PSL Quarterly Review, vol. 65 n. 263 (2012), 385-402

The cost and benefit of banking regulations and controls, Chinese style

XIAOSHENG JU and DIC LO*

1. Introduction

From the perspective of the international establishment and indeed most mainstream economists, and seemingly also parts of the Chinese state leadership, furthering the market reform of the country's financial system must not be deterred or sidetracked by the financial crises in the advanced capitalist economies. What China must do is to continue to pursue the liberalization, privatization, and internationalization of its financial system (World Bank, 2012). In this light, the fact that China has (so far) avoided financial crises is seen as no more than an accidental outcome, one that comes at a high cost. The Chinese reality is seen as a fragile banking sector being protected by an underdeveloped system of regulations and controls. The logical conclusion: China must pursue further market reforms in the direction of fostering the profit maximization *cum* risk minimization pursuit of individual banks.

These views appear to be flawed in relation to the international discussion over the reform of banking regulations and controls. They are mostly based on the understanding that financial fragility is caused by

* Xiaosheng Ju: School of Economics, Renmin University of China (RUC), Dic Lo (corresponding author): School of Oriental and African Studies (SOAS), University of London, and Center of Research in Comparative Political Economy, RUC; email: diclo@soas.ac.uk.
Paper presented at the Workshop "The state and perspectives of financial reforms worldwide – A comparative assessment", September 7-8 2012, Villasimius, Italy. The research carried out for this paper is under a joint research project of RUC and SOAS, funded by the Ford Foundation and entitled "China's Financial Development and Economic Internationalization". The authors wish to thank Mario Tonveronachi, Leonardo Burlamaqui, Jan Kregel, and other participants in the workshop for their comments and suggestions in the writing up of this paper.

insufficient prudence of individual banks. And, theoretically, this understanding is underpinned by the economics of information asymmetry: insufficient prudence is a symptom of market failure caused by the moral hazard of individual banks. But this theoretical and policy position has faced serious challenges in the international discussion. A contrasting view posits that financial fragility is a systematic phenomenon that cannot be reduced to the excessively risky pursuits of individual banks. This alternative view highlights the centrality of the different structures of the financial sector in the generation and/or the prevention of fragility (Levy Institute, 2012).

Meanwhile the alternative, essentially Keynesian-Schumpeterian-Minskyan view also challenges the mainstream, market-failure approach to dealing with financial fragility. The pursuit of prudence as a means of avoiding market failures – and thereby of achieving allocative efficiency in the form of profit maximization *cum* risk minimization – might have its justification, but such a pursuit cannot be the only moral for the design of the financial structure and the system of regulations and controls. Prudence could come at a cost if it contradicts the functioning of the banking sector for 'capital development', that is, credit creation for the promotion of productive investment. Conversely, a seemingly suboptimal banking sector, with insufficient prudence, might in fact have the advantage of promoting productive efficiency. The cost and benefit of having fragility, and of pursuing prudence, thus both need to be taken into consideration.

The Chinese experience of finance and economic development is a case in point. It is suggested in a previous article published in this journal (Lo *et al*., 2011), that there has always been a trade-off between allocative and productive efficiency in the evolution of Chinese finance. The predominance of state-controlled banks and the strong influences of the state in general have produced both tendencies of serious short-term macroeconomic fluctuations and fast expansion in long-term productive investment. Thus, the evolution of the Chinese system of banking regulations and controls should be analyzed and assessed in relation to these peculiar institutional-structural features of the banking sector. The objective of this article is to carry out an empirical study in light of this.

The rest of the paper is organized in four sections, in addition to this introduction. Section two depicts the salient features of the Chinese system of banking regulations and controls, with a focus on its interaction with the actual development of the banks. Section three analyzes the efficacy of the system in the prevention of financial fragility. Section four seeks to conceptualize and deepen the understanding of the features of the system, by means of relating the Chinese reality to the relevant theoretical literature and the corresponding international discussion over the reform of banking regulations and controls. Section five concludes the paper.

2. Characteristics of banking regulations and controls, Chinese style

The market reforms of the Chinese financial system since the late 1970s have been mainly a process of increasing liberalization, commercialization, and internationalization. Nevertheless, to date it has remained a mixed system with strong state influence. The sector has been dominated by a small number of state-controlled commercial banks, and the state has never been hesitant to exercise its influence over finance both in its short-term and long-term policy decisions (Lo *et al*., 2011).

