



## Shockwatch Bulletin

### Developing countries and the slowdown in China

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#### Abstract

Economic growth in China has brought significant benefits to LICs and LMICs through growth in exports to and FDI from China. However, the Chinese economy has been slowing, and there is increasing concern about risks to financial stability from real estate ‘bubbles’, the growth of the shadow banking system and high leverage in the local government sector.

Policy responses to constrain credit growth have been undermined by regulatory gaps and arbitrage, failure to fully recognise bad debts and the risk of repeated ‘mini’ stimuli further inflating real estate markets, making a ‘soft landing’ increasingly difficult to manage (the ‘Greenspan put’). More decisive policy action is needed.

The IMF and OECD forecast a slowdown in GDP growth to 7.0% for 2015, 0.7% below the 2013 rate of 7.7%. We believe this is overly optimistic and estimate a slowdown to 5% by 2015/16 with decisive policy action – and to below 4% without – based on comparative financial crisis as an alternative to IMF DSGE models.

This paper examines the implications of this scenario for LICs and LMICs, identifying those countries that are vulnerable to a slowdown in China.

Developing countries, including LICs and LMICs are likely to experience short-term negative effects of a slowdown in China because of their export dependency but if they restructure their export composition the longer-term structural changes in China offer opportunities for them to renew growth. Further research and policy support to assist in anticipating and seizing these opportunities is needed.



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# Acknowledgements

We are grateful for the very helpful comments provided by peer reviewers, Dr Dic Lo of SOAS, University of London, and Sheila Page of ODI, in addition to those provided by Dr Dirk Willem te Velde.

The ODI gratefully acknowledges the support of DFID in the production of this Working Paper.

The views presented are those of the authors and do not necessarily represent the views of ODI or DFID.

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# Abbreviations

ADB	Asian Development Bank
BRICS	Brazil, Russia, India, China and South Africa
CNY	Yuan
CBRC	China Banking Regulatory Commission
DSGE	Dynamic Stochastic Growth Model
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
ICB	Independent Commission on Banking
IMF	International Monetary Fund
LGFV	Local Government Financing Vehicles
LIC	Low-Income Country
LMIC	Lower-Middle-Income Country
NPL	Non-performing loans
RMB	Renminbi
ODI	Overseas Development Institute
OECD	Organisation for Economic Cooperation and Development
PDR	People's Democratic Republic
RRDC	Resource-Rich Developing Country
SBS	Shadow Banking System
SOE	State-Owned Enterprise
TSF	Total Social Financing
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development

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# Executive summary

From 2002 to 2012 the Chinese economy experienced unprecedented rapid growth and integration into the global economy. However, the Chinese economy has been slowing, and there is increasing concern about sources of vulnerability and risk in its domestic economy. In particular, risks have grown in the financial system because of excessive credit expansion, including to the real estate sector, the shadow banking system (SBS) and local government.

There is confidence that the authorities will be able to manage to unwind these financial risks in an orderly manner with a moderate downward impact on growth (IMF, 2014a; OECD, 2014).

However, we challenge this view, concluding that although the state has sufficient control to ensure there will be an orderly unwind, the policy difficulties – which are being deepened by dithering in policy execution - have been underestimated for the following reasons.

- Regulatory arbitrage is undermining policy aimed at constraining credit. This includes credit expansion in offshore markets and through the shadow banking system. This has been particularly prevalent in real estate related lending. Authorities appear to be struggling to contain these problems.
- There is reluctance to recognise fully losses associated with bad debts and address any required bank re-capitalisation associated with the State's implicit guarantee, threatening to prolong unnecessarily credit constraint.
- There have been repeated 'mini' stimuli which threaten to further inflate real estate markets and make a 'soft landing' increasingly difficult to manage (the 'Greenspan put' problem).

Similar problems were important causative factors in financial crises and prolonged recessions, including in Japan in the 1990s, in Asia in 1997–8 and in the 2007–8 financial crisis in advanced economies in Europe and the United States.

The IMF and OECD forecast a slowdown in gross domestic product (GDP) to 7.0% for 2015. We estimate a slowdown towards 5% in GDP growth from 2015 if decisive policy action is taken and below 4% if it is not. This is based on comparative financial crisis as an alternative to IMF DSGE models that do not adequately represent the financial system (Blanchard, 2014).

LMICs are vulnerable to a slowdown because of China's importance to them as an export market – particularly in extractive materials, agricultural products and manufactured goods. Specific countries that are vulnerable include (in order of degree of vulnerability) Mongolia, Mauritania, Yemen, Solomon Islands, Zambia, Congo Republic, Cameroon, Indonesia, the Philippines, Vietnam and Pakistan.

Policy responses available to vulnerable low-income countries (LICs) and lower-middle-income countries (LMICs) are limited in the short-term because of the lead-times for export restructuring. Longer-term exports can be restructured to diversify to reduce dependence on China but also to seize new opportunities offered by China's rebalancing including growth in consumption and further offshoring of labour-intensive production.



# 1 Introduction

From 2002 to 2012 the Chinese economy experienced unprecedentedly rapid growth in output, productivity, consumption, job creation and the wage rate, with commensurate falls in poverty (Figure 1). Its dynamism has partly resulted from its increasing integration and importance in the global economy.

**Figure 1: China: GDP growth (% change, constant prices)**



*Note: Estimates start after 2012.*

*Source: IMF Economic Indicators database.*

The success of the Chinese economy has been led by a high level of state control and guidance that has facilitated development in the state and private sectors. This has taken a number of forms, including direct policy execution, ownership of financial and commercial institutions and indirect influence in the private sector. Since the economy started to slow in 2012 this control and influence has strengthened with ‘guo jin min tui’ (the state sector advances, while the private sector retreats) becoming the dominant policy.

The financial sector has been central to this development through its intermediation of investment. State control has included direct ownership and indirect influence over banking institutions, including co-ordination and guidance of financing for the high levels of investment that have characterised the economy (Lin et al., 2011; Lin, 2011).

China’s development has been of importance to LICs and LMICs as China’s role has shifted from being an exporter to advanced economies towards an increasing role as an importer from and source of FDI to LMICs. In addition, China has increased its current and expected future role as a donor and funder of development finance for LICs and LMICs, including through its engagement with the new BRICS development bank and a national infrastructure development bank.

However the Chinese economy has been slowing, and there is increasing concern about sources of vulnerability and risk in its domestic economy. In particular, risks have materialised in the financial system through excessive credit expansion with accompanying exposure to real estate ‘bubbles’, the growth of the shadow banking system and high leverage in the local government sector. Such risks are causing concern because they were important causative factors in financial crises and prolonged

recessions, including in Japan in the 1990s, in Asia in 1997–8 and in the 2007–8 financial crisis in advanced economies in Europe and the United States.

Section 2 of this paper examines these issues, focusing on the financial sector risks relating to real estate, the shadow banking system and local government. Policy challenges in unwinding these imbalances are high (Section 2.5). Problems include regulatory gaps and arbitrage that have the potential to undermine policy execution, indications of reluctance to recognise and assume bad debts under the State’s implicit guarantee and the danger of repeated mini stimulus leading to moral hazard in the banking system (The “Greenspan put” or the renamed “Keqiang floor” problem).

The section concludes that, while there remains the potential that the authorities might be unable to contain damaging financial instability it is more likely that the imbalances will be unwound in an orderly manner.

However, it is also likely that such containment will require stronger than currently anticipated policy action and that the required action will act as a greater than anticipated drag on growth - especially if policy dithering continues - which will add to the on-going moderate, but stable, slowdown for the Chinese economy.

Quantifying the anticipated undershooting of forecasts is hampered by problems with adequate economic modelling. The Dynamic Stochastic General Equilibrium (DSGE) models used by bodies such as the IMF fail to incorporate adequately shocks from financial systems (Blanchard, 2014). However, no alternative or modified model has yet gained a consensus for economic forecasting. Instead we use an approach of examining comparative financial crisis.

Using this approach, the IMF and OECD forecast of a slowdown of 0.7% in gross domestic product (GDP) to 7.0% for 2015 looks excessively optimistic. No other financial crisis – even when crispy managed by the State – has produced such a minor impact on GDP. We estimate a more realistic figure might be a slowdown towards 5% in GDP growth from 2015 – if more decisive policy action is taken - and below 4% if it is not.

