The China Factor
Economic vulnerability and global resilience

by

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ABSTRACT

THE CHINA FACTOR
Economic Vulnerability and Global Resilience

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This M.A. thesis makes use of the concept and methodology of vulnerability, ‘state capacity’ theory, and Robert Wade’s ‘Wheels Within Wheels’ argument to assess the role of China within the modern global economy. The thesis draws upon the repeated identification of China as a possible global systemic risk by the World Economic Forum’s Global Risk Network as a starting point, with the goal of determining why and how China would be identified in such a way, what elements support such an identification, and to what extent China’s economy might indeed represent a source of vulnerability in the global economic system. The thesis analyzes two key Chinese economic sectors: currency and reserve policy, and the domestic banking sector. Six broad vulnerability vectors are ultimately identified. The thesis concludes that, while China may represent a source of vulnerability in the global economy, it also represents a potentially strong source of resilience due to its unique economic system that emphasizes the role of the state.
I cannot express enough gratitude for the level of assistance provided by Professor Brian Woodrow through the extremely long journey of completing this work. In addition, I would like to express my appreciation to Professors Craig Johnson and David MacDonald, who have made it possible to bring this thesis through to a formal conclusion.

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<td>ABC</td>
<td>Agricultural Bank of China</td>
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<td>ADBC</td>
<td>Agricultural Development Bank of China</td>
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<tr>
<td>AFC</td>
<td>1997 Asian Financial Crisis</td>
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<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
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<td>ASEC</td>
<td>Applied Services Economic Centre</td>
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<td>BIS</td>
<td>Bank for International Settlements</td>
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<td>BOC</td>
<td>Bank of China</td>
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<td>BoCom</td>
<td>Bank of Communications</td>
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<td>CAR</td>
<td>Capital Adequacy Ratio</td>
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<td>CBRC</td>
<td>China Banking Regulatory Commission</td>
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<td>CCB</td>
<td>China Construction Bank</td>
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<tr>
<td>CDB</td>
<td>China Development Bank</td>
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<td>CIC</td>
<td>China Investment Corporation</td>
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<td>CIRC</td>
<td>China Insurance Regulatory Commission</td>
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<td>CPC</td>
<td>Communist Party of China</td>
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<td>CSRC</td>
<td>China Securities Regulatory Commission</td>
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<td>EXIM</td>
<td>Export-Import Bank of China</td>
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<td>FDI</td>
<td>Foreign Direct Investment</td>
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<td>FOREX</td>
<td>Foreign Exchange</td>
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<td>FSB</td>
<td>Financial Stability Board</td>
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<td>GRN</td>
<td>Global Risk Network</td>
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<td>ICBC</td>
<td>Industrial and Commercial Bank of China</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<td>IPE</td>
<td>International Political Economy</td>
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<td>IPO</td>
<td>Initial Public Offering</td>
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<td>LGIV</td>
<td>Local Government Investment Vehicle</td>
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<td>LII</td>
<td>Locally Incorporated Institution</td>
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<td>MOFCOM</td>
<td>Ministry of Commerce</td>
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<td>NDRC</td>
<td>National Development and Reform Commission</td>
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<td>NPL</td>
<td>Non-Performing Loan</td>
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<td>OFDI</td>
<td>Outward Foreign Direct Investment</td>
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<tr>
<td>PBoC</td>
<td>People’s Bank of China</td>
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<tr>
<td>PLA</td>
<td>People’s Liberation Army</td>
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<tr>
<td>PRC</td>
<td>People’s Republic of China</td>
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<tr>
<td>RMB</td>
<td>Renminbi</td>
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<tr>
<td>RRR</td>
<td>Reserve Requirement Ratio</td>
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<tr>
<td>SAFE</td>
<td>State Administration of Foreign Exchange</td>
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<td>SASAC</td>
<td>State-owned Assets Supervision and Administration Commission</td>
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<tr>
<td>SDR</td>
<td>Special Drawing Rights</td>
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<tr>
<td>SFV</td>
<td>Special Financing Vehicle</td>
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<tr>
<td>SOE</td>
<td>State-owned Enterprise</td>
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<tr>
<td>SWF</td>
<td>Sovereign Wealth Fund</td>
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<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
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<td>WEF</td>
<td>World Economic Forum</td>
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<tr>
<td>WTO</td>
<td>World Trade Organization</td>
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Introduction

“China is not willing, nor is any other country able, to turn China into the U.S. So please wake up and stop dreaming!”


This M.A. thesis is grounded and builds upon the initial theoretical groundwork of the Geneva Association’s ASEC Project on Services and Vulnerability to refine a concept known as vulnerability. This is accomplished by assessing China as a potentially significant source of vulnerability (or a source of protection against vulnerability) within the modern global economy. China is used as the foundation of analysis in this thesis due to its identification as a potential systemic risk by a prominent risk research group within the World Economic Forum. China’s preeminent role in the global political economy along with the unique structure and features of its domestic political and economic system make it an ideal subject for this type of analysis. It is a singular actor in the upper echelons of the global political economy and represents what many regard as an ‘unknown quantity’ in the global economic system when compared to other major global economic actors.

The vulnerability analysis used here exists within a broader international political economy environment. The method of analysis employed makes use of state capacity theory as a filter through which to view China as a source of vulnerability or resilience in the global economy. The notion of state capacity, itself a distinct concept examined by such authors as Linda Weiss, Joel Migdal, and Peter Evans, is tied together with the concept of vulnerability to illustrate potential sources of vulnerability arising from the ability of the state to conduct its affairs, as well as the means by which vulnerability can be mitigated through the concept of resilience tied to the same notion of state capacity. The decision to make use of a state-centric conceptual tool is due to the unique nature of and relationship between Chinese political and economic systems (the same features that make China a unique actor in the modern global political economy).

In order to apply vulnerability theory to the example of China’s role in the global economy, key domestic economic sectors of the People’s Republic of China are analyzed with regard to their relationship with the capacity of the Chinese state to conduct its affairs, in turn demonstrating how these domestic issues might interact with and affect the larger environment of the global economy. The specific sectors used in the analysis, representing a cross-section of differing levels of infrastructure and government policy and chosen for their ability to illustrate
the relationship between state capacity and vulnerability, are the Chinese currency and reserve policy and the Chinese banking system. In this manner of examining the relationships between domestic political-economic issues and the global economic setting, the revised model of vulnerability used in the thesis draws direct inspiration from the “Wheels Within Wheels” theoretical framework developed by Robert Wade (2000).

“The China Factor”

Assessing China as a threat or danger to the modern global economy is not a new idea. A starting point for this thesis comes from a decision by the Global Risk Network (GRN) of the World Economic Forum (WEF), an organization that engages in a methodology similar to that of vulnerability analysis, to describe China as a ‘global systemic risk’ (WEF, 2006; 2007; 2008; 2009a; 2010). Since 2006, the GRN has published an annual analysis of threats that do not necessarily fall within the standard realm of typical risk analysis. It is instead seeking those dangers that threaten the basic foundations of modern human society and the global economy, yet are not seriously addressed nor understood by risk analysts due to their singular nature. These ‘global systemic risks’ are threats with which society remains unfamiliar, emerging from and exploiting the uniquely modern characteristics of globalized human activity and a networked, interdependent global economy. While its specific methodology is different from the ASEC vulnerability model that this thesis relies on, the GRN has identified a weakness in existing methods of risk analysis (identified in the ASEC framework as a ‘risk gap’) and created a means to describe and assess those threats that would not otherwise be adequately understood nor addressed. Each annual GRN report includes focused analysis of specific threats of immediate importance that have, in some fashion, been passed over by standard risk assessment regimes, as well as a list of several dozen threats that the GRN has identified as emerging systemic risks. These threats cover an array of situations and circumstances, but to date, China is the only specific country to be identified in every GRN report as a potential global systemic risk (as opposed to a very specific aspect of a regional or national economy, such as toxic assets in the U.S. mortgage market or levels of sovereign debt in the EU). It is not any one specific element of the Chinese economic, social, or political systems that has been identified by the GRN, but China itself (and its domestic systems and structures) as a major, potentially
destabilizing, force in a globalized society and economy (WEF, 2010). Paradoxically, part of what gives China this role is its influence and major role in the global economy, not issues that are inherently concerning by themselves – yet seemingly are so when attached to China. Indeed, the GRN has identified a slowdown in Chinese growth as a potential concern, though the exact risk leading to such a slowdown is not elaborated. China is an ambiguous force: on one hand a driver of the modern global economy and society, yet at the same time potentially a destabilizing force in that same system, even though the specific ‘threat’ posed by China has been difficult to readily quantify. The GRN maintains that this potential risk is a critical one and that it will persist into the future (WEF, 2010: 7).

This ambiguity concerning China and its role in modern global systems is present in other sources, frequently tied to assessments of China’s immense – and still-growing – international power (particularly economically, but in political systems as well). It is now a frequently cited fact that China is the world’s second largest economy and an economic superpower\(^1\). This has led some commentators (both private and government) to fear its growing power, worrying about almost every aspect of the Chinese political and economic systems and relationships with the world, with critiques ranging from reasoned analysis to sinophobic fretting about Chinese bogeymen. China is a unique example of a country that may be regarded as a 21st century superpower, pairing the world’s second largest economy and largest population with a one-party political system that remains largely authoritarian and repressive. Some commentators have perceived an authoritarian government with considerable control, even domination, over the domestic economy that is prepared to use economic power as a political tool or whose control is generating risks for the global economy (see, for example, Breslin, 2003; USTR, 2010; Mattlin, 2007; Krugman, 2011, 2010, 2009; Samuelson, 2008; Elwell et al., 2007)\(^2\). Analysts such as Minxin Pei (2006a) cite the willingness of a corrupt Chinese government to engage in systemic political repression while buying international reprieves with economic attractiveness. Others

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1 Chinese PPP-correct GDP for 2010 was US$10.1 trillion, while GDP for 2010 was US$5.9 trillion, both second only to the United States (World Bank, 2012). The share of Chinese GDP as a percentage of world GDP for 2010 was 9.4%, again second to the United States with 23% (World Bank, 2012). Modern Chinese growth rates have famously also been extremely high, with the average growth rate for the period of 2000-2010 reaching 10.3% annually, far above the global average growth rate of 2.7% for the same period (World Bank, 2012). The Chinese economy is forecast to continue growing at an approximately similar rate in future, with forecasts for 2015 suggesting a roughly similar rate of 9.5% (IMF, 2010a: 159). The significant rise in global prices for raw materials over the past decade can be attributed in part to the demands of Chinese growth (Baffes and Haniotis, 2010; Helbling et al., 2008; Francis, 2007).

2 All citations in this paragraph represent examples of massive quantities of literature on each subject.
have criticized the Chinese government for its seemingly uncooperative nature – thanks to a philosophy that puts its own economic interests, political sovereignty, and Communist Party dominance ahead of anything else – in international diplomacy addressing both long-term global issues and geo-political crises³ (Doelle, 2010: 93-94; Lynas, 2009; Vidal et al., 2009; Christensen, 2011; Shreer and Taylor, 2011; Taylor, 2006). Yet others fear its military potential and possible effects on Asian political stability, notably efforts to modernize its military to include long-range power projection in the form of aircraft carriers and the militarization of advanced technology to fully integrate space, cyber-warfare, and espionage capabilities in its national strategies (Scobell et al., 2011; Dobbins, 2012; Sloan, 2010). Yet, reinforcing the ambiguous perspective of China, despite the criticism of China’s structures, actions, and increasing power, there is also recognition of the more positive role it has played and could play in international political and economic affairs. China’s stimulus efforts during the global financial crisis have been praised by economic analysts and organizations such as the IMF as crucial to helping the global economy recover (Holland et al., 2009; Vincelette et al., 2010; World Bank, 2010; Lee, 2009). China has also willingly entered into the financial regulatory regime that underlies the post-crisis global economy, including participation in international regulatory bodies such as the Financial Stability Board. It has been described as having a “special role” to play in negotiations concerning many of the world’s geo-political conflicts and hotspots, particularly on the Korean peninsula, highlighting the positive influence it can have in such negotiations (Chanlett-Avery and Rinehart, 2012; Krause-Jackson, 2010). Finally, even though China has been criticized for its willingness to engage with countries that are not in favour among North American and European powers, it has also been the source of lucrative investment and aid for those countries, with at least some humanitarian and economic benefit for their populations (Lum et al., 2008; Medeiros, 2009).

Despite the importance of many of these political and military issues, of particular interest to a student of vulnerability is the domestic economy and financial system and their relationship with the broader global economy. Economic risks and vulnerabilities occupy global interest, even more so now following the financial and economic crisis that began in 2008. There is increasing awareness on the part of organizations such as the GRN, ASEC, the IMF, and

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³ Such as climate change, the pursuit of nuclear weapons by Iran and North Korea, and human rights violations in other states such as Sudan.
other financial regulatory and assessment bodies such as the Financial Stability Board that not only risks but what might be described as systemic risks or vulnerabilities can afflict and spread from financial systems and regimes around the world. Multiple aspects of financial systems are now targeted for investigation and assessment, not only to judge the everyday risks they present (the probabilistic calculations of financial risk that are ubiquitous in modern economic life) but also the emerging threats they might pose that cannot easily be anticipated or which are not taken especially seriously by those who interact with or exist within these systems. China’s financial system includes many of the more general subjects that have been and continue to be concerns for these policymakers – including asset valuation and potential bubbles, the efficacy of the banking system and health of its loan activities, and the relationship between inflationary pressures, currency value, and interest rates. In addition, much attention has been paid to concerns arising specifically from the Chinese financial system and economic policies, notably concerning the exchange regime of the Chinese currency (renminbi)\(^4\) and the massive quantity of foreign exchange reserves (particularly those that are American dollar-denominated) that China has built up over the best part of two decades. Any of these issues might provide the vector for a vulnerability which could give rise to a systemic risk: a threat that can spread throughout the majority of the world’s economic and financial networks.

**ii Risk and Vulnerability**

It is accepted within many academic and professional fields\(^5\) that the calculation and acceptance of risk – even the roughest calculations – plays a significant role in people’s lives and broader modern society. Risk is ingrained in human nature, even to the point that people have

\(^4\) The terms *renminbi* and *yuan* are used interchangeably in this thesis and many sources about China; the two terms are effectively similar. *Renminbi* is the formal name for the Chinese currency, while the *yuan* is the basic unit of currency. It is akin to saying ‘Great British pound sterling’ and ‘pound.’ While frequently used interchangeably in literature and speech, the first is the formal name and the second is the currency unit.

\(^5\) Among many potential examples, Lopes (1994: 199-204) outlines a two-and-a-half-century history of risk that has incorporated research and study from individuals within such fields as advanced mathematics, psychology, and economics; Bernstein (1998) also offers a similarly broad history of risk and its role in human civilization. Alternately, Beck offers a more sociological approach, in favour of an analysis that suggests a modern society organizes itself in a fundamental manner around responses to risk and risk aversion, particularly in response to human-generated risk that inherently results from the development of modern human civilization, coining the term “risk society” (Beck, 1992). Hovden (2003), drawing upon several risk-associated authors of the 20\(^{th}\) century, sets out an overview of the modern conception of risk that focuses on the ubiquitous nature of the concept.
been found to incorporate it into sub-conscious decision making\(^6\). In this thesis, risk refers to \textit{the probability of a given event or outcome occurring based on prior circumstances or conditions, with knowledge of the consequences of the outcome} (Woodrow, 2006), a typical definition of the concept. For political scientists and policy makers, risk and its study is also frequently encountered. Governments and political actors make use of risk analysis on a continual basis – a situation arises, an actor makes a judgment as to the likely consequences of the situation, and selects the course of action that will lead to a more preferable set of consequences. Even outcomes that are seen as ‘certain’ frequently have an underlying element of probabilistic risk calculation. When something is seen as ‘certain’, it should be more appropriately called a ‘limited certainty’, a situation with which participants or observers are so familiar as to be able to assume a given course of events with a specific outcome (Woodrow, 2006). Even what we deem as ‘certain’ in modern life may be highly refined risk analysis with which participants have an inordinate degree of experience – leaving open the possibility that ‘certainty’ in the modern world is far from certain.

Despite the omnipresent nature of risk and risk analysis, it is far from an iron-clad concept. Risk analysis in any form relies on two specific requirements; without them, risk analysis simply cannot yield reliable information and loses much of its use as a policy tool. It becomes more akin to an uneducated guess rather than a calculation of disparate factors leading to a determined conclusion. Situations that bypass these requirements can be understood to lie within a ‘risk gap’, an analytical area in which it is difficult to apply standard risk analysis. The first requirement is that of prior experience: without some form of knowledge about the situation being analyzed, either through first-hand experience or third-party knowledge that might be used to extrapolate information applicable to the given situation (in essence, the process of learning), a conclusion arising from a given set of factors or variables cannot be determined. Further, it is not enough for the knowledge to simply exist – it must be connected to a situation by the risk assessor. There must also be faith that the knowledge being applied is accurate (both in terms of quality and completeness of information), as inaccurate inputs of knowledge will lead to inaccurate analytical outcomes (Woodrow, 2006). The second requirement is that of known

\(^6\) Erb et al. (2002) successfully manipulated individual risk behaviour through sub-conscious ‘priming’, orienting subjects in favour of either risk-seeking or risk-adverse responses to given hypothetical scenarios, concluding that individual risk assessment does have a sub- or pre-conscious element. Similarly, Loewenstein et al. (2001) summarize a wide variety of physiological and psychological studies that argue in favour of treating risk as containing a critical sub-conscious emotional component.
possible outcomes: a risk assessor must be aware of at least two possible outcomes to a given situation (at the simplest level, either something occurs or it doesn’t), as it is impossible to judge the probability of an event occurring without this element (Woodrow, 2006). The more potential consequences that are known, the more precise the risk analysis becomes, even if exact quantification of the probability of specific consequences occurring is not achieved. This, again, relies to some extent on prior experience or learned knowledge, relying either on similar events that have produced particular outcomes, or extrapolating from other events and data to determine what outcomes could occur in the given situation.

This problem that arises from the gap left by the requirements driving normal risk analysis is the primary focus of the framework described by the Geneva Association’s ASEC Project on Services and Vulnerability. The underlying premise of this model concerns the question of properly applying knowledge in the modern world. This results from those situations where a deep-seated potential problem or weakness does not allow for the assured application of previous experience or existing knowledge to adequately recognize or respond to such a condition, even though considerable knowledge might be known about the underlying structure/behavior in which the weakness exists (Woodrow, 2006). The ASEC framework allows for these situations or weaknesses to be recognized once they are ‘triggered’ – when existing knowledge suddenly falls into place – but prior to the triggering event the concept of such a weakness or condition is not generally recognized as a risk and any possible outcomes arising from the exploitation/triggering of that weakness remain unknown (Woodrow, 2006). This failure to tie existing knowledge about basic structures/behavior, even though it may be quite extensive, with inherent weaknesses existing within those structures/behaviors means that standard risk analysis cannot take place – weaknesses can remain unidentified as risks due to a lack of experience or knowledge about specific threat types. At the same time, the ASEC model makes it clear such situations cannot be dismissed as ones that are unknowable or fundamentally uncertain, as observers or participants have substantial knowledge about the basic building blocks of these weaknesses (Woodrow, 2006). Given the role that risk analysis and response plays in modern society, how then should these weaknesses and situations be characterized and, though more challenging, how can they be managed or prevented? How can responsible actors plan for issues that are not expressly risk-based but exist in the essential social, economic, and
political structures and frameworks of the modern world, opening the door to wide-ranging and complex catastrophic events?

Though it is uncommon, precedent apart from the ASEC framework exists for attempting to expand the ‘view’ of risk beyond the probabilistic into the realm of the futuristic, with some organizations and academics addressing and trying to fill in the ‘gaps’ left by standard risk analysis. The work undertaken by the World Economic Forum’s Global Risk Network (GRN) is particularly notable in this regard: the GRN is concerned with the analysis and identification of what it describes as ‘emerging global systemic risks,’ those that do not have a firmly defined probability of occurring⁷ but have the capacity to inflict harm on the basic infrastructure and features of global systems on their own or in conjunction with other ‘systemic risks’:

“A systemic risk is the potential loss or damage to an entire system as contrasted with the loss to a single unit of that system. Systemic risks are exacerbated by interdependencies among the units often because of weak links in the system. These risks can be triggered by sudden events or built up over time with the impact often being large and possibly catastrophic.” (WEF 2010: 10)

The GRN’s focus on ‘systemic risk’ is the result of a perception that standard risk analysis is generally poor at addressing interconnected and interdependent weaknesses or faults within the broad scale of global systems and infrastructure, particularly those threats that are previously unencountered and have little connection to prior events or experience, or, of particular concern to the GRN, those that lead to a conflated risk scenario in which multiple systemic risks contribute to a widespread structural crisis (WEF, 2006: 11-13). These risks are defined in the GRN methodological framework, citing the work of Francis Diebold, as “unknown” (in the case of an inability to assign a probability to a previously unencountered risk) or “unknowable” (in the case of a risk whose events are unclear, as in the case of conflation), as opposed to standard ‘known’ risks such as natural disasters about which much information is known and recognized (WEF, 2006: 6-7). Standard risk management generally focuses on targeted or a likely pool of risks rather than these broad and interconnected systemic threats – addressing such a complex range of ‘systemic risks’ requires a significantly greater focus on the resilience or adaptability of global structures and systems, as it is not possible (as standard risk management requires) to

⁷ For practical reasons the GRN focuses most often on events that they deem more likely to occur than others, necessitating the reaching of at least some rough probabilistic conclusions.
firmly determine the manner in which a systemic risk might manifest or the vector it might take in affecting a given structure or system (WEF 2006: 32; WEF, 2007: 21-22). It is this awareness on the part of the GRN of the existence of this ‘risk gap’ and its attempt to address that gap that separates its model from other forms of risk analysis, placing it in the same broad conceptual territory as the ASEC vulnerability framework.

This thesis highlights the perceived inadequacy of conventional knowledge of risk and seeks to join the attempt to fill the ‘gap’ left by standard risk analysis. If certainty doesn’t really exist in the modern world on a day-to-day basis, and if risk analysis has some weaknesses in its basic nature, what is the alternative? How can participants in global structures and regimes understand and plan for situations or events that might fall outside the norm of risk analysis? Drawing theoretical inspiration and support from work such as that undertaken by the Global Risk Network, this thesis explicitly builds on the framework constructed by the Geneva Association’s ASEC Project on Services and Vulnerability that sees this ‘risk gap’ as one that might be characterized as a new field of ‘vulnerability,’ a concept distinct from the related terms risk, uncertainty, and hazard. Though having much in common with other attempts to define and analyze this ‘risk gap’, such as the GRN’s concept of ‘global systemic risk’, in seeking a firm and dedicated theoretical base this thesis uses the ASEC framework’s definition of vulnerability as “an inherent or circumstantial condition which could result an event or outcome occurring, with causes or consequences unspecified” (Woodrow, 2006). It is this facet of modern society, one that exists apart from risk and uncertainty, that ultimately encompasses the subject matter of this thesis.

iii State Capacity and “Wheels Within Wheels”

It is functionally impossible to apply a vulnerability analysis to every aspect of the Chinese economy, let alone China as a whole. Though the ‘field’ of China used in this thesis can be reduced to that of the economy, specifically two basic economic sectors (the banking system and currency policy/foreign exchange reserves), a further filter is required to make such an analysis manageable within the practical confines of the work. The nature of the Chinese state’s political makeup, a key factor contributing to China’s ambiguity, is the solution to the problem of determining a useful means of further narrowing the analysis to a more manageable, specific
level. By the very nature of the system, the state in an authoritarian or autocratic model of
government (as in the Chinese case) occupies a more obviously central governance role within
society (when compared to the more distant arms-length regulatory manner of governance in a
liberal democracy that favours less restrained individual activity, though it is also far from the
level of all-encompassing social and ideological dominance mandated by totalitarianism)\(^8\) (Gurr
et al., 1990). In the case of China, the state continues to retain a strong, direct presence within
the economic sphere of activity; it underpins the domestic economy in both direct and indirect
ways, with the consequence that any significant economic activity will meaningfully and directly
encounter the policies and actions of the state. Given this, the value of determining the efficacy
and role of the state in the health and continued development of the Chinese economy carries
considerable weight.

As a consequence of the type of regime in place within China and overseeing the Chinese
economy, the use of a means of analysis that reflects on the state has merit in an analysis of
China as an agent of vulnerability within the global political economy. This is the role of state
capacity theory, a distinct but internally varied sub-field of political science that seeks to
understand how and to what extent a state can undertake the policies and activities it wishes.
There is no one particular agency or activity one might use to analyze the capacity of a particular
state; it is only possible to witness the consequence of high or low capacity with regard to state
activity and policy in its various areas of interest, and apply those observations to conclusions
about the nature of the state, its actors, and its relationships with other societal actors or
structures. Given the formal power and importance of the state in the Chinese political system,
state capacity theory is used to provide context and to clarify the analysis of vulnerability in the
case of the Chinese economy’s relationship with the global economy. If, as is presumed in the
thories underlying this thesis, there is a relationship between domestic and global/international
areas of economic activity, then, thanks to the systemic influence the state holds over domestic
economic affairs in China, there is an indirect relationship between Chinese state capacity and
the global economy that could represent a source of vulnerability for that broader global

\(^8\) Due to the preference not to become involved in discussions as to what is or isn’t a particular type of state in the
introduction to this thesis, this necessarily seems to trivialize existing discussion concerning different forms and the
more advanced features of authoritarian and liberal-democratic government. For practical purposes, the clear
distinction here is between the direct, obvious, omnipresent role of government in an authoritarian system compared
to the relatively distant, less restrictive form a liberal democratic system takes – there are, obviously, significant
differences between the differing sub-types of each of these systems.
structure. The state plays such an important role within the Chinese economy that its activities could critically influence the relationship between domestic economic features and global economic structures.

Given the usefulness of a state-capacity oriented approach for an analysis of Chinese-related global economic vulnerability, this thesis adopts an observation made by Weiss (1998) noting that such an approach is not best used as a broad tool. A discussion of general state capacity is ultimately of limited value: it provides little deeper meaning other than indicating that states are better at extending their will in certain policy areas than others, as opposed to ascertaining and analyzing the sources for those differing levels of capacity in different sectors (such as the limit of administrative capability over various societal spheres or the features of political institutions within the state) (Weiss 1998: 4; Hendrix 2010). The goal of achieving more valuable analysis is far better served by digging into specific social-state sectors to reach greater detail and context (Weiss 1998). Such an approach is taken here in relation to the Chinese economic sphere of activity. To what extent and why does the Chinese state differ in its ability to adapt to changing circumstances and creating a stable, healthy foundation for development within different economic or financial sectors, and what are the conditions and consequences (including for the global economic system) of that variance? Given the critical position the Chinese state holds in the Chinese economy, does this relationship between the economy and the state serve as a source of or protector against vulnerability originating from China which could affect the global economic system?

While any state has great influence over its own domestic economic affairs and policy, these domestic affairs define how a national economy interacts and integrates with the global economy as a whole. This global economic system, in turn, as demonstrated by Robert Wade’s (2000; 2006; 2009) analysis of the interactions between global and sub-global systems and structures, can greatly affect and influence those bodies and states linked into it, but it also comes to rely on the features and functions of these national economies. Consequently, domestic political and economic features and factors cannot be divorced from global or international economic structures (this does not necessarily guarantee the dominance of one level, the domestic or global/international, over the other). Those structures and policies that may seem wholly domestic can systemically affect global systems and actors, and vice versa. This thesis draws on Wade’s approach, mainly arising from his 2000 analysis of the 1997 Asian Financial
Crisis, to assess domestic economic systems while accepting they have entrenched links to and potentially strong effects on the global economic system in which they ultimately exist.

iv  Thesis Structure: Addressing the “China Factor”

Given the GRN’s identification of China as a potential source for systemic risk (what in this thesis is termed “The China Factor”), the sole country to receive such a label since 2006, but while also remaining aware of China’s importance and potentially positive role in the modern global economy, three questions are of prime importance in this thesis.

1. Despite the fact that it did not provide detailed analysis, what could have prompted the GRN to identify China as a systemic risk, particularly to the global economy?

2. What elements of the Chinese economic and political systems go into this “China Factor”, and how has this continued to evolve since the GRN’s first report in 2006?

3. Can the “China Factor” be said to exist more as a vector for vulnerability and systemic risk or for increased resilience in the global economy?

This thesis addresses these questions through an analysis of two Chinese economic sectors: currency policy (including that governing foreign exchange reserves) and the banking system. These are basic economic structures within any large modern economy, and consequently should be representative of broad dynamics between the economic and political sectors running throughout the economy as a whole: these structures and policies help support and define the wider domestic economy. Additional value rests in their respective ability to illustrate government policy and action at different levels of China’s economic and political systems. Since state activity and authority play such crucial roles within Chinese economic and political systems, analyzing a cross-section of state-economy relations in such fundamental economic sectors lends more depth and variety to the work, allowing one to reach more complete, credible conclusions about China as a source of vulnerability and resilience. Currency policy is an elite policy area governed by the highest levels of the Chinese central government
and central bank. The foreign exchange reserve base can represent a foundation for the economic power of a state by offering the potential to expend currency in a variety of strategically targeted or economically-politically advantageous ways, or as an economic safety net in crisis situations. Banking is a basic economic institution that relies upon infrastructure and governance running broadly throughout all of China’s state levels – from individual localities all the way to national policy governing the central bank.

Ultimately, this thesis contends that China should not be considered a global risk in a typical sense. While it is the source of possible vulnerabilities for the global economic system, it also represents a potential source of resilience. How this dichotomy plays out in the future will depend upon on the capacity of the Chinese central government versus other political actors and how it uses its capacity to continue to restructure, reform, and build its “Wheels Within Wheels” domestic economic system to further integrate with the global economy.

The structure of the thesis is as follows. The following chapter outlines the theoretical basis of the thesis, explaining in detail the concept of vulnerability, how it relates to the broader field of International Political Economy, the means by which it might be described or measured, how it differs and relates to these concepts of risk, uncertainty, and hazard, and new additions to the conceptualization of vulnerability derived from work in this thesis. It also describes the theoretical background of state capacity, how it has been applied to China, and how it is used and treated here. Subsequent chapters concern the nature of the relationship between Chinese state capacity and the domestic Chinese economy, and potential risks and sources of resilience arising from that relationship, by using the example of two key sectors of the Chinese economy: currency policy, including the associated topic of foreign exchange reserves, and the banking system. Finally, the vulnerability model is directly related and applied to the circumstances and conditions presented in the previous chapters, with conclusions presented as to the nature of Chinese vulnerability to the global economic system and whether and to what extent its different political-economic makeup represents an opportunity to improve the resilience of the global economic system.
Chapter 1  Theoretical Framework

The construction of a coherent theoretical base is of critical importance in this thesis, as the goal of the work is to reinterpret and analyze already existing knowledge using this theoretical framework rather than introduce fresh data gathered in the field. A clear explanation of the concepts used is even more important because of the relative immaturity of the vulnerability framework used in the thesis – there being no firmly defined, extensive theoretical base in this area. This new theoretical framework is applied to an examination of Chinese economic sectors through the use of a state capacity-influenced analysis, providing a real-world application of vulnerability theory.

This chapter will define and outline in greater detail the concepts informing the examination of Chinese economic sectors as aspects of global vulnerability, beginning with the general intellectual thread underlying vulnerability theory, state capacity theory, and this thesis: that of international political economy (IPE). The examination of vulnerability and its relationship with state capacity theory is based on key features of IPE theory, including reference to the work of specific IPE scholars. This includes Robert Wade’s examination of the two-way relationship between domestic structures or systems and international regimes or systems, Linda Weiss’s conceptualizations of globalization and internationalization and their relationship with the state, and Peadar Kirby’s theory of the interaction between vulnerability and resilience and its relationship to globalization. Wade’s theories are separated from general IPE theory and given their own distinct discussion in this chapter due to the particular relevance his “Wheels Within Wheels” theoretical framework has to the conceptual approach taken in this thesis.

Following this examination of the relationship between IPE, vulnerability theory, and state capacity theory, the concept of vulnerability and state capacity are each further explored. A conceptual overview is presented that draws heavily upon the ASEC vulnerability model, while also incorporating aspects of theory drawn from sources including the Global Risk Network’s work concerning systemic risk analysis, Sarewitz’s and Pielke’s differentiation of risk from vulnerability, and Arbaugh’s treatment of the impact of space and time in technical vulnerability and his more organic concept of vulnerability.\(^1\) A revised version of the ASEC model is

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\(^1\) While these theories might be described by their authors as ‘vulnerability analysis’, the term ‘vulnerability’ has no firmly established interdisciplinary or conceptually precise meaning. Though this literature does have certain relevance to this study, it should not be regarded as an established, mature base for vulnerability theory: the
developed, incorporating new additions to the currently existing theoretical base in an attempt to alter the general approach taken by the model to make it more flexible. The manner in which state capacity theory is used in the thesis is also elaborated, setting out the features used by key authors within the state capacity literature that are adopted here, particularly the emphasis on disparate and changeable state capacity within varying political levels and structures within the state and its supporting society. Finally, a revised form of Wade’s “Wheels Within Wheels” analysis of the 1997 Asian Financial Crisis is set out, drawing from the basic elements of his work and combined with vulnerability theory, conceptualized in an alternative ‘clockwork mechanism’ model rather than Wade’s ‘wheels.’

1.1 International Political Economy

International political economy is the thread tying this thesis’s concepts together, providing the means to explore the relationship between vulnerability theory and state capacity. The influence of “globalization” as a distinct process is fundamental: it is the basic conceptual force underlying vulnerability theory. Often identified within political economy literature as a concept with a wide and varied meaning, globalization situates vulnerability theory as being reliant upon IPE as a conceptual ‘parent.’ While the concept may be broken down into detailed components, at its root, the use of the term ‘globalization’ is often characterized by the scale of formation of deep-seated links between both states and other political-economic actors, leading to the creation of vast and complex global networks – frequently economic – that exist beyond the national level. The existence of vulnerability as a concept is predicated upon the existence of such extensive and deep-rooted connections between individual actors in the global environment; without them, vulnerability would not exist as a systemic threat. Weaknesses within one individual structure or system would have little to no ability to spread and affect an entire global system, greatly limiting their impact on a wider community. The concepts generated by IPE provide the means to examine the vulnerability ‘problem’ due to their emphasis on the changing nature of modern society, specifically in regard to the natures of and relationships between

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inclusion of these theories or concepts is due to their similarities to broad concepts of the ASEC vulnerability framework.
different functional levels of society, both global and state (and inter-state), and the nature and relationships between institutions and organizations existing on these various societal levels.

These global networks and regimes are defined by their existence beyond national borders, decoupled from any one particular state. An example, used by Weiss (1997; 2000), is trade-centered capitalism as an economic system; it is not reliant on any one particular state, but it is a particular system defining economic activity between the vast majority of global states. As Weiss argues, networks or links, particularly of an economic nature, that exist between states are hardly new, but what differentiates modern globalization is the “multiple, overlapping, and extensive interpenetration of national economies to the point where the importance of national and international networks declines relative to the weight of transnational and global networks” (2000: 6). Prior to the creation of globalized networks, such links were largely confined and defined by national systems that held greater importance for a society’s economic activity and growth, thereby limiting the scale of such international links (Weiss, 2000). Weiss emphasizes that the evolution of modern globalization has shed the absolute reliance on any one particular state network or structure, with global networks incorporating so many varied actors (both state and non-state) that they reach massive scales and are defined by a particular type of regime or activity, rather than point of origin or geographical focus.

Kirby cites the de-coupled nature and existence of these global networks as preceding the creation of vulnerability, explicitly tying a rough concept of vulnerability to underlying IPE concepts (2002; 2004; 2006). Kirby’s model, though sharing broadly similar concepts with the ASEC model or the Global Risk Network’s notion of systemic risk (as they each seek to address consequences of globalization in a manner that goes beyond traditional risk-assessment), is a more socially pejorative view used to illustrate the social evils of globalization. His analysis, making frequent use of the example of Ireland’s transition to a globally-integrated economy and society as well as Latin America’s modern economic development, emphasizes that globalization can, sometimes radically, increase the vulnerability (in essence, the susceptibility to critical damage or disruption) of disparate social groups within a society, groups that were once sheltered, in part, by the state or nationally-defined networks and policy. In contrast, the ASEC and GRN models view vulnerability simply as a consequence of the nature of extensive globalized systems, neither intrinsically good nor bad. Within Kirby’s framework, vulnerability is the combination of a lack of social capacity, reduced through exposure to global networks and
systemic policies, to absorb crises or shocks (a standard conception of resilience) coupled with an increased range of possible crises brought on by links to these global networks.

While the existence of such networks may have considerable influence on state policy, this does not necessarily entail the removal of the state as a meaningful actor in transnational networks. A sub-body of IPE literature argues that while such networks may not be based within a state (in essence, they are not defined by a nation of origin), they may be strongly influenced, even existentially directed or threatened, by state action and structures. Evans’s argument (1997) for the restoration of focus on “stateness” and importance of the state to the global economy as a response to an assumed overshadowing of the state’s importance by interest and belief in the (seemingly) state-destroying processes of globalization can be seen as predecessor to the later search for a more balanced perspective and analysis of the relationship between the state and external forces of modern globalization that defines this branch of IPE (and which shares a common lineage with state capacity theory, thanks to the work of Evans and Weiss). Linda Weiss’s body of work (most notably 1997; 1998; 2000; 2003; 2005) explores the manner by which globalization augments, rather than detracts from, the state’s authority. Ongoing global economic integration, far from diverting or annihilating state power, has actually coincided with and precipitated national changes – such as increased state taxation and spending – that have increased the functional prominence of the state’s central position within society (Weiss, 2005). She argues that national or nationally-linked institutions help define and direct integration even with significant interstate institutions (such as those of the EU), though explicitly emphasizes that the state is not immune or guaranteed to be resistant to the evolutionary pressures exerted by the weight of globalization.