At the levels of conduct and performance, owing to the close state-bank relationship, the state has effectively served as an implicit guarantor of the banks in taking deposits. And the allocation of bank resources has been, in a significant measure, under state directions. Consequently, in the context of a state orientation that emphasizes long-term economic development, Chinese finance on the whole has done a quite reasonable job in promoting productive investment and thereby the productivity growth of the economy. On the down side, and seen from the perspective of mainstream neoclassical economics, this system is prone to cause two serious problems. First, state influence over the allocation of bank resources tends to distort the market. The fact that state-owned enterprises and large-scale capital-intensive enterprises tend to receive a more than proportionate share of bank loans is symptomatic of misallocation, and therefore of the sacrifice of allocative efficiency.

Second, the close state-bank relationship tends to promote soft-budget behaviour on the part of the banks, resulting in insufficient prudence time and again. The periodic emergence of sizeable non-performing loans is seen as an indication of this problem (Allen *et al*., 2005; 2012).

In the face of these structural-institutional features of the banking sector, the Chinese system of banking regulations and controls has had to confront two complex tasks at the same time. These, namely, are (a) to avoid fragility and promote the stability of the sector; and (b) to direct the allocation of bank resources at promoting productive investment. In other words, the system has had to maintain a delicate balance on two different levels. First, it needs to strike a balance between controlling the risk of individual banks and directing banks to finance the achievement of goals of state strategies for economic development. Second, it needs to strike a balance between controlling short-term fluctuations in bank credits and promoting credit expansion for the purpose of long-term investment.

Because the sources of financial instability are two-fold, from the state and from the banks themselves, the Chinese system of regulations and controls has necessarily been a mix of both purely regulatory and administrative means. From the beginning of the reform era up until the late 1990s, administrative means were the main tools. Every year, the government implemented a credit plan, which imposed a ceiling on the loan volumes of individual banks and therefore on the sum total of bank credit in that year. The practice of the credit plan officially came to an end in 1998, because, along with the process of commercialization of the state banks, there was an increased possibility of the government gradually shifting to rely upon regulatory means to control bank behaviour. The establishment of an independent (from the central bank) regulator, the China Banking Regulatory Commission (CBRC), in 2003 was a watershed in this shift. Nevertheless, the government has continued to retain the power to exercise administrative controls if needed. It has several times injected capital into ‘systemically important’ banks. And it has retained the power to appoint the top executives of the state-controlled banks. Conversely, whilst the banks have been given the autonomy to decide on their loan volumes in normal times, the government has come out to give directives for expanding or cutting back

on bank lending in times of crisis – such as in the turbulent years of 2008-2011.

Since its establishment, the CBRC has striven to safeguard micro prudence including the application of the Basel Accords on the banks. The measures taken have the standard focus on strengthening capital adequacy, liquidity management, control over credit risk, and corporate governance. In practice, because the state-controlled banks are structurally 'too big to fail' and institutionally inclined to soft-budget behaviour, the CBRC has had to be more stringent than is required by the Basel Accords. Together with the normal stipulation on the provision-coverage ratio, for instance, the CBRC has used the provision-loan ratio (i.e. the ratio of total provision to total loans) as a regulatory tool. It typically requires setting the provision-loan ratio at 2.5% or above, the provision-coverage ratio at 150% or above, and the loan-deposit ratio at 75% or below. The loan-deposit ratio, in particular, is used to control both the liquidity risk and the pace of credit expansion of commercial banks. For controlling credit risk, the CBRC has set a capital adequacy ratio of no less than 11.5% for 'systemically important' banks and of no less than 10.5% for the other banks, which officially are said to be both higher than the levels of those comparable requirements in the Basel Accords. In addition, the CBRC requires commercial banks to separate out the functional division that approves loans from the division that actually provides the loans, and to assure that loans are provided for approved usages. The continuous shrinkage of the size of non-performing loans with commercial banks since the establishment of the CRBC, shown in table 1, seems to testify to the success of these measures.