In Section 3 the paper considers what the implications of such a slowdown will be for LICs and LMICs. It identifies the risk factors that create such vulnerabilities – reliance on China as an important export market and a source of FDI – and highlights the specific countries which are most vulnerable. Specific countries that are vulnerable include (in order of degree of vulnerability) Mongolia, Mauritania, Yemen, Solomon Islands, Zambia, Congo Republic, Cameroon, Indonesia, the Philippines, Vietnam and Pakistan.

In Section 4 the paper concludes by examining the policy options available to vulnerable LICs and LMICs to respond to these issues. Developing countries need to restructure their export composition. However, because of the long lead-times in doing so, short-term negative effects of a slowdown in China may be unavoidable. Stabilisation policies may be more realistic to mitigate the impact. More optimistically, longer-term the structural changes in China offer new opportunities for them to renew growth. This includes new export markets as consumption in China grows and China seeks to offshore labour- intensive production as Chinese wages rise. Further research and policy support is needed to assist countries to identify and seize these opportunities.

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# 2 The economic outlook for China

## 2.1 Introduction

The Chinese financial system remains bank-dominated, with limited development of capital markets. Chinese banks are characterised by strong state ownership and influence, which differentiates the Chinese banking system from its equivalent in developed countries.

Wholly state-owned banks dominate the sector and are important conduits for policy execution. They have state-appointed boards and reporting directives and operational priorities set by the State Council. They include the Agricultural Development Bank of China, the China Development Bank and China Exim Bank, which have policy mandates relating to development of agriculture, infrastructure and exports (and imports of capital goods) respectively.

Starting in 2005, other state-owned banks started to be partially privatised into ‘equitized’ commercial banks. This has been carried out through their transformation into joint-stock companies, but the Chinese central government typically remains the largest stockholder<sup>1</sup> and exerts significant influence over their operations. Since conversion, the joint-stock companies have diversified their operations into the corporate and household sectors and overseas investments.

Also important are local banks, with provincial or municipal governments as major stockholders. This category includes a variety of financial institutions. Some large provincial and municipal governments established their own banks (such as Guangdong Development Bank and Shanghai Pudong Development Bank) and are wholly or partially owned by the local government and finance its projects and programmes.

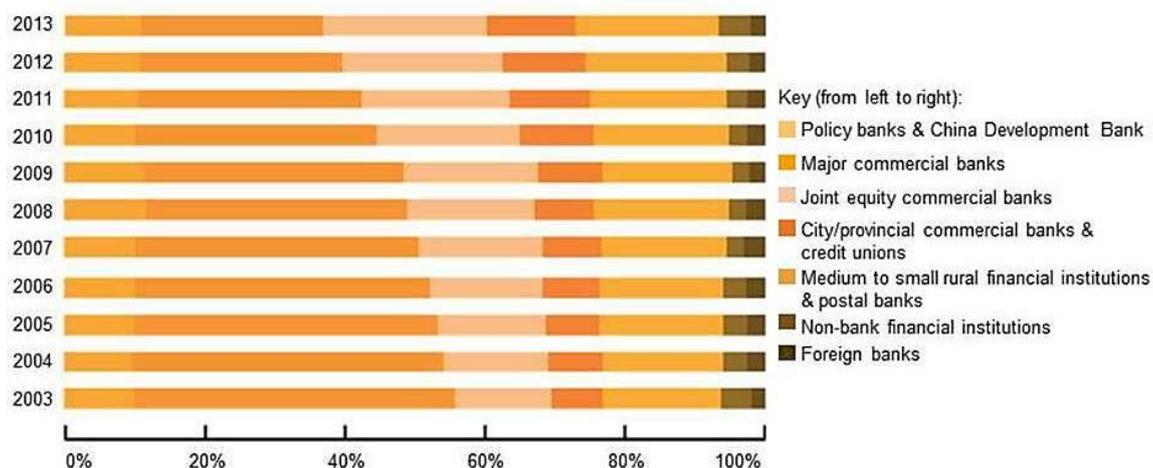
China also has an unknown number of informal financial institutions which intermediate deposits and loans outside of regulatory control.

Market shares in the banking sector continue to be dominated by the policy banks, the China Development Bank and the major commercial banks (Figure 2). However their market share has declined from over 50% in 2003 to less than 30% in 2013, with market share gains for the joint-equity commercial and city and provincial banks.

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<sup>1</sup> The majority of the shares are non-tradable shares held by the People’s Bank of China, the Ministry of Finance or other government entities. In addition, some of the non-tradable shares are held by foreign banks including Goldman Sachs and Bank of America. A minority level of shares are listed on China’s two stock markets (Shanghai and Shenzhen) and in Hong Kong.

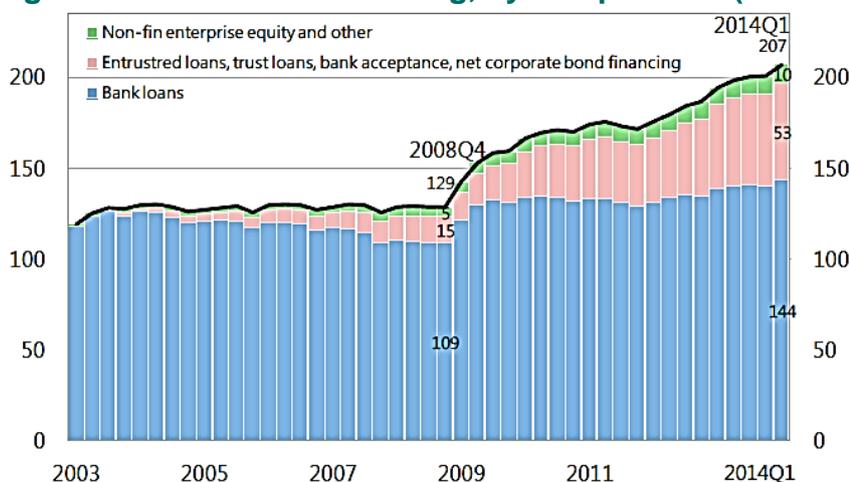
**Figure 2: Break-down of banking market share by type of financial institution**



Source: CBRC (2014).

These structural changes in the Chinese financial system towards a loosening of state control have been accompanied by strong credit growth. Total social financing (TSF) – which includes bank credit and non-bank lending such as local government bonds, trust loans and corporate bonds – has grown strongly since the late 2000s. Between 2008 and 2013 TSF approximately doubled relative to GDP, growing from just over 100% to over 207% of GDP (Figure 3). Although these trends in credit expansion were apparent earlier, the growth from 2008 was accelerated by loose monetary and fiscal policy in response to the global financial crisis.

**Figure 3: Total social financing, by components (% of GDP)**



Source: IMF (2014a).

Concerns have been raised because this credit expansion has flowed into sectors where credit expansion has been a precedent to financial crisis in other countries and which have complex links within the financial sector and the real economy. In particular, credit expansion in real estate, the shadow banking sector and local government has been of concern and each of these issues is discussed in detail in the sections below.

## 2.2 Real estate and construction

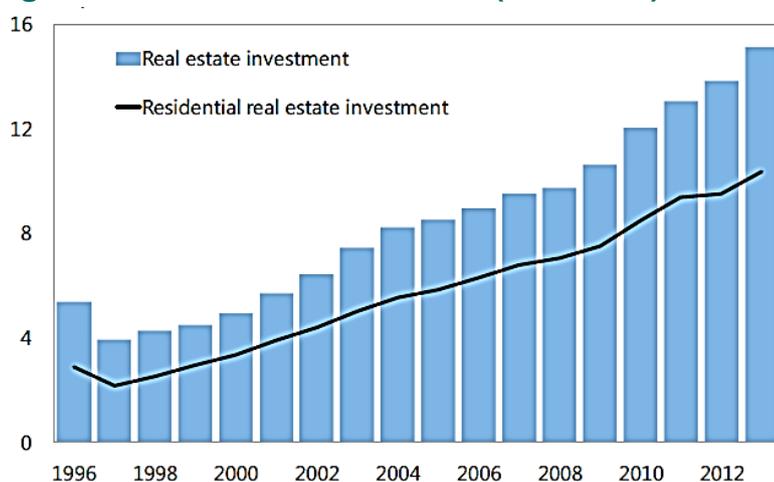
Since gradual liberalisation of the real estate sector began in 1990 (Table 1), the sector has made an increasingly significant contribution to Chinese growth and, by 2012, real estate and construction accounted for 15% of GDP (Figure 4) and a quarter of fixed-asset investment. As a result, the sector, together with construction, has become an important driver for employment (Figure 5) – currently accounting for 15% of the workforce.

