

GLOBAL SYSTEMIC RISK:

What's driving the shadow banking system?

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Driven by the tightening of banking regulations, the global shadow banking system continues to grow steadily in size and scope. This paper discusses issues related to the shadow banking system, focusing on Asia and China in particular. The paper highlights the increasing importance of the shadow banking industry in Asia and factors that will contribute to its expansion in the immediate future. The paper compares and contrasts shadow banking in the US and China. It also highlights the risks associated with shadow banking, including leverage risk, maturity and liquidity mismatch, and regulatory arbitrage.

Financial Stability Board (FSB) reports indicate that the global shadow banking sector (SBS) is increasing in size (see FSB 2013, FSB 2014a) and was estimated at US\$71 trillion in 2013, equivalent to 117 per cent of the GDP of all jurisdictions studied by the FSB. This represented an increase of about \$US5 trillion from the previous year (FSB 2013). In 2014, this sector grew to \$US75 trillion, equivalent to 120 per cent of the GDP of all jurisdictions, however, the FSB notes that this is a conservative estimate (FSB 2014a). Advanced economies continue to have the largest non-bank financial systems, but emerging markets have experienced the most rapid increases in non-bank financial system assets (FSB 2014a). A recent study by Moshirian (2014) highlights the role of the shadow banking sector in an emerging new global financial system.

There are a number of forces that have been identified as driving the activity of the SBS.¹ In response to tightened financial regulation, international shadow bank regulatory arbitrage may grow in the future (Adrian et al. 2012). The growth of the SBS is widely seen as a response to increased regulation, and increased regulation may also have the counter-effect of driving innovation in the SBS (Adrian and Ashcraft 2012).

The growth of the SBS has been driven by a number of different factors both before and after the financial crisis of 2007–08 (Tarullo 2012). A rise in demand by investors for safe, liquid assets as tools for precautionary or transactional liquidity, coupled with a rise in demand for short-term financial planning by certain borrowers, may have led to a surge in the volume of dollar-denominated seemingly 'safe' and 'liquid' financial instruments (Tarullo 2012). These instruments were created by shadow banking institutions in the form of asset-backed commercial paper (ABCP), repurchase agreements and the like (Tarullo 2012). While the financial crisis severely reduced the size of the SBS, it is likely that general economic growth will be accompanied by growth in existing shadow banking channels, as well as the creation of new channels in this sector (Tarullo 2012).

More traditional sources of risk, such as excesses in leverage and in maturity/liquidity transformation are still relevant when identifying problem areas within the SBS (Caruana 2014). Furthermore, rules and procedures themselves are credited with being causes of innovation in financial markets (Caruana 2014). Similarly, some commentators point to the growing importance of the capital market in the supply of credit, particularly in the US, as a consistent source of growth for the SBS (Adrian and Shin 2009).

The developing economies of Asia and China are by no means immune to the growth of shadow banking that is occurring in developed Western economies (Schwarcz 2013). Indeed, the shadow banking sector in China has been receiving particular attention from a wide range of sources (Adrian et al. 2013; FSB 2014a; Schwarcz 2013).