Other authors have adopted or built upon Weiss’s approach to the relationship between global networks and the state. Swank’s analysis (2003) of welfare state reform follows this pattern. He argues, similar to Weiss, that the welfare state has not retreated in the face of the expansion of global free market networks, but has reorganized and coordinated with market and other societal structures to continue shaping society, forcing these networks to adapt (at least in some part) to the state’s desires. Sassen (2003), Hobson (2000) and Hobson and Ramesh (2002) adopt similarly nuanced approaches in their examinations of the ability and limitations of the state to control fiscal policy in light of globalization, addressing how the state can both alter and be altered by globalizing influences. In Hobson’s and Ramesh’s view, this approach is explicitly
found between ‘structuralist’ and ‘agentist’ theories, those that propose the belief of the erosion of the state through globalization or the immutable power of the state to fundamentally resist and control external forces, respectively, citing the example of Singapore to demonstrate the value of an approach that reflects the ability of both external forces and states to affect each other in theoretically equal relationships. Sassen’s argument supports this approach: since the infrastructure of globalization rests within national borders, the state retains considerable importance and influence due to the impact of law and policy on this physical infrastructure – though as a result the state in turn is transformed, a process Sassen terms “denationalization.” It can be claimed that potentially augmenting, equal links exist between global economic networks and state structures and systems. These two elements are bound together beyond a zero-sum relationship; the qualities and events occurring at one level of the relationship may influence or transform, but need not detract from, the other. If the state continues to play such a crucial role even within a globalized economy, that role needs to be clearly understood.

This conceptual emphasis on the continuing importance of the state as a key political-economic structure in an increasingly globalized economy is explicitly identified with the institutional political economy literature (I-IPE). The authors cited above can be classified as conceptually belonging to this sub-school of IPE. The difference between this broader I-IPE literature and work that places particular emphasis on the role of the state within globalized systems rests in the fact that I-IPE authors are less specifically concerned with globalization or the relationship of the state with transnational networks than they are with the general relationship between political and economic structures or networks (both domestic and global/international), as well as the importance of societal institutions in such relationships – as Hodgson defines them, “systems of established and prevalent social rules that structure social interactions” (2006: 2). As an example, Hodgson (2006) cites Searle’s 1995 analysis of language, framing it as the most elementary and basic of social institutions, and also uses the examples of the caste system in India and class in the United Kingdom as exemplifying this concept of a societal institution.

The Hodgson-type view of the relationship between socio-political and economic institutions is very broad, encompassing a vast array of structures and systems, thereby limiting its immediate applicability in more focused IPE work. Consequently, while this relationship and concept of institutions forms the groundwork of I-IPE, a specific focus on political structures and
influence within the economic sphere, such as that demonstrated in the work of Ha-Joon Chang (and the authors cited above), is of greater influence in this thesis. In this aspect of I-IPE, political structures and institutions strongly influence economic structures and action, both globally and on a state level, to the extent that one cannot remove political influence from the economic sphere of activity. Market and other seemingly pure economic activities are built upon frameworks created and supported by institutions – both formal state institutions (such as regulatory organizations) and societal conventions – that are regulated and overseen by political structures and policy (Chang, 2001; 2003). Economic structures and institutions are, ultimately, existentially reliant upon “a range of formal and informal institutions that embody certain rights and obligations, whose legitimacy…is ultimately determined in the realm of politics” (Chang, 2003: 54). These institutions, however, do not entrap or serve as restraints for the actions of otherwise dedicated market-oriented individuals, but affect the very basic characteristics of individuals or groups – and these individuals or groups can affect the institutions in which they operate (Chang, 2001). The logical result is that these political institutions are themselves distinct actors within political and economic spheres with their own unique characteristics and driving forces. Chang concludes that politics is not the fundamentally separated, inherent enemy of the market, but rather is a complex, constituent element of its makeup.

Despite the embedded role of state institutions and political activity in economic structures, the I-IPE view should not be seen as a declaration of the supremacy of the state or politics over economic structures or activity. As the existence of state capacity theory as a conceptually distinct sub-field suggests, considerable scope is present to analyze the conflicts and relationships between organizations, institutions, and actors that fit within each of these sectors of human society. What I-IPE does do is ensure that the state and political structures are essential components in the examination of such conflict, inseparable from economic analysis, rather than ‘writing off’ the state or politics as inherently subordinate to economic structures and activity.

1.2 State Capacity

State capacity as a distinct area of theory within modern political science, and more specifically international political economy, is recognized as being brought into modern
prominence by Evans et al. with a specific goal of “bringing the state back in” (1985). These theories focus on the relationships within and between a governing authority and other socio-political actors. It allows an understanding of the state as a unique actor, insofar as it is a political organism that has varied interests and goals and attempts to act on them, allowing one to explore measures of state weakness and strength. In essence, state capacity seeks to understand how and why a state can act in a given way. State capacity theory has evolved from all-encompassing theories focused on the whole of the state, to more elegant variable-capacity theories that divide the state into different components and activities, analyzing capacity in a complex way to match the complexity of the state. The complexity of these latter theories is crucial when applying a state capacity analysis to China, due to its various major socio-political actors and levels of activity, including the existence of a substantial political structure, the Chinese Communist Party, which lies parallel to the state.

Earlier theories of state capacity held it to be relatively unchanging outside of crises and very long spans of time; short-term events did not have a great impact on the basic level of capacity, as the “basic patterns of state organization and the relationships of states to social groups often persist even through major periods of crisis” (Evans et al., 1985: 348). These initial conceptions of state capacity, demonstrated in the early work of Evans et al. and Skocpol (1985)², focused on the autonomy of the state as the main determinant of the capacity of the state, a mainly static concept over short and medium spans of time. The concept of autonomy is central to state capacity theory, though the manner in which it has been applied to the state compared to features or aspects within the state has altered over the evolution of the concept. In his analysis of the development of Southeast Asian states, Crone (1988) suggests that autonomy is a more relative concept, with states autonomous in certain ways but not in others, with the result that a seemingly ‘strong’ authoritarian, autonomous state is not necessarily one with universally high capacity to create and enforce policy. This has particular relevance in the case of China; the stereotypical view of China is one of a ‘strong’ state due to its authoritarian, direct system of government and the use of legal, paramilitary, and military power to suppress political dissent with force. Under this model of capacity, these ‘strong’ aspects of China do not necessarily guarantee that the state has the ability to easily make its will manifest through policy

² This early work appears in one volume edited by Evans et al., Bringing the State Back In (1985), bringing together several case studies and general conclusions concerning the role and autonomy of the state.
creation and enforcement. Migdal in turn (1988) posits that if a state is autonomous, it has the ability to act without being influenced by the other (hostile) powers within society, while Evans (1989; 1995) takes the concept further by suggesting a more complex interconnected model of embedded autonomy: the idea that the state has a certain degree of autonomy (this varies with the state), but that it is irrevocably tied into mutually reinforcing relationships with other societal actors. These networks can reinforce and enhance the state’s capacity, allowing it to focus more attention on key industrial and policy sectors. The state’s power is enabled partially by an efficient bureaucratic structure, allowing the state to transform aspects of society over time, but to successfully maintain these transformative processes, the state must be involved within the structures it is attempting to transform (Evans, 1989; 1995). In the Chinese case, Evans’s approach of including deep, interdependent relationships with particular social actors is particularly valuable, as the Chinese Communist Party represents a completely parallel state structure within Chinese society, existing alongside and within the Chinese government. This relationship has the potential to greatly affect any formulation and enforcement of a given state policy, given the impact that any possible policy direction or enforcement might have on either of these structures. The Chinese state has no choice but to engage with the CPC when undertaking socially or politically transformative policy.

These methods of measuring autonomy may have certain limitations. States that seemingly have held a great deal of autonomy from a governance perspective (what Mann [1984, 2008] terms ‘despotic power’) were able to formulate and attempt to execute policies that disregarded the interests and pressure of other actors, yet were unable to successfully implement their policy programs in an effective manner (Weiss 1998). Weiss (1998) presents a theory of state capacity that incorporates a perception of the state diaspora as a theatre of change – a very unpredictable environment. The relationship between the state and other societal actors is a flexible one, something that could adapt to the vagaries of the state environment, yet a relationship that could be affected by the relative power levels of the actors involved. Within this flexible relationship, according to Weiss, links are formed between the various actors, conceptualized as a form of “governed independence.” These links directly reflect state capacity in terms of the state’s ability to invest those actors with its authority and policy goals, with the state playing a coordinating or broad leadership role. Weiss’s model conceptualizes state capacity as the ability to transform different institutions or elements of society through
interdependent or underlying relationships, rather than as a zero-sum conflict between differing
groups. This approach has evident value in the Chinese example, as it allows for the possibility
of observing or determining different levels of capacity in different economic structures or
sectors, while still acknowledging the near-constant obvious presence of certain key political
actors such as state agencies or Communist Party structures.

Beyond classifying a basic level of capacity, it is possible to classify capacity into various
different elements or aspects, rather than simply being applied to the state as a whole or in a
deply interconnected form. The state is a highly complex organism – several different aspects
of capacity might be represented in the state and its actions. Grindle (1996; 2004; 2007)
develops this concept as a core feature of state capacity theory, basing her model on analysis of
the means to enhance “good governance” in developing states, arguing that capacity is divided
into several different categories or aspects of the state (recognizing the differences between
administrative and political capacity, for example). In Grindle’s model, each ‘segment’ of
capacity can vary independent of the others in both positive and negative ways (an increase in
capacity might be reversed despite increased capacity in other aspects of governance), and actors
involved in a particular aspect of capacity influence and are influenced by the state and other
actors (varying with levels of capacity). Neither is it necessarily possible to improve levels of
capacity in all aspects of the state at once – certain capacity may be considerably more difficult,
if not impossible, to build, while attempting to build capacity in one aspect of state function may
hinder or even reverse the growth of capacity in other sectors. It is important to recognize that
different parts of the state may all have some varying levels of capacity; there is no reason to
assume that any arm of a state should function as well as every other.3 This is a significant
distinction, as it suggests that a state may have a lack of (or substantial surplus of) specific
capacity, even if the state is quite strong (or weak) in other areas; the impact of either a lack or
surplus of capacity or the impetus to change capacity in a given aspect of governance will vary
with the circumstances and conditions (including those rising from external events) in which a
state finds itself. This provides the opportunity to explore the impact of specific reforms in
Chinese socio-economic structures on the capacity of the Chinese state. Capacity might be more

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3 Such an assumption would suppose that a state was uniform in makeup and action, belying the complexity inherent
to any state.
or less volatile in distinct areas, or easier to alter from the perspective of socio-economic or state actors.

In this analysis, state capacity theory is used to examine three aspects of the Chinese economy (banking, currency reserves, and currency policy) as a means of analyzing sources of vulnerability to the global economy and the resilience raised by the nature of the state’s relationship with these three features. Since China is recognized as operating under a fundamentally different political-economic system than the majority of other key members of the global economy, state capacity is used to assess the extent to which government action suggests the existence of high or low capacity on the part of the Chinese government in these areas of activity, and whether this demonstrates a broad source of vulnerability (or source of resilience) to the wider global economy. In this sense, it is employed as a metric or ‘filter’ through which to analyze and view broad sources of vulnerability and resilience in the relationship between the global economy and China. This brings together Weiss’s approach that allows for the ability of underlying structural relationships to alter or influence capacity in a non-zero-sum manner and Grindle’s independent or sector-specific state capacity, thereby creating the opportunity to generate more complex observations about the relative capacity within a state.

1.4 Wade’s “Wheels Within Wheels”

Vulnerability, whether conceptualized indirectly as through such approaches as the Global Risk Network’s theories and applications of systemic risk or directly as through the ASEC vulnerability model framework, should be treated as a function of the broader IPE environment, thanks to the ability of IPE to house the discussion, examination, and analysis of relationships between global levels of political-economic activity and sub-global actors or systems upon which vulnerability as a concept relies. Situating vulnerability so broadly can, however, render it difficult to apply when considering specific circumstances or relationships between the global political economy and particular actors or structures. This thesis attempts to further clarify the ASEC vulnerability model’s application by directly adapting Robert Wade’s ‘wheels within wheels’ model of the functions of the global political economy, making it easier to apply the theoretical concepts to real-world situations and circumstances.
This model depends on an earlier, single point of analysis, rather than the entirety of Wade’s body of work or any analysis of the most recent global financial crisis. Wade’s recent work has evolved to a more direct critique of the distinct processes of globalization and the Western-led free-market financial model that fueled the 2008 global financial crisis, including the American policies and regulatory failures that encouraged dangerously relaxed capital and credit flows (Wade 2010); the difference between how the “globalization consensus” is perceived and the ‘on the ground’ economic reality in which developing economies find themselves, leading to a retreat from broad neo-liberal economic policies and integration (Wade 2008, 2010); and the failure of explanatory models of the 2008 financial crisis to incorporate entrenched global economic imbalances in a central manner (Wade 2009). This thesis engages in a more neutral approach concerning the value of globalization, an approach that is more difficult to integrate in Wade’s recent analysis due to these more judgmental or internationally-focused views of globalization and economic integration. Instead, the less directly pejorative ‘wheels’ model originates in an earlier attempt by Wade to explore the nature of the 1997 Asian Financial Crisis.

This earlier approach evolves from Wade’s stated dissatisfaction with analysis used by some political economic theorists, economists, and senior members of the economic system in the developed world (particularly the United States) to identify the 1997 Asian Financial Crisis (AFC) as an Asian-developed crisis (Wade, 2000). The emphasis of these observers and analysts was on the failings of Asian institutions within states that had suffered from the AFC, including cronyism within financial and corporate institutions, existence of moral hazard within Asian financial institutions, and manipulation of market forces and economic actors on the part of governments in the region (such as a fixed or heavily managed currency exchange rate) – a domestic causal approach (Wade, 2000). Wade proposes, instead, a “failure of international financial markets approach.” This approach incorporates the basic structure of the global financial and economic systems as explanatory factors in the crisis (in conjunction with key domestic features of the East Asian economies), notably the manner in which the events were predicated on or triggered by policies that aimed to relax currency controls and exchange rates, as well as encourage or facilitate trans-border capital flows. It is worth noting that this theory rules out an explanation of the AFC that attributes it as a wholly externally-generated crisis. An entirely external explanation would not incorporate characteristics of the East Asian economies.
into the explanatory model in a central manner, as the makeup of the East Asian economies would be of less importance than activities of foreign economic and political actors; while Wade places considerable explicit emphasis on the impact of large private capital inflows from Western financial markets (identifying them as the formal triggers of the crisis), he situates them in an environment that requires an equal consideration of the nature of the construction and development of East Asian financial markets and the ability of regional governments to regulate these markets.

Wade should be interpreted as taking the view that neither of the two radical explanations for the AFC is entirely satisfactory standing alone; the broad causal approaches described above (the ‘domestic crisis’ and ‘externally generated crisis’) assume the existence of a regional financial contagion described in terms of related disparate crises and consider each economy as a separate unit afflicted by particular factors of domestic or external systems. Melding aspects of the two arguments produces a far more convincing causal picture of the AFC. Wade (not always explicitly) combines these two elements into an argument that describes the AFC as an event originating from the relationship or integration between domestic and international factors and the manner of their interaction, describing these relationships between the domestic and international settings in terms of an analogy: “wheels within wheels” (Wade 2000: 87). If the AFC is viewed in terms of the “wheels” model, then the smaller wheels (domestic economies) must be seen as integrated with and operating within the bounds of a larger wheel (the wider international financial and economic system), binding all the elements together and causing them to affect one another. Such an explanatory model, though bound up in the activities of a broad global system and addressing elements of that system that could contribute to financial or economic crises, does not divest the governments of the states in question from elements of responsibility; it is quite possible that the absence of a rigorous set of controls over liberalized capital transactions played a key role in allowing the international financial system to have such a devastating effect on these inner wheels (Wade 2000: 106-107). The ultimate cause of the AFC rests in the result of the interaction and assignment of equal amounts of responsibility to both these factors. The ability for large amounts of capital to move freely and rapidly in and out of many of the key Asian economies was obviously key in the fomentation of the crisis, but it is the very nature of the international financial system that allowed for such mobility. By opening their economies to this system, the worst affected states in East and Southeast Asia created a
possibility for the nature of this system (the outer wheel) to adversely affect a domestic economy (the inner wheels).

This “wheels within wheels” model can be adapted to reflect the encompassing nature of the vulnerability concept. This model does not envisage the ‘turning’ of broad wheels, each representing a level of activity (either global or domestic), but instead the inner workings of a complex clockwork device that represents a modern human system (such as the global economy). When examining a given situation or circumstance from the perspective of vulnerability, the focus is on particular cogs in the device, seemingly closely connected. One cog, representing the functioning of the system in question, is much larger than the other and intricately connected to the rest of the clockwork mechanism: these connections represent the various ways in which the global economic system integrates and connects with sub-global systems. In this respect, it is rather similar to the two “wheels” that exist in Wade’s model (though in a slightly different configuration), as each ‘level’ of the global system is integrated with or attached to the others. A significant cog may represent a key element within that global system – for example, the whole of Chinese economy. A more detailed analysis might include a sequence of cogs, representing distinct elements of the Chinese economic system (such as the banking system or the export-manufacturing sector), supporting the larger cog that represents the function of the broader Chinese economic system. On examination, one might perceive a single tiny cog rotating between these two larger cogs, facilitating their connection. These larger cogs, though impressive in size, depend entirely on the proper functioning of this small cog to facilitate their expected rate of movement and harmoniously integrated functions. If it were to break or malfunction for whatever reason, whether due to pressure from the “China” cog or the “international system” cog, the entire mechanism might cease to function or function with limited effectiveness.4 This smaller cog represents the vulnerability posed by China’s inclusion in the international system; the concerns related to the Chinese economic system are melded with the extensive and deep ties that exist between China and the international system. Exactly what makes up this smaller gear need not be immediately apparent, though may be discovered upon closer inspection of the workings of the mechanism before or after this smaller ceases functioning properly. What is crucial is that this smaller ‘vulnerability cog’ is situated between

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4 ‘Limited effectiveness’ might include slowing down or forcing other elements of the mechanism to come under greater pressure, perhaps in turn generating other challenges to the function of the mechanism; erratic movement in this small cog might be transferred to other elements of the mechanism.
the two larger, more obvious gears, representing that these linkages between the distinct ‘sections’ of the mechanism have been formed through these potentially weak institutions and features, thus tying the smooth running of the larger central gear, and consequently the entire clockwork mechanism, to the continued movement of this small gear. What is of interest then, in this thesis, is in determining the broad elements of the Chinese economic system that might be represented in this smaller cog, and how the ‘movement’ of this smaller cog integrates with and potentially threatens the function of the complex workings of the clockwork mechanism as a whole.

1.3 The Concept of Vulnerability and the ASEC Vulnerability Model

The Roman historian Pliny the Elder observed in his Naturalis Historia that "Solum certum nihil esse certi et homine nihil miserius aut superbius" – roughly, “The only certain thing is that nothing is certain and nothing is more wretched or more proud than man.” Pliny’s verse summarizes how life might have been characterized until the arrival of the modern era of science and reason. Without a basic understanding of the science or reason driving events, life exists within an environment of uncertainty – if events and outcomes in life are ascribed to all-powerful but ultimately unknowable beings (gods or other supernatural forces), there is little possibility of determining how likely certain events or outcomes are to occur due to intermittent or irregular problems (such as waves of illness) or, worse, rare catastrophes (such as a volcanic eruption). In contrast, modern human society has largely substituted uncertainty (of the variety arising from belief in the divine and the supernatural) with the analysis and acceptance of risk, a product of a system based on science and reason used to question, analyze, and catalogue the events and elements of human life and the modern world (Woodrow, 2006). It is for this reason that absolute uncertainty is now a rarity. It is not often that a situation arises about which absolutely no knowledge exists as to what the situation is or the possible outcomes or consequences to which it might lead. The usual counterpoint to risk is what is described in the ASEC model as a

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5 The exception, even though they have little to do with the functioning of most modern states, are those basic faith-related issues that continue to belong to the field of uncertainty, even in a modern setting, due to the emphasis on belief in rather than proof of the divine – a religious believer does not, by definition, require scientifically conclusive proof that a deity exists. Generally though, this is a concern of the individual or cultural group rather than global or even most national structures.
condition of ‘limited certainty’, a circumstance in which a particular outcome to an event or action is believed to have a virtually assured chance of occurring, through the application of knowledge and experience (Woodrow, 2006). Such conditions are common in the everyday world – when a person touches a flame, basic knowledge of the qualities of fire, and possibly prior experience, lead the person to anticipate that pain and a burn will be the result of the action.

Risk relies upon certain requirements concerning the knowledge necessary to perform, even at the most basic level, a probabilistic analysis. What happens then if risk fails? How does one characterize a situation in which society has knowledge of the individual elements of systems or structures, yet fails to identify the inherent weaknesses or characteristics within those systems? This does not seem to fit within the realm of uncertainty, the definition of which relies upon the complete absence of knowledge: uncertainty is defined as “a situation in which there is no knowledge of the outcome of an event or choice, nor the reasons as to why a given outcome occurs” (Woodrow, 2006). Neither does such a situation fall into the realm of risk, when the “probability of a given event or outcome occurring based on prior circumstances or conditions, with knowledge of the consequences of the outcome” (Woodrow, 2006) is known, as knowledge of the elements of the system and the processes of the system have not been assembled in such a way as to positively identify the inherent qualities that may pose a threat or calculate the chances of a given outcome arising from such a condition.

It is this void between risk and uncertainty – when knowledge of some basic global structure exists but is not recognized in a manner that leads to the identification of risk or danger within that system – that is the realm of vulnerability. Vulnerability is an “unknown known,” a set of knowledge whose components exist (existing facts known about a system), but are not put together in such a way for the knowledge to be recognized (recognition of a weakness within a system). It is defined, in this theoretical model, as “an inherent or circumstantial condition which could result in an event or outcome occurring, with causes or consequences unspecified” (Woodrow, 2006). This model is drawn from the ASEC vulnerability framework; as it is a fresh conceptualization of the ‘risk gap’ problem, there is little in the way of a significant literary or theoretical base explicitly related to the theory. There is a limited amount of work dedicated to

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6 The definitions for uncertainty, risk, and vulnerability are drawn directly from the ASEC model.
7 “Unknown known” refers to Donald Rumsfeld's infamous statement: “...because as we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns -- the ones we don't know we don't know” (US-DOD, 2002). An “unknown known” is the missing fourth category: something we don’t know we know.
exploring and analyzing this ‘risk gap’ problem, frequently appearing in a form similar to ‘systemic risk’ analysis (most notably by the World Economic Forum’s Global Risk Network) or some alteration of the terms of risk or vulnerability. The relative value of the ASEC model is its complete dedication to this problem, focusing entirely on describing the issue of this ‘risk gap’. Despite the lack of a formally dedicated body of literature, vulnerability is a widely used term (though with multiple definitions) within a variety of fields – the theoretical concepts from some of this literature may be applied to vulnerability theory due to existing conceptual similarities or compatibility. Coupled with the ASEC model’s treatment of vulnerability, this literature can further add to the concept of vulnerability as a response to the weaknesses of risk analysis.

The various definitions of vulnerability can be noticeably distinct. The conception of vulnerability held by a political scientist focusing on international development will be substantially different from that held by a computer security expert, for example, even though both fields make use of the term. In the case of the former, the term refers to the condition of a population and the damage it will suffer in the case of a crisis or shock; for the latter, a vulnerability is a technical ‘hole’ or gap in a system or piece of software that may be exploited by an external (quite possibly malicious) force (Woodrow, 2006). The ASEC vulnerability model categorizes vulnerability into two types. The second type concerns the manner and degree to which a given population is affected by a particular vulnerability or crisis, and is the more common form of the concept found within social sciences (Woodrow, 2006). This is characterized well by Nye and Keohane in their conception of vulnerability as the (in)capacity – on the part of the state in this example – to absorb shocks and crises (2001), or by Kirby’s characterization of vulnerability as an “increase in threats coupled with a weakening of coping mechanisms” (2006: 636). These perspectives typify vulnerability essentially as a failure of the resilient character of a target population, structure, or organization; somehow the mechanisms by which the population in question previously absorbed or resisted shock or disruption has been damaged or altered in such a way as to expose the population to the critical impact of identifiable risks. Vulnerability is viewed by Kirby, for example, as the function of the globalizing nature of modern human society to erode human security and well-being. Globalization bypasses the state’s ‘safety shield’ of resilience that previously protected particular social groups from critical impacts of risk events or shocks, thereby increasing the vulnerability (insecurity) of certain populations, and ultimately (in the worst cases) visiting “violence” upon them (Kirby, 2006).
these models of vulnerability, the emphasis is on the target in question, determining possible outcomes or consequences to a given situation or attempting to ascertain whether and to what extent certain populations have suffered under given circumstances. In contrast, the first form of vulnerability, as applied in this thesis, is the explicit focus of the ASEC literature. This form of vulnerability places the emphasis not on the populations affected by vulnerability or risk impact, but on the nature of vulnerability itself, focusing on these conditions within entrenched systems.

A key conceptual element of Type One vulnerability is that it is an inherent or circumstantial condition, a state of existence or intrinsic characteristic, generally in reference to a basic embedded structure on the global or a wide international scale (Woodrow, 2006). The object of interest is the very nature of the system, or the manner in which multiple systems are interconnected. This is why the possible consequences to vulnerability may remain unspecified when considered at a conceptual level – it is not the outcome of events that is at the heart of the analysis, but the qualities of a given system (though these qualities may lead to any number of events possibly taking place). This characterization is reflected by Sarewitz et al. (2003) in their differentiation between probabilistic-based analysis and vulnerability. Their definition of vulnerability is similar to that of the ASEC model, identifying the condition as the “inherent characteristics of a system that create the potential for harm but are independent of the probabilistic risk of the occurrence (‘event risk’) of any particular hazard or extreme event” (2003: 805); the emphasis is placed on a system’s state of existence, the manner in which it is constructed or used. Risk, by contrast, is often applied to the possible occurrence of defined external events rather than states of existence, with varying degrees of risk or probability coinciding with individual actions (for example, the probability of winning the lottery is different for a person who purchases hundreds of tickets every month compared to an individual who buys only one ticket in a lifetime – the lottery ‘system’ itself hasn’t changed, but individual actions have affected the probability of that person winning). Sarewitz et al. (2003) identify this predilection for probability-based risk analysis to focus on the possible occurrence of external

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8 It is important to underline the potential complexity of vulnerability in reference to this statement. There may be a host of various systemic elements coming together to influence the creation of vulnerability, ranging in scale and scope. There is no real limit to how complex the systemic interaction that contributes to the formation of vulnerability might be – this is in part due to the complexity and interdependence exhibited by much of modern infrastructure, both nationally, internationally, and globally. This complexity of possible interrelationships is demonstrated by Holmgren et al.’s treatment (2001) of critical power distribution infrastructure, as they address the weakness or threat that might be transferred between seemingly different levels of infrastructure (in this study, digital communications structures).
events (rather than address inherent features of underlying systems or structures) as one of the main differences between vulnerability- and risk-based approaches to such analysis. It is impossible to quantify the risk of certain events occurring using a probabilistic based approach when there is a lack of experience or recognized knowledge of those events, such as would be the case in a systemic risk or vulnerability scenario.

Though vulnerability as a concept does not predominantly focus on the occurrence of events, being instead concerned with states of existence or intrinsic qualities of a structure, neither is it accurate to describe vulnerability as a static condition, nor one that completely defies schematic characterization. The ASEC model emphasizes the role that three factors play in the definition of vulnerability, when compared to the qualities of risk, uncertainty, and hazard\(^9\): range of action, degree of knowledge, and factors of time and space (Woodrow, 2006). While these factors might appear in other work related to vulnerability or systemic risk, the value of using the ASEC model is the explicit treatment and detail it affords these three factors. It should be noted that the distinctions drawn here must be treated flexibly – they are not meant to provide a universally applicable, absolute distinction between the different concepts, but general characteristics that are helpful in defining and differentiating the concepts.

The first factor describes the range of knowledge that is available with respect to a given condition or action, both in terms of quantity and quality. Information may be known to be lacking, it may not have a dependable foundation that allows it to be applied with confidence, or it may apply in only a peripheral manner to the precise condition in question. The ASEC model characterizes vulnerability as a condition associated with a high degree of knowledge when compared to risk and uncertainty: a considerable body of information is likely to be available in regard to a particular vulnerability due to the focus on existing (generally internationally or

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\(^9\) While it is one of the four key components in the ASEC schematic model, hazard is relatively unused in this paper. Hazard is defined in the ASEC model as “action or behaviour in the face of risk” (Woodrow, 2006). In this sense, hazard is reliant upon action by an actor, whereas vulnerability, risk, and uncertainty might be more accurately described as conditions or qualities of a situation, structure, or event – they are not predicated on action occurring, even though the possible ranges of action are defined within the ASEC model (and even, as in the case of risk, if knowledge of possible action is required). An updated definition describes hazard as an “expectation that some particular event/outcome will occur, including acceptance of its probability and its known consequences” Woodrow (2010) – altering the perceived degree of knowledge available to the individual (as distinct from normal conditions of risk). This dispenses with the explicit reference to action in the previous definition (though it is arguably still a state of mind on the part of an individual), but in spite of the alteration, hazard is still identified as an ‘offspring’ of risk. While this does not make its inclusion within the ASEC model a target of criticism, it does leave its usefulness in this paper limited and its inclusion arguably unnecessary, thanks to the existing comparison of vulnerability with the broader risk category.
globally) embedded systems or structures, the root features of globalized human society (Woodrow, 2006). The crucial issue concerning vulnerability is not whether knowledge about a structure or system exists, but the extent to which such knowledge is being applied or interpreted in such a manner as to reveal these inherent conditions or accumulation of circumstances that make up vulnerability. Both risk and uncertainty, in contrast, exist in conditions of comparatively lower degrees of knowledge – in the case of uncertainty, a complete absence of knowledge as to what is occurring and why, while in the case of risk the focus is on future (possibly external to a system or structure) events, with no guarantee or requirement that all possible outcomes to an event are known or that knowledge about circumstances underlying an event is rigorous or complete (rough risk analysis may be conducted even with relatively little knowledge, though with an imprecise result). By definition, risk exists under circumstances when knowledge of particular events or situations is at least somewhat incomplete, leaving the specific outcome or resolution of the event unclear.

The second factor referred to in the ASEC model is the possible action that might be taken with reference to a given condition or event, including the potential consequences of such action; ‘action’ here is simply any possible response to a given problem or issue. Due to the focus on wide-ranging, deep-rooted structures or systems coupled with the lack of recognition about both the specific condition and possible events arising from that condition, the range of action in the case of vulnerability is limited. There is simply a lack of awareness concerning the existence of a problem or threat and its possible consequences (this is not a condition of uncertainty, as it is not the case that the knowledge of a vulnerability does not exist – it simply has not been recognized or interpreted in such a manner that the threat and potential consequences are apparent) (Woodrow, 2006). In addition, the roots of such structures and systems would likely run deep throughout integrated global networks and national systems, making it difficult to engage in any radical action that might in turn disrupt the wider system or structure. In contrast, the range of action for risk is comparatively high because of the ability of individuals to influence risk probability and impact, due partly to recognition of the issue or threat and the existence of a range of possible outcomes to a given situation, as well as the fact that a risk might well be external to a given system or structure. Conditions of uncertainty, however, demonstrate a minimal possibility of action as a result of the absolute lack of knowledge of the event or condition in question (Woodrow, 2006).
The third factor, ‘time and space’, underlines the complexity of vulnerability theory, suggesting that vulnerability varies with reference to certain environmental factors, namely the effect that changing location and time may have on the condition (Woodrow, 2006). Vulnerability is not necessarily static. Since vulnerability is dependent on the state or nature of a system rather than the occurrence of external events, what might constitute vulnerability for one system at a given space and time may not be the case for another, or even the same system in different space/time circumstances as the system itself is altered over time and circumstance: it might, for example, constitute a risk if the vulnerability is identified and thoroughly quantified, or the condition may simply not exist at all. This particular factor, included explicitly in the ASEC model, may also be inferred from Arbaugh et al.’s ‘windows of vulnerability’ concept (2000).\(^{10}\) The key element in Arbaugh et al.’s analysis is that the characteristics of vulnerabilities vary enormously based on a variety of factors occurring in different locations at different times, to the extent that a linear model (expressed in terms of a life-cycle model – a vulnerability appears, triggers or manifests, then disappears as it is absorbed or negated by the system or structure) is insufficient in characterizing such a condition. They propose that an organic model suggested by a parasite or virus invading a host body is better suited, with a progression of events occurring in a non-linear manner in accordance with changing environmental factors (particularly time, scale, and reactions to the condition) (Arbaugh et al., 2000). Vulnerability might change, manifest in different ways or circumstances, or combine with other vulnerabilities to trigger a catastrophic event, all without a set linear order or guaranteed occurrence. Arbaugh et al.’s use of a more organic model of vulnerability underlines and conceptualizes the flexibility and adaptation of vulnerability suggested by this factor in the ASEC model.

In addition to the tri-axis characterization used within the ASEC model that broadly situates vulnerability in relation to the other two main conditions of risk and uncertainty (in addition to the action-predicated condition of hazard), the model also breaks vulnerability down into constituent characteristics – metrics – that might be used to define particular vulnerabilities in greater detail. In addition to the six metrics outlined by the ASEC model (see Figure 1 for a brief summary of the existing ASEC metrics, though it should be noted that it is possible to

\(^{10}\) While Arbaugh is writing with particular focus on the possible vulnerabilities within technical systems, the concept is very similar and may be applied with respect to the time and space considerations of vulnerability as a broad concept.
divide each metric into more detailed characteristics), this thesis introduces two new metrics that alter the basic characterization of the ASEC vulnerability model.

The creation of both these new metrics or features of vulnerability stems in part from the value of the more semi-organic understanding of vulnerability advocated by Arbaugh et al. The reason for introducing these two new elements rests in what might be described as the broadly mechanical nature of the ASEC model. The model sets out the constituent elements and explicit features of a given vulnerability, but generally does not compensate for or explicitly describe how a given vulnerability might evolve under certain conditions. Interconnections and relationships between different vulnerabilities are explored, but the possible relationships between vulnerability and varied structural or systemic hosts are not overtly addressed. This is

| Source and agency | describes the activity and forces behind the creation of the vulnerability – including whether it is a result of human activity or not, and whether it was the result of deliberate or accidental action. |
| Scale, scope, and intensity | describe the general ‘physical’ characteristics of the condition – the size, general importance, range, and structural impact of the vulnerability. |
| Explanation | refers to the extent to which existing facts about the system or structure in question might be used to define the vulnerability or determine its characteristics – ultimately, how to link existing information about a structure to the vulnerability and determine whether and to what extent critical information is missing from an analysis of the vulnerability. |
| Criticality | addresses how the vulnerability is revealed or activated, such as through the ‘shock’ of a catastrophic event (such as a major storm) or the slow breakdown or contagion of a system (such as a creeping financial crisis), and how the impact of the vulnerability, once revealed, might be measured or predicted (determining how serious the vulnerability will continue to be once it is apparent, and whether it is possible to conclusively ascertain its future impact). |
| Interrelatedness | specifies how and to what extent a vulnerability is connected to other vulnerabilities (as well as very complex networks of vulnerabilities), including the impact or interdependence that each vulnerability might have on another. |
| Resilience and Reversibility | is the ability of a system or structure to withstand or absorb the effects of a triggered vulnerability, or the extent to which it is possible to ‘fix’ a vulnerability once it has been recognized or triggered, including determining whether a vulnerability is an unavoidably permanent feature of a system or structure and whether it is possible to bypass or minimize a vulnerability that cannot be ‘repaired.’ |

Figure 1: ASEC Vulnerability Metrics – Source: Woodrow, 2006.
also true of the GRN model: conflation is discussed in relation to the interconnections and relationships between different systemic risks, but the relationship between a given systemic risk and possible structural or systemic hosts is not treated in the same manner. In this sense, the goal of adding these two new analytical features to the vulnerability model is to address vulnerabilities that might act in a more organic fashion, evolving into possibly fundamentally different forms while spreading between different structural hosts. Some of these observations might be regarded as logical inferences drawn from the already existing metrics, but given the complexity of the vulnerability concept it is worthwhile to fully articulate these factors to provide a more robust characterization of the concept and to clarify the changeable nature of vulnerability.

The first is the inclination of a given vulnerability to ‘travel’ between structural locations in what might be characterized as vulnerability shift or contagion. The metric of scale, scope, and intensity provides the means to analyze the characteristics of a vulnerability in regard to scale, size, and range across a structure or structures, but does not provide the means to characterize the extent to which a vulnerability might change in its range, scale, or size through interaction with other structures. If modern society (particularly economic activity) is increasingly marked by links formed between a majority of states, possibly leading to some degree of convergence of national or international systems or structures, then the possibility exists for vulnerability in one structure to ‘spread’ to another through the growth of deep-rooted connections between the two in an act of contagion, due to similarities in the makeup of the structures. Alternately, in the event that the conditions of one of the systems render the vulnerability moot in the original structure, but not the structure to which the vulnerability has spread, it might be said that the vulnerability has ‘shifted’ to the new host structure or system – with possible continuing implications for the original structure by virtue of the deep-rooted links that exist between the two because of internationalization and globalization. The ASEC model addresses the possible impact of a vulnerability across interconnected structures, but does not detail the ability of a vulnerability to move between or across structures or systems.