Over and above the concern for micro prudence, from the early years of the reform era the Chinese authorities overseeing financial matters have recognized the importance of avoiding the accumulation and spread of systemic risk. The principle of separating out the banking sector from the capital market has always been upheld. Whilst acknowledging that this separation could hamper the pursuit of profit by the banks (and hence the achievement of allocative efficiency), it is nevertheless the belief of the authorities that avoiding systemic risk is a more important consideration. In practice, the CBRC has enforced the principle of 'lend

Table 1 –*Non-performing loans of China's commercial banks (100m yuan, %)*

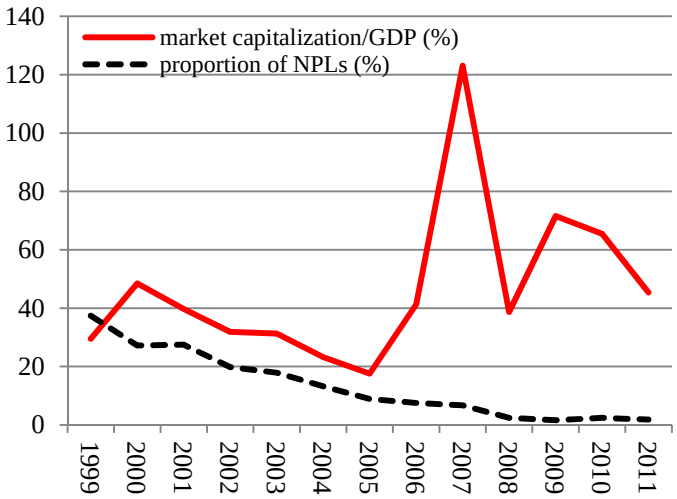
	2003	2004	2005	2006	2007	2008	2009	2010	2011
NPLs	21044	17175	12196	11703	12010	4865	4265	12437	10533
Substandard	3201	3075	2950	2271	1844	2249	1691	5853	4784
Doubtful	11131	8899	4609	4850	4358	2122	2016	4968	4401
Loss	6713	5202	4638	4582	5808	495	558	1617	1348
Rate of NPLs	17.9	13.2	8.9	7.5	6.7	2.4	1.6	2.4	1.8
Substandard	2.7	2.4	2.2	1.5	1.0	1.1	0.6	1.1	0.8
Doubtful	9.4	6.8	3.4	3.1	2.4	1.1	0.8	1.0	0.7
Loss	5.7	4.0	3.4	2.9	3.3	0.2	0.2	0.3	0.2

Sources: China Banking Regulatory Commission (2006-2011), *Annual Report*.

as you pay' in commercial lending, i.e. loans will only be disbursed to the recipients that are trading partners of the borrowers – not to the borrowers themselves – in line with the specified usages of the loan agreements. This is meant to prevent bank loans from flowing into the stock market. For the same reason, commercial banks are not allowed to engage in securities trading and underwriting, investment in non-bank financial institutions and productive enterprises, and trust investment. As a result of these measures, bank performance has been basically unrelated to the stock market. The change in the scale of non-performing loans has been quite different from the movement in stock market capitalization (figure 1).

The stringent system of banking regulations and controls, and the separation of commercial and investment banking, have seemed to serve China well in terms of avoiding an American-type financial crisis. But this has come at a cost. In addition to hampering the pursuit of profit by the banks, the system also tends to push up the cost of financing for

Figure 1 – *Stock market fluctuations and bank non-performing loans*



Sources: *China Statistical Yearbook*, various issues; *CBRC Annual Report*, various issues.

industrial firms, particularly those firms that are not state owned or not listed in the stock market. This gives rise to the perception of Chinese finance as a sector of inefficient, fragile state-controlled banks protected by an underdeveloped system of regulations and controls. Mainstream neoclassical economists, notably Allen *et al*. (2012), in line with the standard theory of financial liberalization (La Porta *et al*., 1998; Levine, 2002; Barth *et al*., 2004), have been outspoken in demanding further, more 'complete' market reforms to get out of this perceived predicament. Specifically, given the indicated cost associated with the current system, there would seem to be scope for arbitrage activities and for the expansion of unregulated informal finance. Mainstream economists have often contended that informal finance has been instrumental to the development of the (allegedly) more efficient but less privileged nonstate-owned firms. And this development is claimed to be instrumental to the improvement in the allocative efficiency of the economy (Allen *et al*., 2005; 2008).

