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CRISIS CARTELS

Contribution from Mr. Andrew Sheng

-- Session III --

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CRISIS CARTELS IN THE FINANCIAL SECTOR: AN OVERVIEW

-- Contribution from Mr. Andrew Sheng¹ --

1. Introduction

1. The purpose of this paper is to give an overview of the state of thinking on crisis cartels in the financial services sector, illustrated with reference to a number of country experiences, including China. The term “crisis cartels” is relatively new to financial sector supervisors, as there is a fundamental dilemma and tradeoff between concentration/stability and efficiency. Indeed, the network effects of financial markets tend towards concentration, which bank regulators have tolerated on the assumption that bigger meant more stable institutions and by extension, stable markets. This illusion was shattered during the global financial crisis of 2007/2009. There is now awareness of a different set of problems arising from concentration and power, that of Too Big To Fail.

2. This paper is divided as follows. Section II does a quick review of the concept of crisis cartels, whether they are justified and the relevance of this concept for the financial sector. Section III examines the objectives of financial sector and financial supervision, including a discussion on the tradeoff between stability and efficiency, in order to consider whether crisis cartels could be justified. Section IV reviews the experience in bank/financial concentration in selected financial systems. Section V makes some tentative conclusions and suggestions for further research and policy debates.

2. Crisis cartels – Definition and issues

3. A Crisis Cartel is defined as “a cartel that was formed during a severe sectoral, national, or global downturn without state permission or encouragement... or.... situations where a government has permitted, in other cases fostered, the formation of a cartel among firms during several sectoral, national or global economic downturns²”.

4. Evenett, Levenstein and Suslow classify international cartels into three types. Type 1 are the so called “hard core” cartels made up of private producers from at least two countries who cooperate to control prices or allocate shares in world markets. Type 2 are private export cartels where independent, non-state-related producers from one country take steps to fix prices or engage in market allocation in export markets, but not in their domestic market. Type 3 are state-run, export cartels.

5. Based fundamentally on the neoclassical view that cartels fix prices, reduce production and worsens allocative efficiency, most competition authorities take a dim view of cartelization. As Evenett in his survey of the issues has pointed out, development economists such as Ha Jun Chang (1999) contend that concentration of firms in emerging markets may achieve economies of scale benefits that may

¹ Note prepared by Andrew Sheng, Cai Minnan and Natalie Zhao (China Banking Regulatory Commission). The views expressed here do not represent the views of the CBRC and are the personal views of the authors.

² Evenett, S. (2011) page 3.

outweigh the social cost of monopoly. Consequently, emerging markets in East Asia have tended to allow concentration of industries prior to introducing competition laws against anti-trust. For example, Hong Kong is reputed to be the freest market economy by most measures, and yet the city economy has yet to adopt a competition law.

6. Although Evenett contends that no East Asian policy maker has made statements to support Ha's view that East Asian growth model tolerate monopolistic firms at the expense of optimal pricing, most anecdotal evidence is that Ha's judgment is basically correct.

7. Levenstein and Suslow (2006) find that many cartels do survive, with the average duration around five years, but many break up very quickly (under a year), whereas some last for decades. There is limited evidence that cartels are able to increase prices and profits, to varying degrees. Cartels can also affect other non-price variables, such as advertising, innovation, investment, barriers to entry and industry concentration.

8. Cartels may form during recessionary conditions whereby demand is lower than capacity, so that key players face insolvency and market exit. At the same time, since governments are concerned about rising employment, they may tolerate cartel activities and have laxity in their antitrust enforcement. Levenstein and Suslow (2006) suggest that antitrust laxity during recessions may reduce producers' incentives to expand sales and hire – the very measures needed to get economy back on track. Because cartels are freed from competitive constraints and raise their prices, they reduce output and cut employment and costs, thus deepening economic contraction. Suspending antitrust law was exactly wrong during the Depression because it limited producers' incentives to expand output and increase employment.

9. Cartels, however, collapse due to market forces beyond their control. This may occur due to cartel members cheating on sales or production with lack of effective monitoring³. Cartels also face the challenges of new entrants who are not willing to play by cartel rules or the failure to agree to adjust the collusive agreement in response to changing economic conditions. Price wars erupt because members cannot agree or arrive at mutually compatible bargaining positions. Sophisticated cartel organizations are those that are able to develop multipronged strategies to monitor one another to deter cheating and adapt a variety of interventions to increase barriers to entry.

10. A key question is whether crisis cartels can be justified? Evenett's comprehensive survey of the literature concludes: "the empirical assessments of crisis cartels are incomplete. Little is known, for example, of the magnitude of the harm done to buyers from crisis cartels. Still, crisis cartels tended to reduce output and raise prices, although this was contested in some cases. In the light of these findings it would be difficult to argue that crisis cartels had no effect".

11. On the balance of evidence so far, Evenett argues that: "there is no basis to revise the general presumption in existing international norms that so-called hard core cartels should be discouraged. Nor does the recent global economic downturn provide a reason to reverse the two decade-long trend towards stronger enforcement against hard core cartels⁴."

12. This paper argues that even though financial markets are the closest to the ideal of efficient markets, there is a trade-off between development as a learning experience for institutional growth and competitive efficiency. Historically, mercantilist economies have used protectionist policies or allowed "leading enterprises" (with monopolistic tendencies) to pioneer growth so that they can reach economies of scale in international competition. In an era of globalization, lowering tariff barriers and WTO agreements

³ Levenstein and Suslow (2006).

⁴ Evenett, S. (2011), page 31.

for free trade, emerging market enterprises and financial institutions are finding greater competition from foreign players. There is general consensus that greater competition has been beneficial to stimulate innovation and efficiency. However, in the financial sector, total liberalization of foreign entry into national markets is still incomplete, since there is no WTO agreement in the area of financial services. In the light of the recent contagion from the global financial crisis, the mood is greater caution in opening up the capital account and admitting foreign financial institutions in the fear of not being able to manage systemic and other financial risks.

3. Financial sector objectives and role of financial regulation

13. The financial system provides seven key functions, including⁵:

- Efficient Resource Allocation between savers and users of funds;
- Price Discovery and liquidity provision mechanism;
- Enabling users to improve their risk management;
- Enforcing governance and credit discipline through transparency and contractual obligations
- Providing an efficient payments mechanism for the economy
- Protection of property rights of users of the stakeholders because of the fiduciary function of intermediation
- Distributive justice and fairness to all stakeholders.

14. The last item needs some elaboration, as financial systems do not endogenously generate distributive justice. On the contrary, the inherent network concentration effects actually create risks of monopolistic financial institutions undertaking predatory behaviour at the expense of the weaker retail customers. One of the objectives of financial regulation and supervision is to ensure that financial institutions do not engage in such action.

