulators to conduct structured early intervention for banks, 'adequate authority' here refers to the banking regulators being able to deal with the problems and weaknesses of financially-distressed banks.<sup>397</sup> The problem with the current set of corrective measures is there is a lack of early preparation plans and early arrangements with bank resolution authorities. Both the US' and UK's corrective measures of structured early intervention require banks to prepare plans for potential resolution arrangements. Additionally, banking regulators of structured early intervention for banks in the US and the UK cooperate with bank resolution authorities at early stages well before the banks fail to meet triggering events. Corrective measures of structured early intervention for Chinese banks include most of the corrective measures that are necessary for the increased intensity of supervision but lack preparations and the making of arrangements with resolution authorities at early stages.

Finally, in terms of the last precondition of structured early intervention, a complete bank resolution regimen contributes greatly to successful structured early intervention as a backup plan to maintain the stability of a financial system even if a bank fails.<sup>398</sup> Both in the US and the UK, an administrative-based way to deal with failed banks either via receiverships or a special resolution regimen for banks can to some extent guarantee the stability of their financial systems when resolving failed banks. However, in China, based

<sup>397</sup> Nieto and Wall (n 12)

<sup>398</sup> *ibid.*

on the current legislation, the bankruptcy of banks is dealt with through the judicial process.<sup>399</sup> In addition, current administrative measures to close a bank before the initiation of the judicial process lack specific and practical rules that can be applied in actual cases. There have not been formal arrangements of a special bank resolution regimen or receiverships of banks in the legal framework of the Chinese banking sector to date, which could be contributing to the ineffective operations of structured early intervention for banks.

Problems of the structured early intervention for Chinese banks are related to the current structure and design of such. In order to make the structured early intervention for banks in China into a more effective system, the design and structure should be comprehensive or at least meet the preconditions of successful structured early intervention for banks wherein a clear relationship between structured early intervention for banks and normal banking regulations, eligible and suitable regulators, timely and accurate indicators, and adequate authorities as well as a complete bank resolution regimen need to be in place.

#### **IV. Conclusion**

This chapter provides overviews of structured early intervention for banks in the US, the UK, and China and discusses triggering events, corrective measures, and banking regulators for structured early intervention for banks in these three countries. Structured early intervention for US banks have the longest history and were tested by the 2007 GFS. The timeliness of capital ratios as triggering events and the discretion of banking regulators in applying corrective measures were identified as two main disadvantages of US' PCA from an academic perspective in the first decade of the establishment of PCA and from the examination of the 2007 GFS. Structured early intervention for UK banks were established after changes in banking regulatory structures were made after the 2007 GFS. The UK's PIF consists of supervisory assessments as triggering events and corrective measures. Similarly, judgement-based supervisory assessments are closely related to discretion and could cause regulatory forbearance in

<sup>399</sup> The Enterprise Bankruptcy Law of the People's Republic of China

the PIF. Additionally, a lack of structured and specific corrective measures in comparison with the PCA corrective measures may also be a problem seen with the PIF.

Structured early intervention for Chinese banks are different from structured early intervention for either US or UK banks. In relation to the four preconditions of structured early intervention for banks, the current structured early intervention for Chinese banks require further development across all four aspects for a more successful implementation. Because of a tradition of intervention by the state in the Chinese banking sector and the occurrence of a relatively recent reform of the financial system in the 1970s, the regulatory structure and design of the Chinese financial and banking sectors are less sophisticated and complete as compared with the US and UK banking regulator structures. Chinese banks not only have a significant impact on the Chinese banking sector but also are significant to the stability of the global financial system, which suggests the necessity for establishing appropriate regulatory structures including structured early intervention for banks to deal with risks of Chinese banks at early stages.

### **Chapter 3 Comparisons of US, UK and Chinese Triggering Events of Structured Early Intervention for Banks**

With the concept of structured early intervention for banks, elements of this legal framework for dealing with troubled banks come next. The two main elements of structured early intervention for banks are triggering events and corrective measures. On the basis of timely and accurate triggering events and effective corrective measures, structured early intervention for banks is the most useful and meaningful. This chapter focuses on the first element: triggering events of structured early intervention for banks.

Triggering events of structured early intervention for banks are indicators of the banks' financial condition. This means that triggering events provide signals of financial conditions of banks, which allows banking regulators to react and take the necessary corrective measures. The most important functions of triggering events are timeliness and accuracy, because triggering events categorise banks into different groups and determine the level of intervention with corrective measures. These two functions require the capability to identify and detect changes in banks' financial conditions and performance. Well-functioning triggering events are preconditions for banking regulators to respond to risks and problems of banks at early stages, thereby reducing the impact of distressed banks and potential bank failures.

In the context of triggering events, the core of this element is the mechanism for detecting the financial condition of banks. More specifically, it is the mechanism that detects deterioration of banks' financial conditions. A mechanism can be designed on the basis of capital ratios which depend solely on the financial conditions of a bank. It can be designed on the basis of supervisory assessment which depends on supervisors' judgement of operation and the financial condition of the bank. The mechanism can also be designed as a mixture of both. The mechanism underlying triggering events varies from country to country, depending on each country's choices and preferences. US, UK and Chinese triggering events have different mechanisms for detecting banks' financial conditions. The United States adopts capital ratios as its method to find deterioration of the financial condition of a bank at an early stage. The United Kingdom adopts supervisory assessment. China combines these two methods. Each mechanism of

triggering events has advantages and disadvantages in detecting potential problems of banks in certain ways.

This chapter is structured as follows. The first three sections discuss US, UK, and Chinese triggering events of structured early intervention for banks respectively. These sections reveal considerations on mechanisms of structured early intervention for banks and assess effectiveness of triggering events in the US, the UK and China. The final section identifies similarities and main differences between mechanisms of triggering events in the three countries. These differences provide perspectives to consider what factor makes triggering events effective.

## **I. Mechanism of US Triggering Events – Capital Ratios**

Capital ratios as triggering events means the ratios that are the determining factors in initiating structured early intervention for banks. If capital ratios of banks fall below certain thresholds, procedures for following corrective measures by bank supervisors are triggered. US triggering events are based on capital ratios of banks under Prompt Corrective Action (PCA). Capital ratios determine the categorisation of the banks, banks from ‘well capitalised’<sup>400</sup> to ‘critically undercapitalised’<sup>401</sup> at early stages and the level of intervention by following corrective measures. In essence, capital ratios reflect the level of capital adequacy of banks.

This section first explores why capital adequacy, as is shown by capital ratios, can detect changes in banks’ financial conditions. Then this section discusses advantages and disadvantages of capital ratios as triggering events in terms of US structured early intervention. The final part of this section discusses a potential way to improve the effectiveness of capital ratios as triggering events of US structured early intervention for banks.

### **A. Considerations of Capital Adequacy in Triggering Events**

Capital adequacy can be an indicator to detect deterioration of bank financial conditions, categorise banks, and trigger relevant corrective measures. Normally capital

400 12 U.S.C. § 1831o (b) (1) (A)

401 12 U.S.C. § 1831o (b) (1) (E)

ratios are calculated to show the level of a bank's capital adequacy. Why can capital adequacy be an indicator of bank financial condition? A sufficient level of capital has the following roles and functions to maintain the operation of a bank:

First, the adequate capital of a bank acts as a buffer to absorb risks and reduce unexpected losses; therefore, imposing requirements of capital adequacy on the banks is likely to reduce possibilities of their failures or crises.<sup>402</sup> Imposing a higher capital requirement is the most direct way to improve capital adequacy and reduce debts of banks to maintain solvency of the banks.<sup>403</sup> Bank capital refers to banks' funds, including ordinary shares and retained earnings of the banks, and does not need to be repaid, which is different from borrowed assets such as deposits.<sup>404</sup> Bank capital has a key function to keep the banks as a 'going concern' and it protects the banks from being insolvent, as the banks would suffer a loss in their capital when they cannot repay their debts rather than being balance sheet insolvent without sufficient capital in such cases<sup>405</sup>. Bank capital can also function to absorb risks and reduce losses in economic downturns when values of the banks' assets decline as a bank with less capital is more likely to encounter situations of balance sheet insolvency than a bank with more capital to absorb losses.<sup>406</sup>

Another role and function of capital regulation (requirements of banks to maintain a certain level of capital adequacy) is related to the perspective of the government's involvement in the banking sector of a country, especially from the perspective of the role of the government as lender of the last resort and an explicit deposit insurance scheme. Capital regulation is likely to reduce the losses of the government as a lender of the last resort and it is likely to reduce the losses of the deposit insurance scheme in banks' financial distress or even bank failures.<sup>407</sup> As the lender of the last resort, the government has incentives to prevent banks from failing as the government could be a main creditor

402 Jihad Dagher, Giovanni Dell'Ariccia, Luc Laeven, Lev Ratnovski and Hui Tong, 'Benefits and Costs of Bank Capital' (2016) IMF Staff Discussion Note SDN/16/04 <<https://www.imf.org/external/pubs/ft/sdn/2016/sdn1604.pdf>> last accessed 26 Aug 2019

403 Admati and Hellwig (n 151) 94

404 Farag, Harland and Nixon (n 158)

405 *ibid.*

406 Daniel K. Tarullo, *Banking on Basel: The Future of International Financial Regulation* (Peter G. Peterson Institute for International Economics 2008) 18

407 Harald Benink, Jon Danielsson and Asgeir Jonsson, 'On the Role of Regulatory Banking Capital' (2008) 17 *Financial Markets, Institutions & Instruments* 85

of banks.<sup>408</sup> In other words, the government has interests in reducing the costs of bank failures and preventing banks from taking too many risks, especially in the case of Too-Big-To-Fail (TBTF). Unlike non-bank firms where creditors have incentives to monitor risks taken by the firms to ensure their investment, depositors of banks have fewer incentives to do so as they have been insured by the deposit insurance scheme explicitly or implicitly because of the role of banks in the payment system and in daily life.<sup>409</sup> Both the government role as lender of the last resort and as an explicit deposit insurance scheme encourage banks to take more risks in return for higher yields; therefore they increase the government's credit exposure to bank failures. This requires banks to maintain certain levels of capital as a way to compensate for the government's credit exposure to the moral hazards created by the government's financial safety net.

Moreover, maintaining capital adequacy provides a way to reduce the likelihood of bank failures and the negative impact of externalities caused by the failures. One of the externalities is systemic risk caused by the failure of one bank to other banks and to the wider financial system. Systemic risk is caused by the interconnectedness of the banking and financial system by contractual relations, variations of asset prices and information contagion effects among banks.<sup>410</sup> More specifically, a failing bank may require other healthy banks to write down contractual claims, and other banks may suffer a loss or face solvency issues because of the decline in value of any failing bank's assets held by them, and the contagion effect that investors and creditors of other healthy banks may withdraw funds from the banks may result in difficulties for the operations and solvency of other healthy banks.<sup>411</sup> Losses and costs as a result of the failure of a bank are borne by not only shareholders and creditors of the bank but also by depositors, other financial institutions and the government; therefore, social costs due to bank failure can be huge and induce more problems in the financial system. As a result, capital regulation of banks by the government could be a way to relate social costs of potential bank failures to

408 Tarullo (n 425)

409 Benink, Danielsson and Jonsson (n 426)

410 Martin F. Hellwig, 'Systemic Risk in the Financial Sector: An Analysis of the Subprime-Mortgage Financial Crisis' (2009) 157 *De Economist* 129, 182

411 *ibid.*

operating costs of the banks by requiring higher capital adequacy as regulatory standards.<sup>412</sup>

To summarise, requiring banks to hold a certain level of capital, as is reflected by capital ratios, is a way to reduce losses and costs of potential bank failures imposed on the government and creditors and reduce instability to the financial system by requiring banks to absorb more losses themselves. Because of these roles and functions, capital adequacy can reflect the ability of a bank to absorb its losses and the potential impact of the bank on the banking sector to some extent, thereby reflecting if the bank operates well and is in good financial condition. Capital ratios are calculated to determine the capital adequacy of a bank. If capital ratios of a bank fall below certain levels, banking regulators are able to identify problems and take measures with the bank when economic value and capital remain.<sup>413</sup> Capital ratios as indicators have the function to reflect financial situations of the bank and to alert banking regulators to deal with the bank's problems at early stages, to avoid potentially costly and expensive bank failures and crises.<sup>414</sup> However, higher capital ratios are not always the effective way to reveal the financial condition of a bank. Only within a certain scope, the higher the capital ratios are, the less likely the banks can be in trouble. Imposing a strict capital requirement that requires banks to reach a certain level of capital adequacy may not directly improve the capital ratios of the banks.<sup>415</sup> In addition, constant requirements on capital adequacy may lead to reducing the credit supply by banks whilst not necessarily reducing risks of the banks.<sup>416</sup> The aim of improving safety and soundness of bank operations and the banking sector may not always be achieved by only implementing higher capital ratios.<sup>417</sup>

412 Tarullo (n 425)

413 George J. Benston and George G. Kaufman, 'The Appropriate Role of Bank Regulation' (1996) 106 *The Economic Journal* 688, 696

414 Anil K. Kashyap, Raghuram G. Rajan and Jeremy C. Stein, 'Rethinking Capital Regulation' (Economic Symposium Maintaining Stability in a Changing Financial System Federal Reserve Bank of Kansas City 2008). <<https://www.kansascityfed.org/media/files/publicat/sympos/2008/kashyaprajanstein031209.pdf>> last accessed 26 August 2019

415 David VanHoose, 'Bank Capital Regulation, Economic Stability, and Monetary Policy: What does the Academic Literature Tell Us?' (2008) 36 *Atlantic Economic Journal* 1

416 Reint Gropp, Thomas Mosk, Steven Ongena and Carlo Wix, 'Bank Response to Higher Capital Requirements: Evidence from a Quasi-Natural Experiment' (2019) 32 *The Review of Financial Studies* 266

417 David VanHoose, 'Theories of Bank Behaviour under Capital Regulation' (2007) 31 *Journal of Banking and Finance* 3680

Capital ratio embedded PCAs in the United States are practical examples of assessing banks' operations and financial conditions. The five thresholds are in the form of capital ratios to categorise different levels of operation and financial condition of a bank, thereby indicating the need for different levels of intervention by enabling banking supervisors to take the relevant corrective measures. Capital ratios are the only indicator incorporated into US PCA for banking regulators to determine the financial condition of a bank.

## **B. Analysis of Capital Ratios as Triggering Events in the United States**

Requirements on capital adequacy ensure banks have adequate capital to absorb losses and reduce costs due to bank failures. Capital ratios can reflect banks' capital adequacy and assess their financial conditions and potential problems; however, capital ratios may not be the best way to provide a timely and accurate review of capital adequacies, financial conditions and problems of banks, thereby causing delays in taking corrective measures by the banking regulators.

In the context of US PCA, triggering events depend on capital ratios. These capital ratios include the total risk-based capital ratio, tier 1 risk-based capital ratio, common equity tier 1 risk-based capital ratio, and leverage ratio.<sup>418</sup> A capital ratio consists of a numerator and a denominator. The numerator reflects a bank's capital and shows its ability to absorb losses.<sup>419</sup> The more capital a bank has, the less likely bank failure is. The denominator of the capital ratio shows the bank's assets.<sup>420</sup> The scale of assets of a bank is related to the size of the bank: the more assets a bank holds, the larger the size of the bank. Variations in either bank capital or assets can be captured by capital ratios to assess the bank's financial condition and risks. For example, capital ratio reflects that a bank of a larger size or with riskier assets needs more capital to absorb losses than a bank of a smaller size or with less risky assets.<sup>421</sup>

418 The FDIC, Risk Management Manual of Examination Policies Section 2.1 Capital (April 2015) <<https://www.fdic.gov/regulations/safety/manual/section2-1.pdf>> last accessed 26 August 2019

419 George Kaufman, 'Basel II vs. Prompt Corrective Action: Which is Best for Public Policy?' (2005) 14 Financial Markets, Institutions & Instruments 349, 351

420 *ibid.*

421 Arturo Estrella, Sangkyun Park, and Stavros Peristiani, 'Capital Ratios and Credit Ratings as Predictors of Bank Failures' (June 2002) <[https://www.researchgate.net/profile/Stavros\\_Peristiani/publication/228712658\\_Capital\\_Ratios\\_and\\_Cre](https://www.researchgate.net/profile/Stavros_Peristiani/publication/228712658_Capital_Ratios_and_Cre)

In the context of PCA, one function of capital ratios is to set a benchmark for the bank category, which indicates the banks' financial conditions and performance and determines the level of intervention that is to follow. In a simpler version, categorising banks by capital ratios allows banking regulators to impose corrective measures depending on their capital adequacy and risks, before economic value and capital of the troubled banks reach zero, and mandatory closure of the banks is unavoidable. The benchmark by capital ratios not only determines corrective measures but also whether banks have more freedom to make decisions on their own. The more capital a bank has, the more likely it can manage losses and risky assets. To the contrary, the less capital a bank has, the more restrictive its business gets as the bank cannot afford risky decisions and costs, and mandatory closure of the bank will apply once capital declines to certain levels.<sup>422</sup> The benefit of capital ratio as a benchmark to trigger early intervention is a direct and straightforward review of the level of capital adequacy of a bank. Therefore, banking regulators can determine whether economic value and capital adequacy of banks are positive or negative at early stages, which provides information for them to take respective corrective measures either to restore capital adequacy of the banks or to enforce mandatory closure or receivership of the banks. The benchmark for each category of banks normally is set at a positive capital ratio to ensure banking regulators' early stage actions before bank failure.

Capital ratios as PCA triggering events are designed to deal with regulatory forbearance and to some extent to limit the discretion of banking regulators. PCA has adopted capital ratios as triggers to correct problems when insolvent banks remained in operation after their capital had become negative in the crisis during the 1980s.<sup>423</sup> PCA capital ratios require banking regulators to close troubled banks promptly and prevent keeping insolvent banks open.<sup>424</sup> It has been a step forward to reduce regulatory forbearance. PCA has made some progress in terms of reducing forbearance and limiting regulators' discretions, especially by enforcing compulsory measures on the basis of bank

dit\_Ratings\_as\_Predictors\_of\_Bank\_Failures\_Working\_paper/links/0deec524c406d04861000000.pdf>  
last accessed 26 August 2019

422 Kaufman (n 438)

423 Jonathan M. Edward, 'FDICIA v. Dodd-Frank: Unlearned Lessons about Regulatory Forbearance' (2011) 1 Harv. Bus. L. Rev. 279

424 *ibid.*

capital ratios. PCA mandatory measures have the feature of an automatic application. Once a bank's capital ratios are assessed against benchmark capital ratios, the bank is categorised in a group with certain compulsory measures in place. The bank has to comply with those measures and no discretion or decision from banking regulators is needed; therefore, possibilities of regulatory forbearance and delays in taking regulatory measures can to some extent be reduced.<sup>425</sup> In details, compulsory measures are enforced with no exception and are applied immediately without banking regulators' actions.<sup>426</sup> Certain compulsory measures are applicable to all banks, which impose restrictions on capital distribution and management fees.<sup>427</sup> Normally banks within the same category, no matter what the specific capital ratios are, share the same set of compulsory measures. Compared with mandatory measures of PCA, discretionary measures do not limit discretion of banking regulators and do little to prevent regulatory forbearance.

From the perspective of capital ratios' functions, capital ratios act as benchmarks to categorise banks into five groups with varying levels of performance and problems, which enables banking regulators to determine financial conditions and risks accordingly on the basis of their capital adequacy. Moreover, the link between capital ratios as a benchmark and compulsory measures for a particular bank category has a positive effect on reducing discretion and decision making for banking regulators. The whole process is related to capital ratios for banks and banking regulators. A bank's capital ratios are assessed in accordance with PCA capital ratio benchmarks. Then the bank is categorised into a group where banking regulators are required to enforce compulsory measures on the bank, and to take early actions and prevent the bank from operating if the bank's capital ratio is unsatisfying. Ideally, the whole process could work to identify troubled banks at early stages and manage their risks accordingly before the materialisation of problems. However, in reality, PCA is not a panacea for dealing with troubled banks and bank failure. Both functions of capital ratios as triggering events of structured early

<sup>425</sup> *ibid.*

<sup>426</sup> Richard Scott Carnell, 'A Partial Antidote to Perverse Incentives: The FDIC Improvement Act of 1991' (1993) 12 *Ann. Rev. Banking L.* 317, 337

<sup>427</sup> 12 U.S.C. §1831o(b) (2) (B)

intervention for banks are flawed and need further considerations in design and development.

The main problem with capital ratios as triggering events is the lagging feature of capital ratios. This means that capital ratios are not able to reflect the true and real-time capital adequacy and financial conditions of banks, thereby leading to untimely and inaccurate information for banking regulators. PCA categories of banks and the consequential corrective actions solely depend on capital ratios in order to identify the banks in need of early intervention. This is ineffective because capital ratios alone may not be able to identify problems or risks of banks before they emerge. Declines or reductions in capital ratios such as leverage ratios, that reflect deteriorations of capital adequacy and financial health of troubled banks, come later than identifications of troubled banks and their problems by a comprehensive bank supervisory assessment.<sup>428</sup>

Reasons for the lagging feature of capital ratios as triggering events of structured early intervention for banks are twofold. First, practical techniques of banks to solve existing problems, such as resolving loan losses, can cause deficiencies in reflecting the actual capital adequacy whilst maintaining satisfactory capital ratios for supervisory assessment. Banks are more likely to first deal with operational or financial problems that have already existed instead of making preparations for potential losses in advance. For example, banks add to loan loss reserves after there has been a problem of loan loss by using their capital and they are likely to be slower in preparing for loan losses in advance.<sup>429</sup> In reality, banks tend to use their capital to compensate for loan loss and increase their loan loss reserve, which leads to drops and reductions in their capital ratios after a full supervisory assessment.<sup>430</sup> As a result, capital ratios of banks may not be a timely way to show current capital levels and financial situations of the banks. In terms of timing of PCA triggers, capital ratios lag behind fluctuations of true levels of capital adequacy of the banks. The accuracy of capital ratios as triggering events may overstate the financial situations of the banks.

428 Peek and Rosengren (n 30)

429 *ibid.*

430 Joe Peek and Eric S. Rosengren, 'Will Legislated Early Intervention Prevent the Next Banking Crisis?' (1997) 64 *Southern Economic Journal* 268

In addition to these practical techniques by banks to mask the actual capital adequacy, the basis of calculations of capital adequacy is a factor for the lagging feature of capital ratios. Calculations of bank capital ratios are based on book value of the banks' capital. However, the book value of the banks' capital does not reflect the economic value of the capital adequacy and financial condition of the banks in an active or timely way because the book value capital of a bank tends to change less even if the economic value of a bank changes dramatically.<sup>431</sup> Capital ratios as triggering events are based on book value capital of banks which tend to remain flat in reflecting the economic value of the banks; therefore, capital ratios as triggering events can be lagging to show the real capital adequacy and financial conditions of banks. Moreover, calculations of banks' capital ratios are based on book value of the banks, which does not provide updated information of the economic value of the banks. As a result, depending only on capital ratios as triggering events is rarely a timely way to reflect the economic value and real capital adequacy of banks.

Another problem in relation to capital ratios as triggering events is its limitation on reducing regulatory forbearance. Based on previous studies, PCA categorisation of banks based on capital ratios has failed to treat a number of banks as undercapitalised or significantly undercapitalised, or critically undercapitalised banks and take respective corrective measures, especially mandatory measures, to deal with the troubled banks.<sup>432</sup> This first shows the lagging feature of capital ratios in identifying troubled banks as mentioned above. This also reveals the deficiency of capital ratios to reduce the impact of regulatory forbearance. Banks that should have been categorised as undercapitalised, significantly undercapitalised, and critically undercapitalised remain in capitalised categories with less mandatory and discretionary measures from banking regulators, which gives the regulators more discretion on whether to take discretionary measures and their decision on the level of intervention. As banks categorised as well capitalised and adequately capitalised are subject to less mandatory measures than banks that are categorised as undercapitalised, significantly undercapitalised, and critically

431 Carnell (n 445) 351

432 David S Jones and Kathleen Kuester King, 'The Implementation of Prompt Corrective Action: An Assessment' (1995) 19 *Journal of Banking and Finance* 491

undercapitalised, those troubled banks that should have been categorised into the latter three categories could be subject to less mandatory measures. As a result, the banking regulators have more discretion to deal with the troubled banks and are unlikely to take intrusive measures with the banks.

In addition to provide accurate and timely reflection of banks' financial conditions, capital ratios as triggering events incentivise banks to reach higher capital ratios and meet the relevant benchmark. In this context, capital ratios may not be effective in requiring troubled banks to increase capital and meet capital requirements. Based on the whole PCA process, requirements on capital adequacy and categorisation of banks determine the following corrective actions for banks by banking regulators. PCA capital ratio benchmarks and unwillingness of banks to follow corrective actions are incentives for banks to improve and maintain certain levels of capital adequacy. The actual result of increasing capital for banks in accordance with capital requirement may not happen exactly as designed because capital regulation can be vaguer and weaker than civil or criminal penalties that require banks to increase capital ratios to meet certain standards or to be categorised into certain capital zones.<sup>433</sup> In other words, troubled banks can be less reluctant to increase capital and improve capital adequacy to meet capital requirements or to be categorised into capital zones with less regulatory measures even if the banks do not meet capital requirements.

To summarise, capital ratios as PCA triggering events mainly function as benchmarks to categorise banks and as ways to limit the discretion of banking regulators. This is progress in terms of detecting early signs of potential problems in troubled banks in the US banking sector after the Savings and Loan crisis in the 1980s. The actual application of PCA triggering events reveals the following problems with capital ratios. First, PCA capital ratios can be lagging in nature to reflect the actual financial conditions of a bank. Second, because of the lagging feature, banks may not be upgraded or downgraded to the appropriate capital categorisation, which gives banking regulators more discretion to take corrective measures rather than imposing mandatory measures on troubled banks in the relevant capital zones. Finally, capital ratios and bank

<sup>433</sup> Joe Peek and Eric S. Rosengren, 'Bank Regulation and Credit Crunch' (1995) 19 *Journal of Banking and Finance* 679

categorisation based on capital adequacy do not serve as strong incentives for troubled banks to improve capital adequacy to meet capital requirements.

### **C. Non-Performing Assets Coverage Ratio as Alternative Triggering Events**

The thinking underpinning early intervention for banks is correctly implemented while the triggering mechanism within FDICIA is problematic due to the lagging feature and manipulation of capital adequacy by banks.<sup>434</sup> Because of the key role of triggering events, a timely and accurate reflection of the actual financial condition and economic value of a bank not only sends the prompt signals to banking regulators but also determines the right level of intervention by the following corrective measures. In order to improve the effectiveness of objective standards as triggering events, core features of models or ratios to complement or replace capital ratios as objective standards to trigger structured early intervention for banks should be predictive, timely and accurate in terms of the actual economic value of banks.

Models or ratios that are based on different mechanisms detect financial problems and provide early warning information, which performs better than capital ratios alone, as in the current PCA system in assessing the exact financial conditions of banks.<sup>435</sup> Imposing additional regulatory requirements on banks could be a way to modify current flaws and improve the effectiveness of PCA.<sup>436</sup> Other models to predict potential failures or complement capital ratios as additional requirements can be either multiple variables or single variable models based on their specific different mechanisms. Among all these models or ratios as objective standards to trigger early intervention with banks, a single variable model, the Non-Performing Asset Coverage Ratio (NPACR), could be incorporated in systems of structured early intervention for banks to improve accuracy and effectiveness of early warning, either on its own or to supplement capital ratios.

NPACR is directly related to non-performing assets of banks. Non-performing assets are relevant to the banks' financial conditions in the following way. First, non-performing assets are one of the factors that are closely linked to a banking crisis, which

434 Charles Goodhart, 'Ratio Controls Need Reconsideration' (2013) 9 *Journal of Financial Stability* 445

435 Sherrill Shaffer, 'Bank Failure Risk: Different Now?' (2012) 116 *Economic Letters* 613

436 *ibid.*

is a decline in value of banks' assets due to the aim for yield.<sup>437</sup> Banks will reach a point where the only way to achieve asset growth is to compromise asset quality.<sup>438</sup> This means that on the basis of collateral, the value of loans decreases when the value of the underlying security declines.<sup>439</sup> The growth of non-performing assets represents deterioration of bank assets' quality, thereby causing financial instability of that bank. Second, non-performing loan ratio is able to signal for systemic problems.<sup>440</sup> Non-repayment of loans causes credit risk for banks, which negatively influences the financial condition and overall stability of the bank, especially when non-performing assets have been a key factor for the bank's failures and crisis.<sup>441</sup>

NPACR is an indicator of banks' financial conditions associated with nonperforming assets, which determines whether there has been a material change in the financial conditions of a bank, and whether this could have been signalled to banking regulators earlier, to take corrective actions and close troubled banks promptly if necessary.<sup>442</sup> The numerator of the NPACR is the total amount of a bank's equity capital, plus loan loss reserve, minus nonperforming assets.<sup>443</sup> The denominator of NPACR is the total amount of the bank's assets.<sup>444</sup> Nonperforming assets are 'calculated as the sum of 20% of loans past due 30-89 days, 50% of loans past due 90-180 days and 100% of nonaccrual loans and real estate owned assets'<sup>445</sup>. The assumption of NPACR is based on fluctuations of non-performing assets. When a bank has past due and non-performing assets or the assets increase, the bank normally will not increase loan loss reserves accordingly in a timely way.<sup>446</sup> In this scenario, NPACR will decrease and this reflects weakness in asset quality; however, capital ratios remain the same as the banks' capital

437 David Bholat, Rosa Lastra, Sheri Markose, Andrea Miglionico and Kallol Sen, 'Non-performing loans: regulatory and accounting treatments of assets' Bank of England Staff Working Paper No. 594 (April 2016)

438 Hyman P Minsky, *Stabilizing the Unstable Economy* (Yale University Press 1986)

439 *ibid.*

440 Asli Demirgüç-Kunt, and Enrica Detragiache, 'The Determinants of Banking Crises in Developing and Developed Countries', (1998) 45 International Monetary Fund Staff Papers 81

441 Patrizia Baudino, Jacopo Orlandi and Raihan Zamil, 'The Identification and Measurement of Nonperforming Assets: A Cross-Country Comparison' FSI Insights on policy implementation No 7 (April 2018) 26

442 Kupiec (n 32)

443 Chernykh and Cole (n 31) 136

444. *ibid.*

445 *ibid.*, 137

446 Kupiec (n 32)

will not be used immediately to compensate for losses in nonperforming assets, causing a decline in capital ratios.<sup>447</sup> As a result, NPACR is likely to show possible problems and financial situations of banks earlier than current capital ratios.

One function of NPACR is its ability to provide an accurate reflection of banks' financial conditions. It has a function to reduce incentives of banks to take advantage of the calculation of capital ratios to cover the true capital adequacy and financial conditions of themselves. One of the problems of capital ratios as triggering events is that banks can delay in making up insufficient loan loss reserve by using certain amounts of capital and maintaining their statuses in certain capital categories at the same time, which causes the lagging feature of capital ratios as triggers. Because of the calculation of NPACR, banks do not have the chance to cover loan losses and maintain the ratio at certain levels, which can provide more accurate information of banks' financial conditions.<sup>448</sup> NPACR also considers two bank risks, credit and capital risks, in one ratio.<sup>449</sup> Compared with capital ratios, NPACR is likely to provide more information about banks and possible results of bank failures because both credit and capital risks have a determining impact on solvency of the banks.

Second, in relation to timeliness of triggering events, NPACR outperforms capital ratios. Calculations of NPACR are much easier than risk-based capital ratios even if banks have gone through recent loan loss, which allows banking regulators to determine the actual financial conditions in a timely and direct way.<sup>450</sup> NPACR is predictive. In the recent financial crisis, if NPACR were applied with the closure rule of less than 2% of NPACR, troubled banks would have been identified and closed six quarters earlier than PCA capital ratios with reduced losses to FDIC.<sup>451</sup> Concerning the appropriate percentage of NPACR in determining closure of troubled banks, 2% of NPACR could be a minimum requirement for closing a troubled bank, which could lead to earlier identification and intervention with troubled banks. Additionally, compared with capital ratios, including tier 1 ratio, total capital ratio and leverage ratio, with consideration of

447 *ibid.*

448 Chernykh and Cole (n 31) 141

449 *ibid.*

450 *ibid.*

451 Rebel Cole and Lawrence White, 'When Time is Not on Our Side: The Costs of Regulatory Forbearance in the Closure of Insolvent Banks' (2017) 80 *Journal of Banking and Finance* 235

regulatory forbearance NPACR not only provides timelier information on possible problems of bank financial conditions for three categories of undercapitalised banks, it also can identify possible failures of well capitalised banks after two years of the financial crisis in 2007-09.<sup>452</sup>

Finally, NPACR is adaptable and compatible to different countries' banking sectors. This means that NPACR is able to predict potential failures of banks during various time periods in the context of different countries' banking sectors, thereby making NPACR a feasible and reliable indicator of structured early intervention for banks without limitations on specific countries or time periods.<sup>453</sup>

To summarise, on the basis of comparisons between NPACR and capital ratios as triggering events, NPACR is able to perform better than capital ratios in terms of accuracy, timeliness and the ability to be predictive. Timely and accurate reflection of bank financial conditions provides the basis for the predictive function of NPACR to reveal material changes in the economic value of a bank. These functions compensate for shortcomings of capital ratios as triggering events of structured early intervention for banks.

## **II. Mechanism of UK Triggering Events – Supervisory Assessment**

Supervisory assessment as triggering events refers to the determining function of banking regulators' judgement-based opinions in triggering early intervention, which means banking regulators' supervisory assessments on bank operation and financial condition determine the level of intervention and the corrective measures that follow. Compared with capital ratios as triggering events, supervisory assessment is more subjective, which could be more flexible and comprehensive than reflections of the bank's financial condition by using a completely objective perspective. UK Proactive Intervention Framework (PIF) is based on judgement-based supervisory assessment by the Prudential Regulation Authority (PRA), the prudential banking regulator, to trigger the following corrective measures and Special Banking Resolution Regime (SRR). Standards of supervisory assessment of the UK prudential banking regulator are the key factor to results of supervisory assessment.

452 Chernykh and Cole (n 31) 137

453 *ibid.* 141

This section is structured as follows. It first outlines specific focus and supervisory standards of structured early intervention for banks in the UK. Then this section discusses advantages and disadvantages of supervisory assessment as triggering events to determine bank performance and detect potential problems. Finally, this section specifically discusses whether UK PIF's supervisory assessment works in triggering events of structured early intervention for banks.

### **A. Details of UK Supervisory Assessment as Triggering Events**

Each set of supervisory assessment has its own standards which focus on and examine different aspects of bank performance. If standards of two sets of supervisory assessment have differences, banking regulators are likely to get different results on bank performance and therefore categorise the same banks into different groups. Standards of supervisory assessment on banks for banking regulation and those for structured early intervention with banks can be slightly different. In the context of UK banking regulation, standards of supervisory assessment focus on assessing risks of bank operations and financial conditions. Standards of supervisory assessment as triggering events of early intervention are similar to those of banking regulation.

#### **1. Functions**

In the context of banking regulation and supervision, supervisory assessment is one of the tools of banking regulators to conduct supervision of individual banks. It normally consists of assessing the asset quality, capital, liquidity, management and control of banks and is used to monitor the operations and the health of banks,<sup>454</sup> while supervisory assessment in the context of structured early intervention for banks is used to identify potential problems that may have a negative impact on banks' financial condition and operation. On the basis of judgement-based supervision, as is perceived as an active and intrusive approach,<sup>455</sup> UK supervisors change the focus of supervision

454 Rosa M. Lastra, 'Defining Forward-Looking and Judgement-Based Supervision' (2013) 14 *Journal of Banking Regulation* 221, 225

455 Julie Froud, Adriana Nilsson, Michaela Moranand, and Karel Williams, 'Stories and Interests in Finance: Agendas of Governance Before and After the Financial Crisis' (2013) 25 *Governance: An International Journal of Policy, Administration, and Institutions* 46

of banks to an increased level of regulation of banks by reducing dependence on rules.<sup>456</sup> This mechanism therefore requires banking regulators to have the capabilities to identify risks posed by supervised banks to their objectives and have the decisiveness to take actions against such banks.<sup>457</sup> In the context of UK structured early intervention for banks, based on the judgement of the prudential banking regulator, supervisory assessment examines risks involved in banks' business and their abilities to manage these risks, including 'external context, business risk, management and governance, risk management and control, capital and liquidity'.<sup>458</sup> The function of PIF supervisory assessment as triggering events focuses on examinations of banks' risks, which aims to identify and respond to emerging risks at early stages and to take respective actions in time.<sup>459</sup> Supervisory assessment as triggering events assesses risks of each individual bank at micro supervision level, because these standards tend to deal with risks incurred by individual institutions.<sup>460</sup> In this way, deterioration and accumulation of these risks can be identified and managed at early stages, thereby avoiding the fact that these risks continue to develop and negatively influence other banks and the whole system.<sup>461</sup>

## **2. How Does Supervisory Assessment Work as PIF Triggering Events?**

The way supervisory assessment works as triggering events is closely related to the structure of PIF and the way that PRA conducts normal banking regulation and supervision. PIF is structured to have five stages. Each stage represents the banks' different 'proximity to failure'<sup>462</sup>, meaning the likelihood of the banks to fail. In the five stages, stage one and stage five represent the two ends of the spectrum that indicates the level of intervention by the banking regulator, starting from normal banking regulation

456 Hector Sants, 'Speech on the Regulatory Reform' City Week Conference (7 February 2012) <[https://uk.practicallaw.thomsonreuters.com/7-517-8787?transitionType=Default&contextData=\(sc.Default\)&firstPage=true&bhcp=1](https://uk.practicallaw.thomsonreuters.com/7-517-8787?transitionType=Default&contextData=(sc.Default)&firstPage=true&bhcp=1)> last accessed 9 July 2019

457 *ibid.*

458 The Prudential Regulation Authority (n 2)

459 *ibid.*

460 Claudio Borio, 'Towards A Macroprudential Framework for Financial Supervision and Regulation?' BIS Working Papers No 128 (February 2003)

461 Rosa Lastra, 'Systemic Risk, SIFIs and Financial Stability' (2011) 6 *Capital Markets Law Journal* 197, 200

462 *ibid.*

to resolution of banks. In the intermediate stages from stage two to four, supervisory assessment as triggering events has a key role.

Concerning these three intermediate stages, the role of a prudential banking regulator is to identify potential risks from a moderate to an imminent level, based on PRA's judgement. Supervisory assessment as triggering events is the most relevant to banks, as the level of intervention directly related to 'proximity to failure' is determined by supervisory assessment.<sup>463</sup> Functions of judgement-based supervisory assessment of early identification and response to emerging risks are most obvious and important in the intermediate stages, while supervisory assessment is less important in the last stage.. Emerging risks have been materialised and caused negative impact on the operations and health of the banks; therefore, banks have been wound up and the SRR has been in process.

In terms of the relationship between supervisory assessment as triggering events of early intervention and supervisory assessment as a regulatory tool of banking regulation, supervisory assessment as triggering events is based on regular banking regulation. Supervisory assessment as triggering events shares the mechanism of supervisory assessment of banking regulation and supervision where both assess different aspects of bank business and financial condition. In particular, supervisory assessment as triggering events assesses and identifies risks that could potentially exist in these aspects.

Supervisory assessment as triggering events has a more focused approach in assessing risks associated with different aspects of bank operation and financial condition than banking regulation and supervision. Normal banking regulation and supervision conducted by PRA examines the following: potential risks to PRA's regulatory objectives, and aspects of the banks' business that are essential to the operations and health of those banks. Within regulation and supervision of potential risks to PRA's objectives, PRA examines further in details about the potential impact, external context and business risk of banks.<sup>464</sup> Within regulation and supervision of several aspects of the banks' business,

<sup>463</sup> Alan Davies, 'Bank Resolution in the UK: Creating a Culture of Early Intervention' (2014) 8 Law and Financial Market Review 352

<sup>464</sup> The Prudential Regulation Authority (n 2)

PRA focuses on safety and soundness of the banks by examining management and governance, risk management and controls, capital, liquidity and resolvability of the banks.<sup>465</sup> While in PIF, as the triggering events of early intervention, PRA supervisory assessment examines external context and business risk categorised in potential risks to PRA's objectives and examines management and governance, risk management and controls, capital and liquidity of safety and soundness of banks.<sup>466</sup> When PRA conducts PIF supervisory assessment to identify risks, the PRA does not consider potential impact and resolvability of banks.

Concerning supervisory assessment as triggering events of PIF, PRA identifies potential risks by assessing the abovementioned aspects of banks' business and then categorises banks into a particular proximity to failure with a different level of intervention. PRA's specific approach to assess and form a judgement on the banks' external context considers the system-wide risks, including interest rate, credit growth and sectoral risks and considers the external context that banks operate in together with views and actions of other banking regulators, such as Financial Policy Committee (FPC) and Financial Conduct Authority (FCA).<sup>467</sup> PRA's specific approach to form a judgement-based assessment of the business risk of banks consists of business model analysis, peer analysis and an assessment of PRA's ability to supervise banks' activities.<sup>468</sup> These are specific approaches of PRA in identifying risks of banks in PIF concerning potential risks to PRA's objectives.

In terms of identifying risks in the banks' business, PRA has different approaches to form its judgement on each aspect. Concerning management and governance, banks are required to comply with extensive laws and regulations. Not only rules enforced by PRA but also other areas of laws to be 'fit and proper' in managing their business and activities. PRA assesses culture and behaviour, competence, and structures of banks to form judgements on whether the banks have complied with rules, and satisfy 'prudent conduct', 'suitability' and 'effective supervision' threshold conditions.<sup>469</sup> Concerning risk

465 *ibid.*

466 *ibid.*

467 *ibid.* 30

468 *ibid.* 31

469 *ibid.* 34

management and controls, PRA assesses the banks' approaches to managing risks, their risk control framework and their risk control and management functions.<sup>470</sup> Concerning capital, PRA assesses whether banks have met the minimum capital requirement of the Capital Requirement Regulation and other relevant PRA rules.<sup>471</sup> Concerning liquidity, PRA assesses whether banks hold a sufficient level of liquidity and whether banks are resilient under liquidity stress.<sup>472</sup>

To summarise, PRA uses the same mechanism as normal banking regulation to form judgement-based supervisory opinions on assessment of individual banks on the mentioned aspects of the banks' business to categorise the banks in a particular PIF stage.<sup>473</sup> The PIF stage of 'proximity to failure' assigned to each individual bank is not publicly disclosed by the PRA, especially in times of stress and potential failure.<sup>474</sup> The PIF stage of individual banks is assessed at least once a year to examine if there have been material changes in potential risks to PRA's objectives and safety and soundness of the banks' business. Judgement-based supervisory assessment as triggering events provides a basis for a layered structure for corrective measures with different levels of intervention.

## **B. Analysis of Supervisory Assessment as Triggering Events**

In the case of structured early intervention for banks in the UK, PIF has been established to provide a framework with structured measures for the prudential banking regulators to identify emerging risks at early stages. The current PIF has made some progress in terms of identifying and dealing with emerging risks; however, PIF is not the perfect framework and it shares similar weaknesses with other supervisory assessments in detecting early signals of problems with bank operations and financial conditions. PIF has not been implemented and tested in real life bank crises. Therefore, analysis of supervisory assessment as triggering events is based not only on discussions of the

470 *ibid.* 39

471 *ibid.* 42

472 *ibid.* 47

473 *ibid.* 56

474 *ibid.*

supervisory assessment of PIF, but also on other types of supervisory assessment in predicting bank problems and failures such as the CAMELS rating system.

In terms of supervisory assessment as triggering events of structured early intervention for banks, the following are two main advantages. Supervisory assessment tends to have a full and comprehensive examination of several aspects of banks' business and health before categorising the banks into a regulatory category. Triggering events of UK structured early intervention for banks is an example of this. PIF supervisory assessment shares many similarities with normal banking regulation with only two aspects of banks' business left unexamined. Compared with capital ratios as triggering events, supervisory assessment examines not only capital adequacy but also several other aspects of the banks' business and management to have a more comprehensive understanding of current operations and financial situations of the banks. Moreover, supervisory assessment is more likely to detect potential problems and risks of banks before capital ratios indicate troubles because of the lagging feature of capital ratios discussed in the previous part of US triggering events. Because of the comprehensiveness of supervisory assessment, the accuracy of supervisory assessment as triggering events could be improved more than capital ratios; therefore, categorisation of banks could be more accurate based on the supervisory assessment.

Supervisory assessment as triggering events has another advantage. Supervisory assessment as triggering events could be constructive in assessing and determining the overall safety and soundness of banks' operations and health, thereby enabling banking regulators to gauge whether banks are likely to fail. Whether PIF supervisory assessment can work effectively and successfully remains to be seen because effectiveness of PIF supervisory assessment has not been tested in reality. Other types of supervisory assessment have been tested and proved to have advantages in determining safety and soundness of banks' business and operations, such as the CAMELS rating system, which can be regarded as a reference in discussing the function of PIF in determining the safety and soundness of banks.

The CAMELS rating system allows banking regulators to have a full and comprehensive examination of banks' operations and health by assessing the 'capital adequacy, asset quality, management, earnings, liquidity and sensitivity to market risks

of banks.<sup>475</sup> The CAMELS rating system is an internal regulatory assessment of banking regulators to identify potential problems of banks and to determine whether the banks are in need of additional supervisory actions.<sup>476</sup> CAMELS rating for individual banks is based on both qualitative and quantitative information of banks.<sup>477</sup> In terms of predicting a potential failure or crisis in banks, the CAMELS rating system has sustainably provided accurate and reliable predictions.<sup>478</sup> Based on empirical studies that tested the effectiveness of the CAMELS rating system in financial crises, in both the Savings and Loan crisis in the 1990s in the United States and the Global Financial Crisis of 2007-09, the CAMELS rating system as an early warning system has worked in determining safety and soundness or potential failures of banks.<sup>479</sup> In order to maintain the accuracy of the CAMELS rating, the result of CAMELS ratings assigned to individual banks can become out-dated if the banks have not been examined in two quarters, which means CAMELS' rating for individual banks is more accurate in less than two quarters' time at the time of the assessment of operations and health or potential failure of the banks.<sup>480</sup>

Considering advantages of supervisory assessment as triggering events, comprehensiveness of supervisory assessment as triggering events provides the basis for accurate reflections of banks' business and health compared with functions of capital ratios in structured early intervention for banks. However, there are problems and shortcomings of supervisory assessment as triggering events of structured early intervention.

475 Rebel A. Cole and Jeffery W. Gunther, 'Predicting Bank Failures: A Comparison of ON- and Off- Site Monitoring System' (1998) 13 *Journal of Financial Services Research* 103

476 Schiff Hardin, 'CAMELS Ratings: What They Mean and Why They Matter?' (2016) <<https://www.schiffhardin.com/insights/publications/2016/camels-ratings-what-they-mean-and-why-they-matter>> last accessed 26 August 2019

477 Parvesh Kumar Aspal and Sanjeev Dhawan, 'Camels Rating Model for Evaluating Financial Performance of Banking Sector: A Theoretical Perspective' (2016) 1 *International Journal of System Modelling and Simulation* 10

478 David G. Mayes and Hanno Stremmel. 'The Effectiveness of Capital Adequacy Measures in Predicting Bank Distress' (November 2012) <<https://www.rbnz.govt.nz/-/media/ReserveBank/Files/Publications/Seminars%20and%20workshops/dec2012/session3-mayes-162502.pdf?la=en>> last accessed 26 August 2019

479 Rebel A. Cole and Lawrence J. White, 'Déjà Vu All Over Again: The Causes of US Commercial Bank Failures This Time Around' (2012) 42 *Journal of Financial Services Research* 5

480 Rebel A. Cole and Jeffery W. Gunther, 'A CAMEL Rating's Shelf Life' (1995) *SSRN Electronic Journal* <[https://www.researchgate.net/publication/46445047\\_A\\_CAMEL\\_rating's\\_shelf\\_life](https://www.researchgate.net/publication/46445047_A_CAMEL_rating's_shelf_life)> last accessed 26 August 2019

One shortcoming of supervisory assessment as triggering events is related to the question whether supervisory assessment predicts future trouble and risks of banks. Supervisory assessment tends to provide a full and comprehensive assessment of banks' operations and health as a reference point at the time of the assessment or within a certain timeframe and the result of the supervisory assessment of the banks may not be regarded as predictive because the assessment is normally based on previous data and information of banks.<sup>481</sup> Supervisory assessment plays a more important role in indicating the current operations and health of banks than in predicting potential problems and failures of the banks. For example, if a bank has already been in financial trouble or under stress, supervisory assessment can be very functional in assessing the overall operations and health and the results of the supervisory assessment can be accurate in terms of the bank's distressed situation. Moreover, the accuracy of the results of supervisory assessment may not last for a long time. Whatever the type of supervisory assessment is, the assessment is more likely to be based on the current information and situation of the bank. However, financial situations and operations of banks can change quickly, especially for troubled banks whose financial situations can deteriorate very fast. As a result, the result of supervisory assessments of banks can gradually become inaccurate beyond certain timeframes. Both the CAMELS rating system and the PIF supervisory assessment are not conducted on a regular basis within a short period. The PIF supervisory assessment is normally conducted on a yearly basis. A CAMELS rating of banks is given during on-site examination of banking regulators, and based on the FDICIA on-site examination this is conducted every 12-18 months.<sup>482</sup> The results of the assessment become more inaccurate when approaching the next year's assessment. In other words, supervisory assessment can indicate the true financial situation and health of banks at the time of the assessment while supervisory assessment as triggering events may not be effective in reflecting changes in financial situations and the health of banks.