**Table 1: Milestones in China’s policies on the property market, 1990–2007**

1990	State Council Decree 55 provides for the transfer of state-owned land-use rights,
1992	Public housing sales in major cities start. Establishment and implementation of housing provident fund.
1994	Ministry of Construction issues regulations on sale of public housing to private owners.
1998	Abolition of the state-allocated housing policy. Mortgage lending starts.
2001	Ministry of Construction issues regulations on sales of commodity housing.
2002	Issuance of rules regarding the granting of state-owned land use rights by way of tender, auction, and listing-for-sale.
2003	People’s Bank of China Circular 121 applies more stringent administration on lending to real estate industry.
2005	State Council issues eight directives to stabilise housing prices. Detailed policies by seven ministries follow.
2006	State Council issues six directives on development of real estate market. Detailed rules follow. Ministry of Construction and other ministries issue regulations on foreign investor investment in real estate
2007	Property Law enacted.

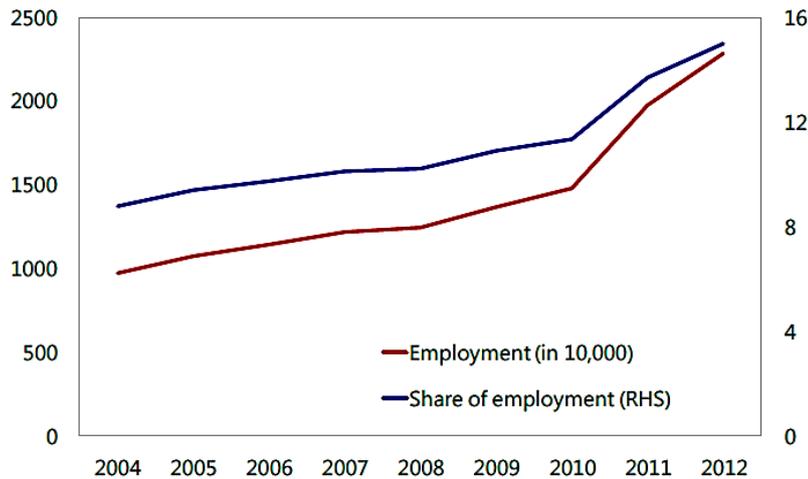
Source: Liu (2014).

**Figure 4: Real estate investment (% of GDP)**



Source: IMF (2014a).

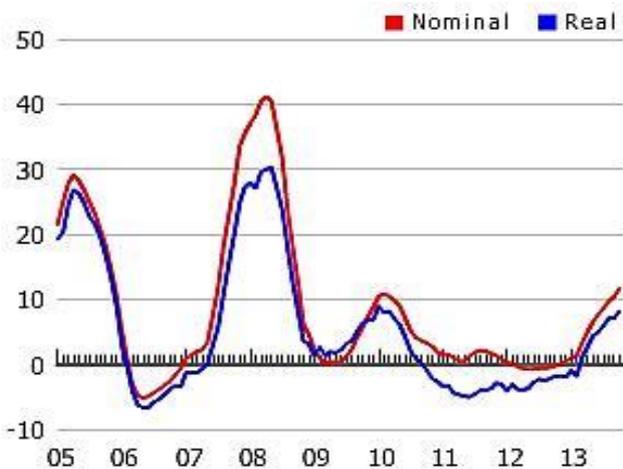
**Figure 5: Construction and real estate employment**



Note: Employment data cover urban units. RHS = right-hand side.  
Source: IMF (2014a).

This construction boom has been accompanied by prolonged real estate price inflation in both residential housing and commercial real estate. The state sought to cool the market in 2005 but, following the financial crisis, the market was re-inflated by loose credit conditions from 2007 to 2010 and in 2013. Real estate price inflation has been particularly strong in China's major cities, including Beijing and Shanghai (Figure 6), but in recent years has also encompassed second-tier cities.<sup>2</sup>

**Figure 6: House price inflation: Shanghai (% change over previous year)**



Source: China Real Estate Index System.

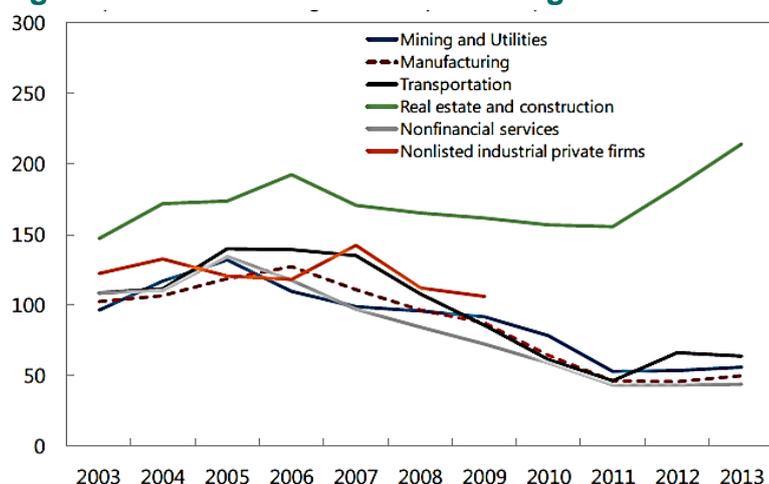
<sup>2</sup> There are no official clarifications for city tiers in China, but it is common consensus that Beijing, Shanghai, Guangzhou and Shenzhen are the Tier I cities, with Tianjin also occasionally included in this tier. Categorisation of Tier II and III cities can often subdivide into strong, medium and weak Tier II, etc. See Appendix 1.

Real estate's importance relates not only to its contribution to the real economy, but to its links to the financial sector. By 2013, direct real estate lending accounted for an estimated 20% of commercial bank loans and acted as collateral for a further 40% of total lending. There was also further unquantified real estate related lending in the shadow banking system.<sup>3</sup> Developers have included local governments which have borrowed funds for real estate development (discussed further below).

Banks also have exposure to real estate through its widespread use as collateral, making their asset quality dependent upon its value. Such transmission channels have been a repeated source of financial fragility when accompanied by real estate 'booms and busts' in both developed and developing economies (Reinhart and Rogoff, 2009). This includes in Japan in the 1990s, the Asian financial crisis of 1997–8 and the recent financial crisis in advanced economies in 2007–8 (Independent Commission on Banking (ICB), 2011).

This is reflected in increasing leverage in real estate and construction firms. Although overall corporate leverage and interest rate coverage ratios are healthy amongst Chinese firms,<sup>4</sup> amongst real estate and construction firms leverage ratios have increased to worrying levels with, by 2013, median leverage (debt to equity) ratios rising to 250% for private firms (Figure 7) and state-owned enterprises (SOEs) (Figure 8) accompanied by declining profitability as the real estate market has slowed (IMF, 2014a). Leverage and declining profitability are also highly concentrated by company, with around 60 real estate and construction firms accounting for 80% of liabilities and with leverage ratios exceeding 300%. Such firms are likely to experience financial distress if there are further declines in the real estate market and the possibility of credit losses for the banks who have lent to them cannot be easily dismissed.

**Figure 7: Private firm median leverage ratios across industries (%)**

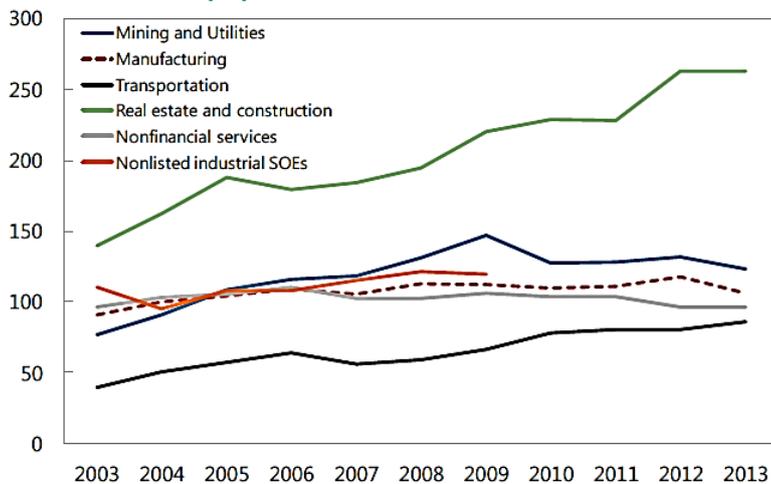


Source: IMF (2014a).

