

# 研究报告

---

# Research Report

2018-7- 17 edition

TSINGHUA UNIVERSITY NATIONAL INSTITUTE OF FINANCIAL RESEARCH

July. 17<sup>th</sup>, 2018

## Financial Crises: Early Waring, Contagion and Policy Intervention - A Literature Review

Center for Finance and Development

HE Xiaobei

### Abstract

Preventing systemic financial risks has become a top priority of the Chinese government. As the first step towards a comprehensive analysis of financial risks, we survey the literature in three related areas: early warning system, financial contagion and policy interventions. Several findings of the literature review have

1 polices and financial reforms.

First, a rapid increase in the macro-leverage ratio could significantly increase the probability of financial crises. Second, fire sale is a major channel of financial contagion. Third, during a banking crisis, the laissez faire attitude of a central banks due to the concern of moral hazard may deepen the crisis. Fourth, the lack of policy-making independence may prevent the central bank from taking effective actions in the crisis as a lender of last resort.



2018

2008

70

1



2

3

,

4

1

**EWI**

early warning indicators    EWI

Drehmann    Juselius    2013                  EWI

EWI

Drehmann

Juselius 2013 timing

EWIs

Frankel Saravelos 2012 2008

2008-2009

2007

50

Kaminsky, Lizondo

Reinhart (1997)

24

Drehmann Juselius 2013 26 1980 -2012

10	EWIs	debt service
ratio	-GDP	
		GDP
	-GDP	
		GDP
5		
2	Shin 2013	
--		
		CDS
	-GDP	
	Shin(2013)	
	-GDP	

Jan Babecký

2012

30

GDP

2%

Macro Lo Duca 2011

2

**FSI**

EWI

financial stress indices FSI

FSI EWI

EWI

FSI

Hakkio Keeton 2009 :

Adrian Brunnermeier 2009 CoVaR Brownlees

Engle (2015) SRISK 2003

Illing Liu 2003

Kansas Fed

KCFSI the Kansas City Financial Stress Index

11

KCFSI

KCFSI

KCFSI

20

IMF

17

IMF

FSI

Hollo Kremer

Duca 2012

CISS Composite Indicator of Systemic Stress

15

CISS

FSI

2015      25      OECD

FSI

KCFSI

Hollo et al. (2012)      CISS

3

2011

GDP

M2

2017, 2018      CoVAR    SRISK

2016

12

2017

9

2012                2012                2013

FDI

1

Diamond      Dybvig    1983



Allen Gale 2000

Allen Gale 2000

Gai

Haldane Kapadia 2010

Allen      Gale    2000

Acemoglu    (2015)

Shin    2009

Freixas Parigi Rochet (2000)

A

B

C

coordination failure

fail)

problem)

systemically important financial institution

Shin 2009

graph theory

Markose (2012)

FDIC

Cont Moussa Santos 2010 3000

,

Diebold Yilmaz (2014)

2

2008

2008

flight to quality

fire sale

mark-to-market

self-reinforcing

Mitchell

Pulvino (2010) 2008

Shleifer Vishny (2011)

Allen      Gale (2002),

Gorton      Huang (2003)      Schnabel      Shin (2002)

Cifuentes, Ferrucci      Shin

(2004)

Caballero      Simsek      2011

(amplification effect)

2008

3

2011

2016

2016

2014



2008

1

## Lender of Last Resort

Thornton (1802)    Bagehot    1873

1907

Bagehot    1873

insolvent

Bernanke(2009)

Solow (1982)

Acharya Shin Yorulmazer 2011

bailout

ex post

Goodfriend King

(1988)

Bordo(1990)

Goodfriend King (1988)

Allen Carletti Gale 2009 Goodfriend King  
(1988)

constrained effic3E822CBA&t0g95adocado

Bagehot 1873

Rochet Vives (2004)

Martin (2002)

Bagehot

Crockett (1996), Garcia Plautz (1988)

Freixas, Martin

Skeie (2011)

distributional shocks

aggregate shocks

2

risk-taking

2008

emergency

liquidity assistance

ex ante

Corrigan (1990)      Crockett (1996)

Goodhart    Huang(2010)

Domanski, Moessner      Nelson (2014)      2007



2008

2

Summers (2007)

Bernanke (2009)

## risk-taking

Tucker (2014)

Goodhart (2017)