15. The goal of financial regulation is to influence the behaviour of financial market participants so that the policy objectives are achieved. Although different countries may have different policy goals, the common goals are efficiency of the financial system, its robustness in terms of capital adequacy, liquidity and resilience to shocks and adequate consumer protection.

16. Conventionally, financial regulation and supervision comprises four types of regulatory policy – prudential regulation; conduct regulation; competition policy and serious fraud or criminal regulation. Regulatory approaches in the past have been institution-based, with regulatory agencies overseeing different classes of financial intermediation, such as banking, securities, insurance and long-term fund management. With the rise of universal banking, in which financial conglomerates provide the whole range of financial services either through financial holding companies of functional subsidiaries or through universal banks, the regulatory approach has shifted towards super-regulators or the so-called Twin Peaks approach, with one regulator looking after prudential supervision and another conduct regulation. The former oversees sound and well-capitalized financial operations, centred mostly on banks; whereas conduct regulation comprises conventionally securities regulation, covering transparency and disclosure, insider trading, market manipulation and consumer protection issues.

⁵ See, for example, Stevens, G. (2010). *The Role of Finance*. The Shann Memorial Lecture, University of Western Australia, pp. 3.

17. The locus of competition policy can either reside with the functional financial regulator or sometimes hived off to a separate competition authority.

18. The 2007/2009 global financial crises have sparked off a fundamental re-examination of financial regulation and the perimeter of financial policy. There is general awareness that narrow institution-based micro-prudential regulation is inadequate and should be supplemented with macro-prudential supervision. At the same time, greater attention should be paid to systemic risk and systemically important financial institutions (SIFIs) and the Too Big To Fail (TBTF) problem, whereby SIFIs become so large and so powerful that the state is forced to underwrite these institutions in order to prevent systemic failure. Attention should also be paid to “shadow banking”, in order to ensure that “if the institution quacks like a duck, it should be regulated like a duck”.

3.1 *The financial crisis inquiry commission report*

19. The current global financial crisis has elicited several excellent studies and reviews at the regulatory and policy level⁶. The latest official document is the Financial Crisis Inquiry Commission (FCIC) Report published on 27 January 2011⁷, a 633 page document with more appendices to be published soon. The Report is relevant to this paper on crisis cartels because of the apparent omission of consideration of the role of excessive competition as one possible cause of the crisis. The majority view of the Report listed the usual suspects: that the crisis was avoidable, due to human faults; widespread failures in financial regulation and supervision; failures of corporate governance and risk management at SIFIs; excessive borrowing, risky investments, lack of transparency put system at risk; government was ill-prepared to manage crisis; systemic breakdown in accountability and ethics; trigger was bad mortgage-lending standards and securitization; and contributors were OTC derivatives and rating agency failures.

20. The three dissenting Republican members of the FCIC⁸ considered the Report as too broad and rejected as too simplistic a view that too little regulation caused the crisis. On the contrary, they took the view that too much regulation may have been a cause. They pointed out that the report ignored the global nature of the current financial crisis and argued that the causes should look beyond the housing to other bubbles. They focused on 10 key causes: credit bubble, housing bubble, non-traditional mortgages, credit ratings and securitization, financial institutions concentrated correlated risks, leverage and liquidity risk, contagion risks, common shock, financial shock and panic and financial crisis causes economic crisis.

21. Another lone dissenter, Peter Wallison of the American Enterprise Institute⁹, identified US government housing policies were the major contributor to the financial crisis. He alone identified that competition between the Government-sponsored enterprises (GSEs) and the Federal Housing Agency reduced underwriting standards that created the fragility of the trigger for the crisis. The trigger was failure of the 55 million non-traditional mortgages worth US\$4.5 trillion that caused substantial losses to the system as a whole.

22. In our view, the complexity of the current financial crisis and its causes will give rise to more debates in the years to come. The majority view of the Report was correct in identifying that one major cause of the crisis was behavioural, due to greed and human faults, particularly regulatory and policy responses. However, the dissenters were also correct in identifying that the majority view was partial, by

⁶ See Brunnermeier and others (2009); Commission of Experts (2009); De Larosiere (2009); Group of Thirty (2009); Turner (2009).

⁷ Available at www.fcic.gov.

⁸ Keith Hennessey, Douglas Holtz-Eakin and Bill Thomas, pg. 413-438.

⁹ FCIC Report (2011) pg. 441-538.

not putting the crisis in its global context. A system-wide crisis needs a system-wide view that is not only inch-deep and mile wide, but also mile-deep and inch-wide.

23. For example, one of the glaring omissions of the Report was the lack of consideration of the role that competition and concentration in the financial sector played in the crisis, even though the Report identified earlier that *“By 2005, the 10 largest U.S. commercial banks held 55% of the industry’s assets, more than double the level held in 1990. On the eve of the crisis in 2006, financial sector profits constituted 27% of all corporate profits in the United States, up from 15% in 1980. Understanding this transformation has been critical to the Commission’s analysis.”*¹⁰

24. Indeed, one omission of the Report was not to point out that mainstream economic theory failed to provide a holistic and systemic-wide view of the financial system and its vulnerability to crisis, instead inculcating policy-makers and regulators to focus on partial analysis and silo-based views that inevitably missed the big picture and the relevant details¹¹. The economics profession is finally beginning to address its own deficiencies and also its own ethics in recent conferences¹².

25. The major failures of the theory and practice of financial regulation in the crises economies were essentially four: failure to understand that the industry had morphed into the larger and under-regulated shadow banking industry; failure to appreciate the systemic risks of contagion and moral hazards; failure to appreciate that the financial sector had become larger than the real sector, too powerful to fail and almost too power to change; and finally failure to take courageous stands against the build up of risks.

26. The second omission was to discuss whether regulatory capture was one reason why the policy makers and financial regulators failed to act forcefully to stop or avert the crisis. Although the financial community denies this vehemently, we cannot ignore the perception, articulated by Johnson and Kwak¹³ and others, that economic capture by the financial community played some part in the current global crisis¹⁴.

27. If financial markets are inherently fragile and pro-cyclical, how much regulation is necessary to lessen the costs of financial crisis? The mainstream argument is that regulation and supervision should now be counter-cyclical, removing the pro-cyclical bias in current accounting and regulatory standards and “increasing sand in the wheels” when the risks increase.

28. From a cost-benefit point of view, it may be useful to consider financial regulation is seen as an insurance policy, in which, annual costs of regulation, opportunity costs on efficiency, and protection should on a discounted cash flow basis be less than the one-time event risk costs of massive financial crisis. Deregulation ignored the risk that it exacerbates the scale of the event risk of massive systemic failure. Over-regulation may increase costs of obstructing financial innovation and the unintended consequences of concentrating risks further, as moral hazard risks increase.