<sup>3</sup> *Financial Times*, 12 May 2014: 'This time China's property bubble really could burst' (<http://www.ft.com>).

<sup>4</sup> Data relates to listed-firms level data from the IMF (IMF, 2014a).

**Figure 8: State-owned enterprise median leverage ratios across industries(%)**



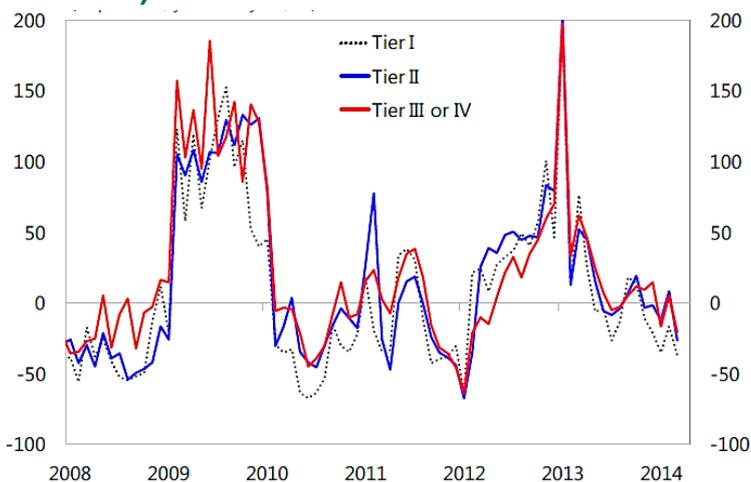
Source: IMF (2014a).

In 2013 the State Council and the China Banking Regulatory Commission (CBRC) introduced measures to create a ‘soft landing’ in the construction sector and real estate prices through credit constraint. As a result, regulated banks have cut back on lending to real estate related lenders and the growth of alternative funding channels – discussed further below – has slowed (IMF, 2014a).

However, regulatory control of total credit in the economy is being undermined. This is because of continued credit growth in the unregulated shadow banking system (discussed in the next section). In addition, large mainland property companies continue to build leverage through offshore activity with issuances of offshore bonds and syndicated loans totalling US\$27.6 billion in the first three quarters of 2014.<sup>5</sup>

By late 2013 and 2014, signs of stress in real estate markets were increasingly apparent. Sales of housing fell (Figure 9), new constructions declined (Figure 10) and unsold inventory rose rapidly. Prices were stable in the largest Tier I cities but were in sharp decline in second- and third-tier cities.<sup>6</sup>

**Figure 9: Residential building – floor space sold by tier (% , year-on-year of stock)**

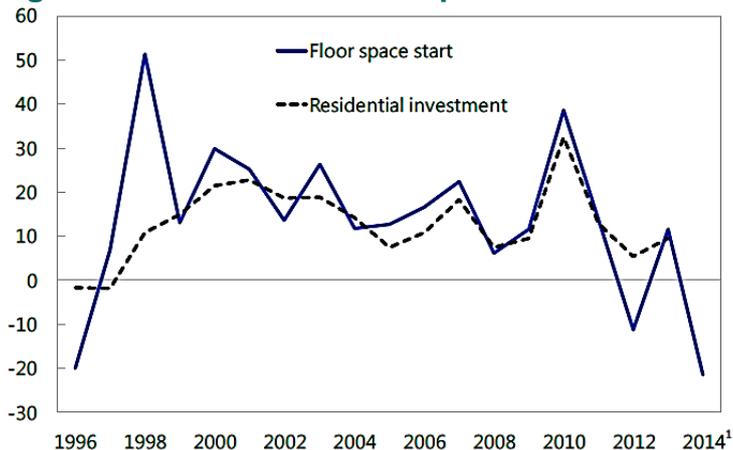


Source: IMF (2014a).

<sup>5</sup> Source: Dealogic.

<sup>6</sup> *Financial Times*, 25 August 2014: ‘Property bubble is “major risk” to China’ (<http://www.ft.com>).

**Figure 10: Residential floor space start and investment (% , year-on-year)**



<sup>1</sup> May 2014 year-to-date total, growth rate from same period previous year.

Source: IMF (2014a).

Financial stability is reliant on managing a ‘soft landing’ in real estate inflation, managing potential financial fragility in the banking sector arising from real estate and construction related exposures and rebalancing the real economy away from real estate and construction.

The prospects for this remain open to debate. In relation to managing a ‘soft landing’ for house prices, some commentators<sup>7</sup> are confident that basic supply and demand dynamics in major Chinese cities make continued house price inflation sustainable in the long run and that the current downturn is a temporary interruption in price rises. The main factors emphasised by proponents of this school of thought are the following:

- China’s urbanisation ratio will increase from 50% to 60% in the next ten years, creating on-going long-term demand for housing;
- the abolition of the residency permit system for urban areas will allow unregulated migration from rural areas and legitimise those migrants without permits which will further increase demand for housing in major cities;
- real estate remains an attractive investment because of its 15-year track record of price inflation and because there is a lack of attractive alternative investment options such as in deposits where current interest rates are low.

However, other commentators<sup>8</sup> are less complacent and are concerned that a decline in real estate markets represents a major risk in the economy. Their key points are the following:

- they believe that there is a high level of speculative activity in the real estate markets which can rapidly withdraw should confidence start to decline;
- while Tier I cities are likely to continue to see strong demand, there are signs of heavy oversupply in Tier II, III and IV cities with extensive unsold inventories and falling prices;
- The price/earnings ratio for residential mortgages has soared in comparison to international norms, undermining affordability for residential housing; and
- A planned 2017 introduction of a property tax will dampen demand.

The direction of the market is likely to be heavily influenced by policy. Repeated ‘mini’ fiscal and monetary stimuli have been injected into the economy in 2014 to prevent further slowdown in real estate markets. Despite repeated talks over the introduction of a property tax, the earliest this is

<sup>7</sup> ODI interview material.

<sup>8</sup> ODI interview material.

expected to happen is approximately 2017<sup>9</sup> because of the property registration and legislative procedures that need to be put in place beforehand.<sup>10</sup>

Further, policy support is likely to manage the real estate market because of political economic issues. These include that a property tax may exert downward pressure on housing prices, and hence hit GDP and sub-national government revenues, and that there will be resistance from local government officials whose performance/promotion matrices are still based on such indicators. They form a sizable interest group within the Party and the government are likely to resist policy unfavourable to their interests. High housing prices have become a social issue for many city dwellers in China but have also increased asset wealth for members of the Chinese middle class (the majority) who own a property. A fall in property prices across the country would make their wealth decline and, in the worst-case scenario, could potentially cause social discontent across the country.<sup>11</sup>

### 2.3 The shadow banking system

According to the Financial Stability Board, the shadow banking system can broadly be defined as ‘credit intermediation involving entities and activities (fully or partially) outside the regulated banking system or non-bank credit intermediation’.<sup>12</sup> The shadow banking system was an important factor in the severity of the financial crisis in advanced economies of 2007–8 because regulated banking institutions had non-transparent risk through off-balance sheet financing and credit exposures to shadow banking entities (particularly hedge funds) which were dependent upon asset values in financial markets (ICB, 2011; Toporowski, Tyson, and Shabani, 2014).

In China, the shadow banking system – generally defined as TSF less bank loans – has a different structure but similar risks. Its most important aspect is that regulated banks have credit exposure to shadow banking entities through lending to non-bank financial institutions involved in speculative and leveraged investments, including trust companies and security firms.

Such unregulated intermediation of credit expanded following the imposition in 2013 of constraints on bank lending designed to subdue real estate lending. Credit flowed from banks into the shadow banking system, allowing banks to circumvent both policy directives and regulatory scrutiny. By March 2014, shadow banking system assets had more than tripled since 2008 (Figure 3) with annual growth rates averaging around 30% during 2012–13 as regulators squeezed regulated credit – accounting for half of the increase in overall credit to the economy in 2013 - and reached 55% of GDP (IMF, 2014a).