The second addition references the time and space axis of the ASEC schematic model to assess the ability for evolution of vulnerability to take place. The ASEC model makes it clear

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11 This is different from the metric of interrelatedness that describes the relationship between differing vulnerabilities rather than between a vulnerability and a foreign structure or system.
that vulnerability is subject to considerable variation based on time and space, and makes reference to the possibility of changing circumstances in some of the discussion surrounding the metrics (for example, raising the issue of instability of a triggered vulnerability in the criticality metric). However, this observation is not explicitly incorporated into the system of defining the more detailed components of a given vulnerability. It is, again, not unreasonable to question to what extent some vulnerabilities are affected more by variations in environmental factors (including time and space) than others. This is not just a simple binary consideration – if it is possible for vulnerabilities to come into existence in a particular space at a particular time, then the possibility exists that those shifting factors of space and time might also fundamentally alter a vulnerability, not simply bring it into or out of existence. Certain vulnerabilities may be less likely to vanish over periods of time or changes in space than others. Such alterations may be due to a change in the basic nature of the structure or system giving rise to the vulnerability, driven by either (or both) internal or external factors, or certain changes in crucial characteristics or relationships of the structure. Given the shifting patterns of convergence, connectivity, and interdependence between systems and structures in modern global society, the ability of certain vulnerabilities to better withstand changes in their respective environments will affect their ability to spread to other systems or structures. Depending on how the vulnerability is created within a given structure or system, it may be able to absorb considerable changes to the structure, making it more likely that it will exist following the integration of such a structure with others in complex global networks, allowing a greater opportunity for the vulnerability to spread into other systems and networks due to its innate resilience.

It must be noted that simply cataloguing particular vulnerabilities has questionable real-world application. Since the existence and particular consequences of vulnerability are, by definition, not able to be determined in advance by a probability analysis, attempting to directly prevent or fix specific vulnerabilities is difficult and endless. There may be an infinite number of vulnerabilities interacting in an infinite number of combinations. Since a probabilistic analysis of vulnerability cannot take place, without a vulnerability being transformed into a risk through a change in the application of knowledge and circumstances, there is no conclusive method to determine if it is wiser to protect against one possible vulnerability as compared to another. As Sarewitz et al. (2003) argue, the real-world costs associated with attempting to uncover vulnerabilities are simply too substantial to ignore. It is politically impossible to justify
the expense of constantly protecting systems and structures against events with which there is no substantial prior experience (experience providing a concept of how likely events are to occur); there is no way of determining the most efficient way to spend the limited resources available on particular vulnerabilities (Sarewitz et al., 2003).

Of greater value, from a practical viewpoint, is using the study of vulnerability to draw out more general conclusions concerning broader sources of vulnerability – altering the perspective to one that is less specific with respect to possible sources of weakness within a system – as well as the general means by which institutions, systems, and structures might protect themselves against devastating impact from such conditions. This underlines the importance of an element of the sixth ASEC metric, that of resilience. In contrast with the other metrics, altering the resilience of the system does not explicitly rely upon measuring vulnerability – it makes reference to the qualities of the system rather than any specific component of the vulnerability. Resilience as a concept distinct from vulnerability has a generally common definition, is used in a variety of disciplines, and has a very broad scope. More generally, Manyena provides an overview of multiple conceptualizations of resilience (2006), while Alexander (2006) enters into a discussion of challenges to improving global resilience against large-scale disasters from an environmental perspective and Vogel et al. link theories of resilience to the practices of environmental science and disaster prevention (2007). From the economic viewpoint, Kirby’s already cited analysis (2006) of the impact of globalization raises the use of improving social and economic resilience as a means to reduce or avoid negative effects of globalization. Resilience is also a concept referenced in more individually-focused studies – it is not simply a mass-population-centered concept, as demonstrated by Bonanno et al’s study (2006) of the prevalence of psychological resilience against post-traumatic stress disorders in the wake of the Sept. 11 attacks. Resilience may also, finally, be applied to studies of collective units, such as organizations or institutions, such as that of Harrigan and Martin’s (2002) analysis of the resilient properties of cities that allow them to continue thriving even in the wake of terrorist attacks and other catastrophes.

What is common in all these examples of resilience is that the general resilience of a system, the ability to withstand or absorb disruption, may be improved without confronting specific vulnerabilities directly. Emphasis is placed upon the structure, system, or population in question when addressing resilience, as it reflects the nature and characteristics of that system.
Improving resilience in specific circumstances may be done in any number of ways, but at the heart of the concept is the ability of a structure or system to neutralize the impact of harmful events that affect it. A basic means of achieving higher degrees of resilience may be achieved through greater variation and flexibility in the makeup of a structure or system – ensuring that separate components within a system have a degree of dissimilarity makes it inherently more difficult for a single crisis to cripple or collapse a structure, while a more flexible system or structure, one that rearranges its components or adjusts its makeup without harm or excessively adverse reaction, can more easily adapt to changing conditions. Even though this is perhaps a purely logical and simple conclusion, again, much like the concept of resilience itself, these factors of variation (more frequently identified as diversity) and flexibility do occur in the literature dealing with resilient structures and improving resilience. Folke et al.’s proposal (2002) for the building of variety-based adaptive capacity within ecosystems as an explicit ecologically-friendly policy goal and Coaffee and Wood’s (2006) analysis suggesting the implementation of explicitly diverse, multi-level resilience and response government policy strategies by British cities to counter terrorist attacks both emphasize resilience as the target of an active policy goal to be pursued to proactively counter a wide variety of possible damage arising from crises or shocks. Pfefferbaum et al.’s description (2007) of community resilience, drawing and relying upon efforts and inputs from diverse sections of the community to cope with catastrophic events, emphasizes the role that social, non-policy-specific sources of flexibility might play in enhancing resilience, something that may not necessarily originate from a targeted policy pursued by the state.

Resilience takes on an even more critical role within vulnerability theory when viewed in relation to the interconnected and interdependent networks that exist in the modern globalized and internationalized setting. If systems and structures reach a critical point of convergence, similarities between them may make it possible for vulnerabilities to spread throughout a widespread network, aided by a tendency to adapt to slightly different conditions given broad points of similarity, creating significant sources of weakness throughout basic and all-encompassing global structures. In addition, given the existence of such deep and often interdependent links between systems and structures in an internationalized and globalized society, it is increasingly likely that a devastating triggering event related to vulnerability in only a few (or even one) structure would spread to related and linked systems or structures, inflicting
damage on the wider system or network of structures. Ultimately, in order to successfully and proactively manage the threat that vulnerabilities pose to relatively similar structures or systems linked together by processes of internationalization and globalization, the resilience of the constituent components in a system and the wider system itself must be addressed.
Chapter 2 Foreign Reserves and Currency Policy

2.1 The Masters of Money

It is troubling for any state to face the prospect that an external actor could trigger a devastating cataclysm. During the Cold War, nuclear weapons presented one avenue for this fear to manifest in many countries; it was not due to ongoing displays of nuclear destruction, but the implicit threat the weapons represented by their very existence. The 21st century contains new ‘nuclear options’ that can also unsettle many observers simply by virtue of their existence. These implicit threats are not solely military though – they extend to other policy realms, including global economic and financial activity. One of the most public of these ‘unsettling threats’ surfaces upon examination of China’s role, not only in the global economy and financial affairs, but also in relation to global concerns about economic fragility during this time of economic recovery: that of China’s foreign currency reserves. China’s reserves are unsettling simply due to their overwhelming size and existence in the hands of one country. As of 2011, Chinese foreign reserves were by far the largest in the world, making up almost a third (27%) of total reserves held worldwide – more than any other single country and more than the G7 combined (see Figure 1). It is not only the size of the reserves that makes the Chinese state a ‘master of money’, but also the manner in which the reserves have been built up. The processes by which China has accumulated its massive reserve base are direct consequences of the direct control China has exercised over its currency and flows of capital within the Chinese economic system. The reserves are, however, the most public and obvious manifestation of this control.

Like modern nuclear technology, the reserves do not need to be concentrated in one unwieldy, massive weapon. Small amounts may be used ‘tactically’ to achieve narrow goals, making the reserves closer in nature to a giant resource base. What matters then is how China has used and might use this resource base and what problems the existence of such a massive resource in the hands of one country presents to the world. There is no question that China might use its reserves in a manner to influence other states’ policies towards China or that the existence of such reserves has had a significant effect on the global financial environment. An implicit threat exists that forces other countries to take into account the power that China holds over their domestic financial situations by its position in the global financial environment. Even though China may be extremely unlikely to use such power due to the impact it would have on states with which China interacts and relies upon, it is still a potent force simply due to the innate
power of such an economic force. Due to the interconnectedness that characterizes a globalized modern economy though, such influence and the consequences of threats to use it spread far beyond any one state’s borders, affecting the global system as a whole. The very existence of massive Chinese reserves affects how states and entities interact with and within the global financial framework; China does not necessarily even need to use its reserves in an extravagant manner in order to affect a global financial and economic environment in which it is, now, a major actor.

2.2 China’s FOREX Reserve Accumulation

The issue of China’s reserves has been described colloquially as the “1.4 Trillion Dollar Question” (Fallows, 2008). That amount, though only three years old, is vastly outdated: as of January 2012, China officially held US$3.18 trillion\(^1\) in reserves (see Figure 2 for graphic time series).

\(^1\) These official figures are the responsibility of the State Administration of Foreign Exchange (SAFE), a subordinate agency of the People’s Bank of China (which, in turn, is responsible to the State Council, China’s cabinet); only the

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Figure 1: PRC Currency Reserves as Percentages of Global Total (2011) – Chinese data from SAFE (2012b); remaining data from World Bank World Development Indicators database (2012)
The reserves are almost certainly denominated in substantial part in American Treasury bills and other government bonds or agency debt. It is not only difficult to provide a more precise breakdown than ‘substantial’ in describing the exact makeup of Chinese foreign reserve assets, but it is also difficult to say that the total reserve amount stated by SAFE is accurate. Chinese foreign reserve figures reported by SAFE are only provided for those formal assets held by the People’s Bank of China (PBoC) (Setser and Pandey, 2009; Setser, 2008; Prasad, 2009). Any assets held by Chinese banks or corporations are not included in those figures, as these are ostensibly non-state owned, publicly traded firms, as are assets held by the China Investment Corporation, an organizationally separate entity (Setser and Pandey, 2009; Setser, 2008). The products of financial tools that place foreign reserves in a form of financial limbo are also disregarded, such as requests made by the PBoC, since 2007, to commercial banks to hold government-mandated reserves at the PBoC in foreign currency-denominated assets; only some of these holdings are reported by the PBoC in its own records (Ma et al., 2011; Setser and Pandey, 2009; Prasad, 2009). The measure of China’s total foreign assets was reported to be approximately US$2.9 trillion at the end of 2008 (BBC, 2009). This increased to approximately US$3.5 trillion by the end of 2009; if one takes the SAFE figure of US$2.4 trillion reported for central bank, and more specifically SAFE, has the authority to govern and manage the country’s foreign currency reserves, under the ultimate direction of the State Council.
the same time, official reserves count for about 70% of the total foreign assets (Zhongmin, 2010). Obviously, the total foreign assets figure cannot be used as a replacement for the official foreign reserve figure, as it includes assets held by (truly) private corporations and non-state entities. Setser and Pandey (2009) estimated that, taking into account off-sheet assets and those held by the CIC, total PBoC and direct state foreign assets amounted to US$2.3-2.4 trillion at the end of 2008. This is approximately 20% greater than equivalent SAFE figures. Such a measurement has not been replicated for more recent years (and it would be unwise to rely on the assumption that a linear relationship would persist over time), but taking the 20% figure and applying it to end-2011 official reserve amounts results in total state foreign assets of about US$3.8 trillion. Consequently, when examining official Chinese reserve figures, it is important to be aware of this potential concern that they do not represent the ‘true’ foreign reserves of the state. Despite the uncertainty that the official figures from one agency present, in practice, given controls put in place by the Chinese state governing the holding and use of foreign currency, it is acceptable to conclude that the official figures provided by SAFE are at least indicative of the scale of the reserves. This reflects a practical response to the effective difficulty of attempting to reach a more precise valuation of the Chinese reserves: though the number of options available to shift assets away from the PBoC are in part defined by the controls enacted by the state, that should not minimize the possibilities available to the PBoC to distribute a quantity of assets beyond the view of external observers and the complexity in then attempting to trace those assets.

The other concern cited above relates to the difficulty in determining the actual makeup of China’s reserves. It was, until September 2010, unclear as to the formal division of those reserves (by type of asset and country of origin), due to the Chinese government’s unwillingness to specify their makeup. Foreign reserves may be held in a number of ways, not just hard currency, resulting in a complex array of assets. In the Chinese case, the exact composition of the state’s reserves has been, and remains, treated as a state secret by the government and is not publicly disclosed (Setser, 2008a; Xin and Rabinovitch, 2010). Unofficial figures published in a Chinese economic journal in 2010 put the breakdown of the reserves at 65% in U.S. dollars, 26% in Euros, 5% in British pounds sterling, and 3% in Japanese yen (Oksanen, 2010; Wagstyl, 2010; Xin and Rabinovitch, 2010). For an extended analysis of the makeup of the reserves, see Appendix A.
This lack of official information contributes to the uncertainty surrounding China’s reserve holdings. Observers may now have a better unofficial notion of the degree of and manner in which China holds assets in a given currency, but the ongoing official secrecy surrounding the precise details of those holdings makes it more difficult for other actors to formulate financial and economic policy when assessing China’s potential for financial market intervention. It also contributes to the deteriorating political rhetoric and increasing political pressure to act on the issue when applied within a domestic setting by actors who view the intransigence of the Chinese government to release such data as a sign of murky future intentions of a foreign government. As Breslin (2008) suggests, this domestic pressure could certainly affect foreign policy, and might, conceivably, constrain a government’s ability to adopt a more nuanced or long-term diplomatic approach to resolving political concerns about China’s reserves in favour of a more domestic politically expedient strategy, particularly in a polarized and closely-fought domestic political environment. Such national perspectives might, in turn, affect a broader communal perception of China and influence the systemic approach to the country – the value of perception can have concrete repercussions in global diplomacy and can contribute to the most basic opinions of a state (Breslin, 2008).

China’s official reserves are now so large as to present a unique force in the global financial system, but this international situation is largely a product of China’s currency policy and its future development will be directly tied to how this domestic monetary policy evolves and changes. To understand the subtler aspects of the challenge Chinese foreign reserves present to the global economic and financial system, the factors determining the creation of these reserves must be addressed. China’s currency reserves have emerged as a global financial issue only recently, following the Chinese Accession to the World Trade Organization in 2001 (though there is no direct link between the events, a clear relationship exists between China’s growing trade regime and the growth of the reserves). As the rate of Chinese reserves grew, they have come to be seen by some as indicative of an under-valued currency due to the Chinese central bank’s intervention in the foreign exchange markets. The reserves also grew in a non-linear fashion, increasing in rate of growth as the decade progressed.

In the past decade, Chinese reserves have grown in three distinct ways, two of which concern hard currency transactions, while the third is the result of policy pursued by the Chinese government to support its currency exchange regime. The initial buildup of Chinese reserves
was due to the inflow of investment to China following the WTO Accession, both in the form of speculative short-term investment and long-term foreign direct investment; this is referred to as the capital-account surplus driven reserve. The other surplus-based increase driving the growth in reserves is that derived from the current account; while the current account includes any revenue gained or lost from the exchange of goods or services, this has primarily been driven by the trade-account surplus, the profits from the export of Chinese goods to the rest of the world. The third factor driving the increase of foreign reserves is directly related to the exchange rate regime the Chinese government maintains, the sales of renminbi and purchases of foreign currency it makes in the global foreign exchange market in order to manipulate the value of the renminbi compared to other key currencies (particularly the U.S. dollar).

Unlike the other two factors contributing to the growth of the reserves, current account surpluses are permanent increases in China’s wealth. These surpluses are due to a positive net income for China, rather than investment (which, in some circumstances, might be withdrawn and for which the investor receives some return) or the result of state intervention in the international currency markets (which is simply transforming the state’s existing monetary resources). Much of the value derived from a current account results from the value of a country’s foreign trade, the income generated from the exchange of goods and services between a country’s economic agents (including private, state-owned, and state-operated businesses or corporations) and foreign actors. A positive surplus in these trade exchanges indicates that a given state has exported more (with respect to financial value) than it has imported. It is now common knowledge that China has benefited from consistently large trade surpluses over the past decade (see Figure 3), contributing to consistently positive and growing current account surpluses (see Figure 4). From 2001 to 2010, the average annual trade surplus was US$132

![Figure 3: PRC Trade Surplus, 2001-2011 (Billions of US dollars)](image-url) - Data from US-China Business Council (2012), citing PRC National Bureau of Statistics
billion (based on official figures from General Administration of Customs Annual Reports), driving an annual current account surplus average over the same period of US$194.25 billion (based upon official figures from SAFE). In both cases, growth accelerated as the decade progressed, leading to official 2011 SAFE figures of a US$160 billion trade surplus and a current account surplus of US$200 billion. In order to settle the individual trade transactions making up this activity, a foreign actor must use renminbi previously obtained\(^2\), purchase the requisite amount of renminbi using foreign currency to cover a particular trade exchange, or, if an exchange is denominated in a foreign currency such as the American dollar, pay the required amount in the necessary currency in order to complete a trade exchange with a Chinese actor. This results in foreign currency flowing back into China, either under the auspices of an export agent or through the functions of the central bank that facilitate the purchase of renminbi for the clearance of foreign trade.

Any country engaging in foreign trade or receiving foreign investment will obtain foreign currency inflows. The key feature distinguishing the Chinese example is the size of its surpluses, the amount of foreign exchange flowing into China. However, the Chinese situation differs

\(^2\) The use of renminbi as a means to directly settle third-party trade exchanges on the part of an external actor is a recent policy introduced by the Chinese government in its efforts to ‘internationalize’ the renminbi, an overview of which is detailed in Dobson and Masson (2009), Chen and Cheung (2011), and Lardy and Douglass (2011). This is not the same as convertibility (the ability of a currency to be traded for another currency); in current-account transactions (trade exchanges) with domestic Chinese actors, the renminbi has been convertible since 1996 (Yang et al., 2007). However, its direct use was, until recently, limited in third-party settled foreign trade transactions (early experiments were conducted in Hong Kong in 2004, allowing Hong Kong residents to open renminbi deposit accounts), and did not serve as a means to directly settle overseas foreign trade exchanges without involving the Chinese government. In a pilot project launched in July 2009, the Chinese government allowed trade between several large Chinese trading centres and Hong Kong, Macau, and the ASEAN nations to be settled offshore in renminbi – this allows financial institutions in these territories to hold corporate renminbi accounts to facilitate the settling of trade in the Chinese currency. The program was expanded to encompass the trade between twenty Chinese provinces and all foreign countries in June of 2010.
substantially once the foreign currency is held by an actor within China. Critically, the circulation and exchange of foreign currency is generally prohibited within the domestic Chinese economy, unless authorized by the state (PRC State Council, 2008). Chinese law prevents domestic individuals and corporate entities from holding and exchanging greater than specified quantities of foreign currency, though the specific exchange holding ceiling varies. This not only forces actors to rely upon official systems to convert their (largely domestically useless) foreign currency for domestic assets, but also places a legal limit on such activity. The practice of removing a given amount or type of currency from a domestic market is known as ‘sterilization’. Both foreign and domestic currency can be managed this way; this is one method by which excess liquidity is ‘mopped up’ in an economic system, easing positive inflationary pressure. Currency is exchanged for some type of asset, a central bank bond, for example, with a fixed term, thereby lessening the amount of freely available money in the economy and replacing foreign currency with domestic assets (Zhang, 2010, 2012; Yongding, 2009; Ljunwall et al., 2012; Wang, 2010). Sterilization may also take the form of regulations that remove liquidity from the economy in some other fashion, such as forcing banks to hold more money in reserve (Ma et al., 2011; Allen et al., 2011; Zhang, 2012). The PBoC has steadily increased its sterilization activity since 2001 (Allen et al., 2011; Ma et al., 2011), with Tan and Yang (2012) estimating that the PBoC, using these different tools, now successfully sterilizes approximately 66% of total foreign capital inflows (capital and current account surpluses).

This control over currency flows exists throughout the entire Chinese economic system. The quantity of hard currency that may be taken into or out of the country (both renminbi and foreign currency) is limited, with large amounts (generally in excess of RMB 20000) requiring prior approval from a Chinese bank or direct approval from SAFE (IMF, 2008; SAFE, 2009). Once within the domestic marketplace, regulations continue to govern the extent to which currency might be converted. An individual may exchange no more than the equivalent of US$50,000 annually without seeking explicit permission from SAFE (with lower daily and weekly limits on transactions and a US$10,000 limit on any single transaction), though they are allowed to hold monitored accounts designated specifically for the purposes of foreign exchange (Yongding, 2009; PRC State Council, 2008; Dobson, 2009). The limits on the retention and exchange of foreign currency by state-approved corporate entities are less restrictive, varying based upon an actor’s quantity of foreign currency payments and receipts received in the
previous year (with additional consideration given to actors in export-related sectors), though the only official means of exchange operates through the regulated banking system within China (Dai, 2008; State Council, 2008; Yongding, 2009). Given that the general prohibition on the use and exchange of foreign currency makes it of minimal value in the domestic Chinese economy, this encourages the banking system to convert its currency supplies through the central bank, making it the ultimate destination of much of this foreign currency. The overall result is that it is functionally impossible to freely use foreign currency within China, difficult to convert it to renminbi beyond stated limits, and due to the currency customs controls, difficult to circumvent the domestic institutional exchange regulations in favour of external, informal exchange markets by using hard currency. The consequence is that the financial regulatory structure within China heavily encourages the flow of earned or held foreign currency to the Chinese state in the form of the central bank, allowing the Chinese government a monopoly to dictate the terms of its currency regime, and making the state an intricately involved member in all domestic currency activity. These restrictions are, to some extent, eased by the ability of domestic actors to hold foreign currency earnings abroad; the more recent State Council and SAFE regulations no longer require foreign earnings to be returned to China, a former feature of the currency regime (Dai, 2008; State Council, 2008; Yongding, 2009; SAFE, 2009). This limits the use of such holdings to international activity, such as purchasing imports or investing in foreign actors, activities that a domestic actor may have limited capacity to undertake (if it needs earned income to reinvest domestically or manage domestic financial obligations, such foreign holdings will be forced to fall under the Chinese currency regulatory regime).

Capital account surpluses are derived from the direct increase in value of a country’s assets, more commonly known as investment – a surplus indicates more investment enters the country than flows out. This is not income, but capital entering the domestic economy in the expectation of future economic return. The value of given accounts or, in the case of direct investment, a particular piece of infrastructure, has increased rather than been exchanged for profit. This does, however, lead to foreign currency entering the economy as actors either directly use foreign funds or purchase the necessary domestic assets to invest in their desired entity. Two broad types of investment exist, foreign direct investment (FDI) and speculative investment. The former is generally a long-term investment in some business or infrastructure, such as a foreign firm purchasing an interest in a Chinese firm. The latter is a short-term, easily
withdrawn investment made in the belief that the value of the account into which money has been invested will increase or will otherwise provide an anticipated economic return. This may be, for example, foreign funds that make their way into Chinese deposit accounts to take advantage of a particular rate of interest, or investment in Chinese currency accounts in the belief that the renminbi will rise significantly at some future point.

China has been the beneficiary of significant investment over the past decade. The level of FDI has generally increased annually (see Figure 5), though at a slower rate than China’s trade surplus, reaching US$185 billion in 2010 (based on the World Bank World Development Indicators database [2012 update]). The total capital and financial account surplus reached US$221 billion in 2011 (SAFE, 2012a). Based on UNCTAD figures for 2010 global FDI flow, China was the second most popular FDI destination behind the United States (UNCTAD, 2011). The difference between the FDI surplus and total account surplus represents investments in financial instruments (such as assets, debt, and securities), which, though not verifiably so, are likely to be speculative in nature (Capiello and Ferucci, 2008; Martin and Morrison, 2008; Bouvatier, 2010). The level of direct investment in China initially contributed a significant amount to China’s currency reserves, as did speculative capital from 2001-2004, driven by the belief that the renminbi would be forced to rise (Bouvatier, 2010; Yongding, 2009; Goldstein and Lardy, 2008). Investment’s relative contribution to reserve growth diminished as current account surpluses rose, driven by China’s trade surplus that grew quickly over the decade, as well as capital-account controls designed to limit the inflow of excess liquidity, particularly short-term oriented inflows (non-direct investment), into the domestic Chinese economy (Goldstein and Lardy, 2008). Though difficult to accurately measure, it is likely that contribution of speculative investment to China’s currency reserves rose again after 2007 due to the fall in the trade surplus.

Figure 5: PRC Net FDI Inflow, 2001-2010 (Billions of US dollars) - Data from World Bank World Development Indicators database (2012)
during the 2008-2009 global economic crisis, a conclusion based upon inspection of the gaps between total reserve growth and the size of FDI and trade flows, leading to possible speculative inflows greater than US$100 billion per year (Pettis and Wright, 2008; Dyer, 2008; Setser and Pandey, 2009; Martin and Morrison, 2008; The Economist, 2008).

It is not only the fact that China receives significant investment that drives its capital account surplus, but also control over capital flows that distort the nature of the Chinese capital system. The general principle underlying Chinese capital controls are, similarly to current-account (trade) transactions, to control the currency’s convertibility and mobility. These controls are even stricter than those governing current account transactions: if the purpose of a currency exchange falls under a capital-account transaction, it is more difficult to convert foreign currency into renminbi (Yongding, 2009; Dobson and Masson, 2009; Das, 2009). These controls address capital flowing into the country in the form of investment as well as that flowing out of the country on the part of domestic Chinese actors. The result is that total Chinese overseas investment amounted to only US$57 billion by the end of 2009, or the fifth largest source of FDI by volume, comparatively much smaller than China’s FDI inflows (Salidjanova, 2011, citing data from the Ministry of Commerce [MOFCOM] and UNCTAD). Capital controls define the manner in which capital might enter and leave the domestic Chinese economy, in the cases of both corporate investors and individual investors. It is, for example, difficult for small and private Chinese investors to invest their capital in foreign assets in a sector dominated by state interests – state-owned companies represented approximately 68% of outward FDI in 2009, while private companies represented only 0.6% (Salidjanova, 2011, using MOFCOM data as a base). State-backed and large corporate investment overseas is encouraged in the interest of economic return and strategic interest, but it is regulated and strictly overseen by state agencies, either through direct ownership (such as by SASAC, the formal state enterprise ownership agency) or a regulatory approval regime (Naughton, 2008; Salidjanova, 2011; Dobson and Masson, 2009; Luo et al., 2009). Any overseas investment by a Chinese entity requires the initial permission of no fewer than three state agencies: the National Development and Reform Commission, the Ministry of Commerce, and the State Administration of Foreign Exchange (representing the People’s Bank of China) (Berger and Berkofsky, 2008; Salidjanova, 2011; Luo et al., 2009). Investment within domestic Chinese securities markets by a foreign actor, in turn, requires that the institution in question be approved by the Chinese government to become a
‘Qualified Institutional Investor’, meeting not only financial requirements but also maintaining a good relationship with the Chinese state securities regulator (Dobson et al., 2008; Dobson and Masson, 2009). Though an improvement from previous outright bans on such activity, limitations concerning the size of investment (no more than RMB 20 billion total for the entire market) and the nature of investment (non-negotiable securities only) remain in place for such investment activity (Lina, 2011; Xinhua, 2011a; Yong, 2011). Certain actions and policies taken by the government do represent a relaxation of some of these controls and, arguably, a general trend of gradual liberalization of the capital account that has been pushed forward in recent years (Dobson et al., 2008; Dobson and Masson, 2009; Yongding, 2009). For example, domestic and foreign Chinese companies are increasingly allowed to issue renminbi-denominated bonds in Hong Kong (a process begun in 2007 with the large Chinese commercial banks), thereby opening investment in such assets to non-mainland investors, though transfer of funds raised through the issues still requires SAFE approval (Weitzman, 2010; Dobson et al., 2008). Chinese firms investing abroad may, as of January 2011, pay for their mergers and acquisitions (Chinese FDI) using renminbi (Law, 2011), while foreign direct investment in China may be paid for, as of August 2011, by renminbi obtained overseas by Chinese actors (such as through trade settlement or the purchase of renminbi-denominated bonds) (Xinhua, 2011a). The change to allow Chinese companies to hold foreign currency earnings overseas should also be seen as a reform in the Chinese capital structure, as it allows Chinese companies to redirect earnings toward investment without repatriating capital. Nevertheless, even given initial steps towards capital account liberalization, the general state attitude towards capital-account transactions (particularly long-term outflows and speculative inflows) remains one of rigorous control to prevent easy and unsupervised capital outflow from China and potentially risky short-term inflows, with the consequence that the inflow of foreign currency in the form of investment inflow into China is not balanced by a Chinese investment outflow from China.

The final means by which China’s foreign exchange reserves have grown so substantially in the past decade is a direct consequence of the state’s currency policy. The state has routinely maintained considerable control over the Chinese currency during its modern development, with the majority of PRC monetary policies since the 1980s fixing the currency against another currency or currencies (see Table 1). Thanks to capital flowing into China, both in the form of
speculative and long-term foreign direct investment, as well as the significant trade surplus that China consistently achieves (particularly versus the United States), considerable pressure has grown on the renminbi to appreciate in value – this is simply the natural economic side effect of ever-increasing capital and revenue flowing into the country, known in economics as the Balassa-Samuelson hypothesis (see, for example, Goldstein, 2007; Goldstein and Lardy, 2008; Makin, 2007; Golley and Tyers, 2008; Tyers et al., 2008a and 2008b). The exchange system, all things being equal, would try to achieve a level of equilibrium representing a balance between demand for the currency (brought about by purchasing items or assets denominated in renminbi) and its stated value. As is well-known though, the Chinese government does not allow the renminbi to freely increase in value. It has been accused of purposely manipulating the value of the currency in order to keep it undervalued, thereby making Chinese exports more competitive in foreign markets and supporting the growth of the export sector of the domestic Chinese economy (this is a long-held popular view found in international or academic reviews of Chinese

<table>
<thead>
<tr>
<th>Year</th>
<th>Event Description</th>
</tr>
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<tbody>
<tr>
<td>Pre-1994</td>
<td>Two exchange rates exist: an official rate used (and set) by the state, and an unofficial rate used in informal ‘swap markets’ by importers and exporters (market based, but distorted by highly restricted foreign currency access)</td>
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<tr>
<td>1994</td>
<td>Exchange rates unified: Chinese currency is set by the state at 8.7 to the US dollar</td>
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<tr>
<td>1997</td>
<td>Between 1994-1997, currency is allowed to appreciate to 8.28 to the US dollar; the 8.28 US dollar peg remains in place until July 2005</td>
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<tr>
<td>2005 (July)</td>
<td>The state makes the Chinese currency weighted against a basket of currencies (primarily yen, euro, US dollar), not just the US dollar alone</td>
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<tr>
<td></td>
<td>The state allows the yuan’s value relative to the basket to fluctuate by 0.3% daily</td>
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<td></td>
<td>The new value of the yuan relative to the US dollar is announced as 8.11</td>
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<tr>
<td>2007 (May)</td>
<td>The state increases the daily fluctuation band to 0.5%</td>
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<tr>
<td></td>
<td>From July 2005 to July 2008, the yuan appreciates to 6.83 to the US dollar</td>
</tr>
<tr>
<td>2008 (July)</td>
<td>Due to the effects of the Global Financial Crisis, the Chinese state reinstates hard peg of 6.83 yuan to the US dollar – the currency is no longer allowed to fluctuate</td>
</tr>
<tr>
<td>2010 (June)</td>
<td>The state allows the yuan to resume appreciation from the value of 6.83 to the US dollar</td>
</tr>
<tr>
<td>2012 (April)</td>
<td>The state retains the previous 0.5% daily fluctuation band</td>
</tr>
<tr>
<td></td>
<td>The state increases the daily fluctuation band to 1%</td>
</tr>
</tbody>
</table>

Table 1: Summary of Key Changes in Modern PRC Currency Valuation Policy – Figures prior to 2005 drawn from Morrison and Labonte, 2011a
currency policy over the past decade, but for an overview and representative arguments, see Goldstein and Lardy, 2008, 2009; Makin, 2007, 2009; Goldstein, 2006; Cline, 2010). The renminbi policy held by the Chinese government, after mid-2005, is that of a ‘managed float’, with the currency’s value tied to the collective value of a basket of other currencies – though the exact nature of the basket is unknown, it is suspected to be weighted heavily in favour of the U.S. dollar, in addition to minor influence from other global currencies such as the Euro and the yen (Goldstein and Lardy, 2008; Dobson and Masson, 2009; Ma and McCauley, 2011; Frankel, 2009). The basket-tied exchange rate permits a certain fluctuation in the currency (see Figure 6), in coordination with a PBoC set band of fluctuation (since May 2007, 0.5% daily, an increase from 0.3% in 2005), varying with official policy and changes in the basket of currencies to which the renminbi is pegged, resulting in, by 2008, an appreciation of the currency versus the U.S. dollar by about 21% or, based upon IMF figures, about 18.6% in real terms (Morrison and Labonte, 2011a; Cline, 2010; PBOC, 2007). A fixed peg to the U.S. dollar (of approximately 6.83 yuan per dollar) was reinstated in July 2008 due to the impact of the global economic crisis, though this was attributed by the Chinese authorities to be a special crisis-related measure and the managed float system was officially restored in June 2010 (Morrison and Labonte, 2011a; Cline, 2010; Ma and McCauley, 2011; Dyer and Anderlini, 2010). By the end of 2010, the renminbi resumed appreciation, at an approximate annual rate of 6%, and the real exchange rate was assessed to have risen approximately 23% since the implementation of the 2005 currency

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3 The currency practice prior to July 2005 was that of a firm fixed peg to the American dollar (Frankel, 2009).
policy (US Dept. of the Treasury, 2011; Xiaoyi, 2011). The daily fluctuation band set by the PBoC was increased to 1% in April 2012 (PBOC, 2012).

As a consequence of the fluctuating nature of the currencies in its ‘basket’ and the desire to achieve a particular rate of exchange in order to keep the value of the currency at any desired level determined through the currency basket-derived formula, the Chinese government must engage in foreign exchange market intervention. The Chinese state is a major actor in global currency markets, buying and selling currency to influence rates of exchange (Goldstein and Lardy, 2008, 2009; Makin, 2009). China’s intervention is required due to its strict currency and capital controls and the political environment surrounding the Chinese currency: as pressure has increasingly grown on the renminbi to appreciate in value due to the economic success China enjoys, as well as a belief by some foreign government officials, politicians, and economists that the currency is purposely kept undervalued (anywhere from 15-40%, depending on the analysis)\(^4\), the PBoC has been forced to sell renminbi and purchase corresponding quantities of foreign currencies in these markets (sometimes indirectly) to manage the exchange rate (the basic issue is well understood, even though precise figures may differ; see for example Goldstein and Lardy, 2008, 2009; Tatom, 2009; Cline and Williamson, 2008, 2010; Subramanian, 2010; Cheung et al., 2007; Tyers et al., 2008a, 2008b; Chinn, 2010). The result is that the PBoC essentially converts its own renminbi supplies into foreign exchange, ultimately encountering the same long-term issues that it faces with the currency inflows from the current and capital account surpluses described above: renminbi eventually return to the domestic Chinese economic system, thereby increasing the amount of liquidity in the economy and positive inflationary pressure. The state faces a further constraint as the foreign exchange in question has not been ‘earned’ in the traditional manner. It is another form of the state’s existing money supply that the PBoC must either generate through the creation of renminbi supplies in its own accounts (the equivalent of printing money)\(^5\), or borrow, in exchange for state bonds or bills, from domestic money markets or financial institutions in order to obtain the liquidity for its foreign currency intervention operations (Pettis, 2010a,b,c,e; Tyers and Zhang, 2011; Fischer, 2010; Ljungwall et al., 2012; Lardy, 2008). This is not surplus income; the state cannot freely spend it with ease, as

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\(^4\) Many recent articles (such as Tatom’s) favour a lower figure, closer to the 15% (or even less) end of the spectrum, with authors agreeing that the official exchange rate is now closer to the real value of the currency. However, dissenters such as Subramanian and Goldstein remain who still favour a higher-than-15% undervaluation analysis.

\(^5\) Note that this will also increase the amount of liquidity that returns to the Chinese economy, forcing the PBoC into even more sterilization procedures.
the money has not been ‘earned’ through any particular activity such as taxation or current/capital account activity. The central bank has effectively paid to obtain a resource it cannot easily use domestically (foreign currency) in exchange for domestic currency that will make its way back to China (through capital and current account surpluses), thereby contributing even more liquidity.

2.3 Application of the Chinese FOREX Reserves

The creation of such a large quantity of foreign exchange reserves within China naturally raises questions about the use of such assets, both in their actual use and their potential use. It is important to draw a distinction between these two points: the first is a subject rooted firmly in reality (whilst accepting the secrecy surrounding the use of some of the reserves), while the second is the subject of a certain degree of speculation. The second of those two questions is an issue dealt with in the following section addressing risks related to the reserves; the first question, what the disposition of the reserves is currently, is the issue addressed here. It should also be noted that this only reflects the use of reserves as known by those outside the appropriate managing elements of the Chinese government; the exact details of the usage of the reserves are not made publicly available.