Whether or not this claim is valid, the expansion of informal finance necessarily entails an erosion of the existing system of banking regulations

and controls. Already there is evidence that financial and macroeconomic stability has had to pay a price for it. The bubbles in property values and the volatility in commodity prices since 2006, and particularly the 2007-2008 stock market boom and bust, indicate the role of informal finance in amplifying instability (Allen *et al*., 2012). The cases of the collapse of informal finance in 2011-2012 (especially in the Wenzhou region of Zhejiang province) following the government's monetary tightening are clear evidence of the same problem. In reality, the separation between formal and informal finance has been far from complete. There is evidence suggesting that informal finance has become a significant competitor of formal commercial banks for deposits, and a significant source of funds for informal finance has been from the formal sector. And the collapse of informal finance in 2011-2012 had the effect of pushing up the level of non-performing loans owed to the formal commercial banks.[1]

Strengthening regulations and controls over shadow finance has appeared to be a trend worldwide in recent years. But, because the development of informal finance is a new phenomenon there, such strengthening has yet to take place in China. What the CBRC has been doing is to try as far as possible to separate out formal and informal finance, but this practice might not be very effective. Because of information asymmetry, it is difficult for the banks to verify the informal financial activities of businesses. As the same firm can be involved in both formal and informal financial activities, failures in the latter area can spread to the former. Furthermore, because of the information advantage of informal financial institutions over the banks, there could also be an asymmetry (to the disadvantage of the banks) in shouldering the burdens of failures. Again, this has been especially

[1] One estimate in early 2013 by the official China Finance Research Institute puts the total assets of shadow banking in China at a scale of 17-19 trillion yuan (compared with the approximately 127 trillion yuan of the total assets of the formal banking sector), including 3.4 trillion yuan with 'underground banks' (http://kan.weibo.com/con/3535268863152255?_from=title). In the case of Wenzhou in 2011, some studies indicate that the crisis in the informal finance sector threatened to significantly increase the non-performing loans of the formal commercial banks (http://finance.sina.com.cn/roll/20120327/013411683142.shtml).

evident in Wenzhou, the region that is famous worldwide for its burgeoning private economy.

3. Analyzing the efficacy of the Chinese approach

Given the structural-institutional characteristics of Chinese finance depicted in the preceding section, it is to be expected that all kinds of financial fragility will ultimately show up in the form of an accumulation of non-performing loans held by banks. Fragility might be caused by excessive credit expansion, either due to the soft-budget behaviour of the banks or due to state initiatives for practising counter-cyclical policies or for promoting long-term investment. Fragility could also arise from the illicit flow of funds from the banks to the informal finance sector. In all cases, the quality of bank assets will indicate the healthiness, or otherwise, of all these initiatives and activities. That is why the system of regulations and controls has been designed to focus on safeguarding the quality of bank assets.

In this section, we seek to analyze the efficacy of the Chinese system of banking regulations and controls in terms of controlling the accumulation of non-performing loans. For this purpose, we use the data supplied by the BANKSCOPE database. This contains the relevant data of 46 Chinese banks of all ownership types and different sizes – including the 'Big Four' state-controlled banks and 12 shareholding banks – for the years 2004-2011. There are in total 300 observations. Our regression model takes the following form:

$$NPL_t = \beta_1 ROE_{t-1} + \beta_2 \left(\frac{NetIncome}{Risk\ Assets}\right)_{t-1} + \beta_3 Size_{t-1} + \beta_4 LoanGrowth_{t-1} + \\ + \beta_5 Regulation_{t-1} + \beta_6 Regulation_{t-1} * State_{t-1} + u_i + \varepsilon_{it} \quad (1)$$

where *REO* (returns per share) indicates the constraint imposed by shareholders on the bank; *Size* (the natural logarithm of bank assets) indicates the ability of banks to withstand risk; *LoanGrowth* (the growth of bank loans) indicates the general economic conditions for lending; *Regulation* refers to the four standard regulatory tools of provision

coverage ratio (*RIGL* = reserves for impaired loans / gross loans), the ratio of reserves for impaired loans to total impaired loans (*RILL*), capital adequacy ratio (*TCR* = total regulatory capital ratio), and core-capital adequacy ratio (*Tier-1* = tier-one regulatory capital ratio). In addition, the cross term *Regulation*State* (where *State* is a dummy variable for state ownership) is meant to reflect the difference between state and non-state banks in their capacity to withstand risk, in consideration of the greater scope for state banks to pass on risk to the government.