Of particular concern have been non-regulated investment funds – termed ‘trust products’ – which take ‘deposits’ from retail investors and invest them, most often in real estate. Inflows to these trust products has been strong, with assets exceeding yuan (CNY) 10 trillion (US\$1.6 trillion), or 17% of GDP, by early 2014 (Figure 11). Fund values are dependent upon the value of underlying assets, primarily real estate. ‘Guaranteed’ returns to depositors have not been covered by actual returns in some funds with interest being paid from new deposits – a high-risk, and in most jurisdictions illegal, practice termed ‘Ponzi’ financing (Minsky, 2008). Many funds also have significant liquidity risk – or ‘mismatched maturity’ risk – because they have short-term deposits from investors and long-term assets in real estate (Figure 12). Such maturity mismatches can cause financial instability through ‘bank runs’ if depositors lose confidence in the funds and seek to rapidly liquidate their deposits. These products have been very popular with large sections of the population as they offer higher returns than bank deposits, combined with the upside return in asset markets and a widespread assumption of an implicit guarantee by the state should losses be made.

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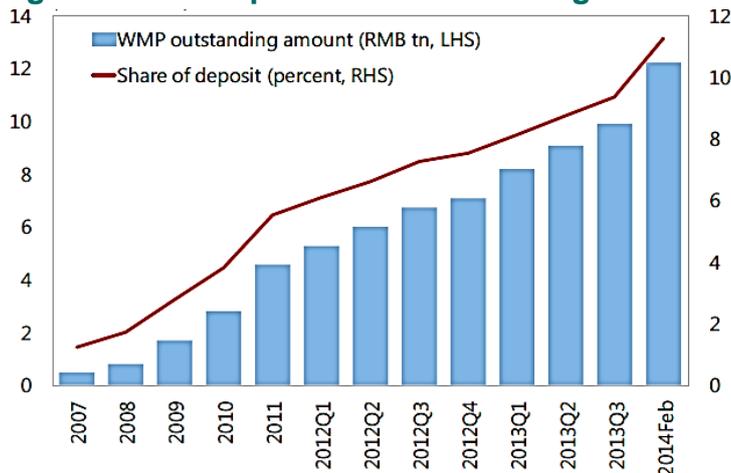
<sup>9</sup> <http://dy.163.com/v2/article/T1383217167679.html#A3SC64M700964KOP>

<sup>10</sup> ODI interview material.

<sup>11</sup> Ibid.

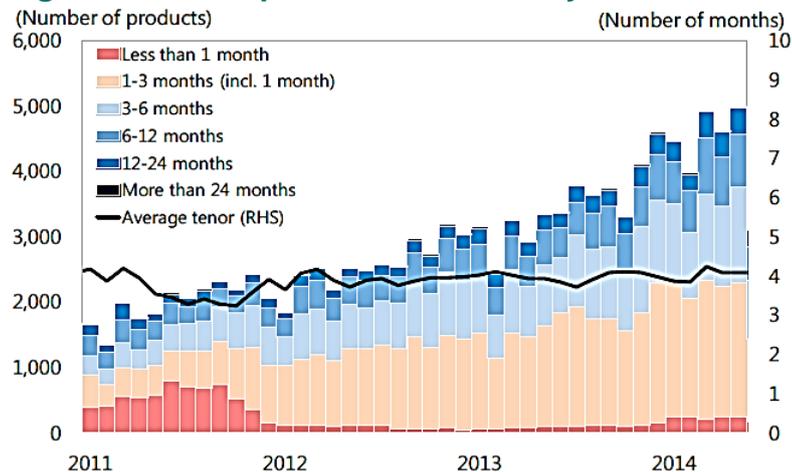
<sup>12</sup> [http://www.financialstabilityboard.org/publications/r\\_130829a.pdf](http://www.financialstabilityboard.org/publications/r_130829a.pdf)

**Figure 11: Trust products: outstanding amount and share of deposits**



Notes: WMP = wealth management product; RMB = Renminbi; tn = trillion; LHS = left-hand side; RHS = right-hand side. Source: IMF (2014a).

**Figure 12: Trust product: issuance by term**



Source: IMF (2014a).

This problem of an assumption of an implicit guarantee from the state to compensate for any losses, i.e. ‘moral hazard’, has been increasing because by the third quarter of 2014 there had been more than 60 reported failures of such funds (and rumours of many more unreported failures) with the issuing state banks bearing the losses because of political pressure.<sup>13</sup>

The CBRC sought to dampen growth in the shadow banking system through new regulatory measures in 2014. This included tightening regulation of non-standard credit products, banning ‘Ponzi’ financing and restricting bank credit to the shadow banking system. It also strengthened oversight of trusts, requiring clearer accounting and limiting dealings with banks.

However, as for real estate, there are gaps in regulation and regulatory arbitrage. The new regulatory controls do not apply to securities houses and their assets grew more than four-fold in 2013 (2014 figures are not available). This includes through the securities houses acting as intermediaries between banks and trusts, thus escaping restrictions on banks’ lending to trusts but with the same risk profile. Similarly ‘entrusted loans’ – where SOEs avoid restrictions on lending to high-risk firms by using banks as intermediaries – and corporate-to-corporate lending have grown. Such forms of non-regulated lending are, again, typically collateralised by real estate.

<sup>13</sup> *Financial Times*, 31 August 2014: ‘China’s bad bank clean-up crew’ (<http://www.ft.com>).

Because of these issues with effective regulatory restraint of the shadow banking system, there remains a risk of its being a source of financial fragility, not only within the shadow banking system, but through contagion via lending to regulated banks because of their reliance on real estate values for credit worthiness and for collateral.

## 2.4 Local government debt

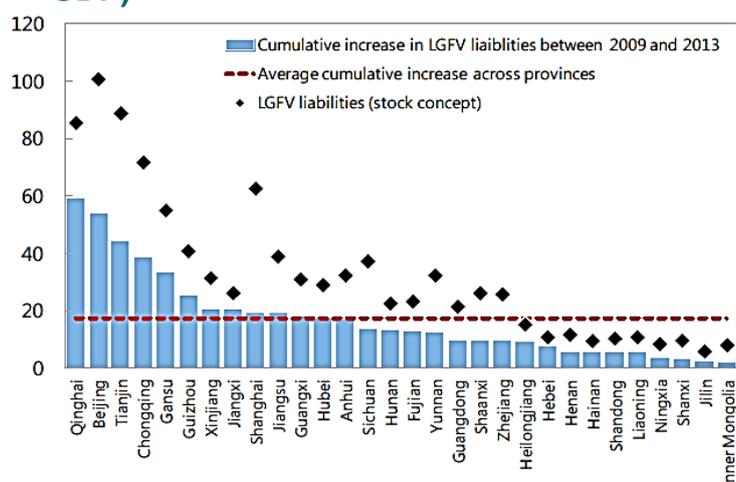
Compared with other countries, China's fiscal debt is moderate. However, concerns have been raised relating to local government leverage<sup>14</sup> and debt sustainability following the considerable rise in investment by local governments as part of the repeated stimulus packages since 2008.

Such investment was financed through 'off budget' funds raised either by borrowing through shadow banking system entities – termed local government financing vehicles (LGFV) (Figure 13) – or through land sales (Figure 14). Such borrowing pushed the outstanding debt of provinces to nearly 70% of fiscal revenues or 23% of provincial GDP (Figure 15). This trend was particularly strong in central and western provinces which implemented extensive public infrastructure programmes.

Currently, these levels of government debt appear sustainable. However, were they not to be, there is a strong assumption of an implicit guarantee by central government relating to local government debt, including that incurred through LGFVs. Interviews conducted by the ODI with policy makers in Beijing confirmed official support for this implicit guarantee.