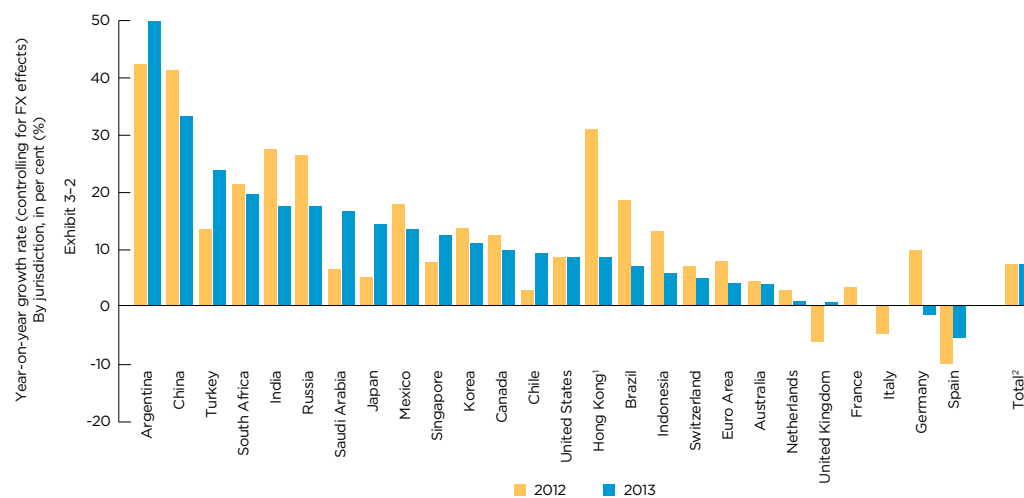
Shadow banking in Asia

In 2014, the FSB released a comprehensive report on shadow banking in Asia, derived from the work of its Regional Consultative Group for Asia. The report found that of selected Asian region nations, 'non-bank financial intermediaries' (NBFIs) represented approximately 12 per cent of total financial system assets in 2011 (FSB 2014a).² Using data for a similar selection of Asian nations,³ this figure remained relatively unchanged at approximately 11 per cent as at the end of 2013 (FSB 2014b). However, due to the diverse nature of Asian economies, such averages do not necessarily reflect the situation within individual nations (FSB 2014a). Generally, the 'other financial intermediary' sector represents less than 25 per cent of total financial system assets across most Asian economies (FSB 2014a). The report also noted that in most Asian economies banks continue to hold a large share of financial system assets, accounting for at least half of financial system assets in most jurisdictions (FSB 2014a).

There have been a number of different estimates of the size of the shadow banking system in China. In 2015, Moody's Investors Service estimated that China's shadow banking assets reached 41 trillion yuan at the end of 2014. Other estimates include 30 trillion yuan (Yi 2013), 31 trillion yuan (Sheng et al. 2015), and 36.8 trillion yuan (Barboza 2013), among others. The FSB reported in 2014 that the Chinese shadow banking system was one of the fastest growing in the world, with annual growth rates in 2012 and 2013 reaching 42 and 34 per cent, respectively (FSB 2014b). Problematically, both the FSB estimates and the monitoring process for the Chinese SBS have come under criticism for their failure to address the opacity of the Chinese financial system, as well as the constantly changing regulatory environment of Chinese finance (Borst 2014). The different estimates of the size of the Chinese SBS from various sources point to inherent difficulties in estimating this market, and highlight the fact that each estimate must be interpreted with its methodology and dataset in mind (Borst 2014; FSB 2014a).

Interestingly, the FSB has reported that Chinese non-bank financial intermediaries make up only 4 per cent of the assets of non-bank financial intermediaries in 2012 (FSB 2014b). This pales in comparison to the 33 per cent share of the US and the 34 per cent share of the euro zone area (FSB 2014b). This can be partially explained by the fact that Chinese institutions are not wholly non-bank, but rather are regulated banks that operate as both shadow and regulated credit intermediaries (Adrian et al 2013). With regard to other Asian economies, the FSB has reported that 'other financial intermediaries' make up 15 to 30 per cent of total financial system assets in India, South Korea, Malaysia, Singapore and the Philippines (FSB 2014a). In Hong Kong the corresponding figure is over 30 per cent (FSB 2014a).

FIGURE 1: Annual growth of non-bank financial intermediaries



1. The basis of calculating 2012 growth rate of HK's OFIs is different from that of calculating 2013 growth rate, due to the data unavailability of HK's Finance Companies' assets.
 2. Weighted average of 20 jurisdictions and euro area.

Source: *Global Shadow Banking Monitoring Report 2014, Financial Stability Board 2014.*

Overall in Asia, shadow banking has been reported to be on the rise (Schwarcz 2013). Schwarcz (2013) notes that the nature of shadow banking in Asian economies is not as much about 'long, complex, opaque chains of intermediation', but rather about banking activities that are weakly regulated or falling outside the regulatory sphere altogether.

FIGURE 2: Other financial intermediaries (OFIs) trends



*Total for non-Japan Asia does not include data for Singapore between 2002–2004, which was unavailable; EA = euro area

Source: Report on Shadow Banking in Asia, Financial Stability Board 2014.

The shadow banking system in China

The shadow banking system in China is described as having a different operational aspect from that in the US (Hsu and Li 2012; Schwarcz 2013). Also less diversified and complex than in the US (Schwarcz 2013), the Chinese SBS is characterised by shadow banks, trust companies, small loan companies, bonding companies, financial companies and financial leasing companies, as well as the informal financial system (Hsu and Li 2012).