481 Ranjana Sahajwala and Paul Van den Bergh, 'Supervisory Risk Assessment and Early Warning Systems' (2000) Basel Committee on Banking Regulation Working Papers No. 4 <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.201.5555&rep=rep1&type=pdf>> last accessed 26 August 2019

482 12 U.S.C. § 1820(d)

More specifically, supervisory assessment may not be as effective as other types of triggering events concerning predicting whether banks are failing or are likely to fail.

Another shortcoming of supervisory assessments as triggering events is the infrequency and high cost of the assessments. The infrequency and higher cost are more evident shortcomings when compared with other types of triggering events such as capital ratios and prediction models that are used in off-site examinations. Supervisory assessment is normally conducted on a yearly basis rather than in a more regular way while results of capital ratios and other prediction models of off-site examination can be updated more frequently to indicate potential problems in current operations and health of banks.<sup>483</sup> Because of the accuracy and comprehensiveness of the results of supervisory assessments, the process of the supervisory assessments tends to be more time consuming and effort intensive, which requires banking regulators to invest in more resources to conduct an assessment. The feature of time-consumption and effort intensiveness of supervisory assessments contributes to the relatively long intervals between two assessments. The comparison between supervisory assessments and other types of triggering events, including capital ratios and predictions models, reveals the difference between supervisory assessments. The advantages of capital ratios and prediction models of more frequent and less costly updates of the banks' financial situation and health demonstrate some shortcomings of supervisory assessment as triggering events.

To summarise, in terms of supervisory assessment as triggering events of structured early intervention for banks, it has two main advantages: full and comprehensive assessments of the banks' operations and health; and accuracy in reflecting the actual financial situations and business operations of banks. Concerning disadvantages, supervisory assessment is ineffective in reflecting changes in banks and unable to provide timely updates of banks' financial situations. Moreover, supervisory assessment is not likely to repeat in short intervals because the features of the supervisory assessment are resource intensive and time-consuming.

483 Philip Swicegood and Jeffrey A. Clark, 'Bank Underperformance: A Comparison of Neural Networks, Discriminant Analysis and Professional Human Judgement' (2001) 10 *International Journal of Intelligent Systems in Accounting, Finance and Management* 169

### **C. Does the Judgement-Based Supervisory Assessment of PIF Triggering Events Work in the UK context?**

Whether judgement-based supervisory assessment as PIF triggering events works can be explored in the following two perspectives. One perspective is whether supervisory assessment has any advantages and disadvantages in relation to identifying bank problems at early stages. Another perspective is whether triggering events can be based solely on the banking regulators' discretion. The first perspective, on the basis of the abovementioned analysis, provides that the PIF judgement-based supervisory assessment has the features of comprehensiveness and accuracy of a bank's operation and financial condition as well as untimeliness in reflecting changes within a bank between two assessments. That is to say PIF supervisory assessment shares the same features with other types of supervisory assessment where they provide comprehensive information by taking a longer time, which is not timely enough compared with other types of triggering events. Because structured early intervention for banks needs to be able to detect changes in a bank's operations and health and reflect those changes in a timely and accurate way, supervisory assessment may not be able to provide timely signals of bank financial conditions for banking regulators to act pre-emptively.

From the perspective of rules and discretion, the question is where the line between rules and discretion in triggering structured early intervention for banks should be drawn. In the context of banking regulation and supervision, the emphasis is placed on either rules or discretion at different stages of regulation and supervision. The entry to the banking business is the first stage where licensing, authorising and chartering are based on rules, the supervision stage including crisis management is based on a mixture of rules and discretion-based supervision, and the sanctioning stage where penalties for the institution or persons are imposed is based on rules.<sup>484</sup> In terms of early intervention and supervision of banks, triggering events and corrective measures should be based on both rules and discretion.

484 Lastra (n 473)

In the context of early intervention, rules are necessary to guarantee that regulation and supervision are properly enforced.<sup>485</sup> Without rules, banking regulators take corrective measures or enforce strict actions on the basis of discretion. With sole discretion on this, human judgement has limits and is likely to cause biases and overconfidence in dealing with banks' stressed situations.<sup>486</sup> This shows the importance of rules in dealing with stressed banks. The financial regulation is not what is most needed right after a crisis when banks are more aware of risks and their impact.<sup>487</sup> This is the case with structured early intervention for banks in the context of financial regulation. The right time of early intervention is when risks start to grow and are about to materialise in the financial sector, and normally at this point business and operations of the banks still seem to be stable. Under these circumstances, banking regulators tend to rely more on their discretion and may not be likely to take strict actions to deal with risks when the economy is booming.<sup>488</sup> Most banking regulators are likely to be afraid to take timely corrective measures and actions to deal with the risks when asset prices of banks are rising. However, based on rules, banking regulators are more likely to initiate early intervention and take actual corrective actions. Pre-set rules act as a way to reduce excessive discretion of bank regulators and to some extent curb regulatory forbearance. The function of rules in early intervention and supervision of banks enables banking regulators to take more timely actions when certain aspects of banks' operations encounter problems even if the overall health and business of the banks are stable.

Discretion of banking regulators also plays an important role in the early intervention and supervision of banks. As discussed in the shortcomings of capital ratios as triggering events, supervisory assessments based on banking regulators' discretion tend to have a full assessment of banks and reveal problems and risks involved in banks' business before capital ratios indicate them. In other words, in practice, supervisory

485 Markus Brunnermeier, Andrew Crocket, Charles Goodhart, Martin Hellwig, Avinash D. Persaud, and Hyun Shin, 'The Fundamental Principles of Financial Regulation' Preliminary Conference Draft (6 January 2009) Geneva Report on the World Economy 11 <[https://web.actuaries.ie/sites/default/files/erm-resources/The\\_fundamental\\_principles\\_of\\_financial\\_regulation.pdf](https://web.actuaries.ie/sites/default/files/erm-resources/The_fundamental_principles_of_financial_regulation.pdf)> last accessed 26 August 2018

486 Geoffrey Miller and Gerald Rosenfeld, 'Intellectual Hazard: How Conceptual Biases in Complex Organisations Contributed to the Crisis of 2008' (2009) NYU Law and Economics Research Paper No. 09-43

487 Andrew Baker, 'Restraining Regulatory Capture? Anglo-America, Crisis Political and Trajectories of Change in Global Financial Governance' (2010) 86 *International Affairs* 647

488 Miller and Rosenfeld (n 505)

assessment contributes more to comprehensive identifications of problems of banks and applications of measures to deal with the problems.<sup>489</sup> Discretion of banking regulators in initiations of early intervention and supervision of banks can be more effective in some sense because supervisory assessments are normally confidential which causes little negative effect on the public confidence.<sup>490</sup> Compared with initiations of corrective measures by capital ratios and the rule-based formal early intervention system, disclosure of information to the public may have an adverse effect on maintaining financial stability. Moreover, banking regulators' discretion allows the regulators to deal with problems and issues of distressed banks on a case-by-case basis and to use more tailored and appropriate measures to deal with particular issues of the banks.<sup>491</sup> If one particular case is exceptional, prudential regulators have the chance to discuss or pass up this case to macro-prudential regulators if necessary, from the perspective of organisational economics.<sup>492</sup> This provides flexibility and information-sharing between micro and macro prudential banking regulators.

In the context of early intervention and supervision of banks, rules and discretion are both needed. Supervisory assessment based on discretion should be used to examine operations and health of banks, to identify weaknesses of the banks before bank stress and problems reflected by objective ratios, and to address the weaknesses and problems.<sup>493</sup> Rule-based triggering events could be used as complimentary triggers of judgement-based supervisory assessment to deal with excessive discretion and regulatory forbearance in early intervention of banks.<sup>494</sup>

In the UK context, supervisory assessment as triggering events within PIF is based more on banking regulators' discretion than rules such as pre-set capital ratios, which means banking regulators have discretion in determining the stages of the banks and whether to take gentle or intrusive measures to deal with them. Banking regulators' discretion under PIF supervisory assessment can be seen from the following two aspects.

489 Restoy (n 36)

490 *ibid.*

491 *ibid.*

492 Luis Garicano and Rosa Lastra, 'Towards a New Architecture for Financial Stability: Seven Principles' (2010) 13 *Journal of International Economic Law* 597, 608

493 Restoy (n 36)

494 *ibid.*

One aspect is discretion in determining the stages of the banks and another aspect is discretion in determining specific corrective measures as there have been limited rules specifying what stages and respective measures should be taken.<sup>495</sup> The relationship between rules and discretion seems to be unbalanced. PIF supervisory assessment emphasises more on discretion, which could cause uncertainty for banks. Based on rule-based regulation, regulatory agencies have to comply with rules in dealing with each individual case, which is likely to improve the efficiency of banking regulators, as they can deal with the same issue once by using the same rules and it is also likely to improve accountability as firms can predict and plan ahead with their business.<sup>496</sup> With a high level of discretion by PRA in PIF supervisory assessments, current provisions of PIF are unclear and likely to negatively influence accountability and predictability of regulatory decisions and corrective measures from the perspective of banks, especially in relation to corrective measures by discretion of PRA. For example, in stage two and four of PIF, 'the intensity of supervision will increase' and 'PRA will most likely increase the scale of recovery measures needed' respectively.<sup>497</sup> In both stages, there have not been additional explanations as to how PRA will improve the level of intervention, which reflects a high level of discretion of PRA with limited rules. Banks can be more likely to cast doubt on accountability and predictability of PRA measures. Given the level of discretion, the key to PRA supervisory assessment's success to trigger early intervention is the ability of PRA to really take actions and make decisions to assess banks and intervene in banks' operations in the economy's boom. This way, the demonstration of the GFS on 'how damaging a laissez-faire mind-set on the part of regulators can be to any form of regulation, including principles-based regulation'<sup>498</sup> can be avoided. Otherwise, the tendency for a market-based, hands-off style of regulation would remerge.<sup>499</sup>

To summarise, from both perspectives PIF supervisory assessment as triggering events could work in the aspect of providing comprehensive and accurate information of

495 Davies (n 482) 355

496 Mark Seidenfeld, 'Bending the Rules: Flexible Regulation and Constraints on Agency Discretion' (1999) 51 *Administrative Law Review* 429

497 The Prudential Regulation Authority (n 2)

498 Cristie Ford, 'Principles-Based Securities Regulation in the Wake of the Global Financial Crisis' (2010) 55 *McGill Law Journal* 1

499 Cristie Ford, 'New Governance in the Teeth of Human Frailty: Lessons from Financial Regulation' (2012) 2 *Wisconsin Law Review* 441

bank financial condition while timeliness and accountability of sole discretion-based supervisory assessment could cause a problem in detecting and predicting potential bank problems. Incorporating rule-based triggering events when assessing banks can be a potential way to improve the overall performance of supervisory assessment and increase the timeliness in identifying early problems. UK PIF is structured on the basis of the mechanism of banking regulation, which can be regarded as an integral part of regular banking regulation. This means that triggering events of PIF have no fundamental differences compared with the requirements of banking regulation to assess banks' safety and soundness, except for a focus on risks. As a result, PIF triggering events lacks a sense of timeliness and no other ways can compensate this shortcoming in this aspect. The incorporation of a supplementary rule-based triggering event into PIF supervisory assessment could be a way to reflect financial situations and operations of the banks in a timelier way. As a result, in terms of a timely response to changes in financial situations and operations of the banks, PIF triggering events may identify problems and react to changes at earlier stages and compensate the current problem to improve the overall performance of PIF triggering events.

### **III. Mechanism of Chinese Triggering Events – A Combined Method**

Combined triggering events refer to the method where both capital ratio and supervisory assessment are standards for a banking regulator to assess and determine bank financial condition and categorise banks into relevant groups on the basis of results of the dual standards. This means that banking regulators consider bank capital ratio and their examinations on the operation and performance of the bank as standards to assess the bank's financial condition before taking actual corrective actions with those banks. Combined triggering events share advantages and disadvantages with capital ratios as triggering events and supervisory assessment as triggering events. The Chinese combined triggering events are the way they are because two pieces of currently-effective legislation have rules on dealing with troubled banks with different mechanisms than a carefully chosen design of combined triggering events. In the context of Chinese banking regulation, with combined triggering events, capital ratios have an important role in determining the financial condition of a bank. Not only do capital ratios influence results

of supervisory assessment but they also have a direct impact on determining the bank category and respective corrective measures.

This section is structured as follows. It first discusses details of Chinese combined triggering events and how they work to assess the banks' financial condition as well as determining the category of each bank. Then this section discusses whether Chinese combined triggering events of structured early intervention for banks works in identifying and dealing with troubled banks.

### **A. Detail of the Chinese Combined Triggering Events**

In the context of combined triggering events, banking regulators have to consider the results of supervisory assessment and capital ratios before taking the next steps. Concerning standards of supervisory assessment, Chinese supervisory assessment is structured on the basis of the CAMELS rating system with modifications. The supervisory assessment includes assessments of capital adequacy, asset quality, management, earnings, liquidity, sensitivity to market risk and information and technology risk, and each aspect contributes 15%, 15%, 20%, 10%, 20%, 10%, 10% respectively to the final results of the banks.<sup>500</sup> The mechanism of the Chinese supervisory assessment is a yearly assessment of the abovementioned aspects of banks by CBIRC, the prudential banking regulator, on the basis of information collected from on-site and off-site examinations, special reports from authority of conduct regulation, internal and external audit reports, public disclosure information, annual operation plans, other regulatory information, and the results of banks from domestic and international rating authorities.<sup>501</sup> The results of the yearly supervisory assessment are confidential to banks.<sup>502</sup>

The China Banking and Insurance Regulatory Commission (CBIRC) then categorises the banks into six groups in accordance with their final results.<sup>503</sup> The first category of banks has scored over 90% in the annual supervisory assessment; the second category of banks has scored from 75% to 90% in the annual supervisory

500 Notice of the China Banking Regulatory Commission on Issuing the Internal Guidelines for the Regulatory Rating of Commercial Banks, s6

501 *ibid.*, s8

502 *ibid.*, s12 and s14

503 *ibid.*, s15

assessment; the third category of banks has scored from 60% to 75% in the annual supervisory assessment; the fourth category of banks has scored from 45% to 60% in the annual supervisory assessment;; the fifth category of banks has scored from 30% to 45% in the annual supervisory assessment;; the sixth category of banks has scored below 30% in the annual supervisory assessment <sup>504</sup> Concerning banks in the first two categories, the prudential banking regulator regards the overall operations and health of the banks as satisfying and prudent, and no additional corrective regulatory measures are needed. <sup>505</sup> Concerning banks in the third category, financial condition and overall operation of the banks are less satisfying, and minor corrective measures will be imposed. <sup>506</sup> These measures include increased frequency of on-site and off-site examinations, increased level of supervision of internal and risk management, and restrictions on certain activities concerning entry to the market. <sup>507</sup> Concerning banks in the fourth and fifth categories, the banks are considered to be troubled banks, and in these two categories the level of intervention will intensify, which means corrective measures will be imposed on every aspect of the banks' business to improve overall operations and performance. <sup>508</sup> Concerning banks in the sixth category, the regulator will focus on resolution of the banks and the process of exiting the market. <sup>509</sup>

<b>Bank Category</b>	<b>Supervisory Assessment Result</b>	<b>The Level of Intervention</b>
Category One	≥ 90%	No Additional Corrective Measures
Category Two	75% - 90%	No Additional Corrective Measures
Category Three	60% - 75%	Minor Corrective Measures
Category Four	45% - 60%	Intense Corrective Measures
Category Five	30% - 45%	Intense Corrective Measures
Category Six	≤ 30%	Resolution

Table 5 Chinese Triggering Events – Capital Ratios

504 *ibid.*, Appendix 2

505 *ibid.*, s 16 (3)

506 *ibid.*

507 *ibid.*

508 *ibid.*

509 *ibid.*

Concerning standards of capital ratios as triggering events, depending on the actual capital level of individual banks, with failure to satisfy requirements of capital regulation, banks are subject to different levels of early intervention. The Chinese capital regulation for banks includes the following four aspects: the minimum capital requirements; reserve capital and countercyclical capital requirements; additional capital requirements for systemically important banks; and higher capital requirements designed for particular banks (second pillar requirement).<sup>510</sup> The minimum capital requirements are further defined as follows: the minimum requirement for tier 1 core capital adequacy is 5%; the minimum requirement for tier 1 capital adequacy is 6%; the minimum requirement for capital adequacy is 8%.<sup>511</sup> Higher capital requirements refer to a higher capital ratio assigned by the prudential banking regulator to a specific bank.<sup>512</sup>

According to the Administrative Measures for the Capital of Commercial Banks (for Trial Implementation), banks are classified into four categories depending on the level of capital adequacy.<sup>513</sup> The first category includes banks that comply with all requirements of capital regulation.<sup>514</sup> The second category includes banks that satisfy the first three types of capital requirements and fail to comply with higher capital requirements.<sup>515</sup> The third category includes banks that satisfy the minimum capital requirements and fail to meet the other three types of capital requirements.<sup>516</sup> The fourth category includes banks that fail to meet all requirements of capital regulation.<sup>517</sup> The prudential banking regulator, currently CBIRC, is allowed to take preventive measures for banks in the first category, and corrective measures for banks in the latter three categories. The determining factor is the level of capital adequacy of banks reflected by capital ratios.

In terms of time intervals between two capital adequacy assessments, banks are required to report their unconsolidated and consolidated capital ratios to the prudential

510 Administrative Measures for the Capital of Commercial Banks (for Trial Implementation), s 22

511 *ibid.*, s 153

512 *ibid.*, s 149

513 *ibid.*, s 153

514 *ibid.*

515 *ibid.*

516 *ibid.*

517 *ibid.*

regulator, which the unconsolidated capital ratio is required to report on a quarterly basis and the consolidated capital ratio is required to report on a half-yearly basis.<sup>518</sup>

<b>Bank Category</b>	<b>Capital Standards</b>		<b>Bank Condition</b>
Category One	Minimum Capital Requirements	Tier 1 Core Capital Ratio $\geq$ 5%	Satisfied
		Tier 1 Capital Ratio $\geq$ 6%	Satisfied
		Capital Adequacy Ratio $\geq$ 8%	Satisfied
	Reserve Capital and Countercyclical Capital Requirements		Satisfied
	Additional Capital Requirements for Systemically Important Banks		Satisfied
	Second Pillar Capital Requirement		Satisfied
Category Two	Minimum Capital Requirements	Tier 1 Core Capital Ratio $\geq$ 5%	Satisfied
		Tier 1 Capital Ratio $\geq$ 6%	Satisfied
		Capital Adequacy Ratio $\geq$ 8%	Satisfied
	Reserve Capital and Countercyclical Capital Requirements		Satisfied
	Additional Capital Requirements for Systemically Important Banks		Satisfied
	Second Pillar Capital Requirement		Not Satisfied
Category Three	Minimum Capital Requirements	Tier 1 Core Capital Ratio $\geq$ 5%	Satisfied
		Tier 1 Capital Ratio $\geq$ 6%	Satisfied
		Capital Adequacy Ratio $\geq$ 8%	Satisfied
	Reserve Capital and Countercyclical Capital Requirements		Not Satisfied
	Additional Capital Requirements for Systemically Important Banks		Not Satisfied
	Second Pillar Capital Requirement		Not Satisfied
Category Four	Minimum Capital Requirements	Tier 1 Core Capital Ratio $\geq$ 5%	Not Satisfied
		Tier 1 Capital Ratio $\geq$ 6%	Not Satisfied

518 *ibid.*, s 148

		Capital Adequacy Ratio ≥ 8%	Not Satisfied
		Reserve Capital and Countercyclical Capital Requirements	Not Satisfied
		Additional Capital Requirements for Systemically Important Banks	Not Satisfied
		Second Pillar Capital Requirement	Not Satisfied

Table 6 Chinese Triggering Events - Supervisory Assessment

The implication for banks in relation to combined triggering events is that banks have to comply with both standards and failure to comply with either of these two standards can lead to an increased level of intervention. Capital ratios have an essential role in triggering early intervention because the level of capital adequacy contributes to the final results of the supervisory assessment and failure to meet the capital ratio requirements on their own can lead to increased levels of intervention.

### **B. Analysis of Chinese Combined Triggering Events - Does It Work?**

Instead of one set of standards, either capital ratios or supervisory assessment as triggering events, combined triggering events provide Chinese banking regulators with two sets of standards. Failure of a bank to comply with either one of the standards triggers early intervention. Combined triggering events share advantages and disadvantages of capital ratios and supervisory assessment to some extent. In the context of Chinese banking regulation, the combined triggering events may not work effectively even if dual standards seem stricter to banks than single standards.

First, the combined triggering events, though they have advantages of both capital ratios and supervisory assessment, are not necessarily equal to a set of timely, accurate and predictive indicators of banks' financial condition. On the basis of advantages of capital ratios and supervisory assessment, combined triggering events can provide benchmarks to categorise banks and to some extent limit regulators' forbearance whilst providing a full and comprehensive assessment of banks' financial condition as well as accurate reflections of the banks' performance. However, these advantages of capital ratios and supervisory assessment do not complement each other well. This means that even if combined triggering events has more advantages than single standards it still

cannot be predictive in assessing banks' future risks and potential problems with a bank's financial condition. Both supervisory assessment and capital ratios are not predictive enough to detect changes in a bank's financial condition. From the perspective of a set of predictive triggering events, combined triggering events are not better than capital ratios or supervisory assessment as triggering events. Based on this, with combined triggering events, an increased level of intervention by banking regulators may happen in similar ways compared with US and UK situations. This means that delays in taking corrective measures are likely to be the consequence.

Second, because of legal hierarchy of several pieces of legislation on triggering events, the actual application of combined triggering events may lead to inconsistency of rules that are imposed on each individual bank. In relation to the legal hierarchy, three key pieces of legislation govern triggering events of early intervention in China. Banking Supervision Law of the PRC, with the highest authority among the three, provides a general provision in triggering early intervention and applying corrective measures, stating that violations of prudential regulation rules and endangering legitimate rights and interests of deposits and creditors are triggering events of an increased level of intervention.<sup>519</sup> Then Administrative Measures for the Capital of Commercial Banks (for Trial Implementation)<sup>520</sup>, ranking the second in terms of its authority, provides the legal basis for capital ratios as triggering events. Finally, Notice of the China Banking Regulatory Commission on Issuing the Internal Guidelines for the Regulatory Rating of Commercial Banks<sup>521</sup> is at the third place of authority and provides the legal basis for supervisory assessments as triggering events of early intervention for banks. Banking Supervision Law of the PRC, as a national law, provides a general guidance as to how to trigger early intervention for banks and can be difficult to apply in reality.<sup>522</sup> An accurate interpretation of triggering events of this national law as to how early intervention is triggered can be difficult to achieve because of the vagueness of the rules. The former prudential banking regulator, CBRC, designed the rules that are the basis for both capital

519 The Banking Supervision Law of the PRC, s 37

520 Administrative Measures for the Capital of Commercial Banks (for Trial Implementation)

521 Notice of the China Banking Regulatory Commission on Issuing the Internal Guidelines for the Regulatory Rating of Commercial Banks

522 Yibo Chao, 'On the Legal Issues of Early Intervention of Problem Banks' (Master Thesis, North China University of Technology May 2018)

ratios and supervisory assessment, even though these two sets of rules come with differences in legal hierarchy. The main difference between these two rules is that the rule for capital ratios in the second place are compulsory legal requirements for banks while the rule for supervisory assessment in the third place are actual rules for banking regulators instead of any obligations for banks and impose no obligations on banks.<sup>523</sup> The conflicts of these two rules occur because from the perspective of banking regulators, they need to assess banks in both ways of capital ratios and supervisory assessment which may lead to inconsistency in applying corrective measures.<sup>524</sup> Because capital ratios and supervisory assessment as triggering events have different conditions and requirements to assess banks, the inconsistency of the application of rules can be hard to avoid. For example, banks with the same categories based on capital ratios as triggering events and supervisory assessment as triggering events may be subject to different corrective actions and because the frequency of the two types of triggering events is different. This situation causes inconsistency as one bank may be subject to corrective measures of capital ratios as triggering events first and the other bank with the same situation may be subject to corrective measures of supervisory assessment as triggering events first. Similarly, a corrective measure that is included in the consequential corrective measures of both capital ratios and supervisory assessment as triggering events may be triggered by different conditions of banks.

Third, both capital ratios and supervisory assessment can trigger an increased level of intervention and therefore could cause overlaps in achieving the same results. Because both capital ratios and supervisory assessment can provide indicators of a bank's financial condition, either one of the mechanisms can trigger the resulting corrective measures. The combined triggering events in China, however, are likely to cause confusion in triggering early intervention with banks, which may contribute to ineffectiveness. The triggering events of structured early intervention should be a set of standards to identify problems of banks at early stages, which provides clear indicators of banks' financial situations and risks for banking regulators to respond to risks and

<sup>523</sup> Legislation Law of the PRC, s 80

<sup>524</sup> Jianjun Feng, 'Rethink of the 'Early Intervention' as Dispose Measures of Problem Commercial Bank: Based on the Conflict between Public Power and Private Right' (2018) 4 Law and Economy 44,59

distressed banks.<sup>525</sup> Based on the current Chinese rules, no explanations as to how these two sets of standards as triggering events complement each other in practice have been provided to banking regulators. As a result, a troubled bank may have the same corrective measures twice because both triggering events can cause the same or similar measures to be taken with the bank.

To summarise, the Chinese combined triggering events consist of both capital ratios and supervisory assessment as triggering events and have a different design of rules and standards for banking regulators to follow. However, because of the need for predictive indicators, the combined triggering events may provide reflections of banks' potential financial condition. The inconsistency of application of rules and overlaps in the triggering mechanisms could both contribute to ineffectiveness of the combined triggering events in China.

#### **IV. Comparisons of the US, UK and Chinese Triggering Events**

On the basis of US, UK and Chinese mechanisms of triggering events, capital ratios and supervisory assessment are two main indicators of a bank's financial condition for banking regulators to decide whether following corrective measures and increased level of supervision are necessary. Mechanisms of triggering events not only show differences of how structured early intervention is triggered in the United States, the United Kingdom and China but also reveal differences in considerations of functions of structured early intervention for banks and functions of rules and discretion in banking regulation. In addition to these differences, as triggering events, US, UK and Chinese mechanisms share some similarities. These similarities are also features of other types of triggering events.

This section first discusses common types of triggering events for early identification of changes in a bank's financial condition. Second, this section focuses on similarities of US, UK and Chinese triggering events and the common features of these triggering events. Third, this section explores why US, UK and Chinese triggering events are different. Then, this section focuses on discussing one difference of triggering events

<sup>525</sup> Basel Committee on Banking Regulation, 'Supervisory Guidance on Dealing with Weak Banks' (March 2002) <<https://www.bis.org/publ/bcbs88.pdf>> last accessed 26 August 2019

in the three countries, which is the function of structured early intervention for banks in the regulatory framework. Finally, this section focuses on another difference which is consideration for rules and discretion in structured early intervention for banks.

### **A. Common Types of Triggering Events of Early Intervention for Banks**

Capital ratios and supervisory assessment are main types of triggering events on the basis of US, UK and Chinese triggering events for structured early intervention for banks. From a systematic perspective, triggering events to achieve early identification of changes in a bank's financial condition include statistical models, supervisory bank rating systems, comprehensive bank risk assessment systems and financial ratios and peer group analysis systems.<sup>526</sup> These triggering events for early intervention for banks share similarities. These four types of triggering events systems provide a whole picture of how changes in a bank's financial condition can be identified at the early stages.

On the basis of data and quantitative methods, statistical models are mechanisms that are used to analyse a bank's financial condition and risks and therefore predict potential bank failures or crises in advance. These mechanisms are also known as early warning systems.<sup>527</sup> Based on financial variables, statistical models or early warning systems are timely indicators that depend on the use of data from different aspects of bank business, such as liquidity, asset quality and non-performing assets and the use of quantitative methods to assess these aspects of banking to estimate and predict potential bank risks.<sup>528</sup> A conceptual early warning system can be structured in a three-step sequential approach: 1) pre-modelling to identify aims and objectives; 2) modelling to evaluate and estimate; and 3) post modelling to determine the appropriate outputs and communicate relevant results.<sup>529</sup> The early warning system works as an indicator because bank crises to some extent share some similar patterns with the data during the period before the crises actually happened in the United States, the United Kingdom and some

<sup>526</sup> Sahajwala and Van den Bergh (n 500)

<sup>527</sup> Hali J Edison, 'Do Indicators of Financial Crises Work? An Evaluation of an Early Warning System' (2003) 8 International Journal of Finance and Economics 11

<sup>528</sup> Sahajwala and Van den Bergh (n 500)

<sup>529</sup> Jan Hannes Lang, Tuomas Peltonen and Peter Sarlin, 'A Framework for Early-Warning Modeling with an Application to Banks' (2018) ECB Working Paper Series No.2182, 6

other countries in 2007.<sup>530</sup> These statistical models normally cannot reveal weakness supported by firm evidence but rather provide direction to the weaknesses that may need further investigation by banking regulators.<sup>531</sup> The function of statistical models can be complemented by macro-prudential regulation and supervision of the banking sector. Macro-prudential regulation and supervision monitors potential risks and problems for the whole banking system.<sup>532</sup> Risks and problems of the banking sector as a whole, identified through macro-prudential regulation, may have an impact on individual banks, and therefore could provide highlights and indicators for banking regulators on problems and risks of individual banks for a closer look.<sup>533</sup> Statistical models, together with indicators from macro-prudential banking regulation and supervision, could work to identify problems with individual banks and assess potential risks of them.

Supervisory bank rating systems are designed to assess performance and financial conditions of banks on the basis of both on-site and off-site examinations. The CAMEL rating system is an example of the on-site examination of a supervisory bank rating system, which includes assessment of Capital, Asset quality, Management, Earnings and Liquidity of banks. It was designed by the US banking regulators and then widely used as a tool for banking regulators around the world to assess the safety and soundness of banks.<sup>534</sup> The CAMEL system has since been developed to become the CAMELS rating system with an additional component of Sensitivity to risks.<sup>535</sup> The CAMELS rating is based on ratings of the six components and supervisors have discretion to weigh the ratings of the six components against the final CAMELS rating of

530 Carmen Reinhart and Kenneth Rogoff, 'Is the 2007 US Sub-Prime Financial Crisis So Different? An International Historical Comparison' (2008) 98 *American Economic Review* 339

531 Basel Committee on Banking Regulation, 'Supervisory Guidelines for Identifying and Dealing with Weak Banks Consultative Document' (19 September 2014) <<https://www.bis.org/publ/bcbs285.pdf>> last accessed 26 August 2019

532 Basel Committee on Banking Regulation, 'Frameworks for Early Supervisory Intervention' (March 2018) <<http://www.asbasupervision.com/en/bibl/recommended-reading/1672-frameworks-for-early-supervisory-intervention/file>> last accessed 26 August 2018

533 *ibid.*

534 Angela Roman and Alina Camelia Sargu, 'Analysing the Financial Soundness of Commercial Banks in Romania: An Approach Based on CAMELS Framework' (2013) 6 *Procedia Economics and Finance* 703

535 Dominic Gasbarro, I Gde Made Sadguna, J. Kenton Zumwalt, 'The Changing Relationship Between CAMEL Ratings and Bank Soundness during the Indonesian Banking Crisis' (2002) 19 *Review of Quantitative Finance and Accounting* 247

the banks, which further determines the level of supervision of the banks.<sup>536</sup> The supervisory bank rating system has been a supervisory tool to assess the current performance and financial situations of banks at the time of the examination without a predictive feature and accuracy of the rating tends to decline after a certain period of time.<sup>537</sup> Supervisory bank rating systems have been adopted in French banking regulation to work as off-site examinations and specifically within the Organisation and Reinforcement of Preventative Actions which is a multi-analysis supervisory system for the assessment of banks.<sup>538</sup>

Comprehensive bank risk assessment systems concentrate on comprehensive assessment of risks for banks from business risks to internal controls on the basis of different standards and criteria, to form a detailed risk portfolio of individual banks.<sup>539</sup> The current UK supervisory assessment is one of the comprehensive bank risk assessments, which not only focuses on current risks but also on future risks of its regulated banks within PRA's risk framework.<sup>540</sup> The PRA's risk framework specifically assesses the potential impact of a bank's business risks and its failure on financial stability, the external context in which a bank operates and its impact on the viability of the bank, and mitigating factors of the bank including operational, financial and structural mitigation.<sup>541</sup>

Financial ratios and peer group analysis systems are based on a set of consistent financial variables as indicating ratios to determine whether performance and financial situations of the banks have met regulatory standards.<sup>542</sup> Financial ratios refer to the mechanism that certain increased or decreased levels of regulatory intervention will be followed if the regulatory ratio of a bank falls below or exceeds predetermined levels and causes the bank to be categorised into certain groups.<sup>543</sup> Peer group analysis assesses a bank's performance on the basis of financial ratios in comparison with other banks of

536 Alejandro Gaytam and Christian A. Johnson, 'A Review of the Literature on Early Warning Systems for Banking Crises' (2002) Central Bank of Chile Working Papers N0.183 23 <<http://si2.bcentral.cl/public/pdf/documentos-trabajo/pdf/dtbc183.pdf> > last accessed 26 August 2019

537 *ibid.*

538 Abdul Awwal Sarker, 'CAMEL Rating System in the Context of Islamic Banking: A Proposed 'S' for Shariah Framework' (2005) 1 *Journal of Islamic Economics and Finance* 78

539 Sahajwala and Van den Bergh (n 500)

540 PRA (n 2) 24

541 *ibid.*

542 Sahajwala and Van den Bergh (n 500)

543 *ibid.*

similar sizes and with similar business, or in a group of banks.<sup>544</sup> Capital ratio is one of the financial ratios used by banking regulators; others include ratios that reflect asset quality and liquidity.<sup>545</sup> Dependence on a single financial ratio may not be effective as only one aspect of the bank's performance and business has been considered especially with banks of a large and complex nature and their operations. Financial ratios can be used to assess each individual bank or they can be used in a peer review scenario to assess individual banks' performance with a group of other banks.

PCA triggering events in the US are closely related to financial ratios and peer group analysis systems with the focus on using capital ratios. PIF triggering events is one of the comprehensive bank risk assessment systems. Chinese triggering events are the combination of both financial ratios and supervisory bank rating systems. Both supervisory bank rating systems and comprehensive bank risk assessment systems include banking regulators' discretion and decisions towards the final results. The main difference between these two is the focus of the two types of supervisory assessment. Comprehensive bank risk assessment systems focus on bank risks and the impact of failures on the financial system while supervisory bank rating systems focus on the current performance of banks. This is the difference between triggering events of PIF and the supervisory assessment aspect of Chinese combined triggering events. From the perspective of considerations of future risks, comprehensive bank risk assessment systems are likely to be a preferable way to trigger early intervention compared with supervisory bank rating systems.

## **B. Similarities among US, UK and Chinese Triggering Events**

Though mechanisms and details vary significantly, US, UK and Chinese triggering events share similarities in the following three ways: classification of banks into different categories; consideration of bank capital regulation in triggering events; and time intervals between two assessments.

First, concerning the classification of banks into different categories on the basis of bank financial conditions, US, UK and Chinese triggering events have several

<sup>544</sup> *ibid.*

<sup>545</sup> *ibid.*

benchmarks to classify banks into different categories or regulatory zones. Triggering events allows banking regulators to differentiate the level of intervention by corrective measures in accordance with the bank's financial conditions, thereby providing a connection between banking regulation and bank resolution. These different bank categories lay the foundation for a gradually increasing level of intervention by banking regulators. No matter which type of triggering events has been implemented in the US, the UK and China, triggering events for the first category of banks are consistent with the requirements for normal banking regulation. Similarly, triggering events for the last category are closely related to requirements for initiations of a bank resolution. The three bank categories in-between are the main categories for structured early intervention for banks where triggering events reflect changes in a bank's financial condition and provide banking regulators with signals to take corrective measures. The level of intervention increases as a bank's financial condition deteriorates in these three categories.

Second, US, UK and Chinese triggering events all take capital regulation into consideration. This means that capital regulation has an important role in the triggering events to assess banks' financial situations, whether regulation of capital adequacy is directly related to triggering events or forms a part of supervisory assessments. In terms of a direct connection of capital adequacy regulation with triggering events, including US PCA and Chinese capital regulation for banks as one aspect of combined triggering events, capital ratios have the determining function in deciding on the bank category and its respective corrective measures, thereby having a direct impact on the level of intervention with banks. In terms of capital regulation as an aspect of triggering events, requirements for capital regulation are strict and contribute to the final results of supervisory assessment. UK PIF and the aspect of supervisory assessment of Chinese combined triggering events both regard capital adequacy as an important factor in determining the banks' financial condition. Although supervisory assessment as triggering events only assesses several aspects of banks' business and operations compared with assessments of normal banking regulation, the assessment of capital adequacy contributes to the results of supervisory assessment as triggering events. This shows the importance of capital in triggering events based on supervisory assessments.

The third similarity of US, UK and Chinese triggering events is the relatively low frequencies of assessments of banks' financial condition. This means that time intervals between two assessments in the US, the UK and China to identify and test banks' financial condition are relatively long. In the context of US PCA, all bank information disclosure derived from call reports to banking regulators to federal banking regulators are on a quarterly basis.<sup>546</sup> UK PIF is conducted on a yearly basis in accordance with the PRA's approach to assess banks' performance aiming to determine the level of intervention for particular banks.<sup>547</sup> Concerning the Chinese combined triggering events, supervisory assessment of banks based on an internal rating system is conducted on a yearly basis and capital triggering events are conducted on a quarterly basis to get information of the Chinese banks' financial condition.<sup>548</sup> This similar feature shared by the US, UK and Chinese triggering events is likely to be an issue especially when banks are distressed because the banks' financial situations tend to deteriorate very quickly and fall into another category which requires more intrusive corrective measures. A higher frequency of assessments of banks' financial situations to trigger early intervention could contribute to early identification of the actual condition and status of the banks, especially when the banks are in distress.

Even if US, UK and Chinese legal structures in relation to structured early intervention and banking regulation are different, these similarities cast some light on general features of structured early intervention for banks. The third similarity among triggering events in the three countries contributes to consideration of functions and details of structured early intervention for banks, specifically considering whether to shorten the intervals between two assessments to triggering early intervention is necessary and helpful.

546 The FIDC, *Bank Financial Reports* (July 2018) <<https://www.fdic.gov/regulations/resources/call/call.html>> last accessed 26 August 2019

547 The PRA (n 2)

548 Administrative Measures for the Capital of Commercial Banks (for Trial Implementation) s166 and Notice of the China Banking Regulatory Commission on Issuing the Internal Guidelines for the Regulatory Rating of Commercial Banks s 20

### **C. Why are the US, UK and Chinese Triggering Events Different?**

Before going into the details of the differences between US, UK and Chinese triggering events, the following four underlying factors may explain why differences between US, UK and Chinese triggering events exist: bank ownership structure, whether the banking sector of a country is concentrated, mandates of banking regulators, and functions of structured early intervention for banks from the perspective of policymakers.

First, bank ownership structure is one of the factors that causes differences in banking regulation and mechanisms of triggering events from country to country. The impact of bank ownership structure on banking regulation is twofold. Bank ownership structure is related to whether banking regulation is strict or not, especially in relation to capital regulation. Capital regulation is an important part of banking regulation and supervision and it is crucial for triggering events in some countries where the mechanisms of triggering events are on the basis of capital adequacy of banks. A higher level of state ownership in banks tends to be associated with less strict requirements on capital regulation.<sup>549</sup> A country with a higher ratio of government-owned banks would prefer a less stringent bank regulation and specifically the banking regulation of the country would concentrate on profits of government-owned banks instead of the overall stability of the banking system.<sup>550</sup> In other words, the degree of state or government involvement in bank ownership structure and the number of government-owned banks have an impact on stringency of capital regulation. This could further influence standards of triggering events as to what standards are regarded as the starting point of early intervention for banks. Another impact of bank ownership structure on banking regulation is its likelihood to contribute to poorly developed banks and a poorly managed financial system.<sup>551</sup> In the context of state-owned banks, capital regulation may not be as effective as designed because state-owned banks can receive assistance and subsidies from the state and

549 Gazi I. Kara, 'Bank Capital Regulations around the World: What Explains the Differences?' (2016) Finance and Economics Discussion Series 2016-057. Washington: Board of Governors of the Federal Reserve System <<http://dx.doi.org/10.17016/FEDS.2016.057>> last accessed 26 August 2019

550 Giovanni Dell'ariccia and Robert Marquez, 'Competition among Regulators and Credit Market Integration' (2006) 79 *Journal of Financial Economics* 401

551 James Jr. Barth, Gerard Caprio Jr and Ross Levine, 'Banking Systems around the Globe: Do Regulation and Ownership Affect Performance and Stability?' (2000) The World Bank Policy Research Working Paper 2325 <<http://www.nber.org/chapters/c10757.pdf>> last accessed 26 August 2019

other channels.<sup>552</sup> This may have an impact on determining the actual financial condition of state-owned banks, thereby causing triggering events to be less useful in this context. State-owned banks may never be in real difficulties and encounter failures with less strict capital requirements and financial assistance in distressed situations. That is to say that detection of changes and problems in state-owned banks' financial conditions and the resulting corrective measures taken by banking regulators are more difficult to achieve and less likely to happen.<sup>553</sup> Whether the state ownership prevails or not, bank structures can have an impact on capital regulation requirements of banking regulation and therefore contribute to differences in triggering events based on capital ratios.

Second, whether the banking sector is concentrated or not is another factor that contributes to differences in banking regulation, including triggering events of early intervention. Concentration in the banking sector has a positive effect on stability.<sup>554</sup> More specifically, a concentrated banking sector with large banks is likely to be more stable and contribute to the stability of the financial system as a whole.<sup>555</sup> In those countries with more concentrated banking sectors, capital regulation tends to be less strict, which allows banks to calculate the equity capital in a more lenient way.<sup>556</sup> Countries with less concentrated banking sectors tend to have stricter banking regulation, and therefore their capital regulation and triggering events of early intervention can be stricter.

Third, in relation to banking regulation and structured early intervention for banks, mandates of banking regulators contribute to differences in how structured early intervention for banks can be triggered or initiated. To begin with, the scope of power and authority that is assigned to banking regulators determines whether they have any discretion in determining if and when to start early intervention. Additionally, mandates of administrative power and authority have an impact on the scope of banking regulators' power and authority in banking regulation and resolution. Administrative power and authority of banking regulators and judicial power may coexist and the division between

552 *ibid.*

553 A Michael Andrews, 'State-Owned Banks, Stability, Privatization, and Growth: Practical Policy Decisions in a World Without Empirical Proof' (2005) IMF Working Paper WP/05/10 8

554 Boubacar Diallo, 'Bank Competition and Crises Revisited: New Results' (2015) 129 *Economics Letters* 81

555 Allen N. Berger, Asli Demirguc-Kunt, Ross Levine and Joseph G. Haubrich, 'Bank Concentration and Competition: An Evolution in the Making' (2004) 36 *Journal of Money, Credit and Banking* 433

556 Kara (n 568) 23

administrative and judicial power and authority varies from country to country. In some countries, courts may have the power and authority to limit actions taken by banking regulators while judicial power in other countries may have less power to reverse administrative decisions and actions.<sup>557</sup> This means that the effectiveness of administrative power and authority may be influenced by the scope of judicial power. Whatever the scope of administrative or judicial authority and power is, the independence of these two is essential to ensure integrity of decisions and judgements by banking regulators and resolution authorities.<sup>558</sup>

Finally, functions of structured early intervention for banks from the perspective of policymakers have a direct impact on the mechanisms and standards of triggering events. Structured early intervention for banks can be regarded as a mechanism that works to identify problems at early stages on the basis of banking regulation. This means that structured early intervention for banks is an integral part of banking regulation, and a particular stage within the process of banking regulation and supervision. Structured early intervention for banks can also be regarded as a separate system that works independently to identify problems of banks at early stages. This means that structured early intervention for banks is an additional mechanism for banking regulators to reflect the bank's financial condition at early stages. Different considerations on functions of structured early intervention for banks are likely to cause different designs or arrangements for triggering events.

To summarise, there are four reasons that explain why triggering events of US, UK and Chinese structured early intervention for banks are different: bank ownership structures, whether the banking sector of a country is concentrated, mandates of banking regulators, and functions of structured early intervention for banks from the perspective of policymakers. The first three reasons are related to specific banking sectors of individual countries and the final reason is related to differences in designs and functions of structured early intervention for banks.

557 James R. Barth, Gerard Caprio Jr., Ross Levine. 'Bank Regulation and Supervision in 180 Countries from 1999 to 2011' (2013) 5 *Journal of Financial Economic Policy* 111

558 Jens-Hinrich Binder, Michael Krimminger, María J Nieto, and Dalvinder Singh, 'The Choice between Judicial and Administrative Sanctioned Procedures to Manage Liquidation of Banks: A Transatlantic Perspective' (2019) *Capital Markets Law Review* forthcoming

On the basis of comparisons of US, UK and Chinese triggering events, the following two differences are important and could work as a reference when a country considers how to structure triggering events in its own early intervention system. The first difference is whether triggering events serve as a separate set of standards or an integral set of standards in assessing a bank's financial condition in relation to prudential banking regulatory requirements. The second difference is whether triggering events should be rule-based or discretion-based standards.

#### **D. Triggering Events as A Separate or an Integral Sets of Standards**

In relation to the first differences among US, UK and Chinese triggering events, the difference refers to whether standards of triggering events should be separate from banking regulatory requirements. This difference leads to two types of triggering events. The first type is a separate set of standards of triggering events which is often related to a formal and well-established structured early intervention for banks. The second type is an integral set of standards of triggering events on the basis of banking regulatory requirements. The difference between the two types of triggering events is a determining factor of whether structured early intervention for banks is a formal and well-established early intervention regime or a regular intervention system on the basis of normal banking regulations.<sup>559</sup> A regular intervention system here refers to judgement and principles-based structured early intervention. Whether or not triggering events of structured early intervention for banks are a separate set of standards correlates with the type of structured early intervention for banks as a formal regime or a regular banking intervention system.

US PCA is a formal and well-established structured early intervention framework with a separate set of standards as triggering events.<sup>560</sup> Although capital ratios are standard for normal and regular banking regulation, PCA capital ratios are specified as a system of standards to initiate corrective measures when banks fall below certain capital standards. UK PIF, on the other hand, is a regular intervention system where banking regulators use their judgement on the basis of principles to assess whether an increased

<sup>559</sup> Svoronos (n 35)

<sup>560</sup> *ibid.*

level of intervention is necessary against a selection of regulatory requirements as standards. Triggering events of Chinese early intervention systems tend to resemble separate sets of standards. Both capital ratios and supervisory assessment have their own standards in terms of initiating the following corrective measures rather than depending on only banking regulatory requirements and the judgement of banking regulators. Whether triggering events of structured early intervention for banks are separate or integral sets of standards matters, because both types of triggering events have an impact on designs and actual operations of structured early intervention for banks.

In relation to formal or regular early intervention systems, the designs and actual operations can be different in the following ways. First, the legal basis for banking regulators' authority and power is different between a formal early intervention system and a regular early intervention system. Under a regular early intervention system, the legal basis for regulatory power to deal with troubled banks at an early stage is from the Banking Act and regulators' power and authority to maintain a safe and sound banking system.<sup>561</sup> However, under a formal early intervention system, the legal basis tends to go beyond banking regulators' regular power and authority of ensuring safety and soundness of the banking sector. The legal basis is provided by a particular piece of legislation. For example, FDICIA provides the legal basis for US PCA where triggering events and corrective measures are statutory-based.<sup>562</sup> Although the legal basis for a formal and a regular early intervention system is different, the power and authority of banking regulators between a formal intervention system and a regular intervention system can overlap. For example, PCA triggering events and regulatory requirements of US banking regulation overlap in certain situations. A bank can be regarded as a problem bank under supervisory requirements of US banking regulation because one or more aspects of its business do not meet regulatory requirements to be safe and sound, such as unsatisfactory asset quality, and therefore the bank is subject to discretionary measures of the regulators. In the meantime, capital ratios of the bank may drop to a lower category and may then be subject to PCA corrective measures which may require the bank to

<sup>561</sup> *ibid.*

<sup>562</sup> Jorge Chan-Lau and Amadou N.R. Sy, 'Distance-to-Default in Banking: A Bridge Too Far' (2007) 9 *Journal of Banking Regulation* 14

improve its capital adequacy and impose restrictions on the bank's activities. Formal and regular intervention systems have different legal bases for banking regulators' power and authority in terms of triggering events and corrective actions. There can be overlaps between banking regulators' power and authority between these two intervention systems.

Second, designs and actual operations of a formal and regular intervention system can be different from the perspective of functionality. Functionality here refers to whether early intervention systems are deemed as the last regulatory intervention attempts with stringent measures in relation to dealing with and managing troubled banks before bank resolution. In this context, formal early intervention systems tend to be the last attempt or resort for banking regulators to deal with and manage troubled banks. Banking regulatory requirements and supervisory measures for regular banking regulation can be more flexible, timely and discreet for banking regulators to identify problems and issues of banks on the basis of principles and regulators' judgement.<sup>563</sup> These corrective measures under regular banking regulation can be less stringent because of discretion and regulatory forbearance. As a result, a stricter, formal, early intervention system that limits discretion and reduces forbearance, could eventually complement functions and operations of regular banking regulation and provide banking regulators with stringent corrective measures to deal with troubled banks' problems that cannot be properly resolved through supervisory measures. A regular intervention system can be less compatible because triggering events of regular intervention systems are more similar to regulatory requirements of normal banking regulation. This could potentially lead to a lack of urgency in triggering early intervention for troubled banks and willingness to take stricter corrective measures.