Not all of China’s foreign reserves are actively used within the economy. The majority of reserves are held in a variety of financial assets, notably state bonds, treasuries, and notes from state-affiliated agencies (Bradsher, 2008; Morrison and Labonte, 2011a,b). In order to achieve desired objectives within the international exchange markets, a majority of these assets are locked away by the state, as selling too many assets to convert them to a form suitable for use in more economically advantageous investment vehicles would result in fluctuations in the value of key global currencies (most notably the American dollar and the Euro), leading to a drop in their market value, which in turn would affect the comparative value of the renminbi (making its value increase versus other global currencies, particularly the American dollar) (Morrison and Labonte, 2011a,b; Pan and Junbo, 2008; Roubini, 2007). Such a rise would then affect the competitiveness of Chinese exports abroad, a situation that would negatively affect the growth of particular segments of the Chinese economy as well as raise other economic issues such as a
possible increase in unemployment in the many export-oriented manufacturing firms within China.

It is partially a result of the practical economic consequences arising from selling or use of too many of these foreign assets that only a minor portion of China’s reserves are actively used beyond holding relatively static assets. The second, less obvious, contributing factor to this limited use of reserves is related to the sometimes expressed mistaken view that these reserves are ‘free money’ for the Chinese government. A percentage of the accumulation of foreign reserve currency is derived from surpluses in the current and capital accounts, but this is, in part, derived from the sterilization measures to remove the foreign currency from the control of private and semi-private businesses and is not earned on the part of the state (Vujanovic, 2011; Pan and Junbo, 2008; Pettis, 2010c; Zheng and Yi, 2007; Zhang, 2012; Tyers and Zhang, 2011). The government does not simply appropriate the whole earnings of private or semi-state-owned companies for its own ends, beyond standard taxes and fees. It provides domestic bonds and currency in exchange for the foreign currency earned on the part of these private and semi-private institutions; this comes from the government’s standard money supply and revenue stream, and is not ‘extra income’ (Zhang, 2010, 2012; Tyers and Zhang, 2011; Zheng and Yi, 2007). Any decisions as to what to do with this portion of the reserves must be treated as if it were a standard cost incurred by the state, and then the additional constraints arising from the consequences to the value of the assets from their public use must also be assessed.

The quantity of reserves derived from the PBoC’s direct purchase of foreign assets in order to stabilize the exchange rate of the renminbi faces a similar problem: this is ultimately the state’s own money, simply exchanged into another form. These are effectively loans drawn by or currency supplies created by the PBoC to participate in the foreign currency markets on the level required by the Chinese state’s monetary policy of setting a targeted exchange rate for the renminbi. This limits the freedom with which the central bank might utilize such funds, as these holdings generate a return needed to manage the domestic interest payments on bonds and bills the PBoC issues to obtain the required liquidity for its global currency market operations and the heavy sterilization activity (Zheng and Yi, 2007; Tyers and Zhang, 2011; Zhang, 2010, 2012; Pettis, 2010e). In addition, the PBoC is further constrained in the use of these funds by the strict controls on the use of foreign currency within China, and by the fear of releasing too much
liquidity into the domestic economy, thereby precipitating an increase in inflationary pressure (Roubini, 2007; Zheng and Yi, 2007; Tyers and Zhang, 2011).

Even if the Chinese government makes active use of only a portion of these reserves, it is still a percentage of an almost three-trillion dollar mass of currency and assets. Any use of even a small portion of these reserves is a significant economic undertaking – millions of dollars worth of funds or investment are fractional elements of the whole but can have meaningful global and domestic economic consequences. Further, while the Chinese government faces restrictions on using foreign currency domestically, the reserves represent a potentially potent tool to be used in foreign economic exchanges. These activities, then, cannot simply be ignored or marginalized as representing only a small fraction of the potential activity on the part of the controllers of the Chinese reserves. Demonstrating how China currently affects the global economic framework in real-world scenarios adds context to fears about China’s future potential activities.

The use of China’s reserves may be divided into two main activities: foreign investment and domestic operations. Domestic operations are far less active and obvious than the foreign-oriented use of the reserves: as stated above, the Chinese government faces basic legal restrictions in the use of foreign currencies or assets in the domestic setting. As a result, use of the reserves in domestic financial operations is frequently relegated to ‘accounting’ activity. These domestic actions mainly concern China’s banking sector. Foreign operations, in contrast, focus on improving the investment return of the Chinese state and providing the financial tools, means, and encouragement for semi-private or private corporate investors to invest abroad, ideally resulting in real-world economic returns and a presence in major or strategic international business and commodity sectors. These activities provide both economic and political dividends, unlike the domestic reserve uses.

China has used its reserves in two main ways within the domestic economy, largely confined to the Chinese banking system. The first is the recapitalization of Chinese banks.6 This has occurred frequently, including in 1998 and 1999 when the four largest commercial banks were recapitalized and bad loans purchased by state-backed asset management bodies; in 2003 four of the Big Five through Central Huijin Investment (a state investment body

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6 Recapitalization involves changing the ratio of debt to equity within a bank through the purchase of non-performing loans as well as the provision of capital by the state (through the Ministry of Finance or the central bank directly, or indirectly through asset-management and other state-owned financial businesses).
subsidiary); in 2004-2005 with purchases and redistribution of non-performing loans within the four largest commercial banks; and in 2008-2009 when the Agricultural Bank of China was recapitalized indirectly through the China Investment Corporation (the umbrella state investment body that reports directly to the State Council) amid a structural reorganization (Dobson et al., 2008; Setser and Pandey, 2009; Truman, 2008; Thomas and Chen, 2011; Miller and Vallee, 2011). The CIC engaged in yet further recapitalization in 2010 of the Big Four, totaling more than US$8 billion, and in 2011 through purchases of bank stock (Evans-Pritchard, 2010; Yan and Klamman, 2010; Tong, 2011). The recapitalization efforts taking place after 2001 have been credited to the infusion of money from China’s reserves, with the PBoC diverting millions of dollars of reserves into the commercial banks (Setser and Pandey, 2009; Allen et al., 2011; Truman, 2008; Thomas and Chen, 2011).

The other key application of the reserves domestically also concerns the Chinese banks, but specifically their reserve ratio requirements (RRR), the amount of capital any bank is required to retain in relation to its customers’ holdings. This capital is deposited with the central bank. The ratio is set by the central bank and has steadily increased since 2006: five times in 2010 alone and 35 times in total between July 2006 and June 2011 (as an average, an adjustment every two months) (Ma et al., 2011). By June 2011 the RRR stood at 21.5%, the highest in the country’s history and among the highest in the world (Ma et al., 2011; Allen et al., 2011). An RRR alone will reduce the amount of liquidity in the economy, but does not directly affect foreign reserve holdings. Since 2008 however, the PBoC has required commercial bank reserve ratio holdings to be deposited in the form of foreign currency, allowing these particular quantities of foreign currency to be shifted off the reported quantity of foreign assets held by the PBoC since these reserves are not technically PBoC assets (Ma et al., 2011; Setser and Pandey, 2009). Ma et al. (2011) demonstrate that this foreign reserve/reserve ratio requirement relationship functions (as of July 2011) as 67% of the central bank’s sterilization measures (by contrast, PBoC bond issues account for 12% of the sterilization program, with the remainder as government deposits). The RRR ultimately serves three roles: removing liquidity from the market, sterilizing foreign exchange, and cushioning the banks against sudden losses.

Both these examples are passive rather than active applications of the state’s foreign reserves. The second in particular is an example of ‘creative accounting’ and not an actual

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7 See Chapter 3 for further RRR discussion.
investment or use of the state’s foreign reserves. It is a means to adjust the public perception of
the PBoC foreign assets, as the central bank must only report those assets it officially holds; by
forcing or encouraging the commercial banks to declare their reserve deposits in the form of
foreign currency, the PBoC enables those particular quantities of reserves to be shifted from
being officially held by the PBoC to the commercial banks (Ma et al., 2011; Pettis, 2010c; Setser
and Pandey, 2009). However, the assets are, ultimately, still held by the PBoC, but in a different
portion of a balance sheet. They have not been sold or invested in any different fashion than if
they were still on the official records of the PBoC. Similarly, the first example of state
recapitalization is also misleading, though in a more subtle fashion. While the recapitalization of
Chinese banks is deemed to be an infusion of capital drawn from the foreign reserves held by the
PBoC, this again raises the issue of the reserves seeming to be perceived to be ‘free money’ held
by the Chinese government. The state cannot simply draw capital funding from the aether.
Ultimately, recapitalization requires the state to either draw the funds from a revenue stream
(such as taxation) or to borrow the required funds; the form in which the capital finally appears
may be as foreign exchange, but describing recapitalization in such terms does not alter the
original source of the capital (Pettis, 2010c; Lee, 2010). The central bank can engage in an
accounting reorganization as it wishes, shifting static foreign assets away from the officially-
reported figures into useful structures that do not require such categorization (and reporting).
At the global level, China again uses its reserves in two chief ways, one in very specific state bodies, the other in a more abstract policy direction supporting a number of activities on the part of private, semi-private and state business. This more abstract policy concerns the general policy of “Go Out” encouraged by the Chinese government following 1978, particularly in the latter half of the 1990s and the post-WTO Accession period; the name refers to the support given by the state for outward investment on the part of Chinese business, notably state-affiliated or owned, but also private business investment (Berger and Berkofsky, 2008; Holslag, 2006). While not yet the predominant source of outflowing foreign investment (according to UNCTAD [2011; 2012] statistics for 2010, China was the source of US$68 billion in outbound FDI, about 5% of the global total)\(^8\), China’s investments by private, semi-private, and wholly state-owned or affiliated corporations are growing, with outbound FDI having grown 550% from 2005’s figure of US$12.2 billion (approximately 1% of the global total). In relative terms also, Chinese investment abroad has grown rapidly: in 2010, China was the fifth largest source of outbound

\(^8\) This does not take into account Hong Kong’s 2010 outbound FDI of US$95 billion (UNCTAD, 2012).
FDI, up from 19th in the world in 2005 (UNCTAD, 2012). This differs from the more historically typical sources of investment such as the United States, Britain, France, and Germany (see Figure 7), as they have all seen their share of FDI outflows either drop or strongly fluctuate in the past three decades, particularly after global FDI outflows dropped severely in 2009 due to the global financial crisis (from US$1.9 trillion in 2008 to US$1.1 trillion in 2009) (UNCTAD, 2011; 2012). Chinese outbound investments range from non-controlling shares in foreign companies or investment vehicles of all sizes, to purchasing controlling stakes in major multinational companies10, to setting up foreign subsidiaries of Chinese enterprises (De Beule and Bulke, 2010; Quer et al., 2011). Investment is targeted at a variety of sectors, but particularly favours high-technology-related and growth-critical commodity or raw resource industries,11 with an overall preference for investment in either ‘strategic sectors’ or strong growth opportunities (this is widely accepted in the academic and economic communities; see, for example, Wang et al., 2012; Kolstad and Wiig, 2010; Quer et al., 2011; Zhang and Daly, 2011; Rosen and Hanemann, 2009). A survey12 of 1000 Chinese corporations from 2008-2010 found 28% of Chinese companies identify natural resources as a decisive or important factor in international investment, while 48% identify the acquisition of advanced technology as decisive/important (CCPIT, 2011).

The foreign reserves play a crucial supporting role for this investment behavior. The Chinese government can provide the means, with the reserves, for companies to engage in foreign investment, particularly for state-backed corporations. The government can subsidize the provision of the foreign assets (through preferential low-interest loans of foreign currency, for example) necessary to acquire or invest in target companies or sectors, thereby making it possible or easier for firms to engage in overseas activity; this is particularly the case for state-

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9 This excludes Hong Kong, alone the third greatest source for outbound FDI in 2010 (UNCTAD, 2012). Some of this is likely to be investment from the Chinese mainland going through Hong Kong to take advantage of the SAR’s more relaxed financial and monetary regulations, but it is difficult to quantify the figure (Davies, 2012).

10 Such as Lenovo’s purchase of IBM in 2005 or the 2010 purchase of the Swedish Volvo Cars by Geely Automobile Holdings (Tao, 2010).

11 For example, the Chinese petroleum company Sinopec’s purchase in 2010 of a 9% stake in the Canadian oil sands corporation Syncrude or the China National Offshore Oil Corporation’s failed attempt (due to intense lobbying in the American domestic political environment) to purchase Unocal Corporation (Davies, 2012; Rosen and Hanemann, 2009).

12 Conducted by the China Council for the Promotion of International Trade, UNCTAD, and the Asia-Pacific Foundation of Canada. The survey supports long-standing academic analysis of reasons for Chinese investment (notably resource seeking, market growth, and strategic asset acquisition) (in addition to more recent works cited in text, see, for example, Deng, 2004, 2009 and Hong and Sun, 2006).
owned enterprises (Salidjanova, 2011; Yao et al., 2010; The Economist, 2010a,b; Miller 2010; Wang et al., 2012). The quantity of foreign reserves that China holds allows these companies to make economically attractive investment offers, thereby making the bids from Chinese companies more competitive compared to other, more liquidity-deprived companies – for example, CNOOC’s Unocal bid was a cash offer totaling approximately US$18.5 billion, as was an announced US$19.5 billion partnership between Chinalco and Rio Tinto (Ng and Cheng, 2005; The Economist, 2010a,b; Yao et al., 2010). In return, not only does the PBoC shift excess foreign assets off its publicly-scrutinized books and into less public operations, but the domestic Chinese economy (and the state) obtains sources for growth-critical raw resources; access to intellectual property and advanced technology; openings into new or previously difficult to enter overseas markets; or influence in strategic economic sectors. While every company or state seeks new markets and the means to improve research and production capabilities, the last point deserves special consideration, as it is affected by the relationship between corporations and the Chinese state.

Any investment by an economic actor is certainly driven by economic imperatives (by necessity, for the continued existence and growth of any economic actor, it must place a heavy emphasis on economic returns of any activity), but politically, value exists for the Chinese state in domestic companies, particularly state-owned, obtaining an interest in major multinational corporations or strategic resource sectors. There is no question of the possible strategic value inherent in such circumstances, but it can be difficult to determine the extent to which it drives investment policy on the part of major corporations. Nevertheless, political and strategic desires should be considered as driving factors of Chinese investment. This is because the majority of outward investment flowing from China continues to be undertaken on the part of state-owned or state-affiliated enterprises (Kolstad and Wiig, 2010; Yeung and Liu, 2008; Berger and Berkofsky, 2008). Official statistics from the Ministry of Commerce indicate that 66% of all outbound FDI in 2010 originated from SOEs (only a small reduction from 69% in 2009, though a more significant reduction from 82% in 2006) (Davies, 2012; MOFCOM, 2011; Yeung and Liu, 2008). It is, by definition, easier for state actors to exert influence on a state-owned enterprise or state-affiliated corporation, as extensive networks facilitating the conduction of political or

13 Ramasamy et al.’s (2012) independent study of 100 Chinese corporations also supports a similar proportion of state-to-public investment, finding that in 2006-2008 only 27% of firms engaged in international investment were privately owned.
bureaucratic influence to those responsible for the enterprise already exist; such formally
embedded links may not exist in the case of a wholly private corporation or may exist in a
weaker capacity. Even without direct interference, the state still holds regulatory power over any
international investment, with investment requiring the approval of at least three state bodies,
allowing the state to favour politically advantageous investments 14 (Tao, 2010; Rosen and
Hanemann, 2009; Berger and Berkofsky, 2008).

Given the majority of Chinese firms engaging in outbound FDI remain state-backed,
进一步直接影响的国家成为考虑。在中国的案例中,一个完整的政府机构代表国家利益
在国家和地方层面的结构: 国有资产管理委员会(SASAC),成立于2003年。这种存在和权力
表明某些政治考虑在投资决策中起着一定作用。虽然SASAC的确切影响难以确定
由于它决定的保密性,它有权任命国有企业的官员并评估涉及重大活动和操作
的决策过程(Morck et al., 2008; Naughton, 2008; Berger and Berkofsky, 2008)。SASAC从
由它管理的国有业务中获得股息,使其更有可能参与SOE决策(Salidjanova, 2011; Naughton, 2008)。
即使内部决策和管理实践的保密性也是一种重要事项,外国投资被视为一种
重大事件,外国投资被认为是几乎肯定的(Naughton, 2008; Tao, 2010; Rosen and Hanemann, 2009)。在这些情况下,
它可能国际投资是仔细 scrutiny by the state and is influenced by the state’s needs
(whether both politically and economically strategic). The emphasis on the investments of
state-owned or state-backed enterprises makes it more likely that broader strategic or political
state considerations figure in the investment decisions undertaken by the wider Chinese
corporate sector. It remains unclear how dominant a force it is though, as these are first and
foremost economic actors in search of good rates of return on their investments. Salidjanova
(2011) and Naughton (2008) argue the state must balance political and economic needs since it

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14 The National Development and Reform Commission (NRDC), Ministry of Commerce (MOFCOM), and State
Administration of Foreign Exchange (SAFE).
receives dividends from the SOE sector, making it rely on their economic (not just political) performance.

More specific uses of China’s reserves center on the investment activities of the China Investment Corporation (CIC) and the State Administration of Foreign Exchange. While a significantly smaller institution compared to SAFE, the CIC is far more publicly transparent, an officially designated sovereign wealth fund (it is officially classed as a SOE) created in 2007 by the Chinese government to improve the state’s investment returns.\(^\text{15}\) It is not under the remit of the central bank, but rather reports directly to the State Council in the Chinese government (it is the only SOE to do so) and retains members from a variety of economic ministries and agencies on its board (particularly from the Ministry of Finance) (Zhang and He, 2009; Liew and He, 2012; Wu and Seah, 2008a,b). The CIC is officially concerned only with economic return: the growth of reserves held in the form of low-return, highly risk-secure state-backed bonds and bills reached such a level that the state desired greater return on at least a portion of its asset holdings, thereby opening the door to potentially riskier (but also higher return) investment (Zhang and He, 2009; Liew and He, 2012; Wu and Seah, 2008a,b). The size of the foreign reserves at the point when the CIC was created was such that the investment diversification of some of the reserves did not pose a high risk to the macroeconomic stability of the Chinese monetary base (the reserves were so large that they might conceivably absorb the pressure from riskier, more diversified investments of some of the reserve base) (Liew and He, 2012; Wu and Seah, 2008a,b). The creation of the CIC also allows the Chinese state more flexibility in regard to the issuance of domestic bonds and bills in its widespread monetary sterilization measures, as higher investment return from the CIC would allow for easier management of interest payments on domestic bonds, especially given possible risks in the deterioration of value in state, particularly American-backed, securities (Zhang and He, 2009; Liew and He, 2012; Wu and Seah, 2008a,b). The CIC provides a means to relieve pressure within the Chinese financial system without presenting a significant risk to the stability and security offered by large quantities of state-held assets. The value of such a fund is that it escapes the ‘free-money’ dilemma described previously: this is investment, not a capital expenditure. China’s government can reasonably

\(^{15}\) Sovereign wealth funds are government-owned investment funds or groups designed to use investment, particularly foreign-oriented investment, in order to meet major financial requirements on the part of the state; they serve, in essence, as a means for a state to diversify and expand its investment holdings to achieve a better, yet still risk-managed, economic return on its assets.
expect, assuming a good investment with a positive net return, to recoup its initial capital in addition to any investment income it may have enjoyed over the term of the investment. This means that a greater base of the state’s reserves are available for such investment activities, as it is ultimately irrelevant whether the state originally ‘owns’ the funds that it uses to capitalize such an investment vehicle – again, provided that the investments provide a positive net return, thereby requiring thorough risk-analysis of possible investment targets.

Funded at its creation in 2007 by approximately US$200 billion of foreign reserve holdings (exchanged by the PBoC for Ministry of Finance bonds), as of January 2011 the CIC has about US$380 billion in holdings (CIC, 2011).16 The CIC has approximately US$130 billion of this amount invested globally, with the remainder held in domestic assets (such as commercial bank shares) (CIC, 2011). Officials and executives within the Chinese government and sitting on the board of the CIC have repeatedly stated the goal of the CIC’s activities is purely economic return. While the domestic investments of the CIC have mainly been relegated to aiding the Big Four Chinese commercial banks (through recapitalization operations), the consensus is that its overseas investments have fallen into line with the institution’s claims that it is concerned with economic return (Liew and He, 2012; Zhang, 2009; Wu and Seah, 2008a,b). Its notable investments include stakes in the Blackstone Investment Group, VISA, Morgan Stanley, and various natural-resource and energy firms based in Indonesia, Hong Kong, and the United States; supporting the belief that the principal interest of the CIC is purely economic return, stakes are generally not greater than 10% of a company, making it difficult to suggest that the CIC might wield any inordinate amount of influence within these corporations or investment funds (Wu et al., 2011; Bradsher, 2008; Liew and He, 2012; Wu and Seah, 2008a,b). The group’s investment strategy has not been entirely successful: in 2008 it reported an overseas investment loss of 2.1%, drawing public criticism for a significant loss of value in its American financial institution investments (notably Morgan Stanley and Blackstone), and as of March 2009 it had listed overseas losses totaling US$4 billion (Anderlini 2009a,b; CIC, 2010; Xinhua, 2009a; Shen and Wong, 2010). Following these losses, due in large part to the effects of the global financial and economic crisis on American financial institutions (the primary target of CIC investment), the CIC increased its interest in resource, fixed asset and real estate sectors (Wu et al., 2011; Liew

16 Zhang and He (2009) argue that this is not capital, as the US$200 billion was technically a loan from the Ministry of Finance; they quote the chairman of CIC stating that CIC must make RMB 300m a day to pay its interest and operational expenses.
Though the long-term viability of the CIC remains undetermined, the group generated an 11.7% return on foreign investment in both 2009 and 2010, leading to the body’s request for additional funding of approximately US$100 billion from the government (almost certainly drawn from the PBoC’s foreign reserves) (CIC, 2011; Shen and Subler, 2010; China Daily, 2011; Shen and Wong, 2010b; Xinhua, 2009a). The success of the CIC’s investment operations and the flexibility with which it seems to be able to adapt its investment positions indicates that there is considerable scope for the Chinese government to participate in economically rewarding foreign economic operations, purely commercial in nature, financed with its foreign exchange reserves. The value in engaging in purely commercial activity, however, is open to debate since any foreign currency earned by Chinese investments faces the same usage dilemmas as existing foreign currency earnings (it cannot easily be spent in domestic operations). Benefits may come from the long-term growth of domestic economic and research bases of obtaining new markets, interests in commodity and energy (especially clean energy), and access to research and technological advances, possibly explaining why the CIC has become increasingly interested in these resource and energy investments (Wu et al., 2011).

The CIC’s emphasis on purely commercial (rather than politically strategic) applications of the Chinese state’s funds, predicated on a strong public and transparent image for the group, is in contrast to the nature of the State Administration of Foreign Exchange (SAFE). The SAFE is the arm of the People’s Bank of China – unlike the CIC, which is not formally assigned to any particular agency – that has been responsible for the retrieval, maintenance and dispersal of China’s foreign currency earnings and reserves since 1980. Any reference to the central bank’s disposition of reserves and the use or convertibility of foreign exchange in China refers, ultimately, to the activities of SAFE. The agency itself has numerous domestic branches (it is a national agency with regional divisions and sub-offices in various localities throughout the country) and since 1997 maintains foreign offices worldwide, including a dedicated investment company in Hong Kong and offices in Singapore, New York, and London (Thomas and Chen, 2011; Hu, 2010). Since it is responsible for holding and disposing of the approximately US$3 trillion worth of foreign reserves, in addition to setting policy regarding the use of foreign currency inside China and its convertibility with the RMB, SAFE has a massive remit.

While the majority of the reserves are held in secure, relatively low-yield state bonds and bills (particularly American government-backed securities such as Treasury bills), SAFE has the
authority to invest a percentage of the reserves in overseas direct investment and has accelerated its interest in overseas investment since 2007 (Thomas and Chen, 2011; Hu, 2010; Setser, 2008b; FTSE, 2009). This can be seen as a response to the creation of the China Investment Corporation: the two are regarded as rivals. While the central bank is the direct master of SAFE, the CIC is seen as heavily influenced by the Ministry of Finance, several of whose former and current officials sit on the CIC board (Wu et al., 2011; Zhang and He, 2009; Liew and He, 2012; Wu and Seah, 2008b). Since the CIC reports to the State Council rather than the PBoC, it has no direct formal links to the central bank: it is given equal political standing before the State Council. Additionally, the CIC’s creation involved the government-mandated purchase of the Central Huijin Investment Corporation from SAFE by CIC, an infringement by the CIC (and Ministry of Finance) on SAFE’s (and PBoC’s) bureaucratic responsibilities (Zhang and He, 2009; Liew and He, 2012; Setser, 2008b). The increasing foreign investment activity on the part of SAFE has been attributed in part to the rivalry between SAFE and CIC, as well as competing influence between the People’s Bank of China and the Ministry of Finance (Setser, 2008b; Wright, 2008; Wu et al., 2011; Zhang and He, 2009; Liew and He, 2012).

It is, however, unclear exactly what SAFE’s complete investments are and the exact extent to which SAFE can use foreign reserves to invest overseas. A figure of 5% of the reserve base available for investment in “alternative asset classes” and equities was provided in a Wall Street Journal Report and by Setser, though this does not represent the entire possible investment position of SAFE (Setser, 2008a; Wei, 2012). The Sovereign Wealth Fund Institute’s\textsuperscript{17} online database (April 2012 update) records a ‘best guess’ estimation of approximately US$550 billion, nearly 20% of the reserves. A report – citing unnamed fund managers, economists, and individuals “familiar with SAFE’s operations” – stated that SAFE lost billions of dollars in the global financial crisis due to an investment of approximately 15% of China’s reserves in American assets\textsuperscript{18} (Anderlini, 2009a). This underlines the primary difficulty in determining SAFE’s activities: it is a profoundly secretive, almost paranoid institution. The basic makeup of the state’s reserves (for which SAFE is responsible) has never been officially released, nor does SAFE provide details about use of the reserves, makeup of its investment portfolio or losses from its investments (Anderlini, 2008c, 2009b; Thomas and Chen, 2011;)

\textsuperscript{17} The SWFI is an organization that studies sovereign wealth funds globally and is the originator of the SWF Linaburg-Maduell Transparency Index.

\textsuperscript{18} A related report estimated SAFE’s losses at more than 20 times CIC’s (Anderlini, 2009b).
Wei, 2012; Setser, 2008a; Hu, 2010). As Table 2 shows, it has received one of the world’s lowest transparency ratings from the Sovereign Wealth Fund Institute, and is the only body in that database to have a ‘best guess’ concerning its investment base. SAFE has repeatedly refused to acknowledge the existence of its branch institutions or to confirm its activities – in one case even refusing to confirm to a Financial Times reporter that it maintained an investment branch in Hong Kong (until the agency was presented with stock registrations made out to the organization) (Anderlini, 2008a; Thomas and Chen, 2011). Attempting to provide an accurate picture of SAFE’s activities concerning its overseas investments is impossible, with any analysis or theorizing concerning the nature of SAFE’s operations necessarily rife with speculation.20

<table>
<thead>
<tr>
<th>Investment Body</th>
<th>Score (Out of 10)</th>
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<tbody>
<tr>
<td>Abu Dhabi Investment Authority</td>
<td>4</td>
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<tr>
<td>China Investment Corporation</td>
<td>7</td>
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<tr>
<td>Government of Singapore Investment Corporation</td>
<td>6</td>
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<tr>
<td>Hong Kong Monetary Authority Investment Portfolio</td>
<td>8</td>
</tr>
<tr>
<td>Kuwait Investment Authority</td>
<td>6</td>
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<tr>
<td>National Social Security Fund – China</td>
<td>5</td>
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<tr>
<td>National Welfare Fund - Russia</td>
<td>5</td>
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<tr>
<td>Norway Government Pension Fund</td>
<td>10</td>
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<tr>
<td>SAFE Investment Company – China</td>
<td>2</td>
</tr>
<tr>
<td>SAMA Foreign Holdings – Saudi Arabia</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 2: Selected Institutional Scores on Linaburg-Maduell Transparency Index – Data taken from Sovereign Wealth Fund Institute’s database of SWFs (April 2012 update)

Occasionally, enough information escapes SAFE to provide some examples of the types of investment that the agency targets, as well as its reasons for doing so. Reports in various newspapers and journals (generally citing anonymous sources) suggest SAFE has invested small amounts, often using subsidiary institutions, in major resource, financial, and technical companies, including stakes in France’s Total oil company (at least 1.6%), the British branch of Thomson, three Australian banks (Australia and New Zealand Bank, Commonwealth Bank of Australia, and National Australia Bank), an American private equity fund managed by TPG Capital (US$2.5 billion, a figure believed to make SAFE the largest single investor in the fund),

19 The office had been set up in 1997; the 2008 report in the Financial Times was one of the first public indications of its existence (Thomas and Chen, 2011; Hu, 2010).
20 For example, Wei’s (2008) report in the Wall Street Journal on a large SAFE investment loss could only cite “people familiar with the matter” to suggest a loss occurred; even an approximate size of the loss was not known.
as well as small stakes (around 1%) in the Brazilian mining company Rio Tinto, Royal Bank of Scotland, British Petroleum (a stake worth more than one billion pounds), Royal Dutch Shell, and Barclays Bank (Anderlini, 2008a,c; Anderlini, Kwong, and Lau, 2008; Yu, 2008; Carew et al., 2008; McGregor et al., 2008; Wei, 2012). It is clear that SAFE targets major foreign companies, though it is not purchasing controlling – or even large – stakes. This is possibly due to the secretive nature of the institution, as it is more difficult to investigate and track a multitude of small investments compared to major investments in fewer companies (Anderlini, 2008c). The intentions supporting SAFE’s investments likewise remain unclear. Some authors, such as Shih (2009) and Helleiner (2009) have emphasized the geopolitical role that the CIC and SAFE could potentially serve with their investments. Unlike CIC though, SAFE has already demonstrated a willingness to use its investments as a political tool in aid of China’s broader foreign policy goals, and no consensus exists suggesting that it is purely interested in economic return. The primary example of this potential concerns a US$400 million SAFE purchase of Costa Rican government bonds and investment in the country; the purchase was tied to the signing of a secret agreement in 2007 that required the Costa Rican government switch formal recognition of the Government of China from Taiwan to the PRC (thereby severing formal diplomatic relations with Taiwan) (Anderlini, 2008b,c; Bowley, 2008; Paulson, 2009). Such a political use of the reserves by SAFE necessarily raises questions about the potential use of its other investments (both potential and existing), though it is difficult to further investigate the issue in any accurate manner due to the secrecy surrounding SAFE’s activities. The inordinate secrecy surrounding the institution suggests it will be SAFE, not the CIC, that pursues ‘political investments.’

2.4 Outstanding FOREX Concerns Within and Outside China

It is not unreasonable, then, given the size and secrecy surrounding the existence and application of China’s foreign reserves, for observers to feel a certain degree of ambivalence about the investment activities of some of China’s state agencies and corporations. It would be inaccurate, however, for observers to believe the only risks posed by the existence, manner of growth, and use of the reserves are for a few major states (notably the United States). The risks
are not even confined to the global community external to China – the Chinese government itself faces potentially severe consequences due to the risks surrounding the reserves.

Concerns surrounding the reserves can be divided by source – either domestically within China or external to China. In either case, the effects of a crisis originating from any of these threats would affect both China and the world, but it is also true that action taken on the part of the Chinese state could influence the occurrence and impact of a crisis originating from these threats. Chinese action, however, is significantly constrained, and it remains an open question as to what extent the Chinese government will be able to overcome constraints originating from both within and without the political system in order to address these possible threats.

2.4.1 External Concerns: Oversized Reserves and Their Possible Political Uses

In the global economic community, direct risks engendered from the Chinese foreign exchange reserves can be more political in nature, as well as economic. The reserves are the proverbial elephant in the room: they are impossible to ignore. The existence of such massive economic power in the hands of any one state affects international financial movements due to the impact of any action by that state in relation to the reserves. Any significant global economic imbalance may play a role in a future financial crisis, even if it is not clear how, thanks to the networked activity of the various institutions and governments participating in the global economy. This concept of ‘imbalance’ in global economic and financial systems is frequently cited as a major contributing factor in the most recent financial crisis of 2008, as well as previous crises (a large field of literature exists on the systemic risk of global imbalances and their role in financial crises; good examples include WEF, 2009b; Jickling, 2009; Borio and Disyatat, 2011; Obstfeld and Rogoff, 2009; Astley et al., 2009; Merrouche and Nier, 2010; Kenc and Dibooglu, 2010). The fact that China faces domestic traps in dealing with and maintaining its growing foreign reserves is irrelevant: simply by existing in such quantity, the reserves affect how individuals and bodies (including states) perceive and react to global financial activities and networks, introducing a new, potentially destabilizing element into these networks. The reserves themselves may be the next imbalance that contributes to a global crisis, or it may represent a symptom of underlying imbalances in capital flows that might be the next crisis trigger.

Besides the issue of general global imbalance is the fact that it is China holding and using the reserves. China’s activities in global economics, financial affairs, foreign relations, and
politics are often the source of speculation about the strategic desires of the Chinese government and the extent to which they underlie the whole range of its global activities. The issue of the reserves is no different; observers have noted general concerns about Chinese investments aiding the state’s political and strategic purposes and that the reserves (due to their size) could function in a political capacity (The Economist, 2011, 2010a,b; Miller, 2010; Yang, 2012; Fordham and Kleinberg, 2011). Though China is not a modern economic bogeyman, some concern is warranted. While it may not be official state policy, state and Party officials have expressed a willingness or threatened to use such economic tools in pursuit of foreign policy goals and the defence of Chinese national interests.

Growing economic and financial power has led to public, direct critiques from China about various elements of the global financial and economic systems, with most incidences of such comments appearing after the global financial crisis of 2008. Officials have connected Chinese economic power – including the reserves – with the desire to reform international institutions such as the IMF. Comments appeared in 2011, for example, from Yi Gang, chairman of SAFE and a senior official at the PBoC, suggesting that the IMF should include BRIC currencies in a more international version of Special Drawing Rights, reducing the global financial system’s reliance on the US dollar, euro, British pound, and Japanese yen (Reuters, 2011). Similar comments have come from some of the highest levels of the Chinese government: Zhou Xiaochuan, the governor of the People’s Bank of China and member of the Central Committee of the Communist Party, published a document on both the PBoC’s and the Bank for International Settlements website in 2009 arguing that it was no longer appropriate for the American dollar to occupy such a central role in global financial affairs, stating that the American-dominated system had exposed “inherent vulnerabilities and systemic risks in the existing international monetary system” (Zhou, 2009: 1). Zhou instead favoured an IMF-administered global currency based on the SDR system of the IMF (one that would include the yuan), publishing a further two articles to that effect (Murphy and Yuan, 2009). This behaviour has extended to the domestic financial practices of other states, notably the United States. The PBoC’s criticism in an annual financial stability report of American financial practices and the reliance of the global financial system on the American dollar was the subject of a report in the Financial Times, as were warnings about relying on the American dollar from a senior SAFE official (Garnham, 2009; Rabinovitch, 2011). Senior Chinese officials and politicians, including
Hu Jintao, have repeatedly disparaged American plans to engage in quantitative easing and critiqued general structural weaknesses of the American financial system (Drezner, 2009; Leightner, 2010; Sender and Hille, 2011; Murphy and Yuan, 2009). Wen Jiabao expressed his concerns about American domestic financial policy during a news conference in 2009, emphasizing the role China played as the largest creditor to the United States (Xinhua, 2009b). These instances of high-profile public criticism of foreign global and state institutions are given weight because of the financial and economic power that China holds globally 21.

Some Chinese officials have suggested a more straightforward political application of the reserves. Links have been made between the reserves and military issues: a senior editor at the People’s Daily published an editorial calling for direct ties to be made between Chinese holdings of US assets and American arms sales to Taiwan, 22 while a Senior Colonel in the PLA advocated using the reserves to fund massive increases in military capacity to surpass the United States geopolitically (Gang, 2011, Buckley, 2010). Links between Chinese purchases of Treasury assets and arms sales to Taiwan were also revealed by releases of diplomatic cables in 2011, with a Deputy Director General of SAFE privately stating to a US financial attaché that continued arms sales made the Chinese government’s position “difficult” (Flitter, 2011). The reserves have also reportedly been used to encourage particular political behaviour by foreign governments. A report in the Financial Times (Anderlini and Sender, 2011) described potential links Chinese officials had made between buying European sovereign debt and the lifting of the Tiananmen-era arms export embargo and recognition of China as a full market economy. Alternately, the reserves could also be used in a retaliatory role. In rapid succession in 2007, a cabinet-level official and an official at the Chinese Academy of Social Sciences both suggested that the government had the capacity to force a collapse of the US dollar and linked the possibility of a Chinese dollar sell-off to any American legislative action to punish China’s exchange rate policy (Evans-Pritchard, 2007). In another case, former U.S. Treasury Secretary Hank Paulson outlined a proposal supposedly made by elements of the Russian government to the Chinese government in 2008 that would see the two rapidly sell their holdings of the American agencies Fannie Mae and Freddie Mac in an effort shake public confidence and force a government-sponsored bailout.