¹⁰ FCIC Report (2011), pg. xvii.

¹¹ See work of Posner (2008) etc.

¹² Note agenda of American Economic Association Annual Conference agendas of 2008-2010.

¹³ Simon Johnson and James Kwak, “13 Bankers: The Wall Street Takeover and the Next Financial Meltdown”, Pantheon Books, New York, 2010.

¹⁴ Sheng, A. (2010) Are Current Global Reforms Sufficient for EME Financial Stability? High Level Meeting on Better Supervision and Better Banking in a Post-crisis Era, Institute of Global Economics/IMF, Seoul, November 2010.

3.2 *Finance and financial crisis: an alternative network analysis*

29. In other words, it is important to think out of the box in examining how excessive competition and concentration may create crisis and the role of human behaviour and incentives play in financial systems and their regulation. Recognizing that finance is part of the whole economic and social system would highlight the fact that crisis is a systemic issue with many roots. Recognizing that it is human interaction with each other through individuals and institutions that create unpredictable outcomes should have moved us out of static and linear neo-classical analysis into more complex dynamic adaptive behavioural science with Knightian uncertainty. By taking very partial analysis based on vested interests of bureaucracies legally and artificially broken down into silos, when financial markets are not just national but global and universal in functions, was a disaster waiting to happen.

30. As Kindleberger, Minsky and others have pointed out, crises, panics and manias are hardwired into financial systems. Financial systems are inherently fragile and pro-cyclical due to the herding behaviour, information asymmetry and highly complex, adaptive incentives, some of which is predatory in nature.

31. Hence, Goodhart's insight that financial regulation policy is to change financial market participant behaviour for public policy objectives is crucial to understanding that the financial system is an *interactive game* between market regulates and regulators, in which both adapt to each other's action and non-action. The complex interaction between the two could either be a negative feedback mechanism (whereby shocks settle back to equilibrium) or a positive feedback mechanism in which procyclical behaviour becomes larger and larger until the system crashes (the Soros thesis).

32. Given the fact that financial regulators are only human, with limited resources and limited information and powers limited by law, it is only understandable that political and market capture forces can actually limit their effectiveness and ability to change bad behaviour. Harvard Professor Malcolm Sparrow's dictum on the regulatory craft to "Pick Important Problems, Fix Them and Tell Everyone", is an experience-based, pragmatic advice not to treat all problems as important and fine-tune, but to prioritize and focus scarce resources (including political capital) on the most relevant issues.

33. This paper therefore takes a pragmatic approach in considering the Cartel Competition issue, particularly with respect to trade-offs between the Efficiency and Stability. Note that the objectives of public policy are very different depending on the stage of development of the different countries in question, and that the outcomes of different policies and different national conditions do not add up to an "inevitable" global stability. Indeed, it is argued that "one-size fit all" policies and solutions bring their own unintended consequences of fragility and instability.

34. In other words, at the global level, we can have global "principles of good public policy objectives", but at the national level, with different levels of development and financial sophistication and local conditions, priorities and implementation of these "universal principles" can be very different. It is the diversity of policies and conditions that create conditions of systemic stability.

35. Using this perspective, it can be seen that what is seen as "efficient" from a mature, developed economy, may be coloured in a developing country perspective, because there is a development versus "pure efficiency" trade-off, since most developing economies prefer to nurture domestic institutions to global scale in order to compete effectively for nationalistic, employment or even knowledge-seeking objectives. This national versus global interest conflict is also prevalent in global trade and regulatory negotiations, with national interest more often than not placed before global interests.

36. There are lots of unknown unknowns (Knightian uncertainty) in calculating the size of the crisis loss. Hence, the policy maker's real dilemma is to assess whether the rent is worthwhile price to pay. What could be a higher price is the loss to society from the lack of innovation. However, given the rapid spread of technology, most domestic economies could adopt foreign technology quite quickly.

37. The approach taken in this paper therefore is to view the financial system as part of the ecology of human institutions, in which finance is an interactive derivative of the real sector. The approach uses network theory as a framework to identify the systemic implications, which starts from the premise that financial systems are interactive, adaptive games between market participants, including financial regulators.

38. In a seminal work, *The Rise of the Network Society*, Manuel Castells characterizes society in the information age as a set of global “networks of capital, management, and information, whose access to technological know-how is at the roots of productivity and competitiveness” (Castells 1996: 471). The widespread use of communication and computer technology in the last 30 years gave rise to increasing awareness that networks play a major role in the growth of financial markets. For example, Metcalfe’s law was a widely believed hypothesis that the value of networks was proportional to the square of the number of connected users of the system (Shapiro and Varian 1999)¹⁵. The “law” gave competitors in the financial system a profit-and growth-driven rationale to integrate hitherto segmented markets and products, such as banking, insurance, fund management, and capital markets. This trend accelerated in the 1990s, as the philosophy of free markets imbued financial deregulation to permit previously legally segregated banks, insurance companies, securities houses, and funds to merge or form holding companies in a drive to offer one-stop financial services to the consumer and investor.

39. By the time of the 1997-98 Asian financial crisis, there was increasing awareness of the high degree of contagion among not just banks, but also whole financial systems and the complex interlinkages at the trade and financial levels (Sheng 2009a).

40. The collapse of Lehman Brothers on September 15, 2008, signified that the nature of modern financial crisis is unprecedented in its complexity, depth, speed of contagion and transmission, and scale of loss. Recent papers have been written on the network nature of the crisis (see Sheng 2005, 2009c; Haldane 2009).

3.3 *Characteristics of networks*

41. Firstly, a network is a set of interconnected nodes that have architecture. In particular, network architecture is essentially a tradeoff between efficiency and robustness or stability. There are three basic network topologies: the star or centralized network, the decentralized network, and the distributed network, with the star system being most efficient, as there is only one hub, but the most vulnerable in the event that the central hub fails. The widely distributed network, such as the Internet, is much more resilient to viruses and hacker attacks because of multiple hubs, where links can be shut down, bypassed, and repaired without damaging the whole system, even if a collection of important hubs is destroyed.

42. The transaction costs are lowered in the star network because linkage is through one central hub, with the hub enforcing standards and protecting property rights for links. Despite its efficiency, the star topology is fragile in the event that the single hubs for links or users actually results in different types of architecture as well as different benefits and costs to users.

¹⁵ Scale free means that connectivity of nodes is not random, but exhibits power law characteristics. The term was coined by Barabasi (2003).