2

AIG

3

2016

2004

2006

2006

2014

2015

2015

2015

10

-





- [1] Allen, F., and Gale, D., 2000. "Financial contagion". *Journal of political economy*. 108(1), 1-33.
- [2] Allen, F., Carletti, E., and Gale, D., 2009. "Interbank Market Liquidity and Central Bank Intervention". *Journal of Monetary Economics*. 56 (5), 639-652.
- [3] Allen, F., and Carletti, E., 2006. "Credit risk transfer and contagion". *Journal of Monetary Economics*. 53, 89–111.
- [4] Allen, F., and Carletti, E., 2008. "Mark-to-market accounting and liquidity pricing". *Journal of Accounting and Economics*. 45, 358–378.
- [5] Allen, F., and Gale, D., 2004a. "Financial intermediaries and markets". *Econometrica*. 72, 1023–1061.
- [6] Allen, F., Gale, D., 2004b. "Financial fragility, liquidity, and asset prices". *Journal of the European Economic Association*. 2, 1015–1048.
- [7] Bagehot, W., 1873. "Lombard Street: A Description of the Money Market". London: Henry S. King & Co .
- [8] Bernanke, B., 1983. "Non Monetary Effects of Financial Crisis in Propagation of the Great Depression". *American Economic Review*. 73(3), 257-276.
- [9] Bhattacharya, S., Gale, D., 1987. "Preference shocks liquidity, and central bank policy. In: Barnett, W., Singleton, K. (Eds.), *New Approaches to Monetary Economics*". Cambridge University Press, Cambridge, pp. 69–88.
- [10] Blum, J., 1999. "Do capital adequacy requirements reduce risks in banking". *Banking Finance*. 23, 755–771.
- [11] Boot, A., Thakor, A., 1993. "Self-interested bank regulator". *American Economic Review Papers and Proceedings* 83, 206–212.
- [12] Bordo, M.D., 1990. "The Lender of Last Resort: Alternative Views and Historical

- Experience". Federal Reserve Bank of Richmond, Economic Review. 18-29.
- [13]Reinhart, C. and K. S. Rogoff, 2009. "This Time Is Different: Eight Centuries of Financial Folly," Economics Books, Princeton University Press, edition 1, number 8973.
- [14]Cont, R., Moussa, A., & Santos, E., 2010. "Network structure and systemic risk in banking systems".
- [15]Demsetz, R., Saidenberg, M., Strahan, P., 1996. "Banks with something to lose: the disciplinary role of the franchise value". Fed. Reserve Bank New York Quart. Rev. 2, 1 14.
- [16]Diamond, D. W., & Dybvig, P. H., 1983. "Bank runs, deposit insurance, and liquidity". Journal of political economy. 91(3), 401-419.
- [17]Diamond, D., Rajan, R., 2005. "Liquidity shortages and banking crises". Journal of Finance. 60, 615 647.
- [18]Diamond, D., Rajan, R., 2008. "Illiquidity and interest rate policy". Working paper, University of Chicago.
- [19]Flannery, M., 1996. "Financial crises, payment system problems and discount window lending". Journal of Money, Credit and Banking. 28, p.804 824.
- [20]Frankel, J. and G. Saravelos, 2012. "Can leading indicators assess country vulnerability? Evidence from the 2008 09 global financial crisis," Journal of International Economics, Elsevier, vol. 87(2), pages 216-231.
- [21]Freixas, X., Jorge, J., 2008. "The role of interbank markets in monetary policy: a model with rationing". Journal of Money, Credit and Banking, Vol. 40, Issue 6, Pages 1151-1176
- [22]Freixas, X., Martin, A., Skeie, D. 2009. "Bank liquidity, interbank markets and monetary policy". Working paper, Federal Reserve Bank of New York.
- [23]Freixas, X., Parigi, B. M., & Rochet, J. C., 2000. "Systemic risk, interbank relations, and liquidity provision by the central bank". Journal of Money, Credit and Banking. Vol. 32, No 3. p.611-638.
- [24]Freixas, X., Parigi, B., Rochet, J.-C., 1998. "The lender of last resort: a theoretical foundation". Mimeo.
- [25]Giannini, C., 1998. "Enemy of all but a common friend of all? An international perspective on the lender-of-lastresort function". IMF working paper No 99 10.
- [26]Goodhart C. 2017. "Balancing Lender of Last Resort Assistance with Avoidance of Moral Hazard. In: Heinemann F., Klüh U., Watzka S. (eds) Monetary Policy, Financial Crises, and the Macroeconomy". Springer, Cham.
- [27]Goodhart, C., 1987. "Why do we need a central bank? " Oxford Economic Papers New Series, Vol. 39, No. 1 (Mar., 1987), pp. 75-89.
- [28]Goodhart, C., 1988. "The Evolution of Central Bank". MIT Press, Cambridge, MA.