21 Consider that Zhou’s critique was also published on the BIS website. As the BIS is one of the world’s elite international financial bodies, not only would it give Zhou’s views additional weight, but also implies that his arguments have at least some traction with international financial actors.

22 It must be emphasized that the People’s Daily is published by the Chinese Communist Party and is generally regarded as a means for the Party and state to disseminate their views.
of the institutions, thereby triggering instability in American capital markets (McKee and Nicholson, 2010). Even without corroborative evidence (only Paulson’s account stands as evidence for such a plan), the possibility that this may have occurred and that it was seen as a credible threat by the Treasury Secretary illustrates the concern at the highest levels of government that China would be willing to use its investments in a political conflict. Finally, an official from the Ministry of Commerce writing in the China Daily advocated\(^\text{23}\) using China’s position as Japan’s biggest creditor to break the political impasse over territorially disputed islands, treating its reserves of Japanese yen as a weapon (Evans-Pritchard, 2012). The activities of SAFE in particular must serve as the source of some of this international concern due to its secretive practices, a critical example of politically strategic concerns driving commercial investment policy (the Costa Rica case described previously), and the potential political power that the size of the reserves grants such a secretive institution that has already demonstrated a willingness to engage in politically-related activity.

Even if individual investments from Chinese companies and institutions are relatively small, when spread throughout an entire economic or commodity sector, the level of influence could be significant (though given the secrecy of SAFE in particular, it is difficult to know how likely this is). The fear surrounding such widespread investment, at least on the part of some agencies or individuals, may also have an indirect long-term effect on the global economy, especially combined with resentment of Chinese currency practices. Foreign governments, either as a means to placate the concerns of the voting public (whether such concern is rational or well-informed is irrelevant) or due to their own fears, may increasingly move to erect trade barriers to restrict or block Chinese investment and purchases; such laws have already been proposed in the United States by some politicians and lobby groups as a result of fear surrounding potentially strategic Chinese investment, concerns about employment transferred from the American to Chinese economy, and Chinese currency policy (Hufbauer and Brunel, 2008; Morrison, 2011; EIU, 2010). Proposed Chinese takeovers of several American companies deemed ‘strategic’ by American politicians have been blocked or discouraged (Morrison, 2011; Miller, 2010; EIU, 2010). Rising protectionist sentiment in the form of regulation and law hostile to the free flow of trade and investment may have a significant detrimental effect on global economic and financial activity in the future.

\(^{23}\) *China Daily* is the PRC’s largest state-controlled English-language newspaper.
2.4.2 Domestic Concerns: China’s Monetary Policy Trap

It is at the domestic level that the reserves arguably pose a greater immediate threat. Capital and foreign currency controls mean that ordinary citizens, private investors and domestic businesses have little to no means to make use of the foreign reserves. Foreign currency cannot be circulated within the economy, and capital controls limit the financial tools available to the general population (in addition to fluctuating property and stock markets), thereby increasing the percentage of private assets deposited within the banking system (the most likely destination for individual savings) or used to purchase domestic assets (see Knight and Ding [2010] for a comprehensive overview of this well-known feature of the Chinese system, as well as Chapter 3 for related issues). The majority of foreign currency earned on the part of businesses is sterilized, traded in to the government in exchange for state securities (most likely PBoC bonds). In addition, the PBoC intervenes in foreign exchange markets to support China’s exchange rate policy, actions which are funded through domestic money market borrowing. This situation places enormous stress on state financial structures and policy (for a charted view of these various elements, see Appendix B):

- Maintaining a currency peg, capital controls and fiscal sterilization create significant RMB liabilities for the central bank. As the PBoC continually sterilizes incoming capital flows (capital and current account surpluses) and purchases foreign exchange to maintain its currency peg, issuing bonds to both soak up excess liquidity and obtain the resources to fund its interventions, the number of assets it must sell domestically rises (Zhang, 2012; Teng and Guohong, 2011; McKinnon and Schnabl, 2009a,b; Pettis, 2010c; Tan and Yang, 2012).

- The central bank, in turn, must maintain interest payments on these assets, so the central bank must earn interest income from foreign currency holdings in order to meet (and ideally exceed) the payments that the state must make to support its bond issues and renminbi liabilities – otherwise the central bank will reach the position where the costs of its domestic renminbi-denominated liabilities outweigh its other assets24 (McKinnon and Schnabl, 2009a,b; Pettis, 2010c; Zhang, 2012).

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24 Zhang (2012) estimates that, from 2003-2010, the PBoC suffered costs of RMB 1.3 trillion (~US$200 billion) due to the sterilization program – including RMB 366 billion (~US$60 billion) in 2010 alone.
Further, the state keeps deposit and interest rates low, attempting to minimize its and the banking system’s costs as much as possible – this has the side effect of making credit extremely cheap, increasing inflationary pressures and leading to the increased likelihood of loans becoming non-payable if interest rates rise as the economy indulges in a credit boom (but also driving economic growth for companies with access to credit flows and reducing real household GDP) (Goodhart and Zeng, 2006; McKinnon and Schnabl, 2009a,b; Pettis, 2010b,c; Xie, 2010; Zhang, 2012).

While the loose money supply applies positive inflationary pressure, increasing interest rates too quickly (or too high) to combat this effect will drive even more speculative investment (hot money) into the economy, adding even more liquidity and forcing the PBoC to engage in even more extensive sterilization – an untenable situation (Connelly, 2011; Pettis, 2010c,e; McKinnon and Schnabl, 2009a,b; Zhang, 2012).

Such a situation can technically continue to work as long as interest rates remain low and the return generated on foreign assets can match those interest obligations the state takes on domestically through the provision of sterilization bonds; if, however, these return ratios invert – if the state faces the problem of being forced to pay more domestic interest than it earns in investment return, possibly through some action completely external to the state, it faces a domestic balance-of-payment crisis (Pettis, 2010c; Keeley, 2010; Zhang, 2012). Pettis (2010c) argues that the PBoC has only approximately 1-2% flexibility between its earnings on foreign reserves and the cost of funding its domestic policies, making the PBoC’s position fragile, as it would take little in the way of an increase in the value of the renminbi or an increase in interest rates for the PBoC to encounter this crisis point. Even if they don’t yet suggest the PBoC has hit a crisis point, the consensus among other analysts is that this regime is unsustainable even in the short term (Pettis, 2010a,b,c,e; Zhang, 2012; McKinnon and Schnabl, 2009a,b; Tan and Yang, 2012). Coupled with the pressure on interest rates to rise due to hazards of inflation – the PBoC cannot sterilize all its foreign currency purchases or mop up all excess liquidity, thereby increasing the domestic money supply and leading to inflationary pressure – and the external

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25 Keeley (2010), though not providing exact percentages, suggests it is a broader problem for central banks in the Asian region, though he cites China as the best example and in the worst fiscal situation.
pressure on the *renminbi* to increase in value, the PBoC faces a complex and volatile fiscal situation.\(^{26}\)

This delicate fiscal position is at the centre of a risk to China arising from its reserve holdings in conjunction with a possible revaluation of the *renminbi*. As foreign currencies become less valuable *vis a vis* the *renminbi*, the contention is that China will ‘lose out’ with respect to the value of its holdings (see, for example, Roubini, 2007; Thomas and Chen, 2011; Johnson, 2010). Further, the holdings are so large that even a relatively minor revaluation will have a substantial impact on their value. The majority of theories about revaluation agree that, in the long-term, it is good for the general health and development of the Chinese economy, supporting a shift toward a consumption-oriented, consumer-driven domestic market, but that China will incur short-term losses. However, in order to fully understand the nature of revaluation and the delicate fiscal position of the PBoC, one must examine in further detail this idea of China ‘losing out.’ A more nuanced argument put forward by economist and sinologist Michael Pettis\(^ {27}\) is that, while revaluation presents risks for the state, it does not involve China as a whole, losing money due to the reserves becoming less valuable.

Any revaluation of the *renminbi* or foreign currencies will inevitably result in the value of held assets and the cost of future purchases of assets changing; this is economic reality and is unavoidable. However, China does not lose a ‘net’ amount of money due to revaluation’s impact on the reserve base, at least not directly: the real loss to the Chinese economy *as a whole* is less significant than otherwise assumed, but the loss *to the state* may be more significant. This is because revaluation will, in the long term, shift asset value to a different societal element within China rather than take it out of the economy altogether. Revaluation will negatively affect anyone holding foreign assets or currency if they exchanged *renminbi* for those assets – a change in the value of these assets is unavoidable as the comparative values of currencies change (Pettis, 2010a,c). Equally though, revaluation will positively affect anyone purchasing foreign assets or goods in the future with the *renminbi*: as the value of the Chinese currency rises, any purchases made with that currency increase in value per unit of currency (Pettis, 2010a,c). Therefore, what

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\(^{26}\) Zhang (2012), citing multiple Chinese authors (writing in Chinese-language journals), points out that the risks associated with these policies and the delicate balancing act the PBoC has to perform have been subjects in the domestic Chinese literature since 2005, even if this interest has not translated to non-Chinese sources.

\(^{27}\) Pettis, a former Wall Street merchant banker and equity trader, is a respected commentator on Chinese economic issues, having authored 200 articles and a book, with articles appearing regularly in the *Financial Times, Foreign Affairs, Wall Street Journal*; his blog “Chinese Financial Markets” is widely known and influential in the Chinese-economic field.
should actually be examined in the debate about the impact of revaluation on the reserve base is who stands to economically benefit and suffer within China, and the impact that this change in value of holding versus future purchasing of foreign assets will have on the domestic economy.

The entity to suffer most in a currency revaluation, as far as the value of foreign holdings is concerned, is the Chinese state, specifically the People’s Bank of China. The bulk of the reserves is denominated in foreign currency-backed assets, but the actual foreign purchasing or investing power of those assets does not change if the renminbi rises in value – an American dollar or British pound will still be worth the same value globally if the renminbi rises in value, so long as they are not exchanged for renminbi (Pettis, 2010c). The danger for the Chinese state arises from the manner in which the reserves have been accumulated, namely the flood of bonds that the PBoC has been forced to issue in the domestic Chinese market to accumulate renminbi to sell in order to purchase foreign currency assets on the global market. Pettis (2010a,c) argues that the problem for the PBoC should not be seen in the value of the foreign assets it holds, but the makeup of the bank’s balance sheet – balancing its foreign asset holdings with its renminbi obligations (in essence, obligations might be thought of as debt or credit – the body in question is responsible for repaying a certain amount of domestically denominated currency or assets at some future date). Using that perspective, the PBoC ‘loses out’ from revaluation in a substantial way. Remembering that a significant amount of the reserves are not ‘free money’ but should be more accurately seen as converted renminbi, after years of purchases of foreign currency assets using Chinese renminbi to support the state’s currency policies, the PBoC has massive renminbi obligations within the domestic economy, supporting the foreign assets it holds. Any increase in the value of the renminbi will suddenly and massively affect the PBoC’s broad balance sheet: all its renminbi obligations will suddenly increase in value compared to the bank’s held foreign assets, resulting in a sudden onset of debt on the part of the central bank and the Chinese government (Pettis, 2010a,c). This is also the case when considering the holdings and domestic currency obligations of any Chinese exporter or investment agency – if any actor has taken on renminbi obligations preceding an exchange of domestic currency for foreign currency-backed assets, that actor will lose value on its foreign asset holdings, as the cost of its obligations versus the value of its converted assets will have increased with the rise in value of the domestic currency (Pettis, 2010a,c).
However, opposed to this potentially catastrophic situation for the Chinese government, any actor that does not hold domestic obligations that have financed foreign asset purchases will not be negatively affected (at least directly) by this situation. Indeed, in Pettis’s (2010a,c) analysis, if the actor in question has future plans to purchase an asset denominated in a foreign currency, this is a net benefit, as the domestic currency used to purchase those foreign-currency denominated goods has increased in value under a renminbi revaluation, allowing their domestically-denominated assets to purchase more, unit-for-unit, than they were able to purchase prior to revaluation. This includes the majority of individual citizens and domestically-oriented enterprises within China – any consumer in a developed, globally integrated economy might be seen as an importer, assuming they purchase any goods made overseas or shipped from outside the country. Any business purchasing foreign goods or services will see their costs decrease versus the value of their own domestic holdings.

Ultimately, the critical impact of currency revaluation on the reserves within China is not that the country experiences a net loss of assets, but that the value of those assets is transferred domestically. The Chinese government and the central bank, any domestic debt-holding exporter, and any outbound investor expecting to convert their foreign holdings into domestic currency or assets will see their debt increase as the comparative value of their foreign assets versus their domestic obligations declines. Balancing that loss is the fact that the majority of individual consumers and domestically-oriented businesses within China will see a net benefit from currency revaluation, increasing their value as economic actors within a globally-integrated economy. The indirect consequences of such a redistribution of value and wealth within an economy are unclear however, and may present an entirely different set of possible risks and threats to the Chinese economy as a whole. While the direct effects on the Chinese central bank have been outlined above, the consequences, both economically and politically, of those effects are unclear in the long term. A central bank cannot easily absorb or disregard a massive undertaking of debt, and a state cannot undergo a significant redistribution of asset value without some consequences affecting its other activities and operations. The issues of renminbi valuation and the value of the reserves pit the state’s and export sector’s shorter-term financial interests against the longer-term interests of the Chinese population and non-export sectors of the economy.
It remains unclear what those consequences might be. While the direct economic consequences of renminbi valuation may not adversely affect China as a whole, thanks to the mitigating factor of an equivalent increase in value of the assets of ordinary import-consuming consumers and domestically-oriented business, it is impossible to know how the indirect effects of this redistribution of value on a key element of a state’s financial and economic system (the central bank in particular, but also the export sector) would affect the stability of the Chinese economy. A policymaker examining the possible impact of revaluation on the Chinese government’s reserves and the subject of the reserves from the viewpoint of a vulnerability analysis must not focus on whether China (as a singular entity, an overly simplistic analytical form) gains or loses from revaluation, but on the role of the central bank and agencies holding the reserves, whether and how integrally the economy is structured around and influenced by these state agencies, and how the existence and nature of these reserves will guide and affect these agencies’ activities, long-term stability, and resulting stability of the broader Chinese economy. This can deeply affect the approach that foreign governments, angered by the perceived undervaluation of the Chinese currency, take in attempting to convince the Chinese state to revalue the renminbi. Ultimately, the reserves – their creation, management, and application – and risks arising from their nature may affect the basic functioning of the domestic Chinese economy, and thanks to the globalized links and networks formed between domestic and foreign economic actors, could conceivably affect global financial and economic operations. It is in foreign governments’ interests to underline the fact that China as a country need not necessarily ‘lose out’ from revaluation, so far as the Chinese reserve base is concerned – even though some redistribution of value is inevitable, it may soften the impact that revaluation might have within the Chinese political-economic environment to know that there need not be a direct loss to the Chinese economy as a whole. It would also be in the best interests of these governments and international agencies such as the IMF to find some method or knowledge to aid the Chinese central bank (in reality, the Chinese state), the entity most negatively affected by the relationship between revaluation and the reserve base, to mitigate or negate the impact of the debt-incurring renminbi obligations that the central bank controls, thereby helping to mitigate potential risks arising from any possible revaluation and contribute to the long-term stability of not only the Chinese economy, but global economic and financial relationships.
3.1 The Titans of Finance

The banking sector is a fundamental pillar supporting the essential elements of all activity within a country’s economic environment. Banks are not simplistic organizations that only provide the means for the consumer to safely store assets – they are the circulatory system of an economy, pumping money and credit throughout the system, supporting investment, the maintenance and building of infrastructure, and laying the groundwork for both the day-to-day operations and long-term development of the vast majority of economic actors within a society. Since the post-1978 economic reforms, China is now no different from any other large developed economy: as its economy has grown and become more complex, its financial system – services, infrastructure, and regulation – has become equally more influential and complex, transforming out of the previously solely politically subordinate role it played. In some respects it is even more visibly crucial to the functioning of the Chinese economy than banking systems in other advanced economies. As recently as 2006, none of the ten largest banks in the world (by market capitalization1) were headquartered in China; by 2011, four of the largest banks in the world were Chinese (see Table 1). These four banks, two of which occupy the two highest places in the table, are members of the group known as the Big Five. Chinese banks have become ‘titans’ of the international financial system, dwarfing competing banks. They employ more than two and half million people (the Big Five alone employ well over one million), invest hundreds of millions of dollars through more than five and half thousand institutions, control more than one hundred and ninety thousand branches or offices, and serve as the conduit for circulating credit, grants, and loans that support the activities of not only the majority of Chinese businesses, but also government (specifically local government) (CBRC, 2010).

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1 Market capitalization measures the size of a publicly traded company, multiplying the number of shares issued by the share price. While this is of no assistance in calculating the value of a non-traded company, three of China’s four large commercial banks began issuing IPOs in 2005 and 2006 (the fourth issued its IPO in 2010), making them available for inclusion in this method of analysis. It is important to note also that this is not a comparison based on asset value – on such a basis, only one of China’s banks is in the list of the ten largest banks in the world, with three others in the top sixteen (based on data from the Financial Times Global 500 Database for 2011).
<table>
<thead>
<tr>
<th>Bank</th>
<th>Country of Origin</th>
<th>Market Capitalization</th>
</tr>
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<tbody>
<tr>
<td>Industrial &amp; Commercial Bank of China</td>
<td>PRC</td>
<td>251</td>
</tr>
<tr>
<td>China Construction Bank</td>
<td>PRC</td>
<td>233</td>
</tr>
<tr>
<td>JP Morgan Chase</td>
<td>USA</td>
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<td>Agricultural Bank of China</td>
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</tr>
<tr>
<td>Bank of America</td>
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<td>135</td>
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<tr>
<td>Citigroup</td>
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<td>129</td>
</tr>
<tr>
<td>Itau Unibanco</td>
<td>Brazil</td>
<td>100</td>
</tr>
</tbody>
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Table 1: World's Largest Banks (2011) – Data drawn from Financial Times Global 500 database for 2011; database sourced from Thomson ONE Banker, Thomson Reuters Datastream, individual companies. Market value is given in billions of 2011 US Dollars.

As with any structure that underlies an economic system to such an immense degree, concerns exist about the stability and health of the banking system in China. A certain degree of concern is entirely natural given the importance of any nation’s banking structures and services, but due to China’s unique position of economic power arising from an unusual and rapid path of development, including the political control exercised historically and currently by the Chinese Communist Party, these concerns have occupied a notable place in observation, study, and analysis of Chinese banking operations and the broader health of the Chinese economy. Leading up to the WTO Accession of 2001, reform of the financial sector was seen as one of the most difficult, but also most critical policy goals that the government had to pursue, requiring substantial reform and implementation of an entirely new set of policies aimed at improving the level of competition in the sector, the efficiency of the sector, and greatly improving the capitalization of the banks (Yao et al., 2007; Bottelier, 2002; Ji and Thomas, 2002). Some of the same concerns remain about regulation and practices within the banking system, but new concerns have also risen in accordance with changes in the financial system’s structure and activities. Following a brief overview of the structure of the modern Chinese banking system, three ongoing areas of concern are explored: that of non-performing loans; the maturity of bond, property and equity markets; and the pervasive state and Communist Party involvement in the banking system. These issues will help identify underlying vulnerabilities and systemic risks in China.
3.2 Roots of the State: Banking Structures in China

Financial institutions within China have grown inside a system that has evolved from and been influenced by decades of communist, state-dominated attitudes toward the economy as a whole. While banking structures within China have become more complex with rapid economic growth under post-Mao leaders, several clear divisions still define and characterize the broad character of the banking system, generally forming along lines generated by this unique history. A broad distinction lies between the so-called policy banks and commercial institutions, while a second distinction should be drawn between the large commercial institutions that dominate the Chinese financial market and their smaller counterparts (see Figure 1 for a graphical aid).

The elite policy banks are not dedicated to commercial operations and are divided into two levels. The most influential bank in China is the central bank, the People’s Bank of China (PBoC). While the PBoC now occupies the central financial policy position within the economic and political structures, during the Mao era it was responsible for commercial banking and was the sole major banking actor within the country. Other institutions were either spun off then reabsorbed by the PBoC during the Mao era, were so structurally small or limited in their activities as to be dwarfed by the larger institution, or functioned as arms of the PBoC, all contributing to the effect of shrinking the activity of the financial sector (Okazaki, 2007; Allen et al. 2011). In a process begun in the late 1970s and ultimately achieved after 1984, commercial banking operations were separated from the PBoC. Now it is mainly responsible for formulating, implementing, and regulating major national financial and monetary policy (similar to any other central bank in an advanced economy) while addressing sources of financial risk and instability within the whole of the Chinese financial system. The bank reports directly to the State Council of the central government (in essence, China’s cabinet), putting it, officially, on equal footing with major ministries, and the State Council is responsible for appointing the senior leadership of the bank. This also means that the PBoC is not wholly independent, as the PBoC’s work is not only supervised by the senior levels of the Chinese government, but the state also retains the ultimate organizational authority over the institution. While this means the

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2 The governorship of the central bank is a senior position, warranting guaranteed inclusion in the elite structures of the Communist Party. The current governor of the PBoC, Zhou Xiaochuan, is a member of the Central Committee of the Communist Party of China, as were his predecessors, though he is not a member of the Politburo. The post might also conceivably be a path to even greater office; Zhu Rongji, a former Premier, held the governor’s post for a short period of time prior to becoming Premier, while also holding a Vice-Presidency of the State Council and a seat in the Standing Committee of the Politburo.
Figure 1: Graphical Representation of Major Chinese Banking Sector Institutions
government can directly connect with the central bank to pursue economic agendas chosen by the most senior levels of the central government, it raises the possibility of political rather than economic rationale playing a greater role in the decisions taken by the country’s chief monetary and financial institution. Burdekin and Siklos (2008), studying the policies pursued by the PBoC since 1990, argue that external, non-economic factors have played a role in determining PBoC policy in at least some regard, while Atembrink (2010: 84) suggests that the state-favoured legal definitions underpinning the control of state monetary resources make the PBoC reliant upon the “benevolence” of the government.

Beyond supervision of general domestic monetary policy, the PBoC, through its subordinate agency the State Administration for Foreign Exchange, is responsible for setting and implementing the official exchange rate of the renminbi. It also manages and makes use of the foreign currency reserves that have been built up due to its currency policies, as described in the previous chapter. Apart from the exchange rate, the PBoC is also responsible for setting other major policies affecting the financial sector such as primary interest rates (among other effects, determining the cost of borrowing and lending by the commercial banks), bank lending rate caps, bank deposit return rates, central bank bond issues, certain capital controls on investment (both inbound and outbound), and reserve capital requirements for the commercial banking system. The PBoC may also, under the direction of the State Council, transfer state money (recapitalize) to the commercial banking sector or infrastructure projects, in coordination with or through the three policy banks, making it a critical outlet in the flow of capital from the top of the Chinese government to the financial system, local governments, and structural projects (Shih, 2007). Thanks to its financial instruments, the PBoC holds special influence over the commercial elements of the banking system in a direct way, even beyond traditional power over primary interest rates and currency exchange rates.

Supporting the PBoC is a group of three policy banks, each founded in 1994 as part of the restructuring of the financial system to separate the activities of the People’s Bank of China. All three of the banks report to the State Council and are wholly state-owned, with the scope of their activities ultimately defined and regulated solely by the State Council and the CBRC, though each has a defined area of general policy focus. The Agricultural Development Bank of China (ADBC) is responsible for funding agricultural projects in the rural parts of the country and supporting industries and individuals related to the agricultural sector. The Export-Import Bank
of China (Exim) supports trade-related transactions and provides financing for overseas trade (serving as an intermediary for the State Administration for Foreign Exchange, the government body that directly manages the foreign currency reserves). China Development Bank (CDB), the largest of the three with RMB 4.5 trillion in assets as of 2009, is a conduit for channeling government funding to infrastructure projects undertaken at any level of administration (national, provincial, or local), giving it a potentially massive remit serving as a facilitator of domestic infrastructure throughout the country.

These institutions are not commercial entities. The policy banks have very few branches (Chinese Development Bank, for example, an institution with 4.5 trillion renminbi worth of assets, has only 32 branches nation-wide) and only hold deposits from specific industrial actors, state-owned enterprises, or local governments, and then only at a minimal level of activity: typical commercial banking services are not the intended focus of these banks. Instead, these entities are responsible for coordinating, generating, and managing specific financial policy sectors or regions of the country; they exist to provide funding or a means to channel capital from the central government to specific policy sectors, public projects, or government levels (CBRC, 2010; Allen et al., 2007). This does not, however, indicate that they have little economic power or a lack of substantial holdings. The policy banks have substantial assets, with the three policy banks together controlling approximately 9% of the total banking assets in China, a noticeable asset base for non-commercial entities (CBRC, 2010). While holding a substantial asset base, since their focus is not on traditional commercial services, the majority of the policy banks’ funding is derived from state-backed bond issues (Allen et al., 2005).

Despite the assets that the wholly state-owned institutions control and the role they play in the development and support of the Chinese economy, it is commercial banks that dominate China’s financial sector. Commercial banking\(^3\) within China is dominated by a group of five publicly-traded banks known as the Big Five: the Industrial & Commercial Bank of China (ICBC), Bank of China (BoC), China Construction Bank (CCB), Agricultural Bank of China (ABC), and the Bank of Communications (BoCom). While several of these institutions did exist in the Mao era, it was in a form that bears little resemblance to their modern incarnations. During that time they operated as arms of the central bank, as it was the only significant banking

\(^3\) A commercial bank is the one members of the public would find immediately familiar, that of an institution responsible for receiving, holding, and distributing deposits, credit, and investment, in addition to providing other business or individual consumer-level financial services.
institution in the country. It was only in the 1980s and 1990s (particularly the bank restructuring of 1994) that these banks were formed into real commercial entities, absorbing the commercial banking responsibilities and activities of the People’s Bank of China (Okazaki, 2007).

In present-day China these banks are the titans of the financial sector. Together they control more than half (approximately 51%) of the country’s banking assets (CBRC, 2010). As of 2010, two of the Big Five are the two largest banks in the world by market capitalization (two of the three other members of the Big Five are in the list of the ten largest banks), retaining hundreds of thousands of employees and managing thousands of branches nationally – they are gargantuan institutions in both structure and economic activity (KPMG, 2010: 3). Beyond this commercial footprint, these banks provide crucial services within the Chinese economy as a primary source for the flow of capital throughout the domestic economic system; they provide loans and financing for individual consumers and industrial/commercial enterprises, both private and state-owned. They behave much like any other commercial bank, offering savings and chequing infrastructure and transaction support in addition to credit services. Large commercial banks have also become attractive economic destinations for foreign investors since the enactment of WTO regulations permitting foreign shareholding in the industry (Nicolas, 2008). While they superficially differ little in basic activity from other large commercial banks around the world (the quality and efficiency of their activities is a different matter altogether), Chinese commercial banks have arguably a more central role within the Chinese economy than banks in many other major global economies, mainly due to a combination of the nature and development of the broader Chinese financial system and the impact of government policy on domestic financial activity.

In addition to the Big Five, the national commercial banking sector is supported by a number of smaller joint-stock commercial banks. These banks, like the Big Five, are also targets of foreign and domestic investment, though the scope of their commercial activities is considerably smaller. Approximately twelve of these smaller commercial banks are classified in this manner (CBRC, 2010). They have a more limited scope for international activity than the Big Five, making them domestically focused institutions. They offer many of the same services as the Big Five; there is little to distinguish them with respect to the commercial services they offer, though their ability to adapt to emerging markets and market conditions within China has been noted as being superior, in at least some examples, to the Big Five (Ferri, 2009). This
A greater level of adaptability is cited by Ferri (2009) as being due in part to less monolithic sizes, allowing these institutions a greater degree of flexibility in managing their existing investments while still operating financial bases that allow them to take advantage of these emerging opportunities.

The Chinese financial sector includes numerous smaller institutions (called “New Tiger” banks) dedicated to specific geographic areas or target markets, making their operations smaller in scope than the giants of the Big Five or other major commercial banks. This does not, however, mean that the quality of their commercial activities or asset holdings is questionable. Some of the smaller banks, particularly the city-based commercial banks, have been judged to be more flexible and better at adapting to changing economic conditions in China than their much larger brethren. In a survey of these “New Tigers”, the smaller institutions were found to outperform the larger state-owned commercial banks in relative performance concerning the quality of their loan and asset base (Ferri, 2009). In this same category might be included more specialized institutions such as the Postal Savings Bank of China, providing basic financial services to small business, low-income, and geographically isolated or rural populations through easy access at postal outlets, as well as trust fund companies, financing companies, and brokerage firms. Standalone smaller institutions include the geographically limited city banks, numbering approximately 150 as of 2009, dedicated to providing services in one given city and the immediate surrounding region, though larger city banks may provide services in other regions, while even more numerous, though much smaller, are a large number of various village banks and rural/urban credit community cooperatives. In general, these banks have a limited impact on the broader financial system, with only the largest city commercial banks (notably the Bank of Beijing and the Bank of Shanghai) controlling any significant assets in comparison to the larger commercial banks (KPMG, 2007 and 2010).

Despite its power, the central bank is not directly responsible for the supervision and regulation of these financial structures. Over the course of the 1990s and early 2000s, the remit of the PBoC was further refined and three supervisory bodies created to undertake the major regulatory roles within the financial services sector. These bodies exist on an equal standing within the governing structure of the PRC to the central bank and are formally independent of (though work with) the bank and appropriate ministries (particularly the finance ministry): they report, like the PBoC or senior ministers, directly to the State Council (Pearson, 2007; Huang,
The China Banking Regulatory Commission studies, analyzes, and reports on the health and structure of the Chinese banking system as a whole, determining whether and to what extent particular risks or areas of concern should be addressed by the central government or management of the institutions in question. The CBRC is also authorized to enact and enforce regulations to support the stability and healthy, risk-controlled growth of the Chinese financial system. As it has no vested interest in the financial system beyond its regulatory remit (the CBRC does not control or officially benefit from any financial instruments) and is directly responsible to the senior levels of the central government, there is theoretically greater protection in the structure of the CBRC of its goal of strict supervision and risk regulation, though this is only useful insofar as attempting to decouple the agency from the market it regulates; since it is so closely linked to the government, concerns have been raised in the past about its ability to separate sound economic regulation from political pressure to leave growth-friendly rules in place (CBRC, 2010; Brehm and Macht, 2005). In a general sense, the agency’s activities are in line with international banking regulatory proposals, notably the Basel and Basel II frameworks spearheaded by the Bank for International Settlements, the generally accepted ‘global standard’ of financial regulation (the CBRC is a member of both the Financial Stability Board and the Basel Committee on Banking Supervision, as are the PBoC and the Ministry of Finance) (Kudma, 2007; Herd et al., 2010; KPMG 2010).

Finally, thanks to the impact of WTO Accession requirements and the ongoing reform of the Chinese domestic market, foreign banks have increased their activity within the Chinese market since 2001. Foreign banks did not magically appear in China on January 1, 2001, but the nature of their existence changed dramatically after the WTO Accession. Foreign banking opportunities did not exist in the Mao era, but under Deng Xiaoping’s reform movement in the 1980s, foreign banking institutions slowly began to resume activities within China, though a

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4 This is not to suggest that the structure of the CBRC makes it immune to poor supervision or even, at worst, corruption in favour of the commercial banking industry, but it is worth noting that the structure of the agency seems intentionally designed to insulate it from negative formal and informal influences from the structures it is supposed to be regulating; this makes it different from the PBoC and economically-oriented ministries.

5 The two other regulatory agencies, the China Securities Regulatory Commission (CSRC) and the China Insurance Regulatory Commission (CIRC), fulfill similar roles in regard to their respective financial sectors. The full range of securities and exchange markets, including such instruments as bonds, stocks, futures, and other exchanges, are the focus of the CSRC, while the growing (but still relatively immature) Chinese insurance industry is the remit of the CIRC, including defining frameworks for the stable growth of the industry, ensuring the growth of a competitive but consumer-oriented insurance market, and creating a system to evaluate risk within the industry (Yao et al., 2007). Both agencies have equal independence and standing to the CBRC; they are not officially subordinate to any one ministry or agency within the Chinese government.
wide variety of restrictions were placed on them: foreign entities were initially geographically confined to activity in the Special Economic Zones on China’s coast, foreign institutions were unable to conduct business in *renminbi*, and they were limited to creating and managing a financial network for foreign firms and customers operating within China rather than engaging with domestic customers (both corporate and individual) (Liping, 2004; Leung and Chan, 2006). Nevertheless, this introduced a more widespread and integrated foreign banking presence to China, and regulations were relaxed over time, though several geographical and customer limitations still existed until 2001 (Liping, 2004). Under the provisions of the WTO Accession, reforms allowed foreign banks to offer both foreign and domestic currency-denominated services to any customer within China, foreign or domestic, in any city, scheduled over a course of five years, with the goal of removing, by the end of the fifth year, regulations preventing foreign firms from offering individual consumer services denominated in *renminbi* (Liping, 2004; Loechel and Li, 2010). In 2006, new requirements were published that were intended to simplify the process by which banks might enter the Chinese domestic market and offer RMB-denominated services (in accordance with WTO requirements), but also codified specific requirements to engage in such activity (FRBSF, 2007). Despite the gradual pace of reform, several large foreign institutions such as HSBC and Citibank have opened and manage multiple branches and offices throughout China, while several institutions also offer international and domestic services to customers within China; in total, approximately 200 foreign banking institutions now operate in some manner within China (CBRC, 2010: 38).

This activity is still minimal in comparison to large domestic banks, with foreign banks that are allowed to incorporate domestic branches operating far fewer business offices than domestic Chinese banks. In 2009, the 33 foreign banking institutions that controlled locally incorporated subsidiaries only operated 199 branches, coupled with 95 direct foreign bank branches, in total controlling approximately 1.71% of banking assets in China (CBRC, 2010: 38). By comparison, domestic branches of the five largest commercial domestic Chinese banks number approximately 200,000, controlling more than 51% of the country’s banking assets (CBRC, 2010). In some banking business areas, progress of foreign entities entering the domestic market has been markedly slow – for example, by 2008 only seven locally incorporated foreign banks had been issued licences to engage in consumer *renminbi* services (Loechel and Li, 2010).
This situation involves political as well as economic factors. Victor Shih (2007) has attributed this continuing low level of activity to the prevalence of non-economic trade barriers used by Chinese government entities to make the process of entering and thriving in the domestic Chinese market as onerous as possible. Examples of such barriers include regulations preventing foreign companies providing electronic payment services for RMB-denominated credit card transactions (a situation that caused the United States to pursue dispute settlement in the WTO in September 2010), subsidized office space for domestic Chinese banks, and rules forcing foreign actors to file documentation with the Chinese government in a Chinese dialect (USTR, 2010: 94; Leung and Chan, 2006; Shih, 2007; Kwon, 2009). The requirements codified in the 2006 banking regulations also put in place a distinction between direct foreign bank branches and locally-incorporated branches or subsidiaries (LIIs or Locally-Incorporated Institutions), those institutions that register their Chinese operations as domestic institutions that simply have foreign ownership. An LII operates under Chinese law as a domestic Chinese bank, rather than as a foreign entity. The distinction changes the manner in which these institutions interact with the Chinese market and government, placing them under greater influence of Chinese regulatory and government authorities rather than WTO-derived and foreign-targeted laws that govern institutions identified as purely foreign in origin (FRBSF, 2007; KPMG, 2008; Kwon, 2009). Any bank branch or subsidiary, either foreign or LII, may offer foreign-currency denominated services, but Chinese authorities explicitly prohibit foreign bank branches from offering the same RMB denominated services as domestic or LII banks and set specific requirements on foreign branches: any foreign bank branch cannot accept deposits less than 1 million RMB in size and has more stringent operating capital, reserve requirement ratio, and loan-to-deposit ratio standards, thus restricting the potential customer base (FRBSF, 2007; CBRC, 2010; KPMG, 2008).

Surveys by PricewaterhouseCoopers in 2005, 2007, and 2010 showed that, among those foreign bankers participating in the Chinese market, the regulatory regime remained one of the most significant challenges to the maintenance and expansion of their business activities, and that the general belief was that regulation and state rules, rather than economic factors, were the main drivers of change in the Chinese banking market (PWC, 2005; 2007; 2010). Lack of activity and growth is not due to a lack of interest by foreign companies in the Chinese market, with a growing level of business and ever-increasing interest in engaging with the Chinese...
market on the part of foreign banks: in the 2010 survey, covering 42 foreign financial institutions operating in China, overwhelming agreement existed concerning sustained interest in and intention to remain in the Chinese market, matching similar comments in the 2005 and 2007 surveys (PWC, 2010). This optimism is reflected in foreign banks’ growing ownership of bank assets in China (despite its low total percentage). Despite a disruption due to the impact of the 2008 financial crisis, asset share of foreign banks in the Chinese market had increased from 1.84% in 2004 to 2.38% in 2007 (this shrank to 1.71% in 2009, but was believed by Chinese regulators to be as a result of disruption due to the global financial crisis rather than any sustained general retreat from the Chinese market – though the results of the 2010 survey cited above also point to the massive credit boom from the Chinese stimulus package flowing through domestic Chinese banks) (CBRC, 2010; PWC, 2010).