43. Secondly, nodes do not connect with each other at random.

44. Thirdly, hubs and clusters are efficient, because of shortest route between two distant nodes may be through a hub.

45. Fourthly, preferential attachment between links and hubs and network externalities taken together explain why a “winner take all” situation is common to networks. In other words, networks demonstrate power law behaviour, in which a few hubs have much more links than most hubs. This is the “concentration effect” in which very rapidly, a few key hubs (in financial market terms, clearing centres or large complex systemically important financial institutions (SIFIs).

46. Fifthly, networks are scale free and not static, because each hub continually seeks to increase its links through its own competition or cooperation strategy.

47. Sixthly, since markets are by their nature competitive, they adapt and evolve around their environment.

48. The above insights have powerful implications for the way we look at financial markets and institutions (Sheng, 2005). In other words, domestic markets are networks of different networks, and property rights are cleared in hubs called exchanges and clearinghouses and protected through courts and regulatory agencies. The global market is a network of local networks, in which the weakest link is possibly the weakest node, link, cluster, hub, or local network. We do not know why or where the system is weak, until it is subject to stress. Hence, we need to look at global financial stability holistically or throughout the whole network to identify the weakest links.

49. To illustrate, the concentration of financial services is demonstrated in various subsectors (Table 1).

Financial Services	Number of top players	Combined global share of business (%)
Asset Custodian	Top 4 firms	60
Insurance brokerage	Top 3 firms	64
Foreign Exchange trading	Top 10 firms	64
Accounting Services	Top 4 firms	53
Equity underwriting	Top 10 firms	70
Debt underwriting	Top 10 firms	62

Source: Nolan and Liu (2007)

3.4 Network characteristics of the current global financial crisis

50. Viewing the global financial market as a network of national networks highlights several significant network features of the present crisis: -

- The network architecture played a role in determining its fragility or vulnerability to crises. Network concentrations created a number of large SIFIs that dominate global trading and are larger than national economies. However, they are regulated by an obsolete regulatory structure that is fragmented into national segments and further compartmentalized into department silos, none of which has a system wide view of the network that allows the identification of system wide risks.

- Increasing complexity of networks is related to their fragility. Complexity is also positively correlated with the externalities of network behavior, and few regulators understood or were able to measure these externalities.
- The high degree of interconnectivity drove the value as well as the risks of hubs or financial institutions. The failure of one hub, such as Lehman Brothers, revealed interconnections that were not apparent to regulators, such as the impact on American International Group (AIG) that guaranteed through various financial derivatives the solvency of banks and investments.
- Networks have negative and positive feedback mechanisms due to the interactivity between players and between hubs and nodes as they compete. • There was no lack of information or transparency, but too much information that was not understandable.
- Regulators ignored the distorted incentive structures that promoted risk taking, and regulators failed to minimize moral hazard, even though there were clear lessons from earlier financial crises.
- The roles and responsibilities for network governance were not allocated clearly. In the absence of a single global financial regulator, effective enforcement of regulation across a global network requires complex cooperation between different regulators. There was a global “tragedy of the commons, whereby collective inaction led to huge regulatory arbitrage and a “race to the bottom”.

3.5 *Financial policy trade off between stability and efficiency*

51. The trade-offs between efficiency and stability, as well as competition and concentration, is well understood in financial sector policy. Although the majority of financial regulators subscribe to the benefits of greater competition, the natural conglomeration or concentration of financial institutions and anecdotal experience that larger financial institutions tend to survive financial shocks better than smaller ones have resulted in an ambivalent tolerance of greater concentration.

52. As summarized by the Competition Committee of the OECD Banking and Advisory Committee BIAC (2010)¹⁶, “on the one hand, there is a belief that more competition in banking results in greater instability and more market failures, other things being equal”¹⁷. This belief suggests that banks operating in a concentrated market (or in a market that restricts entry) will earn profits that can serve as a buffer against fragility, and as an incentive against excessive risk taking. Excessive competition could put more pressure on profits and may create higher incentives for banks to take greater (potentially excessive) risks, resulting in greater instability. This theory predicts that deregulation, resulting in more entry and competition, would ultimately lead to more fragility. It also holds that a more concentrated banking system might reduce the supervisory burden of regulators, thus enhancing overall stability¹⁸.

¹⁶ The Competition Committee of the Business and Industry Advisory Committee (BIAC)’s submission to OECD’s 2010 Competition, Concentration and Stability in the Banking Sector, Roundtable Discussion.

¹⁷ Beck, T. (2008), *Bank Competition and Financial Stability: Friends or Foes?* World Bank Policy Research Working Paper, 4656, Washington DC. See also Boyd, H.J., De Nicolo, G., Jalal, A.M. (2005), "Bank Competition, Risk and Asset Allocations", IMF Working Paper No. 09/143.

¹⁸ Beck, T. (2008), *“Bank Competition and Financial Stability: Friends or Foes?”* World Bank Policy Research Working Paper, 4656, Washington DC.

53. The opposing view is that a more concentrated banking structure in fact results in more bank fragility¹⁹. Such an environment is believed to enhance fragility by, for instance, allowing banks to boost the interest rates they charge to firms which may induce firms to assume greater risk, resulting in a higher probability of non-performing loans. A higher concentration of larger firms is also thought to increase contagion risk. In concentrated markets, it is presumed that banks will tend to receive larger subsidies via Too-Big To Fail policies, thereby intensifying risk-taking incentives and increasing banking system fragility. This perspective argues more greater need for supervision in a highly concentrated market with the idea that concentrated banking systems tend to have larger banks, which offer an array of services, making them more complicated to monitor²⁰.

3.6 *Is there a trade-off?*

54. In a literature survey on behalf of the Bank of Canada, Northcott (2004) examined the traditional perception that a competitive banking system is more efficient and therefore important to growth, but market power is necessary for stability in the banking system. There is no consensus in the theoretical literature as to whether perfect competition or market power best promotes allocative efficiency. In the traditional approach, perfect competition maximizes the quantity of credit available at the lowest price, and market power (the ability to profitably price above marginal cost) leads to a decrease in the quantity supplied and higher prices.

55. However, where there is asymmetric information, market power can increase a bank's incentive to engage in relationship lending, which benefits opaque borrowers such as young firms that have no credit history or little collateral. By directing credit to higher-quality projects first, screening can improve allocative efficiency. The incentive to screen falls as the number of banks rises.

56. He concluded that it might be optimal to facilitate an environment that promotes competitive behaviour (contestability), thereby minimizing the potential costs of market power while realizing benefits from any residual that remains.

57. He found it very difficult to assess the contestability of a banking market. Recent work suggests that the number of banks and the degree of concentration are not, in themselves, sufficient indicators of contestability. Other factors play a strong role, including regulatory policies that promote competition, a well-developed financial system, the effects of branch networks, and the effect and uptake of technological advancements.