One key difference in US, UK and Chinese triggering events is whether they are a separate or an integral set of standards on the basis of regular banking regulatory requirements. This difference correlates with different types of structured early intervention for banks, namely a formal or a regular intervention system. These different types of structured early intervention for banks further determine the specific legal basis that is required for each type of structured early intervention and whether a type of

563 Svoronos (n 35)

structured early intervention for banks can be treated as the regulators' final attempts with stringent measures before bank resolution.

### **E. Rules-Based or Discretion-Based Triggering Events**

Whether triggering events are based on rules or regulators' discretion and judgement constitutes another difference between US, UK and Chinese structured early intervention for banks. The difference between rules-based triggering events and discretion-based triggering events is the scope of regulators' discretion in relation to assessing and determining a bank's financial condition. With rules-based triggering events, banking regulators tend to have less discretion in terms of determining banks' financial conditions and the corrective actions that follow. Discretion-based triggering events, on the other hand, allow banking regulators to have more discretion to decide if and when to start early interventions with the banks. Rule-based triggering events and discretion-based triggering events are similar to the two ends of the spectrum. Finding a suitable type of triggering events is necessary and important for an effective operation of structured early intervention for banks. Current US, UK, and Chinese structured early intervention processes for banks have shown different considerations of advantages and disadvantages of rules-based and discretion-based triggering events.

In terms of advantages and disadvantages of rules-based and discretion-based triggering events, information, timing, banking regulators' willingness and the costs of triggering structured early intervention are important factors that may have an impact on the actual implementation of these two types of triggering events. Information refers to information about financial conditions and risks of banks available to banking regulators. Timing refers to the timing of the initiation of triggering events. Banking regulators' willingness and costs refer to whether the regulators are incentivised to initiate triggering events and take corrective measures when costs incur first and benefits will incur in the future.<sup>564</sup>

564 Michal Kowalik, 'Countercyclical Capital Regulation: Should Bank Regulators Use Rules or Discretions?' (2011) Federal Reserve Bank of Kansas City Economic Review Second Quarter 67. <<https://www.kansascityfed.org/mkMSW/publicat/econrev/pdf/11Q2Kowalik.pdf>> last accessed 26 August 2019

Concerning rules-based triggering events, information about banks' financial conditions and risks is based on financial variables of banks, such as capital ratios and non-performing assets coverage ratios. A disadvantage of rule-based triggering events is insufficient information provided by one or several financial variables as triggering events, which may not provide a full review of banks, and contribute to false and inaccurate assessments of the banks' overall financial conditions and risk levels. Although the current PCA capital triggers are lagging and non-performing assets coverage ratios can be an effective alternative, both ratios can only reflect one aspect of banks' financial conditions rather than a full assessment. The timing of rule-based triggering events is less related to banking regulators' discretion, which means early intervention will be automatically initiated to some extent when banks' financial conditions deteriorate and fail to meet benchmarks of certain categories. Because of the nature of rules, banking regulators are required to initiate early intervention and take the following corrective actions when banks fail to meet the requirements. There is less discretion remaining for the banking regulators to weigh costs and benefits of timing of early intervention. The rules ensure initiations of early intervention by banking regulators at the same time for different cases and are consistent with the purpose of early identification and structured early intervention for banks.

Concerning discretions-based triggering events, information about banks' financial conditions and risk has a wider source and is based on a more comprehensive assessment of the banks' business and operations. With more information available to banking regulators, assessment of banks can be more accurate compared with objective standards with financial variables, which is more likely to detect problems of the banks not only in aspects that can be reflected by financial variables but also in other aspects that needs the judgement of regulators. The timing of discretion-based triggering events is more likely to vary depending on particular problems of a bank instead of the consistency of rule-based triggering events, which results from the nature of banking regulators' decisions on if and when to trigger early intervention.

The tension between banking regulators' willingness and the costs of dealing with troubled banks is more evident in discretion-based triggering events. When the regulators have the discretion to decide if and when to trigger early intervention, they may not be

willing to confirm distressed financial situations of a bank and take corrective actions because the costs of early intervention incur first. In hindsight, banking regulators with discretion should have intervened earlier to deal with troubled banks to avoid future costs of bank failures. Information for the regulators in discretion-based triggering events is not disclosed to the public because any corrective measures imposed on the banks are likely to cause turbulence in financial stability and public confidence, and can even lead to negative outcomes such as a bank run. With private information, the regulators are more inclined to hold back in triggering early intervention and taking corrective measures because of the potential negative outcome, which means banking regulators' willingness to take action is limited.<sup>565</sup>

Based on discussions of both rules-based triggering events and discretion-based triggering events, both types of triggering events are not perfect. Rules provide consistency in dealing with troubled banks and mandatory timing and requirements for banking regulators to act. Discretion allows a comprehensive assessment of banks' financial conditions and tailors corrective measures to particular problems of the banks. US, UK and Chinese triggering events have placed different emphases on rules and discretions.

## **V. Conclusion**

This chapter discusses US, UK, and Chinese triggering events of structured early intervention for banks, and explores similarities and differences among the three models of triggering events. Capital ratios is the mechanism of US triggering events of structured early intervention for banks. The level of capital adequacy of banks reflected by capital ratios is the key factor that determines on what level the US banking regulators intervene by implementing corrective measures. This mechanism directly takes capital regulation into consideration as an important factor to assess a bank's financial condition and therefore conducts early intervention with the banks. In terms of structured early intervention for banks, capital ratios seem to be a lagging indicator in detecting changes

<sup>565</sup> Ansgar Walther and Lucy White, 'Rules Versus Discretions in Bank Resolution' (25 March 2016) <<https://acpr.banque-france.fr/sites/default/files/medias/documents/waltherwhite.pdf>> last accessed 26 August 2019

in banks' financial performance and operations, which is likely to cause inaccurate information and delays in reflecting the actual financial conditions of banks. Moreover, capital ratios as triggering events of structured early intervention for banks could foster regulatory forbearance, which is likely to cause insufficient intervention with troubled banks at the early stages. The actual effect of capital ratios to incentivise banks to recapitalise is limited. The way to improve the effectiveness of capital ratios can be by incorporating another ratio on the basis of non-performing assets of banks to identify and detect problems in a timelier way.

Supervisory assessment is the mechanism of UK triggering events of structured early intervention for banks. The results of supervisory assessments of the UK banking regulator are the determining factor of the level of intervention by corrective measures. UK supervisory assessment as triggering events of structured early intervention is based on the mechanisms of supervisory assessment of regular and normal banking regulation and supervision. In terms of structured early intervention for banks, supervisory assessment tends to provide a full and comprehensive assessment of the banks' financial conditions and analyse overall safety and soundness of banks, which is likely to provide accurate information concerning the banks' situations. However, because of the cost and time intervals between two assessments, supervisory assessments as triggering events are unable to provide timely information of bank performance. Moreover, the discretion of banking regulators is likely to contribute to problems with predictability and accountability.

Combined triggering events based on both capital ratios and supervisory assessment are the mechanism of the Chinese model to initiate structured early intervention for banks. Capital ratios can not only trigger corrective measures on its own, but is also related to the final results of supervisory assessments. In the context of the Chinese structured early intervention for banks, the combined triggering events may not work very effectively. Combined triggering events do not equal to a set of timely, accurate and predictive triggering events. Two sets of triggering events are likely to cause inconsistency in applying the corrective measures. Functions of capital ratios and supervisory assessment overlap to a large extent in assessing a bank's financial condition at the early stages.

Comparisons of the US, UK, and Chinese triggering events reveal two primary differences in the designs of triggering events of structured early intervention for banks. One difference is that triggering events are a separate and additional set of requirements compared with banking regulatory requirements. This difference determines whether there is a formal intervention system of structured early intervention or a regular intervention system. Another difference is whether triggering events are based on prescribed rules or on the discretion of banking regulators. This difference determines the scope of discretion of banking regulators in structured early intervention for banks, which also shows the tension between rules and discretion in triggering events of structured early intervention for banks. The two differences should be taken into consideration when designing triggering events. Apart from the two main differences, the US, UK, and Chinese triggering events share similarities in classifications, functions of capital ratios and frequencies between two assessments no matter what the types of triggering events are.

## **Chapter 4 Comparisons of Corrective Measures of US, UK and Chinese Structured Early Intervention for Banks**

Corrective measures, together with triggering events, constitute core aspects of structured early intervention for banks. Triggering events act as the indicator of troubled bank financial condition and risk levels. Corrective measures are actual measures for banking regulatory agencies to deal with weakened financial performance and increased risk levels of troubled banks. In a wider context, corrective measures, including banking regulation and resolution are comprised of two categories. One category of corrective measures focuses on dealing with problems of troubled banks at early stages, such as restrictions on banks' management, asset growth and business lines, with the purpose of improving banks' viabilities. Another category of corrective measures focuses on transferring troubled banks' assets with the aim of bank resolution or the winding up of the banks. In the context of structured early intervention for banks, the first category of corrective measures is the main concern. These corrective measures play the role of increasing the level of supervision whilst resolving supervisory issues of troubled banks directly, thereby achieving the aim of structured early intervention for banks by managing troubled banks' problems at an early stage and minimising the potential impact of potential bank failure.

This chapter is structured as follows. This first section mainly discusses and examines US corrective measures that aim to improve troubled banks' financial performance. Corrective measures for undercapitalised and significantly undercapitalised banks are core to early intervention by banking regulations. The second section discusses UK corrective measures at each stage of early intervention. The third section discusses Chinese corrective measures, mainly general corrective measures and stricter corrective measures. The final section compares similarities and differences between US, UK and Chinese corrective measures of structured early intervention for banks. On the basis of comparison, the final section examines the impact of corrective measures on discretions of banking regulatory agencies and discusses what may be a better way to design corrective measures. The final section also discusses what specific corrective measures should be taken into consideration when establishing or reforming structured early intervention for banks to achieve a better outcome.

## **I. Corrective Measures of US Structured Early Intervention for Banks**

This section discusses corrective measures of structured early intervention for banks in the US. Corrective measures are different from regulatory measures of regular banking regulation because the purposes of regulatory measures and corrective measures are different. The corrective measures are also more intrusive than regulatory measures in terms of the level of intervention by banking regulators and the effect on banks. US corrective measures can be mainly categorised into the following two groups: (1) corrective measures that aim to improve the overall financial performance of troubled banks and (2) corrective measures that aim to prepare for an orderly bank resolution.

Triggering events of US structured early intervention for banks, depending on the capital ratios of banks, categorise the banks into five groups: well capitalised, adequately capitalised, undercapitalised, significantly undercapitalised and critically undercapitalised banks. In terms of the first four groups of banks, the banking regulators of a bank could apply corrective measures that aim to improve their financial performance. In terms of the last group of banks, the banking regulators of a troubled bank could apply both groups of corrective measures to deal with financial difficulties and potential failure of the banks.

This section discusses the two groups of US corrective measures respectively. First, this section discusses corrective measures that aim to restore banks' financial performance, including both compulsory and discretionary corrective measures, and it discusses the effects that these corrective measures may have on troubled banks. Finally, this section discusses the corrective measures that aim to prepare for an orderly bank resolution.

### **A. Corrective Measures for Improving Banks' Financial Performance**

The category of corrective measures that aims to improve banks' financial performance can be applied by banking regulators to deal with banks in all five groups. Some of the corrective measures are compulsory for all banks in any group while other compulsory corrective measures are applicable only to banks in the latter three groups, which have more severe financial difficulties and problems, depending on their capital

ratios. Discretionary corrective measures are also applicable to banks in the latter three groups.

### **1. Compulsory Corrective Measures for All Banks**

Compulsory corrective measures are comprised of two specific measures to maintain the financial stability of banks, especially requiring the banks to maintain their level of capital. These two measures have an impact on the banks' capital, which requires the banks to ensure a certain level of capital adequacy before making any distributions. The first measure restricts banks to make any capital distribution.<sup>566</sup> No capital distribution is allowed for banks in any group if after the distribution the banks would become undercapitalised with the exception of approval by the FDIC.<sup>567</sup> The second measure restricts banks to make any management fee payments, especially when the banks would become undercapitalised after payment to any person in control of the banks.<sup>568</sup>

### **2. Compulsory Corrective Measure for Banks in the Latter Three Groups**

Compulsory corrective measures for banks in the latter three groups, which are undercapitalised banks, significantly undercapitalised banks and critically undercapitalised banks, have the progressive feature. This feature means that in addition to particular compulsory measures for one group of banks, they are subject to all compulsory measures for the previous group. For example, significantly undercapitalised banks are subject to both compulsory measures for undercapitalised banks and particular corrective measures for significantly undercapitalised banks. Therefore, compulsory corrective measures for undercapitalised banks act as the foundation for corrective measures for banks in the latter three groups. More corrective measures add on to this foundation and form a range of measures for significantly undercapitalised and critically undercapitalised banks.

<sup>566</sup> 12 U.S.C. § 1831o (d) (1) (A)

<sup>567</sup> 12 U.S.C. § 1831o (d) (1) (B)

<sup>568</sup> 12 U.S.C. § 1831o (d) (2)

## **a. Compulsory Measures for Undercapitalised Banks**

Compulsory measures for undercapitalised banks mainly have an impact on banks' businesses and activities, which consist of the following: increased level of monitoring by federal banking agencies, a required capital restoration plan, restricted asset growth, and preapproval by federal banking agencies of certain business activities.

### **(1) Increased Level of Monitoring**

An increased level of monitoring of undercapitalised banks by federal banking agencies refers to closely monitoring conditions of undercapitalised banks, closely monitoring the banks' compliance to the capital restoration plan and periodically reviewing the plan and the banks' progress.<sup>569</sup>

Closely monitoring conditions of undercapitalised banks requires banking regulators to pay more attention to undercapitalised banks' results of both on-site examinations and off-site analyses of regulatory information. This is different from regular day-to-day banking regulation and supervision by federal banking agencies and requires more in depth and in detail analysis by federal banking regulators. As these results and regulatory information provide a basis for banking regulators' analyses of deviations of banks from normal banking operations<sup>570</sup>, an increased level of supervision and attention by federal banking agencies could be more sensitive to react to changes of undercapitalised banks. As a result, whether the undercapitalised banks need further corrective actions or whether capital adequacy of the banks has increased can be detected in a timely way.

Both closely monitoring the compliance of undercapitalised banks with the capital restoration plan and periodically reviewing the plan and undercapitalised banks' progress have the same function of closely monitoring the conditions of undercapitalised banks.<sup>571</sup> Increased levels of supervision of the capital restoration plan and its compliance enable banking regulators to detect problems in undercapitalised banks' operations, so that they

<sup>569</sup> 12 U.S.C. § 1831o (e) (1)

<sup>570</sup> Basel Committee on Banking Supervision, 'Supervisory Guidelines on Identifying and Dealing with Weak Banks' (July 2015) 24 <<https://www.bis.org/bcbs/publ/d330.pdf> > last accessed 26 Aug 2019

<sup>571</sup> 12 U.S.C. § 1831o (e) (1) (B) and (C)

can improve their capital adequacy, especially when the content of the plan concentrates on improving capital adequacy and restoring capital levels of undercapitalised banks.

## **(2) A Required Capital Restoration Plan**

Another compulsory corrective measure for undercapitalised banks requires the banks to design a capital restoration plan and submit it to federal banking agencies.<sup>572</sup> The capital restoration plan embedded in US structured early intervention for banks, Prompt Corrective Action (PCA), focuses more on the aspect of improving capital adequacy of undercapitalised banks. The plan requires these banks to submit capital restoration plans within certain timeframes and to satisfy certain requirements or meet standards to be accepted by federal banking agencies.<sup>573</sup>

In general, a capital restoration plan that focuses on the aspect of improving capital adequacy constitutes one type of corrective action plans. Concerning corrective action plans, there are several types of corrective action plans with different purposes to deal with weaknesses of troubled banks, including plans dealing with management, and plans dealing with capital adequacy as well as comprehensive plans dealing with several aspects of weakness of troubled banks.<sup>574</sup> Because interrelations of weaknesses and risks exist in troubled banks, a comprehensive corrective action plan can be necessary and useful.<sup>575</sup>

The capital restoration plan of an undercapitalised bank intends to restore its capital and improve its capital adequacy to the level of adequately capitalised banks. The two main aspects of the capital restoration plan of PCA are contents of the plan and criteria for acceptance of the plan by the federal banking regulators. Concerning the contents of the plan, one aspect of the capital restoration plan focuses on steps and measures taken by the 'undercapitalised' banks to improve their capital level.<sup>576</sup> Specific steps and measures vary and depend on each undercapitalised bank. Another aspect of the capital restoration plan relates to the amount of capital that will be attained by the

<sup>572</sup> 12 U.S.C. § 1831o (e) (2)

<sup>573</sup> 12 U.S.C. § 1831o (e) (2) (B) and (D)

<sup>574</sup> Basel Committee on Banking Supervision, 'Supervisory Guidelines for Identifying and Dealing with Weak Banks' (June 2014) 31 <<https://www.bis.org/publ/bcbs285.pdf>> last accessed 26 Aug 2019

<sup>575</sup> *ibid.*

<sup>576</sup> 12 U.S.C. § 1831o (e) (2) (B) (i) (I)

'undercapitalised' bank each year after the plan has been in effect.<sup>577</sup> The third aspect is that the undercapitalised bank has to come up with specific measures and steps to comply with restrictions and requirements by the federal banking regulators.<sup>578</sup> The last aspect of the capital restoration plan requires the undercapitalised banks to state types and levels of activities engaged by them.<sup>579</sup>

Concerning the criteria of acceptance of the capital restoration plan by federal banking agencies, the criteria impose requirements on both undercapitalised banks and their holding companies.<sup>580</sup> In regard to requirements for undercapitalised banks, the capital restoration plans need to satisfy the requirements for the contents of the plans in the first place. In order to be accepted by federal banking agencies, the plans of undercapitalised banks also need to be based on realistic assumptions and take practical steps and measures which are likely to help the banks to restore their capital level to certain standards and to improve their financial situations.<sup>581</sup> Another requirement of the criteria of acceptance requires undercapitalised banks to stabilise risk levels after implementations of capital restoration plans, which means risk levels, including credit risk, interest rate risk and other risks would not increase after the plans.<sup>582</sup> In regard to criteria for bank holding companies, bank holding companies are required to provide guarantees and assurances to undercapitalised banks. The holding company of undercapitalised banks has to guarantee the banks' compliance with the capital restoration plan, until the banks have become adequately capitalised during each of four consecutive calendar quarters.<sup>583</sup> Bank holding companies are also required to provide assurances of performance.<sup>584</sup>

In addition to the two main aspects of a capital restoration plan, the plan for undercapitalised banks has other requirements. For example, concerning the end date of submitting the plan, undercapitalised banks have at most 45 days to design and submit

577 12 U.S.C. § 1831o (e) (2) (B) (i) (II)

578 12 U.S.C. § 1831o (e) (2) (B) (i) (III)

579 12 U.S.C. § 1831o (e) (2) (B) (i) (IV)

580 12 U.S.C. § 1831o (e) (2) (C) (ii)

581 12 U.S.C. § 1831o (e) (2) (C) (i) (II)

582 12 U.S.C. § 1831o (e) (2) (C) (i) (III)

583 12 U.S.C. § 1831o (e) (2) (C) (ii) (I)

584 12 U.S.C. § 1831o (e) (2) (C) (ii) (II)

their capital restoration plans from becoming undercapitalised.<sup>585</sup> Federal banking agencies that regulate particular undercapitalised banks have to act based on the plans within 60 days of submission and they need to provide copies of the plans within 45 days starting from the date when the plans are approved.<sup>586</sup> Concerning limited guarantee liabilities of bank holding companies, bank holding companies are not liable for all liabilities of ‘undercapitalised’ banks. The holding companies are responsible for a certain amount of liabilities depending on different situations and levels of compliance of undercapitalised banks with capital restoration plans.<sup>587</sup> The limited guarantee liabilities do not affect certain affiliates within the group company, which means that any company that does not control an undercapitalised bank is not required to be responsible for a capital restoration plan and any legal person who is not the undercapitalised bank itself is not required to submit the plan, and compliance with other law and regulations is not affected.<sup>588</sup>

To summarise, the capital restoration plan is important for both ‘undercapitalised’ banks and federal banking agencies as the plan aims to recover the financial situation of the banks to an adequately capitalised level and both the banks and regulatory agencies are required to make sure to comply with the plan. Full compliance of the plan could be a way to improve the capital adequacy of ‘undercapitalised’ banks in practice because steps and measures of the plan formulated by the banks are suitable for their current financial situations and are approved and supervised by federal banking regulators.

### **(3) Restricted Asset Growth**

Restriction on asset growth of undercapitalised banks is the third compulsory measure put in place by the federal banking agencies that deal with the banks. Restricting asset growth could be a way to improve banks’ capital to achieve the goal of improving capital adequacy of undercapitalised banks. Concerning higher capital requirements imposed on undercapitalised banks by banking regulators, there are several ways for a bank to improve its capital ratio to satisfy regulatory standards on capital. Generally, the

585 12 U.S.C. § 1831o (e) (2) (D) (ii)

586 12 U.S.C. § 1831o (e) (2) (D) (iii) – (iv)

587 12 U.S.C. § 1831o (e) (2) (E) (i)

588 12 U.S.C. § 1831o (e) (2) (E) (i) (I) – (II)

bank could retain earnings by reducing the dividends it pays or by increasing lending spreads of interest rates and profits from other lines of business, to increase income and improve capital.<sup>589</sup> Another way of the bank to improve its capital ratio is to reduce lending, which involves changes made to the asset side of the bank's balance sheet.<sup>590</sup> The bank could slow the pace of lending in order to retain earnings and allow capital to increase or the bank could sell its assets to gain proceeds from the sale to improve capital level and to repay debts. The bank could also increase its capital by issuing new shares to raise additional equity.<sup>591</sup> For example, the bank could make equity offerings to new investors to increase capital. However, issuing new equity may have an impact on the value of previous shares. Finally, the bank could reduce existing risks in its assets by reducing lending to high risk borrowers and by replacing high risk lending with low risk loans and securities.<sup>592</sup> US banks increased low risk holdings of treasuries and decreased their commercial loans in the 1990s, which helped to improve their financial situations.<sup>593</sup>

Based on rules of PCA, undercapitalised banks are required to restrict asset growth to restore capital so that they can reduce lending and reduce existing risks in their assets to control the growth of their assets. According to FDICIA, the average total assets of undercapitalised banks is generally required not to exceed the average total assets from the previous calendar quarters with the exception of certain conditions.<sup>594</sup> Certain conditions for exception of asset growth restrictions include where federal banking agencies have approved their capital restoration plan, or where increase of total assets of the banks is consistent with their plans, or the banks' ratios of tangible equity to assets increases at a rate that allows the banks to restore their capital level as 'adequately capitalised' within certain amounts of time.<sup>595</sup>

589 Benjamin Cohen and Michela Scatigna, 'Banks and Capital Requirements: Channels of Adjustment' (2016) 69 *Journal of Banking and Finance* 56

590 *ibid.*

591 Natalya Martynova, 'Effect of Bank Capital Requirements on Economic Growth: A Survey' DNB Working Papers No.467 (March 2015)

592 Oxford Economics, 'Analysing the Impact of Bank Capital and Liquidity Regulations on US Economic Growth' The Clearing House Association (April 2013) <[https://www.theclearinghouse.org/~media/files/association%20documents/20130410\\_capital%20standards\\_impact%20higher%20bank%20capital.pdf](https://www.theclearinghouse.org/~media/files/association%20documents/20130410_capital%20standards_impact%20higher%20bank%20capital.pdf)> last accessed 26 Aug 2019

593 Allen Berger and Gregory Udell, 'Did Risk-Based Capital Allocate Bank Credit and Cause a 'Credit Crunch in the United States?' (1994) 26 *Journal of Money, Credit and Banking* 585

594 12 U.S.C. § 1831o (e) (3).

595 12 U.S.C. § 1831o (e) (3) (A) – (C).

#### **(4) Preapproval of Certain Business by Banking Regulators**

The fourth mandatory measure of federal banking agencies to deal with ‘undercapitalised’ banks is to control the growth of the banks’ businesses. ‘Undercapitalised’ banks are required to gain approval of banking regulators before acquisitions, branching and new lines of business.<sup>596</sup> Specifically, the banks are not allowed to directly or indirectly acquire interest in any other companies, establish new offices and start new lines of business with exceptions under certain conditions.<sup>597</sup> The conditions to get approval from banking regulators to expand ‘undercapitalised’ banks’ businesses are either where federal banking agencies have accepted the plans that the banks are implementing and the agencies determine that actions to expand the banks’ businesses are consistent with the plan, or the Board of Directors considers that the proposed actions will achieve the purpose of measures dealing with ‘undercapitalised’ banks.<sup>598</sup>

These rules enable federal banking regulators to take mandatory measures to deal with ‘undercapitalised’ banks, including compulsory capital restoration plans and intrusive measures on asset growth and expansion of business. These mandatory measures aim to improve capital adequacy of the ‘undercapitalised’ banks. Capital restoration plans are vital in terms of mandatory measures for ‘undercapitalised’ banks. ‘Undercapitalised’ banks that fail to submit appropriate capital restoration plans or fail to implement such plans also need to comply with all provisions designed for ‘critically undercapitalised’ banks.

##### **b. Compulsory Measures for Significantly Undercapitalised Banks**

On the basis of compulsory measures for undercapitalised banks, the one particular compulsory measure for significantly undercapitalised banks is restrictions on senior executive officers’ compensation. In general, without prior written approval of federal banking regulators, ‘significantly undercapitalised’ banks are not permitted to pay

<sup>596</sup> 12 U.S.C. § 1831o (e) (4)

<sup>597</sup> *ibid.*

<sup>598</sup> 12 U.S.C. § 1831o (e) (4) (A) – (B)

any bonus to senior executive officers and the banks are not allowed to provide compensation for senior executive officers at a rate that is over their average compensation rates with the exception of bonuses, stock options and profit-sharing during certain amounts of time.<sup>599</sup> The precondition of prior written approval of compensation of senior executive officers by federal banking agencies is to submit acceptable capital restoration plans on time by ‘significantly undercapitalised’ banks. Failure of compliance of submission of the plan leads to no grant of prior written approval of federal banking regulators.<sup>600</sup>

### **c. Compulsory Measures for Critically Undercapitalised Banks**

In order to improve the performance of critically undercapitalised banks, compulsory measures are the main solution for the federal banking regulator. In addition to compulsory measures for all other banks that have better financial performance or higher capital ratios from well capitalised to significantly undercapitalised banks, critically undercapitalised banks are subject to another two categories of measures, specifically restrictions on activities of the banks and prohibition of payments on subordinated debts.

In terms of restrictions on activities, compulsory measures for the activities of ‘critically undercapitalised’ banks are not only stricter but also more specific. Detailed requirements with which the banks need to comply reveal the more specific aspect of the restrictions on activities of the banks. Critically undercapitalised banks are not allowed to conduct the following activities without prior written approval by the FDIC.<sup>601</sup> These activities have a great impact on banks’ businesses and operations. First, critically undercapitalised banks are restricted to enter any material transactions except their usual business, including investment, expansion, acquisition, sales of assets and other similar transactions, and the banks need to give notice to their federal banking agencies.<sup>602</sup> Second, extending credit for highly leveraged transactions is also restricted.<sup>603</sup> The third restricted action is amending bylaws or charters of critically undercapitalised banks, with

599 12 U.S.C. § 1831o (f) (4) (A)

600 12 U.S.C. § 1831o (f) (4) (B)

601 12 U.S.C. § 1831o

602 12 U.S.C. § 1831o (i) (2) (A)

603 12 U.S.C. § 1831o (i) (2) (B)

the exception where amending bylaws or charters is necessary to satisfy the requirements of other law, regulation or order.<sup>604</sup> Fourth, making changes to accounting methods by the banks is also highly restricted.<sup>605</sup> Fifth, critically undercapitalised banks are restricted to be involved in covered transactions.<sup>606</sup> Sixth, the banks are restricted to pay excessive compensation and bonuses, and finally the banks are restricted to pay an excessive interest rate which will increase the weighted average cost of funds to a level that greatly exceeds the prevailing interest rate of insured deposits to any new or renewed liabilities.<sup>607</sup>

All the activities of the banks are restricted until they get prior written approval of the FDIC. The stricter aspect of mandatory restrictions on activities of ‘critically undercapitalised’ banks is that getting prior written approval by the FDIC of all activities discussed above is the minimum requirement.<sup>608</sup> The FDIC, as the federal banking agency dealing with restrictions on activities of critically undercapitalised banks, is allowed to restrict activities of any critically undercapitalised banks.

Prohibition of payments on subordinated debts is another category of mandatory measures for critically undercapitalised banks. The general requirement of this measure is to prohibit critically undercapitalised banks to make any payment of principal or interest to the banks’ subordinated debts after 60 days of being critically undercapitalised.<sup>609</sup> There are exceptions to this general requirement on the prohibition of payment on subordinated debts. One exception is when the banks have been in conservatorship or receivership or affected by other actions taken by The FDIC, and another exception is when the FDIC determines no prohibition on this matter will better achieve the purpose of PCA measures.<sup>610</sup> There also are limited exceptions to subordinated debt, which refer to certain subordinated debts accrued during certain timeframes, and the prohibition of mandatory measure does not apply to these particular subordinated debts.<sup>611</sup>

604 12 U.S.C. § 1831o (i) (2) (C)

605 12 U.S.C. § 1831o (i) (2) (D)

606 12 U.S.C. § 1831o (i) (2) (E)

607 12 U.S.C. § 1831o (i) (2) (F) – (G)

608 12 U.S.C. § 1831o (i) (1)

609 12 U.S.C. § 1831o (h) (2) (A)

610 12 U.S.C. § 1831o (h) (2) (B) (i) – (ii)

611 12 U.S.C. § 1831o (h) (2) (C)

### **3. Discretionary Corrective Measures for Undercapitalised and Significantly Undercapitalised Banks**

In terms of discretionary corrective measure, well capitalised and adequately capitalised banks are not subject to any discretionary corrective measures while undercapitalised and significantly undercapitalised banks need to be compliant with these discretionary measures if their federal banking regulators decide to apply one or some of these measures. Critically undercapitalised banks are also subject to compulsory measures with two of these measures aiming to improve financial performance of critically undercapitalised banks, and one compulsory measure aiming to prepare for an orderly resolution.

Compared with compulsory measures, discretionary measures of federal banking agencies are applied when necessary to better carry out the purpose of PCA and the discretionary measures have roles of specifying detailed rules concerning the financial situations of the banks and complementing application of mandatory measures. Unlike the progressive feature of compulsory measures of PCA that additional and intrusive measures are designed for banks with lower capital ratios, there is one set of discretionary measures for both undercapitalised and significantly undercapitalised banks. In regard to undercapitalised banks, discretionary measures may be applied to the banks by appropriate federal banking agencies when necessary.<sup>612</sup> At least one of the discretionary measures has to be applied to significantly undercapitalised banks by appropriate federal banking regulators.<sup>613</sup> Whether to apply specific measures or a combination of measures to individual banks is at the discretion of banking regulators.

The discretionary measures for both 'undercapitalised' and 'significantly undercapitalised' banks are recapitalisation requirements, restricted transactions with affiliates, restrictions on interests rate paid, restrictions on assets growth, restrictions on activities, improvement of management, prohibition of deposits from correspondent banks, prior approval of capital distribution by bank holding companies, divestiture requirement, and other appropriate actions determined by banking regulators to improve the banks' capital. Some of the discretionary measures share similar functions as mandatory

612 12 U.S.C. § 1831o (e) (5)

613 12 U.S.C. § 1831o (f) (2)

measures, and the difference between discretionary measures and mandatory measures is that federal banking regulators are entitled to intervene more in the banks' business and operations to force the banks to restore their capital.

#### **a. Recapitalisation**

One of the discretionary measures of federal banking agencies is to require undercapitalised and significantly undercapitalised banks to complete recapitalisation. Compared with restrictions on asset growth as one of the mandatory measures, recapitalisation in the discretionary section requires the banks to take more drastic actions to make changes to their assets, including selling shares and obligations and even for the banks to be acquired by, or combine with, other depository institutions under certain circumstances, thereby improving capital ratios of the banks. In order to achieve recapitalisation, at least one of the following is necessary. First, undercapitalised banks and significantly undercapitalised banks are required to sell shares or obligations, and capital ratios of the banks will be improved and categorised as an adequately capitalised bank after the sale.<sup>614</sup> Secondly, further sales of shares of the banks are required, and the shares must be voting shares.<sup>615</sup> The last step of the discretionary measure to achieve recapitalisation of the banks is to require the banks to be acquired by other depository institutions or to combine with another institution under the circumstance that financial situations of banks provide grounds for initiation of conservatorship or receivership.<sup>616</sup> Recapitalisation requirements of discretionary measures are not mild measures for banks to make changes to their assets. On the contrary, the requirements enforce the banks to take more drastic steps to improve the capital level of the banks, as selling shares and selling voting shares has a more direct impact on the banks' business and operations.

#### **b. Restrictions on Transactions with Affiliates**

The second discretionary measure for undercapitalised and significantly undercapitalised banks is restrictions on transactions with affiliates of the banks. The

614 12 U.S.C. § 1831o (f) (2) (A) (i)

615 12 U.S.C. § 1831o (f) (2) (A) (ii)

616 12 U.S.C. § 1831o (f) (2) (A) (iii)

banks need to comply with rules in the Federal Reserve Act. Under PCA provisions, federal banking agencies are allowed to restrict transactions between the banks and their affiliates when there are no exemptions to restrictions under the Federal Reserve Act, and appropriate federal banking agencies of the banks are entitled to take further restrictions on the banks' transactions with their affiliates.<sup>617</sup>

After the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), additional restrictions on transactions with affiliates have increased, and the additional restrictions have modified the definition of 'affiliates' and 'covered transactions' expanding the definitions of these two terms to include more situations.<sup>618</sup> The restrictions on transactions with affiliates consist of four aspects. First, there is a clarification of affiliates. If proceeds of the transaction between the bank and any person are for the benefit of the person, or are transferred to the person, the transaction will be regarded as a transaction with affiliates.<sup>619</sup> Second, the main restriction on transactions with affiliates is the number of transactions. A bank and its affiliates could conduct covered transactions with conditions on the number of transactions; specifically that the number of transactions between the bank and any affiliates will not be over 10% of capital stock and surplus of the bank, and the number of transactions between the bank and all affiliates will not be over 20% of capital stock and surplus of the bank.<sup>620</sup> Another restriction on transactions with affiliates is that the bank is not allowed to purchase low quality assets from its subsidiaries except where the bank is determined to buy the assets before the assets are acquired by the affiliates based on independent evaluations.<sup>621</sup> Finally, any covered transactions and transactions between the bank and its affiliates that are exempt from the restrictions need to comply with safe and sound banking practices.<sup>622</sup>

617 Morrison & Foerster LLP, 'Restrictions on Affiliate Transactions' <<http://media.mofo.com/files/uploads/Images/Section23ABChart.pdf>> last accessed 26 Aug 2019

618 12 U.S.C. § 371c (b)

619 12 U.S.C. § 371c (a) (2)

620 12 U.S.C. § 371c (a) (1)

621 12 U.S.C. § 371c (a) (3)

622 12 U.S.C. § 371c (a) (4)

### **c. Restrictions on Interests Rate**

The next discretionary measure for undercapitalised and significantly undercapitalised banks is restrictions on the interest rate paid on deposits. In general, federal banking agencies could determine to restrict the banks' interest rates that they pay on deposits, with reference to the interest rates on deposits of similar amounts as well as maturities and scale in the area where the banks operate.<sup>623</sup> However, the restrictions of federal banking agencies should not be retroactive, which means the banking regulators are not allowed to restrict interest rates paid on time deposits before the regulators started to take discretionary measures to act.<sup>624</sup>

### **d. Restrictions on Asset Growth**

Discretionary measures for both undercapitalised and significantly undercapitalised banks also include a measure for restrictions on asset growth of the banks. However, compared with restrictions on asset growth in mandatory measures for the banks, restrictions on asset growth as discretionary measures are stricter than those in mandatory measures and even require the banks to reduce their total assets in order to restore their capital.<sup>625</sup> Unlike prior approval of the agencies before the banks initiate acquisitions, new branches and new lines of business in mandatory measures, the restrictions on activities refer to changing, reducing or terminating any activities that are regarded to pose more threat or to bear excessive risks to the banks and their subsidiaries by appropriate federal banking agencies.<sup>626</sup>

### **e. Improvements of Management**

Another discretionary measure for federal banking agencies is to require undercapitalised and significantly undercapitalised banks to improve management by changing the board of directors or appointing new senior executive officers. Controlling management of banks is a common way for banking regulators to improve the management level of the banks. This practice can be seen in several EU countries where

623 12 U.S.C. § 1831o (f) (2) (C) (i)

624 12 U.S.C. § 1831o (f) (2) (C) (ii)

625 12 U.S.C. § 1831o (f) (2) (D)

626 12 U.S.C. § 1831o (f) (2) (E)

domestic banking regulators can require banks in their countries to make changes in organisational and management structure and to remove or suspend a bank official as well as to make changes in the internal control system.<sup>627</sup>

Federal banking agencies are able to take two kinds of discretionary measures to deal with management issues of undercapitalised and significantly undercapitalised banks. The first kind of measure is to change the board of directors of the banks entirely and requires the banks to elect a new board of directors.<sup>628</sup> Dismissal of directors follows the same rules as dismissal of senior executive officers. The second kind of measure is designed to deal with senior executive officers. Federal banking agencies are entitled to dismiss senior executive officers. Specifically, the senior executive officers who were in office for over 180 days immediately before the banks became undercapitalised can be dismissed by the agencies and this dismissal of senior executive officers is not regarded as removal of senior officers.<sup>629</sup> The agencies are also allowed to appoint new qualified senior officers to take control of the banks' management.<sup>630</sup>

#### **f. Restrictions on Activities of Bank-Related Parties**

Federal banking agencies have discretion to determine whether correspondent banks of undercapitalised and significantly undercapitalised banks are prohibited to accept deposits from undercapitalised or significantly undercapitalised banks or not, which includes acceptance of deposits of correspondent banks and acceptance of renewals and rollovers of deposits.<sup>631</sup> Another discretionary measure of the agencies to deal with the banks is to require prior approval of capital distribution of holding companies of the banks. Specifically, bank holding companies of the banks need to get prior approval from the Board of Governors of the Federal Reserve System before making any capital distribution of the companies.<sup>632</sup>

627 Eva Hupkes (n 13) 14

628 12 U.S.C. § 1831o (f) (2) (F) (i)

629 12 U.S.C. § 1831o (f) (2) (F) (ii)

630 12 U.S.C. § 1831o (f) (2) (F) (iii)

631 12 U.S.C. § 1831o (f) (2) (G)

632 12 U.S.C. § 1831o (f) (2) (H)

### **g. Divestiture of Banks**

The last discretionary measure of federal banking agencies to deal with undercapitalised and significantly undercapitalised banks is to require the banks to divest themselves or liquidate their subsidiaries or require bank holding companies or controlling companies of the banks to divest the banks under certain situations. Generally, the agencies could choose one of three divestiture measures or combine the measures to deal with the banks. The first divestiture measure requires the banks to divest themselves or to liquidate any subsidiaries. The condition for the agencies to take these measures is that the subsidiaries of the banks are likely to be insolvent, and that the financial situations of the banks threaten to impose great risks or to greatly influence and reduce assets and earnings of the banks.<sup>633</sup> The second divestiture measure requires bank holding companies of the banks to divest themselves or to liquidate other affiliates of the bank holding companies. The condition for this divestiture measure is that the affiliates of the bank holding companies are likely to be insolvent, and pose threats to the financial situations of the banks or to dissipate a considerable amount of assets and earnings of the banks.<sup>634</sup> The third divestiture measure requires any companies having control of the banks to divest themselves on the condition that appropriate federal banking agencies determine that the divestiture of controlling companies will benefit financial situations and future improvement of the banks.<sup>635</sup>

Discretionary measures of PCA for undercapitalised and significantly undercapitalised banks are stricter and more intrusive than mandatory measures of similar functions. Moreover, discretionary measures have an impact on business and operations on bank holding companies or any companies having control of the banks as well as subsidiaries of the banks. With stricter measures in place, undercapitalised and significantly undercapitalised banks are more likely to restore capital to meet regulatory requirements.

Appropriate federal banking regulators are required to take discretionary measures with significantly undercapitalised banks, and discretion of the regulators for significantly

<sup>633</sup> 12 U.S.C. § 1831o (f) (2) (I) (i)

<sup>634</sup> 12 U.S.C. § 1831o (f) (2) (I) (ii)

<sup>635</sup> 12 U.S.C. § 1831o (f) (2) (I) (iii)

undercapitalised banks is discretion to determine which measure or measures should be taken with the banks. The regulators also have the discretion of whether or not to take stricter discretionary measures which are designed for critically undercapitalised banks. This is similar to the application of discretionary measures to undercapitalised and significantly undercapitalised banks, where the appropriate banking regulators can decide whether or not to apply these discretionary measures.

Compared with mandatory measures of undercapitalised and significantly undercapitalised banks, discretionary measures for the banks have two features. One feature is that discretionary measures are stricter than mandatory measures. Another feature is that discretionary measures do not differentiate undercapitalised banks and significantly undercapitalised banks, which means both undercapitalised and significantly undercapitalised banks are subject to one set of discretionary measures. This is different from the application of mandatory measures, where significantly undercapitalised banks are subject to more measures than undercapitalised banks.

## **B. Corrective Measure for Preparing an Orderly Bank Resolution**

This type of measure normally deals with critically undercapitalised banks that have no chance of becoming solvent and financial viable. As one of the compulsory measures for critically undercapitalised banks, this type of measure acts as a bridge between bank regulation and bank resolution, which is significantly different from the compulsory and discretionary measures for banks in the previous four categories. Specifically, this type of measure refers to conservatorship or receivership of critically undercapitalised banks by the FDIC. In addition, other compulsory measures for critically undercapitalised banks are the same as significantly undercapitalised banks.<sup>636</sup>

636 George Kaufman, 'Central Banks, Assets Bubbles, and Financial Stability' in Maris Blejer and Marko Skreb (eds) *Central Banking, Monetary Policies, and the Implications for Transition Economies* (Kluwer Academics Publishers 1999)157

## **1. Rules of Conservatorship and Receivership for ‘Critically Undercapitalised’ Banks in the Federal Deposit Insurance Act**

The general rule of conservatorship or receivership for critically undercapitalised banks requires appropriate federal banking regulators with the concurrence of the FDIC to appoint a conservator or receiver for a bank within 90 days after the bank has been determined to be critically undercapitalised.<sup>637</sup> The federal banking agencies with the concurrence of the FDIC are allowed to take other appropriate actions that are determined to better further the purpose of the legislation other than conservatorship or receivership of the banks, and the agencies are required to document their reasons for taking such appropriate actions.<sup>638</sup> Periodic redetermination of situations of critically undercapitalised banks is required if appropriate banking agencies decide to take actions other than conservatorship or receivership. Other appropriate actions for critically undercapitalised banks will be effective during 90 days starting from the date that the actions are determined to be taken other than conservatorship or receivership, and then critically undercapitalised banks should be placed under conservatorship or receivership unless a new determination that other appropriate actions will be in place is made by the agencies before the end of the first determination.<sup>639</sup>

After conservatorship or other appropriate actions fail to restore capital and improve financial situations of critically undercapitalised banks, it is then followed by the final measure of initiation of receivership. This is the general rule for critically undercapitalised banks that fail to restore capital and there are exceptions to the general rules for the banks. A receiver will be appointed to critically undercapitalised banks during the calendar quarter that the banks have been critically undercapitalised; on average for 270 days after confirmation of a critically undercapitalised category of the banks.<sup>640</sup> There are two exceptions of appointment of receivership by federal banking agencies. One exception that gives federal banking agencies discretion to continue to take other appropriate actions is when critically undercapitalised banks have met further requirements. Further requirements for critically undercapitalised banks focus on different

637 12 U.S.C. § 1831o (h) (3) (A) (i).

638 12 U.S.C. § 1831o (h) (3) (A) (ii).

639 12 U.S.C. § 1831o (h) (3) (B).

640 12 U.S.C. § 1831o (h) (3) (C) (i).

aspects of the financial situation of the banks. Critically undercapitalised banks are determined by an appropriate banking agency and with concurrence of the FDIC to have a positive net worth, comply with the capital restoration plan substantially and be in need of consistent improvement of capital, be profitable and have sustainable earnings, and reduce the amount of nonperforming loans and the ratio of nonperforming loans to total loans.<sup>641</sup> Another exception is both the head of the appropriate banking agency for a particular undercapitalised bank and the chairman of the board of directors certify that the bank is viable and will not fail.<sup>642</sup>

## **2. Receivership of Critically Undercapitalised Banks by the FDIC**

The FDIC is allowed to be appointed as a receiver for critically undercapitalised banks and to close the banks. Under the circumstance that undercapitalised banks fail to submit a capital restoration plan or substantially fail to implement the plan with no future possibility to become adequately capitalised banks, The FDIC can be appointed as a conservator or receiver for undercapitalised banks.<sup>643</sup> These are two of the grounds of the FDIC's receivership. Apart from PCA's grounds to start receivership, other grounds could also lead to initiation of the FDIC' receivership. According to USC 1821 (c) (5)<sup>644</sup>, there are 11 more grounds for the appointment of a conservator or receiver for any bank, except under undercapitalisation rules in PCA. Specifically, the grounds include (1) insufficient assets of banks for obligations; (2) substantial dissipation of assets and earnings because of violation of statute or regulation or unsafe and unsound practice; (3) unsafe and unsound condition to transact business; (4) wilful violation of cease-and-desist order which has become final; (5) concealment or refusal to submit bank's books, papers, records, or assets for inspection or examination; (6) inability to meet obligations or pay depositors in normal course of business; (7) substantial losses of capital or possibilities of substantial losses with no prospect to be adequately capitalised; (8) violations of law and regulation or unsafe and unsound practice or condition; (9) consent of bank's board

641 12 U.S.C. § 1831o (h) (3) (C) (ii) (I).

642 12 U.S.C. § 1831o (h) (3) (C) (ii) (II).

643 Stanley Ragalevsky and Sarah Ricardi, 'Anatomy of a Bank Failure' (2009) 126 Banking Law Journal 867,870

644 12 U.S.C. §1821(c)(5)

of directors or shareholders of members of the appointment; (10) cessation of insured status; (11) guilty of money laundering offence of bank.<sup>645</sup> The grounds of the FDIC's appointment as a receiver are almost the same as the grounds of appointment as a conservator except that for the purpose of liquidation of banks only the FDIC must be appointed as a receiver.<sup>646</sup>

The process for appointment of the FDIC as a receiver of a critically undercapitalised bank starts from the decision of the bank's chartering authority to close the bank, which are the OCC for state-chartered banks and a state-chartering authority for state-chartered banks.<sup>647</sup> Based on different grounds of appointment of a conservator or a receiver, the FDIC can be appointed by the chartering authority of the bank or by itself to be the conservator or receiver of the critically undercapitalised bank. The difference between conservatorship and receivership is whether the bank is still operated as a going-concern or the bank is directly faced with insolvency procedures and liquidation.<sup>648</sup> Under conservatorship, the bank is operated as a going concern and is prepared to be rehabilitated or closed, while under receivership the aim is to close and liquidate the bank.

After the decision of a bank's chartering authority to close the bank and the FDIC is appointed to act as a receiver, the FDIC has the power and authority to take respective actions to deal with the bank for the benefits of the bank, the depositors and the deposit insurance funds. There are normally two kinds of steps that are available for the FDIC as a receiver. One is to find a buyer of the bank and another is to resolve and liquidate the bank. Once the resolution decision of the bank has been made, the FDIC gathers information of the bank, including value and liquidation value of the bank's assets and liabilities, and determines resolution measures to deal with the bank.