Hsu et al. (2014) indicate that the Chinese shadow banking system operates on three levels:

- > *commercial and investment banking*, including banks which sell trusts, wealth management, and other shadow banking products, financing leasing companies, and insurance brokerage firms
- > *quasi financial institutions* such as micro loan companies, financial guarantee companies, and pawn shops
- > informal financial institutions.

In this regard, the Chinese SBS is a mixture of regulated financial institutions operating in shadow finance and non-banking financial institutions (Hsu et al. 2014; Hsu and Li 2012). Schwarcz (2013) notes that the Chinese SBS encompasses property development trusts, credit associations, rural cooperative foundations, pawn shops and peer-to-peer business lending. The provision of financing by banks using non-traditional means (such as wealth management funds) is also included as part of shadow banking (Schwarcz 2013). Ghosh et al. (2012) indicate that the main forms of shadow lending include informal lending as well as underground intermediation, entrusted loans, trust loans and bank acceptance bills.

For example, trust loans are described by Adrian et al. (2013, p. 22) as a form of off-balance sheet lending by banks:

Here, bank loans are sold into trust companies, which in turn sell wealth management products to retail depositors. Banks earn fees on the origination of loans and management of these products, but since they are off balance sheet, they do not have to hold capital against them. While some of these products have principal guaranteed balances, most do not, and instead benefit from a perception of implicit support by the banks, and in turn by the official sector.

Li (2013, p. 2) contrasts the shadow banking system in China with that in the US:

The shadow banking systems in China and the United States differ in terms of composition, players and drivers. The US shadow banking system is comprised of securitized loans and obligations, asset-backed commercial paper, repurchase agreements, and money market funds. In contrast, China's shadow banking system includes direct credit extension by nonbank financial institutions (especially trust companies and brokerage firms) and informal securitization through the pooling of proceeds from wealth management products provided by banks.

Shen (2013) suggests that the Chinese SBS performs a dual function in the Chinese economy: it channels vital capital to the private sector starved of debt financing and also allows savers to earn higher returns than through conventional bank deposits.

Origins of shadow banking in China

Shen (2013) points to the shadow banking system in China as being a result of China's financial system, borne out of underground financing and unregulated off-balance sheet lending, led by China's state banks. Shen argues that the progenitors of much of China's shadow financing are state-owned enterprises (SOEs) which make up 90 per cent of shadow lenders, and have emerged due to the size of these SOEs and their ability to avoid regulatory requirements.

Li attributes the recent growth of China's shadow banking sector to increased regulation and supervision of commercial banks following the global financial crisis (Li 2013). Adrian et al. (2013) also mention increased regulation as a principal driver of shadow banking in China. They point to higher interest rates, tougher reserve requirements and more conservative credit quotas as factors incentivising banks to originate credit off balance sheet activities (Adrian et al. 2013).

Regulation and supervision

Adrian et al. (2013) argue that shadow credit intermediation in China is less the result of financial innovation and more the result of responses to heightened restrictions on traditional intermediation activity. They also note that the Chinese SBS has become more localised in recent years, but that global propagation risks are still present. They recommend that containment of the global propagation of shocks can be implemented through enhanced monitoring of activities of the largest Chinese financial intermediaries.

In China, the Chinese Banking Regulatory Commission (CBRC) regulates banks and non-bank institutions, which includes trust companies (Hsu and Li 2012). Brokerage firms and insurance companies are regulated by the China Securities Regulatory Commission and the China Insurance Regulatory Commission respectively (Hsu and Li 2012).

Li (2013) also recommends stronger monitoring systems to regulate shadow banking activities, echoing recommendations made by the FSB in 2012. In 2011, the People's Bank of China began issuing 'total social financing statistics' aimed at gauging the size of credit expansion (Li 2013). Li (2013) argues, however, that these statistics lack specificity and are unresponsive to the swift evolution of innovative credit intermediation methods.

Shen (2013) notes the tension between allowing the SBS to liberalise the financial sector and mitigating systemic risk and the potential for shocks to the economy. He argues that the Chinese Government must reform the lending system to offer more investment incentives to lenders in order to create regulated bonds and other financial products (Shen 2013). Other policy options include the introduction of properly functioning private sector long-term savings, mutual fund or pensions markets as well as a standardised and unified bond market (Shen 2013).