- [29]Goodhart, C., Huang, H., 1999. "A model of lender of last resort". IMF working paper No 99-39.
- [30]Goodhart, G., 1995. "The Central Bank and the Financial System". MIT Press, Cambridge, MA.
- [31]Gorton, H., Huang, L., 2004. "Liquidity, efficiency and bank bailouts". American Economic Review. 94, 455 483.
- [32]Gorton, H., Huang, L., 2006. "Banking panics and endogeneity of central banking". Journal of Monetary Economics. 53, 1613 1629.
- [33]Heider, F., Hoerova, M., Holthausen, C., 2008. "Information asymmetries in the interbank market: theory and policy response". Working paper, European Central Bank.
- [34]Hellmann, T., Murdoch, K., Stiglitz, J., 2000. "Liberalization, moral hazard in banking and prudential regulation:are capital requirements enough? ". American Economic Review. 90, 147 165.
- [35]Herrings, R., Vankudre, P., 1987. "Growth opportunities and risk-taking by financial intermediaries". J. Finance. 42, 583 599.
- [36]Hollo, D., Kremer, M., & Lo Duca, M., 2012. "CISS-a composite indicator of systemic stress in the financial system". ECB working paper 1426
- [37]Holmstrom, B., Tirole, J., 1998. "Private and public supply of liquidity". Journal of Political Economy. 106, 1 40.
- [38]Kaufman,G.G., 1991. "Lender of Last Resort: A Contemporary Perspective". Journal of Financial Services Research. 5(2), 95-110.
- [39], "Beware moral hazard fundamentalists". Financial Times, September 24, 2007.
- [40]Mailath, G., Mester, L., 1994. " A positive analysis of bank closures". Journal of Financial Intermediation 3, 272 299.
- [41]Kaminsky, G., J. Saul Lizondo and C. Reinhart 1998. Leading Indicators of Currency Crises . 1998. IMF Staff Papers, Vol. 45 No.1, p. 1-48.
- [42]Repullo, R., 2005. "Liquidity, risk taking, and the lender of last resort". International Journal of Central Banking. 1, 47 80.
- [43]Solow, R., 1982. "On lender of last resort. In: Kindleberger, C.P., Laffargue, J.P. (Eds.), Financial Crisis: Theory, History, and Policy". Cambridge Univ. Press, Cambridge.
- [44]Suarez, J., 1994. "Closure rules, market power and risk-taking in a dynamic model of bank behavior". LSE Financial Market Group discussion paper No. 196.
- [45]Tucker, P.,2014. The lender of last resort and modern central banking: principles and reconstruction. BIS working paper No. 79b.
- [46]Viral V. Acharya Hyun Song Shin Tanju Yorulmazer. ,2011. "Crisis Resolution and Bank Liquidity". The Review of Financial Studies. Pages 2166 2205.

- [47] . . , . . . [J].  
,2015(11):31-32.
- [48] . . , . [J]. ,2016(10):56-60.
- [49] , . [J].  
,2014,34(09):2202-2211.
- [50] , . [J]. ,2016,38(01):27-35+125.
- [51] , . [J].  
,2016(06):61-72.
- [52] . [J].  
,2016(08):32-57+187.
- [53] , , . [J].  
,2006(12):28-31.
- [54] . [J].  
,2011(10):17-33.
- [55] . [J]. ,2004(10):13-17.
- [56] . [J].  
,2009(04):20-35.
- [57] . [J]. ,2015(07):20-22.
- [58] , . [J].  
, 2011(06):14-24.
- [59] , , . [J]. ,2014,17(04):57-70.
- [60] . [J]. ,2012(12):30-37.
- [61] , . [J].  
,2016(06):18-36.
- [62] , . [J].  
,2014(09):99-114.
- [63] . [J]. ,2013(49):71-76.
- [64] , . [J].  
,2017,34(04):59-71.
- [65] . [J]. ,2014(09):65-69.
- [66] , , . [J].  
,2012(02):83-86.
- [67] . [J]. ,2013(04):48-50.

- [68] . 2017 . 2017.
- [69] . [J].
- ,2006(11):19-22.
- [70] . [J]. ,2012(09):1-19.
- [71] , , , , . [J].  
, No.2017/4, 2017.

---

---

62797519

---