<sup>645</sup> *ibid.*

<sup>646</sup> Heidi Mandanis Schooner, 'Bank Insolvency Regime in the United States and the United Kingdom' (2005) 18 *Transnational Law* 385, 389

<sup>647</sup> Donna Wilson and Kristopher Knabe, 'FDIC Bank Failure Litigation: Understanding and Navigating the FDIC's Professional Liability and Mortgage Fraud Suits' ABA Section of Litigation 2012 Section Annual Conference (18-20 April 2012)

<[https://www.americanbar.org/content/dam/aba/administrative/litigation/materials/sac\\_2012/26-1\\_fdic\\_bank\\_failure\\_litigation.authcheckdam.pdf](https://www.americanbar.org/content/dam/aba/administrative/litigation/materials/sac_2012/26-1_fdic_bank_failure_litigation.authcheckdam.pdf)> last accessed 26 Aug 2019

<sup>648</sup> 12 U.S.C. §1821(c)(2)(D) and (3)(D)

Finding a buyer of the bank refers to the purchase of the bank by another healthy bank conducted by the FDIC, which involves several steps. Based on gathered information, the FDIC is able to market the failing bank and its assets to other eligible healthy banks. Potential buyers of the failing bank are allowed to bid on the bank prior to resolution of the bank by the FDIC. This is then followed by the disclosure of the FDIC's reserve price concerning the liquidation value of the failing bank to eligible bidders. The bid of each eligible bank includes the current collectable value of the bank's assets and an estimate of future value of potential assets to be required, and the bid will be submitted to the FDIC for assessment. The successful bid is selected based on evaluation of the lowest cost and impact on uninsured depositors, and the lowest cost principle plays an important role in selecting the winning bid. After the selection process of the FDIC to find an eligible buyer for the failing bank, it is resolution weekend. During the resolution weekend, part of the failing bank's assets is dealt with by the acquiring bank and the FDIC; namely the implementation of the bid and the sale of the failing bank's assets. The failing bank's remaining assets are separated and put into receivership.<sup>649</sup>

As a receiver to resolve a failing bank, the FDIC is entitled to close the failing bank, and control assets and succeed all rights of the bank. In other words, the FDIC takes the place of the failing bank and has the power and authority to operate the bank's business. The FDIC has a variety of measures to conduct the resolution of the bank. Specifically, purchase and assumption and depositor payoff are the two types of commonly used resolution measures. There are also some other historical measures that were applied by the FDIC but these cannot be used in the current resolution of failing banks, including open bank assistance, net worth certificate program, income maintenance agreement, capital forbearance program and loan loss amortisation program and branch breakup.<sup>650</sup>

Purchase and assumption (P&A) refers to a transaction between a failing bank and another healthy institution where the healthy institution purchases some or all assets of

649 Linda McGlasson, 'Anatomy of a Bank Failure: What Happens When the FDIC Pulls the Plug? A Behind – the – Scene Look at How Regulators Mobilise to Protect the Assets of Troubled Banks' Bank Info Security (17 August 2009) <<https://www.bankinfosecurity.com/anatomy-bank-failure-what-happens-when-fdic-pulls-plug-a-975>> last accessed 26 Aug 2019

650 The Federal Deposit Insurance Corporation, FDIC Resolution Handbook (Dec 2014) <[https://www.fdic.gov/about/freedom/drr\\_handbook.pdf](https://www.fdic.gov/about/freedom/drr_handbook.pdf) > last accessed 26 Aug 2019

the bank and assumes some or all liabilities of the bank.<sup>651</sup> Under the category of P&A , there are more specific types of P&A measures, including basic P&As, whole bank P&As, P&As with optional shared loss and bridge bank P&A.<sup>652</sup> Depositor payoff is another category of resolution measures for the tFDIC. This is the measure where there is no lowest cost bid suitable for a P&A measure.<sup>653</sup> Depositor payoff refers to payment of insured deposits being made in full by the FDIC to insured depositors of the failed bank where no liabilities of the bank have been assumed.<sup>654</sup> The two different types of depositor payoff are straight depositor payoff and insured depositor payoff. The difference between the two types of depositor payoff is whether the FDIC directly pays all the insured amounts of deposit or whether these deposits are transferred to another healthy institution with no disruption in service of deposits.<sup>655</sup>

The two steps of the FDIC to resolve a failed bank, specifically sale of the failed bank and resolution of the bank, are related and both contribute to the final outcome of a bank resolution. Although being in the category of critically undercapitalised banks is one of various reasons of the appointment of the FDIC as a receiver, for critically undercapitalised banks, receivership by the FDIC is the last step of PCA measures which is eventually the last step for all banks that fail to operate or comply with law and regulations. As receivership is the last step, unlike previous PCA measures intending to restore capital ratios of banks, the FDIC's receivership aims to resolve a failed bank in the least costly way with the least impact on the depositors and creditors of the failed bank.

As PCA requires banking regulators to deal with banks in different capital categories with different measures, PCA measures differentiate the treatment of different banks by the regulators to achieve different goals and solve particular problems of banks in different capital categories. Specifically, regular banking regulation and supervision aims for banks in good financial condition, a heightened level of supervision and intervention deals with banks with some financial problems, and resolution measures and

651 *ibid.*

652 *ibid.*

653 Jock Lul Pan Chuol, *The United States Outer Executive Departments and Independent Establishments and Government Corporations* (Xlibris 2010)

654 Francesca Arnaboldi, *Deposit Guarantee Schemes: An European Perspective* (Palgrave Pivot 2014)

655 Barry Zisman, *Banks and Thrifts: Government Enforcement and Receivership* (Mathew Bender 2017)

processes solve problems of banks with critical financial situations. PCA measures integrate both banking regulation and bank resolution measures to deal with banks in different capital categories, which perform the function of a bridge between “no interventions” with a bank’s business to replacing the bank’s authority to conduct its business.

Moreover, PCA measures are detailed and specific measures for banks in all categories. They instruct the banks to start or stop making certain transactions, decisions and doing business, and instruct banking regulators to intervene more in the businesses of the banks with less capital. Most of PCA measures aim to help the banks improve their capital ratios and these measures have an impact on various aspects of the banks, including shareholders, directors and managers, and banks’ businesses and activities.

To summarise, PCA measures are stricter when a bank’s capital category continues to fall. For well capitalised and adequately capitalised banks, there are only general restrictions on capital. For undercapitalised and significantly undercapitalised banks, there are lists of compulsory and discretionary measures that are more intrusive to the banks’ operations and activities. As for critically undercapitalised banks, not only restrictions on several aspects of the banks’ activities are enforced, but the banks are faced with more severe measures of receivership of the FDIC to end their operations as banks. The focus of PCA measures is mainly aimed at measures for undercapitalised and significantly undercapitalised banks, and primarily deals with improving capital adequacy of the banks to restore their capital to meet regulatory standards.

## **II. Corrective Measures of UK Structured Early Intervention for Banks**

This section discusses corrective measures of structured early intervention for banks in the UK. With the same feature of US corrective measures, UK corrective measures are stricter than regular banking regulatory measures and have a progressive feature that increases the level of intervention if the banks’ financial performance continues to deteriorate. In general, UK corrective measures have a more integrated approach by incorporating both recovery measures and resolution measures for banks at each stage of structured early intervention. The UK corrective measures are triggered by supervisory assessment and judgement of the banks’ financial performance and risk

levels. At the earlier stages the banking regulator for troubled banks tends to focus more on recovery measures while resolution measures may play a more important role in dealing with troubled banks at the later stages.

The Proactive Intervention Framework (PIF) is designed for the prudential banking regulator to identify and manage risks of banks at an early stage. PIF measures are designed to deal with the risks of several aspects of the banks' businesses, including aspects of external context, business risk, management and governance, risk management and controls, capital, and liquidity of banks' businesses. Supervisory measures of PIF are based on banking regulation and supervision measures of the Prudential Regulatory Authority (PRA), which is an improved level of regulation and supervision of banks and is designed for banks with more risks. This section is structured to discuss corrective measures for the UK's prudential banking regulator in the five categories of PIF respectively.

#### **A. Corrective Measures at Stage 1 of PIF**

Banks at stage 1 of PIF are subject to regular banking regulation and supervision measures as discussed in chapter 2. No additional measures for banks at stage 1 are required for the banking regulator to take actions and intervene. All supervisory measures for banks at stage 1 are consistent with regular banking regulation and supervision requirements, which is the groundwork for further additional measures for banks at other stages.<sup>656</sup> The increased level of regulation and supervision, especially stricter corrective measures at other stages is built on, and in can be compared to the foundation of regular banking regulatory measures.

#### **B. Corrective Measures at Stage 2 of PIF**

Banks at stage 2 of PIF may have some vulnerabilities and deficiencies in their financial conditions or business which present moderate risks to their viabilities. The prudential banking regulator implements recovery and resolution measures to deal with the banks and their risks at stage 2. At this stage, the banking regulator focuses more on

<sup>656</sup> Allen & Overy (n 357)

recovery measures rather than on resolution measures which would have been implemented at stage 1 in order to prepare for a future resolution if necessary.

Concerning recovery measures at stage 2, as the primary prudential regulator for banks, PRA has three specific recovery measures to deal with banks with moderate risks to their viabilities. First, PRA is entitled to improve the level of regulation and supervision of banks at stage 2, especially imposing additional requirements on the banks to disclose more information. PRA can request more information from the banks by applying information gathering power under the rules of the Financial Services and Markets Act (FSMA). The information gathering power of the PRA refers to the option given to the PRA to go through a skilled persons review of the banks to acquire more information on whether the banks are in compliance with PRA and other regulatory rules, especially when the PRA is uncertain about, or has insufficient information on, the banks' compliance.<sup>657</sup> A skilled persons review as a supervisory tool of the PRA has several functions to achieve the PRA's goals: specifically that skilled persons reviews can be used to diagnose and identify risks in the banks and then to monitor development of identified risks and further to prevent and limit the impact of these risks, and in the end to allow the PRA to respond and deal with these risks.<sup>658</sup> The skilled persons review can be used under PIF to gather more information for the PRA, and it can also be used as a way of verification of information provided to the PRA or as a part of the PRA's normal regulation and supervision.

Another measure of the PRA to deal with risks of banks at stage 2 is to require the banks to solve certain problems within an appropriate timeframe.<sup>659</sup> This measure is related to one of the PRA's regulatory powers under FSMA to deal with risks of banks at early stage. Banks at stage 2 are required to correct and resolve identified risks or deficiencies that existed in their business in the first place.<sup>660</sup> The PRA has a set of disciplinary measures for the banks if they fail to correct problems or co-operate with

657 The Financial Services and Markets Act 2012, s 166

658 The Prudential Regulation Authority, 'Report by Skilled Persons' Supervisory Statement SS7/14 (September 2015)

<<https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/supervisory-statement/2015/ss714-update.pdf?la=en&hash=B6CF68E69A14E9CC68BE45A6DD23EFBFBFD289D0>>  
last accessed 26 Aug 2019

659 Allen & Overy (n 270)

660 *ibid.*

regulations, including financial penalties and public censorship. In order to control and reduce the impact of risks, the PRA can also impose certain restrictions on the banks' operation and business activities until the banks have taken certain actions and been in compliance with regulatory requirements.<sup>661</sup>

The last recovery measure of the PRA at stage 2 of PIF focuses on the recovery and resolution plan of the banks. A specific requirement for the banks at stage 2 is to update the recovery plan on the basis of the recovery plan requirement at stage 1, and the banks may also need to activate their plans.<sup>662</sup>

In regard to resolution measures and planning at stage 2 of PIF, there are two primary corrective measures for the PRA to take against the banks. Resolution measures at this stage are preliminary and prepare for further arrangements of resolution with moderate risks in the banks' business. The first step for one resolution measure of the PRA is to review the banks' resolution plans with the resolution authority to identify potential deficiencies in the banks, initiate prior planning and acquire sufficient information in advance, prior to the resolution of the banks.<sup>663</sup> This is followed by an assessment of the resolvability of the banks by both the PRA and resolution authorities.<sup>664</sup> The assessment of the resolvability of the banks is based on particular resolution strategies of the resolution authorities concerning situations of individual banks. Based on the assessment of the PRA and the resolution authorities of the banks, specific measures and arrangements to deal with a potential future failure of the banks will be put in place to ensure a feasible process and implementation of resolution plans. At this stage, the PRA and resolution authorities will not take measures that resolve the banks, and the resolution measures of the PRA at stage 2 focus on preparations for potential resolution of the banks.

The second resolution measure at stage 2 of PIF is evaluations conducted by FSCS to assess the quality of the banks' data, provided to support a single customer review and to assess any obstacles to pay out or transfer deposits.<sup>665</sup> As the institution

661 *ibid.*

662 *ibid.*

663 The Prudential Regulation Authority (n 2)

664 *ibid.*

665 The Prudential Regulation Authority (n 2)

that makes payment to depositors in the situation of a bank resolution, FSCS assesses these aspects in advance so they can evaluate the relevant data of the banks before the actual resolution.

To summarise, recovery and resolution measures of the PRA at stage 2 of PIF focus on managing moderate risks to the banks and their viabilities. The additional requirements of the banks to disclose information and resolve deficiencies within certain timeframes are designed to improve the current operation of the banks and to reduce their risk levels. The resolution measures of PIF focus on the joint review of prudential banking regulators and resolution authorities, to make respective plans tailored to individual banks in case of potential future resolution. Early preparation of relevant data and situations of the banks' deposits are also assessed by FSCS at an early stage to prepare for potential future resolution of the banks.

### **C. Corrective Measures at Stage 3 of PIF**

At stage 3 of PIF, identified risks pose a more serious threat to the safety and soundness of banks. This is the stage where more intrusive early intervention by banking regulatory agencies takes place.<sup>666</sup> Other than an increased level of regulation and supervision at stage 2, more intrusive measures and actions will be imposed on the banks to restrict their operations and businesses until they satisfy the regulatory requirements. Both recovery measures conducted by the PRA and resolution measures co-operated by the PRA, and resolution authorities for the banks are options available.

The recovery measures of the PRA at stage 3 of PIF consist of two aspects. One aspect focuses on restrictions imposed on the banks by the PRA, which are stricter compared with recovery measures of PIF at stage 2 with a higher level of supervision. Another aspect of the recovery measure is to require the banks to use the information set out in their recovery and resolution plans as appropriate.

In regard to restrictions imposed on the banks by the PRA, these restrictions have a more direct impact on the operations and business of the banks compared with the recovery measures of stage 2. These restrictions or measures of the PRA are compulsory

<sup>666</sup> Ross Cranston, Emiliios Avgouleas, Kristin van Zwieten, Christopher Hare and Theodor van Sante, *Principles of Banking Law* (OUP 3rd edition 2018) 152

measures for the banks, which shows the difference between the recovery measure at stage 2 allowing the banks to correct themselves within a certain timeframe. The PRA can impose any resulting measures or actions on the banks. These measures include changes made to the managers and directors of the banks, restrictions on capital distribution such as dividends payment and remuneration, restrictions on certain business activities, restrictions on balance sheet growth and stricter leverage limits, higher requirements on liquidity and capital guidelines for the banks.<sup>667</sup> Imposing these restrictions on the banks at stage 3 requires the banks to reduce risks existing in their businesses and prevent the banks from getting involved in any business that may increase the current risk level.

Concerning the recovery plan of the banks at this stage, the banks are required to take advantage of the information and resources set out in the plan to reduce risks and improve overall operations.<sup>668</sup> The recovery plans of the banks are designed to help the banks recover from threats and risks and help the financial system to be in a healthy and sustainable position. At stage 3, the PRA can require the banks to take the appropriate measures set out in their recovery plans to manage current threats and risks. These specific measures in the plan are designed by the banks to manage capital and liquidity deficiencies as well as other risks and pressures in the time of stress.

Resolution measures for banks at stage 3 also become more intense. Although there are still no actual measures taken to resolve the banks, the PRA and resolution authorities will increase the level of engagement on resolution planning and will gather all information that both regulators consider necessary to carry out the task.<sup>669</sup> This is different from the review of resolution plans of the banks and assessment of resolvability of the banks at stage 2 as at stage 3 preparation and action for resolution of the banks by the PRA and resolution authorities are in place rather than only assessing situations of the banks.

667 CMS, 'The Prudential Regulation Authority's Approach to Banking Supervision – Further Details Announced' (18 Oct 2012) <[www.cms-lawnow.com](http://www.cms-lawnow.com)> last accessed 26 Aug 2019

668 *ibid.*

669 *ibid.*

#### **D. Corrective Measures at Stage 4 of PIF**

Banks are faced with imminent risks of failure at stage 4 of PIF. In other words, the banks are very likely to fail to meet threshold conditions of banks with more worrying financial performance. However, the financial situations of the banks and their operations still have a chance to be corrected and remedied. To deal with banks and their risks at stage 4, the PRA also implements the same recovery measures and resolution measures for the banks as it uses in the preceding two stages.

In regard to recovery measures of the PRA, the intensity of recovery measures will be further increased, especially measures to improve liquidity and capital adequacy.<sup>670</sup> Concerning other aspects of the banks' operations and business activities, the scale of regulation and supervision of the PRA will increase and intensify respectively to restore the financial situations of the banks. The PRA also sets a timetable for the implementation of these improved regulation and supervision measures where the banks are required to correct their deficiencies within a certain timeframe.<sup>671</sup>

At this stage the recovery plan needs to be initiated by the banks, as one of the recovery measures under the regulation of the PRA. Measures and actions in the recovery plan, designed by the banks, need to be applied, including measures of sales of assets of the banks, which helps the banks to improve their capital and liquidity.<sup>672</sup> The banks need to demonstrate feasibility and credibility of recovery measures and actions conducted by the banks themselves, and explain whether there will be actual results or improvements after these measures and actions, thereby leading to the fact that measures and actions conducted by the banks themselves to improve their financial situation and overall condition are influenced by corrective measures of PIF at stage 4.<sup>673</sup>

Concerning resolution measures at this stage, all relevant regulatory authorities, including the PRA, resolution authorities and FSCS as the deposit payment institution, make sure that measures and actions to prepare for future resolution of the banks have

670 The Prudential Regulation Authority (n 2)

671 *ibid.*

672 *ibid.*

673 *ibid.*

been taken and relevant data of the banks has been collected for future reference.<sup>674</sup> The resolution measures of stage 4 of PIF ensure a feasible resolution of the banks in the future if the banks' situations continue to deteriorate.

To summarise, measures of PIF at stage 3 and stage 4 focus more on recovery measures and aim to improve the banks' financial situation and overall operations by imposing stricter restrictions. The intensity and scale of recovery measures increases from stage 3 to stage 4 with an increasing level of the banks' risks and deterioration in financial situations. Concerning resolution measures at these two stages, the level of resolution planning increases with the banks, specifically from gathering all relevant information of the banks at stage 3 to ensuring all measures and actions preparing for resolution are in place for future resolution. At both stage 3 and 4, the banks still have the chance to correct their deficiencies and return to healthy conditions.

#### **E. Corrective Measures at Stage 5 of PIF**

Banks that are categorised in stage 5 of PIF are unlikely to return to the state of a regular and well-functioning operation. At stage 5, the banks are in resolution or being wound up. Unlike the previous three stages, PRA can only take resolution measures to the banks at stage 5 instead of still having both recovery and resolution measures. PRA and other regulatory authorities are in cooperation and each of the three regulatory bodies is responsible for one aspect of the resolution measures at this stage. PRA is responsible for determining whether the banks meet the threshold conditions, resolution authorities (Bank of England) focus on managing the banks under a special resolution regime, and FSCS contributes to deposit payment of the insured depositors.

First, concerning PRA's part of resolution measures at stage 5 of PIF, PRA determines whether banks meet the threshold conditions which are the minimum requirements for a bank to be approved to have their banking business conducted by banking regulators. As the prudential banking regulator, PRA's role in bank resolution is to decide whether the banks are failing or likely to fail. PRA also determines whether there is a chance for operations of the banks to be corrected or rectified. If a bank fails to meet the threshold conditions and its operation is unlikely to be corrected, then PRA decides

<sup>674</sup> *ibid.*

the bank is not viable and further actions in the resolution regime are needed to deal with the bank.<sup>675</sup>

This is then followed by the decision of the Bank of England (BoE) as the bank resolution authority on whether or not to put a failing bank under resolution regimes and what measures to take to deal with the bank in resolution. The failing bank is not directly put under the resolution regime after the decision of the prudential regulator. To trigger resolution regimes regulated by the BoE, there are normally three conditions before the BoE decides to put the failing bank under the resolution regime and deal with the failing bank by applying resolution tools. The failing bank first needs to satisfy two triggering requirements of the resolution regime, which are (1) the bank is failing or is likely to fail and (2) it is not reasonably likely that actions will be taken to change this.<sup>676</sup> Based on these requirements, resolution power and tools of the BoE can only be applied to a failing bank if the resolution of the failing bank is in the public interest, as the application of resolution tools has a direct impact on property rights. The third condition is that the BoE needs to consider resolution objectives when it decides whether or not to put the failing bank through the resolution regime. If the failing bank satisfies all requirements to trigger a resolution, then the bank will be put under the bank resolution regime and respective resolution tools will be applied by the resolution authority. However, if the failing bank does not satisfy the public interest test, the bank will be resolved by the statute bank insolvency process.

Concerning resolution tools and measures of the BoE, there are three main resolution tools for the BoE to apply which are bail-in, transfer to a private sector and transfer to a bridge bank.<sup>677</sup> Bail-in refers to the write-down of claims of the failing bank's unsecured creditors and conversion of these claims into the bank's equity to resolve the insolvency state of the failing bank.<sup>678</sup> Both a transfer to a private sector tool and a transfer to a bridge bank tool are ways to transfer all or part of the failing bank's assets and liabilities to another entity: either another bank or a bridge bank established and managed

675 *ibid.*

676 The Bank of England (n 52)

677 *ibid.*

678 *ibid.*

by the BoE.<sup>679</sup> The two additional measures of the BoE's resolution tools are to transfer to an asset management vehicle, and the bank administration process, which are used with three main resolution tools to resolve the failing bank in an orderly way.

For failing banks that do not satisfy the public interest test, these banks will go through the bank insolvency procedure.<sup>680</sup> Under this circumstance, a liquidator will be appointed to the failing bank. The liquidator first ensures that the deposits of the failing bank either go through a rapid payment by FSCS, or transfer to a viable firm, and in both cases FSCS will take over the deposit claims in the insolvency procedure. Then the liquidator liquidates the failing bank as normal and winds up the bank to achieve the best result for creditors and other parties involved in the insolvency.

FSCS also plays a role in bank resolution or winding up a failing bank, which is to make deposit payments or to fund deposit transfers. Compared with the FDIC, FSCS has no role in regulating banks and bank resolution, and the role of FSCS is to make deposit payments and to take over the claims after the payment in an insolvency procedure.

Measures of PIF at different stages represent the UK version of corrective measures of structured early intervention. An increased level of regulation and supervision measures are based on measures of regular normal banking regulation and supervision. The stricter and more intrusive measures are additional requirements for troubled banks from stage 2 to 5 of PIF, which intervene in the troubled banks' businesses to control growth and reduce risks.

Measures of PIF at stage 1 provide a groundwork or baseline for measures of PIF at other stages. Measures of PIF at the last stage bridge banking regulation and bank resolution, which focus on cooperation among several regulatory agencies and arrangements to resolve failing banks. Apart from the first and the last stage of PIF, measures of PIF at other stages consist of recovery measures and resolution measures. These recovery measures focus on correcting deficiencies existing in the banks' operation and business activities by imposing restrictions or duties on the banks. The intensity and intervention of these recovery measures increases from stage 2 to 4 as risk levels continue to go up and the financial situation of the banks deteriorates. Based on

679 *ibid.*

680 *ibid.*

the judgement of the prudential regulator about the risks and financial situation of banks, respective corrective measures of PIF can be applied to troubled banks to resolve their risks and issues.

### **III. Corrective Measures of Chinese Structured Early Intervention for Banks**

Both the US' Prompt Corrective Action and the UK's Proactive Intervention Framework have the function of dealing with banks by taking corrective measures that are progressive and have an increased level of regulation and supervision, depending on financial situations and risk levels of banks. Under the current Chinese banking regulatory framework, corrective measures of structured early intervention for troubled banks do not feature a system where respective measures are designed for banks with different financial performance and risk levels at particular categories or stages.

The options for corrective measures are limited. Banks are either under regular banking regulation and supervision, being suspended and managed by banking regulators, or being wound up in insolvency procedures. Current measures of structured early intervention for banks in China are mainly measures of banking regulators to suspend or manage banks other than normal banking regulation and supervision. In relation to corrective measures that could suspend or manage troubled banks, some of these measures are corrective measures that aim to prevent banks' financial situations from deteriorating, similar to US and UK measures of structured early intervention with banks. However, some of these measures of banking regulators to suspend or manage banks are stricter compared with structured early intervention measures in the US and the UK. These measures can lead to more severe outcomes for banks than intrusive measures and intervention of operations and businesses of the banks under the US's and UK's structured early intervention for banks.

This section discusses Chinese corrective measures of structured early intervention for banks from two aspects. One aspect discusses general corrective measures of banking regulators to manage and to prevent operations and businesses from deteriorating in China. Another aspect is stricter corrective measures that can even suspend operations of banks by banking regulators.

## A. General Corrective Measures for Banks

Depending on the financial performance and risk level of a bank, banking regulators could choose to enforce optional measures and/or corrective measures to correct the bank's risks and deficiencies in its financial performance in China. For example, if a bank has minor risks, its banking regulators will suggest that the bank takes optional measures to manage risks. On the other hand, if it is a bank with severe risks or unstable financial situations, banking regulators will choose to apply corrective measures.

Corrective measures that are put in place to manage situations of troubled banks by Chinese banking regulators are similar to the measures of an increased level of regulation and supervision for banks categorised in undercapitalised and significantly undercapitalised banks in the US and to the measures for troubled banks at stage 2 to 4 of PIF in the UK. These measures, including both optional and corrective measures, can lead to changes to the management and the board of a bank, restructure of assets and liabilities of a bank, issuing new shares, increasing equity by shareholders, sales of assets, restrictions on capital distribution and large payments, restrictions on certain types of business activities, and conducting a merger.<sup>681</sup> These corrective measures also include an increased level of frequency of supervisory assessment and shortened time interval between reports of troubled banks.<sup>682</sup> While these corrective measures are applied to banks with financial difficulties, there are additional penalties for management and the board of the troubled banks. The penalties for managers and directors are used to improve corporate governance of the banks, which provides managers and directors of the troubled banks to improve internal control of the banks.

Apart from the corrective measures mentioned above, there is one particular type of corrective measures of Chinese banking regulators, which is the takeover of banks by banking regulators. Based on the banking law on takeovers, a takeover is a way or measure of banking regulators to regulate and restructure banks when the banks are failing or are likely to fail to protect the interests of depositors.<sup>683</sup> A takeover has the feature of administrative measure by banking regulators. According to the Bank

681 Gang Yi, *Money and Banking* (Gezhi Publishing 2006) 143

682 Dinghong Cai and Research Centre of PBOC Yangzhou Branch, 'Early Regulatory Intervention – Global Perspectives and Enlightenment' (2018) 6 *Financial Perspectives Journal* 53.

683 The Law of the People's Republic of China on Commercial Banks, s 64-68

Supervision Law of the People's Republic of China, a takeover can only be implemented by banking regulatory authorities other than the court or other regulatory authorities.<sup>684</sup> A takeover is also regarded as a temporary and remedial measure, which aims to recover operations and businesses of troubled banks back to their normal and healthy conditions. Based on the Law of the PRC on Commercial Banks, a takeover period of a troubled bank does not go beyond a two-year limit.<sup>685</sup>

The main difference between a bridge bank as a resolution tool and a takeover is that a takeover is an internal restructure of banks conducted by banking regulators which transfers the management of a troubled bank from the bank itself to the banking regulators.<sup>686</sup> Another difference between a takeover and a bridge bank is the purpose and aim of the two measures. A takeover aims to recover a troubled bank's ability by restructuring the management of the bank while a bridge bank aims to maintain the functions of a failed bank until the bank has been sold to a private sector purchaser or by other ways of selling the bank.

In relation to the takeover of troubled banks, the problem with this corrective measure is the lack of specific rules and provisions for banking regulators to take action based on the following aspects. First, standards for banking regulators to initiate a takeover are vague and simple which leads to too much discretion of the banking regulators and difficulties to apply in practice.<sup>687</sup> Second, in regard to purposes and aims of a takeover of recovering troubled banks' abilities to healthy and normal operations, the current aim of a takeover is not the fundamental purpose of the takeover. When a bank is failing or likely to fail, the corrective measure of a takeover is not only to recover the bank's ability to operate but more importantly to deal with systemic risks and liquidity issues in the financial system. Therefore, the aim of the current takeover is limited and incomplete.<sup>688</sup> Another problem concerning a takeover is the primary banking regulator of this measure, especially after the enactment of the Deposit Insurance Regulation. The

684 The Bank Supervision Law of the People's Republic of China, s 38

685 The Law of the People's Republic of China on Commercial Banks, s 67

686 Pu Wang and Feng Wang, 'Analysis of Chinese Administrative Takeover of Banks' (2011) 21 Modern Economic Information 239

687 Jie Lei, 'Standards and Requirements for Chinese Administrative Takeover of Banks' (2017) 17 Legality Vision 213

688 *ibid.*

deposit insurance funds management agency also plays a role in banking regulation and supervision. Concerning the application of a takeover, the current legislation does not clarify which regulator is the primary regulator to apply a takeover of troubled banks and does not explain what procedures the primary regulator will be organising and structuring to perform takeovers.

## **B. Stricter Corrective Measures**

As the legal framework of structured early intervention for banks is currently incomplete and in need of improvement, there is a lack of organised and systemic corrective measures for banking regulators to deal with the risks of banks. A takeover, suspension of a bank's operation and revocation of a bank's license are regarded as the three major corrective measures for regulators to deal with troubled banks.<sup>689</sup> This section discusses the other two corrective measures for banking regulators in China, which are suspension of a bank's operation and revocation of a bank's license. Compared with a takeover, these two corrective measures are stricter as operations of banks are affected.

Rules of the suspension of a bank's operation are formulated in both the Law of the PRC on Commercial Banks and the Banking Supervision Law of the PRC. Both these laws have specific rules on this measure. This corrective measure of suspension of a bank's operation can also be used as a way to penalise troubled banks if they fail to perform the general corrective measures mentioned in previous sections. This section starts with the role of suspension of a bank's operation as a corrective measure.

According to the Law of the PRC on Commercial Banks<sup>690</sup>, the CBRC as the prudential banking regulator can use this corrective measure on its own judgement in two types of situations, which are the violation of laws of business activities of a bank and incompliance of regulatory standards. Concerning the violation of laws of business activities, under the following circumstances a bank will be regarded as violating the laws because of its business activities, which are (1) setting up a new branch of a bank without acquiring prior approval of banking regulators; (2) establishing separation, acquisition and

689 Yufang Zhang, 'Comparisons of Takeover of Banks in the United States and China' (2009) 12 Shanghai Finance 80

690 The Law of the People's Republic of China on Commercial Banks, s 74

changes to the structure of a bank without acquiring prior approval of banking regulators; (3) making deposits and giving loans while increasing or decreasing interest rates that violate the law or by other inappropriate and unfair means; (4) renting and lending of banking license; (5) conducting foreign exchange business or acting on behalf of others to conduct foreign exchange business without prior approval of banking regulators; (6) purchasing and selling government bonds or issuing, purchasing and selling financial bonds without prior approval of banking regulators; (7) violations of the law by conducting trust and security business, making investments into property that is not used by a bank itself and investing non-bank financial institutions and other corporations; and (8) giving credit loans or secured loans that hold advantageous terms over general borrowers to related or affiliated parties.<sup>691</sup> Concerning incompliance of regulatory standards, a bank's operation will be suspended under the following situations, which include (1) rejection or obstruction of examination and inspection of banking regulators; (2) providing fake or hiding important facts on financial reports, statements and statistical statements; and (3) incompliance of capital adequacy ratio, liquidity standards, loan ratios of single borrowers and other regulatory standards on asset and liability ratio.<sup>692</sup>

The CBRC can take this corrective measure to the banks under suggestions of the People's Bank of China under the following circumstances. There are two types of circumstances where the corrective measure of suspension of a bank's operation can be taken against a bank. One situation is violation of laws of a bank's business activities, which are (1) conducting foreign exchange business without prior approval; (2) issuing bonds on the interbank market, purchasing and selling financial bonds and borrowing from overseas without prior approval; and (3) violation of law by borrowing from interbank lending.<sup>693</sup> Another type of situation is failure to comply with regulatory requirements of the People's Bank of China, which include (1) rejection or obstruction of regulation and supervision of the People's Bank of China; (2) providing fake or hiding important facts on financial reports, statements and statistical statements; and (3) failure to make proportioned deposit reserves.<sup>694</sup>

691 *ibid.*

692 The Law of the People's Republic of China on Commercial Banks, s 75

693 The Law of the People's Republic of China on Commercial Banks, s 76

694 The Law of the People's Republic of China on Commercial Banks, s 77

Based on the Banking Supervision Law of the PRC, rules of suspension of a bank's operation share many similarities with rules formulated in Laws of the PRC on Commercial Banks. Banking regulators can take this measure in the following situations: (1) establishing a new branch without prior approval of banking regulators; (2) making changes to, or terminating operations and businesses of a bank without prior approval; (3) failure to comply with laws and regulations by conducting business activities that are not registered or approved by banking regulators, and (4) failure to comply with laws and regulations by increasing or decreasing deposit interest rates and loan interest rates.<sup>695</sup> Apart from violations of laws of business activities, banking regulators can suspend a bank's operation if the bank fails to comply with regulatory requirements. The specific situations of banking regulators to take this measure include (1) appointment of senior managers and directors without checking qualifications; (2) rejection or obstruction of onsite inspection or offsite examination; (3) providing fake or hiding important facts of financial reports, statements and documents; (4) failure to disclose information as required; (5) severely violating prudential regulation requirements and principles; and (5) failure to take general corrective measures.<sup>696</sup>

These are all situations or triggering events of banking regulators to suspend a bank's operation. These situations are also triggering events of revocation of a bank's license. The difference between these two measures is whether a bank has been permanently stopped from operating as a bank or not. Whether suspension of a bank's operation or revocation of a bank's license will be imposed on a bank depends on the discretion of banking regulators and relates to the level of intervention with the bank's activities and incompliance under particular situations.

Rules formulated in the two laws are contradicting concerning the triggering events of the two stricter corrective measures. For example, under the Law of the PRC on Commercial Banks, incompliance of capital adequacy ratio, liquidity standards, loan ratios of single borrowers and other regulatory standards on asset and liability ratio of banks can be the trigger to either suspension or revocation. These requirements like capital adequacy ratios are prudential regulatory requirements. However, under Banking

695 The Banking supervision Law of the People's Republic of China, s 45

696 The Banking supervision Law of the People's Republic of China, s 46

Supervision Law of the PRC, suspension or revocation takes place when a bank severely violates prudential regulation requirements and principles. One of the contradictions of rules in the two laws is whether banking regulators should take corrective measures with a bank when it violates or severely violates prudential regulation requirements.

These rules also provide banking regulators with discretion. The level of violation of prudential regulation requirements depends on the judgement of banking regulators. Concerning corrective measures, banking regulators also have the discretion to choose between suspension of a bank's operation and revocation of a bank's license.

### **C. Problems of Chinese Corrective Measures**

On the basis of general corrective measures and stricter corrective measures, one problem with Chinese corrective measures is the lack of structure of these measures. This means that corrective measures by Chinese banking regulatory agencies may not have a clear process and timetable. There is an argument for an early structural approach towards taking corrective measures by Chinese banking regulatory agencies, which requires a strict timetable for each step of corrective measures to avoid further deterioration of troubled banks' financial performance.<sup>697</sup> Another obvious problem with Chinese corrective measures is the lack of different kinds of measures.<sup>698</sup> This means that the number of corrective measures in China is limited and choices for banking regulatory agencies are constrained, thereby causing the fact that banking regulatory agencies are unlikely to tailor corrective measures to deal with particular situations of troubled banks. Because of this, some argue for specific compulsory and discretionary corrective measures that are designed in detail to be in place for banking regulatory agencies to deal with troubled banks.<sup>699</sup> Finally, some scholars believe that troubled banks with minor problems should be treated differently compared with troubled banks with severe problems.<sup>700</sup> They argue for a variety of different corrective measures to deal

697 Zhujun Wu, 'Main Findings and Applications of Structured Early Intervention and Resolution' (2017) 4 *Financial Perspectives Journal* 46

698 Hongwei Liu, 'Analysis on Early Intervention by Deposit Insurance Scheme from the Perspective of Incentives' (2017) 9 *Wuhan Finance* 34

699 *ibid.*

700 Lirong Zhai, 'Discussion and Policy Recommendation of Early Intervention by Deposit Insurance Agency' (2018) 23 *China Economic & Trade Herald* 51

with specific problems within troubled banks with minor risks and troubled banks with severe risks.

#### **IV. Comparisons of US, UK and Chinese Corrective Measures**

The comparisons of US, UK and Chinese corrective measures of structured early intervention for banks reveal and identify similarities and differences among corrective measures in the US, the UK and China. These similar and different features of corrective measures provide the foundation to assess whether the level of intervention based on the banking regulators' discretion is within the right boundaries, and whether their discretion to exercise authority and power is too much or too little. Because of the unstructured nature of Chinese corrective measures, some corrective measures that work in the US and the UK could be adopted by Chinese structured early intervention for banks to equip Chinese banking regulators with more choices to deal with troubled banks.

This section is structured as follows. The first part discusses similarities of US, UK and Chinese corrective measures. Then the focus moves to the discussion of differences among US, UK and Chinese corrective measures. The third part discusses the scope of discretion of banking regulators to intervene with troubled banks. Finally, this section discusses some corrective measures that could be taken into consideration when establishing or changing structured early intervention for banks.

##### **A. Similarities of US, UK and Chinese Corrective Measures**

The growing level of intervention, as is achieved through stricter and more intrusive measures, is the feature that US, UK and Chinese corrective measures all have. The feature of corrective measures is progressively stricter and imposes harsher restrictions on troubled banks.<sup>701</sup> Although specific corrective measures for troubled banks at a particular stage are different, all US, UK and Chinese corrective measures impose stricter corrective measures on troubled banks with worse financial performance and higher risk levels.

<sup>701</sup> George Kaufman, Comment on 'Will Universal Banks Prove Viable?' in Gerard Caprio, David Folkerts-Landau and Timothy Lane (eds), *Building Sound Finance in Emerging Market Economies* (IMF 1994) 235

In a more general context, US, UK and Chinese corrective measures all have this progressive feature, because all these corrective measures have less intrusive measures to deal with minor deficiencies and very intrusive measures to manage operations and businesses of troubled banks. However, from a more detailed perspective, there is a slight difference between the Chinese and the US and UK corrective measures. US and UK corrective measures are gradually progressive while Chinese corrective measures seem to be more extreme in relation to progressive intervention. For example, Both US and UK measures have the feature of a growing level of intervention with troubled banks and the measures start from minor intervention with the banks' operations and businesses to more intrusive intervention to manage the risks and financial situations of the troubled banks. In the US, PCA measures that are applied to well capitalised and adequately capitalised banks are limited to restrictions on capital distribution and management fee distribution and these measures have a minor impact on banks' operations and business activities. With capital ratios of the banks falling, the measures for banks become more intrusive from restrictions on asset growth to pre-approval and prohibition by banking regulators on certain business activities. In the UK, PIF measures at early stages focus on recovery measures which requires the banks to correct risks in their operations and business activities. With the increasing risks involved in the banks' operations and businesses, recovery measures change from the requirements of banks to correct deficiencies and additional reporting requirements, to the measures dominated by the banking regulators such as changing managers and directors and restricting certain business activities of the banks. In contrast, Chinese corrective measures treat troubled banks with different financial conditions in a more abrupt way. This means that the level of intervention with Chinese corrective measures seems to be at two ends of the spectrum, leading to a more extreme level of intervention from minor corrective measures to very intrusive measures. For example, general corrective measures have a limited impact on a bank's operations and businesses while suspension of a bank's operation and revocation of a bank's license are very strict corrective measures that influence operations and the daily business of the banks.

In relation to the progressive feature of corrective measures, the way to structure corrective measures is important, especially for Chinese corrective measures. Whether

corrective measures should be structured in a gradually progressive way or in a more extreme and abrupt way needs to be considered to achieve a better outcome through structured early intervention with banks. In other words, is it necessary for Chinese corrective measures to be structured into a similar gradually progressive way to deal with troubled banks compared with US and UK corrective measures? The answer is positive. Chinese corrective measures should be transformed into a more gradual progressive way to manage financial conditions and risk levels of troubled banks for the following reasons.

To start with, this gradual progressive feature of corrective measures is compatible with the aim and purpose of structured early intervention for banks in order to deal with troubled banks at early stages with different levels of intervention, thereby turning around worrying financial performance and high risk levels of banks to a stronger performance. The growing level of intervention as revealed by stricter corrective measures is designed to encourage good behaviour of troubled banks to reduce the likelihood of both insolvency and more stringent regulation. By improving financial performance, troubled banks are less likely to be intervened with by banking regulators and more prone to failure.

Moreover, the growing level of intervention with corrective measures is the necessary and viable way to deal with banks with different financial conditions and levels of risks. If there is only one set of corrective measures, these measures may be too intrusive for banks with minor deficiencies in their financial performance and be too conservative for banks with severe deficiencies in their business operations and risk levels. The growing and progressive feature of corrective measures plays an important role in dealing with troubled banks, enabling banking regulators to take specific corrective measures that suit the current situations of particular troubled banks.

Finally, the growing level of intervention, as is determined by corrective measures with different levels of intrusion on troubled banks' business and operation, act as the bridge between regular banking regulation measures and bank resolution measures, especially corrective measures at the last stage. The growing level of intervention with corrective measures could enable troubled banks and banking regulators to make early preparations of potential failures. Currently there is a blank for corrective measures in China to make preparations and undertake planning before the actual initiation of a special bank resolution regime or insolvency procedures to wind up a bank. In contrast,

US and UK corrective measures in the last category or stage, focus on preparations for the bank resolution process and these measures function as a bridge to initiate the bank resolution process to resolve troubled banks. In the last category of PCA, there are stricter measures to intervene in critically undercapitalised banks compared with the corrective measures in previous categories. The last stage measures of PCA focus on initiation of conservatorship and receivership of the troubled banks and to resolve the banks under receivership. At the last stage of PIF, measures focus solely on resolution of the troubled banks due to the fact that under PIF, banks within the last stage have no possibility for corrective measures to be effective. Being categorised into the last step of PIF triggers the special resolution regime or insolvency procedure of winding up troubled banks. More gradual progressive corrective measures, especially with preparations for bank resolution at later stages, could provide more measures for banking regulators and compensate the blank in Chinese corrective measures. These early preparations for potential bank failures are likely to ensure a smoother process for dealing with failed banks compared with the current extreme corrective measures, being either minor corrective measures or closure of troubled banks.

## **B. Differences between US, UK and Chinese Corrective Measures**

The growing level of intervention is a similarity shared by US, UK and Chinese corrective measures though a slight difference exists between gradual progressive corrective measures and abrupt progressive correctives. From a broader perspective, corrective measures in the US, UK and China have more differences than similarities, especially differences in designs of corrective measures and categories of corrective measures in the three countries.

### **1. Differences in Design of Corrective Measures**

Design of corrective measures constitutes two factors: how these measures are structured, and what the main function of these measures is in the legal framework of banking regulation and resolution. In the context of banking regulation and resolution, how corrective measures are structured refers to whether corrective measures have the role of acting as the in-between measures of regular banking regulation and bank

resolution. The main function of corrective measures refers to whether the measures focus more on recovery and correction of troubled banks or on preparations for early resolution of troubled banks.

Concerning US structured early intervention for banks, corrective measures have the role of linking regular bank regulatory measures and bank resolution procedures. US corrective measures are structured to enable a gradually progressive level of intervention, which allows US banking regulators to adjust the level of intervention for a particular bank with its specific financial performance and risk level. One example is a variety of choices of compulsory and discretionary corrective measures for banking regulators to manage troubled banks, especially for those banks in the category of undercapitalised and significantly undercapitalised banks. The combination of different corrective measures is more likely to address particular problems in the banks' businesses and operations. The level of intervention can be increased to conservatorship or receivership of a particular troubled bank if the bank is unlikely to become viable, leading to resolution of the bank. Various corrective measures are designed to deal with troubled banks before reaching the final resolution. The main function of US corrective measures, as the second factor of the design of US corrective measures, is to correct problems that evolved in troubled banks' businesses and to help the banks recover from financial trouble and high risks. A number of corrective measures is designed to equip banking regulators to manage different situations of troubled banks, especially with the emphasis on undercapitalised and significantly undercapitalised banks. These two categories of banks have the possibility of becoming financially viable again and turning around from risky and unstable business operations. During these two stages, both compulsory and discretionary measures are available for banking regulators to use and manage troubled banks in order to restore the troubled banks' financial performance.

Concerning UK structured early intervention for banks, corrective measures also have the role of linking regular banking regulatory measures and bank resolution procedures. Corrective measures from PIF stage 2-4 are structured to resolve the increased level of risks and deteriorating financial performance of troubled banks. At each of these three stages, PRA is able to apply recovery and resolution measures to deal with troubled banks with different levels of risks and financial performance. These corrective

measures act as the bridge between UK banking regulatory measures and measures of the Special Resolution Regime, which adopts the increased level of intervention whilst not being too intrusive to close troubled banks. If a troubled bank has no future of becoming viable, at stage 5 of PIF, the troubled bank needs to go through bank resolution or insolvency proceedings. Considering the main function, as the second factor of the design of UK corrective measures, UK corrective measures tend to focus more on resolution preparations of troubled banks throughout stages 2-5. Although UK corrective measures do incorporate recovery measures as an important part of corrective measures, the actual choices of recovery measures are less detailed than US corrective measures. For example, at stage 2-4 the recovery measures are designed in a more general way without explicitly explaining how banking regulators will take such recovery measures to achieve the increased level of intervention and supervision. The positive side of UK corrective measures is having a focus on resolution planning and preparation which enables both banks and banking regulators to work together at a very early stage and throughout the whole process from stage 2 to stage 5.

Concerning Chinese structured early intervention for banks, corrective measures have no function of linking banking regulatory measures and bank resolution measures. One example is the abruptly increased level of intervention by Chinese corrective measures. These measures are unlikely to deal with troubled banks with different financial conditions accordingly because no early preparations for stricter measures and bank resolution after general corrective measures are in place in China. The level of intervention with stricter corrective measures tends to lead to a pause of troubled banks' businesses and operations instead of correcting the problems of troubled banks. The functions of these stricter corrective measures are similar to the functions of bank insolvency proceedings and can achieve the results of suspending troubled banks' operation, which can be too strict and abrupt for banks with severe financial difficulties. More specifically, the two types of measures of structured early intervention for banks in China, general corrective measures and stricter corrective measures, do not gradually differentiate the level of intervention with banks. General corrective measures increase the level of intervention compared with banking regulation and supervision measures while suspension of a bank's operation and revocation of a bank's license are serious

intervention measures that have a direct and serious impact on the banks' businesses. Especially when it comes to stricter corrective measures, these are similar to bank resolution measures in China, which all have a direct impact on the banks' operation, management and ownership. These two types of measures are on two separate ends of the spectrum, which leads to a lack of corrective measures for banks that are able to intervene and banks with more severe financial situations. Therefore, corrective measures of Chinese structured early intervention for banks are not structured to achieve the function of a bridge between banking regulation and bank resolution.

Considering the main function of Chinese corrective measures, these measures tend to focus more on the recovery of troubled banks instead of achieving early preparations of potential bank resolution. General corrective measures are similar to US and UK corrective measures which have an impact on different aspects of the banks' businesses and operations from management to asset growth. Stricter corrective measures tend to focus on a pause on the banks' businesses and operations and prevent financial conditions of troubled banks from deteriorating further. Both these types of corrective measures include early preparations for potential bank failures. For example, co-operation and coordination among different banking regulators to work on a resolution plan at early stages.

In terms of a suitable design of corrective measures, these corrective measures should be structured to act as a bridge between banking supervision and regulation and bank resolution with the main function of achieving both recovery and early preparations of troubled banks. Corrective measures that are structured to work as a bridge between banking regulation and bank supervision could be more effective. First, structured early intervention for banks represents a gradually increased level of intervention depending on financial conditions and risk levels of a bank. The linking role of corrective measures is in accordance with the feature and aims of structured early intervention for banks to make this regulatory mechanism achieve its best result. Second, both special bank resolution and bank insolvency proceedings are costly and expensive. Without sufficient corrective measures for troubled banks with severe financial problems and high risk levels, these banks are more likely to go through the bank resolution process or get wound up. These corrective measures at the latter stages are important for banking regulators in

dealing with severely troubled banks. For example, US corrective measures for significantly undercapitalised banks and UK corrective measures for banks at stage 4 of PIF enable banking regulators to take actionable and practical measures to intervene in troubled banks' businesses and operations. These measures however are missing in Chinese corrective measures.

Considering the main function of corrective measures to achieve both recovery and early preparations of potential failure, all US, UK and Chinese corrective measures need a certain level of improvement in this regard. Because of the function of structured early intervention for banks as an in-between regulatory mechanism, corrective measures should have consideration of both corrections of problems of troubled banks and early preparations of potential failure. Corrective measures should start with the emphasis on intervening with the aim of correction and recovery of troubled banks and gradually decrease the emphasis on this aspect. In the meantime, corrective measures should gradually increase the emphasis on intervening with the banks, with the aim on preparations of potential bank failures. When this is done from the early stages, the focus on correction and recovery of troubled banks with minor problems is more likely to prevent the problems from developing. As these problems develop, financial conditions of the troubled banks are more likely to deteriorate, thereby increasing the necessity to prepare for potential failures with bank resolution authorities.

US corrective measures have a strong focus on correction and recovery of troubled banks' business and operation, but a relatively weak focus on early preparations. Until troubled banks are categorised as critically undercapitalised banks, preparations for potential failure, namely conservatorship and receivership by the FDIC, cannot be enforced on the banks. In the previous four categories, very few corrective measures enable banking regulators to make early preparations for potential bank failure, thereby making a gradually increased focus on early preparations impossible for current US corrective measures. UK corrective measures have two tracks for emphasis on both recovery and resolution measures to deal with troubled banks. In terms of corrective measures that aim to achieve corrections and recovery of troubled banks, details and conditions of these measures need to be further specified compared with US corrective measures where a number of corrective measures are listed and specified for banking

regulators to apply. The design of Chinese corrective measures, compared with US and UK counterparts, needs to be restructured to include both recovery and resolution measures in a structural way to achieve the role of linking banking regulation and bank resolution. Some of the corrective measures, such as a takeover, can still be incorporated as an alternative choice for Chinese banking regulators to deal with troubled banks at early stages of intervention.