The regression results are presented in table 2. It can be seen that the variables *REO* (or the similar indicator of the ratio of net incomes to risk assets), *Size* and *LoanGrowth* are all negatively correlated with non-performing loans. This is reasonable, given that the variables in question reflect the financial performance of the banks as well as the broader economic conditions. The years 2002-2008 were a boom period, with very fast expansion in investment and economic growth. Bank profitability benefited from the economic boom, and their balance sheets largely improved as a result.

Turning to the effects of regulations, the regression results are rather erratic. It can be seen that, for state banks, only *RIGL* (ratio of reserves for impaired loans to gross loans) has the expected effect of reducing non-performing loans, whereas all the other variables have not. For non-state banks, the effects of applying the regulatory tools are mixed: the coefficient of *RIGL* becomes statistically significantly positive, that of *RILL* (ratio of reserves for impaired loans to total impaired loans) becomes significantly negative, that of *TCR* (total regulatory capital ratio) is significantly positive, while that of *Tier-1* (tier-one regulatory capital ratio) remains insignificant. On the whole, for both state and non-state banks, these standard regulatory tools aimed at safeguarding micro prudence do not appear to have done their job in terms of controlling the accumulation of non-performing loans.

But, in reality, the scale of non-performing loans did register rapid decreases during this period, as indicated in table 1 and figure 1 above. The good economic conditions at the time may explain some of the decreases, whereas the micro-focused regulations do not seem to have played a significant role. How about the administrative means of banking

regulations and controls, the other part of the Chinese system? Besides measures such as enforcing the separation of banking from the securities market, and shaping the structure of the corporate governance of banks, administrative means also take the form of direct government orders and appointing the top executives of the banks. Unfortunately, unlike the standard regulatory tools, these administrative means are difficult to quantify or to even observe. What we can do is verify their efficacy through the indirect method of analyzing the time effects of applying the regulatory tools.

As a matter of fact, for various reasons associated with the gradual commercialization and capitalization of state-controlled banks, the reliance on regulatory tools became fully functional only after 2007 (Lo *et al*., 2007). Against this backdrop, it will be useful to find out whether the efficacy of the regulatory tools has significantly improved after 2007. We use a time-dummy *Year*, and set *Year* = 0 before 2007 and *Year* = 1 after 2007. The cross terms, of *Year* multiplied by the variables of regulatory tools, appear to capture the effects of applying these regulatory tools. The regression results are provided in table 3. It can be seen that, by introducing the time-dummy, the effects of the application of the provision coverage ratio (*RIGL*) and capital adequacy ratio (*TCR*) both largely increase: the coefficients of the variables both turn from insignificant to significantly negative. The market reforms, and the strengthening self-discipline of commercial banks along the way, have gradually increased the scope of application of the regulatory tools. Conversely, it can be inferred that non-regulatory tools, i.e. administrative controls, have also significantly contributed to controlling the accumulation of non-performing loans, particularly before 2007.

The analyses above appear to suggest that, hitherto, the mix of regulatory tools and administrative controls has been basically effective in safeguarding financial stability in China. Market reforms have led to a gradual shift to increasing the importance of regulatory tools, but administrative controls have remained a significant part of the safeguard arrangements.