58. There is also no consensus in the literature as to which competitive structure optimizes both efficiency and stability. Competition is important for efficiency, but market power may also provide some benefits. Market power provides incentives for banks to behave prudently, but regulation can help ensure that banks behave prudently even in a competitive market. Neither competitive extreme (perfect competition nor monopoly) is likely ideal or even possible.

59. Therefore, Northcott concluded that it might not be possible to completely eliminate market power in banking. As a result, the goal may not be to eliminate market power, but to facilitate an environment that promotes competitive behaviour. In this way, the potential costs of market power are mitigated while perhaps realizing some benefits from residual market power.

60. There is no consensus in the literature as to which competitive structure optimizes both efficiency and stability. There are benefits to both, and neither extreme is likely ideal. Therefore, the goal may be not

¹⁹ Ibid

²⁰ Ibid.

to eliminate market power but to facilitate an environment that promotes competitive behaviour (contestability). In this way, the potential costs of market power are mitigated while perhaps realizing benefits from any residual market power.

61. What does a contestable banking sector look like? There is a growing consensus in the literature that the traditional approach of equating few banks or concentration with market power is not enough. Concentration is not in itself a sufficient indicator of competitive behaviour. Other important factors are involved, such as less-severe entry restrictions, the presence of foreign banks, few restrictions on the activities that banks can perform, well-developed financial systems, the effect of branch networks, and the effect and use of technological advancements. Because it requires an understanding of these various factors, an assessment of contestability in the banking sector can be very difficult and is likely to be specific to a particular country at a particular time. It is more complicated than it first appears to be.

3.7 *Is there relationship between concentration and stability?*

62. World Bank researchers Beck, T. *et al* (2005) studied the impact of national bank concentration, bank regulations, and national institutions on the likelihood of a country suffering a systemic banking crisis. Using data on 69 countries from 1980 to 1997, they found that crises are less likely in economies with more concentrated banking systems even after controlling for differences in commercial bank regulatory policies, national institutions affecting competition, macroeconomic conditions, and shocks to the economy. Furthermore, the data indicate that regulatory policies and institutions that thwart competition are associated with greater banking system fragility²¹.

63. Some theoretical arguments and country comparisons suggest that a less concentrated banking sector with many banks is more prone to financial crises than a concentrated banking sector with a few banks (Allen and Gale, 2000, 2004). This is because concentrated banking systems may enhance market power and boost bank profits, that provide a “buffer” against adverse shocks and increase the charter or franchise value of the bank, reducing incentives for bank owners and managers to take excessive risk and thus reducing the probability of systemic banking distress (Hellmann, Murdoch, and Stiglitz, 2000; Besanko and Thakor, 1993; Boot and Greenbaum, 1993, Matutes and Vives, 2000)²². Furthermore, some hold that it is easier to monitor a few banks in a concentrated banking system than it is to monitor lots of banks in a diffuse banking system. For example, Allen and Gale (2000) argue that the U.S., with its large number of banks, has had a history of much greater financial instability than the U.K or Canada, where the banking sector is dominated by fewer larger banks²³.

64. The opposite view is that a more concentrated banking structure enhances bank fragility. Boyd and De Nicolo (2005) argue that the standard argument that market power in banking boosts profits and hence bank stability ignores the potential impact of banks’ market power on firm behavior. Similarly, Caminal and Matutes (2002) show that less competition can lead to less credit rationing, larger loans and higher probability of failure if loans are subject to multiplicative uncertainty. **Second**, advocates of the “**concentration-fragility**” view argue that (i) relative to diffuse banking systems, concentrated banking

²¹ Beck *et al* (2005), pp.1.

²² Smith (1984) argues that less competition can lead to more stability if information about the probability distribution of depositors’ liquidity needs is private. Matutes and Vives (1996), however, highlight the complexity of the linkages running from market structure, to competition, to bank stability and show that bank fragility can arise in any market structure.

²³ The other argument is that banks in concentrated systems will be larger and better diversified than smaller banks. However, other empirical studies indicate that bank consolidation tends to increase the riskiness of bank portfolios.

systems generally have fewer banks and (ii) policymakers are more concerned about bank failures when there are only a few banks. (pp.2)

65. An opposing view is that a more concentrated banking structure enhances bank fragility. First, Boyd and De Nicolo (2005) argue that the standard argument that market power in banking boosts profits and hence bank stability ignores the potential impact of banks' market power on firm behavior. They confirm that concentrated banking systems enhance market power, which allows banks to boost the interest rate they charge to firms. As discovered in the current Global Crisis, in a concentrated banking system, the contagion risk of a single large bank failure with many interconnections could be more severe, resulting in a positive link between concentration and systemic fragility. Caminal and Matutes (2002) show that less competition can lead to less credit rationing, larger loans and higher probability of failure if loans are subject to multiplicative uncertainty.

66. The second set of arguments is that the fewer number of banks in a concentrated system will tend to receive larger subsidies through implicit "too important to fail" policies that intensify risk-taking incentives and hence increase banking system fragility (e.g., Mishkin, 1999)^{24 25}.

67. Beck *et al's* work indicates that crises are less likely in more concentrated banking systems, which supports the concentration-stability view. The negative relationship between concentration and crises held when conditioning on macroeconomic, financial, regulatory, institutional, and cultural characteristics and is robust to an array of sensitivity checks. However, their results also suggested that concentration might be an insufficient measure of the competitiveness of the banking system.²⁶

68. Unfortunately, the current financial crisis may very well challenge Beck's work and suggest that beyond some degree of size or concentration, increased fragility may arise.

69. In a recent review of the Too Big To Fail issue (TBTF), Morris Goldstein and Nicholas Veron focused on the Transatlantic debate²⁷. They set out the TBTF policy issue as (a) exacerbating systemic risk (b) distorting competition and (c) lowers public trust due to privatization of gains and socialization of losses.

70. The real issue that the TBTF problem extremely difficult to handle is that when the financial sector is on average five times larger (in asset size) than the real sector as measured by GDP and before the inclusion of shadow banking and derivative measures (US\$673 trillion in notional terms), the question is whether the failure of the financial sector imposes too high costs on the real sector when it fails. The FCIC Report notes not only were the GSEs and investment banks too leveraged (75 to 1 and 40 to 1 respectively), they were major contributors to the lobbying and campaign funds. The GSEs provided US\$162 million in lobbying costs and From 1999 to 2007, the financial sector expended \$2.7 billion in reported federal lobbying expenses; individuals and political action committees in the sector made more

²⁴ According to the literature that examines deposit insurance and its effect on bank decisions (e.g. Merton (1977), Sharpe (1978), Flannery (1989), Kane (1989), Keeley (1990), Chan, Greenbaum and Thakor (1992), Matutes and Vives (2000) and Cordella and Yeyati (2002)) – mis-priced deposit insurance produces an incentive for banks to take risk.