However, the stimulus of local economies through funds from land sales and increasing leverage through LGFVs is dependent upon bullish real estate markets which are now in decline. The central government is seeking to maintain stimulus measures through a programme to replace land sales as a source of financing with sales of the 155,000 SOEs currently owned by local governments. Provinces announcing plans to privatise SOEs, largely through selling minority stakes to private investors, include Shanghai, Beijing, Guangdong and Chongqing. However, this policy has met with scepticism from private investors and is not clear if the privatisation programme will be successful. Disincentives for investors include low returns (return on assets, for example, average 1.2% for local SOEs) and local governments seeking guarantees to maintain employment levels.<sup>15</sup>

**Figure 13: Expansion of local government financing vehicles (% of 2013 GDP)**

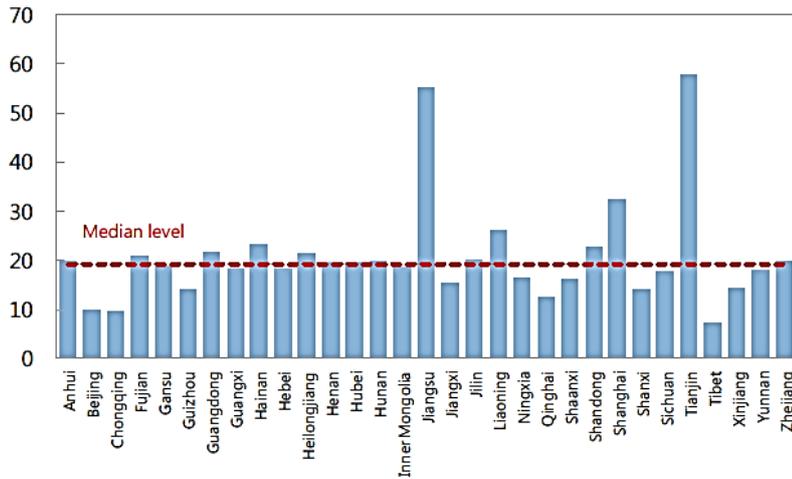


Source: IMF (2014a).

<sup>14</sup> Based on the IMF 'augmented' debt and balance estimates, which provide a useful complement to general government data because they include guarantees and contingent liabilities and so provide a more comprehensive estimate of possible default levels.

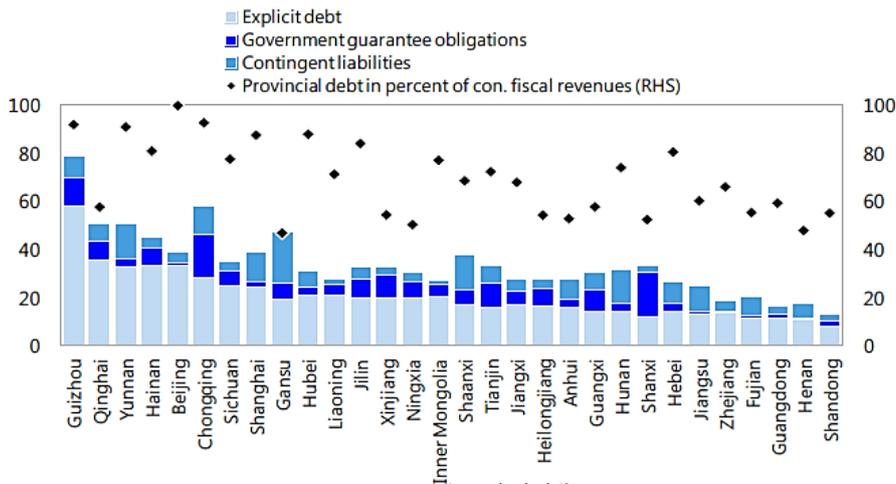
<sup>15</sup> *Financial Times*, 10 August 2014: 'China kicks off second round of privatization' (<http://www.ft.com>).

**Figure 14: Land-related tax revenue in local governments, 2012**  
 (% of provincial tax revenue before central government transfers)



Note: Includes city maintenance and construction, stamp duties, house tax, value-added tax for land, and use of urban land revenues. The large shares in Jiangsu and Tianjin are driven by the large city maintenance and construction revenues.  
 Source: IMF (2014a).

**Figure 15: Local government explicit debt and other obligations**  
 (left-hand axis – % of provincial GDP; right-hand axis – % of consolidated fiscal revenue)



Note: Includes explicit debt and all government guaranteed debt and contingent liabilities based on provincial audit results. The provincial debt audit considered that only part of government guarantee obligations and contingent liabilities would eventually become government debt based on historical evidence.  
 Source: IMF (2014a).

Overall, the risk remains that provinces will suffer from contractionary pressures if deterioration in the real estate sector reduces revenues from land sales, and that this may not be successfully offset by alternative sources of revenues such as from sales of SOEs. Such a scenario would increase the risk to banks which have lent to local governments, including through LGFVs. Although the implicit guarantee is likely to be honoured, losses would need to be absorbed by state entities including state-owned banks.

## 2.5 Issues in policy execution

Arising from this analysis are three important policy areas that require successful execution if a soft landing is to be executed in China. However, each is notoriously difficult to manage in an orderly fashion (Reinhart and Rogoff, 2009; ICB, 2011; Toporowski, Tyson and Shabani, 2014).

Policy initiatives are being undermined and circumnavigated by gaps in regulation and regulatory arbitrage. As discussed, this includes through offshore lending – where Chinese authorities have no jurisdiction. The authorities can exert influence to manage it but, given its continuation, this appears to be only partially effective. Similarly, in the shadow banking system credit growth, while moderating, remains strong with annual growth rates averaging around 30% during 2012–13. Overall, to date in 2014, policy initiatives have only slowed the rate of growth, not stopped it (IMF, 2014a).

The assumption of an implicit guarantee by the state for the banking system seems well-grounded but is likely to require state entities to assume and write-down bad debts. Losses have already been absorbed by China's state-controlled 'bad banks'<sup>16</sup> in 2014<sup>17</sup> and non-performing loans (NPLs) have increased to their highest levels since 2011 with, in the first half of 2014, provisions for bad and doubtful debts at the top Chinese banks<sup>18</sup> totalling CNY 46.9 billion (US\$7.64 billion),<sup>19</sup> double the amount in 2013. Banks also reported in June 2014 needing to transfer CNY 424 billion of NPLs to 'bad bank' companies – entities set up during the 1990s to remove bad and doubtful debts from state-owned banks – up 21% from a year earlier.

However, these figures may be understated. There is speculation that there has been understatement of bad debts through allowing rollovers of debt which cannot be repaid and reclassification of loans to 'special mention' loans to avoid further recognition of NPLs.<sup>20</sup>

This possibility is supported by comparison of the current level of NPLs in China of 1.08% of total loans (Table 2) to that found in other countries where real estate lending played an important role in the antecedents of their crises. The countries with the lowest ratios (United States and United Kingdom) had peak NPL levels four times that reported in China in June 2014, and the highest ratio (Thailand) was over thirty times that in China.<sup>21</sup>

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<sup>16</sup> Including by 'bad bank' companies Cinda and Huarong Asset Management.

<sup>17</sup> *Financial Times*, 15 August 2014: 'China banks fortify balance sheets against loan risks' (<http://www.ft.com>).

<sup>18</sup> Defined as the five biggest state-owned banks: Industrial & Commercial Bank of China Ltd., China Construction Bank Corp., Agricultural Bank of China Ltd, Bank of China Ltd. and Bank of Communications

<sup>19</sup> Source: CBRC.

<sup>20</sup> *Financial Times*, 28 August 2014: 'China "bad bank" Huarong secures \$2.4bn pre-listing capital' (<http://www.ft.com>).

<sup>21</sup> The IMF (2014a) also drew a comparison with other financial crises, but based on credit-to-GDP ratios. Although this is a useful measure, it is not a sufficiently comprehensive one because it excludes examining comparative policy choices to both the precedents of crisis and to their subsequent depth and duration (Toporowski et al., 2013). However, even by this crude comparative, the Chinese financial system looks fragile. According to the IMF, between 2009 and 2014, China's TSF stock increased by 73% of GDP, while adjusted TSF and bank credit to non-financial sectors increased by around 30% of GDP. IMF staff examined a broad group of comparative (43 countries over 50 years) and identified only four episodes that experienced a similar scale of credit growth to China's recent TSF growth, all of which ended in a banking crisis (IMF, 2014a).

**Table 2: International comparative data from selected banking crises**

	Date	Total output costs <sup>a</sup>	Peak year output costs <sup>a</sup>	Fiscal costs <sup>b</sup>	Peak NPLs <sup>c</sup>	Comment
<b>China</b>	<b>2014</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>1.08%</b>	
Japan	1997–2001	45%	-2.0% (1998)	14%	29%	Failure to recognise NPLS as they occurred led to a prolonged recession
Thailand	1997–2000	10%	-10.5% (1998)	44%	33%	Impact was compounded by currency crisis and capital outflows
United States	2007–9	31%	-2.8% (2009)	4%	4%	Reasonably rapid NPL recognition but
United Kingdom	2007–9	25%	-5.2% (2009)	9%	4%	compounded by shock of Lehman's and international contagion

(a) Percentage of GDP. Output losses are computed as the cumulative sum of the differences between actual and trend real GDP over the dates given, expressed as a percentage of trend real GDP.