Borst (2014) summarises the main problem facing regulators as one of monitoring and transparency. He argues that it is 'critically important for regulators to have accurate data on the entire financial system, spanning the whole range of bank, quasi-bank, and non-bank financial activities' (Borst 2014, p. 71). He also notes that narrow approaches to measuring the shadow banking system adopted by the FSB among others will also lead to mis-measurement of the SBS in other emerging markets as they are also dominated by banks and thus approaches focusing on non-bank entities will fall short (Borst 2014).

More broadly, the FSB has a Regional Consultative Group for Asia which recently published its report into shadow banking in Asia (FSB 2014a). The FSB (2014a) reported that most jurisdictions surveyed have regulatory regimes in place which are able to collect data and information on non-bank financial intermediaries. However, it noted that only a few jurisdictions reported having a *comprehensive* resolution regime in place for all NBFIs, and that in some jurisdictions not all NBFIs are subject to ongoing supervisory inspections. The FSB notes, however, that many jurisdictions have taken steps to improve the regulation and supervision of NBFIs, ranging from enhancing existing or introducing new regulations for targeted non-bank financial entities/ activities, enhancing inter-agency coordination and cooperation, to broader legislative changes empowering authorities to collect necessary data and information, and to implement other regulatory measures for NBFIs (FSB 2014a).

Future risks and issues

The FSB (2014a) highlights a number of potential risks emanating from shadow banking in Asia:

- > *Leverage risk*: 'The pro-cyclical nature of leverage means that firms will tend to increase their leverage during good times and when credit conditions change, highly leveraged firms may come under stress. This condition could lead to the fire-sale of assets'.
- > *Maturity and liquidity mismatch*: Disruptions in market condition may adversely impact the shadow banking sector due to liquidity and funding risks faced by shadow banking institutions.
- > *Indirect risks from interactions between shadow banking entities and regular banks*: Risks can take the form of direct credit exposures and interdependence in funding, which then allow for greater propagation channels through which systemic risk can impact both sectors.
- > *Regulatory arbitrage*: Incentives may exist for financial activities to move from the regulated sector to the shadow banking sector to avoid more stringent bank regulations and oversight.

Ghosh et al. (2012) also point to the exposure to market, credit and maturity/liquidity risk by trust companies as another risk factor of the Chinese SBS. They indicate that trust companies are vulnerable due to the 'dependence on underlying asset prices, which are subject to potential correction and the often risky pricing behaviour undertaken to attract investment' (Ghosh et al. 2012, p. 5).

Schuman (2014) argues that while China's financial system is not as connected to the global economy as those of Europe or the US, a crisis in shadow banking in China would severely damage its growth prospects, which in turn would dampen global growth.

Conclusion

The global SBS continues to grow in size and scope at a steady pace. The FSB estimates that in 2014, the global SBS reached 75 trillion USD, which is equivalent to 120 per cent of the GDP of all measured jurisdictions. Advanced economies have the largest SBS, while those of emerging economies showed the most rapid growth.

China's SBS is one of the fastest growing in the world, and is estimated to have reached 41 trillion yuan by the end of 2014. Globally, the growth of the SBS has been driven by the tightening of regulation of the traditional banks. The same is true of China, where the recent growth of its SBS has been attributed to the increased regulation and supervision of commercial banks following the global financial crisis. Although it is less complex than its US counterpart, China's SBS provides essential funding to Chinese businesses and provides Chinese investors with returns that are higher than those of conventional bank products. Its size, rapid growth, and importance to the Chinese economy demands that attention be given to the potential risks residing within China's SBS, including those arising from leverage, maturity and liquidity mismatch, and interactions with regular banks.

The FSB, as well as other commentators, have recommended that a stronger regulatory system is needed to monitor and supervise China's SBS. While China's financial system is less connected to the global economy than that of the US or Europe, a shadow banking crisis in China would nevertheless dampen global growth. Stronger regulation of China's SBS is therefore crucial for the maintenance of financial stability and prosperity for both China and the world at large.

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Notes

1. See, for example, Adrian, T and Ashcraft, A 2012, 'Shadow banking: A review of the literature', *Federal Reserve Bank of New York Staff Reports*, no. 580; Pozsar, Z, Adrian, T, Ashcraft, A and Boesky, H 2010, 'Shadow Banking', *Federal Reserve Bank of New York Staff Reports*, no. 458.
2. Includes Australia, China, Hong Kong, India, Indonesia, Japan, South Korea, Malaysia, Singapore and Thailand.
3. Includes Australia, China, Hong Kong, India, Indonesia, Japan, South Korea and Singapore.

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