## **2. Differences in Categories of Corrective Measures**

Whether and how corrective measures are categorised is another main difference among US, UK and Chinese structured early intervention methods for banks. More specifically, each country has its own way to categorise corrective measures. On the one hand, different ways to categorise corrective measures show different emphases on aims and purposes of structured early intervention for banks in a particular country. For example, UK corrective measures have a strong focus on early preparations for potential failure and require troubled banks to take early actions for potential bank resolution. On the other hand, different ways of categorisation of corrective measures provide several perspectives on possible ways to construct corrective measures in structured early intervention for banks in a particular country. These different ways of categorising corrective measures reveal their advantages and disadvantages, enabling a more comprehensive consideration for designing a structured early intervention for banks.

In the US, compulsory measures and discretionary measures are the two categories of corrective measures. Mandatory measures are applicable to all banks, depending on the capital ratios of the banks. Discretionary measures are applicable to some troubled banks with moderate to severe financial problems and risks, depending on the banking regulators' judgements and the decisions on the banks' risks and financial situations. A distinctive feature of PCA corrective measures is the variety of discretionary measures for banking regulators where these US banking regulators are entitled to apply one or several discretionary measures to troubled banks. An advantage of US categories of corrective measures is the mandatory nature of some of the corrective measures. The mandatory nature enables banking regulators to take some of the corrective measures to deal with troubled banks to reduce the impact of too much discretion. In the meantime,

banking regulators have the discretion to decide whether further enforcement on undercapitalised and significantly undercapitalised banks is necessary by applying discretionary measures. This provides US corrective measures with a chance to balance rules and discretion. For example, banking regulators could determine financial conditions of troubled banks and manage specific problems and issues of a particular troubled bank by applying discretionary measures. Banking regulators' capabilities to determine what combinations of compulsory and discretionary measures are suitable for undercapitalised and significantly undercapitalised banks demonstrates the room for discretion. However, this chance to balance rules and discretion could lead to misuse and abuse of discretionary corrective measures by banking regulators. This means that banking regulators may choose not to take the necessary discretionary measures at a particular time to further intervene in troubled banks' business and operation. As a result, troubled banks may continue to operate with high risks and insufficient capital to maintain a safe and sound conduct. The two categories of compulsory and discretionary corrective measures show the emphasis of US corrective measures to enforce actual corrective measures on troubled banks, which adopts a practical approach to make changes to troubled banks by regulators.

In the UK, recovery measures and resolution measures are the two main categories of corrective measures. In most of stages of PIF, troubled banks are subject to both recovery and resolution measures. Recovery measures of PIF focus on corrective functions and increase the level of intervention depending on the judgement of banking regulators on the risks and financial situations of the banks. Resolution measures focus more on cooperation among several regulatory agencies to prepare for a future resolution. A distinctive feature of UK corrective measures is preparations for a future resolution of a troubled bank in the early stages, before the bank develops unsafe and unsound operations. To comply with PIF corrective measures, troubled banks have to make recovery and resolution plans themselves and execute the plans before reaching actual bank resolutions. One advantage of this type of categorisation is that early preparations and sufficient time are provided for both troubled banks and banking regulators if the banks fail eventually. This is the result of constant planning and implementing recovery and resolution plans devised by troubled banks and banking regulators throughout the

whole process of PIF. The disadvantage of UK corrective measures exists because of a relatively small number of specific corrective measures for recovery of troubled banks. This means that a more tailored combination of recovery measures for troubled banks with different financial conditions and risk levels may be less likely to achieve. In other words, in terms of recovery measures at early stages, increasing the number of corrective measures that represent different levels of intervention in troubled banks' businesses and operations could contribute to the recovery function of corrective measures in the UK.

In China, corrective measures have no formal categories except for being differentiated on the basis of the level of intrusiveness of these measures as general and stricter corrective measures. A reason for the current categories of corrective measures is a lack of a systemic legal framework to deal with troubled banks. The history in the Chinese banking supervision and regulation of using administrative ways to manage troubled banks also contributes to the current categories of corrective measures. This refers to the preference of banking regulators who tend to take administrative orders from governmental bodies to deal with troubled banks, thereby creating no needs to establish a comprehensive regulatory framework. This causes a lack of foundation for categorising corrective measures in the past. The number of corrective measures of Chinese structured early intervention for banks is inadequate compared to both US and UK measures which may contribute to the difficulties to categorise the measures based on either functions, nature or other standards.

US, UK and Chinese corrective measures all have their distinctive features and vary on the basis of emphasis on different aims and functions of measures. Both the US's and the UK's ways to categorise corrective measures could work as examples. Even though US and UK corrective measures have different categories, both ways of categorisation have a distinctive feature with a different focus on achieving one aim of dealing with troubled banks, either compulsory correction or early preparations for resolution. Due to a lack of necessary arrangement and design of corrective measures, categories of Chinese corrective measures are simplified, which may need more efforts to develop and design a focus on managing troubled banks as a distinctive feature.

### **C. Boundaries of Banking Regulators' Discretion on Early Intervention**

Structured early intervention for banks in the US, the UK and China have different approaches to the banking regulators' discretions in relation to enforcing corrective measures on troubled banks. This is similar to differences among US, UK and Chinese triggering events, especially the choice of objective standards and subjective standards. Because of the necessity of supervisory discretion in the context of early intervention of troubled banks, the scope of supervisory discretion in determining which measures work for a particular troubled bank is worth exploring. This section discusses the current arrangement of regulatory agencies' discretion in US, UK and Chinese corrective measures. Then this section discusses what level of supervisory discretion can be regarded as good practice in terms of actually correcting problems of troubled banks.

The regulatory authorities in the US, the UK and China have different levels of discretion in terms of enforcing corrective measures on troubled banks. On the basis of comparisons of US, UK and Chinese corrective measures, Chinese regulatory agencies have the least discretion in terms of determining which corrective measures to take with troubled banks, US banking regulatory agencies have some extent of discretion combined with rule-based compulsory measures and UK banking regulatory agencies have the most discretion in this context.

One reason for this difference is the different choice of rules or principles in relation to designing and structuring corrective measures of structured early intervention for banks in the US, the UK and China. In the context of Chinese corrective measures, general corrective measures, such as a takeover, and stricter corrective measures, including suspension of banks' businesses and revocation of banking license, can only be applied under specific circumstances. This means that banking regulatory agencies have no discretion to apply these corrective measures to troubled banks as they see fit. In the context of US corrective measures, banking regulatory agencies are able to combine compulsory and discretionary measures to deal with troubled banks. This means that regulatory agencies have some level of discretion in deciding what discretionary measures are viable under some specific circumstances for troubled banks. By exercising such discretion, banking regulatory agencies could be more flexible in achieving the goal of managing troubled banks and provide more tailored solutions for particular troubled

banks. In the context of UK corrective measures, recovery measures are at the banking regulatory agencies' discretion, especially recovery measures which are enforced by regulatory agencies at stage 3 of PIF, such as restrictions on business activities, changing the management or board of troubled banks and imposing stricter capital requirements. These measures are the core of the corrective measures which show the increased level of intervention at different stages. The discretion for core corrective measures enables UK regulatory agencies to manage troubled banks on a case by case scenario.

Another factor that causes differences in regulatory agencies' discretion on corrective measures is the preference of self-regulation or strict regulation by banking regulatory authorities in the US, the UK and China. Different attitudes and approaches towards financial regulation could have an impact on how banking regulatory agencies deal with troubled banks and their discretion on deciding on specific corrective measures. In the UK, self-regulation of the financial sector is a feature of regulation of the industry which lacks a sense of rigorousness from a historical perspective.<sup>702</sup> The retention of some of the features of self-regulation before the internationalisation of the financial sector may contribute to less strict and rigorous regulation of the financial market.<sup>703</sup> This means that the history of self-regulation of the financial sector can have an impact on regulation of the financial sector even after reforms and developments. For example, the enactment of Financial Services and Markets Act 2000 (FSMA 2000) and the establishment of Financial Services Authority (FSA) was a movement to change the situation of a less strict financial regulation. <sup>704</sup> FSA was tasked with too many responsibilities and very few resources.<sup>705</sup> FSA objectives of regulation tended to focus more on consumer protection instead of prevention of failure of financial institutions and promotion of competitiveness and efficiency, thereby leading to the fact that the objective of this arrangement was recognised as being weak. <sup>706</sup> This shows barriers to

702 Roman Tomasic, 'Beyond Light Touch Regulation of British Banks after the Financial Crisis' in Iain McNeil and Justin O'Brian (eds) *The Future of Financial Regulation* (Hart 2010)

703 Philip Augar, *The Death of Gentlemanly Capitalism* (London, Penguin Books, 2000)

704 Eilis Ferran, 'The liberalisation of financial markets: the regulatory response in the United Kingdom', in Rainer Grote and Thilo Marauhn (eds), *The Regulation of International Financial Markets – Perspectives for Reform*, (Cambridge University Press, 2006) 57

705 *ibid.* 73

706 Charles Goodhart, 'Regulating the Regulator: An Economist's Perspective on Accountability and Control', in Eilis Ferran and Charles Goodhart (eds), *Regulating Financial Services and Markets in the Twenty-First Century* ( Hart Publishing, 2001) 154

transformation from a self-regulating approach to a stricter approach of regulation, thereby revealing the impact of self-regulation of the financial sector on reforms and developments of the financial regulation.

The situation in Chinese banking regulation is very different from the UK. Because of a relatively short history of the financial market and regulation, the financial system was established by the state instead of gradually developed on its own over a long period of time. The financial regulation was greatly influenced by administrative orders and measures by governmental bodies and then started to transform to a rule-based framework. From a historical perspective, Chinese banking regulation tends to follow prescribed rules to determine what banking regulatory agencies could do. Although specific rules in relation to which banking regulatory agencies can apply corrective measures and how they apply specific measures are inadequate, a general context of how banking regulators could apply corrective measures has been established. UK and Chinese preferences on the approach of banking regulation as to whether emphasis on self-regulation or a stricter regulation mechanism from the historical perspective should be applied are two extremes. The UK's banking regulation is influenced by its history of self-regulation over time. Chinese banking regulation is greatly influenced by the governmental intervention through policies and orders. Because of different perspectives and history in banking regulation, this has an impact on how current regulatory mechanisms are structured and the level of discretion which banking regulators could have. This leads to the fact that the current regulatory mechanisms share more features with UK and Chinese historical approaches.

The different choices of rules or principles and the different preferences of self-regulation or stricter regulatory mechanisms are two reasons for different levels of discretion of banking regulatory agencies in corrective measures for troubled banks. In order to achieve an optimal outcome of intervening with troubled banks, what is a good way to structure rules and principles for banking regulatory agencies in terms of applying corrective measures? More specifically, how much discretion is appropriate for banking regulators to deal with troubled banks with corrective measures?

In relation to an appropriate level of discretion given to banking regulatory agencies for applying corrective measures of structured early intervention for banks, either no

discretion at all or too much discretion is not going to work. If all corrective measures are on the basis of prescribed rules without any discretion for regulatory agencies, banking regulatory authorities can only apply these corrective measures when the conditions for these measures are satisfied. This means that listing all situations and conditions for applying corrective measures is required and necessary if a full and comprehensive set of rules for regulating and supervising troubled banks is an objective. However, this can be very unlikely to be achieved, especially with the rapid changes in the banking sector.

Similarly, too much discretion also has a negative impact on supervision and regulation of troubled banks. First, too much discretion provides a foundation for regulatory forbearance where banking regulators tend to delay taking actions to deal with troubled banks and allow the troubled banks to continue to operate. Second, too much discretion could lead to uncertainty of the application of rules. This means that by applying discretion, banking regulators could impose restrictions on troubled banks in a more random, opaque and less quantitative way.<sup>707</sup> This means that troubled banks may sometimes be faced with legal sanctions or penalties that increase the level of intervention by banking regulators on an ad hoc basis unexpectedly.<sup>708</sup>

Neither too little nor too much discretion provided with banking regulatory agencies is a good way to be incorporated into structured early intervention for banks when it comes to correcting problems of troubled banks. In terms of corrective measures, regulatory discretion is necessary. However, discretion may not play a major part in this process. This means that regulatory discretion should be built on the basis of rule-based corrective measures. In detail, corrective measures that are mandatory should be based on prescribed rules, specifying particular situations and conditions for the application of such compulsory measures. In the meantime, banking regulatory agencies have the discretion to decide whether discretionary measures are needed under particular circumstances to tailor the application of corrective measures for specific troubled banks.

On the basis of comparisons of US, UK and Chinese corrective measures, US banking regulatory agencies have limited discretion. From the perspective of limited

707 Matthew Turk, 'Stress Testing the Banking Agencies' (2019) 105 Iowa Law Review Forthcoming <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3367546](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3367546)> last accessed 26 Aug 2019  
708 *ibid.*

discretion, the boundary of US regulatory agencies' discretion is better than the UK and Chinese ways of structuring the discretion for regulatory agencies. Because of the limited discretion for banking regulatory agencies to take corrective measures, on the one hand, US banking regulatory agencies have to decide to take discretionary corrective measures for specific troubled banks by using their discretion in dealing with troubled banks. On the other hand, in terms of rule-based corrective measures, US banking regulatory agencies have to follow rules to determine compulsory measures. In other words, compulsory measures act as rules and banking regulators have to take such measures when certain conditions are satisfied while discretionary measures act on the basis of banking regulatory agencies' discretion to decide whether certain corrective measures are necessary to deal with specific troubled banks.

In this context, though rule-based compulsory measures have been incorporated in PCA, US banking regulatory agencies can sometimes still be regarded to have a wide range of discretion as to how to interpret test results and what measures can be used as corrective measures to deal with troubled banks.<sup>709</sup> This is the result of a history of confidential supervision where banking regulatory agencies are allowed to make exceptions and variations of rules to accommodate particular conditions of specific banks by discretion, possibly without appropriate checks on the banks.<sup>710</sup> For example, when determining the financial performance of a troubled bank such as accounting irregularities, US banking regulators with discretion are more likely to tolerate these deficiencies rather than taking timely corrective measures to remedy the deteriorated financial conditions of the troubled banks.<sup>711</sup> This is also the case for banking regulators' stress testing for banks where banking regulatory agencies are regarded as 'highly discretionary' in terms of their interpretations of standards and outcomes.<sup>712</sup>

In order to find out the appropriate level of discretion for banking regulators, discussion of the functions of discretion can be helpful. First, corrective measures as a

<sup>709</sup> *ibid.*

<sup>710</sup> Margaret Tahyar, 'Are Bank Regulators Special?' (2018) *Banking Perspectives* <<https://www.theclearinghouse.org/banking-perspectives/2018/2018-q1-banking-perspectives/articles/are-bank-regulators-special>> last accessed 26 Aug 2019

<sup>711</sup> Anne Costello, Joao Granja and Joseph Weber, 'Do Strict Regulators Increase the Transparency of the Banking System?' (2019) 57 *Journal of Accounting Research* 603

<sup>712</sup> Jeremy Kress, 'Solving Banking's 'Too Big to Manage' Problem' (2019) 104 *Minnesota Law Review* Forthcoming <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3348593](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3348593)> last accessed 26 Aug 2019

way of supervising troubled banks have a secondary role in maintaining the safety and soundness of troubled banks, as opposed to rule-based objective regulation of troubled banks.<sup>713</sup> US banking regulatory agencies' discretion should work as a supplement to mandatory rules in intervening with troubled banks.<sup>714</sup> Second, discretion enables banking regulators to solve specific problems and financial conditions of troubled banks in a more flexible way. The flexibility allows banking regulators to apply tailored corrective measures to troubled banks for a smooth operation of the whole financial system.<sup>715</sup>

Based on the US model of limited discretion combined with rules, the discretion of banking regulatory agencies on corrective measures could be further limited. The extent of this limitation means only necessary or the least scope of discretion is provided for banking regulators when applying corrective measures. This means that compulsory corrective measures are rule-based corrective measures with no discretion given to the banking regulatory agencies. These rules on compulsory measures could reduce uncertainty and inconsistency that may exist in dealing with different troubled banks. This design should also articulate clear conditions and situations for discretionary corrective measures. In this context, though banking regulatory agencies could determine specific corrective measures, the defined context further limits the scope of banking regulatory agencies' discretion. This design provides banking regulatory agencies with limited discretion, allowing them to determine what type of discretionary corrective measures should be applied and what aspects of banking business and operations need further restrictions. This could be a way to offset the limitations of the banking regulatory agencies' knowledge and professionalism in economies in transition where the actual outcome of using discretion deviates from the original design.<sup>716</sup>

The boundary between rules and discretion in corrective measures allows less discretion for banking regulatory agencies compared with the current US model in corrective measures. The main difference is setting clear conditions and situations for

713 Joseph Mason, 'Overview and Structure of Financial Supervision and Regulation in the US' (European Union 2015) <[http://www.europarl.europa.eu/RegData/etudes/STUD/2015/492470/IPOL\\_STU%282015%29492470\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/492470/IPOL_STU%282015%29492470_EN.pdf)> last accessed 26 Aug 2019

714 George Kaufman, 'Bank Failures, Systemic Risk and Bank Regulation' (1996) 17 *CATO Journal* 17

715 *ibid.*

716 Feng (n 543) 44

banking regulatory agencies to take discretionary measures. This could reduce the possibility of taking no discretionary measures or delays in taking additional corrective measures. Compulsory corrective measures are based on rules with no discretion for banking regulatory agencies. This is similar to the current US model. Banking regulatory agencies also have discretion to decide on specific discretionary corrective measures, which shares similarities with the US model.

To summarise, the boundary for banking regulatory agencies' discretion in relation to corrective measures is set towards the preference of rules. On the basis of rules for corrective measures, including rules for conditions and requirements for the measures, compulsory corrective measures are set to apply to guarantee intervention for troubled banks at early stages to avoid delays in intervention or further deterioration of troubled banks. Discretionary corrective measures enable banking regulatory agencies to deal with particular problems or aspects of troubled banks' businesses in a tailored way to impose additional restrictions to achieve the goal of correction at early stages.

#### **D. What Corrective Measures Could Work in Structured Early Intervention for Banks**

On the basis of comparisons of US, UK and Chinese corrective measures, though differences among corrective measures in the three countries exist, some corrective measures in these countries may be worth considering in relation to establishment or reform of structured early intervention for banks. For example, the US's compulsory and discretionary corrective measures and the UK's early preparations for potential bank resolution are most in accordance with structured early intervention for banks' objectives and aims. These corrective measures play an important role in early intervention by banking regulators with troubled banks. In the context of establishing structured early intervention for banks, these corrective measures that show advantages in US and UK corrective measures may contribute to the establishment or reform of structured early intervention for banks.

In terms of Chinese corrective measures, in order to improve overall functions and possibilities of successfully dealing with troubled banks, the two following options may work to achieve the goal: establishing compulsory and discretionary corrective measures

and making early preparations for possible resolution or winding up of troubled banks. First, the US category of compulsory and discretionary corrective measures is advantageous because the division of corrective measures could achieve a balance between rules and discretion in relation to dealing with troubled banks by banking regulatory agencies. On the basis of this concept of compulsory and discretionary corrective measures, depending on the desired level of discretion for banking regulatory agencies, the boundary between rules and discretion could be set. In the Chinese context, corrective measures could be designed in a more detailed and specific way by incorporating compulsory and discretionary corrective measures at the early stages of intervention. On the one hand, banking regulatory agencies could have a variety of corrective measures to deal with troubled banks with either one or several measures. On the other hand, by determining what corrective measures are compulsory or discretionary, the scope of regulatory discretion is limited so that too much discretion and relevant regulatory forbearance can be avoided. As discussed above, the boundary between rules and discretion is set towards rules with limited discretion. Specifically, compulsory measures are set by prescribed rules and conditions, and situations for discretionary corrective measures are set by rules and specific discretionary corrective measures at the banking regulatory agencies' discretion when dealing with particular troubled banks. Chinese corrective measures could adopt this to give a limited scope of discretion to banking regulatory agencies while utilising rule-based corrective measures to ensure early intervention is mandatory.

Second, the UK's early preparation for possible future resolution or winding up of troubled banks is another corrective measure that could be incorporated in structured early intervention for banks. This corrective measure enables both troubled banks and banking regulatory agencies to have a full picture of the troubled banks' financial conditions and risk levels, especially allowing banking regulatory agencies to make realistic plans and co-operate with resolution authorities at an early stage. On the basis of this concept of early preparation, both troubled banks and banking regulatory agencies could take respective measures at each stage of structured early intervention for banks to further plan for the next stage. In the context of Chinese structured early intervention for banks, current corrective measures do not include consistent recovery and resolution

planning at each stage of early intervention. By incorporating early preparations of potential resolution or winding up of banks, both troubled banks and banking regulatory agencies could reassess financial conditions and risk levels of the banks at each stage. Then they could further determine resolution or winding up plans with relevant authorities and revise recovery and resolution plans for troubled banks at particular stages.

In relation to corrective measures of structured early intervention for banks, the types of corrective measures that are incorporated in early intervention may have an impact on the discretion of banking regulatory agencies and the co-operation among different regulatory agencies in dealing with troubled banks. As a result, before setting each corrective measure for banking regulatory agencies, considering the overall objective and aims of structured early intervention for banks in a particular country may help achieve a better outcome in dealing with troubled banks.

## **V. Conclusion**

US, UK and Chinese corrective measures share few similarities and all have their own features. Compulsory and discretionary measures are the two main categories of US corrective measures. US corrective measures focus more on undercapitalised and significantly undercapitalised banks. This means that a variety of compulsory and discretionary corrective measures are the banking regulatory agencies' options on how to manage financial problems and risks of troubled banks. Moreover, US corrective measures are more specific in rules, which give clear instructions for banking regulatory agencies. UK corrective measures have an emphasis on early preparation for potential failure. This means that at each stage of PIF, both recovery and resolution measures need to be considered. The benefit of UK corrective measures is early preparation and coordination among different banking regulatory agencies, which allows different levels of co-operation and coordination at each stage of PIF. Chinese corrective measures, general corrective measures and stricter corrective measures have different levels of intervention without a progressive feature. This means that troubled banks are not managed with a gradually increased level of intervention by banking regulatory agencies.

The similarity among US, UK and Chinese corrective measures is that the level of intervention with corrective measures is increasing. Specifically, US and UK measures

have a progressive feature while the level of intervention by Chinese corrective measures is less progressive and more abrupt. Two main differences among US, UK and Chinese corrective measures are design of corrective measures and categories of corrective measures. In relation to design of corrective measures, both US and UK corrective measures have the role of linking banking regulation and bank resolution by having a progressive level of intervention represented by all corrective measures at each stage of early intervention. However, Chinese corrective measures do not have this function because of the abruptly increased level of intervention by general and stricter corrective measures.

Banking regulatory agencies' discretions are also related to how corrective measures of structured early intervention for banks are structured. The US, UK and Chinese corrective measures give banking regulatory agencies in the three countries different levels of discretion. In other words, whether structured early intervention for banks is rule-based or discretion-based is related to the level of discretion given to banking regulatory agencies in taking corrective measures. In the context of establishing or reforming structured early intervention for banks, the level of discretion needs to be considered. In addition, the US's category of compulsory and discretionary measures and the UK's early preparation for potential failure are factors that could be considered. The US's mandatory and discretionary corrective measures provide a way to limit the scope of banking regulatory agencies' discretion and the UK's early preparation sets an example of how to co-operate and coordinate with other banking regulatory authorities for troubled banks at different stages of early intervention.

## **Chapter 5 Policy Recommendations for Structured Early Intervention for Chinese Banks**

In the context of the Chinese banking sector, the performance of structured early intervention in troubled banks has not yet led to the creation of a formal system distinct from general banking regulations. In China, the current structured early intervention regulatory scheme has been shaped by a series of triggering events and corrective measures that occurred as a result of administrative takeover actions and closure by regulatory authorities and government intervention. Current triggering events create duplications and overlaps in the process of identifications of troubled banks, and current measures tend to be either those similar to regular regulation measures or to more intrusive measures such as revocation of a bank's license. On the assumption of a special resolution for banks in China, this chapter focuses on the structured early intervention for Chinese banks according to the perspectives of the main banking regulator for structured early intervention, triggering events, and corrective measures.

Based on the above, this chapter is thus structured as follows. The first section solves the problem of who regulates troubled banks and discusses the regulatory framework of Chinese banking regulations and the primary regulators of structured early intervention for banks. The next section discusses the issue of how to regulate from the perspective of triggering events and explores the suitability of rule-based and discretion-based structured early intervention for banks in China. The third section covers how to regulate from the perspective of specific measures that can be applied to troubled banks by the primary banking regulator in China. The fourth section discusses the structured early intervention for Chinese banks in the context of dealing with cross-border banks, especially with respect to cooperation and coordination between Chinese banking regulators and home or host country banking regulators. The final sector lists all of these features and summarises the structured early intervention for Chinese banks.

### **I. Who Regulates: The Primary Regulator of Structured Early Intervention for Banks Under the Chinese Banking Regulatory Framework**

The question of who regulates troubled banks in the context of structured early intervention for banks directly relates to which regulatory authority is the primary banking

regulator for said early intervention. The United States (US), the United Kingdom (UK), and China have different national regulatory frameworks to regulate and supervise troubled banks. Because of this dissimilarly, the arrangements of the primary banking regulator of structured early intervention for banks in these countries are different.

When it comes to the regulatory frameworks for troubled banks and the primary banking regulators, designs of the frameworks have a direct impact on determining the primary banking regulator, and any change in the framework may lead to a change or a redistribution of the authority of the primary banking regulator. For example, the Prudential Regulation Authority (PRA) and Financial Conduct Authority (FCA) divvied up the role of the Financial Service Authority (FSA) in the UK, while a structural change combined the China Banking Regulatory Commission (CBRC) and the China Insurance Regulatory Commission (CIRC) into the China Banking and Insurance Regulatory Commission (CBIRC). To select the primary banking regulator for troubled banks in China, the first step is to ensure that the banking regulations and relevant resolution regulatory frameworks are suitable for the Chinese banking sector. This section evaluates the current Chinese regulatory framework of banking regulations and the arrangements of the primary banking regulator for troubled banks and then discusses policy recommendations for banking regulatory frameworks and especially the primary banking regulator for structured early intervention for banks in China.

#### **A. The Background: Chinese Regulatory Framework of Banking Regulations and Resolutions**

Unlike the US and UK comprehensive regimes that regulate and resolve banks, covering the entire life cycle of banks, the Chinese regulatory framework for banks still requires improvements, especially in terms of establishing and improving institutions of structured early intervention and bank resolutions.<sup>717</sup> The proposal for the Chinese regulatory framework of banking regulations and resolutions could include an order to establish a suitable special exit mechanism embedded in special bank insolvency proceedings that is controlled and supervised by administrative authorities or

717 Shizhan Shen, 'The Research on Special Bank Insolvency Regime – the Competitive Prospect' [2018] Present Day Law Science 10 (Online Prioritised Publication via CNKI)<<http://kns.cnki.net/kcms/detail/43.1431.D.20181114.1628.034.html>> last accessed 26 Aug 2019

governmental authorities for troubled banks as compared with the insolvency procedures of nonbank firms. This provides a foundation for the discussion of structured early intervention for banks in China.

A brief analysis of why such an exit mechanism is needed is as follows. First, because of the important functions of banks in the economy and their vulnerability to risks and loss of public confidence, general insolvency proceedings may not be sufficient enough to deal with troubled banks, so, therefore, a special insolvency regime is needed as an exit mechanism for troubled or insolvent banks. Banks have special functions in terms of a country's economy wherein banks offer and perform banking services by providing credits and liquidity to the society and act as the intermediary between monetary policy and the economy.<sup>718</sup> Banks additionally complete the task of transforming short-term deposits to fund long-term investments and are able to make profits by meeting the needs of financing during the process of maturity transformation.<sup>719</sup> The transformation could lead to several risks, including credit and interest rate issues and the need to provide on-demand liquidity to cover their liabilities, especially under stress or in times of crises. In addition to these risks, as mentioned, banks are vulnerable to a loss of public confidence, and rumours that a bank is no longer viable could lead to a bank run and cause difficulties for the bank in raising funds, which may be even more likely to contribute to a crisis.

The main difference between banks and nonbank firms is that banks have the function of transferring maturity of short-term liquid liabilities (deposits) to long-term illiquid assets (loans), provide financial services, and act as bridges between monetary policy and the economy.<sup>720</sup> Other nonbank financial institutions may also perform such functions, but not generally all three. For example, after the Global Financial Crisis (GFS), the functions of banks seemed to be less special than they had been, because central banks tend to improve the robustness of payment systems by establishing a real-time gross settlements basis, their transmission mechanism developed more channels, and broader

718 Hupkes (n 45)

719 Pierluigi Bologna, 'Banks' Maturity Transformation: Risk, Reward, and Policy' (2018) European Systemic Risk Board Working Paper Series No.63 <<https://www.esrb.europa.eu/pub/pdf/wp/esrb.wp63.en.pdf>> last accessed 26 Aug 2019

720 Hupkes (n 45)

supervision came to be enforced over a wider range of institutions.<sup>721</sup> However, although there are similar services and functions performed by financial intuitions or shadow banks, banks remain as the centres of financial sectors, especially with regard to the situation in China where several huge state-owned banks exist and citizens' attitudes toward and reliance on banks are perpetuated. Chinese banks remain special and the three aforementioned features of banks are valid as well for Chinese banks. These features of banks, including Chinese banks, explain why a special regime for bank insolvency is needed.

When it comes to Chinese general insolvency proceedings, the proceedings may not lead to a smooth resolution of troubled banks. The proceedings—which include conciliation, reorganisation, and bankruptcy as the three options—enable creditors to rescue their interests.<sup>722</sup> Courts can be involved in the insolvency proceedings. For example, creditors can choose to negotiate with the troubled company or file for an insolvency application to the court in China in a crisis involving a nonbank firm.<sup>723</sup> However, general insolvency proceedings may not be the suitable exit mechanism for troubled or even insolvent banks.<sup>724</sup> One explanation is that general insolvency law and special bank insolvency law have different resolution purposes. Bank insolvency law aims to protect the financial stability and interests of the public as compared with the main goal of general insolvency law, which is to achieve fair distribution of debtors' assets to creditors.<sup>725</sup> Moreover, general insolvency proceedings can be difficult to manage in the context of bank crises in China, as either one of these proceedings takes a long time and banks loss assets quickly when a rumour or information of a doubtful solvency status of a bank spreads.<sup>726</sup> The cost of the judicial process for dealing with bank insolvency in China can also be expensive.<sup>727</sup> On the basis of special features of banks and the design

721 Thomas Huertas, 'Are Banks Still Special' Special Paper 248 LSE Financial Markets Group Paper Series (November 2017) <<http://www.lse.ac.uk/fmg/assets/documents/papers/special-papers/SP248.pdf>> last accessed 26 Aug 2019

722 The Bankruptcy Law of the People's Republic of China, s 7

723 The Bankruptcy Law of the People's Republic of China, s 7 and s 95

724 The Bankruptcy Law of the People's Republic of China, s 3 and 7

725 Mathias Dewatripont and Jean-Charles Rochet, 'The Treatment of Distressed Banks' (2009) 13 Financial Stability Review 65, 66

726 Jihong Zhang, 'A Comparative Analysis of Application of Bank Insolvency' (2016) 33 Arizona Journal of International & Comparative Law 301, 307

727 Pinfang Cheng, *Analysis of Challenging Issues in Bankruptcy Cases* (Law Press China 2016)

of Chinese general insolvency proceedings for managing troubled banks, a special bank insolvency regime in China constitutes a solution of an exit mechanism for troubled banks.

Second, a suitable exit mechanism for troubled banks could enable the Chinese banking sector to function in a more efficient way and therefore is beneficial to deepening the financial reform in China. This is particularly related to the policy of opening up the Chinese financial sector. On the basis that no systemic risk emerges, special bank insolvency proceedings could improve the efficiency of the Chinese financial sector in the following two ways. Special bank insolvency proceedings could identify and deal with insolvent banks at earlier stages than the current general insolvency proceedings. The early initiation and timely resolution of insolvent banks are likely to reduce the impact of contagions in the banking sector, as the insolvency proceedings should be designed to ensure a smooth liquidation of insolvent banks with as little a negative impact as possible while also maintaining good stability of the financial system.<sup>728</sup> An exit mechanism that allows insolvent banks to successfully exit the market also leads to a more market-based financial sector and promotes fairer competition amongst banks. An exit mechanism that is designed for banks would be a special step forward for the Chinese banking sector wherein the government tends to provide an implicit guarantee for the business and solvency of banks and would reduce the level of involvement of the government in the banking sector and enable the market to redistribute some of its resources by allowing troubled banks to exit the market.<sup>729</sup> With the growth and opening up of the Chinese financial market, Chinese banks and the Chinese banking sector are more likely to be influenced by turbulence and instability of the global financial market and domestic banks are more likely to encounter risks and financial instability. The need for an exit mechanism for insolvent banks under the regulatory framework thus is increased.<sup>730</sup>

Third, special bank insolvency proceedings enable banks to consider risks associated with their business decisions and operations while they are solvent and thus reduce any reliance on the implicit guarantees of the government and the consequences

728 Mariam Ioseliani, 'Aspects of Bank Insolvency' National Bank of Georgia (1st June 2011) <[https://www.nbg.gov.ge/uploads/discussion/aspects\\_of\\_bank\\_insolvency.pdf](https://www.nbg.gov.ge/uploads/discussion/aspects_of_bank_insolvency.pdf)> last accessed 26 Aug 2019

729 Zhiqiang Lu, 'A Study of Exit Mechanism for Troubled Banks in China' (2018) 11 Journal of Regional Financial Research 21

730 *ibid*

caused by moral hazards. The establishment of bank insolvency proceedings could reduce the reliance of banks on the government's implicit guarantees when they are faced with risks and troubled situations, as an exit mechanism could lead to an effective resolution for a troubled bank instead of the government's efforts to intervene complicating things. Banks are likely to act more consciously and prudently without the government offering implicit guarantees to bear the consequences of the former's risky decisions, and moral hazard situations that arise after banks make risky decisions yet do not experience the outcomes due to the government providing protections could be reduced.

Although special bank insolvency proceedings need a more comprehensive discussion in terms of details and arrangements of the proceedings, the brief discussion explains the need to establish such proceedings in the Chinese banking regulatory framework. On the basis of comparisons of US, UK, and Chinese regulatory frameworks, one of the differences is that China has not established special bank insolvency proceedings, which reveals the problem of having no bank insolvency proceedings in China and lacking exit mechanisms for troubled banks. Structured early intervention for banks could function better with special bank insolvency proceedings in place because the proceedings contribute to the management of troubled banks, especially at latter stages of structured early intervention for banks, and the same proceedings provide an exit for troubled banks that have been through structured early intervention without a positive outcome. Special bank insolvency proceedings relate to structured early intervention for banks and provide a more complete framework for structured early intervention for banks to function in the context of Chinese banking regulations and resolutions.

## **B. The Proposed Primary Banking Regulator of Structured Early Intervention for banks**

On the basis of the introduction of the current Chinese regulatory framework of banking regulations, the People's Bank of China (PBOC) has gained increased power and authority for making rules to conduct prudential banking regulations in addition to its macro-prudential regulations gathered after the structural change in 2017, while the China

Banking and Insurance Regulatory Commission (CBIRC) became the main regulatory agent for banks and insurance companies on the basis of an institution-based regulation after the merger of the China Banking Regulatory Commission (CBRC) and the China Insurance Regulatory Commission (CIRC) occurred in 2018.<sup>731</sup> The deposit insurance funds management agency (hereafter is referred to as the 'deposit management agency') is an affiliate agency of the PBOC, as appointed by the State Council, and not an independent company.<sup>732</sup> The PBOC, the CBIRC, and the deposit management agency are the three main banking regulators in the Chinese banking sector at this time.

In terms of structured early intervention for banks, whether the PBOC, the CBIRC, or the deposit management agency should be the primary banking regulator is vital to decide in order to promote a well-functioning structured early intervention scheme for banks, especially given the current intertwined roles and responsibilities among these various banking regulators. The currently proposed primary banking regulator for structured early intervention for banks is the CBIRC, as this organisation is the prudential regulator for individual banks on a micro-level. Although based on the Deposit Insurance Regulation<sup>733</sup>, the deposit management agency is entitled to intervene in troubled banks at early stages and to take corrective measures to rectify risks associated with troubled banks, the stratification of the roles and responsibilities of early intervention between the CBIRC and the deposit management agency remain unclear. The following discussion explains the reasons for why the CBIRC should be the primary banking regulator for structured early intervention for banks and introduces possible arrangements to separate the regulatory roles and responsibilities of the CBIRC from those of the deposit management agency.

### **1. Why the CBIRC Should Be the Primary Regulator of Structured Early Intervention for Banks**

Structured early intervention for banks act as a supervisory mechanism for the banking regulator to identify bank risks and operations at the early stages and to intervene early to avoid negative impacts and bank failures. They are applied at early stages in the

731 See n 395, 396, 398

732 Lu (n 748)

733 Deposit Insurance Regulation, s 7

process of dealing with troubled banks as compared with during bank insolvency proceedings, which instead provide an exit mechanism and a process by which to manage to resolve failed banks. The primary banking regulator of structured early intervention for banks should be the most suitable one for achieving goals of this mechanism as chosen from among the PBOC, the deposit management agency, and the CBIRC.

The PBOC, as the central bank of China, has the responsibility of maintaining financial stability and regulating systemic risks on the basis of macro-prudential banking regulations. It also holds the responsibilities of acting as the Lender of the Last Resort (LOLR) and as the lead financial regulator in the management of financial groups, including banks.<sup>734</sup> More specifically, under the current regulatory framework in the Chinese financial sector, the PBOC is responsible for monetary policy and financial regulation, including but not limited to formulating and executing monetary policy, issuing and managing circulation of the Chinese currency (CNY), managing and operating national foreign reserves and gold reserves, and publishing rules and regulations related to financial regulations and operations.<sup>735</sup> The primary banking regulator of structured early intervention for banks should be the institution that conducts daily regulation and supervision of banks, or the early identification of risks and problems could be hard to achieve. From this perspective, the PBOC is not suitable for identifying risks and problems and obtaining first-hand information of banks as the macro-prudential regulator when compared with regulators that conduct daily regulation and supervision activities.

In terms of the deposit management agency, the following discussion explains why the agency is not the suitable regulator of structured early intervention for banks. One reason is that the deposit insurance scheme has been regarded as a tool of the PBOC, together with the Chinese central bank's tools of macro-control and prudential regulation. The relationship between the deposit management agency and PBOC can be seen from the situation of that the deposit management agency is an affiliate of the PBOC.<sup>736</sup> As an

734 Financial Stability Board, 'Second Thematic Review on Resolution Regimes Peer Review Report' (18 March 2016) <<http://www.fsb.org/wp-content/uploads/Second-peer-review-report-on-resolution-regimes.pdf>> last accessed 26 Aug 2019

735 The Law of the People's Republic of China on the People's Bank of China, s 4

736 Yiqing Song and Ou Nie, 'The Establishment of Deposit Insurance Scheme' (China Financial Weekly 2015) <<http://finance.sina.com.cn/china/20150408/162721909493.shtml>> last accessed 26 Aug 2019

affiliate agency, the deposit management agency is closely related with the PBOC. The roles and responsibilities of the deposit management agency have been regarded as additional functions of the PBOC, specifically early intervention and corrective measures enacted to deal with risks by the deposit management agency and the appointment of the deposit management agency as the receiver, administrator, and liquidator of insolvent banks.<sup>737</sup> The PBOC and its decisions on dealing with an insolvent bank could have an impact on the deposit management agency wherein the agency acts like an executor of the PBOC's decisions. Additionally, due to the affiliated status of the deposit insurance agency and the PBOC, the agency may encounter the same difficulties in identifying the risks and problems of troubled banks at early stages given that the agency is not responsible for the daily regulation of banks.

Another reason is that the legal status of the deposit management agency is unclear and this contributes to an uncertain scope of authority of the deposit management agency under the current regulatory framework. Mandates of the deposit insurance scheme normally are of four types, and each type of mandate provides the deposit insurance scheme with different scopes of authority and arrangements with other financial safety net participants. The four types of mandates of the deposit insurance scheme are the paybox mandate, paybox-plus mandate, loss-minimiser mandate, and risk-minimiser mandate.<sup>738</sup> Based on these mandates, the authority of the deposit insurance scheme ranges from reimbursement of insured deposit funds to a comprehensive set of resolution authorities depending upon the formal arrangements of the deposit insurance schemes of individual countries.<sup>739</sup> The paybox and paybox-plus mandates enable the deposit insurance agency to mainly reimburse the insured deposits to depositors.<sup>740</sup> Additional responsibilities of paybox plus mandates include functions in the resolution process by assisting and cooperating with banking regulators or the resolution authorities. This is the case for the UK deposit insurance scheme, and the Financial Service Compensation

737 Xin'an Li, 'A Study of Management Mechanism of Bank Insolvency Risks' (2018) 2 Huabei Finance 38, 52

738 Financial Stability Board, 'Thematic Review on Deposit Insurance Systems Peer Review Report' (8 February 2012) <[http://www.fsb.org/wp-content/uploads/r\\_120208.pdf?page\\_moved=1](http://www.fsb.org/wp-content/uploads/r_120208.pdf?page_moved=1)> last accessed 26 Aug 2019

739 *ibid.*

740 *ibid.*

Scheme (FSCS) as the deposit insurance agency cooperates with the PRA in the latter stages of the Proactive Intervention Framework (PIF), in structured early intervention for UK banks, and in reimbursements of depositors during the resolution process.<sup>741</sup> After the GFS, deposit insurance schemes around the world more often tended to perform functions as loss-minimiser mandates wherein the deposit insurance agency participates in least-cost resolution strategies.<sup>742</sup> The risk-minimiser mandate provides the deposit insurance agency with a wider scope of authority that entitles the agency to have resolution powers and other prudential oversight responsibilities.<sup>743</sup> The mandate of the US deposit insurance scheme is the type of risk-minimiser approach wherein the Federal Deposit Insurance Corporation (FDIC) has the resolution powers to deal with insolvent banks after negative PCA outcomes.

The mandate of the Chinese deposit management agency has an undefined status, which means the scope of the agency's authority requires further clarification in the law. According to the Deposit Insurance Regulation, the deposit management agency is entitled to apply early intervention and corrective measures to troubled banks and to be appointed as the receiver, administrator, and liquidator of insolvent banks.<sup>744</sup> The mandate of the Chinese deposit insurance scheme can be regarded as the loss-minimiser type or paybox-plus type depending upon the explanations of the scope of the early intervention authority. On the basis of the deposit management agency's roles and responsibilities, the agency is entitled to play a role in the resolution process without the functions of other prudential oversight regulations and thus can be regarded as a loss-minimiser type of deposit insurance scheme. Considering the relationship between the deposit management agency and the PBOC, the deposit management agency could be regarded as a dependent agency in comparison with the authority of the PBOC and the CBIRC. Without a clarified mandate of the deposit management agency, the scope of the agency's authority could be difficult to determine, which could result in difficulties in establishing the specific functions of the deposit insurance scheme in the banking regulatory framework. Moreover, when it comes to the function of early intervention of the

741 The Prudential Regulation Authority (n 2)

742 Financial Stability Board (n 757)

743 *ibid.*

744 Deposit Insurance Regulation, s 7

deposit management agency, the Deposit Insurance Regulation does not specify details in relation to early intervention functions, and this could cause overlaps with the authority of the CBIRC in the context of the regulation and supervision of banks, especially when dealing with troubled or insolvent banks.<sup>745</sup>

Following the above discussion of the PBOC and the deposit management agency, the following section focuses on why the CBIRC should be the primary regulator of structured early intervention for banks in China. Of note, the reasons are twofold. First, the CBIRC is an institution-based prudential regulator and is responsible for both off-site and on-site examinations of banks, which enables the CBIRC to establish a regulatory information system that analyses and assesses bank operations and risks and to review regular and timely updates on bank performance and risk levels.<sup>746</sup> One of the preconditions of successful structured early intervention for banks requires knowledge of accurate and timely financial information of banks, and this requirement mainly promotes certain standards of triggering events of structured early intervention to provide timely financial information of banks and reflect the true statuses of banks.<sup>747</sup> This timely and accurate information of banks can be useful when a suitable banking regulator has access to and takes advantage of such. As the micro-prudential banking regulator, the CBIRC has the advantages of accessing certain information and in a more timely manner than other banking regulators—namely, the PBOC and the deposit management agency—under the current regulatory framework in the Chinese banking sector. The CBIRC conducts the daily regulation of banks and has established a series of triggering events combining both objective triggers such as capital ratios and subjective triggers such as supervisory judgements in order to determine the financial conditions and risks of a bank at a certain time, whereas other banking regulators may not have access to all the details of financial conditions and risk levels of particular banks.<sup>748</sup>

<sup>745</sup> Guo (n 5), 57

<sup>746</sup> Banking Supervision Law of People's Republic of China, s 23 and 24

<sup>747</sup> Nieto and Wall (n 12)

<sup>748</sup> Notice of the China Banking Regulatory Commission on Issues Concerning Transitional Arrangements for the Implementation of the Administrative Measures for the Capital of Commercial Banks (for Trial Implementation) and Notice of the China Banking Regulatory Commission on Issuing the Internal Guideline for the Regulatory Rating of Commercial Banks

Second, on the basis of comparisons of structured early intervention for banks in the United States, the United Kingdom, and China, the primary banking regulator of PCA in the United States and PIF in the United Kingdom are both prudential banking regulators who are responsible for regular bank regulation and supervision efforts. These experiences provide examples and practices for the primary banking regulator to consider in composing structured early intervention for banks in China and show the plausibility of the prudential banking regulator being the primary banking regulator for structured early intervention for banks. In the process of dealing with troubled banks in the US, including insolvent banks, early intervention with troubled banks and attaining receivership of insolvent banks are the two steps of the process.<sup>749</sup> The primary banking regulator of banks, depending on the chartering authority of the banks, applies corrective actions to banks based on the capital ratio category of said banks to improve the level of intervention enforced on the banks. The primary banking regulator then cooperates with and appoints the FDIC as a receiver of the insolvent banks if the corrective measures fail and the banks need to be resolved and exit to the market. Similarly, the PRA in the UK, as the prudential banking regulator, is entitled to first consider applying enhanced level of intervention to troubled banks and prepare for possible resolution in the future with the FSCS, then, eventually at the last stage of structured early intervention for banks, to work with the Bank of England as the resolution authority required to liquidate troubled banks. Both the US and UK practices show the dominant role of the prudential banking regulator at the early stages of structured early intervention for banks to improve the level of intervention to correct operations and stabilise the financial conditions of troubled banks. On the one hand, establishing the prudential banking regulator as the primary banking regulator is likely to save the needs for cooperation and coordination among several banking regulatory authorities in the early stages. This could ensure the efficiency of conducting an enhanced level of intervention by one primary banking regulator in relation to making decisions and applying corrective measures at the early stages. On the other hand, mandates of deposit insurance schemes in the US and UK are clear, and the scopes of the authority of the deposit insurance agencies in these two countries are defined without providing them with the authority of early intervention to deal with the deterioration of bank

<sup>749</sup> Ye (n 14)

financial conditions and risk levels. The US and UK arrangements of a primary banking regulator of structured early intervention for banks show the feasibility of the dominant role of the prudential banking regulator as the primary banking regulator. Cooperation with resolution authorities, whether the authority is the central bank or the deposit insurance agency, is left to the latter stages of structured early intervention for banks where troubled banks are no longer viable and cannot be corrected by early intervention. These arrangements could work as a reference for the Chinese arrangement of the primary banking regulator of structured early intervention for banks, especially on the basis of the current distribution of roles and responsibilities of the CBIRC and deposit management agency.

## **2. Possible Allocation Patterns of the Roles and Responsibilities of the Deposit Management Agency and the CBIRC**

Before the discussion of a potential arrangement of roles and responsibilities of the CBIRC and deposit management agency is presented, it is worth clarifying the understanding of ‘the process or mechanism of dealing with troubled banks’. This can refer to either of the following: either the application of resolution tools in the resolution of insolvent banks or the whole process from an enhanced level of regulation and supervision of troubled banks to the eventual resolution of troubled banks. The scope of the process or mechanism of dealing with troubled banks in the second understanding is wider than the first understanding. The process or mechanism of dealing with troubled banks in the context of Chinese law and literature tends to refer to the bank resolution process wherein the deposit management agency resolves insolvent banks by using a series of resolution tools, including purchase and assumption, bridge banks, and open bank assistance. This understanding of the process is very similar to the FDIC’s role as the deposit insurer in receiverships or resolution processes. As the understanding of ‘the process of dealing with troubled banks’ may be different in different contexts, this subsection is constructed in accordance with the second understanding of the process wherein structured early intervention for banks and bank resolution constitute the process of dealing with troubled banks. Structured early intervention for banks refer to the starting

phase of dealing with troubled banks wherein an enhanced level of intervention has been imposed on troubled banks to improve their financial performance and stability.