²⁵ Highly concentrated banking systems may have high complexity and therefore may be tougher to monitor than a less concentrated banking system with many banks.

²⁶ See also Claessens and Laeven (2004) who do not find any evidence for a negative relationship between bank concentration and a measure of bank competitiveness calculated from marginal bank behavior.

²⁷ Morris Goldstein and Nicolas Veron, "Too Big to Fail: The Transatlantic Debate", Peterson Institute for International Economics, Working Paper 11-2, January 2011.

than US\$1 billion in campaign contributions. Both the Icelandic bank crises and the Ireland bank crises, where bank assets clearly exceeded national GDP are ample illustration that these large banks hold the nation to ransom when they threaten to fail.

71. Consequently, the real issue of TBTF is whether the financial sector could be allowed to grow infinitely due to leverage, make profits that generate bonuses for the management, while transferring massive failure costs to the public purse?

72. A fundamental question therefore is whether the profits of the financial sector are illusory or real? Haldane and others have begun to question whether the finance industry contributes substantially to social value or not, especially if the public sector bails out financial failures. A study at the Centre for Research on Socio-Cultural Change at the University of Manchester, claimed that while the banking sector paid £203 billion in tax in the five years up to 2006/07, this was more than offset by the cost of the £289 billion banking bail-out. Indeed, even the Chairman of the UK Financial Services Authority has claimed that some financial sector activities are “socially useless.”

73. In a prescient analysis of internal market forces that led to the current financial crisis, Hyman Minsky argued that “a bank that increases leverage without adversely affecting profits per dollar of assets increases its profitability. The combination of retained earnings and profitability of increased leverage can make the supply of financing grow so fast that the prices of capital assets, the prices of investment output, and finally, the prices of consumption output all rise²⁸.”

74. In other words, Minsky rightly saw that banking is an endogenous destabilizer of the capitalist market economy, because “the entrepreneurs of the banking community have much more at stake than the bureaucrats of the central bank.” “In a world with capitalist finance it is simply not true that the pursuit by each unit of its own self-interest will lead an economy to equilibrium²⁹”.

4. Country experiences – Australia, Canada and China

75. The crucial analytical debate of crisis cartels is whether the rent from cartels that the consumer pays will be higher than the total loss to society from a collapse of the key cartel hubs in a network environment or vice versa. Financial crises impose a stock loss as well as a flow loss. Hence, the difficult question to answer is whether the discounted cash flow value of the flow "rent loss" from cartels is less than the "stock loss" from financial crises.

76. Because size of financial crisis loss is ex ante unknown, there is an implicit willingness to tolerate bank concentration as insurance against crises, noting that concentration does not automatically mean cartels. depends on context and path dependency (history). In resource rich/high commodity cycle economies such as Canada, Australia, Chile, Malaysia, the degree of banking supervision and tolerance for cartels are higher, with stronger emphasis on supervision oversight but financial repression on mild basis (i.e. open to foreign competition, but limited penetration).

77. According to OECD (2010)³⁰, “the resiliency of Canada and Australia to the recent financial crisis seems to suggest that more concentrated financial systems are more resilient to financial distress.”

²⁸ Minsky (1986, 2008 edition), pg.264.

²⁹ Minsky, op.cit. pg. 279 and 280.

³⁰ The Competition Committee of the Business and Industry Advisory Committee (BIAC)’s submission to OECD’s 2010 Competition, Concentration and Stability in the Banking Sector, Roundtable discussion.

4.1 *The case of Australia*

78. The Australian banking market³¹ is characterized as high levels of concentration. The four major banks have: (1) 70% of household savings; (2) 70% of household loans; (3) 71% of personal lending; and (4) 68% of business lending.

79. In particular, in mid 2008, Australian Competition and Consumer Commission (ACCC) approved acquisition of the 5th largest bank by one of the big 4. The four major banks – Commonwealth Bank of Australia (CBA), Westpac Banking Corporation (Westpac), National Australia Bank (NAB) and Australia and New Zealand Banking Corporation (ANZ) – are large relative to their competitors, and make up a substantial proportion of the market in business and household lending and deposit-taking. They also facilitate financial markets by performing functions, such as securities underwriting, alongside global investment banks. In addition to banking activities, each of the major banks provides a range of other financial services such as insurance and wealth management.

80. Australia's four largest banks have historically accounted for the majority of market share for deposits, credit cards, personal lending and mortgages (table 4.1).

Table 4.1 Concentration in Australia's Banking Sector – 1890 – 2009^(a)

	Assets		Deposits		Home Loans	
	Share of 4 largest banks	HH index ^(b)	Share of 4 largest banks	HH index ^(b)	Share of 4 largest banks	HH index ^(b)
1890	0.34	0.06				
1913	0.38	0.10				
1950	0.63	0.14	0.64	0.15		
1970	0.68	0.16	0.68	0.16	0.77 ^(c)	0.21 ^(c)
1990	0.66	0.12	0.65	0.12	0.65	0.13
Oct 2008	0.65	0.11	0.65	0.12	0.74	0.15
July 2009	0.74	0.15	0.78	0.16	0.90	0.27

- (a) Data refers only to activities of banks (a subset of ADIs). Data excludes all activities of credit unions, building societies, and non-ADI lenders. Consequently, the actual concentration and HH index values are lower than stated.
- (b) The Herfindahl-Hirschman concentration index (which can vary from 0 representing perfect competition to 1 representing monopoly; a market with X equally-sized competitors will have an index of 1/X).
- (c) Assuming all owner-occupier housing loans were made by savings banks and accounted for all their loans.

Source: Report on Bank Mergers, Australian Senate Economics Committee, September 2009

81. The increase in concentration in the banking sector reflects consolidation over time, as well as the more recent effects of the global financial crisis. Despite the new entries, the total number of participants has fallen since the late 1990s, with mergers and acquisitions outweighing the new entrants. There was a significant merger of smaller institutions, with credit unions declining from 213 in 2001 to 143 in 2008³².

³¹ The Competition Committee of the Business and Industry Advisory Committee (BIAC)'s submission to OECD's 2010 Competition, Concentration and Stability in the Banking Sector, Roundtable discussion.

³² APRA *Insight*, Issue 1 2001 and Issue 1 2008.

82. Despite this increase in concentration, the Herfindahl-Hirschman index (HHI), calculated only for banks suggests that with respect to both assets and deposits, the Australian market remains relatively competitive, below the USA's threshold of 0.18 for considering an industry to have high concentration³³.