(b) Percentage of GDP. Fiscal costs are defined as gross fiscal outlays related to the restructuring of the financial sector. They include costs associated with bank recapitalisations but exclude asset purchases and direct liquidity assistance from the treasury.

(c) Percentage of total loans.

Sources: Reinhart and Rogoff (2009); Laeven and Valencia (2012); Financial Times, 28 August 2014 (see footnote 22); IMF World Economic Indicators database.

One critical determinant of output losses is the speed of recognition of bad debts in the banking system which, when rapid, ensures that banks are re-capitalised and able to support recovery through credit expansion. Conversely, delays in rapid resolution of bad debts – including through under-reporting of NPLs or where 'authorities' engage in 'a lengthy period of denial' (Reinhart and Rogoff, 2009: 289) – prolong financial crisis (Saxonhouse and Stern, 2004; Reinhart and Rogoff, 2009) and so unnecessarily increase output losses. This was the case in Japan – which in the early 1990s presents an arguable comparable situation to China today - where the authorities' dithered, waiting for a recovery in collapsed asset markets that never materialised, leading to slow recognition of bad debts, a failure to adequately recapitalise banks and a 'lost decade' of economic stagnation (Saxonhouse and Stern, 2004).

There is a danger of a similar scenario occurring in China. The administration of Premier Li Keqiang has objected to adopting a policy approach similar to that which helped to pull the Chinese economy out of debt burdens in 1998–2001: the strategy of 'growing out of debts', where economic growth underpinned by large-scale, debt-financed government infrastructure investment turned out to be much faster than the speed of debt accumulation. But despite this, there is also a failure to move ahead to aggressively manage the apparently accumulating bad debts, and this reluctance appears to be being reinforced by vested interests in the Chinese political economy.

The authorities appear wary of allowing GDP growth to decline – a likely outcome of a bad-debt clean-up. There have been a number of 'mini' stimulus packages in response to dips in GDP growth in 2014, including a 'mini' monetary stimulus of CNY 500 billion (US\$81 billion) in mid-September 2014.<sup>22</sup> Such repeated stimulus packages run the risk of creating a 'Greenspan put' or a what might be termed a 'Keqiang floor' – the belief by investors that any decline in asset markets will be met by government stimulus, thus encouraging further risk-taking. Again such policy seems to have been influenced by vested interests in the Chinese political economy.

There have been calls for policy makers to avoid this moral hazard by allowing real estate markets to fall, institutions to fail and investors to suffer losses (IMF, 2014a). However, such a policy runs the risk of creating a shock to the financial system that itself will be the cause of a disorderly unwind of risks and a full-blown crisis. Such a 'damned if you do, damned if you don't' policy dilemma was experienced in Europe and the United States where prolonged loose monetary policy

<sup>22</sup> *Financial Times*, 17 September 2014: 'PBoC to inject \$81bn into China's banking system' (<http://www.ft.com>).

resulted in excessively inflated asset markets, but the decision to finally allow Lehman's to fail was the trigger for the deepening in 2008 of the financial crisis (ICB, 2011).

## 2.6 Conclusion

The Third Plenum reform agenda of the Eighteenth Chinese Communist Party Congress held in February 2013 set out a 'road map' for reforms in China in the following ten years to address structural weaknesses in the economy, steer it away from an export-oriented, high investment growth pattern and transform it into a more sustainable and mature economy. Since the economy started to slow in 2012, state control and influence has strengthened as 'guo jin min tui' (the state sector advances, while the private sector retreats) has become the dominant policy.

However, these policy goals are being threatened by the recent build-up of risks in the financial sector in China stimulated by policy action between 2008 and 2013. The prospect of a slowdown in the real estate sector has added urgency to the need to address these vulnerabilities in the economy and the risks of contagion in the financial sector.

Critical to assessing the outlook for China is the state's ability to manage the unwind of risks in an orderly manner. The ability to do so is impacted positively by the following factors:

- China's financial system remains dominated by state-controlled or state-influenced banking institutions, making firm policy execution easier;
- the major banks' capital bases remain strong,<sup>23</sup> with average capital adequacy ratios of 12.2% at the end of March 2014;<sup>24</sup>
- the assumption of an implicit guarantee by the state for the banking system seems well-founded.

However, the following factors impact negatively on this ability;

- policy initiatives are being undermined and circumnavigated by gaps in regulation and regulatory arbitrage including offshore lending and credit expansion through the shadow banking system. This is particularly prevalent in real estate related lending;
- there is reluctance to fully recognise the losses associated with the implicit guarantee in major banks and it is likely that there is significant understatement of problems and bad debts;
- there has been the need for repeated 'mini' stimuli through further monetary easing, which threaten to further inflate real estate markets and make a 'soft landing' increasingly difficult to manage (the "Keqiang floor" problem).

The Third Plenum reforms are already leading to a moderation in economic growth. In mid-September 2014 Premier Li Keqiang stated that the growth target of 7.7% may be missed.<sup>25</sup> The most recent data for China show GDP growth falling moderately from 7.7% in 2013 to a forecast 7.4% in 2014 as investment has slowed in response to tighter credit conditions (IMF, 2014a; OECD, 2014).

The 2015 GDP growth forecast from the IMF is 7.0%. In our view, this forecast is overly optimistic. It assumes quick and successful 'efforts to rein in vulnerabilities and steady, if slow, implementation of reforms' (IMF, 2014a: 6) and the presence of 'sufficient buffers ... using public resources and state influence' (IMF, 2014a: 9).

In our view the IMF have underestimated the difficulty of achieving this. Although the buffers of public resources and state influence remain strong, the three identified challenges are delaying and

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<sup>23</sup> Comparisons are 10.1% for all countries and 10.9% for upper-middle-income countries (source: World Development Indicators, World Bank).

<sup>24</sup> Source: CBRC.

<sup>25</sup> Ibid.

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undermining the implementation of required policy action. This may be because they are opposed by vested interests within the Chinese political economy which undermine - not the ability - but the will of the State to act. More decisive policy action is required to write-off bad debts and recapitalise banks, stop the growth of the shadow banking system and wean the economy off repeated stimuli and the moral hazard in providing a 'Keqiang floor' to vested interests.

Further, the forecasts credibility is undermined by theoretical inadequacies of the DSGE models in relation to the financial systems.<sup>26</sup> The Dynamic Stochastic General Equilibrium (DSGE) models used by bodies, such as the IMF, fail to incorporate financial systems adequately. This has been recognised by the IMF (Blanchard, 2014). However, no alternative or modified model has yet gained a consensus for economic forecasting, making an alternative quantified forecast difficult.

Instead we use an approach of examining comparative financial crisis to provide insight into the possible impact of not taking such decisive action. The historical experience of financial crisis – including where there was very significant management by the state – is of total output losses between 10% to 45% and peak annual impact of between 2% and 10.5% of GDP (Table 2). They compare with the current IMF estimate for China of a mere 0.7% reduction in GDP growth from the original forecast for 2013 to the current forecast for 2015.

Based on the comparators in Table 2, it is our view that with decisive policy action to manage bad debts a more realistic impact on GDP will be a reduction in annual growth rates of approximately 2%, giving expected GDP growth in 2015–16 of approximately 5%. However, if action is indecisive – which to date has been the case – and the workout prolonged, the impact could be a much more significant long-term drag on GDP growth, possibly reducing GDP growth in 2015–16 below 4%.

In the next section of the paper, we will examine the implications of this scenario for LICs and LMICs.

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<sup>26</sup> The IMF model can be criticised from a theoretical basis in two major areas (i) IMF forecasting is based on dynamic stochastic general equilibrium (DSGE) models that do not adequately model the financial system, including shocks (Both endogenous and exogenous) making the IMF's modeling of financial shocks and policies inadequate. Inadequacies include an inability to model non-linear events – such as small shocks from real estate markets with large contagion effects within the financial system ie the current risk in China – nor important phenomena in banking crisis such as bank runs, liquidity mismatches or asymmetrical responses to capital adequacy regulations. The IMF have accepted these criticisms and are seeking to adjust models (For example, Blanchard, 2014); and (ii) IMF modelling of growth in the Chinese economy is based on free-market models which are not applicable. China's economic performance has been achieved through a market-deviating process ie an investment-led, or capital-deepening, development path that appears to contradict the principle of comparative advantage. To establish a causal relationship between these institutional-structural attributes and developmental performance requires theoretical insights that are different from the free-market model. (Dic Lo, commentary). We believe these theoretical issues warrant deeper exploration but are beyond the scope of this paper.