As mentioned above, both the CBIRC and the deposit management agency have power and authority in relation to the process of early intervention, although the CBIRC is provided with more authority and power in terms of initiating the process of dealing with insolvent banks under the current regulatory framework to gradually improve the level of intervention. Conversely, the deposit management agency is provided with more authority and power as the receiver, administrator, or liquidator in the resolution process of dealing with insolvent banks by means of a takeover, administrative closure, or liquidation before entering into the judicial process of bank resolution. It also acts as the rule-making authority in relation to these functions.

In relation to the roles and responsibilities of early intervention of troubled banks, under the current regulatory framework, the CBIRC has been the primary banking regulator in both prudential banking regulations and early intervention.<sup>750</sup> The CBIRC is entitled to decide whether to pursue measures or not, including takeover, administrative closure, reorganisation of troubled banks, and the liquidation of banks that are closed because of administrative closure.<sup>751</sup> The deposit management agency has the role of suggesting that the CBIRC take the above actions when faced with troubled or insolvent banks in situations where the banks have been going through or are likely to suffer credit crisis where interests of depositors and customers can be seriously affected or damaged.<sup>752</sup> The rule-making authority of the deposit management agency could be a cause of overlaps in the authority of early intervention.

The proposed arrangements of roles and responsibilities of the CBIRC and the deposit management agency in terms of structured early intervention for banks is to allow the CBIRC to be the primary banking regulator on this matter and to enable the deposit management agency to work collaboratively with CBIRC at latter stages of structured early intervention for banks to ensure the smooth and prepared resolution of troubled banks. The reasons for the proposed arrangements are twofold.

750 Guo (n 5) 59

751 The Bank Supervision Law of People's Republic of China, section 38 and 39

752 Deposit Insurance Regulation, s 17

First, in terms of structured early intervention for banks, on the basis of the proposed arrangement, overlaps in the authority and powers of the CBIRC and the deposit management agency can be avoided, and thus reduce the negative impacts, such as an increase in cost, of excessive regulations implemented to correct the same problem. The tendency for overlaps in regulatory authority between the CBIRC and the deposit management agency stems from the fact that roles and responsibilities of banking regulators cover all deposit-taking financial institutions.<sup>753</sup> This means that both the CBIRC and the deposit management agency are responsible for all deposit-taking financial institutions in that the CBIRC conducts prudential regulation and the deposit management agency is responsible for all insured deposits of these institutions, respectively. This is different from the roles of the Federal Reserve Board (FRB) and the Office of the Comptroller of the Currency (OCC) in carrying out the regulation and supervision of certain banks.<sup>754</sup> The division of roles and responsibilities of banking regulators in the US is easier to identify and differentiate because each banking regulator is responsible for a certain category of banks depending on whether the banks are national or state banks and whether the banks participate the Federal Reserve System or not. The FDIC also has clarified roles and responsibilities as the receiver of insolvent banks because of the risk-minimiser mandate type of the deposit insurance system.

The overlaps between the CBIRC and the deposit management agency happen because the deposit management agency is entitled to conduct early intervention and to enforce different insurance premiums on the basis of the risk levels of individual banks as determined by the deposit management agency.<sup>755</sup> Additionally, the deposit management agency is entitled to formulate and publish rules in relation to its roles and responsibilities as an insurer. The scope of this entitlement is broad, because the prudential operation of banks, the ability to make repayments of debts, risk management, capital adequacy, and receiverships are all related to the roles and responsibilities of the deposit management agency.<sup>756</sup> Therefore, both the judgement of the risk levels of banks and the authority to

753 Ying Xiao and Anping Zhao, 'Effect of Deposit Insurance System on Banking Supervision' (2015) 12 *The Chinese Banker* 58

754 See n 273-278

755 Deposit Insurance Regulation, s 7 and 9

756 Qian Xu, 'Roles and Functions of Deposit Insurance System in China – from the Perspective of External Coordination' (2018) 11 *Financial Theory and Practice* 63, 68

make rules could cause overlaps between the authority and powers of CBIRC as the prudential banking regulator.

The proposed arrangement limits the scope and boundary of the deposit management agency to the latter stages of structured early intervention for banks, especially the resolution phase of dealing with troubled banks. This enables the CBIRC as the primary banking regulator to intervene in the operations of troubled banks at early stages. One benefit of the arrangement is the savings of the costs and resources of the deposit management agency because the agency is less experienced and resourceful in comparison with the prudential banking regulator, especially as an affiliate to the PBOC. The CBIRC has comprehensive regulatory systems to supervise and monitor banks in terms of risk assessment, regulatory rating, and onsite and offsite examinations.<sup>757</sup> The arrangement is also likely to alleviate the pressure on banks to engage in compliance as, otherwise, banks are faced with two sets of rules and examinations—one by CBIRC as the prudential regulator and one by the deposit management agency acting as an insurer to check banks' prudence on a regular basis and as a resolution authority—increasing the costs and time required for compliance.

Second, the collaboration and coordination of the CBIRC and the deposit management agency at latter stages of structured early intervention for banks could ensure a smooth process of dealing with troubled banks, with the dominant role being transferred to the resolution authority. The central bank, the prudential banking regulator, and the deposit insurance agency constitute a financial safety net where a suitable arrangement of functions and cooperation amongst these regulators are the basis of an effective and stable financial regulatory system, especially with the deposit management agency being a relatively new regulator in the Chinese financial safety net.<sup>758</sup> The deposit management agency under the proposed arrangement focuses on the resolution of insolvent banks. Its involvement, ranging from assessing resolvability to contingency planning, in the latter stages of structured early intervention for banks, providing a

757 Financial Stability Board, '2018 IMN Survey of National/Regional Progress in the Implementation of G20/FSB Recommendations – China' <<https://www.fsb.org/wp-content/uploads/CN-IMN-Survey-2018.pdf>> last checked 26 August 2019

758 Feng Zhao, 'Discussion on the Coordination and Cooperation between Deposit Insurance Institutions and Financial Safety Net' (2016) 8 Credit Reference 66, 68

transition period, could contribute to a comprehensive planning and better preparation for the resolution process. The arrangement of collaboration and coordination between the CBIRC and the deposit management agency is derived from structured early intervention for UK banks, where the resolution authority is involved in each stage of the structured early intervention for banks and gradually improves the level of assessment of troubled banks to prepare in more detail for possible resolution.<sup>759</sup> At the final stage of structured early intervention for banks, the resolution authority becomes the primary regulator and resolves the troubled banks when they are not viable.<sup>760</sup> On the basis of the cooperation between the two Chinese banking regulators, the deposit management agency's early involvement in structured early intervention for banks enables it to access regulatory information about troubled banks from the CBIRC's comprehensive regulatory systems and make preparations for possible resolution of the troubled banks rather than having authority over structured early intervention for banks.

To conclude, first, the problem with the background of structured early intervention for banks is a lack of an exit mechanism that is designed for banks. This has an impact on the process of dealing with troubled banks in China, as, currently there are no formal proceedings to follow in dealing with bank insolvency, which could affect the operation of structured early intervention and require the government to take administrative measures. Second, the existing problem with the primary banking regulations for structured early intervention for banks is derived from both the mandates of the Chinese deposit insurance scheme and the undefined scope of the deposit management agency's authority. The CBIRC should be the primary banking regulator for structured early intervention for banks because it has established systems to detect changes and access information about a bank's financial condition. In addition, establishing the prudential banking regulator as the primary regulator for structured early intervention for banks seems to be a good practice, based on the US and UK experience. Finally, in relation to the allocation of roles and responsibilities of the CBIRC and the deposit management agency, the CBIRC should be responsible for structured early intervention for banks, while the deposit management

<sup>759</sup> The Prudential Regulation Authority (n 2) 32

<sup>760</sup> *ibid.*

agency should complement at the latter stages to ensure a smooth resolution of insolvent banks.

Bank regulation and supervision	The PBoC: Macro-prudential regulation and drafting rules for regulation	Normal and regular regulation and supervision of banks
	CBIRC: Institutional-based regulator	
Structured early intervention for banks	CBIRC: An enhanced level of regulation and supervision	Minor stage
		Moderate stage
		Severe stage
Special bank resolution regime	The deposit insurance funds management agency and resolution authorities	Resolution

Table 7 Proposed Chinese Regulators

**II. How to Regulate: Triggering Events of Structured Early Intervention for Banks**

Under the abovementioned banking regulatory framework, the CBIRC, as the primary banking regulator for structured early intervention for banks, must closely monitor banks and react to changes in bank financial conditions and risk levels where appropriate. Triggering events of structured early intervention for banks provide the primary banking regulator with a set of standards to determine whether an enhanced level of intervention and supervision of particular banks is needed. US, UK, and Chinese triggering events adopt different methods to achieve the objective of identifying troubled banks in a timely manner. On the basis of comparisons of triggering events, whether triggering events adopt objective standards or regulatory discretions and whether a formal or regularly structured early intervention system are considered are the two main differences of triggering events among the three countries. This section discusses the proposed set of standards for triggering events of structured early intervention for banks in China in relation to policy recommendations from the perspectives of objective and subjective standards and formal or regular systems.

**A. Objective, Subjective, or Combined Triggering Events**

As used in this dissertation, the term ‘triggering events’ refers to a set of standards that the primary banking regulator applies to determine the financial conditions and risk levels of banks. As explained in Chapter 3, triggering events can come in the form of

objective standards, such as capital ratios; in the form of subjective standards, such as supervisory assessments on the basis of the judgements of banking regulators; or in the form of combined triggering events that integrate both objective and subjective standards. On the basis of comparisons of US, UK, and Chinese triggering events, differences are derived from variations in underpinning theories, considerations of pros and cons of objective versus subjective standards, and traditions in regulating the financial sector. In terms of Chinese structured early intervention for banks specifically, the current triggering events adopt a combination of objective and subjective standards.

However, objective standards as triggering events could be a more suitable choice for the Chinese structured early intervention for banks. In addition to capital ratios as one type of objective standard, triggering events for the Chinese structured early intervention for banks should include other types of objective standards, especially the nonperforming assets coverage ratio. A series of objective standards could consist of triggering events to indicate bank financial conditions and to function as signals for the primary banking regulator to use to determine whether further corrective measures are necessary for particular banks. The following three reasons explain why a series of objective standards could be suitable for functioning as triggering events in the context of Chinese structured early intervention for banks.

First, objective standards as triggering events can be a way or an alternative to initiate structured early intervention quicker as banks fail to meet certain requirements, which could be a way to reduce the negative impact, including delays on determining bank financial conditions by the regulator's judgement, thus reducing the dependence on the outcomes of the government's efforts in dealing with troubled banks. One advantage of objective standards is to avoid forbearance of regulators and reduce the costs of government intervention of troubled banks, as takeover and closure of banks by the government are costly methods for resolving troubled banks.<sup>761</sup> In the context of dealing with troubled banks in China, the government's intervention in managing troubled banks is a common measure, because triggering events did not function early enough to provide

761 Craig O. Brown and I. Serdae Dinc, 'Too Many to Fail? Evidence of Regulatory Forbearance When the Banking Sector Is Weak' (2011) 24 *The Review of Financial Studies* 1378

indications of financial conditions of banks for the primary banking regulator.<sup>762</sup> As a result, when problems of troubled banks emerge, corrective measures of early intervention may not be the most effective or suitable measures at that time for dealing with troubled banks; therefore, government intervention are needed, especially in the case of a lack of exit mechanisms for insolvent banks.

Problems with government intervention in troubled banks can be seen in four example cases of resolution of troubled banks in China. These cases include the resolutions of Weihai Commercial Bank in 1998, Hainan Development Bank from 1997 to now, eight credit unions in Ge'er Mu from 2005 to 2007, and Yinpeng City Credit Union from 1999 to 2008. In all four cases, the Chinese central bank, prudential banking regulators, and the local government participated in the process of managing these troubled banks wherein the central bank provided emergency liquidity support and the local government provided direct and material help to recover the banks—for example, using local monetary funds, refunding taxes, and dealing with nonperforming loans.<sup>763</sup> The involvement of the prudential banking regulator (i.e., the CBRC and its local divisions) in dealing with troubled banks at early stages was very limited, and only the adjustment of management and appointment of a special onsite working unit to improve the operation of troubled banks were used.<sup>764</sup> Government intervention has played an important role in dealing with these troubled banks, and these banks have either been forced to exit the market by the administrative intervention or been through the liquidation process as promoted by judicial judgement.<sup>765</sup> These cases reveal the tendency of intervention by the government on troubled banks.

In terms of regulatory forbearance and timely intervention in China, due to the history and tradition of the Chinese financial sector, forbearance regarding the operation of troubled banks seems to be a common strategy of regulatory authorities. As regulatory forbearance is a relatively subjective means of assessment and judgement of troubled banks, Chinese banking regulators have a wide scope of discretions with which to

<sup>762</sup> See n 538-543

<sup>763</sup> Legal Research Group of Shanghai Banking Supervision Bureau, 'Authority and Its Distribution of Dealing with Insolvency Risks of Commercial Banks' (2016) 10 *Financial Regulation Research* 79, 81

<sup>764</sup> *ibid.*

<sup>765</sup> *ibid.*

determine if forbearance is the right thing to do, which leads to the situation wherein troubled banks can continue to operate, provoking severe moral hazards in the banking sector.<sup>766</sup> For example, the prudential banking regulator could choose not to take any measures to some state-owned banks under some circumstances and the state would instead therefore have to intervene to deal with the results of regulatory forbearance. The state provided liquidity assistance for the China Construction Bank and Bank of China to increase their equity and improve their capital adequacy in order to meet Basel requirements by using the state's foreign currency reserve, and the state also provided assistance to deal with these banks' nonperforming loans.<sup>767</sup>

The former governor of the PBOC pointed out that, in the Chinese banking regulatory framework, there is a lack of the mechanism of prompt corrective actions that identify and deal with changes in bank financial conditions and risks and reduce the impact and risks associated with regulatory forbearance derived from the decisions and judgements of banking regulations.<sup>768</sup> In addition, the factor of public interests should be taken into consideration when designing the specific types of structured early intervention for banks in particular countries.<sup>769</sup> In this regard, objective standards as triggering events can be an alternative that functions to provide signals of banks' financial conditions and risks on the basis of ratios other than supervisory assessments and judgements, which are related to regulatory forbearance.

Regardless of the accuracy and efficiency of objective standards as triggering events, the use of such standards could prevent regulatory forbearance from happening if banking regulators choose to deal with troubled banks by using structured early intervention for these banks in individual cases. The design of structured early intervention for banks allows the primary banking regulator to take corrective action once troubled banks fall below certain ratios or levels rather than allowing forbearance and delays in intervening in the troubled banks. One important aspect of objective standards

766 Dexu He, Bolei Wu and Bin Han, 'Regulatory Forbearance or Prompt Corrective Actions: A Literature Review and Discussion of Chinese Situations' (2010) 3 *Modern Economic Science* 17

767 *ibid.*

768 Xiaochuan Zhou, 'Safeguard Financial Stability and Prevent Moral Hazards' (2004) 4 *Journal of Financial Research* 1

769 Christopher Sleet and Bruce D. Smith, 'Deposit Insurance and Lender of Last Resort Functions' (2000) 32.3 *Journal of Money, Credit and Banking* 518

as triggering events is the need to provide another independent set of indicators for banking regulators to use to determine a bank's financial condition, which works in parallel with supervisory assessment. As a result, when dealing with troubled banks, in terms of the objective of achieving public interests, structured early intervention for banks could be triggered promptly as an alternative. Although the current Chinese triggering events present elements of objective standards including capital ratios, the role of this part of triggering events seems to be minor as compared with the role of regulatory judgement. This is demonstrated by the state's intervention in state-owned banks and local governments' efforts in dealing with troubled banks.<sup>770</sup> Objective standards provide a way to identify potential problems in bank financial conditions and a way to prevent excessive discretions from banking regulators at the same time, which could promote a balance between structured early intervention and regulatory forbearance as two ways of dealing with troubled banks. In the context of the Chinese banking sector, because of traditions and the practice of regulatory forbearance as well as government intervention, objective standards as a possible way to reduce the regulatory forbearance at early stages of the process of dealing with troubled banks are necessary.

Second, alternative objective standards, such as nonperforming asset coverage ratio (NPACR) and loan loss reserve adequacy standards, could provide a more accurate assessment of troubled banks in comparison with risk-based capital ratios such that the early identification of troubled banks is more likely to be achieved. NPACR refers to a ratio that assesses whether a bank is willing or unwilling to preserve a sufficient amount of reserves for potential future loan losses and to reflect the level of forbearance by banking regulators in dealing with banks with insufficient loan loss reserves.<sup>771</sup> This ratio is calculated as the 'total equity capital plus loan-loss reserves less nonperforming assets, all divided by total assets (all in book values)'.<sup>772</sup> In essence, NPACR measures the capital adequacy of a bank, as it represents the ratio of equity to assets in the case that banks are required to prepare for reserves for nonperforming loans and assets.<sup>773</sup> The result from this ratio and formula is that inadequate reserves for nonperforming loans and

770 Zhou (n 787)

771 Chernykh and Cole (n 31) 131

772 *ibid.*, 132

773 *ibid.*

assets could greatly reduce the amount of a bank's capital, while adequate reserves for nonperforming loans and assets could improve the level of capital adequacy of a bank. As a result, a bank's financial performance and operations can be assessed in a straightforward way by banking regulators, especially by using the book value of the banks' assets.

In relation to the accuracy of NPACR, as an alternative objective standard to trigger structured early intervention for banks, the following two reasons explain why NPACR could be a more accurate ratio to assess a bank's financial performance. The first reason is that NPACR considers two factors that may have an impact on a bank's overall financial performance and operations. The two factors include capital adequacy and asset quality.<sup>774</sup> Traditional capital ratios, such as capital requirements (e.g., tier 1, tier 2 capital, and minimum capital adequacy ratios) are normally calculated in the way that a bank's capital is divided by their risk-based assets to assess a bank's capital adequacy. As compared with those traditional capital ratios, NPACR takes both capital adequacy and asset quality into consideration. In particular, the formula to calculate this ratio contains the factors nonperforming assets and loan loss reserves, which reflect the asset quality of a bank. The accuracy of loan loss reserves is derived from the ability of loan loss reserves to reflect material changes in banks' business and situations.<sup>775</sup> The rationale behind the accuracy of loan loss reserves is that banks do not necessarily increase their loan loss reserves at the same pace as their nonperforming assets increase and therefore, under this circumstance, NPACR declines, and this declination reflects the weakness in assets and the reduced asset quality.<sup>776</sup> Moreover, empirically, the accuracy of loan loss reserves to assess bank insolvency risks and financial performance has been tested and revealed that the adoption of loan loss reserve adequacy standards could effectively improve the accuracy of the recognition of troubled banks with high insolvency risks, thereby triggering early intervention in a timely manner.<sup>777</sup>

The second reason that NPACR could be a more accurate indicator is that the ratio tends to reduce the incentives for banks to maintain deficient capital and insufficient loan

<sup>774</sup> *ibid.*

<sup>775</sup> Kupiec (n 32)

<sup>776</sup> *ibid.*

<sup>777</sup> Jones and King (n 451) 491

loss reserves as well as reduce the incentives for banking regulators to require inadequate loan loss reserves.<sup>778</sup> In other words, NPACR is an indicator that reveals the actual capital adequacy status of banks, which means that the ratio is able to identify banks with sufficient capital ratios that comply with current risk-based capital regulation but in fact have excessive nonperforming assets and insufficient loan loss reserves for these potential losses. For example, in the US banking sector, during the recent GFS, the loan loss reserves increased together with the increase of nonperforming assets but still remained insufficient as compared with the amount of nonperforming assets of banks.<sup>779</sup> Under this circumstance, when preparing loan loss reserves, only capital adequacy and relevant traditional capital ratios are taken into consideration, and this is likely to lead to an overestimation of the level of capital that is able to absorb risks incurred by nonperforming assets and the preparation of less loan loss reserves for the potential insolvency risks of banks.<sup>780</sup>

Furthermore, the application of NPACR to detect weakness in troubled banks is able to accurately reveal banks with weaknesses in assets quality and financial performance, which is compatible with the Chinese banking context in which nonperforming loans and assets are core problems for both the banks themselves and banking regulators. This means that NPACR is more likely to reflect the actual financial positions of banks in China with potential problems of nonperforming loans and assets and to better detect whether banks have weaknesses in capital adequacy and asset quality. Nonperforming loans have constituted a problem in the Chinese banking sector for a long time because of the macro-economy environment, government policies, and structural financial reforms.<sup>781</sup> Currently, one main characteristic of nonperforming loans in China is that the scale of nonperforming loans in the Chinese banking industry continues to grow rapidly, which means that the total amount of remaining nonperforming assets and the ratio of nonperforming assets both have experienced a growth trend in the

778 Chernykh and Cole (n 31)

779 *ibid.*

780 *ibid.*

781 Sheng Yang, 'The Analysis of Current Positions and Trends of Nonperforming Assets of Commercial Banks in China' (2018) 12 *Times Finance* 68

recent two decades.<sup>782</sup> Another main characteristic is that nonperforming loans tend to be concentrated in several industries, which refers to the fact that manufacturing and retail together account for more than 56% of nonperforming loans among all sectors and industries.<sup>783</sup> The historical way China has dealt with nonperforming loans has been to establish asset management companies to deal with nonperforming assets of banks and, during the asset-transferring process, the state eventually bears some of the losses derived from these nonperforming assets.<sup>784</sup> The current trend in dealing with nonperforming loans in China is to apply asset securitisation, which depends upon the market forces to deal with nonperforming assets.<sup>785</sup> Because of the amount of nonperforming loans and assets in the Chinese banking industry, a ratio that considers the nonperforming loans of banks could be a more suitable way to assess the actual financial performance of the banks and therefore provide a more accurate reflection of the banks' financial statuses and insolvency risks. As compared with traditional capital ratios, NPACR could perform better as a single ratio that assesses the financial conditions of banks, especially for banks in China, with the consideration of nonperforming loans being able to act as triggers of structured early intervention for banks.

Finally, in comparison with subjective standards and combined triggering events, another advantage of objective standards, especially NPACR, as triggering events could be a more efficient way to identify troubled banks. The reasons are threefold. The first reason is that NPACR could be an efficient way for banking regulators to identify troubled banks from a practical perspective. Unlike capital ratios produced by the Basel Committee of Banking Supervision, the use of NPACR could be a clearer and easier way for banking regulators to identify overdue loans and calculate the ratio to determine and predict the financial performance and conditions of banks. From the perspective of pursuing the early identification and indication of problem banks, Basel capital ratios have been used as triggering events of early intervention of banks by banking regulators around the world

782 Li Sun, 'Contributing Factors and Strategies of Nonperforming Loans in the Context of the New Normal of China's Economy' (2018) 24 *Journal of Commercial Economics* 149

783 *ibid.*

784 Bei Gao and Ming Zhang, 'Disposal and Securitisation of Nonperforming Assets: International Experiences and Prospects in China' (2018) 1 *International Economic Review* 124

785 *ibid.*

with limited positive effects on early intervention,<sup>786</sup> though Basel capital ratios are designed to be banking regulatory requirements and have a net-positive effect in a long-term on some countries' economy from a cost–benefit perspective<sup>787</sup>. In addition to the lagging nature of capital ratios, the problem with Basel capital ratios in relation to early warnings is the calculation of Basel capital ratios and the collection of data from banks, as the process of data collection and calculation can be complicated, including especially the calculation of risk-weighted assets, which is essential to the calculation of the tier 1 risk-based capital ratio and total risk-based capital ratio.<sup>788</sup> The clarity of NPACR can be shown from the convenience for banking regulators to identify overdue loans when different overdue dates of these loans can be easily observed. Because of this, banks could reduce the possibilities of masking deficiencies in capital adequacy and banking regulators could be abler to intervene in banks with less capital to absorb potential losses caused by the accumulation of nonperforming assets.

Moreover, the sensitivity of NPACR to detect variations in the capital adequacy and asset quality of banks shows the efficiency of NPACR as an objective standard in relation to triggers of structured early intervention for banks. This is especially an advantage when compared with traditional capital ratios in assessing banks' financial performance and positions. The sensitivity of NPACR is derived from the formula for calculation. As mentioned above, NPACR is calculated as 'book equity capital plus loan loss reserves less nonperforming assets, all divided by year-end assets'<sup>789</sup>. As the core factor in the formula, the factor of nonperforming loans of a bank is calculated based on these loans having different past-due dates. Specifically, the nonperforming loans is the sum of '20% of the loans past-due by 30 to 89 days, 50% of the loans past-due by 90 to 180 days, and 100% of the nonaccrual loans and OREO (referring to loans that are deemed to be substandard, doubtful, or a loss during onsite examinations by US banking regulators)'.<sup>790</sup> Given the different percentages of these nonperforming loans, the final ratio can be sensitive to nonaccrual loans and the loans that are regarded as doubtful

786 Chernykh and Cole (n 31)

787 Meilan Yan, Maximilian Hall and Paul Turner, 'A Cost-Benefit Analysis of Basel III – Some Evidence from the UK' (2012) 25 *International Review of Financial Analysis* 73

788 Chernykh and Cole (n 31)

789 *ibid.*

790 *ibid.*

assets and losses. Therefore, in addition to the accuracy, the efficiency of NPACR is shown from its ability to reflect changes in nonperforming loans in a timely way.

The third reason is that NPACR could be more easily incorporated into the structure of triggering events as compared with other multivariable models in which more changes may be needed to maintain a smooth operation of these objective standards to complement the current banking regulatory framework in China. For example, nontraditional banking activities, which are one of the fee sources of bank noninterest income, have an economical effect on the possibilities of bank insolvency and may act as a set of multiple variables to assess banks' stabilities and risks.<sup>791</sup> Noninterest income is categorised into the following three groups: nontraditional stakeholder activities, including investment banking or other banking activities that require banks to have risky assets; nontraditional fee-for-service activities, including securities brokerage or other activities that do not require banks to have risky assets; and traditional fee banking activities, including depositor services.<sup>792</sup> When it comes to assessing the insolvency risk and financial performance of troubled banks in the context of a banking crisis, banking supervisors should consider all of these categories of noninterest income banking activities.<sup>793</sup> The three categories of noninterest income as three types of variables have different implications toward the financial performance of banks, depending on whether the banks are financially stable and in distress or not.<sup>794</sup> Another set of variables that test and incorporate several financial ratios—including the equity to assets ratio, nonperforming loans to assets ratio, net income to assets ratio, and loans to assets ratio—reveals that the risk of bank failure could be reduced by higher profits and capital or increased by higher expenses and nonperforming loans, respectively.<sup>795</sup> No matter which set of variables is adopted to assess the potential insolvency risks of troubled banks, the implication from these sets of variables is that considering capital ratios as the only triggers to early intervention and the standard to use to maintain the financial stability of

791 Robert DeYoung and Gokhan Torna, 'Non-traditional Banking Activities and Bank Failures during the Financial Crisis' (2013) 22 *Journal of Financial Intermediation* 397

792 Robert DeYoung and Tara Rice, 'How Do Banks Make Money? The Fallacies of Fee Income' (2004) 28 *Economic Perspectives* 34

793 DeYoung and Torna (n 810)

794 *ibid.*

795 Shaffer (n 454)

banks may not be the most effective way.<sup>796</sup> These two sets of multiple variables may necessitate more time be taken by banking regulators to consider them in relation to their adaptability and cost-efficiency and to incorporate a new set of variables to assess banks' financial performance. Conversely, NPACR as a single variable may provide a simpler way for banking regulators to rethink the accuracy and efficiency of capital ratios as triggers of bank early intervention systems.

In the context of structured early intervention for banks in China, objective standards as the main triggering events could be a way to reduce the forbearance of Chinese banking regulators and government intervention in dealing with troubled banks in previous cases. Moreover, because of the accuracy of NPACR as an objective standard, NPACR assesses the overall financial performance and operation of banks and considers the actual financial status of banks by incorporating the factor of nonperforming loans into the ratio. The efficiency of NPACR also shows that it could be a suitable objective standard for triggering events because it can be easy to adopt NPACR from a practical perspective with the stipulation of needing to collect easily identifiable data from banks. NPACR can also be sensitive to changes in nonperforming loans of banks and can detect potential changes in the financial performance and positions of banks and is easy to incorporate into a country's current regulatory framework to complement the functions of capital ratios as early intervention triggers.

## **B. Formal or Regular Triggering Events for Structured Early Intervention**

The concept of formal or regular triggering events refers to the relationship between triggering events for early intervention and banking regulatory requirements, particularly regarding as to whether triggering events are a separate set of standards particularly for early intervention or form part of regulatory requirements for prudential banking regulation. This issue matters because each country may have a distinct preference toward certain types of triggering events of structured early intervention for banks. Due to differences in traditions and practices in the banking regulatory frameworks,

<sup>796</sup> *ibid.*

these two types of triggering events constitute one main difference among various countries.

On the basis of comparisons of US and UK triggering events, the types of triggering events of early intervention for banks in these countries reflect the tradition of their banking sectors and are compatible with the rules and practices of their banking regulations. Currently, despite the fact that triggering events for early intervention of troubled banks constitute combined triggers in China, said triggers are more of a mixture of the regular and formal types of triggering events. Because of the combination of triggering events, both triggers that are part of banking regulatory standards and triggers that are separate and supplemental to regulatory requirements are applicable for determining the financial performance and insolvency risks of banks. However, this kind of combined triggering approach is more likely to cause inconsistencies in relation to the identification of troubled banks and overlaps in the scope of authority of different banking regulators. The policy recommendation for the type of triggering events to be incorporated would be formal triggering events only that are separate from normal banking regulatory requirements, used to specifically assess and determine the financial performance of banks. The following two reasons explain why the adoption of only formal triggering events of structured early intervention for banks in China is more suitable.

First, a formal set of triggering events of structured early intervention for banks offers clear triggers to respective measures, and this could increase the level of transparency between banks and banking regulators in the context of banking regulations. A formal set of triggering events in fact provides responsibilities of banking regulators when certain ratios of banks fall below benchmarks and specifies procedures in relation to corrective measures and regulatory actions that will be applied to particular banks. The clear and transparent triggers are particularly important for systemically important banks where the clearer and more transparent requirements could reduce or avoid insecurity and negative impacts caused by these banks.<sup>797</sup> In the case of a banking crisis, urgent and timely measures are needed for the period while financial regulations have not been clearly and adequately established in the regulatory framework, as shown by experiences

797 Christine Kaufmann and Rolf H. Weber, 'The Role of Transparency in Financial Regulation' (2010) 13 *Journal of International Economic Law* 779

in many countries during the recent financial crisis.<sup>798</sup> The focus of regulation should transfer to centre on the need to provide transparent and clear rules and standards for the intervention by regulators and the state, therefore reducing uncertainties in the financial system and preparing for potential early intervention.<sup>799</sup>

The trend in rules and criteria in relation to banking and financial regulations is to clarify said rules and criteria and to specify the responsibilities of banking regulators after the recent GFS.<sup>800</sup> One aspect of this trend is to establish a banking regulator who is responsible for macro-prudential regulation and supervision and the other aspect is to establish formal and transparent rules and regulations to address potential financial difficulties and to deal with possible banking crises.<sup>801</sup> However, in the recent GFS, rules and criteria for early intervention, including triggering events, and the division of responsibilities amongst different banking regulators are not sufficiently clear and transparent at a national level.<sup>802</sup> For example, UK early intervention had the tradition of providing more discretion for banking regulators to decide banks' financial performance and insolvency risks and determine whether more intrusive measures are needed. In terms of clearer rules and criteria, in the UK, the Banking Act of 2009 was a step forward to establish formal rules in the statutory framework in relation to dealing with bank difficulties and bank crises. For early intervention of banks in the UK, further establishment of clearer and more transparent rules and criteria may be required to enhance transparency, while the clarification of what circumstance could be the starting point of early intervention and what exact corrective measures that could be applied by a specific banking regulator is warranted because the current PIF is based more on discretions and lacks a level of transparency in relation to triggering events. This is the case for both the US and China, where there exist needs to further improve transparency in the rules and criteria of triggering events of structured early intervention for banks.

798 Thomas Cottier, 'Challenges ahead in International Economic Law' (2009) 12 *Journal of International Economic Law* 3

799 Kaufmann and Weber (n 816)

800 Stijn Claessens, 'Global Banking: Recent Developments and Recent Research' (2017) 4 *Review of Finance* 1513

801 Kaufmann and Weber (n 816)

802 Luis Caricane and Rosa M. Lastra, 'Towards a New Architecture for Financial Stability: Seven Principles' (2010) 13 *Journal of International Economic Law* 597

Considering that the role of transparency is to provide a basis for financial regulations within the legal and constitutional framework,<sup>803</sup> the necessity of enhancing transparency also relates to market confidence as one of the values of banking regulation. Market confidence is derived from clear obligations based on the law. This reveals the differences between the activities that can be left with market discipline and the activities that are under the regulation of rules. Following the aspect of the trend that formal and technical rules will be the legal basis for banking regulators' decisions, discretion-based regulatory requirements, including triggering events, are less transparent than those articulated in the law, as these rules are not clearly stated. As a result, in order to achieve a more robust banking regulation and early intervention, the line between transparent, clear, and technical legal requirements and the necessary degree of discretions given to banking regulators needs to be drawn before a financial crisis arises.<sup>804</sup>

In the context of the early intervention of troubled banks, a formal set of triggers has a positive impact on clear and technical triggers and transparency between banks and banking regulators in terms of the specific circumstances that will be considered as starting points of early intervention. This also contributes to promoting market confidence in establishing a more robust regulation, especially with an appropriate arrangement with necessary discretions of banking regulators.

Second, a formal set of triggering events of structured early intervention for banks can also be effective and efficient in identifying troubled banks when considering the following three aspects: the division of responsibilities and authorities of banking regulators; clear objectives of early intervention; and the long-term effect of banking regulators' decisions on the troubled banks and the banking sector. In relation to the division of responsibilities and authorities of banking regulators, because the nature of a formal set of triggering events is a set of independent and separate triggers under an early intervention mechanism, this enables solely the designated banking regulator rather than all banking regulators in a country to be responsible for applying these triggers.

803 Rolf H. Weber, 'Mapping and Structuring International Financial Regulation – A Theoretical Approach' (2009) 20 *European Business Law Review* 651

804 Kaufmann and Weber (n 816)

From a broader perspective of banking regulation, either discretion of the sole banking regulator or rivalries amongst several banking regulators could have a negative effect on the identification and management of risks in the banking sector, including systemic risks, thus reducing the effectiveness of banking regulations.<sup>805</sup> Under the banking regulatory framework wherein multiple banking regulators have authority on early intervention, cooperation and coordination mechanisms are needed to ensure the recognition of systemic risks and the consideration of macro-regulation concerns associated with integrated and interconnected financial systems among these regulators.<sup>806</sup> Therefore, it is necessary to set a border on functions and to stratify aspects of authority among the banking regulators so as to ensure the effective and efficient regulation of banks.<sup>807</sup> In the context of structured early intervention for banks, similar situations apply wherein functions and authority of particular banking regulators need to be allocated and divided. A formal set of triggers provides detailed standards, which specifies the function of initiating the early intervention of troubled banks. Arguably, a formal set of triggers could be more useful in the context of multiple banking regulators, because these triggers outline the context and timing of decisions and actions from the particular regulator amongst several banking regulators. Only the banking regulator who has the authority to initiate structured early intervention for banks could apply these triggering events to assess the financial performance of the banks. This is a way to reduce overlaps of authority among different banking regulators and therefore improve the efficiency of the regulation of troubled banks at early stages.

Regarding the clear objective of the early intervention mechanism, a formal set of triggering events that is independent and separate from normal banking regulatory requirements for prudential regulation could be a way to reduce delays on the part of the banking regulator in identifying troubled banks and therefore lead the identification process to be more efficient. Apart from the lagging nature of capital triggers, the design

805 Luis I. Jacome and Erlend W. Nier, 'Macro-prudential Policy: Protecting the Whole' International Monetary Fund <<https://www.imf.org/external/pubs/ft/fandd/basics/macropru.htm>> last accessed 26 Aug 2019

806 *ibid.*

807 Andrew Codwin, Steve Kourabas and Ian Ramsay, 'Twin Peaks and Financial Regulation: The Challenges of Increasing Regulatory Overlap and Expanding Responsibilities' (2016) 49 *The International Lawyer* 273

of structured early intervention for banks that shares the same standards—specifically, capital adequacy as an assessment of banks’ financial performance and insolvency risk—as a regular prudential banking regulation could also contribute to regulatory forbearance. One reason for this is that the regulatory assessment of banks’ financial performance and overall situations tend to be conducted on a yearly basis. This means that the interval between two assessments is relatively long and banking regulators may not be adequately updated regarding changes to financial situations and risk levels. With a formal set of triggers of early intervention, the assessment of banks’ financial performance and risk levels is not limited to banking regulatory requirements and the time period of such an assessment. In addition, the objectives of early intervention and prudential banking regulations may be slightly different from one another. Early intervention aim to detect problems and changes in financial performance and risk levels of banks at early stages, while regular prudential banking regulatory requirements ensure that banks are safe and sound in terms of their operations. Because of the differences in these objectives, using the same requirements or standards in early intervention for banks may not be the most efficient approach. As a result, with appropriate rules for the frequency of assessment in relation to early intervention of banks, a formal set of triggering events may contribute to a timelier assessment of banks’ financial performance, therefore avoiding delays in detecting changes in banks’ operations and risk levels.

The long-term effect of decisions made by banking regulators about troubled banks and the banking sector is closely related with the long-term effectiveness and efficiency of banking regulators’ decisions about troubled banks. A formal set of triggering events could be difficult and complex to adapt as additional standards to complement prudential banking regulatory requirements in the beginning. However, because of the objective of triggering events of early intervention, in the long-term, the effectiveness and efficiency of a formal set of triggers could be seen from a more accurate recognition of troubled banks, especially with objective triggers. Based on a formal set of triggering events with objective standards, with the accuracy and efficiency of objective standards, a formal set of triggers could better achieve the objective of early identification of troubled banks, which enables banking regulators to more accurately assess the financial performance and risk levels of banks and to make a more rational decision in terms of whether early

intervention is needed as well as what is the ideal timing of the initiation of early intervention.

Regarding the type of triggering events, use of a formal set of triggers could be more advantageous than regular prudential banking regulatory requirements. A formal set of triggering events would help to improve the transparency of early intervention between banks and banking regulators because of the clear and technical triggers set out in the formal set of triggering events. Moreover, a formal set of triggering events could also contribute to the effectiveness and efficiency of the identification of troubled banks at an early stage, as the formal triggers clearly outline the standards and authority of the particular regulator, set out the objectives of the early intervention mechanism, and could have a long-term positive effect on troubled banks and the banking sector.

### **III. How to Regulate: Specific Measures of Structured Early Intervention for Banks**

In addition to triggering events of structured early intervention for banks, corrective measures constitute another important aspect of successful structured early intervention of troubled banks. After the assessment of banks' financial performance, the implementation of corrective measures is the key to improving both the overall financial performance of banks and particular aspects of banks' operations such as capital adequacy and asset quality. Unlike the differences between the US, UK, and Chinese triggering events, the corrective measures of the three countries share more similarities. Theoretically, corrective measures mainly focus on restrictions to the following aspects of banks, including but not limited to management and governance, capital and assets, shareholders' rights, and operations and expansions.<sup>808</sup> The level of intervention of corrective measures on these aspects of banks' business and operations vary depending on the performance and risks of banks.

In addition to recovery and resolution planning, corrective measures for specific aspects of banks' business and operations are necessary. The current practice of corrective actions in China tends to be punitive, which focuses more on the punishment of troubled banks by takeover, the suspension of banks' licenses, and the revocation of

<sup>808</sup> Basel Committee on Banking Supervision (n 544)

banks' licenses. This reveals a lack of corrective measures that have an ex-ante feature to intervene at early stages. Because of this, corrective measures that aim to improve stability and solve financial difficulties are in need of an organised system to balance both early corrective measures and punitive corrective measures such that a better effect and results on troubled banks can be achieved. Based on US and UK experiences, under structured early intervention for banks, banks can be categorised into five groups, with the first category having the same standards as normal banking regulations and the last category dealing with failed banks. The categories in between include corrective measures that have an impact on the business and operations of banks that aim to restore their financial stability and reduce difficulties in their operations. Corrective measures for policy recommendation of Chinese structured early intervention mainly focus on these in-between categories—namely, the minor stage, moderate stage, and severe stage. This section primarily discusses recovery and resolution plans and corrective measures for different aspects of banks' business and operations at the three main stages of structured early intervention for banks, respectively.

## **A. Recovery and Resolution Planning**

Recovery and resolution planning refers to the plans made to address bank performance and financial stability. However, these plans have different purposes and objectives in terms of maintaining and restoring the financial stability of banks. Recovery plans happen at earlier stages of or even before early intervention, while resolution plans are executed at latter stages of early intervention in association with the resolution of troubled and nonviable banks.

### **1. The Necessity of Recovery and Resolution Planning**

Recovery and resolution planning constitutes an important corrective measure of structured early intervention for banks. The necessity of these plans is twofold. First, as some parts of recovery and resolution plans, especially the recovery plan, are drafted by banks themselves, this process enables banking regulators to access more information from the perspective of the operation and performance of banks. In recovery plans, banks are required to describe certain scenarios and their own prescribed measures and actions,

in order to accelerate the process to take a particular measure from a range of readily available measures in these plans. Because of the disclosure of recovery plans, especially descriptions of scenarios and actions, banking regulators are able to access potential new information about the banks offering the plans, even if the potential for the information can be excessive or inaccurate.<sup>809</sup> The new information not only allows banking regulators to obtain a more comprehensive understanding of individual banks but also enables them to design more suitable and compatible resolution plans for particular banks. The regulators need to consider a wide range of factors that may have an impact or which are related to specific situations of banks, including the nature of the business, size and interconnectedness of a particular bank in relation to its group company, and the financial system as well as potential impact of the bank's failure.<sup>810</sup> The new information gained from the recovery plan could fill in some gaps in banking regulators' understanding of individual banks, therefore enabling them to prepare more tailored resolution plans for certain banks.

Second, recovery and resolution planning provides a sense of certainty for both banks and banking regulators in the context of an uncertain scenario of a potential bank failure. Recovery and resolution planning presents a different take on the management of troubled banks in comparison with normal insolvency proceedings, where specific measures taken by an administrator or liquidator can be more unpredictable. With this level of certainty, in the potential bank crisis context, banks are able to guide themselves through predesigned recovery plans and, therefore, having prior knowledge in relation to potential circumstances and what steps to take is valuable.<sup>811</sup> The planning also contributes to a reduced level of disorderly management of troubled banks and potential bank failure.

In order to gain the positive effects of recovery and resolution planning, banks need to undergo serious assessment and consideration in an event of failure, whilst bank regulators must closely evaluate and scrutinise any plans. However, recovery and resolution planning does not definitively lead to a certain and orderly management

809 Thole (n 245)  
810 Schilig (n 149)  
811 Thole (n 245)

approach for addressing troubled banks and potential bank crises. The key concerns are related to the timing and effect of such planning required by banking regulators, as the process of early intervention of troubled banks could take a relatively long time.<sup>812</sup> In addition, such plans do not guarantee an effective resolution of troubled banks even if the plans were implemented at early stages.<sup>813</sup> As required by the Bank Recovery and Resolution Directive (BRRD), especially article 15, to assess the resolvability of individual banks,<sup>814</sup> banking regulators subject to this Directive in Europe could be more likely to interfere with and require banks to make plans at early stages. However, this is not a compulsory requirement regarding the specific timing of such planning imposed by banking regulators on banks.

## **2. Elements of Recovery and Resolution Plans**

In general, recovery and resolution plans refer to plans that aim to provide a roadmap in order to guide banks in the face of difficulties or even crises in the context of that the banks are likely to return to insolvency and turnaround is possible.<sup>815</sup> Both plans have the feature of ex-ante regulation. The recovery plan is drafted and prepared by the banks themselves, while the resolution plan is the banking regulators' responsibility to prepare. This is the main difference between the two plans.

Elements of recovery and resolution planning could consist of the following four stages to maximise the effect of the plans to address banks having difficulties. In summary, from the first stage to the final stage, each of the respective actions, recovery plans, resolution plans, considerations of bankruptcy scenario, and restructurings of banks' business should be taken into account to make the ex-ante planning work.<sup>816</sup> At the first stage, banks play a major role in devising and preparing the recovery plan where the most important part is a simplified legal structure.<sup>817</sup> The simplified legal structure refers to the efforts of banks in the plan to clarify their legal structures from a complicated and

<sup>812</sup> Admati and Hellwig (n 151) 77

<sup>813</sup> *ibid.*

<sup>814</sup> DIRECTIVE 2014/59/EU, article 15

<sup>815</sup> Matthias Haentjens, 'Bank Recovery and Resolution: An Overview of International Initiatives' (2014) 3 *International Insolvency Law Review* 255

<sup>816</sup> Emilio Avgouleas, Charles Goodhart, and Dirk Schoenmaker, 'Bank Resolution Plans as a Catalyst for Global Financial Reform' (2013) 9 *Journal of Financial Stability* 210

<sup>817</sup> *ibid.*

unclear structure so that banking regulators can better understand the banks and their structures in the context of difficulties and crises. This provides the basis for the necessity of recovery and resolution planning, where banking regulators have clearer information and a deeper understanding of individual banks. More importantly, in the context of difficulties and crises, when having clearer versions of legal structures, banking regulators can better divide different parts or business lines of the banks and identify only the important parts that need to be rescued rather than providing assistance to the whole bank.

Another element of recovery and resolution planning, the second stage, is the preparation of resolution plans by banking regulators. Banking regulators make use of resolution plans when banks are unlikely to become viable so as to resolve said troubled banks in an orderly way.<sup>818</sup> Because the resolution plan is made before the actual difficulties or crises arise, resolution plans have similar benefits for banking regulators as recovery plans do for banks. In relation to the content of resolution plans, the plan more so covers resolution tools and options that can be applied to banks in crisis, excluding excessive financial assistance.<sup>819</sup> For example, per the requirements of BRRD, resolution plans should include but not be limited to solutions and actions to separate the functions of a bank, ways for assessing the values of each function of the bank in question, and where to obtain funding for the resolution plan. In more detail, resolution plans are required to separate critical functions and business functions from other functions of banks using both legal and economic perspectives to ensure these two functions are viable in the context of insolvency.<sup>820</sup> The operation of and access to the market infrastructure functions are required to prepare things in advance in the resolution plans.<sup>821</sup>

Apart from these basic contents, the arrangement of burden-sharing for individual banks in the resolution plan is advised to be taken into consideration. Burden sharing has

818 Jeffrey Gordon and Wolf-Georg Ringe, 'Bank Resolution in Europe: The Unfinished Agenda for Structural Reform' (2015) Working Paper No.507 <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2548251](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2548251)> last accessed 26 Aug 2019

819 Jens-Hinrich Binder, 'Resolution Planning and Structural Bank Reform within the Banking Union' in Juan E. Castaneda, David G. Mayes, and Geoffrey Wood (eds) *European Banking Union: Prospects and Challenges* (Routledge 2015)

820 *ibid.*

821 *ibid.*

two functions in the resolution plan. First, it clarifies the burden of the final cost of resolution of individual banks, where private stakeholders should be the first group to bear the costs while, under circumstances with systemic importance, public funds can be temporarily provided for troubled banks.<sup>822</sup> Second, in the context of the cross-border resolution planning of banks, burden sharing among different countries and authorities could be beneficial to the cohesion of home and host regulatory authorities and can enable these regulators to take preventive measures.<sup>823</sup> In the case of the failure of such cross-border banks, both the home and host countries may need to provide assistance from public funds. In order to avoid this consequence, these regulatory authorities are more likely to ensure that timely supervision and measures are taken to minimise the negative effect. The willingness amongst these regulators to cooperate and assess particular cross-border banks having difficulties or crises is expected to increase. As a result, a burden-sharing arrangement in a resolution plan for a cross-border bank prepares home and host regulators alike for potential difficulties and incentivises these regulators to cooperate to reduce the possibility of forbearance and costs to public funds in the affected countries.

The third stage, considerations of the bankruptcy scenario, complement the functions of recovery and resolution plans in the previous two stages. Considerations of the bankruptcy scenario enable both banks and banking regulators to review and highlight weaknesses, shortcomings, and inconsistencies associated with particular banks in the context of deposit insurance schemes and resolution processes and therefore outline the most significant problems for banking regulators.<sup>824</sup> Prior consideration of the bankruptcy scenario is able to direct banking regulators' attention to the most critical weakness of banks and inconsistencies during the resolution process in the case of a bank crisis. The consideration of the bankruptcy scenario needs extra attention from Chinese primary banking regulators for early intervention. On the basis of the current Chinese bank resolution regime (currently, bank insolvency is based on normal insolvency law and needs further reform to ensure a special bank insolvency law), there are no current rules

822 John Lipsky, 'Towards an International Framework for Cross-Border Resolution' (ECB and Its Watchers Conference XII, Frankfurt, July 2010)

823 Avgouleas, Goodhart, and Schoenmaker (n 835) 214

824 *ibid.*

set in resolution planning in relation to the compatibility between bank resolution and the deposit insurance scheme. In the context of the special bank resolution regime, the resolution regime should be compatible with the current deposit insurance scheme to ensure a standardised payout of insured funds to depositors. This arrangement may also need to be included in the recovery and resolution planning at this stage to promote a relatively short period of time before the payout.