83. The Australian banking sector became more concentrated during the global financial crisis, reflecting consolidation through mergers. Foreign banks also scaled back operations due to funding constraints, even as securitization markets closed. The larger banks embarked on acquisitions of the smaller banks.

84. So far, the mergers and acquisitions involving the banking sector have been carefully assessed by the independent ACCC, which did not prevent the on-going consolidation.

85. It would be useful to note that in December 2010, the Governor of the Reserve Bank of Australia, in his submission to the Australian Senate review of competition in the Australian banking system, was basically satisfied with the state of competition in the Australian financial sector, arguing that "the market remains more competitive than it was in the mid-nineties and borrowers have access to a larger range of products than they once did. The overall availability of finance to purchase housing, in particular, seems to be adequate³⁴".

4.2 *The case of Canada*

86. Historically, from 1920 to 1980, Canada consistently had 11 banks (Bordo 1995). In Prior to 1980, the financial services industry had been segmented by legislation along traditional product lines, such as commercial banking, trust business, insurance underwriting and brokerage, and securities underwriting and dealing. There were also limits on the entry of foreign banks into the Canadian market. In 1987, the Office of the Supervisor of Financial Institutions was created by legislation, as it was recognized that financial markets were cutting across traditional lines and needed to be supervised differently. Since then, there was greater entry of foreign financial institutions and by the end of 2006, there were 22 domestic banks and 50 foreign banks operating in Canada, of which 26 were foreign bank subsidiaries and 24 foreign bank branches.

87. Canada has a highly concentrated banking market; for example, the largest six banks account for more than 90 per cent of the assets in the banking system. Canada's Herfindahl-Hirschman Index as measure of bank concentration suggests a medium to high degree of market concentration. However, concentration indices neglect the competition (especially in retail and small-business banking) provided by over 1,000 credit unions and caisses populaires in Canada.

88. In an authoritative study of efficiency and concentration of Canadian banking³⁵ by the Bank of Canada, Allen and Engert conclude that overall, despite the concentration, Canadian banks appear to be relatively efficient producers of financial services, including relative to their US neighbours. More important, the research suggested that Canadian banks do not exercise monopoly or collusive-oligopoly power, and that banking can be considered to be a monopolistically competitive industry.

89. One can observe that both Canadian and Australian policy makers and legislatures were keenly aware of the trade-off between concentration, stability and efficiency. Both countries have had regular policy reviews, such as the Australian Campbell and Wallis reports on their financial sectors, to reassure

³³ United States Department of Justice, Horizontal Merger Guidelines, subsection 1.51.

³⁴ Australia Senate (2010).

³⁵ Allen and Engert (2007).

the policy makers and legislatures that the legacy concentrated financial structure was not at the expense of market efficiency and social equity. Consequently, both economies' past legislative and regulatory changes have pushed for efficiency in domestic financial services, through improving contestability, particularly from foreign entrants. At the same time, the regulatory philosophy in both economies erred on the conservative side, not allowing undue financial innovation and excess competition to push risk frontiers to breaking point.

90. For example, in the 2002 review of Canadian banking efficiency and consolidation³⁶, the Canadian Senate Standing Committee felt that “bank mergers are a valid business strategy, and that they would contribute to Canadian growth and prosperity. We also believe that the Public Interest Impact Assessment, as well as the reviews by the Office of the Superintendent of Financial Institutions and, more particularly, the Competition Bureau – along with any needed undertakings and commitments – will ensure the competition in the financial services sector that is needed to protect the public interest. Canadian banks are strong now. They could be stronger in the North American marketplace and in world markets, provided that they are allowed to pursue appropriate business strategies while safeguarding the public interest.”

4.3 *The case of China*

91. China is a classic case of banking being viewed as a service to the real economy. From 1949 to 1979, when the banks were nationalized, the country adopted a Soviet-style mono-banking system, with the People's Bank of China being the central bank as well as provider of the payments mechanism, and banks were legally part of the central bank. After 1979, the banking system was gradually devolved into large commercial banks and policy banks. Large-scale reforms in the banking system occurred in the 1990s, when it was decided to commercialize and eventually publicly list the largest banks. With the coming into force of the WTO membership in 2001, China has opened up doors to foreign competition in the banking and financial services in 2007.

92. In 2003, the decision was taken to create an institutional based financial regulatory structure, with the hiving off of the bank regulatory function from the central bank. The current financial regulatory structure comprises the central bank in charge of monetary policy and systemic financial stability, the China Banking Regulatory Commission (CBRC) overseeing the banking sector, the China Securities Regulatory Commission (CSRC) in charge of securities and capital market area and the China Insurance Regulatory Commission in charge of insurance. Overall a Financial Stability Committee chaired by a Vice Premier, comprising not only the central bank and the three financial regulators, but also the ministry of finance and the national development reform council, undertakes coordination of financial stability³⁷.

93. As of end-2009, China's banking sector comprised 2 policy banks and China Development Bank (CDB), 5 large commercial banks, 12 joint-stock commercial banks, 143 city commercial banks, 43 rural commercial banks, 196 rural cooperative banks, 11 urban credit cooperatives (UCCs), 3,056 rural credit cooperatives (RCCs), one postal savings bank, 4 banking asset management companies, 37 locally incorporated foreign banking institutions, 58 trust companies, 91 finance companies of enterprise groups, 12 financial leasing companies, 3 money brokerage firms, 10 auto financing companies, 148 village and township banks, 8 lending companies and 16 rural mutual cooperatives. The total number of banking institutions registered at 3,857, which had approximately 193,000 outlets and 2.845 million employees.

94. As of end-2009, the total assets of China's banking institutions increased by 26.3% to RMB78.8 trillion (US\$11.5 trillion), with total equity growing by 17% to RMB4.4 trillion (US\$644 billion). As of the end of 2009, the weighted average CAR of China's banking industry stood at 11.4% of risk assets. All

³⁶ Canada Senate Standing Committee (2002).

³⁷ See China Financial Stability Report 2011, People's Bank of China, available at www.pbc.gov.cn.

239 commercial banks satisfied the minimum CAR requirement. As of end-2009, the NPLs of commercial banks measured by the five-category loan classification criteria amounted to RMB497.3 billion, with the NPL ratio at 1.58 percent of total loans³⁸.

95. Large commercial banks, joint stock commercial banks and rural cooperative institutions were the largest three types of banking institutions by asset size, accounting for 50.9%, 15.0% and 11% percent of the total banking assets respectively in 2009. Foreign banks accounted for roughly 2% of total bank assets, even though their branch network is rising rapidly.