Despite their increasing presence and waning distinctions between domestic and foreign institutions after the 2001 WTO Accession and the promulgation of the central government’s 2006 banking laws, foreign institutions continue to face significant challenges to easy entry to the domestic Chinese market. The most significant of these challenges takes the form of legal and regulatory requirements that, cumulatively, exert pressure on foreign institutions to operate under domestic Chinese laws rather than taking advantage of more favourable international WTO-based rules. The key element of these challenges rests in the manner in which different regulations may be applied to wholly foreign-operated branch institutions versus domestically incorporated foreign-owned institutions. These obstacles lead to two broad identifiable trends. First, the majority of the banking environment within China is oriented towards domestic activity and defined along domestic rules (though these domestic rules can be and are informed by international ‘best practices’ suggestions or regulations such as the Basel 1, 2, and 3 protocols). Second, though the banking sector is ostensibly open to public ownership and private competition, the banking environment is circumscribed and defined by this central government regulatory regime and direct activity. The result is that the domestic market is insulated from external agents by rigorous regulatory requirements, while interaction with the global financial network is overseen and defined strictly through the processes of the Chinese government – even though it may allow certain activity to be more or less loosely controlled. Consequently, interaction between foreign and domestic agents should not be the primary focus of an analysis of ongoing issues and concerns within the Chinese financial system. This is an idea expounded
by Dobson et al. (2008), arguing that integration between the Chinese banking and financial sector remains so indistinct (though it is growing) that it is primarily domestic issues that are key to forming an opinion of the robustness of the sector. This does not mean that one has to take a position that isolates the impacts of these domestic issues from global financial networks however – Wade’s “wheels within wheels” concept allows for effects and consequences of domestic actions to be transmitted through a system to a point where the system joins or links with international or global networks. While this can greatly add to the complexity of a system and make it difficult to determine what will or will not affect broader global financial networks, it allows an analysis to encompass a wider selection of potential threats and better represents the functional impact of what are, at face value, purely domestic concerns.

3.3 Ongoing Concerns and Potential Vulnerabilities in the Chinese Financial System

3.3.1 The Non-Performing Loan Problem

The most immediate concern rests in the generic quality of the banking sector’s loan activities. The spectre of non-performing loans 6 (NPLs) has hung over the Chinese banking sector in the past; it was a critical problem to be addressed prior to Chinese entry into the WTO in 2001 and a large banking sector cleanup in the late 1990s and early 2000s was driven by high levels of NPLs (Shih, 2004; 2007; Dobson and Kashyap, 2006; Bottelier, 2002). Analysis determined that the principle factor driving NPLs was the predominance of state-owned enterprises in the economy that were unable to keep up with the modernization of the Chinese economy; despite being functionally uncompetitive, they were kept on economic life support through preferential loans from the state-owned banks thanks to the desire of the state not to let a sizeable percentage of SOEs fail (thereby putting people out of work – fear of which lead to SOEs being treated as some perverse form of unemployment insurance – and harming business or political interests of Communist Party and state officials) (Dobson and Kashyap, 2006; Bottelier, 2002; Gordon, 2003). The institutional and popular perception prior to the WTO Accession was that Chinese banks had essentially rotten underlying fiscal foundations: the World

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6 A non-performing loan is one that the loan issuer does not expect to be repaid, or one that the recipient has been forced to delay interest payments on or refinance its debt obligations to a particular degree.
Bank (1997: 33) described the Chinese banking system of the late 1990s as “the soft underbelly” of the economy, while The Economist (1998) declared it “the worst banking system in Asia”. It was estimated that, by the 2001-2002 period, the banking system NPL ratio sat at around 30%-40% (healthy or sustainable NPL levels vary according to the circumstances in a nation’s banking system, but generally do not exceed 5-7% in advanced economies such as the G7 - see Table 2), with pre-millennial levels even trending higher towards 40%-50% (Shih, 2004; 2007; Garcia-Herrero, 2006; Bottelier, 2002).

The commercial banks, banking regulators, and the State Council focused on reducing the NPL ratio through the decade (see Table 3), with the result that by the end of the decade, official NPL figures were in line with those of the best of the G7 states. This was accomplished largely through the government effectively writing off and absorbing large quantities of NPLs, through recapitalization operations, by shifting some non-performing assets into specifically created corporate or financial bodies, and, in the longer term, introducing new regulations that placed more emphasis on the economic quality of potential loans (Dobson and Kashyap, 2006; Garcia-Herrero et al., 2006; Ma, 2006).

<table>
<thead>
<tr>
<th>Country</th>
<th>NPL Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>0.95%</td>
</tr>
<tr>
<td>France</td>
<td>3.6%</td>
</tr>
<tr>
<td>Germany</td>
<td>3.9%</td>
</tr>
<tr>
<td>Italy</td>
<td>5.82%</td>
</tr>
<tr>
<td>Japan</td>
<td>2.94%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1.87%</td>
</tr>
<tr>
<td>United States</td>
<td>1.82%</td>
</tr>
</tbody>
</table>

Table 2: NPL Ratios in the G7, 2002-2009 Average – Source: World Bank, World Development Indicators

<table>
<thead>
<tr>
<th>Year</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC NPL Ratios</td>
<td>17.4%</td>
<td>13.1%</td>
<td>8.6%</td>
<td>7.1%</td>
<td>6.2%</td>
<td>2.4%</td>
<td>1.6%</td>
<td>1.14%</td>
</tr>
</tbody>
</table>


Despite the extent to which the problem was remedied (though not completely resolved) around the time of and following the WTO Accession, the issue of NPLs has arisen again. This suggests that the root of the problem goes deeper than those issues resolved by the very substantial bank reforms of the past ten years that pruned back the number of smaller uncompetitive SOEs in the Chinese economy, opened up the economy to foreign actors, and revised the technical nature of the banking system to place more emphasis on the economic rationale of loans. It may be tied into informal power relationships and networks between the political and banking sectors within China, at least to a partial degree (based upon
later citations concerning the level and impact of state involvement on the quality of credit provision and bank efficiency). As well as the authors cited in the specifically Chinese context, La Porta et al. (2002) and Berger et al. (2005), studying the matter in a global context, argued that state control over banking resources invariably results in higher levels of inefficiency in a bank’s activities in general. More recently, a key factor affecting a modern NPL crisis concerns the 2008 global financial crisis and China’s response to crisis-related pressures, and to the nature of credit policy throughout the Chinese economy (not simply in regard to state-owned businesses).

A significant portion of local government financing loans certainly fall into the NPL category, but a greater source of the more recent NPL concern is the massive increase in credit liquidity that occurred in 2009-2010. This also addresses ongoing issues in regard to Chinese capital flows, and as such should be viewed in a broader context of concerns about the banking system. During this period, credit flows increased significantly, by approximately RMB 9.59 trillion in new loans for 2009, an increase of RMB 4.69 trillion – in total, the quantity of new loans was approximately equal to 31% of China’s annual GDP (CBRC, 2010). This was in part due to a RMB 4 trillion stimulus package the government drew up to combat the consequences of the 2008 global financial crisis. The 2008 crisis, while not affecting Chinese GDP growth as seriously as Western or G7 economies, did precipitate higher degrees of unemployment, the closure of export-related businesses, and slower than normal economic growth (Vincelette et al., 2010; Overholt, 2010; Liang, 2010). Growth remained positive during the crisis but rates shrank noticeably year-on-year (see Table 4), due mainly to a dramatic decline in the export sector (see Figure 2), in early 2009 contracting by approximately 25% year-on-year.

![Figure 2: Chinese Exports from January 2008 to July 2011](image)

Figure 2: Chinese Exports from January 2008 to July 2011 – Units are in billions of U.S. dollars per month. Source: Trading Economics (2011), citing data from the General Administration of Customs
(Vincelette et al., 2010; Liang, 2010). Ultimately, exports contracted by 16% in 2009, according to both Chinese figures (National Bureau of Statistics, 2010) and the WTO’s world trade statistical database, the first such annual contraction since 1983. For this purpose, it is irrelevant as to whether the absolute figures are trustworthy, as the existence of the contraction is the crucial observation.

In part due to the impact of the declining quantity of exports (thereby forcing some businesses to close, resulting in negative impacts in other segments of the economy supplying or reliant upon the export sector), unemployment increased, reaching official figures of 4.3% urban unemployment in 2009 (PBoC, 2011; IMF, 2011a; Overholt, 2010). This was not an especially large increase over the previous year or a large figure relative to unemployment rates in G7 economies (see Figure 3), but it can be difficult to accept these official figures, as they only include officially registered urban workers. Unofficially, the rate was likely significantly higher: Cai and Chan (2009) estimated that the real unemployment rate in early 2009 was likely closer to

<table>
<thead>
<tr>
<th>Year</th>
<th>Chinese nominal growth rate</th>
<th>World Bank constant growth rate</th>
</tr>
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<tbody>
<tr>
<td>2007</td>
<td>11.4%</td>
<td>14.2%</td>
</tr>
<tr>
<td>2008</td>
<td>9.6%</td>
<td>9.6%</td>
</tr>
<tr>
<td>2009</td>
<td>8.7%</td>
<td>9.2%</td>
</tr>
</tbody>
</table>

Table 4: Chinese GDP Growth During the Financial Crisis, 2007-2009 – Source: Chinese data drawn from CBRC Annual Reports (2007-2009); World Bank data from World Bank Data Indicators Database, based upon World Bank and OECD National Accounts data.

Figure 3: Unemployment rates (percentage of population) in the G7 and China – Data from the International Monetary Fund’s World Economic Outlook 2011 Database, relying upon official national figures.
6.4% for urban workers, and ranged between 8.1% - 14.8% for the population as a whole (including agricultural and migrant workers, though this can be difficult to track due to problems in obtaining reliable information). A policy study paper published by the Chinese Academy of Social Sciences incorporated an employment survey that estimated the real employment rate at 9.4% for 2008, while a Central Party School research paper went even further in estimating a rate of 12% for 2008 and 14% for 2009, a rate that was roughly agreed upon by Schucher (2009). It is reasonable to dismiss the official figures and accept the fact that the unemployment situation in China was clearly more serious than officially stated. The potential for social unrest generated by millions of unemployed workers (urban and rural alike) is an uncomfortable prospect for any government, but especially for a modern Chinese state that has long been known to be cognizant, even hyper-aware, of the destabilising potential of public protests and potential impacts upon the legitimacy of the rule of the Communist Party (see, for example, Cai, 2010, for an overview of protest and social unrest in China). Increasing levels of unemployment create the conditions suitable for fear of social unrest to grow, making the efforts to combat these economic effects even more important for a government that deeply fears social instability. A real consequence of a crisis in China is not only the wealth-generative effects of a given situation, but the extent to which it begins to affect the socio-economic well-being of the domestic population – through, for example, unemployment or consumer-affecting inflation.

The stimulus package was designed to remedy these concerns, providing a boost to the Chinese economy through the cheap financing of local and national infrastructure projects, as well as the provision of financing for key economic sectors, targeting particularly technology, energy, and rural sectors (Liang, 2010; Wu et al., 2009; He et al., 2009; Overholt, 2010). As the growth and real employment ramifications of the crisis held the potential for not only economic but also political consequences for Chinese society and the Chinese state, this was a critical government policy program. Even before the stimulus package, credit flows were generally increasing, but in one year were effectively almost doubled, a massive increase in the amount of liquid credit in the national domestic economy. The central government financed approximately one third of the package, while the remainder of the cost was largely the responsibility of local and provincial governments, financed through bank loans (Li and Lin, 2011). It became far easier to obtain funding for infrastructure or construction projects, driving the growth of the local government financing vehicles: in total, it was estimated by the CBRC that approximately 35%
of new loans in 2009, or approximately RMB 3.4 trillion, went to local government financial vehicles (CBRC, 2010; Li and Lin, 2011). Tong and Yao (2010) suggest a figure closer to RMB 4 trillion, relying upon economic analysis performed by Citigroup rather than official figures, though Li and Lin [2011] cite research by the Chinese Academy of Social Sciences, China International Capital Corporation, and conduct their own calculations (based upon the disclosure of figures on the part of Zhejian province) that roughly agree with the 30%-35% percentage, with some limited variability.

Ultimately, the possible roots of an NPL problem persist in China, though to a far lesser degree than at the beginning of the millennium. In part due to the need to keep interest levels low to subsidize the PBoC’s currency operations (as per the previous chapter) credit in general remains easy to obtain, but has also experienced a massive glut in a short period of time. The economic risk attached to some of the local financing vehicle loans and the seemingly favourable terms provided to state-backed entities raises once again the issue of the misallocation of capital on political terms, and the quantity of credit provided raises questions about the possibility of the repayment of these loans. This is due to the concerns that logically must arise when considering the questionable ability of some local government financing vehicles to repay their loans. Indeed, the current low levels of NPLs might be due in part to the massive increase in credit that entered the Chinese economy in 2009-2010 (Robinson and Hilson, 2011). With very low levels of supervision over the local financing vehicles, newly obtained credit might conceivably be re-allocated from planned construction or infrastructure projects to debt servicing – as was the case in the town of Jiangqiao in 2008, which obtained a loan from a commercial bank without providing real collateral, ostensibly to build a high-speed rail link, but which was used to service its existing debt obligations (Jie, 2010, citing a report in the 21st Century Business Herald Newspaper, Guangzhou). Since so much credit flowed to the local government financial vehicles, and these entities are well-known for using property as a means of collateral, the foundation of the loans made to the LGIVs rests upon an asset extremely vulnerable to price changes. While no figures are available to offer conclusive data as to the extent to which property or other specifically vulnerable assets might underlie the 2009-2010 credit bulge, it has been identified as a possible risk due to the inherent qualities of the structures involved, and the CBRC questions the economic bases underlying the general structure of LGIV loans enough to
believe that 23% of these loans are in a position to default (Robinson and Hilson, 2011: 460-461).

Any impact of an NPL crisis need not be massive, and it is in fact difficult to determine if it would really take the form of a ‘crisis’ or ‘shock’ at all because of measures taken in the past several years, in conjunction with those that led to the restructuring of the banking system and the larger domestic economy following the WTO Accession, to restrict capital flows and improve the ability of Chinese banks to absorb losses, driven by concerns about inflation, property markets, and the ‘credit bulge’ of 2009-2010. Reserve requirement ratios (RRR, the percentage of capital a bank must retain in order to cover the money held by its depositors) have not only reached their highest levels in the domestic Chinese market, but are now also among the highest globally, having, as of July 2011, been raised 12 times by the People’s Bank of China since January 2010, six of which took place in 2011 (Jain and Wu, 2011; Yang and Jing, 2011). New reserve ratios of 21.5% that came into effect at the end of July 2011 surpass the international average for such measures: an IMF report surveying 121 central banks found that only 5.8% of the surveyed banks in 2010 mandated some form of reserve requirement in excess of 16% (Gray, 2011: 25; TD, 2011; Jain and Wu, 2011). Capital adequacy ratios at Chinese banks (the measure of a bank’s capital divided by its risk or liability) will be required to be above 11.5% (at least for “systemically important banks” – other financial institutions have a more relaxed ratio of 10.5%) as of rules announced in the summer of 2011 (current requirements as of the beginning of 2011 are 11% CAR), and actual official ratios as of the end of 2010 were approximately 12% (PBoC, 2011; Robinson and Hill, 2011; NRI, 2011; Chan, 2011). Not only do these standards and figures meet the commonly accepted Basel II international financial standards, but, at least as far as required capital ratios are concerned, meet the forthcoming Basel III standards (due to start coming into wide effect in 2012, though the entirety of the regulatory regime is scheduled over several years) (NRI, 2011). They do not, however, surpass the 2010 global average of CARs, using data compiled by the IMF, of 15.7%, nor of the global average cited in an April 2011 Bloomberg report of 14.87% CAR average (IMF, 2011b; Jun, 2011). This policy of high reserve requirements – the loan-loss ratio (the amount of money held by a bank to cover its bad loans) at Chinese banks has reached approximately 220% – has resulted in the sector holding more than double the amount of money required to absorb the collective NPLs of the banking system (PBoC, 2011). Admittedly, the value of this figure relies on acceptance of
bank and government figures of the extent of NPLs, something that may not accurately reflect the NPL situation in China (as Dobson and Kashyap [2006] argue, part of the difficulty with NPL figures rests in that an NPL really only appears in the official figures when a bank chooses to acknowledge that it will not be repaid, a time which, ultimately, is up to the bank). Nevertheless, the fact that the system holds more than double the amount of capital required to absorb an NPL shock suggests a very strong financial safety net that may be able to absorb even the worst of scenarios.

Ironically, the very act of increasing capital reserve ratios might exacerbate the NPL problem over time. If, as seems possible, debt-plagued actors (whether they be SOEs, private businesses, or LGIVs) have financed their existing debt with loans from a commercial banking sector that has, until recently, maintained easy credit access (along with the credit bulge of 2009-2010), then tightening the flow of capital (thereby soaking up liquidity in the domestic market) may bring on debt defaults as these actors find no recourse to service their outstanding debt. The recent CRBC rules cracking down on poor financing of LGIVs will reduce future NPL issues from developing in one sector (simply due to reducing almost certainly bad loans from being offered), but the extent of China’s long-term NPL problem remains an open question, and, therefore, should be guarded against, no matter how low the official NPL figures drop. The high reserve requirement ratios, CBRC regulations improving the quality of local government financing of LGIVs, capital adequacy figures, and continued tightening of credit liquidity will all serve to enhance the ongoing resilience of the banking system in this regard, allowing the absorption of manifesting NPL-driven shocks and reducing the growth of NPL problems in the future.

3.3.2 Booms and Busts: Chinese Bond, Property and Equity Markets

A more abstract ongoing concern for the banking sector in China rests in the importance of the role it holds in the Chinese economy. This might initially seem counter-intuitive: banking infrastructure is one of the key elements of any modern economy and, provided it is sufficiently healthy in regard to the quality of its internal workings and activities, is integral to the growth of any economic base. In the majority of modern economies though, a banking sector is but one financial tool – it frequently shares the economic environment with bond markets, property
markets, asset exchanges, and stock (equity) markets, all tools designed to allow economic actors to obtain and dispose of the capital or assets they require. Unlike a banking sector, these markets generally connect actors on a more direct basis – possibly individuals, or more focused investment or asset companies that seek to make a profit for their clients. A bank is a singular entity that takes deposits, but what it then does with them is for its own benefit, and it is able to set its rates (such as loan or depositor rates) on an institutional level, albeit in line with government regulation. Market rates fluctuate with a population’s desire for a particular product and its belief in the value of such a product – for example, a particular company’s stock, corporate bonds, property, or the value of a particular resource – thereby offering a different sort of financial tool to those participating in it. A diverse, healthy economy will allow its participants access to these various types of financial tools to fulfill specific needs, and each has its own benefits and weaknesses. Most of these markets remain relatively undeveloped in China, insofar as they can be used by private businesses, which raises a question as to the relationship between these market tools and the banking system: do unstable or immature markets drive the strength and importance of the banking sector, or does the historical power of the banking sector make it inherently difficult and unlikely for robust financial markets to develop?

This is a particularly noteworthy point to make in regard to the bond market, as its role should be typically seen both as a mechanism for a government to raise capital (financing its constituent parts) and as a means for corporate entities to raise capital. A bond market is a key mechanism for raising capital in almost any advanced economic system – it permits a company or organization (including the state) to exchange debt for immediate capital through a market, over different spans of time. In China however, the bond market remains severely underdeveloped in its use by corporate actors, and is not widely used to generate capital for non-governmental economic actors (this is not intended to suggest they are not state-owned) within China. The Chinese bond market in 2010 generated RMB 9.51 trillion in new bond issues, but of these issues, 83% were government bonds, central bank credit notes, and policy bank debentures (a medium to long-term credit note): only RMB 1.6 trillion worth of bond activity was corporate in nature (KPMG, 2011). The People’s Bank of China has been the most prolific issuer of bonds in recent years (accounting for 50% of bond activity in 2010, for example), largely thanks to its attempts to soak up liquidity in the domestic Chinese market and as a consequence of the Chinese currency policy, with PBoC issues representing approximately 25% of the total
outstanding bond stock by 2010 (Herd et al., 2010; KPMG, 2011). The majority of bond activity has also been confined to the trade between banks, rather than smaller financial or investment companies: in 2010, of the RMB 9.51 trillion bonds that were issued, approximately 98% were confined to the inter-bank market (used by institutional investors and issuers), rather than the exchanges and the bank over-the-counter market used by small-medium sized businesses and individuals, a percentage virtually unchanged since 2007 (Herd et al., 2010; KPMG, 2011).

The Chinese bond market remains extremely limited beyond state and state organ financing and, while it is growing, it still has very limited use as a means to raise capital on the part of the wider Chinese economy and corporate base. While the market’s use as a corporate (rather than a state) tool currently remains limited, it is important to note that the growth of the non-state bond market has been very rapid. While, as noted above, 83% of 2010 bond issues were state or state-organ in nature, this is down from 92% in 2009, a decrease of 9% in one year, suggesting a significant desire on the part of economic actors in the domestic market to step outside the bounds of the bank financing system (KPMG, 2011; CSRC, 2010). Still, this pace of development has only become possible very recently – domestic corporate bond issues were not officially permitted by the China Securities Regulatory Commission (CSRC, the state securities regulator) to be issued until 2007 (with the exception of large SOE bond issues, particularly from the banking sector, with the details of the issue determined by the state) (KPMG, 2011; KPMG et al. 2007; Fleuriet, 2006; Huang and Zhu, 2007). This has limited and continues to limit the avenues available for generating capital or financing through the basic lack of availability of these tools, driving economic actors to other sources of financing.

The negative effects of a failure to develop a robust bond market that can be utilized by the corporate-private sector are well understood. A developed corporate bond market can relieve loan-activity pressure on the banking system, provide a better allocation of capital within the domestic economy by opening the market to a broader range of investors and creditors, and reduce the effect of banking sector instability by diversifying debt holdings (see Herring and Chatusripak [2006] for an overview of the extensive literature addressing the role of the bond market in an economy). The development of a healthy bond market also allows a broader market to determine the risk associated with investment in a particular entity or body by driving bond yields up or down, thereby improving the quality of information and investor security in other financial markets (such as the equity market) (again, see Herring and Chatusripak for a
comprehensive overview of research on these effects since the 1950s). The fact that it was only in recent years that the bond market became available as an option for raising corporate capital means that the banking sector has absorbed that demand for years, putting in place a financing foundation that will take time to erode, even with the apparently rapacious desire of domestic economic actors to enter into those private bond issues. Given the development of the rest of the Chinese economy, the immaturity of the Chinese bond sector introduces an additional element of insecurity into other financial markets in China by limiting the ability of a broader market to contribute to a sense of the value and risk underlying institutions. This input would be valuable since banks in China have a history of economically questionable loan activity (see the sections on NPLs and links between the political and economic sectors in helping to drive loan activity). Allowing a bond market’s participants to provide a better sense of the value of economic actors could provide additional economic security and a means of correction in the wider Chinese domestic economy. The high pace of annual growth in the Chinese bond market might well reflect such a desire.

While the bond market remains a recently developing option by which economic actors can raise capital or participate through investment, the property and equity (stock) markets present different risks that make them unattractive in some key respects, thereby further raising the profile and importance of the banking sector as a provider of capital and financing. In the Chinese setting, both these financial tools generate concerns about stability. In the case of the property market, it is the threat of a bubble manifesting and collapsing (or, less disastrously, overheating in the sector), while in the case of the equity markets it is the instability and volatility, partly due to poor regulation.

The Chinese property market plays an integral role in the domestic economy. While in part this is due to the situation described in the next section in which property is used as collateral to obtain loans (by any number of economic actors, but especially local governments), property also serves as an alternative investment point for non-corporate and non-state economic actors: the previous chapter described the relatively low deposit rate that individual investors obtain in the banking sector, and the stock market, addressed below, has already suffered through shocks.
and is dependent on the accurate valuation of companies rather than the value attached to land\textsuperscript{7}. Perhaps as a consequence of a lack of other sources of investment in combination with the desire of corporate and state entities to obtain loan collateral, a great deal of value has flooded into the Chinese property market over the past decade, and it now supports a network of local government, corporate, and individual loans and investments. Such rapid growth has had noticeable effects on the Chinese economy as a whole: the property market now contributes approximately 12\% to China’s GDP and is the target of approximately 18\% of bank lending (IMF, 2011a). It is, therefore, important to consider whether this market is correctly valued – perhaps cognizant of the role that property had to play in the American financial crisis during 2008-2009, concerns that the Chinese property market is manifesting a bubble have been raised with increasing frequency. The government has become concerned about the domestic impact of rapidly rising house prices, putting in place recent measures to curtail the pattern of price increases, making this not only an economic issue, but one with a political dimension.

Property values in China have unquestionably increased at a rapid pace in the past several years and have become valuable sources of investment. Wu et al. (2012) calculated that real property prices more than doubled since 2001 (see Figure 4), based on a study of 35 Chinese cities, corrected for inflation, with a more significant portion of the increase occurring since 2007 (while variations in the rate of increase occur, the pattern of rapid value growth is also agreed by Deng et al. [2010] for the early part of the decade, and Ye and Wu [2008] for the middle part of the decade to 2007). The effect was exacerbated in certain property markets, with Beijing the notable standout at an 800\% increase in property value from 2003-2010 (Wu et al., 2012). This increase in value and the rate of return on that value is comparative with other sources of investment in the Chinese economy: Ren et al. (2010), citing approximate annual increases of around 14\% nationally for 2003-2007, calculated that the return on value for property investment (including rental and capital returns) exceeded that of return from corporate capital and the Chinese stock markets. Such rapid growth over a short period of time begs the question of whether a proportion of this increase is overvalued.

\textsuperscript{7} The attraction of assigning value to a manifestly real asset such as land rather than attempting to arrive at a value for a corporate structure is partially a perception issue – companies may be incorrectly valued or may fraudulently represent themselves, but land might also be incorrectly valued – but one that should not be ignored.
Considerable interest has been shown in the question about overvaluation of the Chinese property market. On a general level, Deng et al. (2010) and Wu et al. (2012) argue that the magnitude of the growth of value over such a short period of time, especially in the larger cities, matches no comparable economically rational situation, thereby raising suspicions (but not generating proof) of overvaluation in the market. The sheer complexity of the housing market, variations in circumstances between cities, and the difficulty in ascertaining the fundamental value of a piece of property are cited as contributing to the inability to draw any reliable conclusions about the existence of a bubble in the property market. Similarly, while Sun and Zhang (2008) attempt to draw a link between increasing flows of credit and the growth of a housing bubble, they are unable to reach a more definitive conclusion that some overvaluation does exist, perceiving a bubble through the abnormal surge in property prices and the existence of a ‘speculative ripple’ in prices coinciding with increases in credit – again, the complexity of the market and underlying variables makes a definitive answer to the concerns about the extent of overvaluation difficult to achieve. More focused studies concentrating on economic-mathematical analysis have also attempted to reach some conclusion as to the approximate extent of overvaluation. A fundamentals-based approach (one that attempts to calculate the extent to which a price reflects the demands of a population, availability of supply, material costs, etc.) adopted by Dreger and Zhang (2010) suggests an overvaluation of approximately 25%, though it
is impossible to verify the accuracy of the figure beyond the study’s internal calculations. At the same time however, a fundamental approach to market analysis can also demonstrate that a national bubble does not exist, as in Ahuja et al. (2010), though coastal and some major cities demonstrate early signs of overvaluation. Even large, successful professional investors – for whom a misreading of the market doesn’t mean academic short-sightedness but potential real economic consequences – find it difficult to reach a consensus, as demonstrated by disagreements in the New York Times between those who believe that an economically catastrophic property bubble underlies the Chinese market (such as James Chanos, a hedge-fund investor who foresaw the economic collapse of Enron), and those who believe that the fears are overstated (including other large, successful investors such as Warren Buffett and Jim Rogers, a partner of George Soros) (Barboza, 2010).  

Embracing the possibility that any definitive and largely acceptable calculation of overvaluation in the Chinese property might simply be too difficult to achieve prior to any correction (see, for example, inconclusive debates about the existence of an American housing bubble prior to a 2006 property market correction and the 2008 financial crisis in Goodman and Thibedeau [2008], Case and Shiller [2003], Himmelberg et al. [2005], and Smith and Smith [2006]), some evidence of overvaluation might be interpreted through the state’s activities since 2009, through the form of new State Council resolutions restricting activity in the property market. In 2010, the central and municipal levels of government put in place strict rules concerning the extent to which home purchases might be financed and purchased, an overview of which may be found in Wu et al. (2012), citing Chinese-language Gazettes and Circulars of State Council meetings and decisions, and a more extensive list in Clemens et al. (2011): large down payments (30% and higher) are required for first home purchases, and banks may only finance 40-60% of a second home through lending, while any lending for a third home is, while not banned, “discouraged” by the State Council, as is lending for a property purchase for a non-resident of the area. In some municipalities (Beijing, for example), local authorities have banned the ownership of more than one property, and citizens who have not resided in the city for more

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8 This level of disagreement about the existence of a bubble is perhaps to be expected, especially if a bubble continues to exist as only a possibility rather than a commonly accepted fact. Indeed, in a practical sense, measuring a bubble cannot readily be used to prove the existence of any sort of ongoing bubble at all, since as soon as a bubble is widely recognized and its existence accepted, it will almost certainly collapse. Bubbles are inherently irrational and undesirable economic features – recognizing one changes the nature of its existence by forcing the market to undergo an immediate correction (thereby destroying the bubble) (Deng et al., 2010).
than five years (and who are unable to provide satisfactory documentation showing proof of residence) are not permitted to freely purchase property at all. Limited introduction of property taxes in the cities of Shanghai and Chongqing has been approved, reducing the attractiveness of property as a speculative investment by limiting potential profit margins. Developers are banned from purchasing land if they retain any property parcel idle for more than one year, or have otherwise breached property development or sale regulations. Cumulatively, these policies strike at the use of easily obtained credit to finance property purchases – as one of the key features of the Chinese economy is liquidity, this tackles the very ability of economic actors to purchase property – and the basic ownership of property for the purposes of investment. It is still too early to predict the long-term effect of these measures, but it has already been estimated that this will have at least a noticeable effect, even possibly leading to a dip in housing prices, with some short-term figures corroborating a decrease in property prices with the introduction of these regulatory measures (Clemens et al., 2011; Wu et al., 2012; Ahuja et al., 2010; IMF, 2011a).

Ultimately, the issue of whether the Chinese property market might be classified as a bubble is a semantic one. The Chinese market has been seen as overvalued, not only by some third-party analysis of the economic fundamentals of the market, but more importantly also by the government’s recent efforts to try to cool the market. Whether the market really is excessively overvalued in an objective sense is irrelevant – it is perceived as a political-economic problem by the state, and the perception is that the property market is too active with potential domestic economic and social consequences. If the market is overvalued, the chief concern rests in the impact that a decline in property prices might bring; the collapse of housing bubbles has been tied to significant negative effects in a domestic economy (such as in credit supply, inflation, and general economic activity), with possible impacts potentially twice as large as those related to the collapse of equity bubbles (Helbling and Terrones, 2003; Goodhart and Hofmann, 2008). The IMF’s own assessment of the sector within China also noted that, with approximately 12% of GDP growth due to the housing sector, since it is linked to both construction (building supplies, for example) and consumer (such as appliances and furnishings) markets and is connected to approximately 18% of banks’ credit portfolios, the potential impact of a housing market disruption would be significant (IMF, 2011a). The exact point of criticality is not clear, but too little an increase in property prices (or, even more seriously, a fall in property values) will affect those holders of property. For investors, this need not be a catastrophic
situation – investments funded by an investor’s own wealth might be recouped in time. The social impact of any such decline is hard to predict, since it relies upon too many variables (rate of decline, how investments are funded, etc.), and it is possible that broader economic consequences might result if there is a sufficient enough correction in the property market. What is predictable is that more serious effects would result for those entities that have used and continue to rely mainly or solely upon property as collateral to obtain credit. Investments might be recouped; collateral is not so easy to replace if only one main source is relied upon. The property market is, at this point, irrevocably linked to the credit market and the Chinese banking sector. A correction in the property market might bring about an increase in the number of non-performing loans that the banking sector must absorb – it might absorb a shock without too much difficulty given its high capital reserves, but the situation contains the roots of a broader fiscal problem. Since a substantial portion of local government investment vehicles are relying upon stable or increasing property values as foundation for their loans from the banking sector, this threat has the potential to expand dramatically or perhaps have unforeseen, seemingly unrelated effects within the broader domestic Chinese financial system.

Finally, the Chinese stock (equity) markets raise another, slightly different, challenge for the Chinese financial system and the broader economy. Equity markets, like property and bond markets, play a crucial role in a broader economy, permitting businesses to raise capital through the provision of stock or securities, and allowing investors and financial firms wider ability to trade in derivatives, thereby generating wealth within the economy and allowing it to flow between parties in a regulated fashion. While the property market might be potentially unstable – assuming the existence of overvaluation – the equity market is one that has already demonstrated considerable capacity to shock, making it a riskier means to raise capital and engage in investment. This has the effect of making the banking sector seem a less risky alternative for acquiring financing, and both the property and banking sectors more attractive for investors or depositors, exacerbating the role that the banking sector and bank credit flows play in the Chinese economy. Concerns rest in the ability to turn the equity sector into a relatively

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9 Derivatives rely upon the existence of other assets, including equity markets. A derivative is a contractual negotiation of fixed length that has no inherent value, but is predicated upon the value of another asset such as currency or debt, unlike a security or share in a company that is a portion of an entity with measurable assets and valuation.
stable, smoothly functioning market – until the equity markets develop into more mature structures, the banking sector will continue to be a less risky means to raise funds.

Like many structures in the Chinese economic system, concerns about maturity and efficiency do not necessarily have a relationship to relative size. The Chinese equity market is the second largest in the world (by market capitalization, an increase from US$400 billion capitalization in 2005 [KPMG 2011]), second only to the United States. Notably however, it has far fewer listed companies (see Table 5) than other financial markets with high market capitalization, even after only coming into existence during 1990-1993 (during which time the Shanghai and Shenzhen markets were created, as was the China Securities Regulatory Commission). This suggests that while larger companies feel able to list on the equity markets, smaller companies may not be as prepared either economically or politically. As government approval is required to list on Chinese equity markets, smaller, private businesses simply may not be able to acquire the necessary consent.¹⁰

<table>
<thead>
<tr>
<th>Country</th>
<th>Market Capitalization (2010 US Dollar, trillions)</th>
<th>Number of Listed Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>17.283</td>
<td>5016</td>
</tr>
<tr>
<td>China</td>
<td>4.027</td>
<td>2063</td>
</tr>
<tr>
<td>Japan</td>
<td>3.827</td>
<td>2293</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>3.613</td>
<td>2996</td>
</tr>
<tr>
<td>India</td>
<td>3.228</td>
<td>6586</td>
</tr>
<tr>
<td>Europe (NYSE Euronext Europe)</td>
<td>2.930</td>
<td>1135</td>
</tr>
<tr>
<td>Hong Kong SAR</td>
<td>2.711</td>
<td>1413</td>
</tr>
<tr>
<td>Canada</td>
<td>2.170</td>
<td>3741</td>
</tr>
</tbody>
</table>

Table 5: End 2010 Equity Market Capitalization and Number of Listed Companies in a Selection of Countries – Data from World Federation of Exchanges statistical database (2011)

Indeed, Chen et al. (2009) came to the conclusion (supported by Qiang [2003] and Liu and Sun [2005] in earlier, narrower research) that, after tracking share ownership of listed companies from 1999-2004 over 6113 firm-years (the ownership in a single year for a single firm), approximately 80% were controlled by the state in some form, either directly or through asset management companies, at either sub-national or national administrative levels. A more

¹⁰It is only possible to speculate as to the real reasons for failure to obtain consent, raising the possibility that such refusal may rest in either economic or political considerations.
up-to-date version of this study has not been performed, so reliance upon the 80% figure is not advisable due to the highly changeable nature of the Chinese economy and the SOE and securities reforms pursued throughout the 2000s. The figure, however, reflects the basic underlying foundation that the modern Chinese securities regime is built upon, and raises the possibility that the equity markets remain dominated by state-connected (not necessarily directly owned) firms. Concerns about the level of state-owned activity in the equity market certainly remain: Jiang et al. (2008) attribute approximately two-thirds of share ownership to the state. Some speculation may be at work, relying on measures of the liquidity of the equity markets: a 2008 CSRC report on the development of capital markets in China listed the ratio of free-floating shares\(^{11}\) in China at no more than 30% at the end of 2007 (CSRC, 2008). This does not, however, mean that the remainder of the shares were held by the state – it seems certain that the state would hold some for the purposes of retaining some ownership in the companies (possibly majority ownership), but the extent of state ownership cannot be reliably measured from such a figure due to the inability to distinguish state ownership of held shares from private (such as family) ownership. More reliably, Yang et al. (2011) conduct a review of ownership of Chinese listed companies using a database maintained by the China Center for Economic Research at Peking University, reaching the conclusion that approximately 50% of listed company shares were owned by the state at the end of 2009. It seems almost certain that the state, while reducing its involvement in equity markets over the past decade, retains a considerable ownership role in these markets, raising the possibility of distortion not only of market prices (through restricting the liquidity of the market), but also raising the question of the ability of the state to appropriately regulate the market while retaining considerable economic interest in it.

While the modern equity market is large, it is still subordinate to other forms of financing in the Chinese economy: Chinese companies raised approximately RMB 390 billion (roughly US$57 billion) in the domestic equity market in 2009 (CSRC 2010: 16), considerably less than the degree of new loans issued in 2009 (including the stimulus package, about RMB 9.6 trillion). It is still a young, developing market, with activities such as short-selling, trading in stock index futures, and selling on margin only recently permitted in 2010 (and until August 2011 restricted

\(^{11}\) A free-floating share is one that anyone in the market may purchase. A free-floating ratio is the measure of the number of liquid, freely available shares for purchase compared to the number of shares that are not for sale (those held by an investor such a family, individual, or state agency that wants to retain control over their share of ownership). It is a measure of equity market liquidity.
to the largest brokerage houses due to high CSRC capital requirement rules) (Lehkonen, 2010; KPMG, 2011; Hong, 2010; Xiang, 2011). It remains an important source of (potential) capital though, thereby making it a valuable resource to any size of domestic business, state-owned or otherwise, particularly as China continues to develop and may seek to reduce reliance on bank-derived capital.