Table 2 – *Controlling for non-performing loans in state banks and non-state banks*

Variables	(1) NPL_t	(2) NPL_t	(3) NPL_t	(4) NPL_t
ROE_{t-1}	-0.008	0.006	-0.009	-0.009
	(0.005)	(0.004)	(0.006)	(0.006)
NetIncome/RiskAsset	-0.211	-0.337***	-0.438**	-0.344**
	(0.190)	(0.117)	(0.159)	(0.148)
$LoanGrowth_{t-1}$	-0.011***	-0.016***	-0.011***	-0.010***
	(0.003)	(0.003)	(0.002)	(0.003)
$Size_{t-1}$	-1.613***	-0.849*	-1.327***	-1.352***
	(0.159)	(0.478)	(0.272)	(0.271)
$RIGL_{t-1}$	-0.728***			
	(0.155)			
$RIGL*State_{t-1}$	1.101***			
	(0.193)			
$RILL_{t-1}$		-0.172		
		(0.253)		
$RILL*State_{t-1}$		-0.459**		
		(0.207)		
TCR_{t-1}			0.017	
			(0.043)	
$TCR*State_{t-1}$			0.112**	
			(0.044)	
$Tier1_{t-1}$				-0.004
				(0.049)
$Tier1*State_{t-1}$				0.159
				(0.097)
$\beta_5 + \beta_6 = 0$	0.004	0.012	0.021	0.129
R^2	0.876	0.859	0.827	0.826
Number of banks	20	20	20	20

Note: *RIGL* = reserves for impaired loans / gross loans; *TCR*= total regulatory capital ratio; *Tier1*= tier-1 regulatory capital ratio; *RILL* = reserves for impaired loans / impaired loans. *State* is a dummy variable, where *State* = 1 if the bank is state controlled, or else *State* = 0. All regressions were estimated using a fixed effects model. Robust standard errors are reported in parentheses. $\beta_5 + \beta_6 = 0$ is a *Chi*-square test of the null hypothesis that the sum of the coefficients of *Regulation* and the cross item *Regulation*State* is zero. The superscripts *, ** and *** indicate significance at the 10 percent, 5 percent and 1 percent levels, respectively.

4. China through the lens of the international discussion over reforms

Mainstream economists have often depicted Chinese finance as an inefficient, fragile banking sector protected by an underdeveloped system of regulations and controls. This perception is underpinned by the relevant theories of neoclassical economics.

The basic function of banking, in neoclassical economics, is to efficiently manage the transformation of liquid deposits (bank liabilities) into illiquid loans (bank assets). This way, the time-preference of depositors and the need for finance of business will both be satisfied (Diamond and Dybvig, 1983), and the efficient allocation of financial resources will be achieved (Levine, 2002). In respect to this, what are the reasons for the existence of a system of banking regulations and controls? The theory of asymmetric information posits that the single most important reason is to avoid market failures caused by possible moral-hazard behaviour of the banks. Safeguarding prudence is thus at the heart of regulation and control. Prudence entails providing protection for depositors, ensuring that banks are not fragile, and avoiding the spread of failures among banks. Once prudence is ensured, the banks can then be left to work in a way that is as close as possible to the unfettered capital market, so that allocative efficiency can be achieved.

Seen in this light, Chinese finance has a long way to come before becoming truly efficient. To date, Chinese banks – state-controlled banks in particular – have displayed marked insufficient prudence, evident in the periodic eruption of soft-budget behaviour. And the system of regulations and controls has time and again had to sacrifice allocative efficiency for the sake of avoiding systemic collapse, evident in the continuous reliance on administrative means to get the banks under control. But, is micro prudence necessarily the paramount criterion for assessing Chinese finance?

The view is broadened once we take note of alternative theories of efficiency, and of financial instability, provided by the Keynesian-Schumpeterian-Minskyan tradition of economics. From the perspective of this tradition, allocative efficiency is not necessarily more important than productive efficiency in economic development, and financial instability is systemic and endemic to the market economy.

Table 3 – *The time effects of regulations focusing on micro prudence*

Variables	(1) NPL_t	(2) NPL_t	(3) NPL_t	(4) NPL_t
ROE_{t-1}	-0.0165**	-0.002	-0.0126**	-0.009
	(0.008)	(0.006)	(0.005)	(0.006)
NetIncome/RiskAsset	-0.033	-0.362***	-0.134	-0.344**
	(0.147)	(0.122)	(0.131)	(0.148)
$LoanGrowth_{t-1}$	-0.005	-0.017***	-0.008***	-0.010***
	(0.004)	(0.003)	(0.002)	(0.003)
$Size_{t-1}$	-0.690**	-0.458	-0.848***	-1.352***
	(0.295)	(0.572)	(0.226)	(0.271)
$RIGL_{t-1}$	0.283			
	(0.274)			
$RIGL_{t-1}$*Year	-0.266***			
	(0.067)			
$RILL_{t-1}$		-0.114		
		(0.349)		
$RILL_{t-1}$*Year		-0.256		
		(0.235)		
TCR_{t-1}			0.048	
			(0.033)	
TCR_{t-1}*Year			-0.0450***	
			(0.012)	
$Tier1_{t-1}$				-0.004
				(0.049)
$Tier1_{t-1}$*Year				0.159
				(0.097)
Number of banks	20	20	20	20
R^2	0.897	0.842	0.868	0.826