The fourth stage, representing the last element of recovery and resolution planning, is a chance to restructure the bank business on the basis of the revelation of the banks' legal and economic structure. This stage enables banking regulators to persuade banks to simplify their business parts and structures to meet the restructuring desires of banking regulators, especially when banks are unwilling to restructure their business in the context of difficulties and crises.<sup>825</sup>

These four stages are the four elements of recovery and resolution planning for banks established prior to the actual difficulties and crisis. Based on the pursuance of recovery and resolution planning beforehand, both banks and banking regulators could have some extent of certainty and be more prepared to address more critical weaknesses of particular banks experiencing difficulties and crises.

## **B. Corrective Measures at the Minor Stage**

Before going into details about corrective measures, it is worth noting that the main functions of these measures when banks fall below requirements are set out in the triggering events. One function of corrective measures is to prevent financial performance and insolvency risks of banks from worsening, which focuses on improving their overall profitability and management.<sup>826</sup> Another function of these corrective measures is to reduce potential losses that may arise from troubled banks' desperate behaviours to use costly funding and excessive risk-taking to improve their solvency.<sup>827</sup> The functions of these corrective measures determining the level of intervention vary from less strict and intrusive measures to measures that have a direct impact on troubled banks. Although

<sup>825</sup> *ibid.*, 211

<sup>826</sup> Svoronos (n 35)

<sup>827</sup> *ibid.*

corrective measures of structured early intervention in this section are developed on the basis of a formal intervention regime, overlaps between these corrective measures and regular prudential banking regulatory measures exist.<sup>828</sup> This is particularly the case for banks where problems start to emerge.

The minor stage refers to the stage where banks are faced with more minor difficulties and problems in relation to their financial performance and concerns of future insolvency risks arise but they show a good chance of restoring their capital. The specific corrective measures at each stage vary from country to country depending on particular considerations of each country's needs and the characteristics of its banking system. Based on comparisons of US mandatory measures for 'undercapitalised' banks and UK corrective measures at stage 2 of PIF, the following measures could be options for dealing with banks with minor difficulties that may have an impact on their insolvency risks and financial performance. These corrective measures are the heightened level of monitoring by banking regulators (in other words, increased level of regulation and supervision), requirements on capital restoration plans (activation of recovery and resolution plans), restrictions on asset growth, preapproval of certain activities by the banking regulator, and solutions to certain problems of troubled banks within certain timeframe. To summarise, at the minor stage, corrective measures tend to be stricter than normal banking regulation, with additional restrictions reaching beyond the regulation of banks in the ordinary course of business. Based on the impact that these measures could have, the following four corrective measures could be considered as choices for banks with more minor difficulties in China.

The first measure is the increased level of regulation and supervision of banks with minor difficulties. The measure focuses more on the information to which banking regulators could have access. Based on the comparison of the US and UK practices, this measure requires banking regulators either to pay closer attention to changes of the banks or to acquire and assess more information on the banks in order to analyse the financial situation of a bank and adopt further measures. A more specific way to impose an increased level of regulation and supervision could be additional requirements for troubled banks to disclose relevant information required by banking regulators. Reasons

<sup>828</sup> *ibid.*

for why more information given to banking regulators could benefit early intervention are twofold. First, because of information asymmetries, banking regulators cannot always acquire first-hand information of banks in a timely manner, so, when banks are faced with minor difficulties, requiring them to disclose more information to enable the regulators to assess the situation more comprehensively is beneficial. Banks tend to keep information in relation to their lending activities and their own financial performance private,<sup>829</sup> with the exception of information made publically available in relation to public trading. Standard banking regulations aim to reveal only some relevant information to maintain the safety and soundness of banks. As compared with banks, banking regulators are often at a disadvantaged position in relation to readily available information about the banks.<sup>830</sup> Additional requirements regarding information disclosure by troubled banks further enable banking regulators to understand and assess the actual financial conditions of said troubled banks, which is particularly important in the context of banks having difficulties. Moreover, the increased level of regulation and supervision encourages greater transparency between banks and banking regulators. This is crucial for dealing with troubled banks with minor difficulties where banking regulators could have gained the knowledge of how troubled banks manage themselves and how they deal with and reward risks.<sup>831</sup> Transparency between banks and banking regulators also represents a trend in the banking regulations that arose after the GFC, where both banks and the regulators could support each other in relation to information access, regularly reviewing as well as monitoring risks to improve the effectiveness of the banking regulations and early detection of difficulties in banks.

The second measure involves restrictions on asset growth, and this measure aims to control the rapid growth of banks' assets. Based on current capital regulations as a measure to control asset growth, in order to respond to this measure, banks tend to reduce their total assets by reducing the credit supply to their clients rather than improving

829 Allen Berger and Sally Davies, 'The Information Content of Bank Examination' (1998) 14.2 *Journal of Financial Services Research* 117

830 David Moss, John Cisternino and Tobin Project, *New Perspectives on Regulation* (The Tobin Project 2009) 13

831 Gerard Caprio, Jr. 'Financial Regulation after the Crisis: How Did We Get There and How Do We Get Out?' (November 2013) <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2350564](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2350564)> last accessed 26 Aug 2019

the amount of their capital available to meet regulatory requirements.<sup>832</sup> However, this does not solve the actual problem of excessive risk-taking by banks. From this perspective, restrictions on banks' asset growth should focus more on regulating excessive risk-taking actions by banks to making this measure have a greater impact on banks' business and operations instead of reliance on reducing total assets.

The third measure is restrictions on banking activities. This type of measure imposes restrictions on banks when they intend to conduct their business as usual despite issues. These restrictions on banking activities focus on controlling the aspect of operation and expansion of banks. For example, prior approval of banking regulators is compulsory. This specific measure allows banking regulators to assess bank financial performance and risks against the potential activities or business to determine whether these banking activities or business could further influence the overall financial conditions and risks. In addition, requiring banks to solve certain problems within certain timeframe compels the banks to deal with the problems identified by banking regulators first before conducting other banking activities within a certain timeframe to restore their financial conditions and improve the level of solvency.

### **C. Corrective Measures at the Moderate Stage**

The moderate stage refers to the stage wherein banks are undercapitalised and having difficulties with their financial performance with a chance of restoring their financial stability. At this stage, banking regulators could apply more intrusive actions on all aspects of troubled banks to rectify weaknesses of the banks and require the banks to rebuild capital adequacy, because, at this stage, the banks are still likely to meet capital adequacy requirements and become financially viable again. Based on US and UK experiences, at the moderate stage, banking regulators are per their discretion able to take corrective measures to address banks' business and operations, management and governance, and shareholders. These more intrusive measures usually tend to intervene in the normal operations of banks and have a direct impact on banks' decisions in relation to these aspects. For example, US discretionary measures for 'significantly undercapitalised' banks enable banking regulators to take a range of actions to address

<sup>832</sup> Gropp, Mosk, Ongena, and Wix (n 435) 34

bank operations to correct weaknesses in the banks' operations and intervene in their business.

On the basis of the impact on the different aspects, the following discusses potential corrective measures that could be applied to troubled banks in China at the moderate stage. The first category of corrective measures has an impact on troubled banks' shareholders' rights. Specifically, this category of measures could enable banking regulators to suspend shareholders' voting rights, to restrict or prohibit the distribution of dividends, to appoint an administrator or liquidator, and to conduct mergers or acquisitions for particularly troubled banks. Restrictions or prohibitions by banking regulators on shareholders' rights would be designed to improve the financial conditions of the banks. The rationales for this are related to different incentives between shareholders and creditors and between shareholders and directors. One reason is that banks' shareholders may be incentivised to take excessive risks to gain their own benefits because the role of limited liability enables shareholders to transfer risks to creditors, thus creating conflicts between them.<sup>833</sup> Another reason is also associated with shareholders' appetite for risks. Because banks as financial institutions may have a more diverse range of risk portfolios and deposit insurance schemes provided by states, shareholders may be more incentivised to impose pressure on management for higher returns. However, these shareholders may encounter setbacks from managers and directors who insist on a more traditional way of banking, leading to conflicts between shareholders and bank management. Banks are more likely to survive financial crisis without the government's bailout assistance if having directors who are less likely to be directed or influenced by shareholders.<sup>834</sup> In the context of troubled banks at the moderate stage, banks need to reduce excessive risk-taking to stabilise their financial conditions, with intervention on

833 Micheal Jensen and William Meckling, 'Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure' (1976) 3 *Journal of Financial Economics* 305

834 David Ferreira, David Kershaw, Tom Kirchmaier and Edmund-Philipp Schester, 'Shareholder Empowerment and Bank Bailouts' (2012) AXA Working Paper Series No.11 <<http://www.lse.ac.uk/fmg/assets/documents/papers/discussion-papers/DP714.pdf>> last accessed 26 Aug 2019

shareholder rights being potential measures to achieve an effective recovery of particular troubled banks for the benefit of the public.<sup>835</sup>

The second category of corrective measures has an impact on the management of banks, specifically mainly having a direct impact on the managers and directors of troubled banks. The specific measures include the removal and new appointment of managers or directors and the placement of restrictions on fees and bonuses paid to bank management, which could be a way to improve the quality of the governance of troubled banks. In more detail, banking regulators are permitted to identify and assess whether executive officers can fulfil their duty to be adequately involved in the daily business and operations of banks, particularly in the risk-management process and in exercising the diligence necessary to keep the independence of critical control functions and staff from the income-making functions and staff.<sup>836</sup> In terms of the removal and new appointment of managers and directors, banking regulators should be allowed to require members of the board to be removed if the regulators recognise that particular members do not meet the 'fit and proper' test following an evaluation of their expertise.<sup>837</sup> This category of measures enables banking regulators to evaluate the eligibility and credibility of banks' management to improve the level of governance of troubled banks.

The third category of corrective measures at the moderate stages relates to the impact on banks' operations and expansion plans. Restrictions on asset growth and banking activities at the minor stage have the same but less intrusive effect on troubled banks. This category of measure allows banking regulators to have a direct impact on the normal business and operations of banks. Banking regulators could take the following actions to intervene in troubled banks' operations: requiring banks to improve capital and/or liquidity adequacy, restricting the expansion plans of banks' operations, requiring banks to reduce the size of their business and sales of assets and liabilities, restricting or prohibiting certain business lines, and requiring prompt provisioning for nonperforming loans.<sup>838</sup> These measures tend to focus more on the business strategy and risk

835 Valis SG Babis, 'Bank Recovery and Resolution: What about Shareholder Rights?' (2012) Legal Studies Research Paper Series No.23/2012  
<[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2144753](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2144753)> last accessed 26 Aug 2019

836 Basel Committee on Banking Regulation (n 589)

837 *ibid.*

838 *ibid.*

management processes of troubled banks. These measures emphasise control and management of the business strategy of troubled banks. From the perspective of the bank balance sheet, these corrective measures impose restrictions on banks' business decisions for expansion and engagement in certain lines of business as well as the management of assets. Banking regulators' assessment and review of troubled banks' business strategies could be beneficial to identify reasons that lead to the current financial conditions of the banks, therefore enabling both banks and banking regulators to better understand the compatibility of bank sizes and structures with business growth and risks associated with their choices.<sup>839</sup> Moreover, these measures enable banking regulators to identify and deal with risks faced by troubled banks. Because of the vulnerability of troubled banks to risks, supervisory intervention that require banks to take certain measures to reduce excessive risks are required. This is particularly important when troubled banks' own risk management systems do not perform well enough to monitor risk limits, risk exposures, and risk-taking behaviours in relation to credit and operation risks.<sup>840</sup>

The use of corrective measures by banking regulators should be most helpful in relation to troubled banks at the moderate stage to restore overall operations and resolve financial difficulties. As the range of measures are both comprehensive and have a more intrusive feature than corrective measures at the minor stage, banking regulators are more likely to actually influence the business and operations of troubled banks and to correct weaknesses of the banks when there is a chance for the banks to survive their financial difficulties.

#### **D. Corrective Measure at the Severe Stage**

The severe stage refers to the stage where banks are faced with critical financial conditions with a slight chance to restore their financial stabilities and capital adequacy. At this stage, banking regulators could apply more direct and intrusive actions and make practical preparations for potential resolution. Based on US, UK, and Chinese corrective

<sup>839</sup> *ibid.*

<sup>840</sup> Brian Peters, 'Approaches to Measuring, Limiting and Managing Risks, Especially Those Facing Small and Medium-Sized Institutions' Bank of International Settlement Publications <<https://www.bis.org/publ/plcy07p.pdf>> last accessed 28 Aug 2019

measures, the following measures could be considered as choices for corrective measures at the severe stage for troubled banks under Chinese structured early intervention for banks: assessment of corrective measures at previous stages, restrictions on most aspects of banks' business and operations, restrictions or prohibitions on certain types of payment, and a temporary takeover of troubled banks. At this stage, troubled banks are faced with imminent risks to failure and need to improve their capital adequacy and liquidity fast. The majority of these proposed measures focus on maintaining liquidity and managing the risks of troubled banks.

The first category of measures is the assessment of corrective measures at previous stages. If a troubled bank has been through the previous stages with different corrective measures, banking regulators' assessment of these previous measures could be a way to elucidate the mismatch between banks' conditions and prescribed measures when there is still a chance for those banks to attain adequate capital and become financially stable again. This also provides banking regulators with another chance to evaluate troubled banks' financial conditions and problems in their operations to determine corrective measures to be applied at severe stages.

Based on the assessment, as compared with corrective measures at the minor and moderate stages, the intensity and the level of intervention would greatly be improved; however, the basic nature of corrective measures remains the same at the severe stage and these corrective measures have an impact on bank business and operations, management and governance, and shareholders. The second category of measures is restrictions on most aspects of banks' business activities and operations except the normal and regular banking activities, which has an influential impact on bank business and operations. These aspects include a range of banks' business activities. For example, in relation to banking activities, one could place compulsory restrictions on troubled banks designating the need to acquire prior written consent before exploring major changes and business activities that pose excessive risks to their financial conditions. This enables banking regulators to scrutinise potential banking activities against troubled banks' financial conditions and risks to further assess whether such banking activities would be good for the banks' performance and operations. For example, in relation to other corrective measures under this category, these measures could impose compulsory

restrictions on troubled banks' material transactions. The material transactions include investment, expansion, acquisition, highly leveraged transactions, and other similar transactions that could materially have an impact on troubled banks' financial conditions. In relation to restrictions and prohibitions on certain types of payment, limitations on the payment of subordinate debts and restrictions on capital distribution and management fees could reduce the possibility of any further payments in an attempt to help preserve the liquidity and capital adequacy of the troubled banks.

#### **IV. Conclusion**

On the basis of a special bank resolution regime, structured early intervention for banks constitute an enhanced level of regulation and supervision from regulatory authorities to intervene in banks' business and operations to deal with their financial performance and risks to reduce the possibilities of potential bank failure. In the context of the Chinese banking sector, the PBOC, the CBIRC, and the deposit management agency have different roles and scopes of power in relation to regulating and supervising banks.

The CBIRC, as the prudential banking regulator, could be the regulatory authority who is responsible for structured early intervention for banks in China. Triggering events of structured early intervention for banks should mainly depend on objective standards. Different levels of intervention and corrective measures could be applied by the CBIRC at each stage for troubled banks. In the case of cross-border banks, when these banks are faced with financial difficulties, the CBIRC should work together with home or host country banking regulators to keep up-to-date with information about the troubled banks in order to deal with any insolvency risks of these banks.

Stages of Structured Early Intervention for Banks	Triggering Events	Corrective Measures
Minor stage	NPACR: 6%	Recovery and resolution planning: Reviewing and implementing recovery plan; Making initial preparations for future resolution
		Information access
		Minor restrictions on asset growth
		Minor restrictions on banking activities
Moderate stage	NPACR: 5%	Corrective measure on shareholders' rights
		Corrective measure on banks' operations and expansion
		Corrective measure on the management of banks
		Preparations for potential resolution with other regulatory authorities
Severe stage	NPACR: 4%	Assessment of the effectiveness of previous measure
		Full restrictions on banks' operations and expansion
		Temporary takeover of the banks by the government
		Final preparations for the future resolution

Table 8 Proposed Chinese Structured Early Intervention for Banks

## Conclusion

In relation to managing financially troubled banks, early intervention is an indispensable aspect of successful regulation and supervision of banks, particularly in the context of a banking crisis. The necessity and importance of early intervention for troubled banks has been shown in many banking crises – identifying troubled banks and taking timely corrective measures to those banks could reduce or avoid the negative impact of banks' value being depleted rapidly and bank insolvency. This means that early regulatory response to troubled banks could contribute to a more positive outcome of managing these banks and provide alternatives to bank insolvency.<sup>841</sup>

Many countries have experienced and provoked reforms and changes in their banking regulatory structures. The United States has incorporated early intervention, PCA, in its banking regulatory framework since the early 1990s. The United Kingdom has changed its banking regulatory framework and introduced early intervention for banks because of BRRD after the GFC. The concept of early intervention existed in the Chinese banking regulatory framework, however, the current early intervention arrangements for troubled banks is very basic and lack clarity in many aspects. From a comparative perspective, this thesis discusses US, UK, and Chinese structured early interventions for banks in relation to their triggering events and corrective measures. On the basis of the comparison between these three countries, the thesis analyses the specific banking regulator, triggering events and corrective measures of the Chinese early intervention arrangement and provides policy recommendations for designing structured early interventions for Chinese banks.

To conclude the thesis, the concluding chapter has the following sections. The first section examines and answers research questions in the thesis. The next section discusses the main findings of the thesis. Then this section discusses the potential reforms of structured early intervention for banks in China.

<sup>841</sup> Andrew Campbell and Paula Moffatt, 'Early Intervention' in Matthisas Haentjens and Bob Wessels eds *Research Handbook on Cross-Border Bank Resolution* (Edward Elgar Publishing Ltd 2019) 79

## **I. Answering Research Questions**

This thesis identifies structured early interventions for banks as an early intervention mechanism that provides banking regulators with timely signals and sufficient regulatory resources for dealing with troubled banks at early stages before reaching the level of bank insolvency. Based on this, the following sections answer research questions in the introduction chapter of the thesis.

### **A. Designs, Advantages, and Disadvantages of Structured Early Interventions for US, UK, and Chinese Banks**

The thesis discusses current US, UK, and Chinese structured early interventions for banks from the perspectives of the regulator, triggering events, and corrective measures. In relation to structured early interventions for US banks, the prudential banking regulator at the federal level is responsible for initiating structured early interventions for US banks. Bank capital ratios are the main triggering events of US structured early intervention. Based on the triggering events, banks are categorised into five stages with different compulsory and discretionary corrective measures that represent different level of intervention. The timely observation of signals of bank financial conditions and the willingness of banking regulators are related to a successful implementation of structured early interventions for banks. The US PCA approach to some extent improved the overall safety and soundness of banks after its establishment during the 1990s. However, in the GFC, capital ratios proved to be a lagging indicator of bank financial conditions and inconsistency of the corrective measures that are decided and based on banking regulators' discretion, contributed to the underperformance of PCA.

In relation to structured early interventions for UK banks, the prudential banking regulator is the competent authority for initiating structured early interventions for banks. Triggering events are introduced on the basis of supervisory assessments of bank operation and performance, and corrective measures consist of both recovery and resolution corrective measures. Supervisory assessments as triggering events provide an advantage in UK PIF because of the comprehensive and accurate assessment of bank performance. On the other hand, the discretion of the UK prudential banking regulator may cause late identification and the initiation of corrective measures. In addition, another

disadvantage of the UK PIF is related to some of its corrective measures that may have limited effects in relation to correcting the weaknesses of troubled banks (e.g., moral suasion).

In relation to structured early interventions for Chinese banks, the mechanism is less organised and comprehensive as compared with structured early interventions for US and UK banks. Triggering events are established on the basis of both capital ratios and supervisory assessments. Corrective measures consist of general corrective measures and stricter corrective measures. Structured early interventions for Chinese banks are in need of further development from the perspective of the following preconditions of successful structured early interventions for banks: independence and accountability of the regulatory agencies, accurate and timely financial information, adequate authority, and adequate resolution procedures.<sup>842</sup>

### **B. Evaluation of US, UK, and Chinese Triggering Events of Structured Early Interventions for Banks**

This thesis contends that US triggering events are based on capital ratios. The advantages of US capital ratios as triggering events are twofold: specifically, 1) they constitute a set of straightforward benchmarks for evaluating bank financial conditions and, 2) to some extent, limit the discretion of banking regulators and prevent regulatory forbearance. On the other hand, the effectiveness of capital ratios is impacted because of the inability of capital ratios to reflect the financial conditions of a bank in a timely manner. This thesis argues that NPACR should be considered as an alternative to the idea of capital ratios for assessing bank financial conditions and triggering corrective measures for the following two reasons: 1) the NPACR considers capital adequacy and asset quality of banks in one ratio and 2) NPACR outperforms capital ratios in terms of timeliness and is predictive of bank financial conditions.

UK supervisory assessment as triggering events incorporate banking regulators' judgements on several aspects of bank performance. These triggering events provide banking regulators with a more comprehensive understanding of bank financial conditions than capital ratios do. The assessment of several aspects of bank performance provides

<sup>842</sup> Nieto and Wall (n 12)

additional information in relation to the overall safety and soundness of a bank and therefore enables banking regulators to determine the likelihood of the potential failure of a bank. The disadvantages of supervisory assessments are twofold. One issue is that supervisory assessments are unlikely to be predictive regarding bank financial conditions even if successful in providing a comprehensive assessment of a bank's current performance. The other is there exist high costs and infrequent timing associated with such supervisory assessments and therefore banking regulators are unable to obtain timely financial performance data of banks by these triggering events.

In relation to Chinese combined triggering events, on the one hand, these triggering events incorporate the advantages of capital ratios and supervisory assessments together. However, because both capital ratios and supervisory assessments are not predictive in assessing bank financial conditions, their combination is also unlikely to provide timely data on the financial condition of a bank for banking regulators. One of the other disadvantages of the Chinese combined triggering events approach is the inconsistency of the application of the rules to banks. Moreover, consideration of these two sets of triggering events can cause overlaps in achieving the same result of an increased level of intervention for troubled banks.

On the basis of comparisons of the US, UK, and Chinese triggering events, this thesis argues the following two factors are relevant to the differences observed in triggering events. One factor is whether triggering events are regarded as an additional or an integral set of standards in relation to regular banking regulatory requirements. Another factor is whether triggering events are rule-based or discretion-based standards that act as references to initiate the following corrective measures.

### **C. Evaluation of US, UK, and Chinese Corrective Measures of Structured Early Interventions for Banks**

This thesis examines US compulsory and discretionary corrective measures for banks in all five capital categories. Well-capitalised and adequately capitalised banks are only subject to a few requirements imposed by corrective measures on capital adequacy. US corrective measures focus more so on undercapitalised and significantly undercapitalised banks. Both compulsory and discretionary corrective measures that

intend to control asset growth and bank business can be applied to these troubled banks. Critically undercapitalised banks are subject to more intrusive measures, including receivership by the FDIC.

UK corrective measures consist of recovery and resolution measures in dealing with troubled banks. On the one hand, UK recovery measures are established and formulated in a less detailed and comprehensive manner in comparison with the US corrective measures. The number of UK corrective measures at stages 2 through 4 of PIF is limited. On the other hand, UK resolution measures begin to take place at very early stages of PIF. This enables the prudential banking regulator and other banking regulatory agencies to coordinate and cooperate at early stages.

Chinese corrective measures include both general corrective measures and stricter corrective measures. These two types of measures are two extremes in early intervention. General measures are not typically intrusive and may have a more limited impact on troubled banks, while some stricter measures are too intrusive and may lead to the closure of troubled banks. Chinese corrective measures for troubled banks have to be more structural, with a clear process and timetable in place for each measure. In addition, the limited number of corrective measures can limit the actual effects and results of attempts to manage troubled banks.

On the basis of the comparison of corrective measures of structured early interventions for US, UK, and Chinese banks, this thesis identifies that the following two factors are related to differences among corrective measures in the three countries. One is whether corrective measures are designed to actually be an increased level of intervention with the aim of achieving recovery of troubled banks. The other factor is the variation in the categories of corrective measures, and this can reflect the emphasis of corrective measures of a country's structured early interventions for banks, whether the emphasis is a compulsory correction of troubled banks or early preparation for resolution.

#### **D. A Suitable Structured Early Interventions for Banks in China**

In relation to a potential structured early interventions for Chinese banks, on the basis of comparisons of structured early interventions for US, UK, and Chinese banks, this thesis argues that the CBIRC should be the primary banking regulator for structured

early interventions for Chinese banks. Structured early intervention for banks requires a banking regulator to monitor bank financial performance and identify issues associated with bank operation at early stages. This means that the banking regulator should be capable of accessing and analysing bank operation and performance to achieve effective early intervention. In the context of the Chinese banking regulatory framework, the CBIRC is an institution-based prudential regulator who conducts on-site and off-site examinations of banks. This enables the CBIRC to assess and regularly review bank operation and risk. In addition, because of the unclear scope of the deposit insurance mandate, the Chinese deposit management agency has an undefined status, in particular, its authority in relation to early intervention.

In relation to triggering events of structured early interventions for Chinese banks, the thesis argues that a series of objective standards should be considered as triggering events for the following reasons. First, objective standards can provide timely data on the financial conditions of banks and reduce the potential impact of regulatory forbearance. Second, NPACR can be an effective objective standard in relation to its predictive feature and timeliness. Third, NPACR considers both the capital adequacy and asset quality of banks within one ratio, which is compatible with the Chinese problems of nonperforming loans. Triggering events of structured early interventions for Chinese banks should be organised as a formal set of requirements for adherence to in addition to normal banking regulatory requirements. A formal set of objective requirements would provide clear instructions and guidance for banking regulators to take respective corrective actions. Moreover, the formal set of triggering events would be more effective in relation to division of banking regulators' responsibilities, objectives of early intervention and the long-term effect on troubled banks.

In relation to corrective measures of structured early interventions for Chinese banks, this thesis argues that recovery and resolution plans should be considered as important parts of early interventions for banks because the plans would enable banking regulators to access more information about troubled banks' operation and performance and provide a sense of certainty for both banks and banking regulators when dealing with an uncertain scenario of a potential bank failure. This thesis also argues that corrective measures at the minor, moderate, and severe stages represent a progressive level of

intervention of troubled banks. These corrective measures have an impact on bank business, asset growth, and management, with an increased intensity of supervision brought to bear as bank financial conditions continue to deteriorate.

## **II. Main Findings of the Thesis**

In relation to the design of structured early intervention for banks, the primary banking regulator, triggering events and corrective measures are the three main aspects of early intervention mechanism. Based on the comparison of US, UK and Chinese structured early intervention for banks, all three countries have incorporated the three aspects in their current structured early intervention for banks.

From the perspective of the primary banking regulator in relation to structured early intervention for banks, US and UK primary banking regulators have a specific scope of authority and responsibilities which differentiate from other banking regulators in dealing with troubled banks. The current primary banking regulator for structured early intervention for banks in China is arguable, because the understanding of 'bank resolution' can be interpreted in two ways and the Chinese deposit insurance has an undefined legal status and mandates in the current regulatory framework. This cause overlaps of early intervention authority between the CBIRC as the prudential regulator and the deposit management agency.

From the perspective of triggering events, objective standards and subjective standards form the basis of US, UK and Chinese triggering events, particularly capital ratios and supervisory assessment. Capital ratios and supervisory assessment as triggering events both have advantages and disadvantages, as summarised in the previous section. In order to identify risk and issues existed in banks' business and performance, triggering events of structured early intervention for banks needs to be predictive. However, capital ratios that are based on banks' book values tend to be a lagging indicator of banks' actual performance. Similarly, supervisory assessment that is based on previously collected data from banks may not be a sufficiently predictive triggering events. NPACR, as a type of objective standards, can be an alternative to trigger structured early intervention for banks, because the ratio assesses bank capital and asset quality in one ratio, reduces incentives for banks and banking regulators to

cover capital deficiencies and performs better in predicting potential bank failures than common capital ratios.<sup>843</sup>

From the perspective of corrective measures, US, UK and Chinese corrective measures have few similarities. US, UK and Chinese corrective measures share the theme of an increased level of intervention as the financial performance of troubled banks deteriorate. Specifically, US and UK corrective measures have the progressive feature and this feature demonstrates the intervention by banking regulations from mild corrective measures to intrusive corrective measures while the level of intervention by Chinese corrective measures increases sharply from general to strict corrective measures. US, UK and Chinese corrective measures differ greatly and all three countries have distinctive categories and designs. In addition, banking regulators in the three countries have different level of discretion in relation to deciding which corrective measures would be applied to troubled banks.

In relation to the current Chinese structured early intervention for banks, the primary banking regulator, triggering events and corrective measures are in need of further improvements. The primary banking regulatory for early intervention has not been confirmed and overlaps of two banking regulators' authorities exist. The current triggering events that are based on both capital ratios and supervisory assessment may cause inconsistency and overlaps in initiating corrective measures. The current corrective measures lacks recovery and resolution planning and a set of progressive intervention measures.

### **III. The Potential Reform of Chinese Structured Early Intervention for Banks**

In relation to establishing a comprehensive structured early intervention for banks in China, many changes seem necessary to the current Chinese early intervention mechanism. Considering the following aspects of structured early intervention for banks may be useful to develop a suitable Chinese structured early intervention for banks.

First, from the perspective of Chinese banking regulatory framework, a consistent understanding of early intervention and a formal early intervention mechanism should be considered and incorporated into the framework. The understanding of 'structured early

<sup>843</sup> Chernykh and Cole (n 31)

intervention for banks' in the current Chinese legislation seems unclear. In the Chinese legislation, the current understanding of early intervention is closely associated with bank resolution where a bank is legally insolvent. This differs from the understanding of early intervention of troubled banks at pre-insolvency level where banks are economically insolvent. A clear definition and consistent understanding of 'structured early intervention for banks' is the foundation for establishing an effective regulatory framework. Moreover, a formal and explicit early intervention mechanism for troubled banks would be more effective than the current mechanism where rules for early intervention for troubled banks overlap. A formal structured early intervention for banks would set the scope of banking regulators' authority in relation to structured early intervention for banks and provide the primary banking regulator with a set of triggering events and sufficient corrective measures. This has been demonstrated by both PCA and PIF which provide guidance for competent banking regulators to manage troubled banks better than before US and UK reforms in early intervention mechanisms for troubled banks.

Second, incorporating a predictive and timely indicator as triggering events of structured early intervention for banks would be essential to identifying issues and risk existed in bank operation and business. As discussed in the thesis, capital ratios and supervisory assessment to some extent enable banks and banking regulators to mask the actual financial performance of banks. Neither capital ratios nor supervisory assessment is predictive and timely enough to identify bank risks at an early stage. Both capital ratios and supervisory assessment. Therefore, when designing triggering events of structured early intervention for banks in China, alternative triggering events that has the predictive feature should be considered, such as NPACR and some multi-variable triggers.

Third, incorporating recovery and resolution plan into corrective measures in minor, moderate and severe stage would contribute to the process of managing troubled banks. Structured early intervention for banks is the in-between phase of regulating and supervising banks from regulation to resolution. Recovery and resolution plan could enable both the primary banking regulator in relation to early intervention and banks to consider potential distressed conditions before the actual event and allow the regulator to access more information. Early preparation of the distressed situation by multiple

banking regulators, including the deposit insurance agency and bank resolution authority, as discussed in the elements of recovery and resolution plan, could help both banks and the regulators to focus on critical weakness of the banks and provide some level of certainty in managing the distressed situation.

#### **IV. Conclusion**

The thesis discussed the current structured early intervention for banks in the United States, the United Kingdom and China, explored the three main aspects of the mechanism, the primary banking regulator, triggering events and corrective measures, and discussed a potential suitable structured early intervention for banks in China. As the current structured early intervention for banks in China is at a basic level, many changes to the main aspects and a more comprehensive consideration of the current mechanism are needed. Some questions that are relevant to the topic but not discussed in the thesis may need further research, particularly in relation to how national banking regulators work with and distribute responsibilities in the context of managing cross-border banks with troubled financial performance and operation.

## Bibliography

### Books

Admati A and Hellwig M, *The Bankers' New Clothes: What's Wrong and What to Do About It?* (Princeton University Press 2013)

Arnaboldi F, *Deposit Guarantee Schemes: An European Perspective* (Palgrave Pivot 2014)

Asser T, *Legal Aspects of Regulatory Treatment of Banks in Distress* (International Monetary Fund 2001) 52

Augar P, *The Death of Gentlemanly Capitalism* (London, Penguin Books 2000)

Avgouleas E, *Governance of Global Financial Markets* (Cambridge: CUP 2012) 414

Benston G, Brumbaugh Jr.R D, Guttentag J M, Herring R J, Kaufman G, Litan R E and Scott K E, *Blueprint for Restructuring America's Financial Institutions Report of a Task Force* (The Brookings Institution 1989) 2-7

Caouette J, *Managing Credit Risk: The Great Challenge for Global Financial Markets* (2nd edition Wiley 2008)

Cheng P F, *Analysis of Challenging Issues in Bankruptcy Cases* (Law Press China 2016)

Chuol J L P, *The United States Outer Executive Departments and Independent Establishments and Government Corporations* (Xlibris 2010)

Cranston R, Avgouleas E, Zwieten K V, Hare C and Sante T V, *Principles of Banking Law* (3rd ed OUP 2018) 152

Dalhuisen J, *Dalhuisen on Transnational, Comparative, Commercial, Financial and Trade Law, Vol 3* (4th ed Hart 2010) 442

Douglas, J 'Deposit Insurance Reform' (1992) 27 Wake Forest Law Review 11

Duffe D and Singeton K, *Credit risk: pricing, measurement and management* (Princeton University Press 2003)

Goode R, *Principles of Corporate Insolvency Law* (4th ed Sweet & Maxwell 2011) 114

Hupkes E, *The Legal Aspects of Bank Insolvency A Comparative Analysis of Western Europe, The United States and Canada* (Kluwer 2000)

Keay A and Walton P, *Insolvency Law Corporate and Personal* (3rd ed Jordan Publishing 2012)

Lastra R, *Cross-Border Bank Insolvency* (Oxford University Press 2011) 57

Lastra R, *Legal Foundation of International Monetary Stability* (OUP 2006) 129

Lang J H, Peltonen T and Sarlin P, 'A Framework for Early-Warning Modeling with an Application to Banks' (2018) ECB Working Paper Series No.2182, 6

Li S Q, *China's Banking Law and Institutions Reform* (Wuhan University Press 2013) 2

Litan R, *What Should Banks Do?* (Brookings Institution 1987)

Mayes D and Liuksila A, *Who Pays for Bank Insolvency?* (Palgrave Macmillan 2016) 348

Minsky H P, *Stabilizing the Unstable Economy* (Yale University Press 1986)

Mishkin F, *The Economics of Money, Banking and Financial Markets* (Pearson 2012)

Moss D, Cisternino J and Tobin Project, *New Perspectives on Regulation* (The Tobin Project 2009) 13

Murphy D, *Understanding Risk: The Theory and Practice of Financial Risk Management* (Chapman and Hall 2008)

Pierce J, *The Future of Banking* (Yale University Press 1991)

Putnis J, *The Banking Regulation Review* (5th ed, Law Business Research Ltd 2014)

Xia B, *Interpretations on China's Financial Laws and Regulations* (China Finance Press 2008)

Yi G, *Money and Banking* (Gezhi Publishing 2006) 143

Zisman B, *Banks and Thrifts: Government Enforcement and Receivership* (Mathew Bender 2017)

## **Articles**

Andrews A M, 'State-Owned Banks, Stability, Privatization, and Growth: Practical Policy Decisions in a World Without Empirical Proof' (2005) IMF Working Paper WP/05/10 8

Anginer D and Demirguc-Kunt A, 'Bank Run and Moral Hazard: A Review of Deposit Insurance' (2018) World Bank Group Policy Research Working Paper 8589, 2

Arnold B, Borio C, Ellis L and Moshirian F, 'Systemic Risk, Macroprudential Policy Frameworks, Monitoring Financial Systems and the Evolution of Capital Adequacy' (2012) 36 *Journal of Banking and Finance* 3125

Aspa P KI and Dhawan S, 'Camels Rating Model for Evaluating Financial Performance of Banking Sector: A Theoretical Perspective' (2016) 1 *International Journal of System Modelling and Simulation* 10

Avery R and Berger A, 'Risk-Based Capital and Deposit Insurance Reform' (1991) 15 *Journal of Banking and Finance* 847

Avgouleas E, Goodhart C, and Schoenmaker D, 'Bank Resolution Plans as a Catalyst for Global Financial Reform' (2013) 9 *Journal of Financial Stability* 210

Baker A, 'Restraining Regulatory Capture? Anglo-America, Crisis Political and Trajectories of Change in Global Financial Governance' (2010) 86 *International Affairs* 647

Balla E, Prescott E, Mazur L and Walter J, 'A Comparison of Community Bank Failures and FDIC Losses in the 1986-92 and 2007-13 Banking Crises' (2019) *Journal of Banking and Finance* Forthcoming

Barth J, Bartholomew P and Labich C, 'Moral Hazard and the Recent Thrift Crisis: An Analysis of 1988 Resolution' (1989) Federal Home Loan Bank Board Office of Policy and Economic Research Research Paper No. 160

Barth J, Caprio G Jr., Levine R. 'Bank Regulation and Supervision in 180 Countries from 1999 to 2011' (2013) 5 *Journal of Financial Economic Policy* 111

Baudino P, Orlandi J and Zamil R, 'The Identification and Measurement of Nonperforming Assets: A Cross-Country Comparison' FSI Insights on policy implementation No 7 (April 2018) 26

Benink H, Danielsson J and Jonsson A, 'On the Role of Regulatory Banking Capital' (2008) 17 *Financial Markets, Institutions & Instruments* 85

Benston G, 'Safety Nets and Moral Hazards in Banking' in Kuniho Sawamoto, Zenta Nakajima and Hiroo Taguchi (eds) *Financial Stability in a Changing Environment* (St. Martin's Press 1989) 362

Benston G and Kaufman G, 'Deposit Insurance Reform in FDIC Improvement Act: The Experience to Date' in James Rosenfeld (ed) *The Selected Works of George J. Benston Vol 1 Banking and Financial Services* (OUP 2010) 298

Benston G and Kaufman G, 'FDICIA after 5 Years' (1997) 11 *Journal of Economic Perspectives* 139, 154

Benston G and Kaufman G, 'The Appropriate Role of Bank Regulation' (1996) 106 *The Economic Journal* 688, 696

Benston G and Kaufman G, 'The Intellectual History of the Federal Deposit Insurance Corporation Improvement Act of 1991' in George Kaufman (ed) *Reforming Financial Institutions and Markets in the United States* (Kluwer 1994) 5

Benston G and Kaufman G, 'Risk and Solvency Regulation of Depository Institutions: Past Policies and Current Options' (1988) 1 *Monograph Series in Finance and Economics* 33

Benston G and Kaufman G, 'Narrow, Fail-Safe or Money Market Banks: Analysis and Evaluation' (1988) 1 *Monograph Series in Finance and Economics* 71

Berger A and Bowman C, 'How Does Capital Affect Bank Performance During Financial Crises?' (2013) 109 *Journal of Financial Economics* 146

Berger A and Davies S, 'The Information Content of Bank Examination' (1998) 14.2 *Journal of Financial Services Research* 117

Berger A N, Demirguc-Kunt A, Levine R and Haubrich J G, 'Bank Concentration and Competition: An Evolution in the Making' (2004) 36 *Journal of Money, Credit and Banking* 433

Berger A and Udell G, 'Did Risk-Based Capital Allocate Bank Credit and Cause a 'Credit Crunch in the United States?'' (1994) 26 *Journal of Money, Credit and Banking* 585

Berlin M, Saunder A and Udell G, 'Deposit Insurance Reform: What are the Issues and What Needs to Be Fixed?' (1991) 15 *Journal of Banking and Finance* 735

Bholat D, Lastra R, Markose S, Miglionico A and Sen K, 'Non-performing loans: regulatory and accounting treatments of assets' *Bank of England Staff Working Paper No. 594* (April 2016)

Binder J H, Krimminger M, Nieto M, and Singh D, 'The Choice between Judicial and Administrative Sanctioned Procedures to Manage Liquidation of Banks: A Transatlantic Perspective' (2019) *Capital Markets Law Review* forthcoming

Binder J H, 'Resolution Planning and Structural Bank Reform within the Banking Union' in Juan E. Castaneda, David G. Mayes, and Geoffrey Wood (eds) *European Banking Union: Prospects and Challenges* (Routledge 2015)

Borio C, 'Towards A Macroprudential Framework for Financial Supervision and Regulation?' *BIS Working Papers No 128* (February 2003)

Bothwell J 'Evaluating the Prompt Corrective Action and Least Cost Provisions of FDICIA the Watchdogs' Perspective', in George Kaufman (eds) *Research in Financial services: Private and Public Policy FDICIA: Bank Reform Five Years Later and Five Years Ahead* (JAI Press 1997) 47, 52

Butler H and Macey J, 'Myth of Competition in the Dual Banking System' (1988) 73 *Cornell Law Review* 677, 685

Brown C and I. Dinc I S, 'Too Many to Fail? Evidence of Regulatory Forbearance When the Banking Sector Is Weak' (2011) 24 *The Review of Financial Studies* 1378

Britton K, Dawkes L, Debbage S and Idris T, 'Ring-Fencing: What Is It and How Will It Affect Banks and Their Customers?' (2016) *Bank of England Quarterly Bulletin* 2016 Q4 165

Bryan L, 'Core Banking' (1991) 1 *McKinsey Quarterly*

Burnham J, 'Deposit Insurance: The Case for the Narrow Bank' (1991) 14 *Regulation* 35

Cai D H and Research Centre of PBOC Yangzhou Branch, 'Early Regulatory Intervention – Global Perspectives and Enlightenment' (2018) 6 *Financial Perspectives Journal* 53.

Calem P and Rob R, 'The Impact of Capital-Based Regulation on Bank Risk Taking' (1999) 8 *Journal of Financial Intermediation* 317, 341

Campbell A and Cartwright P, 'Co-Insurance and Moral Hazard: Some Reflections on Deposit Protection in the UK and USA' (2003) 5 *Journal of international Banking Regulation* 9

Cane M B, 'The Eagle or the Ostrich: A United States Perspective on the Future of Transnational Banking' (1992) 25 *Vand J Transnat'L* 183,196

Caricane L and Lastra R, 'Towards a New Architecture for Financial Stability: Seven Principles' (2010) 13 *Journal of International Economic Law* 597

Chan-Lau J and Sy A N R, 'Distance-to-Default in Banking: A Bridge Too Far' (2007) 9 *Journal of Banking Regulation* 14

Chang C-C, Ho K-Y and Hsiao Y-J, 'Derivatives Usage for Banking Industry: Evidence from the European Markets' (2018) 51 *Rev Quant Finan Acc* 921

Chao Y B, 'On the Legal Issues of Early Intervention of Problem Banks' (Master Thesis, North China University of Technology May 2018)

Chernykh L and Cole R, 'How should we measure bank capital adequacy for triggering Prompt Corrective Action? A (simple) proposal' (2015) 20 *Journal of Financial Stability* 131, 136

Claessens S, 'Global Banking: Recent Developments and Recent Research' (2017) 4 *Review of Finance* 1513

Codwin A, Kourabas S and Ramsay I, 'Twin Peaks and Financial Regulation: The Challenges of Increasing Regulatory Overlap and Expanding Responsibilities' (2016) 49 *The International Lawyer* 273

Cole R and White L, 'When Time is Not on Our Side: The Costs of Regulatory Forbearance in the Closure of Insolvent Banks' (2017) 80 *Journal of Banking and Finance* 235

Cole R and White L, 'Déjà Vu All Over Again: The Causes of US Commercial Bank Failures This Time Around' (2012) 42 *Journal of Financial Services Research* 5

Cole R and Gunther J, 'Predicting Bank Failures: A Comparison of ON- and Off- Site Monitoring System' (1998) 13 *Journal of Financial Services Research* 103

Cohen B and Scatigna M, 'Banks and Capital Requirements: Channels of Adjustment' (2016) 69 *Journal of Banking and Finance* 56

Cooper C, 'How Good Are Banks at Managing Business Risk?' (2000) 8 *Balance Sheet* 15

Costello A, Joao Granja and Joseph Weber, 'Do Strict Regulators Increase the Transparency of the Banking System?' (2019) 57 *Journal of Accounting Research* 603

Cottier T, 'Challenges ahead in International Economic Law' (2009) 12 *Journal of International Economic Law* 3

Cui H Y, 'Development in the Institutional Design of Chinese Financial Regulation Since 1949' (Fudan University Doctoral Thesis 2012) 69

Cummins D, 'Risk-Based Premiums for Insurance Guaranty Funds' (1988) 43 *Journal of Finance* 823

Carnell R S, 'A Partial Antidote to Perverse Incentives: The FDIC Improvement Act of 1991' (1993) 12 *Ann. Rev. Banking L.* 317, 337

Cranston R, *The Single Market and the Law of Banking* (2nd Lloyds of London Press)

Davies A, 'Bank Resolution in the UK: Creating a Culture of Early Intervention' (2014) 8 *Law and Financial Market Review* 352

Dell'ariccia G and Marquez R, 'Competition among Regulators and Credit Market Integration' (2006) 79 *Journal of Financial Economics* 401

Demirgüç-Kunt A, and Detragiache E, 'The Determinants of Banking Crises in Developing and Developed Countries', (1998) 45 *International Monetary Fund Staff Papers* 81

Dewatripont M and Rochet J C, 'The Treatment of Distressed Banks' (2009) 13 *Financial Stability Review* 65, 66

DeYoung R and Torna G, 'Non-traditional Banking Activities and Bank Failures during the Financial Crisis' (2013) 22 *Journal of Financial Intermediation* 397

DeYoung R and Rice T, 'How Do Banks Make Money? The Fallacies of Fee Income' (2004) 28 *Economic Perspectives* 34

Diallo B, 'Bank Competition and Crises Revisited: New Results' (2015) 129 *Economics Letters* 81

Dionne G and Harchaoui T, 'Banks' Capital, Securitization and Credit Risk: An Empirical Evidence for Canada' (2008) 75 *Insurance and Risk Management* 459

Dotsey M and Kuprianov A, 'Reforming Deposit Insurance: Lessons from the Savings and Loan Crisis' (1990) *Federal Reserve Bank of Richmond Economic Review* 10

Douglas J, 'Deposit Insurance Reform' (1992) 27 *Wake Forest Law Review* 11

Duffee G and Zhou C S, 'Credit Derivatives in Banking: Useful Tools for Managing Risk?' (2001) 48 *Journal of Monetary Economics* 25

Edison H J, 'Do Indicators of Financial Crises Work? An Evaluation of an Early Warning System' (2003) 8 *International Journal of Finance and Economics* 11

Edge K R, 'Anatomy of Bank Failure' (2012) *TNBJ* 25

Edward J M, 'FDICIA v. Dodd-Frank: Unlearned Lessons about Regulatory Forbearance' (2011) 1 *Harv. Bus. L. Rev.* 279

Eisenbeis R and Larry W, 'The Major Supervisory Initiatives Post-FDICIA: Are They Based on the Goals of PCA? Should They be?' in George Kaufman (eds) *Prompt Corrective Action in Banking: 10 Years Later* (Emerald 2002)

Ely B, 'The Narrow Bank: A Flawed Response to the Failings of Federal Deposit Insurance' (1991) 14 *Regulation* 44

European Banking Authority, 'Guidelines on triggers for use of early intervention measures pursuant to Article 27(4) of Directive 2014/59/EU' 8 May 2015, para 7(b)

Ferran E, 'The Liberalisation of Financial Markets: the Regulatory Response in the United Kingdom', in Rainer Grote and Thilo Marauhn (eds), *The Regulation of International Financial Markets – Perspectives for Reform*, (Cambridge University Press, 2006) 57

Feng J J, 'Rethink of the 'Early Intervention' as Dispose Measures of Problem Commercial Bank: Based on the Conflict between Public Power and Private Right' (2018) 4 Law and Economy 44,59

Ford C, 'Principles-Based Securities Regulation in the Wake of the Global Financial Crisis' (2010) 55 McGill Law Journal 1

Ford C, 'New Governance in the Teeth of Human Frailty: Lessons from Financial Regulation' (2012) 2 Wisconsin Law Review 441

French G E, 'Early Corrective Action for Troubled Banks' (1991) 4 FDIC Banking Review 1

Froud J, Nilsson A, Moranand M, and Williams K, 'Stories and Interests in Finance: Agendas of Governance Before and After the Financial Crisis' (2013) 25 Governance: An International Journal of Policy, Administration, and Institutions 46

Gao B and Zhang M, 'Disposal and Securitisation of Nonperforming Assets: International Experiences and Prospects in China' (2018) 1 International Economic Review 124

Garcia G, 'Deposit Insurance and Crisis Management' (2000) IMF Working Paper WP/00/57 25

Garicano L and Lastra R, 'Towards a New Architecture for Financial Stability: Seven Principles' (2010) 13 Journal of International Economic Law 597, 608

Gasbarro D, Sadguna I G M, Zumwalt J K, 'The Changing Relationship Between CAMEL Ratings and Bank Soundness during the Indonesian Banking Crisis' (2002) 19 Review of Quantitative Finance and Accounting 247

Ghosh A, 'How Do Derivative Securities Affect Bank Risk and Profitability? Evidence from the US Commercial Banking Industry' (2017) 18 The Journal of Risk Finance 186

Gibert R A, 'Market Discipline of Bank Risk: Theory and Evidence' (1990) 1 Review 3

Gissy W, 'Regulatory Forbearance: A Reconsideration' (2000) 6 International Advances in Economic Research 722