A key concern arising from the Chinese equity market is that of volatility. A crucial point is the extent to which the rises and falls in the market reflect real economic fundamentals, whether and to what extent they are driven by irrational bubbles or other non-economic factors (such as investor panic), and the extent to which market values fluctuate over periods of time. In addition, a stable market relies upon regulation to provide an agreed-upon understanding of an actor’s value and commonly accepted rules governing how value changes hands in the market – undermining that belief in the underlying rules of the market through, for example, fraud or lax regulation begins to erode the confidence of market participants. Investors cannot trust the structures and claims supporting the value of a company’s shares, and those making public offerings cannot rely upon the confidence levels of investors, raising the fear of irrational panics and sell-offs, making the entire market structure an inherently riskier one. Chinese equity markets have suffered from both these issues.

![Figure 5: Shanghai Composite Index Historical Values by Month, from Jan. 2007 to Jan. 2011 – Source: Trading Economics (2011)](image)

In the past decade, the performance of the Chinese stock markets has been unstable at some key periods, showing large increases and massive falls (see Figure 5 for a representative example of the Shanghai Composite Index). The most recent significant levels of instability
occurred between January 2007 and January 2010, following a period of incredibly rapid growth in 2005-2007; the ‘bust’ of 2008 wiped out this growth, leading to questions as to whether an equity bubble had burst (Lehkonen 2010). There is some evidence that the Chinese equity market has suffered several ‘boom’ and ‘bust’ cycles over the past decade. Analysis of the pattern of instability in the market from 1999 to 2009 by Bondt et al. (2011) identified four decreases and two increases in market value (including the 2008 drop) that could not be accounted for by modeled estimations of predicted market value relying upon economic fundamentals (for example, the value of corporate earnings, risk-free interest rates, and risk premiums). They further show that, while market reform efforts and excess liquidity can help explain market instability, such factors do not offer a complete explanation, leading to the conclusion that irrational causal factors have some role to play in the variations in the stock market. This idea is supported by Lim and Brooks (2009), who suggest that some speculative activity is at work in equity market value changes, thereby making it more likely to generate market instability. On the whole however, these studies and other older analysis (Eun and Huang, 2007) found that the domestic Chinese equity markets were largely driven by rational actors and investment decisions, suggesting that these booms and busts were not representative of intrinsic irrationality in the Chinese equity markets during the early to middle part of the decade (in essence, that the Chinese equity market was not inherently inclined to produce bubbles).

While it may not be irrational, the number of ‘booms’ and ‘busts’ suggest an element of volatility, possibly due to the inability of the market to satisfy investor demand – without sufficient market capacity, ever increasing interest might drive fluctuations in share prices as investors seek to profit from near-constant demand, thereby increasing speculative behaviour (as, rather than seeing any inherent value in a stock, an investor might simply see its short-term potential to increase in value due to investment demand). This is supported by more recent analysis of the effects of the government-driven stimulus package in 2009 that found that market volatility has increased substantially, beginning with the crash of 2008 and leading to variable short-term performance and fluctuating returns since that time (Zhang et al. 2011a). Yao and Luo (2009) argue that the initial decline in value cannot be attributed to the global fall in stock market values during the global financial crisis; global levels did not begin to decline until October, whereas the Chinese markets fell to their lowest point by the end of September. Both
studies suggest that ongoing volatility past this point is perhaps due to the flow into the equity market of approximately 20% of the credit derived from the stimulus program undertaken by the Chinese government, a figure reached by the State Council and the People’s Bank of China by analyzing flows of credit throughout the domestic economy (Zhang et al. 2011a; Yao and Luo 2009). A rapid succession of IPOs by large government-backed companies starting in the latter part of the decade might also have generated waves of speculation on the part of investors – initial prices for many large firms were generally high, and sometimes offers were oversubscribed. These prices did not necessarily remain high, such as in the case of PetroChina (a large SOE) that saw its shares suffer a 70% drop in share value between the time of its IPO in October 2007 and June of 2008, and three of the Big Five commercial banks that suffered drops in value of up to two thirds from values in November 2007 (Yao and Luo 2009: 682). When even large state-critical companies suffer such losses, it is conceivable that confidence in the market might decrease thanks to the perceived deterioration in the ‘safety’ of state-backed assets in the equity market, particularly since the state remains a dominant shareholder in many large former SOEs (such as the Big Five banks), and short-term, volatile speculative activity might increase.

Regulation of the equity market has also suffered from some concerns and issues during the development of the modern Chinese economy. Some earlier articles (Chen 2003; Allen et al. 2007) express the belief that political considerations have played a role in regulation of the financial industry within China (leading to relatively lax regulation). However, the middle part of the decade saw the China Securities Regulatory Commission begin to introduce market- and corporate-reforming measures in efforts to combat fraud and relax direct political involvement in the market, including, for example, more stringent auditing rules (prior to 2004, only a local audit was required for a listed company), disclosure of the largest primary shareholders in a listed entity, the ability of individual investors to bring class-action lawsuits against listed companies that have published false data, and a key reform that eroded (over time) the quantity of non-tradable state shares in the market (Bell and Feng, 2009; Hou and Moore, 2011; Jiang et al., 2008; Wang, 2011). Nevertheless, there is some evidence that the government, including the CSRC, continues to view the equity market with a political perspective: the current chairman of the CSRC, Shang Fulin, and Qi Bin, Director of the CSRC Research Centre, have argued that political power and the rise of a great state require a corresponding growth of a strong, robust
securities market to support the state’s power (Wang, 2011: 236-237). The CSRC continues to have authority to supervise and control the initial public offerings of a company on the equity market, allowing it the means to, theoretically, function as a political gatekeeper to an important financial tool, while economic entities already emplaced within the equity market might, depending on appropriate links with political or regulatory bodies, be able to subvert and reduce the effect that regulations have upon their activities and practices (Hou and Moore 2011). In their study of the impact of unavoidable regulations on SOEs or majority government-owned corporations in the equity market, Hou and Moore (2011) found that those entities with higher levels of government ownership were 43% more likely to be the subject of regulatory enforcement action after those regulations were made unavoidable and more stringently applied.

Despite the theoretical power that the CSRC wields, it is also apparent that the central government and regulatory agencies have sought to reduce the extent of politicization in the financial regulatory sector, and that other elements of the government might also interfere in the equity market in a way that a regulatory agency might not be able to address. Indeed, part of the earlier negative image of the regulation of the equity market in China might have been due to an inability, rather than unwillingness, of the CSRC to successfully enact and enforce a stronger regulatory regime. An example rests in reforms enacted in 2005 that allowed previously state-only shares to circulate in the broader market, a process that Bell and Feng (2009) argue was crucial to improving growth figures in the market, improve consumer confidence, and strike at the influence held by SOEs and elements of local and subordinate bureaucracies (particularly the State Asset Supervision and Administration Commission, or SASAC) that warped share values (through, for example, retaining interests or majority shareholding positions in listed companies that might negatively be affected by reforms). This reform was undertaken by the CSRC but driven by the senior levels of the State Council, largely due to bureaucratic opposition that Bell and Feng (2009) cite as coming from lower-level officials and agencies (including local governments that had set up stock brokerages) who colluded with a corporate, mainly state-owned structure staffed at the senior levels by individuals with government backgrounds (a situation also described by Chen [2008]). The CSRC was seen as unable to enact or propose significant reform itself, due to the conflicting roles it played as both a regulator and promoter of the equity market and the power that SOEs held with various ministries, a difficulty that also plagued the CSRC when pursuing insider-trading investigations concerning government officials (Bell and Feng 2009: 126; Chen 2008).
Ultimately, it was the central government’s higher level officials who were able to overcome bureaucratic opposition which might have crippled or permanently hindered the CSRC in its efforts, resulting in the reforms being agreed by the various agencies and stronger regulation put in place.

The conclusion that one arrives at when examining the current state of the Chinese stock market is that it has not mirrored the rise of the broader Chinese economy in key respects. The fast-paced growth in the broader domestic economy is not mirrored by stable, increasing values in the domestic equity market. Rather, while being largely subject to rational investment, it has suffered several periods of ‘boom’ and ‘bust’ and increasing levels of volatility, most recently engendered by growth in liquidity that flowed in part into the stock market. This volatility might have been partially created by the difficulty that smaller and private businesses face in gaining entrance to the equity market, as it seems to be skewed in favour of large, formerly state-owned corporations with high individual value (as suggested by the market’s high capitalization but comparatively low number of listed companies). This is not aided by a government that functions as both a regulator of the equity market (through the CSRC) and a member of that market, even in a secondary or tertiary capacity, in a significant way (through share ownership of listed companies), possibly by up to 50% of the listed shares. The regulatory situation is further complicated by the fact that, at least in the past, the chief regulatory body for the equity markets has been unable to overcome bureaucratic and corporate-political intransigence about reform by itself. The higher echelons of the central government have been able to strike at the forces holding the CSRC in check, but this necessitated an institutional reform process being undertaken by the senior levels of the central government, rather than a technical solution or enforcement from the defined regulatory body. It is questionable whether senior levels of government will always be available to confront possible market-distorting factors that, thanks to political connections, might not be conclusively addressed by a technical regulatory agency. While both concerns may ease following the more recent reform and monetary policy changes, with the regulatory concern remaining, potentially, an open one, and with the more recent volatility that has affected them, though equity markets have the potential to relieve pressure on the banking system, they remain something of an open concern. This has the effect of contributing, for the moment, to the leading role that the banking sector retains in supporting the domestic Chinese economy.
3.3.3 Pervasive State Ownership and Party Control within the Banking Sector

Even though the majority of the commercial banking sector is now open to foreign and private investment (albeit restricted by investment percentage caps) following the WTO Accession, with the largest commercial banks now all publicly traded joint-stock companies, the government still dominates the ownership of the most sizeable elements of the commercial system. The Chinese government owns majority or sizeable stakes in the stocks of all of the Big Five, in addition to smaller stakes in other banks throughout the financial sector (see Table 6).

<table>
<thead>
<tr>
<th>Bank</th>
<th>State Ownership Percentage (Shareholding)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial and Commercial Bank of China</td>
<td>70.7%</td>
</tr>
<tr>
<td>Central Huijin Investment</td>
<td>35.4%</td>
</tr>
<tr>
<td>Ministry of Finance</td>
<td>35.3%</td>
</tr>
<tr>
<td>Bank of China</td>
<td>71.99%</td>
</tr>
<tr>
<td>Central Huijin Investment</td>
<td>67.53%</td>
</tr>
<tr>
<td>National Council for Social Security Fund</td>
<td>4.46%</td>
</tr>
<tr>
<td>Agricultural Bank of China</td>
<td>83.13%</td>
</tr>
<tr>
<td>Central Huijin Investment</td>
<td>40.03%</td>
</tr>
<tr>
<td>Ministry of Finance</td>
<td>39.21%</td>
</tr>
<tr>
<td>National Council for Social Security Fund</td>
<td>3.89%</td>
</tr>
<tr>
<td>China Construction Bank</td>
<td>60.09%</td>
</tr>
<tr>
<td>Central Huijin Investment</td>
<td>57.09%</td>
</tr>
<tr>
<td>Other state investors</td>
<td>3%</td>
</tr>
<tr>
<td>Bank of Communications</td>
<td>37.88%</td>
</tr>
<tr>
<td>Ministry of Finance</td>
<td>26.52%</td>
</tr>
<tr>
<td>National Council for Social Security Fund</td>
<td>11.36%</td>
</tr>
</tbody>
</table>


Despite their formal status as public companies, any perception of these banks as wholly public in ownership is misleading. All of the Big Five launched public offerings in 2005 and 2006 (the exception is the ABC with a 2010 IPO), historically among the largest IPOs in the world, and all have received investment by domestic, foreign, private, and corporate investors. Still, despite this varied investment, each member of the Big Five remains, on a majority shareholding basis, owned by the Chinese government in some fashion, generally through the Ministry of Finance and government investment companies such as Central Huijin Investment (a
subsidiary of the state-owned China Investment Corporation), or through other government agencies or ministries. The smallest member of the Big Five, the Bank of Communications, is the only one not overwhelmingly owned, through majority shareholdings, by the agencies or ministries of the central government. Based on the ownership involvement of the central administration in the other four major banks, as the Bank of Communications grows in size and activity, it is reasonable to conclude that the government is likely to increase its formal stake in the bank.

While technically private, the overwhelming government interest that remains in the ownership structure of the large banks suggests their loan policies are driven at least in part by political desires, rather than purely economic goals. This is supported by both historical and current analysis of the activities of the banking sector in China (described later in this section), with banks favouring projects that are supported by a political body or seen as politically oriented – for example, a loan on favourable terms for a major state-owned enterprise will generally be easier to obtain. This is not a ‘secret’ policy. Central bank officials have been quoted in the past as suggesting that the role of the central bank was to provide “credit policy guidance to support balanced regional economic development and [the] ‘going global’ strategy of enterprises” (Anderlini, 2011).12 For a specific example of this behavior concerning a bid for the Australian mining giant Rio Tinto, see Appendix C.

Indeed, it seems fairly clear that informal or political power networks, particularly those predicated upon interaction with Communist Party organs, play an integral role in the Chinese banking system, though the exact extent of these networks and their influence is open to debate.13 Prior to the WTO Accession and reforms pursued by the central government and regulatory bodies starting in roughly 2004, these links were well perceived: Shaun Breslin (2004) provides an excellent overview of the perception of the problem from 1979-2004, reviewing the wide variety of literature that concentrated on the ‘nomenklatura capitalism’ that developed during this time, the process of local and central Party-state members extending their influence

12 The ‘going global’ strategy refers to the policy that the Chinese government pursues of encouraging large Chinese companies to take over, strategically invest, or obtain joint or significant ownership stakes in foreign companies in sectors deemed politically important. The central bank directs policy requiring or encouraging the commercial banking sector to support major state-backed or favoured companies in their attempts to expand internationally in a politically attractive fashion.

13 Informal in this sense does not necessarily mean non-state or non-Party, but links that are not part of formal reporting or organizational relationships – a commercial bank, for example, is ostensibly a publicly traded firm, not a government ministry.
into the privatising economy. What is not at issue today is that the Chinese state holds a great
deal of formal power over the banking sector – many oversight laws determining banking
practices and policies are in place. On a basic level this is not unusual, as most countries have
banking regulations in place to protect a domestic economy from inordinately risky behaviour.
These formal power networks take on far more complex and powerful forms in China due to the
policies the government has enacted to encourage or force particular behaviour with respect to
currency exchanges, deposit rates, loan rates, loans to particular industrial sectors, capital reserve
ratios, capital flows, and all the various details that contribute to the banking sector’s day to day
activities. At issue are those links and relationships that together form an underlying web of
power relations and networks that do not manifest in the official oversight, regulatory, and legal
powers of the Chinese state. In analyzing this issue it can be difficult to separate the Chinese
government from the Communist Party – it is not always clear what is or is not an ‘official’
relationship. This is simply an idiosyncrasy in the study of Chinese politics and is not easily
resolved; a certain acceptance of the Chinese government (in the form, for example, of ministries
and State Council-derived regulatory bodies) as the ‘official’ body at work rather than
Communist Party structures is required.

Informal or Party-driven power networks/relationships in the banking system are
supported by several features of the overall Chinese political-economic system and the banking
system in particular. At the senior levels of the system, personnel decisions are obviously
affected by these relationships. The senior managerial structures of the largest companies
(largely due to the fact that many of these companies remain majority state-owned) and
companies in those sectors deemed crucial to state security (e.g. defence companies, certain
resource companies, large financial institutions) are frequently deemed to be political positions
(Mattlin, 2007; Lin, 2010; Robins, 2010; Cheung et al., 2010). This view is mirrored in local
governments, and important local businesses or financial-economic actors either fall under the
purview of local CPC and state structures or maintain semi-formal links between the
management of the of the economic enterprise and the Party-state structure (Krug and
Hendrischke, 2008; Mattlin, 2007). Officially, senior boards and executive positions may be
ratified and voted upon at shareholder meetings, a typical aspect of corporate governance that
would not be out of place in any large public firm in the vast majority of Anglo-American-
modeled countries. In practice however, this has little effect on an appointment: any major
appointment to a large, state-owned commercial bank is overseen by the Communist Party and the state (Mattlin, 2007; Lin, 2010; Robins, 2010; Cheung et al., 2010). At the central, national level, the Communist Party’s Organization Department treats senior executive positions in major Chinese corporations as equivalent to a senior state position; due to the value associated with such positions, the Organization Department is known to be strongly involved in the vetting of candidates (Lin, 2010; Fan et al., 2011; Wines, 2010). Indeed, all the current chairmen of the five largest commercial banks in China have strong Party and state backgrounds (see Table 7).

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Political Backgrounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jian Jianqing, ICBC Chairman</td>
<td>People’s Bank of China: Various posts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17th Central Committee of the CPC: Alternate Member</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16th Central Committee of the CPC: Alternate Member</td>
<td></td>
</tr>
<tr>
<td>Xiao Gang, BOC Chairman</td>
<td>People’s Bank of China: Various posts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17th Central Committee of the CPC: Alternate Member</td>
<td></td>
</tr>
<tr>
<td></td>
<td>State Council Monetary Policy Committee: Member</td>
<td></td>
</tr>
<tr>
<td>Xiang Junbo, ABC Chairman</td>
<td>People’s Bank of China: Various posts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17th Central Committee of the CPC: Alternate Member</td>
<td></td>
</tr>
<tr>
<td>Guo Shuqing, CCB Chairman</td>
<td>SAFE: Director</td>
<td></td>
</tr>
<tr>
<td></td>
<td>People’s Bank of China: Deputy Governor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Central Huijin Investment: Chairman</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Guizhou Province: Deputy Governor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>State Planning Commission, State Commission for Economic Restructuring: Various posts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17 Central Committee of the CPC: Alternate member</td>
<td></td>
</tr>
<tr>
<td>Hu Huaibang, BoCom Chairman</td>
<td>China Banking Regulatory Commission: Commissioner of Discipline Inspection; Director-General of Supervisory Boards Office</td>
<td></td>
</tr>
<tr>
<td></td>
<td>People’s Bank of China: Various posts</td>
<td></td>
</tr>
</tbody>
</table>

Table 7: Political Backgrounds of Chairmen of the Big Five – Data drawn from professional biographies available from the Big 5 and formal lists of members of the 16th and 17th Central Committees of the CPC.

These ties to the Communist Party and state structures in a non-regulatory sense have created a web of networks between bank officials and the political-state structure of the Communist Party and government officials. These networks help explain some of the decisions

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14 See a report in the Chinese press stating that Zhang Hongli was chosen for a vice presidential position at the ICBC; he was required to interview and write a test as a final part of the selection process (Xiu, 2010). In attendance were banking industry and regulatory figures, notably China Banking Supervisory Commission Chairman Liu Deming, CIC Chairman Lou Jiwei, China Development Bank Chairman Chen Yuan, ICBC Chairman Jiang Jianqing, and CCB Chairman Guo Shuqing. The attendance of supposedly competing banks’ chairmen might be considered unusual, as might direct representation from a banking regulator. The CPC also participated in the process: representing the Party’s interests and the authority that the CPC holds over such appointments, Party Organization Department head Li Yuanchao was a member of the body that tested and interviewed Zhang.
that are undertaken by banks in conjunction with varying levels of the Chinese government, particularly the ability of local government to obtain economically questionable loans. This issue has been addressed before on a China-wide basis: studies by Boyreau-Debray and Wei (2005) and Phillips and Kunrong (2005) analyzed the destinations of capital flows within the domestic Chinese economy. In both cases, they determined that it was sectors dominated by SOEs that received the majority of loans from the banking sector, while in 2006, Farrell et al. suggested that only 27% of loans went to private businesses in the domestic Chinese market. All these authors attributed the disparity, in part, to political pressure placed upon the banking sector to deliver capital to state-critical or state-backed economic actors. Park and Sehrt (2001), Cull and Xu (2000; 2003), Berger et al. (2009), Lin and Zhang (2009), all found that state-backed businesses were far more likely to receive credit from state-backed banks, and that invariably this resulted in lower levels of efficiency and higher degrees of poor-quality or non-performing loans.

More recently, the perception of the system underlying these trends of credit allocation in the Chinese economy has been forced to evolve as the state-owned enterprise system has been relaxed and partially dismantled. While the relationship between the banking system and corporate funding cannot be ignored, some increasing focus must fall on local governments which have become more reliant on obtaining loans to finance their activities and the building of local industrial and infrastructure projects. This is a worsening issue that has become more noticeable for both the central government’s regulatory bodies and third party analysis. While the intrinsic concern in this situation arises from the economic realities of local government debt (and its links to other concerns in the property market, as discussed in this chapter), some speculation naturally occurs given the history of state-Party involvement in the economic sector, and past patterns of state-backed financial institutions making inefficient loans to other state-backed institutions. The insert on the following page briefly outlines the characteristics of the particular financial vehicles that local governments use to obtain their loans, as well as concerns arising from this system.

15 Per figures from the 2008 National Economic Census (cited by Xu, 2010), the percentage of SOE (entirely state-owned or state sole funded) activity in the secondary and tertiary economic sectors (industrial and service sectors) as a percentage of total number of businesses fell to approximately 3.1%, and as a proportion of total assets to 30.5%. Xu (2010), applying a broader definition of state ownership or control makes use of Chinese National Statistical Bureau data to arrive at a drop in SOE numbers of 37% in 1999 to 5% in 2008, while asset control percentage fell from roughly 70% to 45% in the same period.
The Mechanics of Local Government Financing

Local funding activity that is of concern is generally done through the use of special financing vehicles (also known as local government funding platforms or investment vehicles [LGIVs]) as local governments are not formally allowed to directly borrow from state banks, issue their own bonds, or run budget deficits (local governments rely upon financial transfers from the central government to aid their efforts to balance their budgets) (Tong and Yao, 2010; UKTI, 2011; Li and Lin, 2011). A special financing vehicle (SFV) is an entity subordinate to some other structure set up to direct funds (usually acquired from loans) to a specifically designated project – it has the value of being, for the purposes of accounting, organizationally autonomous from its parent structure (see Figure I1), but this has had the side effect of making it difficult to determine the exact ability of LGIVs to repay their loans, as they are not technically required to report in the same way that local governments are (Tong and Yao, 2010).

![Figure I1: Local Government Financing Vehicle Relationships](image)

These financing vehicles have experienced very rapid growth over a short period of time. As of 2009, China’s local governments had set up more than 8000 such SFVs in the past decade (with much of the growth coming after 2008), frequently using property as a form of collateral, or, less frequently, financial guarantees from the local administration (Li and Lin, 2011; Tong and Yao, 2010; CBRC, 2010; UKTI, 2011; PBoC, 2011). These structures also appear to be growing at a prodigious rate, with the Chinese press stating that in a Chinese language report (the “2010 China Regional Financial Operation Report”), the People’s Bank of China announced that by the end of 2010, 10000 of these LGIVs were in place, a growth rate of roughly 25% year-over-year (Caijing, 2011). Of all new bank loans issued in 2009, approximately a third (an amount slightly larger than RMB 3 trillion) of the total was directed to LGIVs (Li and Lin, 2011; Tong and Yao, 2010). Attempting to measure the extent of the total current local government (and more specifically LGIV) debt can be difficult, with several competing figures and
methods of analysis presenting different scenarios. China’s National Audit Office estimated that, at the end of 2010, local debt levels reached approximately RMB 10.7 trillion (of which RMB 4.9 trillion was LGIV held); this differed from the central bank’s and the CBRC’s estimation, released at a similar time, of a debt level up to RMB 14 trillion, a number that third party analysts come closer to, with the credit rating agency Moody’s analysis suggesting that the real figure was approximately RMB 14.2 trillion and BBVA, the Spanish banking group, suggesting 12 trillion (BBVA, 2011; Zhang et al., 2011b; UKTI, 2011; Xinhua, 2011b). Victor Shih, combining disparate elements in the PBoC (supported by the CBRC) and National Audit Office figures, reaches a worst-case total local debt amount of approximately RMB 15-20 trillion (as Shih points out, the National Audit Office figures do not include LGIV debts collateralized by property or non-local government guarantee, and PBoC figures do not include debt arising from economic entities subsidized by local governments), with LGIV debt representing anywhere from RMB 9.7 trillion to 14.4 trillion (Shih, 2011). The concern regarding LGIVs specifically rests in the estimates about their ability to repay their loans – the CBRC estimated that, of the RMB 7.6 trillion worth of debt that LGIVs held by mid-2010 (according to its estimations), 50% had to obtain some alternate means of repaying their debt, while 23% were facing the imminent situation of non-repayment (Li and Lin, 2011). Only 27% had the cash flow that could guarantee repayment of their loans. Other estimates range across the scale, with Moody’s suggesting that the category of loans into which LGIVs fall could face anywhere between NPL ratios of 50-75%, and BBVA conservatively estimating approximately RMB 3 trillion worth of local government debt might be at immediate risk (Zhang et al., 2011b; BBVA, 2011). Public comments in September 2011 from the head of Standard Chartered’s China research division suggested that an 80% default rate was within the bounds of possibility (Hong, 2011; Green, 2011). Even with conservative figures, potential defaults number in the trillions of renminbi.
The China Banking Regulatory Commission has over the past several years, beginning mainly in 2009, drawn attention to its concerns about the nature of loans provided by banks to local governments using these investment vehicles. The CBRC instituted a policy that it called “three bottom lines of defence” to improve the regulatory environment surrounding these vehicles. Broadly, this policy prevents banks from providing packaged loans, thereby guarding against the possibility of bad loans being “bundled” with ones largely destined for ‘good’ loan targets; bars loans directed towards projects with little commercial viability, a largely self-explanatory measure that emphasizes economic decision-making; and finally bars loans for projects that have insufficient equity or risk management, poor corporate governance, and poor management of funds (CBRC, 2010; KPMG, 2010). In 2010, following concerns raised by the banking regulatory bodies in 2009, the State Council made it more difficult for local governments to make use of the SFV system by placing restrictions on the property market in an effort to slow its growth (thereby undermining potential collateral to be used in the future by LGIVs). This regulatory activity seems a natural outcome of the LGIV situation: even from a non-economist’s perspective, the economic rationale of using future income from property sales supporting these loans is fraught with potential risk. The very nature of an LGIV can make it difficult to oversee and track the loan once made, as is evident from the intense disagreement about the extent of local government (and LGIV) debt in China. While the situation is now changing due to the CBRC and the State Council’s actions, in the past these entities have been in a somewhat unsure legal and regulatory area, as they are not officially loans to the local governments themselves, cover any potential number of possible projects, and had little oversight. The credit worthiness of the specific LGIVs can be highly questionable, as there has obviously been little prior action to ensure that they were economically sound enough to obtain loans from the banking system, and using property as collateral requires the assumption that property prices will continue to rise or not be adversely affected in any way.

This structure is so inherently risky and economically disadvantageous for the banking system that it seems necessary to consider the role that informal political networks have played in creating this system of local government financing. Indeed, in a wide-ranging survey (encompassing more than 800 responses) of banking sector officials within China, the principal concern arising from the LGIV market was that of unlikely repayment of loans – even among the banking sector the economic principles underlying this activity are treated with a degree of
skepticism (PWC and CBA, 2011: 6). In this case, it is necessary to consider the possible role that non-economic factors played at the local level in obtaining some of these loans, given prior patterns of state-Party involvement in directing economically unwise loans from the state-backed financial system to state-backed economic or administrative actors (see the previous section on NPLs). The LGIV and local debt issue may now have grown so serious that the central government and banking regulators have attempted to exercise greater control over the LGIV system, but the very essence of the transactions at work here has had questionable economic validity since the beginning of this process (the nature of LGIVs has not changed, simply the scope of activity), especially if a substantial proportion of LGIVs simply do not have the basic infrastructure in place to repay these loans. It seems unlikely that the pervasive ties between Communist Party bodies and the managers of financial institutions would never affect decisions to extend financing to local government financing vehicles. The relationships between the financial industry and the Communist Party of China are not the cause of economically questionable SFV-based loans, but rather one contributor to the issue that may affect the resilience of the Chinese financial system.

What effect then might these factors surrounding the relationship between political and economic institutions and actors have upon China in the long term, and what sort of environment has it created? It is possible to argue for an extremely negative socio-political effect: most notably, Minxin Pei has written at length (for example, Pei, 2006a; 2006b) about the corruption that informal ties and the relationship between the Communist Party and other actors might engender within government-industry relationships. He argues that this situation has produced and innately encourages a tendency for ‘rent-seeking behaviour’ by individuals that is inherent to the nature of relationships in such a system. Rather than rent-seeking or corruption, the nature of relationships created by these ties between the CPC/state system and industry (including financial entities) offers the possibility for the capture of formal links between government and industry (which may well lead to corruption, but does not necessitate it). As decisions are largely made by consensus within the Chinese political-economic system, this makes it possible for ‘captured’ points of a system to influence the decisions taken by formal bodies; there is no single position that holds such clearly defined decision-making authority that allows a system to absolutely resist influential forces operating within the system (Dumbaugh and Martin, 2009; Lampton, 2002a,b; Shirk, 2002). Influence in a consensus-based system becomes pervasive,
able to affect multiple decision-contributing points within a network (albeit unlikely to control an entire network or system due to the distributing decision making patterns in a consensus-based system). This falls very much within the sphere of the state capacity theories, pitting the interests generated, even implicitly, by networks formed between the political structures of the Communist Party at various levels and individuals embedded within industrial bodies against the formal regulations of the central government and the economic rationality implicit in a financial institution. If, however, one accepts state capacity as being a fragmented field in which multiple levels of capacity may rise and fall in independent, complex ways – as per Grindle’s (1996; 2004; 2007) theory of state capacity – then capture of specific relationships between government and industry need not be defined as capture of a whole sector, system, level of government, or even an entire corporate entity. What becomes crucial are specific decisions. It also becomes necessary to consider the cumulative effect of the conglomerate of decisions that an industry, specifically the banking sector, undertakes. At some point the negative present effects or potential future effects may begin to affect the stability of a broader system, infecting them and undermining their resilience to future crises and shocks.

The three broad issues addressed in this chapter represent three different possible vectors of vulnerability. The non-performing loan issue stems from the basic foundations of Chinese banks and their role in the Chinese economy. Bond, property, and equity market weaknesses rise from both their relative immaturity and the position that bank loan activity occupies in the domestic market. The links between a range of economic structures and the Chinese state/Communist Party represents a more abstract kind of threat, a thread that underlies the whole spectrum of economic activity in the country. None of these potential weaknesses exist in a vacuum. Any crisis might draw from a combination of or all three. Crucially though, these are not guaranteed crises waiting to happen: they may be at the root of some future crisis, or they may be the characteristic elements of a type of super-economy with which the world is unfamiliar. While known concerns, and containing specific details or activity that could be interpreted as risks, their effective outcome remains unknown. Potential crises may be defused by regulatory action, by ongoing political-economic reform, or simply through time as the modern Chinese economy continues to mature. The riskier specific aspects in each of these sectors may well weaken over time through a combination of human action and the growth of the economic system, without necessarily affecting the fundamental characteristics of these broader
areas of concern. As the concluding portion of this thesis will argue, in these areas of concern are also aspects that suggest the properties of the Chinese system offer the opportunity for a source of resilience in the global economy.
Chapter 4 Conclusions: One World, Two Systems

4.1 Three Questions Revisited

Having outlined in detail the characteristics and threats of the Chinese currency and banking systems, it is now possible to revisit the three questions raised by the Global Risk Network’s decision to identify China as a potential global systemic risk.

1. Despite the fact that it did not provide detailed analysis, what could have prompted the GRN to identify China as a systemic risk, particularly to the global economy?

2. What elements of the Chinese economic and political systems go into this “China Factor”, and how has this continued to evolve since the GRN’s first report in 2006?

3. Can the “China Factor” be said to exist more as a vector for vulnerability and systemic risk or for increased resilience in the global economy?

Answering these questions and summarizing the vulnerability factors arising from the Chinese economy underscores the importance of Robert Wade’s ‘Wheels Within Wheels’ argument and complex state capacity theories. Wade’s theory blurs the distinction between global and national systems – the domestic is global (and vice versa). Many of the issues, policies and structures addressed in this thesis are largely confined to the domestic Chinese economy. By relying on Wade’s theory, any of them may be interpreted as global vulnerabilities or triggers for potential global crises. Due to highly interconnected global economic/financial networks and the importance of the Chinese economy, a crisis originating within China could very well have serious implications for the entire global economic/financial system. Wade’s theory effectively defines the interconnected nature of the domestic Chinese economy and the global economy.

State capacity, in contrast, is of critical importance in defining the weaknesses and strengths of the Chinese economic system. As this thesis has demonstrated, the state continues to play an incredibly powerful and direct role in the Chinese economy. This is at odds with other economic superpowers such as those in the G7. Economic systems in these countries certainly have complex relationships with the state – every state has regulatory and legal regimes to define
its activities and its relationship with the broader global system\textsuperscript{1} – but in general these economies and governments have relationships that are more accurately described as ‘arms-length.’ The domestic Chinese economy is principally defined by its relationship with the state. Consequently, a means of describing how effective the state’s actions are within this system is more important for China than any other major economy. The issues addressed in this thesis rely on this relationship. At the heart of each of the vulnerability vectors arising from both the banking structures and currency policy is some aspect of state capacity. China’s resilient features are also determined in large part by the efficacy of the state. Ultimately, capacity in different situations and structures underlies the final question concerning the extent to which China is a source of vulnerability or resilience in the wider global economy.

These conclusions address each of the three questions in turn: first determining the broad reasons as to why China might be regarded as a global systemic risk or vulnerability; second, summarizing the vectors of vulnerability highlighted in this thesis, their possible roles in triggering a crisis, and emphasizing their state capacity aspects; third, determining what China’s current disposition is in the global economy and how that may change with the behaviour of global systems. Finally, some general concluding remarks are provided that situate the vulnerability vectors in this thesis in a broader context.

4.2 Question One: China as a Global Systemic Risk

It is of course impossible to absolutely identify the Global Risk Network’s rationale in describing China as a potential global systemic risk from 2006 on, but based on the details in this thesis, the reasonable conclusion is that China represents a destabilizing source of imbalance in the global economy. A specific relationship between imbalances and financial crises was referenced in Chapter 2.4, in regard to the size of Chinese foreign exchange reserves, but imbalances are a recurring topic in discussions of the roots of financial crises, including the Global Financial Crisis of 2008. While they can reflect the natural disparities between

\textsuperscript{1} For example, despite the prevalence of American economic actors to publically distance themselves from government, it is the state that takes cases about China to the WTO and places tariffs on Chinese goods coming from ‘subsidized’ sectors. It was European governments that took significant stakes (and continue to offer substantial financial help) in banking institutions during the 2008 financial crisis and the ongoing debt crisis. The basic principle of “too big to fail”, now a frequently discussed topic, is one that has the state at its core.
economies, they are also indicative of distorted national and global economic structures and behaviour; this is a common theme within the academic literature (see Chapter 2.4) and international financial regulatory bodies such as the IMF and FSB\(^2\) (for example, Blanchard and Milesi-Ferreti, 2009; IMF, 2011c; FSB et al., 2011; Carney, 2011). While global imbalances alone may not be enough to trigger a systemic crisis, the “intensity and scope [of the 2008 crisis] reflected the build-up of unprecedented global disequilibria” (Carney, 2011: 32). It is widely understood by both observers and actors within the global economy that imbalances in the global economic system are, by their nature, factors that contribute to and exacerbate financial and economic crises.

Accepting that imbalances can be destabilizing, negative elements in the global economy, and given that the GRN’s analysis does not explicitly identify its concerns about China, how might China represent an imbalance in the global economy? First, there is an obvious imbalance on the global scale in the form of China’s foreign exchange reserves. These are by far the largest in the world, representing 27% of the world’s total reserves in 2011\(^3\) – with the entire G7 only accounting for 22% of the world’s total. This is the very definition of a global imbalance, with a single country holding almost one third of the world’s foreign reserves. While the reserves themselves demonstrate an obvious global imbalance, they are but one of a series of imbalances within the domestic Chinese economic system. Aspects of the Chinese economic system function extremely well and are generally ‘healthy’, demonstrated largely by the fact that China is now the world’s second largest economy and has not collapsed into economic destruction. At the same time, some elements of these systems and their underlying characteristics do not function well and represent a potential source of instability – their ‘health’ is questionable.\(^4\)

These are the vectors of vulnerability within the Chinese economy. Such elements exist within (even because of) defining features of the Chinese economic system and are potentially critical enough that they ‘unbalance’ these domestic economic systems: they can serve as the potential

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\(^2\) The IMF, for example, maintains a substantial online archive of documents and studies related solely to understanding and mitigating the destabilizing effects of global financial imbalances.

\(^3\) As per Chapter 2.1, this relies on official Chinese reserve figures of US$3.18 trillion for 2011, compared to a total global reserve figure of US$11.89 trillion for 2011 drawn from the World Bank’s World Development Indicators database (2012 update).