Note: *RIGL* = reserves for impaired loans / gross loans; *TCR* = total regulatory capital ratio; *Tier1*= tier-1 regulatory capital ratio; *RILL* = reserves for impaired loans / impaired loans. *Year* is a dummy variable, where *Year* = 1 after 2007 or else *Year* = 0. All regressions were estimated using a fixed effects model. Robust standard errors are reported in parentheses. The superscripts *, ** and *** indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

The increasing fragility of finance in different stages – hedge, speculative, and Ponzi – is seen as endemic to the interaction between credit expansion, productive investment, and business profitability (Minsky, 1993). And the reason for the existence of banking regulations and controls is to avoid systemic fragility, by means of safeguarding the appropriate financial structures. Specifically, Kregel (2010) contends that at the heart of the current crises are the dominant financial structures nowadays in the world – namely, the inseparability of the credit market and the securities market. The fusion of the two markets encourages banks to reduce risks and expand credits, thus helping to create asset bubbles and, ultimately, pushing the financial system into a Ponzi state. To effectively cope with the crises would thus require the restructuring of the financial system as a whole.

The structure of Chinese finance has centred on a close state-bank relationship, and the forceful separation of banking from the securities markets. The relationship is prone to boost credit expansion, both because of the soft-budget behaviour of the banks and the policy objectives of the state. As a result, it requires the indicated separation to guide the flow of bank resources mainly to productive investment, rather than to speculative activities. It also requires the exercise of administrative controls, at times when curbing excessive credit expansion becomes necessary. All these are a far cry from the principle of micro prudence and the logic of allocative efficiency. Nevertheless, on balance, Chinese finance appears to have hitherto done a reasonable job both in terms of promoting productive investment and curbing financial instability. Is there room for substantial improvement? Is it still necessary to pursue rapid and fundamental market reforms?

After 2007, since the outbreak of financial crises in the advanced economies, the international discussion on the reform of banking regulations and controls has exhibited some important developments. It has, to some extent, recognized the limitations of the micro-prudential approach. The notion of systemic risks, in addition to individual risks, has been widely accepted. Many mainstream economists seemed to agree that, in addition to individual fragility, it is necessary to pay attention to the fragility of financial institutions, products, or markets that are of

'systemic importance'. It is also necessary to pay attention to the notion of macro prudence in the face of systemic shocks, where exclusively focusing on micro prudence may turn out to be counter-productive – as the banks might all come out to cut back on assets, rather than raising new capital, in order to satisfy the requirements of micro prudence (Hanson *et al*., 2011; Kashyap *et al*., 2010).

But this revision of opinion in the mainstream establishments appears to be insufficient for guiding further reform of Chinese finance. For one thing, the newly developed views tend to see systemic risk, or systemic shocks, as exogenously determined. This overlooks the Minskyan insight that fragility ultimately comes from particular structures of finance. The efficacy of the macro-prudential approach in avoiding financial crisis thus remains in question. Meanwhile, the newly developed views also tend to hold a market-failure understanding of the nature of financial fragility. The criterion for assessing the efficacy of regulations and controls is the achievement of allocative efficiency. This overlooks the necessary function of finance in promoting productive efficiency. In order to better inform real-world practices, further developments in the international discussion need to take better account of the insights offered by the Keynesian-Schumpeterian-Minskyan tradition.

5. Conclusions

How should China proceed with respect to reforming its system of banking regulations and controls? Different answers can arise from different theoretical perspectives, and ultimately from different assessments of reality – in terms of the system's efficiency attributes and its ability to maintain financial and macroeconomic stability.