96. In other words, China's banking system demonstrated a phase of devolution and then re-concentration. Even though the largest banks retained the largest share of the banking business, the small urban and rural cooperatives, as well as the postal banking system provided the bulk of the branch networks. However, problems in their governance and operations led to a phase of both consolidation and new entrants.

97. In 2009, urban credit cooperatives (UCCs) and city commercial banks also made breakthroughs in resolving their historical structures. By the end of 2009, the number of UCCs was reduced from 37 to 11, and some city commercial banks completed their NPLs disposal and corporate restructuring.

98. Since its establishment in 2003, the CBRC has embarked on a comprehensive reform of the structure of the financial system, concentrating on strengthening the largest financial institutions, and consolidating and reforming the smallest rural and urban financial institutions. There were not only mergers, but also new entrants. The basic policy was to improve financial services in the rural areas, particularly in the under-served Western and Central regions of China. In 2009, a total of 43 rural commercial banks and 196 rural cooperative banks were incorporated. Among them, 6 banks located in Wuhan, Ma'anshan, Chengdu, Guangzhou, Dongguan and Jiangnan were approved to commence business.

99. Given the priority to reform the banking industry as a matter of priority, competition issues were left to market forces, as the industry began to shed their historical legacy non-performing loans and improve their corporate governance. The WTO accession agreement in 2001 to allow foreign entry in 2007 was a deliberate policy move to increase competition to the domestic banks and to raise the quality of financial services.

100. The competition law is new in China and not yet fully applicable in banking. As competition intensifies in China as domestic and foreign banks continue to compete in terms of products and services, the CBRC is beginning to deepen its research into competition issues, not just within the banking industry, but also competition in financial services in general.

4.4 Competition law in China³⁹

101. The China's Anti-Monopoly Law (AML) was enacted on 30 August 2007 and came into effect on 1 August 2008. It is modeled on EU competition law and includes provisions governing anti-competitive or so-called 'monopoly' agreements (e.g. cartels), abuse of dominance and merger control.

102. The AML applies to 'monopolistic conduct within China' but also to 'monopolistic conduct' outside China that 'eliminates or had a restrictive effect' on competition in the Chinese domestic market.

³⁸ China Banking Regulatory Commission Annual Report, 2009, available at www.cbrc.gov.cn.

³⁹ Freshfields Bruckhaus Deringer LLP (2010).

For the purposes of the AML, ‘China’ covers mainland China only, and notably therefore excludes Hong Kong (which has recently published its own comprehensive competitive Bills).

103. The AML contains broad principles that will guide antitrust enforcement in China. Many of the details of how the AML will be enforced in practice are yet to be specified in the implementing regulations and guidance, much of which is still in draft form.

104. Nearly two years after the AML took effect, many uncertainties still exist and a number of questions remain open, some of which arise out of the unique features of the Chinese political and economic environment.

4.4.1 The enforcement agencies

105. From an organizational point of view, a complex institutional structure exists at two levels of administration and enforcement:-

- On the upper level, the Anti-Monopoly Commission (AMC), which reports directly to the State Council, is responsible for policy formulation and co-ordination; and
- On the lower level, no less than three anti-monopoly enforcement agencies (AMEAs) have been designated to be responsible for day-to-day enforcement of the AML;
 - the Anti-Monopoly Bureau of the Ministry of Commerce (MOFCOM) has exclusive responsibility for merger control review.
 - the National Development and Reform Commission (NDRC), being the country’s price regulator, is responsible for the enforcement of those aspect of the AML relating to monopoly agreements and abuse of dominance that are price-related; and
 - the State Administration for Industry and Commerce (SAIC) has responsibility for the enforcement of those aspects of the AML relating to monopoly agreements and abuse of dominance that are not price-related.

106. The policy issues with respect to banking are still being debated internally and the international best practice and experience is being studied and evaluated.

5. Conclusion

107. This brief survey of the literature and experience in crisis cartels in banking suggest that there is a “natural” tendency for finance as a network industry to concentrate. Although larger financial institutions with larger network footprints can gain economies of scale and therefore profitability, the current financial crisis suggests that beyond a certain size there are systemic fragilities and political economy questions that have not been understood and debated sufficiently to date.

108. The first policy consideration is whether financial institutions that are very large relative to their competitors would engage in “monopolistic” behaviour that have large conflicts of interest and also engage in “predatory behaviour” at the expense of their customers and also competitors. So far, it is not possible to generalize this from the evidence to date, but such behaviour does exist in practice. It is a problem that may be solved through better enforcement.

109. The second policy consideration that has been highlighted by the financial crisis, but has not been solved satisfactorily, is the policy economy question when the finance industry becomes so large to the real sector, that they become TBTF and Too Powerful to Fail. Even though the current regulatory reforms have begun to put in counter-cyclical capital requirements and attempts to put in overall leverage ratios, the lobby power of the industry has been able to dilute the Volcker rule and also delay implementation of these constraints, subjecting them to further study and possible exemptions.

110. Because theoretically, no one has yet satisfactorily determined the limits of finance generating social value through growth and leverage, there is as yet no satisfactory answer to the question of limits on bank or financial institution size. The incentives of bank management to increase leverage to generate higher bonuses for themselves at the expense of systemic stability have not been completely solved. The Asian financial systems do not cause political economy issues in the sense that the largest of them are essentially government owned or subject to government policy controls. On the other hand, it can be seen that in the Australian and Canadian case, where legislatures are aware of the excessive concentration powers of the banking industry, there are periodic reviews of their efficiency, stability and regulatory efficacy, they were able to avoid the consequences of crisis failure so far.

111. In congruence with the findings of Evenett and others, there's no "one policy fits all" choice, given the differences in stages of development and institutional and political economy legacy considerations.

112. This paper argues that it is more important for national policy makers to understand the "best fit" of global "best principles and practices" to their own domestic conditions. The role of the international financial institutional community is to check whether national policies conflict with the "best principles and practices" and to point out where these inconsistencies, gaps and overlaps may lead to systemic issues or costs at the global level. Through FSAPs and regional surveillance, it would be possible to assess whether national and regional policies and practices have global implications.

113. The logic for this line of thinking is both pragmatic and realistic. Given the difficulties in measuring ex ante the costs of alternative policy options and regulatory action at the national and global level, it seems unrealistic to impose "one size fits all" crisis cartel rules or laws globally. There is no question that the local policy maker understands domestic conditions better and has the sovereign legitimacy to choose the right balance in order to achieve Efficiency and Stability as well as promote innovation. The role of the international community is to advise and provide technical expertise (and best international experience) for the national policy maker to make the balance between national interests and global interests.

114. In conclusion, the debate over crisis cartels in finance is still a work-in-progress. Much needs to be done to consider the complex issues at hand.

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