Godwin A, 'Introduction to Special Issue – the Twin Peaks Model of Financial Regulation and Reform in the South Africa' (2017) 11 *Journal of Law and Financial Markets Review* 151

Godwin A, 'Australia's Trek Toward Twin Peaks – Comparison with South Africa' (2017) 11 *Journal of Law and Financial Markets Review* 183

Goodhart C, 'Ratio Controls Need Reconsideration' (2013) 9 *Journal of Financial Stability* 445

Goodhart C, 'Regulating the Regulator: An Economist's Perspective on Accountability and Control', in Eilis Ferran and Charles Goodhart (eds), *Regulating Financial Services and Markets in the Twenty-First Century* ( Hart Publishing, 2001) 154

Greenwood R, Augustin Landier and David Thesmar, 'Vulnerable Banks' (2015) 115 *Journal of Financial Economics* 471

Gropp R, Mosk T, Ongena S and Wix C, 'Bank Response to Higher Capital Requirements: Evidence from a Quasi-Natural Experiment' (2019) 32 *The Review of Financial Studies* 266

Grossman R S, 'Deposit Insurance, Regulation, and Moral Hazard in the Thrift Industry: Evidence from the 1930s' (1992) 82 *The American Economic Review* 800, 819

Guo J, 'Exploration the Problem of Power of Early Correction by the Deposit Insurance Fund Management Institution' (2017) 1 *Zheng Fa Lun Cong* 55

Haentjens M, 'Bank Recovery and Resolution: An Overview of International Initiatives' (2014) 3 *International Insolvency Law Review* 255

Harding J, Liang X Z and Ross S, 'Bank Capital Requirements, Capital Structure and Regulation' (2013) 43 *Journal of Financial Services Research* 127

Hassan K, 'The off-balance-sheet banking risk of large US commercial banks' (1993) 33 *Quarterly Review of Economics and Finance* 51

He D X, Wu B L and Han B, 'Regulatory Forbearance or Prompt Corrective Actions: A Literature Review and Discussion of Chinese Situations' (2010) 3 *Modern Economic Science* 17

Hellwig M F, 'Systemic Risk in the Financial Sector: An Analysis of the Subprime-Mortgage Financial Crisis' (2009) 157 *De Economist* 129, 182

Heyde F and Neyer U, 'Credit Default Swaps and the Stability of Banking Sector' (2010) 10 *International Review of Finance* 27

HM Treasury, 'Banking Act 2009, Special Resolution Regime: Code of Practice' (November 2010) para 8.6

Huan X and Parbonetti A, 'Financial Derivatives and Bank Risk: Evidence from Eighteen Developed Markets' (2019) 49 *Accounting and Business Research* 847

Hupkes E, Quintyn M and Taylor M, 'Accountability Arrangements for Financial Sector Regulators' (2006) 39 *IMF Economic Issues* 1, 5

Hupkes E, 'Insolvency—Why a Special Regime for Banks?' (2002) 3 *Current Development in Monetary and Financial Law* 1

Industry Development and Research Committee of China Banking Association, 'Three Steps for Troubled Banks to Exit the Market Under Chinese Deposit Insurance Scheme' (2016) 1 *China Banking* 35

Instefjord N, 'Risk and Hedging: Do Credit Derivative Increase Bank Risks?' (2005) 29 *Journal of Banking and Finance* 333

Jenson M and Meckling W, 'Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure' (1976) 3 *Journal of Financial Economics* 305

Ji Q X, 'Development and Changes in the Chinese Financial Regulation' (Wuhan University Doctoral Thesis 2005) 56-58

Jin Y, 'Structured Early Intervention for Banks by Deposit Insurance Agency: Theories and Practice' (2018) 6 *Shanghai Finance* 53

Jones D and King K K, 'The Implementation of Prompt Corrective Action: An Assessment' (1995) 19 *Journal of Banking and Finance* 491

John K, John T and Senbet L, 'Risk-Shifting Incentives of Depository Institutions: A New Perspective on Federal Deposit Insurance Reform' (1991) 15 *Journal of Banking and Finance* 895

Kane E, *The S&L Insurance Mess: How Did It Happen* (The Urban Institute 1989)

Kaufman G, 'Basel II vs. Prompt Corrective Action: Which is Best for Public Policy?' (2005) 14 *Financial Markets, Institutions & Instruments* 349, 351

Kaufman G, 'Central Banks, Assets Bubbles, and Financial Stability' in Maris Blejer and Marko Skreb (eds) *Central Banking, Monetary Policies, and the Implications for Transition Economies* (Kluwer Academics Publishers 1999)157

Kaufman G, 'FDICIA after Five Years: What Has Worked and What Has Not?' in George Kaufman (eds) *Research in Financial services: Private and Public Policy FDICIA: Bank Reform Five Years Later and Five Years Ahead* (JAI Press 1997) 35

Kaufman G, 'Bank Failures, Systemic Risk and Bank Regulation' (1996) 17 *CATO Journal* 17

Kaufman G, 'FDICIA and Bank Capital' (1995) 19 *Journal of Banking and Finance* 71

Kaufman G, Comment on 'Will Universal Banks Prove Viable?' in Gerard Caprio, David Folkerts-Landau and Timothy Lane (eds), *Building Sound Finance in Emerging Market Economies* (IMF 1994) 235

Kaufman G and Smith J, 'FDICIA: The Early Evidence' (1994) 37 *Challenge* 53, 55

Kaufmann C and Weber R H, 'The Role of Transparency in Financial Regulation' (2010) 13 *Journal of International Economic Law* 779

Keeton W R and Morris C S, 'Why Do Banks' Loan Losses Differ?' (1987) 72 *Economic Review* 3

Kikkick M, 'Twin-Peak- A New Series or a New Chimera? An Analysis of the Proposed New Regulatory Structure in the UK' (2012) 33 *The Company Lawyer* 370

Kobayakawa S and Nakamura H, 'A Theoretical Analysis of Narrow Banking Proposals' (2000) 18 *Institute for Monetary and Economic Studies* 105, 107

LaBrosse J R, 'International Experience and Policy Issues in the Growing Use of Bridge Banks' in John Raymond LaBrosse, Rodrigo Olivares-Caminal and Dalvinder Singh (eds) *Financial Crisis Management and Bank Resolution* (Lloyd's Commercial Law Library 2009)

Lastra R, 'Defining Forward-Looking and Judgement-Based Supervision' (2013) 14 *Journal of Banking Regulation* 221, 225

Lastra R, 'Systemic Risk, SIFIs and Financial Stability' (2011) 6 *Capital Markets Law Journal* 197, 200

Lastra R, 'Northern Rock, UK Bank Insolvency and Cross-Border Bank Insolvency' (2008) 9 *Journal of Banking Regulation* 165

Legal Research Group of Shanghai Banking Supervision Bureau, 'Authority and Its Distribution of Dealing with Insolvency Risks of Commercial Banks' (2016) 10 *Financial Regulation Research* 79, 81

Lei J, 'Standards and Requirements for Chinese Administrative Takeover of Banks' (2017) 17 *Legality Vision* 213

Lehmann M, 'Volcker Rule, Ring-Fencing or Separation of Bank Activities – Comparison of Structural Reform Acts around the World' (2016) 17 *Journal of Banking Regulation* 176

Li Q, Jia D D, Ye Q and Yan H, 'The 40th Year of Reform and Opening Up' (2019) 3 *China Review of Political Economy* 100

Li X A, 'Research on Dealing with Bank Insolvency Risks' (2018) 2 *Huabei Finance* 38

Lilico A, 'How is Banking Regulation Changing, and How Could it be Better?' (2012) 32 *Economic Affairs* 6

Lin Y and Ma H F, 'The Scope of Deposit Insurance Agency's Authority – Discussion on International Experience and Assessment of Section 7 of Deposit Insurance Regulation' (2015) 11 *Shanghai Finance* 68

Lin Y F and Li Z Y, 'China's State-Owned Enterprises and Financial System Reform' (2005) 4 *China Economic Quarterly* 920

Lipsky J, 'Towards an International Framework for Cross-Border Resolution' (ECB and Its Watchers Conference XII, Frankfurt, July 2010)

Liu H W, 'Analysis on Early Intervention by Deposit Insurance Scheme from the Perspective of Incentives' (2017) 9 *Wuhan Finance* 34

Liu Y S, 'Financial Regulatory Role of the People's Bank of China – From the perspective of Macro-Prudential View' (2014) 3 *Contemporary Law* 125

Lu Z Q, 'A Study of Exit Mechanism for Troubled Banks in China' (2018) 11 *Journal of Regional Financial Research* 21

Lucas D and McDonald R, 'An Option-based Approach to Evaluating the Risk of Fannie Mae and Freddie Mac' (2006) 53 *Journal of Monetary Economics* 155

Ludwig E, 'The OCC and FDICIA' in George Kaufman (eds) *Research in Financial services: Private and Public Policy FDICIA: Bank Reform Five Years Later and Five Years Ahead* (JAI Press 1997) 4

Lynch T, 'Derivatives: A Twenty First Century Understanding' (2011) 43 *Loyola University Chicago Law Review*

Ma Y, Liu Z L and Song X Y, 'A Study on the Early Exploration Stage of the Reform of Socialist Market Economy System with Chinese Characteristics' (2019) 21(4) *Journal of Shanghai University of Finance and Economics* 4

Mantripragada K G, 'Depositors as a Source of Market Discipline' (1992) 9 Yale J on Reg 543

Marinc M and Rant V, 'A Cross Country Analysis of Bank Bankruptcy Regimes' (2014) 13 Journal of Financial Stability 134

Martynova N, 'Effect of Bank Capital Requirements on Economic Growth: A Survey' DNB Working Papers No.467 (March 2015)

Mayes D, 'Bridge Banks and Too Big to Fail: Systemic Risk Exemption' in Douglas D Evanoff, George G Kaufman and John R LaBrosse (eds) *International Financial Instability: Global Banking and National Regulation* (Hackensack: World Scientific, 2007) 331

McKenzie G and Khalidi M, 'The EU Directive on Deposit Insurance: A Critical Evaluation' (1994) 32 J Common Mkt Stud 171

Merton R, 'An Analytic Derivation of the Cost of Deposit Insurance and Loan Guarantees: An Application of Modern Option Pricing Theory' (1977) 1 Journal of Banking and Finance 3

Messai A S and Gallali M I, 'Financial Leading Indicators of Banking Distress: A Micro Prudential Approach - Evidence from Europe' (2015) Asian Social Science 78

Miller G and Rosenfeld G, 'Intellectual Hazard: How Conceptual Biases in Complex Organisations Contributed to the Crisis of 2008' (2009) NYU Law and Economics Research Paper No. 09-43

Minton B, Stulz R, and Williamson R, 'How much do banks use credit derivatives to reduce risk?' (2005) Working Paper NBER 11579

Mishkin F, 'Evaluating FDICIA' in George Kaufman (eds) *Research in Financial services: Private and Public Policy FDICIA: Bank Reform Five Years Later and Five Years Ahead* (JAI Press 1997) 23

Mishkin F, 'The Causes and Propagation of Financial Instability: Lessons for Policymakers' (1997) Proceedings – Economic Policy Symposium – Jackson Hole Federal Reserve Bank of Kansas City 55, 70

Peek J and Rosengren E S, 'Will Legislated Early Intervention Prevent the Next Banking Crisis?' (1997) 64 Southern Economic Journal 268

Peek J and Rosengren E S, 'The Use of Capital Ratios to Trigger Intervention in Problem Banks: Too Little, Too Late' [1996] New England Economic Review 49

Peek J and Rosengren E S, 'Bank Regulation and Credit Crunch' (1995) 19 Journal of Banking and Finance 679

Ragalevsky S and Ricardi S, 'Anatomy of a Bank Failure' (2009) 126 *Banking Law Journal* 867,870

Reinhart C and Rogoff K, 'Is the 2007 US Sub-Prime Financial Crisis So Different? An International Historical Comparison' (2008) 98 *American Economic Review* 339

Roman A and Sargu A C, 'Analysing the Financial Soundness of Commercial Banks in Romania: An Approach Based on CAMELS Framework' (2013) 6 *Procedia Economics and Finance* 703

Posner E, 'How Do Bank Regulators Determine Capital-Adequacy Requirements?' (2015) 82 *University of Chicago Law Review* 1853

Pyle D, 'Capital Regulation and Deposit Insurance' (1986) 10 *Journal of Banking and Finance* 189, 194

Sarker A A, 'CAMEL Rating System in the Context of Islamic Banking: A Proposed 'S' for Shariah Framework' (2005) 1 *Journal of Islamic Economics and Finance* 78

Saunders A, Strock E and Travlos N G, 'Ownership Structure, Deregulation and Bank Risk Taking' (1990) 45 *Journal of Finance* 643

Seidenfeld M, 'Bending the Rules: Flexible Regulation and Constraints on Agency Discretion' (1999) 51 *Administrative Law Review* 429

Schich S, 'Financial Turbulence: Some Lessons Regarding Deposit Insurance' (2008) 1 *OECD Journal: Financial Markets Trends* 69

Schich S, 'Financial Crisis: Deposit Insurance and Related Financial Safety Net Aspects' (2008) 2 *OECD Journal: Financial Market Trends* 94

Schiffman H, 'Legal Measures to Manage Bank Insolvency in Economics in Transition' in Rosa M Lastra and Henry N Schiffman (eds), *Bank Failures and Bank Insolvency Law in Economics in Transition* (Kluwer Law International 1999)

Schoenmaker D, 'Building a Stable European Deposit Insurance Scheme' (2018) 4 *Journal of Financial Regulation* 314

Schooner H M, 'Bank Insolvency Regime in the United States and the United Kingdom' (2005) 18 *Transnational Law* 385, 389

Schwarcz S, 'Systemic Risk' (2008) 97 *Georgetown Law Review* 193

Scott K E, 'Implementing FDICIA - An Interim Assessment' in George Kaufman and Robert E. Litan (eds) *Assessing Bank Reform, FDICIA One Year Later* (The Brookings Institution 1993) 70

Scott K and Mayer T, 'Risk and Regulation in Banking: Some Proposals for Federal Deposit Insurance Reform' (1971) 23 *Stan.L.Rev.* 857, 889

Shaffer S, 'Bank Failure Risk: Different Now?' (2012) 116 *Economic Letters* 613

Singh D, 'The UK Banking Act 2009, Pre-Insolvency and Early Intervention: Policy and Practice' (2011) 1 *Journal of Business Law*

Sleet C and Smith B D, 'Deposit Insurance and Lender of Last Resort Functions' (2000) 32.3 *Journal of Money, Credit and Banking* 518

Sun L, 'Contributing Factors and Strategies of Nonperforming Loans in the Context of the New Normal of China's Economy' (2018) 24 *Journal of Commercial Economics* 149

Swicegood P and Clark J, 'Bank Underperformance: A Comparison of Neural Networks, Discriminant Analysis and Professional Human Judgement' (2001) 10 *International Journal of Intelligent Systems in Accounting, Finance and Management* 169

Tarullo D, *Banking on Basel: The Future of International Financial Regulation* (Peter G. Peterson Institute for International Economics 2008) 18

Thirlwell J, 'Operational risk: the banks and the regulators struggle' (2000) 10 *Balance Sheet* 28

Tiwari K N, 'Assessing Bank Reform: FDICIA One Year Later (Book Review)' (1994) 61 *Southern Economics Journal*, 249

Tobin J, 'A Case for Preserving Regulatory Distinctions' (1987) 30 *Challenge* 10

Tomasic R, 'Beyond Light Touch Regulation of British Banks after the Financial Crisis' in Iain McNeil and Justin O'Brian (eds) *The Future of Financial Regulation* (Hart 2010)

VanHoose D, 'Bank Capital Regulation, Economic Stability, and Monetary Policy: What does the Academic Literature Tell Us?' (2008) 36 *Atlantic Economic Journal* 1

VanHoose D, 'Theories of Bank Behaviour under Capital Regulation' (2007) 31 *Journal of Banking and Finance* 3680

Walter J, 'Closing Troubled Banks: How the Process Works?' (2004) 90 *Federal Reserve Bank of Richmond Economic Quarterly* 51

- Wang G G, 'The Path of Reform for China's Financial System' (2014) 28 *Financial Market Studies* 7
- Wang P and Wang F, 'Analysis of Chinese Administrative Takeover of Banks' (2011) 21 *Modern Economic Information* 239
- Weber R H, 'Mapping and Structuring International Financial Regulation – A Theoretical Approach' (2009) 20 *European Business Law Review* 651
- Weinstock P, 'Prompt Corrective Action' (2009) 126 *Banking L.J.* 317
- White L, 'The Reform of Federal Deposit Insurance' (1989) 3 *The Journal of Economic Perspectives* 11
- World Bank, 'The Chinese Economy: Fighting Inflation Deepening Reforms' (1996) Vol.1 Report No.15288-CHA
- Wu Z J, 'Main Findings and Applications of Structured Early Intervention and Resolution' (2017) 4 *Financial Perspectives Journal* 46
- Xiao Y and Zhao A P, 'Effect of Deposit Insurance System on Banking Supervision' (2015) 12 *The Chinese Banker* 58
- Xu Q, 'Roles and Functions of Deposit Insurance System in China – from the Perspective of External Coordination' (2018) 11 *Financial Theory and Practice* 63, 68
- Yan M L, Hall M and Turner P, 'A Cost-Benefit Analysis of Basel III – Some Evidence from the UK' (2012) 25 *International Review of Financial Analysis* 73
- Yang D Q, 'On the Establishment of Commercial Bank Insolvency Legal System of China' (UIBE Doctoral Thesis 2016);
- Yang S, 'The Analysis of Current Positions and Trends of Nonperforming Assets of Commercial Banks in China' (2018) 12 *Times Finance* 68
- Ye W H, 'Regulatory Framework and Practice for Dealing with Troubled Banks: Comparisons between US and China' (2019) 1 *Zhejiang Finance* 33
- Zhai L R, 'Discussion and Policy Recommendation of Early Intervention by Deposit Insurance Agency' (2018) 23 *China Economic & Trade Herald* 51
- Zhang J H, 'A Comparative Analysis of Application of Bank Insolvency' (2016) 33 *Arizona Journal of International & Comparative Law* 301, 307
- Zhang Y F, 'Comparisons of Takeover of Banks in the United States and China' (2009) 12 *Shanghai Finance* 80

Zhang Y, Chen W, Mi M and Lin L, 'Identification, Regulation and Resolution of Troubled Banks – International Perspectives and Practice (2016) 8 Financial Perspective Journal 28

Zhao F, 'Discussion on the Coordination and Cooperation between Deposit Insurance Institutions and Financial Safety Net' (2016) 8 Credit Reference 66, 68

Zhao T J, 'Research on the Design of Commercial Bank Insolvency Mechanics' (China University of Political Science and Law Doctoral Thesis 2007)

Zhou X C, 'Safeguard Financial Stability and Prevent Moral Hazards' (2004) 4 Journal of Financial Research 1

Zou D G, 'The Theoretical Logic of Bank Bankruptcy Law in Perspective of Law and Economics' (Jilin University Doctoral Thesis 2013)

Zwet A V D, 'Crisis Management Tools in the EU: What Do We Really Need?' (2011) 9 DNB Occasional Studies 21

### **Online Resources**

Allen & Overy, 'The Prudential Regulation Authority: An Overview' (1 April 2013) <<http://www.allenoverly.com/SiteCollectionDocuments/The%20Prudential%20Regulation%20Authority%20April%202013.pdf>> last accessed 26 Aug 2019

Acharya V, 'Prompt Corrective Action: An Essential Element of Financial Stability Framework' (Reserve Bank of India Bulletin November 2018) 21 <[https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/0RBIBULLETIN\\_F79C0C7C6BA824813B9F651BD63C21176.PDF#page=7](https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/0RBIBULLETIN_F79C0C7C6BA824813B9F651BD63C21176.PDF#page=7)> last checked 19 August 2019

Ashcraft, A 'Are Banks Really Special? New Evidence from the FDIC-Induced Failure of Healthy Banks' (2003) Federal Reserve Bank of New York Staff Report No.176 <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=497102](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=497102)> last accessed 20 Aug 2019

Babis V, 'Bank Recovery and Resolution: What about Shareholder Rights?' (2012) Legal Studies Research Paper Series No.23/2012 <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2144753](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2144753)> last accessed 26 Aug 2019

Bank for International Settlements, 'International Regulatory Framework for Banks' <<http://www.bis.org/bcbs/basel3.htm>> last accessed 20 Aug 2019

Bank for International Settlements, 'Principles for Sound Liquidity Risk Management and Supervision' (September 2008) <<http://www.bis.org/publ/bcbs144.pdf>> last accessed 20 Aug 2019

Barth J Jr., Caprio G Jr and Levine R, 'Banking Systems around the Globe: Do Regulation and Ownership Affect Performance and Stability?' (2000) The World Bank Policy Research Working Paper 2325 <<http://www.nber.org/chapters/c10757.pdf>> last accessed 26 August 2019

Bartholomew P, 'Reforming Federal Deposit Insurance' (Congress of the United States Congressional Budget Office September 1990) 92 <<https://www.cbo.gov/sites/default/files/101st-congress-1989-1990/reports/199009reformingfederaldeposit.pdf>> last accessed 20 Aug 2019

Basel Committee on Banking Regulation, 'Frameworks for Early Supervisory Intervention' (March 2018) <<http://www.asbasupervision.com/en/bibl/recommended-reading/1672-frameworks-for-early-supervisory-intervention/file>> last accessed 26 August 2018

Basel Committee on Banking Supervision, 'Supervisory Guidelines on Identifying and Dealing with Weak Banks' (July 2015) <<https://www.bis.org/bcbs/publ/d330.pdf>> last accessed 26 Aug 2019, 24

Basel Committee on Banking Supervision, 'Supervisory Guidelines for Identifying and Dealing with Weak Banks' (June 2014) <<https://www.bis.org/publ/bcbs285.pdf>> last accessed 26 Aug 2019, 31

Basel Committee on Banking Regulation, 'Supervisory Guidelines for Identifying and Dealing with Weak Banks Consultative Document' (19 September 2014) <<https://www.bis.org/publ/bcbs285.pdf>> last accessed 26 August 2019

Basel Committee on Bank Supervision, 'Principles for the Sound Management of Operational Risk' (June 2011) <<http://www.bis.org/publ/bcbs195.pdf>> last accessed 20 Aug 2019

Basel Committee on Bank Supervision, 'Liquidity Risk Management and Supervisory Challenges' (Bank for International Settlements 2008) <<https://www.bis.org/publ/bcbs136.pdf>> last accessed 25 Aug 2019

Basel Committee on Banking Regulation, 'Supervisory Guidance on Dealing with Weak Banks' (March 2002) <<https://www.bis.org/publ/bcbs88.pdf>> last accessed 26 August 2019

Basel Committee on Banking Supervision, 'Principles for the Management of Credit Risk' (27 September 2000) <<http://www.bis.org/publ/bcbs75.htm>> last accessed 20 Aug 2019

Basel Committee on Bank Supervision, 'Amendment to the Capital Accord to Incorporate Market Risk' (4 January 1996) <<https://www.bis.org/publ/bcbs24.htm>> last accessed 20 Aug 2019

Bella E, Prescott E and Walter J, 'Did the Financial Reforms of Early 1990s Fail? A Comparison of Bank Failures and FDIC Loss in the 1986-92 and 2007-13 Periods' (2015) Federal Reserve Bank of Richmond Working Paper 15-05 <[https://www.richmondfed.org/-/media/richmondfedorg/publications/research/working\\_papers/2015/pdf/wp15-05.pdf](https://www.richmondfed.org/-/media/richmondfedorg/publications/research/working_papers/2015/pdf/wp15-05.pdf)> last accessed 26 Aug 2019

Blair C and Kushmeider R, 'Challenges to the Dual Banking System: The Funding of Bank Supervision' (2006) 18 FDIC Banking Review Series <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=869043](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=869043)> last accessed 26 Aug 2019

Bliss R and Kaufman G, 'U.S. Corporate and Bank Insolvency Regimes: An Economic Comparison and Evaluation' (2006) Federal Reserve Bank of Chicago Working Paper 2006-01, <<https://www.chicagofed.org/publications/working-papers/2006/wp-01>> last accessed 20 Aug 2019

Bologna P, 'Banks' Maturity Transformation: Risk, Reward, and Policy' (2018) European Systemic Risk Board Working Paper Series No.63 <<https://www.esrb.europa.eu/pub/pdf/wp/esrb.wp63.en.pdf>> last accessed 26 Aug 2019

Brunnermeier M, Crocket A, Goodhart C, Hellwig M, Persaud A D, and Shin H, 'The Fundamental Principles of Financial Regulation' Preliminary Conference Draft (6 January 2009) Geneva Report on the World Economy 11 <[https://web.actuaries.ie/sites/default/files/erm-resources/The\\_fundamental\\_principles\\_of\\_financial\\_regulation.pdf](https://web.actuaries.ie/sites/default/files/erm-resources/The_fundamental_principles_of_financial_regulation.pdf)> last accessed 26 August 2018

Caprio G. Jr. 'Financial Regulation after the Crisis: How Did We Get There and How Do We Get Out?' (November 2013) <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2350564](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2350564)> last accessed 26 Aug 2019

Carnell R S, 'The FDIC Improvement Act of 1991: What Has Worked and What Has Not' (Treasury News No. RR-1417 1996), 11 <<https://www.treasury.gov/press-center/press-releases/Pages/rr1417.aspx>> accessed 26 Aug 2019

Caruana J and Narain A, 'Banking on More Capital' (International Monetary Fund Finance & Development June 2008) <<https://www.imf.org/external/pubs/ft/fandd/2008/06/pdf/caruana.pdf>> last accessed 20 Aug 2019

Claessens S, Laeven L, Igan D O and Dell'Ariccia G, 'Lessons and Policy Implications from the Global Financial Crisis' (IMF Working Paper 1 February 2010)

<<https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Lessons-and-Policy-Implications-from-the-Global-Financial-Crisis-23637>> last checked 19 August 2019

CMS, 'The Prudential Regulation Authority's Approach to Banking Supervision – Further Details Announced' (18 Oct 2012) <[www.cms-lawnow.com](http://www.cms-lawnow.com)> last accessed 26 Aug 2019

Cole R and Gunther J, 'A CAMEL Rating's Shelf Life' (1995) SSRN Electronic Journal <[https://www.researchgate.net/publication/46445047\\_A\\_CAMEL\\_rating's\\_shelf\\_life](https://www.researchgate.net/publication/46445047_A_CAMEL_rating's_shelf_life)> last accessed 26 August 2019

Conlon T and Cotter J, 'Eurozone Bank Resolution and Bail-in – Interventions, Triggers and Writedowns' (University College Dublin 12 January 2015) <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2548770&rec=1&srcabs=2610594&alg=1&pos=2](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2548770&rec=1&srcabs=2610594&alg=1&pos=2)> last accessed 20 Aug 2019

Dagher J, Dell'Araccia G, Laeven L, Ratnovski L and Tong H, 'Benefits and Costs of Bank Capital' (2016) IMF Staff Discussion Note SDN/16/04 <<https://www.imf.org/external/pubs/ft/sdn/2016/sdn1604.pdf>> last accessed 26 Aug 2019

Davenport A and McDill K, 'How Depositors Discipline Banks': A Micro-Level Case Study of Hamilton Bank (FDIC September 2004) <<https://www.fdic.gov/bank/analytical/cfr/bank-research-conference/annual-4th/2004-13-davenport.pdf>> last checked 4 August 2019

Drehmann M and Nikolaou K, 'Funding Liquidity Risk and Measurement' (2010) BIS Working Papers Monetary and Economic Department No.316 <<https://www.bis.org/publ/work316.pdf>> last accessed 20 Aug 2019

Duffie D, 'Innovations in Credit Risk Transfer: Implications for Financial Stability' (2008) Bank for International Settlement Monetary and Economic Department BIS working paper No.225 <[http://papers.ssrn.com/sol3/Papers.cfm?abstract\\_id=1165484](http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=1165484)> last accessed 20 Aug 2019

Estrella A, Park S, and Peristiani S, 'Capital Ratios and Credit Ratings as Predictors of Bank Failures' (June 2002) <[https://www.researchgate.net/profile/Stavros\\_Peristiani/publication/228712658\\_Capital\\_Ratios\\_and\\_Credit\\_Ratings\\_as\\_Predictors\\_of\\_Bank\\_Failures\\_Working\\_paper/links/0deec524c406d04861000000.pdf](https://www.researchgate.net/profile/Stavros_Peristiani/publication/228712658_Capital_Ratios_and_Credit_Ratings_as_Predictors_of_Bank_Failures_Working_paper/links/0deec524c406d04861000000.pdf)> last accessed 26 August 2019

European Banking Authority, 'Market Risk' <<https://www.eba.europa.eu/regulation-and-policy/market-risk>> last accessed 20 Aug 2019

Farag M, Harland D and Nixon D, 'Bank capital and liquidity' (2013) Bank of England Quarterly Bulletin Q3 201-215 <<https://www.bankofengland.co.uk/-/media/boe/files/quarterly-bulletin/2013/bank-capital-and-liquidity>> last accessed 20 Aug 2019

Ferreira D, Kershaw D, Kirchmaier T and Schester E P, 'Shareholder Empowerment and Bank Bailouts' (2012) AXA Working Paper Series No.11 <<http://www.lse.ac.uk/fmg/assets/documents/papers/discussion-papers/DP714.pdf>> last accessed 26 Aug 2019

Financial Conduct Authority, 'About the FCA' (9th April 2018) <<https://www.fca.org.uk/about/the-fca>> last accessed 26 Aug 2019

Financial Stability Board, 'Thematic Review on Deposit Insurance Systems Peer Review Report' (8 February 2012) <[http://www.fsb.org/wp-content/uploads/r\\_120208.pdf?page\\_moved=1](http://www.fsb.org/wp-content/uploads/r_120208.pdf?page_moved=1)> last accessed 26 Aug 2019

Financial Stability Board, 'Second Thematic Review on Resolution Regimes Peer Review Report' (18 March 2016) <<http://www.fsb.org/wp-content/uploads/Second-peer-review-report-on-resolution-regimes.pdf>> last accessed 26 Aug 2019

Financial Stability Board, '2018 IMN Survey of National/Regional Progress in the Implementation of G20/FSB Recommendations – China' <<https://www.fsb.org/wp-content/uploads/CN-IMN-Survey-2018.pdf>> last checked 26 August 2019

Fonteyne W, Bossu W, Cortavarria-Checkley L, Giustiniani A, Gullo A, Hardy D, and Kerr S, 'Crisis Management and Resolution for a European Banking System' (2010) IMF Working Paper <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1578668](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1578668)> last accessed 20 Aug 2019

GAO, 'Bank Regulation: Lessons Learned and a Framework for Monitoring Emerging Risks and Regulatory Response,' (GAO-15-365 June 2015) <<http://www.gao.gov/assets/680/670997.pdf>> last accessed 26 Aug 2019

GAO, 'Bank Regulation Modified Prompt Corrective Action Framework Would Improve Effectiveness' (GAO-11-612 23 June 2011) 32 <<https://www.gao.gov/assets/330/320102.pdf>> last checked 4 August 2019

Gaytam A and Johnson C A, 'A Review of the Literature on Early Warning Systems for Banking Crises' (2002) Central Bank of Chile Working Papers N0.183 23 <<http://si2.bcentral.cl/public/pdf/documentos-trabajo/pdf/dtbc183.pdf> > last accessed 26 August 2019

Gordon J and Ringe W G, 'Bank Resolution in Europe: The Unfinished Agenda for Structural Reform' (2015) Working Paper No.507 <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2548251](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2548251)> last accessed 26 Aug 2019

Hanc G, 'Deposit Insurance Reform: State of the Debate' (1999) 12 FDIC Banking Review 1

<<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.494.217&rep=rep1&type=pdf>> last accessed 20 Aug 2019

Hannoun H, 'The Basel III Capital Framework: A Decisive Breakthrough' (BoJ-BIS High Level Seminar on Financial Regulatory Reform: Implications for Asia and the Pacific, 22 November 2010) <<http://www.bis.org/speeches/sp101125a.pdf>> last accessed 20 Aug 2019

Hardy D, 'Bank Resolution Costs, Deposit Preference and Asset Encumbrance' (International Monetary Fund 2013) <<https://www.imf.org/external/pubs/ft/wp/2013/wp13172.pdf>> last accessed 20 Aug 2019

Huertas T, 'Are Banks Still Special' Special Paper 248 LSE Financial Markets Group Paper Series (November 2017) <<http://www.lse.ac.uk/fmg/assets/documents/papers/special-papers/SP248.pdf>> last accessed 26 Aug 2019

International Monetary Fund, 'Changes in Bank Funding Patterns and Financial Stability Risk' (IMF October 2013) <<https://www.imf.org/External/Pubs/FT/GFSR/2013/02/pdf/c3.pdf>> last accessed 20 Aug 2019

International Monetary Fund, 'United Kingdom: 'The Future of Regulation and Supervision Technical Note' (11 July 2011) <<https://www.imf.org/external/pubs/ft/scr/2011/cr11230.pdf>> last accessed 26 Aug 2019

International Monetary Fund and World Bank, 'An Overview of the Legal, Institutional, and Regulatory Framework for Bank Insolvency' (17 April 2009) <<https://www.imf.org/external/np/pp/eng/2009/041709.pdf>> last accessed 20 Aug 2019

International Monetary Fund, 'Financial Derivatives' (Eleventh Meeting of the IMF Committee on Balance of Payments Statistics October 1998) <<https://www.imf.org/external/bopage/pdf/98-1-20.pdf>> last accessed 20 Aug 2019

Ioseliani M, 'Aspects of Bank Insolvency' National Bank of Georgia (1st June 2011) <[https://www.nbg.gov.ge/uploads/discussion/aspects\\_of\\_bank\\_insolvency.pdf](https://www.nbg.gov.ge/uploads/discussion/aspects_of_bank_insolvency.pdf)> last accessed 26 Aug 2019

Jacome L I and Nier E W, 'Macro-prudential Policy: Protecting the Whole' International Monetary Fund <<https://www.imf.org/external/pubs/ft/fandd/basics/macropriu.htm>> last accessed 26 Aug 2019

Jeremy Kress, 'Solving Banking's 'Too Big to Manage' Problem' (2019) 104 Minnesota Law Review Forthcoming <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3348593](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3348593)> last accessed 26 Aug 2019

Kara G I, 'Bank Capital Regulations around the World: What Explains the Differences?' (2016) Finance and Economics Discussion Series 2016-057. Washington: Board of Governors of the Federal Reserve System <<http://dx.doi.org/10.17016/FEDS.2016.057>> last accessed 26 August 2019

Karas A and Schoors K, 'Bank Networks, Interbank Liquidity Runs and the Identification of Banks That Are Too Inter-Connected to Fail' (2012) <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.367.8027&rep=rep1&type=pdf>> last accessed 20 Aug 2019

Kashyap A K, Rajan R G and Stein J C, 'Rethinking Capital Regulation' (Economic Symposium Maintaining Stability in a Changing Financial System Federal Reserve Bank of Kansas City 2008). <<https://www.kansascityfed.org/media/files/publicat/sympos/2008/kashyaprajanstein031209.pdf>> last accessed 26 August 2019

Kowalik M, 'Countercyclical Capital Regulation: Should Bank Regulators Use Rules or Discretions?' (2011) Federal Reserve Bank of Kansas City Economic Review Second Quarter 67. <<https://www.kansascityfed.org/mkMSW/publicat/econrev/pdf/11Q2Kowalik.pdf>> last accessed 26 August 2019

Kupiec P, 'Fixing Prompt Corrective Action' (2016) AEI Economic Policy Working Paper 2016-03 < [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2724120](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2724120)> last accessed 26 August 2019

Legal Department of International Monetary Fund, 'Orderly and Effective Insolvency Procedures: Key Issues' (1999) <<http://www.imf.org/external/pubs/ft/orderly/>> last accessed 20 Aug 2019

Madaus S, 'Bank Failure and Pre-emptive Planning: The Special Requirements of a Bank Resolution and a Default Resolution Option' (2013) <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2277452](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2277452)> last accessed 20 Aug 2019

Markose S, Giansante S, Gatkowski M and Shaghghi A R, 'Too Interconnected To Fail: Financial Contagion and Systemic Risk in Network Model of CDS and Other Credit Enhancement Obligations of US Banks' (2010) Discussion Paper No.683 Centre for Computational Finance and Economic Agents Economics Department University of Essex 1 <<http://repository.essex.ac.uk/3716/1/dp683.pdf>> last accessed 20 Aug 2019

Mason J, 'Overview and Structure of Financial Supervision and Regulation in the US' (European Union 2015) <[http://www.europarl.europa.eu/RegData/etudes/STUD/2015/492470/IPOL\\_STU%282015%29492470\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/492470/IPOL_STU%282015%29492470_EN.pdf)> last accessed 26 Aug 2019

Mason J, Jeff Balcombe and W. Scott Dalrymple, 'Financial Supervision and Regulation in the US – Dodd-Frank Reform' (Study for the Committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg, 2018)

<[http://www.europarl.europa.eu/RegData/etudes/STUD/2018/631017/IPOL\\_STU\(2018\)631017\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2018/631017/IPOL_STU(2018)631017_EN.pdf)> last checked 4 August 2019

Mayes D and Stremmel H. 'The Effectiveness of Capital Adequacy Measures in Predicting Bank Distress' (November 2012) <<https://www.rbnz.govt.nz/-/media/ReserveBank/Files/Publications/Seminars%20and%20workshops/dec2012/sessi-on3-mayes-162502.pdf?la=en>> last accessed 26 August 2019

Mayes D, 'Early Intervention and Prompt Corrective Action in Europe' (2009) Bank of Finland Research Paper No. 17 <<http://ssrn.com/abstract=1456404>> last accessed 20 Aug 2019

McGlasson L, 'Anatomy of a Bank Failure: What Happens When the FDIC Pulls the Plug? A Behind – the – Scene Look at How Regulators Mobilise to Protect the Assets of Troubled Banks' Bank Info Security (17 August 2009) <<https://www.bankinfosecurity.com/anatomy-bank-failure-what-happens-when-fdic-pulls-plug-a-975>> last accessed 26 Aug 2019

Morrison & Foerster LLP, 'Restrictions on Affiliate Transactions' <<http://media.mofo.com/files/uploads/Images/Section23ABChart.pdf>> last accessed 26 Aug 2019

Murphy E, 'Who Regulates Whom and How? An Overview of US Financial Regulatory Policy for Banking and Securities Markets' (Washington DC: Congressional Research Series 2013) 10 <<https://fas.org/sgp/crs/misc/R43087.pdf>> last accessed 26 Aug 2019

Nier E W, 'Financial Stability Frameworks and the Role of Central Banks: Lessons from the Crisis' (International Monetary Fund 2009) <<https://www.imf.org/external/pubs/ft/wp/2009/wp0970.pdf>> last accessed 20 Aug 2019

Nieto M and Wall L, 'Preconditions for a Successful Implementation of Supervisors' Prompt Corrective Action: Is There a Case for a Banking Standard in the EU?' (Banco De Espana Documentos de Trabajo. No. 0702 2007) <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=965365](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=965365)> last checked 10 Aug 2019

Ojo M, 'Basel III and Responding to the Recent Financial Crisis: Progress made by the Basel Committee in relation to the Need for Increased Bank Capital and Increased Quality of Loss Absorbing' 'Capital' (IGI Global; North West University 2010) <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1680886](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1680886)> last accessed 20 Aug 2019

Oxford Economics, 'Analysing the Impact of Bank Capital and Liquidity Regulations on US Economic Growth' The Clearing House Association (April 2013) <[https://www.theclearinghouse.org/~media/files/association%20documents/20130410\\_capital%20standards\\_impact%20higher%20bank%20capital.pdf](https://www.theclearinghouse.org/~media/files/association%20documents/20130410_capital%20standards_impact%20higher%20bank%20capital.pdf)> last accessed 26 Aug 2019

Peek J and Rosengren E, 'Derivatives Activities at Troubled Banks' (Financial Institutions Centre The Wharton School University of Pennsylvania 1996) <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=886](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=886)> last accessed 20 Aug 2019

Peters B, 'Approaches to Measuring, Limiting and Managing Risks, Especially Those Facing Small and Medium-Sized Institutions' Bank of International Settlement Publications <<https://www.bis.org/publ/plcy07p.pdf>> last accessed 28 Aug 2019

Prasad E, 'Financial Sector Regulation and Reform in Emerging Markets: An Overview' (2010) NBER Working Paper No.16428 <<https://www.nber.org/papers/w16428.pdf>> last checked 19 August 2019

Reidhill J, Davison L, and Williams E, 'The history of bridge banks in the US' (Federal Deposit Insurance Corporation 2005) <<https://slideplayer.com/slide/6031077/20/images/1/The+History+of+Bridge+Banks+in+the+United+States.jpg>> last accessed 20 Aug 2019

Restoy F, 'Early Intervention Regimes: The Balance between Rules vs. Discretions' (2017) FSI-IADI Meeting on early Supervisory Intervention, Resolution and Deposit Insurance <<https://www.bis.org/speeches/sp170912.pdf>> last accessed 26 August 2018

Rymer J, Thorson E and Bialek M, 'Evaluation of Prompt Corrective Action Implementation' (Offices of Inspector General 30 September 2011) <<https://www.treasury.gov/about/organizational-structure/ig/Audit%20Reports%20and%20Testimonies/OIG-CA-11-008.pdf>> last checked 4 August 2019

Ranjana Sahajwala and Paul Van den Bergh, 'Supervisory Risk Assessment and Early Warning Systems' (2000) Basel Committee on Banking Regulation Working Papers No. 4 <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.201.5555&rep=rep1&type=pdf>> last accessed 26 August 2019

Sants H, 'Speech on the Regulatory Reform' City Week Conference (7 February 2012) <[https://uk.practicallaw.thomsonreuters.com/7-517-8787?transitionType=Default&contextData=\(sc.Default\)&firstPage=true&bhcp=1](https://uk.practicallaw.thomsonreuters.com/7-517-8787?transitionType=Default&contextData=(sc.Default)&firstPage=true&bhcp=1)> last accessed 9 July 2019

Schillig M, 'Bank Resolution Regimes in Europe I – Recovery and Resolution Planning, Early Intervention' (25 August 2012) <<http://ssrn.com/abstract=2136101>> last accessed 20 Aug 2019

Schillig M, 'Bank Resolution Regime in Europe II—Resolution Tools and Powers' (26 August 2012) <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2136084](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2136084)> last accessed 20 Aug 2019

Schiff Hardin, 'CAMELS Ratings: What They Mean and Why They Matter?' (2016) <<https://www.schiffhardin.com/insights/publications/2016/camels-ratings-what-they-mean-and-why-they-matter>> last accessed 26 August 2019

Shadow Financial Regulatory Committee, 'An Outline of a Program for Deposit Insurance Reform' (13 February 1989) <[http://www.aei.org/wp-content/uploads/2011/11/-an-outline-of-a-program-for-deposit-insurance-and-regulatory-reform\\_153123658173.pdf](http://www.aei.org/wp-content/uploads/2011/11/-an-outline-of-a-program-for-deposit-insurance-and-regulatory-reform_153123658173.pdf)> last accessed 20 Aug 2019

Shen S Z, 'The Research on Special Bank Insolvency Regime – the Competitive Prospect' [2018] Present Day Law Science 10 (Online Prioritised Publication via CNKI)<<http://kns.cnki.net/kcms/detail/43.1431.D.20181114.1628.034.html>> last accessed 26 Aug 2019

Song Y Q and Nie O, 'The Establishment of Deposit Insurance Scheme' (China Financial Weekly 2015) <<http://finance.sina.com.cn/china/20150408/162721909493.shtml>> last accessed 26 Aug 2019

Spong K, 'Narrow Banks: An Alternative Approach to Banking Reform' (1993) Federal Reserve Bank of Kansas City Working Paper No.90 <<http://www.levyinstitute.org/pubs/wp90.pdf>> last accessed 20 Aug 2019

Svoronos J, 'Early Intervention Regimes for Weak Banks' Bank for International Settlements Financial Stability Institute Insight on Policy Implementation No.6 (April 2018) 4 <<https://www.bis.org/fsi/publ/insights6.pdf>> last accessed 26 Aug 2019

Tahyar M, 'Are Bank Regulators Special?' (2018) Banking Perspectives <<https://www.theclearinghouse.org/banking-perspectives/2018/2018-q1-banking-perspectives/articles/are-bank-regulators-special>> last accessed 26 Aug 2019

The Bank of England, 'Which Firms Does the PRA Regulate?' (12 July 2019) <<https://www.bankofengland.co.uk/prudential-regulation/authorisations/which-firms-does-the-pra-regulate>> accessed 5 August 2019

The Bank of England, 'The Bank of England's Approach to Resolution' (2 October 2017) <<https://www.bankofengland.co.uk/paper/2017/the-bank-of-england-approach-to-resolution>> last accessed 20 Aug 2019

The Bank of England, 'Tools Available with the Resolution Regime' <<https://www.bankofengland.co.uk/financial-stability/resolution>> last accessed 20 Aug 2019

The FDIC, Managing the Crisis: The FDIC and RTC Experience <<https://www.fdic.gov/bank/historical/managing/index.html>> last accessed 20 Aug 2019

The FDIC, *Bank Financial Reports* (July 2018) <<https://www.fdic.gov/regulations/resources/call/call.html>> last accessed 26 August 2019

The FDIC, 'Crisis and Responses: An FDIC History 2008 – 2013' (2017) <<https://www.fdic.gov/bank/historical/crisis/overview.pdf>> last checked 4 August 2019

The FDIC, Risk Management Manual of Examination Policies Section 2.1 Capital (April 2015) <<https://www.fdic.gov/regulations/safety/manual/section2-1.pdf>> last accessed 26 August 2019

The Federal Deposit Insurance Corporation, FDIC Resolution Handbook (Dec 2014) <[https://www.fdic.gov/about/freedom/drr\\_handbook.pdf](https://www.fdic.gov/about/freedom/drr_handbook.pdf)> last accessed 26 Aug 2019

The Joint Forum of Basel Committee on Bank Supervision (BCBS), International Organization of Securities Commission (IOSCO) and International Association of Insurance Supervisors (IAIS), 'Developments in Credit Risk Management across Sectors: Current Practices and Recommendations' (June 2015) <<https://www.bis.org/bcbs/publ/joint38.pdf>> last accessed 20 Aug 2019

The Prudential Regulation Authority, 'The PRA's Approach to Banking Supervision' (31 October 2018) <<https://www.bankofengland.co.uk/prudential-regulation/publication/2018/pra-approach-documents-2018>> last accessed 19 August 2019

The Prudential Regulation Authority, 'Report by Skilled Persons' Supervisory Statement SS7/14 (September 2015) <<https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/supervisory-statement/2015/ss714-update.pdf?la=en&hash=B6CF68E69A14E9CC68BE45A6DD23EFBFBFD289D0>> last accessed 26 Aug 2019

Thole C, 'Bank Crisis Management and Resolution—Core Features of Bank Recovery and Resolution Directive' (University of Tuebingen 22 July 2014) <[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2469807&rec=1&srcabs=2610594&alg=1&pos=3](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2469807&rec=1&srcabs=2610594&alg=1&pos=3)> last accessed 20 Aug 2019

Turk M, 'Stress Testing the Banking Agencies' (2019) 105 Iowa Law Review Forthcoming <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3367546](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3367546)> last accessed 26 Aug 2019

Walther A and White L, 'Rules Versus Discretions in Bank Resolution' (25 March 2016) <<https://acpr.banque-france.fr/sites/default/files/medias/documents/waltherwhite.pdf>> last accessed 26 August 2019

Wilson D and Knabe K, 'FDIC Bank Failure Litigation: Understanding and Navigating the FDIC's Professional Liability and Mortgage Fraud Suits' ABA Section of Litigation 2012 Section Annual Conference (18-20 April 2012) <[https://www.americanbar.org/content/dam/aba/administrative/litigation/materials/sac\\_2012/26-1\\_fdic\\_bank\\_failure\\_litigation.authcheckdam.pdf](https://www.americanbar.org/content/dam/aba/administrative/litigation/materials/sac_2012/26-1_fdic_bank_failure_litigation.authcheckdam.pdf)> last accessed 26 Aug 2019

## **Table of Legislation**

### **The United States**

12 USC § 1831o

### **The United Kingdom**

The Banking Act 2009

The Financial Service Act 2012

The Financial Services and Markets Act 2012

### **China**

The Law of the People's Republic of China on the People's Bank of China

The Law of the People's Republic of China on Commercial Banks

The Banking Supervision Law of the People's Republic of China

The Enterprise Bankruptcy Law of the People's Republic of China

The Legislation Law of the People's Republic of China

Deposit Insurance Regulation

Administrative Measures for the Capital of Commercial Banks (for Trial Implementation)

Notice of the China Banking Regulatory Commission on Issues Concerning Transitional Arrangements for the Implementation of the Administrative Measures for the Capital of Commercial Banks (for Trial Implementation)

Notice of the China Banking Regulatory Commission on Issuing the Internal Guideline for the Regulatory Rating of Commercial Banks

## **EU**

European Commission, 'Proposal for a Directive of the European Parliament and of the Council Establishing a Framework for the Recovery and Resolution of Credit Institutions and Investment Firms and Amending Council Directives 77/91/EEC and 82/891/EC, Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC and 2011/35/EC and Regulation (EU) No 1093/2010'. Art 32(1) and 121

Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014