\(^4\) The immaturity of secondary financial markets and over-reliance on commercial banks is an unbalanced aspect of the Chinese banking system, but it is not the basic nature of the state-operated banking system that is the direct problem – it is the lack of any other financial tools to ‘take the pressure off’ the banks and respond to financial demand.
trigger points for some kind of economic/financial crisis. The interest rate-currency valuation-sterilization problem in which the central bank is trapped is one example. While the central bank carries out its responsibilities in a competent manner and is regarded as a capable organization internationally, the requirements and characteristics of the Chinese financial, economic and political systems have left it little room to maneuver. Its behaviour and the policies it can pursue are heavily constrained; Chinese monetary policy is unbalanced and this policy trap is the potential source of a significant domestic financial crisis.

These domestic factors contribute to the identification of China as a general source of global imbalance, given that, as per Wade’s argument, national economic characteristics can precipitate global instability. It is not enough to focus on the international economic profile of a country, such as China’s reserves or the value of its currency. The vulnerability vectors and particular threats explored in this thesis represent imbalances within the Chinese economy, and, though many of them are confined to the domestic economic environment, China’s role within the global economy combined with the highly interconnected nature of the global economic system means that these Chinese imbalances must also be regarded cumulatively as a global imbalance. China could represent a global systemic risk as a source of general imbalance stemming from its domestic economic characteristics, with multiple vectors of vulnerability providing the opportunity for an imbalance to become a crisis.

4.3 Question Two: Vectors of Vulnerability – Assessing Elements of the “China Factor”

If the broad issue of the “China Factor” is one of imbalance, it is necessary to consider the particular elements that may contribute to this imbalance. These are vectors of vulnerability, the basic characteristics of the Chinese economy that represent weaknesses within its domestic financial and economic systems. Six of these vectors have been described in this thesis, outlining weaknesses within different core features of the Chinese economy. It is, however, important to note a difference between specific threats and vectors of vulnerability/systemic risk. Many of the specific threats identified in this thesis (the mechanics by which local government financing vehicles have obtained loans, for example) may be elements within vectors of vulnerability, but the vectors themselves are broader issues (thus the LGIV risk is part of the non-performing loan vulnerability vector).
These vectors may be divided by the general source from which they originate: policy and structure. Issues of policy largely arise from the characteristics of the Chinese currency and reserve policies, while those of structure are derived from the Chinese banking system and related asset markets. Policy issues tend to be confined mainly to elite policy actors of the central government (notably the central bank, the State Council and the Ministry of Finance), while structural issues have a broader base that extends to the myriad elements of the banking system and other government actors (such as local authorities). Caution should be taken not to isolate each of these sources of vulnerability. Neither policy nor structural issues exist in a vacuum, and each issue has ties to other vulnerability vectors – they are as interconnected as any aspect of a state’s economic system. Not only can the two broad areas of policy and structure be linked together in complex fashions, but specific vectors of vulnerability may also give rise to or exacerbate other vulnerability vectors. The unique features of each vector, however, allow these distinctions to be made for organizational purposes.

Each main vector identified in the thesis is summarized below. Their main features are provided, with discussion of the aspects of state capacity that are present in each vector’s condition – these may be factors that contribute to mitigate the vector or exacerbate it. Also provided is some speculation as to how such a vector may be triggered; each contains certain specific risks that represent points of criticality that may give rise to a deeper crisis.

**Policy Vectors**

**Political uses of the reserves**

*Summary:* With the apparently limitless supply of foreign reserves that can be used globally, some observers worry that the Chinese state can ‘buy’ geopolitical results or, more ominously, extort diplomatic, political and military concessions from foreign countries by threatening them with its creditor power and holdings of foreign assets. Some also fear that reserve-backed investment by state-owned companies is targeted with the political goals of the state in mind – seeking advanced technology, strategic resources and entry into strategic economic sectors. The reserves become feared as an economic weapon. These concerns are supported by existing examples of Chinese officials and state actors either using the reserves, threatening their use or
advocating for their use in aid of political, diplomatic or military situations. In part because the body responsible for the reserves (SAFE) is so secretive and paranoid, it is difficult to confirm other political uses of the reserves or entirely dismiss these concerns. Exacerbating ambiguity is the embedded position the Communist Party (a political rather than purely government actor) has in state and economic structures, including state-owned enterprises.

State capacity issues: At least some of the rationale behind increasing investment activity from SAFE is a bitter rivalry within the state between the People’s Bank of China and the Ministry of Finance. State investment encompasses a battleground for their bureaucratic interests. In the case of SAFE, it was already a highly secretive institution; these characteristics have migrated to its investment practices, essentially ‘imprinting’ a key state activity with its bureaucratic identity. It is also SAFE that has an explicit history of tying political motives to economic investment. Conversely, a general state policy favoring investment for purely economic and developmental gain is seemingly well-supported by the actions of other state structures, notably CIC (with direct investment) and SASAC (subsidized outbound investment on the part of Chinese companies, particularly SOEs). The vast majority of investment appears to support this notion. This suggests that the majority of investment practices and outflow are supported by Chinese state bodies that favour an economic role for the reserves and investment, though a political/bureaucratic divide seems to exist between different state bodies and officials to some extent concerning this issue, based on the examples and threats of ‘political investment’ described in the chapter.

Potential crisis origin: If the Chinese state, through SAFE, were to pursue the use of the reserves in a broad strategic fashion, geopolitical tension might increase as a result, raising the possibility for an ‘economic Cold War’. In addition, a reckless use of the reserves politically may bypass economic wisdom of their use, possibly inciting a financial/economic crisis in a foreign economy or region – by, for example, rapidly divesting the reserves of a particular type of currency-based asset, triggering a dramatic drop in the value of that currency.
Oversized Chinese foreign reserves

Summary: The Chinese reserves are an inherently destabilizing element within the global economy, simply by virtue of their size and concentration within a single country. Any use of them by the Chinese state has global repercussions. Their potential economic impact is so substantial that they affect real economic behaviour by their very existence and the impact of even minor uses of the reserves is augmented. This is disruptive, as economic actors have to compensate for the potential impact of the reserves, not just their actual application; perceptions of and reactions to international financial affairs will inherently take into account and be distorted by such massive economic potential. In addition, the buildup of such large reserves is possibly symptomatic of unbalanced trade and capital flows within the global economic system, such as those resulting from an artificially undervalued currency. Literature concerning financial and economic crises suggests imbalances play crucial roles in their creation and severity. The existence of nearly 30% of global foreign reserves in one country’s holdings is the definition of an unbalanced reserve system.

State capacity issues: The growth and increasingly rapid accumulation of reserves is due in large part to specific state policies, but also constraints from those policies. The limitation on spending the reserves domestically is the result of state policies of monetary sterilization and currency controls; at the same time, those are the result of policies that, ultimately, help limit unemployment (by maintaining a slightly undervalued currency and easy credit for large export companies through low interest rates) and inflation (by soaking up liquidity in the economy), both critical to maintaining the legitimacy of the Communist Party. The absolute control over monetary policy suggests considerable strength on the part of the state, but Party interests are a significant driver of those policies, using the strength of the state to maintain the authority of the CPC.

Potential crisis origin: The sheer size of the Chinese reserves may affect economic perception and activity to such an extent that the global economic system continues to grow on an unstable foundation. The potential use of the reserves and the factors underlying their growth may warp global activity to the extent that further imbalances are generated in global economic patterns,
exacerbating the impact of a future financial shock, possibly giving it a cascading effect in global financial/economic systems (turning a shock into a broader crisis).

**Domestic monetary policy trap**

*Summary:* The Chinese central bank is caught in a complex trap that forces it to balance interest rates, currency valuation, monetary sterilization, massive domestic liabilities, and inflationary pressure. It cannot easily resolve nor reform any of these factors without affecting the others in meaningful ways, particularly its domestic liabilities. The central bank is in the position that revaluing the currency too high or too quickly (a natural response to combat inflation and liquidity inflows) will wreak havoc on its balance sheet; pushing interest rates too high (a response to both inflation and loose domestic credit provision) will not only make domestic bond issues too expensive, but will also affect the stability of core economic and political actors (notably the export sector and local governments); without revaluing the currency or interest rates, maintaining monetary sterilization and foreign currency intervention regimes becomes unmanageably expensive. This current system is unsustainable, but reforming it will incur significant political and economic costs.

*State capacity issues:* Paradoxically, it is the history of absolute state control over monetary and financial policy that has brought the state to this crisis point. Due to their social-political impact, the Communist Party and the state are obliged to keep inflation and unemployment to a minimum. The export sector is a crucial employer, one that benefits from cheap credit and foreign currency market intervention. Inflation contributes to social unrest, but is generated through these politically and economically beneficial policies that lead to capital inflows and easy credit for domestic businesses. The central bank is trapped between competing interests: economic reality demands that it fix its balance sheet and reform its currency and interest rate policies, but political needs require that it not allow employment and economic growth to suffer. Critically, the PBoC is now in the position that revaluing the currency or setting higher interest rates could cripple its own economic position thanks to the long-term consequences of state-mandated capital and currency controls. While it has absolute power over these policies, the central bank is not free to wield it.
**Potential crisis origin:** If the central bank is forced to revalue the renminbi or institute higher interest rates, appreciation in either or both of these areas could initiate a balance-sheet crisis for the bank. The PBoC faces an insolvency or bankruptcy situation – while central banks do not suffer from bankruptcy in a typical fashion (the state can generate more money through taxation or the central bank can ‘print’ more money), it would become a public financial crisis for the PBoC. Further, excessive interest rate appreciation could generate a debt crisis on the part of local governments and businesses (particularly in the export-sector) that have greatly benefited from, even relied on, cheap credit. This raises the potential of local governments becoming insolvent or going bankrupt (thereby requiring central government assistance), and the export sector rapidly contracting (thereby affecting the domestic economy’s growth and employment).

**Structural Vectors**

**Widespread non-performing loans**

*Summary:* A confluence of three factors suggests that a sizeable portion of loans provided by Chinese banks may not be repaid. First, pressure on state-backed banks to lend to state-owned enterprises and local governments (with Party connections) suggests that the deciding factor in providing credit may not be wholly economic. Second, the response to the 2008 financial crisis saw an injection of massive amounts of credit into the economy, leading to the possibility that credit was provided for poorly planned infrastructure projects, local government investment vehicles, and credit re-allocated to service the existing debt of economic and political actors (notably local governments). Third, loans to local government now make up a significant portion of all loan activity, but there has been little supervision and vetting of the sector, with the result that local government investment vehicles have used questionable collateral to obtain loans, such as future revenues generated from the volatile property market.

*State capacity issues:* Multiple state and Party actors exert their influence over the banking system. Bank positions are vetted by the Communist Party and the state, while loans to projects or companies deemed ‘politically important’ are far more likely to be approved (with favorable terms). Assuming this extends throughout the banking system (as seems likely, given the
parallel structure of the Communist Party and the dominance of the state at all government levels), then this affects both large, central-state-backed investment and local investment activity. Loan activity has been, to some extent, subverted by different levels of the state; this may extend to unofficial relationships, with local officials seeking loans for companies with which they have personal connections due to the influence of the state and Party. At the same time, competition between different levels of the state is at work, with central government actors seeking to limit the influence of other state levels by introducing rigorous regulations to constrain local government loan activity.

_Potential crisis origin:_ A new NPL problem may be generated in coordination with other financial factors – for example, a sudden appreciation in interest rates would place pressure on actors that had relied on these low rates and cheap credit to service their outstanding loans. If a worst-case scenario feared by Chinese bank regulators occurred in which 80% of local government investment vehicle loans defaulted, in addition to other likely defaults on loans held by Chinese businesses and local authorities, the effects could spread throughout the Chinese economy, forcing the central government to provide large-scale financial assistance to local governments and financially support (either directly or through distorted financial policies) key domestic economic sectors (such as exporters).

**Immature and volatile financial markets**

*Summary:* Collectively, secondary financial markets (bond, property and stock) have issues that prevent them functioning in a healthy manner and shouldering more weight within the domestic economy. First, the domestic bond market is still small and, while corporate activity in the market is growing, it remains dominated by central and inter-bank activity, largely due to slow state reforms permitting more open access to the market. Second, the property market is a source of anxiety about the growth of an asset bubble. Property values in China, particularly in the major cities, have risen greatly over a short period of time. Observers and the state have seemingly accepted that a degree of overvaluation is driving market prices, stoking fear of the bubble bursting, with the state trying to cool the property market through regulation. This is particularly concerning since property (and future revenue from selling it) has been used as
collateral by local governments to obtain loans from the banking system. Third, the stock market has a known history of volatility, but it also remains a restricted market, dominated by large and state-backed corporations. It represents a relatively small source for obtaining liquidity within the domestic economy, overshadowed by commercial bank loan activity. The quality of offerings on the market has also been the subject of concern due to the dominance of the SOE sector within it.

*State capacity issues:* Bond and equity markets have largely served state-owned and state-backed entities, particularly the large commercial banks and the central bank, with far fewer opportunities for smaller and private businesses to take advantage of these tools; formal regulation controlling access to these markets helped maintain this state of affairs until approximately 2007. Additionally, central regulatory agencies have, especially in recent years, tightened their grasp on market activity, applying greater oversight to market participants. This includes imposing stricter regulation, both by central agencies and local governments, over the property market to control its potential bubble. Some of this was a reassertion of power by central authorities and bureaucratic infighting: the primary stock market regulator was not seen as having the authority to control the market prior to State Council-backed reforms in 2005, unable to overcome entrenched opposition from state-owned enterprise networks that had links to local governments and Party officials as well as the backing of the SASAC bureaucracy that oversaw SOE activity.

*Potential crisis origin:* The general immaturity and potential volatility of these markets places considerable weight on the banking system proper to route and provide capital and liquidity within the domestic economy. This may have the effect of exacerbating any potential banking crisis. A more direct threat arises from an asset bubble buildup in these markets. Property has seen broad use as collateral in obtaining credit; if a property bubble were to burst, this could trigger the start of a series of loan defaults, leading to a broader banking system crisis. Were the Chinese stock market to become a greater source for capital, but retain its volatility, a shock similar to that already seen in Chinese stock markets in 2008-2009 might undermine the financial base of Chinese corporations, even entire economic sectors.
Pervasive state and Party control

Summary: The foundation of this vector is that the state treats the banking system in a broadly utilitarian manner. The state-economic relationship is not a distantly regulatory one: the Chinese state maintains considerable direct influence and multiple points of control over financial structures and relationships, including bank ownership. The Communist Party’s influence is also conveyed through this system, in part because it is so difficult to separate the Chinese state from the Party’s influence – so not only is the banking system subordinate to the Chinese government, it is also subordinate to the Communist Party. At the same time, the state – and therefore the Party – is also present in other economic actors, notably state-owned enterprises, which continue to receive a significant level of support from the banking system. Networks of state-Party-economic links exist throughout multiple layers of the Chinese political and economic system, from elite central financial-economic matters to local ones. Formal and informal power relationships between state, Party and economic actors raise concerns about the capture of economic policy by political factors, particularly Party concerns, but also smaller elements, even individuals, operating at different levels of the political-economic system. Party influence in particular, a political rather than a government force, institutionally compromises the fundamental relationships within the state-economic system, but multiple examples exist (particularly at the local level) of officials warping their official behaviour for personal gain derived from links with economic actors. Additionally, state policy and behaviour can become a battlefield for bureaucratic infighting and competition, with different state actors using official activity and policy to either outdo or strike at one another, leaving ‘the state’ more a collection of warring tribes, and dominant policy dictated by the strongest bureaucratic and political bodies.5

State capacity issues: The Chinese state is institutionally captured by the political force of the Communist Party of China and its interests. While they are not the same organization or political actor, it means the Communist Party is effectively inseparable from the Chinese government. State control and influence ultimately, albeit indirectly, incorporate Party influence. Beyond institutional capture by the Communist Party, the immense degree of state

5 Admittedly, this is far from being solely a Chinese problem, and may even be an issue inherent to the bureaucratic structures of government. This is intensified in a system in which power is entirely held by actors that are not responsible to a force external to the state (an electorate, for example), but to their fellow bureaucrats, politicians, and the structures of the state and Party.
influence and direct control within the Chinese economy also means that it is vulnerable to capture or exploitation by particular elements within the broader political-economic system. This includes individuals (or groups) seeking to enrich themselves through exploitation of the strong state-economic relationship and bureaucratic forces seeking to increase their power relative to their rivals, thereby driving policy that is favorable to their bureaucratic power.

*Potential crisis origin:* This one factor augments and exacerbates all other vectors of vulnerability and systemic risk addressed in this thesis. This vector erodes core relationships and groundwork underlying the Chinese economy, making already threatening situations potentially worse. For example, the ability for local governments to take loans based on potential future revenues from the property market is already risky; it is made worse by the relationships between local governments and banks that could increase the scale of such loan activity. In another case, the monetary policy trap the PBoC faces is already highly complex and not readily solved; the PBoC’s position is made even more precarious by the fact it must take the consequences to the legitimacy of the state and Communist Party from such issues as the inflation rate into account.

4.4 Question Three: China’s Role in the Global Political Economy

While China may be a source of vulnerability in the global economy due to vectors of vulnerability that make it a source for global imbalance and instability, it also represents a source of resilience. A portion of this resilience may only be potentially present, but it can be cultivated by other global actors.

China’s resilience, and the potential resilience that it may continue to represent, rests in its unique political and economic system and the role diversity plays in resilience. An economic system that is so heavily and directly influenced by the state is unique among global economic superpowers. Other countries demonstrate similar relationships between the economy and the state, but none has the economic size and importance in the global economy that China now possesses. The value to the global economy of such a system is that it represents a profoundly different internal structure and style of behaviour than other major economies – its value is not that it is better, but that it is fundamentally different. Diversity augments resilience: a system

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6 This does not mean such policies are inherently poor ones.
that is over-reliant on one particular inherent structure and type of behaviour is one that is fundamentally more vulnerable, as it is innately imbalanced. A crisis that occurs at one point in the system, exploiting the characteristics of that particular point, will more readily adapt and spread throughout the system, potentially undermining the system as a whole. As the 2008 financial crisis indicated, a diversity of economic/financial approaches can allow economic systems to adapt to crises in different ways: China weathered and responded to the crisis arguably better than did the dominant economic powers in North America and Europe, those that shared core similarities in their basic economic systems, in part because the relationship between the state and economy in China functioned in an inherently different manner. A system that relies upon a diversity of different sub-systems is one that can pose a greater challenge to a crisis that targets the specific characteristics of any one of those sub-systems.

Diversity is specifically resilient against the spread of broad systemic vulnerabilities. If vulnerability is considered in an organic fashion, not only can a vulnerability ‘infect’ multiple points in a broader network (spreading to eventually afflict the network as a whole), but it can ‘evolve’ within a network, adapting to the characteristics of each element. This explains why a systemic crisis, exploiting a vulnerability, may manifest in slightly different ways in different regions or countries. In complex systems that are reliant on sub-systems with broadly similar characteristics, it is easier for this contagion to take place. A vulnerability, and the future manifestation of a crisis, can spread with greater ease to similar environments and adapt to them without altering the threat it represents – it remains much the same vulnerability. A truly diverse system, however, has a degree of resilience concerning the spread of such vulnerabilities and the consequent widespread manifestation of crises. Sub-systems that are on some level fundamentally different from one another either preclude the easy transmission of a vulnerability, or the vulnerability may have to adapt to the system in such a way that it no longer presents a distinct threat within that system.

If China’s resilient role in the global economy rests on the inherently different nature of its economic system, it then becomes important to ensure that the Chinese economy is “healthy” within the parameters of its own system, not just objective international standards of economic regulation7 or the perceptions of other members of the global economic community. The

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7 It should be noted that even in a diverse system, objective regulation of economic behaviour is still necessary. Some economic practices and systems are inherently risky and unsound no matter where they occur – using potential
hallmark of the Chinese system is that of state dominance over the market – the Chinese system, therefore, requires an effective state, with a high level of state capacity that has not been co-opted. Each vulnerability vector addressed in this thesis contains factors that demonstrate failures and successes of Chinese state capacity, particularly on the part of the Chinese central government, creating a complex picture of the capacity of the Chinese state. Several cases demonstrate broad failures on the part of the central government to impose its will or overcome a problem: it has failed in different circumstances to control or regulate the activity of local governments; it has become trapped within complex policy issues and between political and economic requirements; policy areas have become the targets of competing bureaucratic interests; and political-economic activity has been suborned by individuals and power networks. Indeed, in some situations perceived as examples of ‘strong’ state policy or of a threatening and assertive Chinese state – notably the refusal to significantly revalue the renminbi – in actuality show that the state is severely constrained. It is not, for example, the case that China simply refuses to modify its currency regime, but that it cannot easily do so given the severe economic and political consequences that revaluation would provoke.

Conversely, the details making up the vulnerability vectors also highlight instances of high state capacity, but these instances might be described as examples of ‘positive’ or ‘negative’ capacity. In the instances of positive capacity, the Chinese state has, through its dominance of the economic system, in some way mitigated the threats posed by vulnerability vectors or systemic risks; in the instances of negative capacity, its control has exacerbated these threats. Positive capacity is found in cases of the central government and its agencies asserting their power over economic activity and sectors previously dominated by local governments, which had resulted in the growth of risky, unregulated behaviour and structures – for example, in the case of new oversight of stock markets, clamping down on local government investment vehicles, stronger control over property markets, and the emergency provision of credit through the banking system as a crisis-relief measure. Positive capacity is also found in the Chinese state’s extension of its economic power globally – notably in its broad investment strategy, both direct and subsidized. While concerns about the political uses of investment and the reserve base remain, both broad state policy and, more importantly, the evidence from the majority of Chinese future property earnings from a property market that is likely overvalued as collateral for a loan is such an example. Similarly, not requiring banks to maintain some means of insuring their customers’ deposits (such as through a required reserve ratio) might represent another example.
investment suggests the state does explicitly pursue purely economic investment and that the vast majority of investment activity corresponds to this economic profile.

At the same time, some aspects of high state capacity contribute to the potential severity and growth of vulnerability vectors. This may be described as ‘negative’ capacity, for, while the specific risks arising from this negative capacity may be difficult to quantify, they generate greater instability within the Chinese economy and contribute to China as a source of vulnerability globally. Two key examples of this are the secrecy of the Chinese state-economic system and those circumstances in which Party and state influence are effectively impossible to distinguish. The general pattern of secrecy on the part of the Chinese state appears in different scenarios, including treating basic economic information as state secrets, obscuring managerial and personnel decisions behind bureaucratic committees, and failing to make the rationale and decisions driving economic policy transparent. The starkest example of this behaviour rests in SAFE. It is a systemically important economic and state body, existing at the elite level of Chinese state-economic policy activity, yet it demonstrates a paranoid degree of secrecy. Such secrecy (not only within SAFE but throughout the Chinese state-economic system) inherently generates uncertainty about the processes driving economic policy, detailed but crucial features of the economic system, and the goals of state action. This uncertainty is augmented by those situations in which the role and influence of the Communist Party become difficult to distinguish from the role and influence of the Chinese state. In some situations, the Party’s needs seem to have become entirely mingled with state policy – such as the need to keep interest rates and unemployment figures at a level that do not threaten the security of Communist Party leadership. Since the two organizations are very tightly interconnected through the Chinese political system, and the political system has such direct influence within the economic system, it can be difficult to differentiate high levels of state capacity and high levels of Party capacity.

This underlying situation of failures and successes of state capacity, in both positive and negative forms, suggests the route by which China may be encouraged to evolve into a stronger source of resilience in the global economy. Accepting that particular elements of capacity in distinct areas can fluctuate and be targeted autonomously from one another, that a diverse system is an inherently more resilient system, and that China’s unique characteristics rest in the dominant role the state plays within the domestic economy, the overall resilience of China and its position within the global economic system may be enhanced by cultivating and encouraging
instances of ‘positive’ state capacity. Situations in which the Chinese state is obviously constrained – such as the central bank’s monetary policy trap – should be regarded as domestic problems for China, not necessarily willful intransigence by a Chinese state, and responded to accordingly. The Chinese state’s power and governance of the domestic economy should not be regarded as an inherent weakness of its political-economic system: in those situations where state power contributes to the maturity and stability of economic systems and policies in China (and therefore the global economy), it should be viewed as positive. This must not, however, be interpreted as blind acceptance of the entirety of the Chinese political-economic system and the provision of carte-blanche to the Chinese government and Communist Party. The situation is too complex to simply embrace a “Beijing Consensus” or “Chinese Model.” The Chinese economy presents a number of possible vulnerability vectors that may yet affect the global economic system. The Chinese state and its relationship with the economy demonstrate certain features that may reflect high state capacity, but which are innately challenging for the growth of a stable and transparent economic system. Trying to discourage these characteristics, particularly the negative aspects of the Party’s role in the Chinese political-economic system, may simply be impossible for other actors in the global economy, and may well need to wait for ongoing political reforms within China to minimize these features. Nevertheless, accepting the role of dominant state power in China when it is used in a ‘positive’ fashion may encourage this evolution.

4.5 The Even Bigger Picture: One World, Two Systems, Multiple Vulnerabilities

From the standpoint of the present day, the Global Risk Network’s decision to describe China as a potential global systemic risk in 2006 seems prescient. At that time the world economy (and North America and Europe in particular) was two years away from being shaken by an entrenched financial and economic crisis, and the global economy was still dominated by a smaller group of economic powers. China, though demonstrating rapid growth and massive economic potential, was the world’s fourth largest economy by GDP and did not demonstrate great power in other economic areas such as its outward investment and foreign reserve base. In 2006 it would have been difficult to predict how the global economy would appear in 2012. Over six years, the Chinese economy continued to grow and evolve extremely rapidly, while the
global financial crisis shook and altered the global economic system and its major actors – many of which continue to suffer the consequences of that event. Today, the previous makeup of the global economy is fundamentally altered, some of its primary actors are weakened, and China is in economic ascendency. Never has China occupied a more important position in the global economy, but, at the same time, never has uncertainty about China’s current and future role in the global economy seemed so great.

China represents both a source of vulnerability and potential resilience in the global economic system. While a strongly resilient role for China remains a potential one, made more likely by systemic acceptance of the Chinese economy’s fundamentally different characteristics, it contains numerous potential vectors of vulnerability. While six broad vectors in two key economic sectors within China have been explored in this work, China contains many other possible vulnerability vectors – such as those arising from geo-political concerns, fundamental drivers of Chinese economic growth, military power, social cohesion and unrest…the possible analytical areas are plentiful.

It may seem to an observer that, given its unique characteristics and the countless potential vectors of vulnerability China may contain, fundamental resilience is difficult, if not impossible to achieve. The logical antithesis of resilience, at the extreme, is collapse, as seen in the Soviet Union in 1991. Its similarities to China have sometimes caused the two to be compared. Both were/are economic superpowers of their time, led by authoritarian, Communist governments, and both engaged in economic reform – though, as is well known, the Soviet Union also attempted rapid political reform, while the Chinese state has not done so. However, even if China does not fulfill the potential of a resilient element in the global economy and functions as a key source of vulnerability, the fear of China collapsing is remote. Analyses of state and civilizational collapse such as Diamond’s (2005) suggest that ‘collapse’ requires favorable circumstances and the confluence of numerous complex factors. Suggestions or concerns about the potential ‘collapse’ of China seem unnecessarily hyperbolic and do not reflect the complexity of the state and its growth. China will remain a global ‘great power’ in the future, but the effect of its role in modern global systems remains uncertain.

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8 Admittedly, Diamond focuses on the collapse of civilizations, particularly emphasizing environmental factors, but the role of complexity and the confluence of multiple factors in a ‘collapse’ is strongly present.
Appendix A

This appendix provides additional detail about the secrecy and likely makeup of Chinese currency reserves.

It is worthwhile for countries to diversify out of hard currency and into currency-denominated assets, as simply holding hard currency (American dollars for example) earns the holder no interest, while dollar-denominated assets (such as treasury bills, other government securities, or government agency debt) will provide at least a minimal level of investment return (Zhang and He, 2009; Morrison and Labonte, 2011). The breakdown of the assets in the Chinese reserves is a state secret, making it difficult to determine exactly in what currency these assets might be denominated. Recently though, unofficial releases of information have led toward greater transparency in detailing the makeup of the reserve base, possibly signifying a realization by the Chinese financial authorities that secrecy has its useful limits, serving to possibly exacerbate fears about China’s reserves. Informal reports clarifying the makeup of the reserve base, citing anonymous reserve managers within the state financial system, appeared in a September 2010 issue of a securities and exchange journal (the China Securities Journal) published by the People’s Bank of China. The basic breakdown provided in the article was that 65% of the reserves are in U.S. dollars, 26% in Euros, 5% in British pounds sterling, and 3% in Japanese yen (Oksanen, 2010; Wagstyl, 2010; Xin and Rabinovitch, 2010). Some speculation might arise from the fact that this was not a formal announcement, but it is not unheard of for the Chinese government to relay significant policy shifts through the state-supervised press\(^1\). Though informal, the practical effect in releasing such information is likely to be the same as an official announcement, even though official policy may remain unchanged and the policy shift indicated by such an ‘unofficially official’ announcement may be situational and open to later revision.

If the result of the ‘unofficially official’ government disclosure is the same as an official announcement, despite the exercise in the Chinese equivalent of ‘Kremlinology’ that presents itself in such a situation, what is of interest is the accuracy of this data. The China Securities Journal figures have been roughly corroborated by previous informal, investigation-derived figures drawing on information from American government data suggesting that roughly 65%-70% of Chinese reserves are held in some form of dollars or dollar-denominated securities/assets. The primary means used to arrive at these informal figures has been mainly through a U.S. Treasury Department annual survey of foreign-owned American dollar-denominated securities that are held around the world; comparable reviews for the Euro, British pound, and yen are not performed, forcing a reliance on the American data (Setser and Pandey, 2009). The 2011

\(^1\) Most famously, for example, the well-known 26 April 1989 People’s Daily editorial that outlined the end of government tolerance concerning student demonstrations, leading, ultimately, to the deployment of Chinese troops in Beijing and the Tiananmen Square crackdown.
review covering data up to June 2010 found that mainland Chinese entities held approximately US$1.6 trillion in American securities, a figure representing roughly under two thirds (close to 60%) of the official Chinese reserves for the measured period (Morrison and Labonte, 2011b). Surveys for the two years prior had also reflected a similar figure. The U.S. Treasury survey has notable limitations, as it is not entirely accurate due to the manner in which asset ownership is reported. Such information has difficulty taking into account purchases made by intermediaries on behalf of another party: a foreign institution holding or managing a security is reported to be the owner of that security, even if that body is ultimately managing or holding the security on behalf of the true owner, though the Treasury report does attempt to compensate for such behaviour (Morrison and Labonte, 2011b; Scissors, 2011; Setser and Pandey, 2009). The Treasury Department’s review also does not address hard currency reserves, only specific dollar-denominated securities, factors that have led Scissors (2011) to suggest that the review underestimates the quantity of dollar-denominated assets held by Chinese actors. The review also does not differentiate ownership of those assets, so it is unable to differentiate between state and non-state purchases. Similarly, an attempt by Sheng (2011) to use economic calculations signifying valuation changes of exchange rates and factors identifying Chinese currency purchases also suggested a rough breakdown of reserves (by the end of 2007) of approximately 67% in U.S. dollars, 22% in Euros, 2.5% in yen, 4.7% in Australian dollars, and 3.5% in British pounds. Accounting for changes over three years, this is very similar to the data in the *Chinese Securities Journal*. Finally, Setser and Pandey (2009), in their review of China’s reserve base, attempt to compensate for some of the deficiencies in the U.S. Treasury review. They adjust the figures to compensate for purchases through third-parties and purchases of corporate bonds, leading to their conclusion that U.S. dollar-denominated assets make up 66% of the Chinese reserve base (as of the end of February 2009). While valuable for providing some corroborative data, all these reviews can only provide an estimated, but not officially verifiable, breakdown of the nature of Chinese securities. Lacking any viable alternatives, a certain degree of trust must, therefore, be placed in these inexact figures, accepting that it is likely that American securities represent approximately two-thirds of China’s foreign reserves; more detailed breakdowns must rely upon the Chinese state’s recent unofficial figures, as they seem to fall roughly in line with other estimates of the breakdown of the reserve base.
Appendix B

This image outlines the major factors in China's tension between foreign currency intervention, reserve buildup, interest rates, and monetary sterilization.

- China sets initial exchange rate target, may require minor FOREX market intervention to meet target. Increases foreign currency reserves due to purchases of foreign currencies to stabilize exchange rate.

- Cheap Chinese exports result in trade surplus, contribute to rapid economic growth. Increases foreign currency reserves either directly through exporting entity or due to need of foreign entities to purchase RMB to settle export transactions.

- Continuing and consistent high trade surpluses increase pressure on RMB to appreciate, increase foreign exchange reserves.

- High economic growth and performance encourages influx of FDI and speculative investment. Increases foreign exchange reserves. Increases pressure on RMB to appreciate.

- Foreign currency earned by export-oriented business not freely usable domestically or convertible to RMB; must be exchanged with registered bank for RMB-backed assets (PBoC bills), in turn exchanges with PBoC. Increase in foreign exchange reserves, increase in domestic money supply, leading to increase in inflationary pressure.

- Intervention in FOREX market keeps exchange rate artificially low, with resulting benefit for export industries and handicap for imports of foreign goods.

- Increasing pressure on RMB to appreciate requires more substantive FOREX market intervention by PBoC. Further increase in foreign exchange reserves as RMB sold in exchange for foreign currencies and assets.

- RMB sold abroad requires PBoC to increase money supply. RMB return over time to domestic Chinese environment as result of trade surplus. Increase in inflationary pressure due to increase in domestic money supply.

- Tight capital controls, few investment vehicles necessitate significant deposit rate on micro level, prevents significant capital outflows. Inflationary pressure therefore requires sterilization of capital inflows to soak up excess liquidity due to strict capital outflow controls, non-convertibility of RMB, RMB returned from trade.

- RMB domestic liabilities necessitate low interest rates. Low interest rates lead to cheap credit, inflationary pressure, upward pressure on RMB, leading to more investment.
This appendix outlines an example of the Chinese government’s probable interference in the commercial banking sector in aid of the ‘going global’ strategy. It is intended as a companion to Chapter 3, Section 3.

The case of an ultimately unsuccessful foreign takeover bid in the mining sector is an example of the favourable terms that can be offered to state-backed or politically preferred firms. As an integral part of the ‘going global’ strategy, large Chinese firms have increasingly focused their attention abroad with the desire of obtaining a variety of benefits from engaging with or buying foreign companies that are in businesses related to the refinement or extraction of raw resources, as well as financial services firms that provide an outlet for China’s large foreign exchange reserves. The rapid expansion of this activity is well documented and the Chinese government is seen as a strong supporter (even driver) of this activity (Xu, 2011; Cheng and Ma, 2007; Davies, 2010; Ramasamy et al., 2012). Resources such as timber, steel, or aluminum play crucial roles in building and infrastructure projects. Obtaining better access to these resources is an ongoing necessity for any state engaged in such rapid and widespread infrastructural and industrial growth. Consequently, the importance of obtaining such access has a political dimension and, as this example suggests, is supported by the state in both explicit and implicit fashion.

In 2009, the state-owned Chinalco aluminium company made a US$19.5 billion bid for the Australian mining company Rio Tinto. Since 2007, BHP Billiton, another major mining company that held a more substantial balance sheet and was market-valued higher than Chinalco at US$125 billion, had also been seeking to bid for Rio Tinto (Anderlini, 2011). Few companies have ready access to such liquid funds, and as such require financing to undertake a transaction on such a scale: in Chinalco’s case, its offer for Rio Tinto was funded by US$21 billion in loans from the large Chinese banks, with a portion of the funding provided by two policy banks (the China Development Bank and the Export-Import Bank of China) and the majority provided by the commercial banking sector (notably the Agricultural Bank of China and the Bank of China) (The Economist, 2009; Anderlini, 2011; Yao and Sutherland, 2009). As the two policy banks are not mainly commercial structures, having a stronger political element to them and specifically designed to operate as state support structures to contribute to the development of the Chinese economy, obtaining loans on preferential terms would not necessarily be surprising, but the commercial banking sector would, theoretically, have pursued an economic rationale to its activities. BHP Billiton also sought financing from the commercial loan sector: it was able to procure loans requiring repayment based upon an approximately 3.9% interest rate above the benchmark rate (the Libor, or London interbank lending rate) on ten year bonds (Anderlini, 2011; Yao and Sutherland, 2009). By contrast, the terms of the Chinalco financing deal were less than 1% above the Libor benchmark rate on a
fifteen year loan, vastly superior to the best deal that BHP Billiton, as a globally active, large, very financially sound company, could obtain (Anderlini, 2011; Yao and Sutherland, 2009). These terms become even more preferential when it is considered that, in 2008, Chinalco had seen its profits fall by 99% (due to a collapse in the aluminum markets) and an earlier investment in Rio Tinto fall in value by approximately 70% (Yao and Sutherland, 2009). It would be reasonable to conclude that, due to the weight that Chinalco and the bid for Rio Tinto carried with the Chinese government, Chinalco was able to obtain loan terms from the Chinese commercial banking sector that went beyond economic rationale and had an underlying political element, a conclusion supported by the decision by the State Council in early 2009 (prior to the bid for Rio Tinto) to name Chinalco as part of a chosen group of fewer than five companies to lead the consolidation of China’s metals sector (Yao and Sutherland, 2009). The exact details of any political involvement are unknown and are not essential to the value of the example: the key point is the fact that the Chinese commercial banking sector is willing to extend extremely favourable treatment in its core business practices to domestic Chinese companies that are engaged in politically favoured practices or economic sectors.


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