The neoclassical approach focuses its attention on the prudence of individual banks. In its objective of achieving allocative efficiency, it seeks to prevent market failures caused by the operations of the banks. In this light, it is contended that China should further its market reforms in the direction of fostering the profit maximization *cum* risk minimization pursuit of individual banks. Meanwhile, the Keynesian-Schumpeterian-

Minskyan approach focuses its attention on coping with systemic fragility. And systemic fragility is seen as endemic to the interaction between credit expansion and contraction, productive investment, and business profitability. In this light, even if it is indeed allocatively inefficient, Chinese finance can still have its advantages in terms of promoting productive efficiency. Fundamentally strengthening market reforms may or may not be desirable for China, depending on the trade-off between the two types of efficiency. Insofar as the strengthening of regulations and controls is necessary for the purpose of avoiding instability, they should be targeted at the structure of the financial sector as a whole rather than exclusively focusing on the prudence of individual banks.

In this paper, we find that the neoclassical approach does have applicable elements that reveal the allocative inefficiency and inherent instability of Chinese finance. Nevertheless, because of its narrow focus, the policy conclusion drawn from the neoclassical approach is partial and can be misleading. We argue that, in view of its efficiency attributes and effectiveness in curbing instability, Chinese finance should not be subject to the uni-directional pursuit of market reform. A more appropriate policy conclusion is that further reforms should be informed by a clear understanding of both the advantages and disadvantages of the Chinese system of banking regulations and controls.

REFERENCES

ALLEN F., QIAN J. and QIAN M. (2005), "Law, Finance, and Economic Growth in China", *Journal of Financial Economics*, n. 77, pp. 57-116.

——— (2008), "China's Financial System: Past, Present, and Future", in Brandt L. and Rawski T. (eds.), *China's Economic Transition: Origins, Mechanism, and Consequences*, Cambridge: Cambridge University Press.

ALLEN F., QIAN J., ZHANG C. and ZHAO M.(2012), "China's Financial System: Opportunities and Challenges", in Fan J. and Morck R. (eds.), *Capitalizing China*, Chicago: University of Chicago Press.

BARTH J.R., CAPIRO G.J. and LEVINE R. (2004), "Bank Regulation and Supervision: What Works Best?", *Journal of Financial Intermediation*, n. 13, pp. 205-248.

CHINA BANKING REGULATORY COMMISSION (2006-2011), *Annual Report*, Beijing: CBRC General Office.

DIAMOND D. and DYBVIG P. (1983), "Bank Runs, Deposit Insurance, and Liquidity", *Journal of Political Economy*, n. 91, pp. 401-419.

HANSON S.G., KASHYAP A.K. and STEIN J.C. (2011), "A Macroprudential Approach to Financial Regulation", *Journal of Economic Perspectives*, n. 25, pp. 3-28.

KASHYAP A.K., STEIN J.C. and HANSON S.G. (2010), "An Analysis of the Impact of 'Substantially Heightened' Capital Requirements on Large Financial Institutions", Booth School of Business, University of Chicago, *mimeo*.

KREGEL J. (2010), "Is This the Minsky Moment for Reform of Financial Regulation?", The Levy Economics Institute, *mimeo*.

LA PORTA R., LOPEZ, DE SLIANES F., and SHLEIFER A. (1998), "Law and Finance", *Journal of Political Economy*, n. 106, pp. 1113-1155.

LEVINE R. (2002), "Bank-Based or Market-Based Financial Systems: Which Is Better?", *Journal of Financial Intermediation*, n. 11, pp. 1-30.

LEVY ECONOMICS INSTITUTE (2012), *Using Minsky to Simplify Financial Regulation*, New York: Ford Foundation.

LO D., LI G. and JIANG Y.(2011), "Financial Governance and Economic Development: Making Sense of the Chinese Experience", *PSL Quarterly Review*, n. 64, pp. 267-286.

MINSKY H.P. (1993), "The Financial Instability Hypothesis", in Arestis P. and Sawyer M. (eds.), *Handbook of Radical Political Economy*, Aldershot: Edward Elgar.

WORLD BANK (2012), *China 2030: Building a Modern, Harmonious, and Creative High-income Society*, Washington (D.C.): The World Bank.