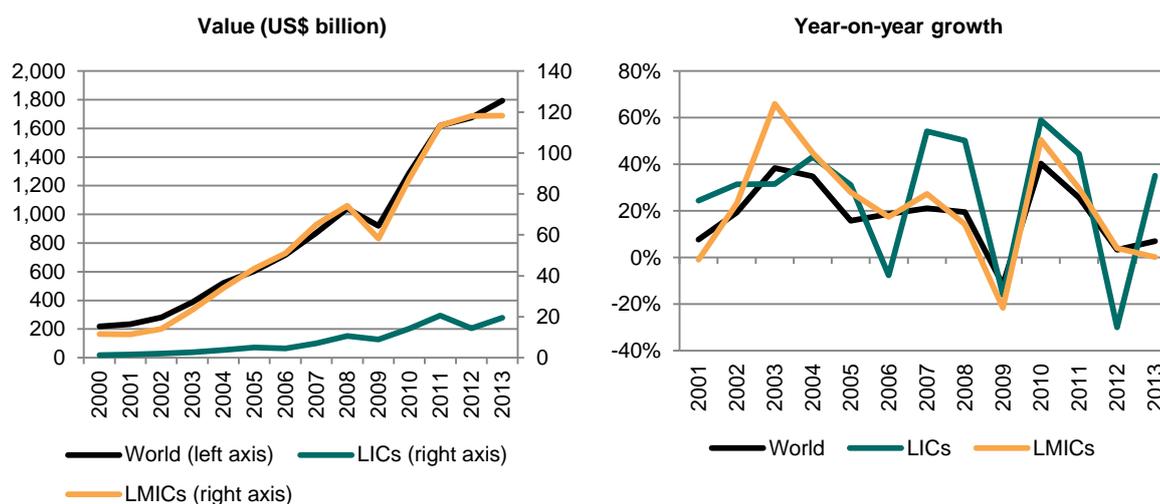
# 3 The vulnerabilities of LICs and LMICs to China's slowdown

## 3.1 Introduction

China's extraordinary economic growth has had many benefits for developing countries, particularly through growth in their exports to, and FDI inflows from, China. However, as discussed in Section 2 of this Bulletin, a slowdown in China is expected – in the short term because of the need to unwind imbalances in the financial system and in the medium term because of the structural rebalancing in the economy.

Economic transmission of this slowdown to low income countries (LICs) and lower middle income countries (LMICs) is expected to be primarily through their exports to China. LMICs have seen long-term growth in Chinese demand for their exports (Figure 16). Although this demand suffered a sharp decline in response to the shock of the financial crisis in advanced economies in 2007 and 2008, from 2009 to 2011 Chinese imports from LMICs resumed strong growth. Since 2011, in response to the slowdown in China, growth rates have been in decline for LMICs, illustrating their vulnerability. China's imports from LICs have a low base and have been volatile with an absolute decline in 2012 and growth in 2013.

**Figure 16: Chinese imports from the world, LICs and LMICs**



Source: Authors' calculations using data from the United Nations (UN) COMTRADE database.

Demand for imports is linked primarily to industrial and energy production (as primary raw materials, intermediate inputs and capital goods), with a less important link to consumption (Eichengreen et al., 2004; Aziz and Li, 2007), but these links are likely to be disrupted. Different

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sectors will be differentially impacted. We consider that the most important effects are likely to be as follows.

- Demand for material for construction, including iron ore, copper and other building materials, is highly likely to suffer a sharp shock from the decline in the real estate markets in the short term. In the medium term construction, and demand for construction materials, is likely to resume;
- Demand for inputs for China's domestic production, including for raw materials, intermediate goods and capital goods, has multiple dependences that make it less likely to be influenced by short-term shocks because the most important short-term dependence is demand in China's export markets in advanced countries (although this is currently weak). Structural shifts in the Chinese economy are expected to be more important, and may include shifts in production driven by wage differentials between China and alternative production locations offshore and the effects of China's rebalancing of its domestic demand away from investment and towards consumption;
- Agricultural imports are likely to be less affected in the short term because they are concentrated in basic food products (with some exceptions, e.g. timber). Medium-term demand from China for agricultural goods may shift towards higher-value imports such as meat and dairy products;
- Demand for consumer goods may be negatively affected in the short term, including through declines in employment. Demand is likely to increase for consumer goods in the medium and long term because of the rebalancing of the Chinese economy toward greater domestic consumption.

A second, but less important, transmission of changes in China's growth is via outward FDI flows. Outward FDI has accelerated rather than slowed down, with China being the third-largest global source of outward FDI in 2012 and 2013. In 2013 the value of its outward FDI was almost equal to its inward FDI. More than 55% of the stock of outward FDI by the end of 2013 was owned by SOEs.<sup>27</sup> Effects on FDI are likely to follow the sector patterns discussed in relation to exports, as follows:

- short-term reduced, but medium-term resumed, FDI relating to extraction of materials for construction and energy;
- medium-term growth in FDI relating to offshoring of production from China to lower-wage economies.

This section will discuss this framework in relation to LMICs and LICs and then present three case studies to illustrate in more detail the issues underlying both vulnerability and policy responses.

### 3.2 Lower-middle-income countries

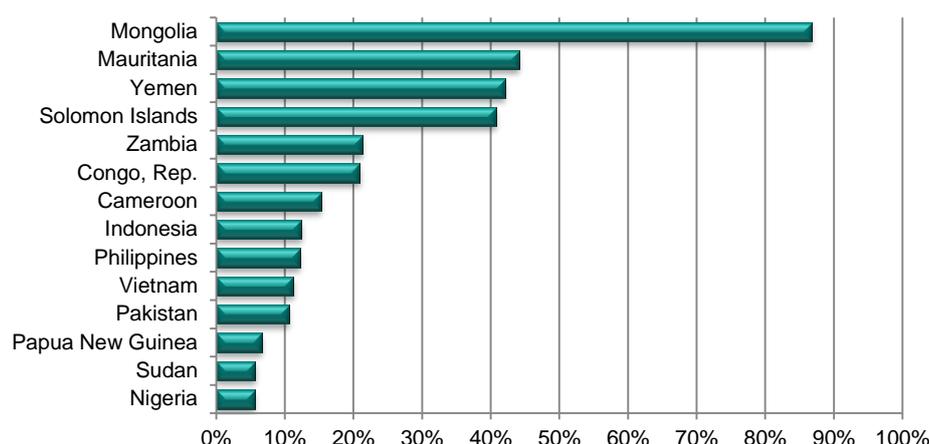
The effect on LMICs of a slowdown in China will depend on the structure of their exports, and vulnerability is related to both China's share of total exports and to exports being concentrated in particular sectors. Figure 17 and Table 3 show the LMICs that are most vulnerable,<sup>28</sup> detailing China's share in their exports (Figure 17) and the sector composition of exports to China (Table 3). The number of countries which are considered to be vulnerable is limited, but those that are vulnerable face considerable levels of exposure.

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<sup>27</sup> 2013 Statistical Communiqué of China's overseas direct investment", which was released jointly by the Ministry of Commerce, the National Bureau of Statistics and the State Administration of Foreign Exchange on 9th Sept 2014.).

<sup>28</sup> See Appendix 2 for analogous data for all LICs and LMICs, including those which are not considered vulnerable to a slowdown in the Chinese economy.

**Figure 17: LMIC exports to China as a percentage of total exports (by value)**



Notes:

(a) Only LMICs for which China accounts for 5% or more of the total value of exports are shown. The appendix includes all countries.

(b) Data are for the latest year available, which is either 2012 or 2013.

Source: Authors' calculations using data from the UN's COMTRADE database

**Table 3: Export composition of LMICs with high export dependence on China<sup>a</sup>**

(percentage of total exports to China, 2010–13)

	Agriculture	Mineral fuels and lubricants	Mineral ores and metals	Manufacturing <sup>b</sup>	Main sectors
Cameroon	55%	45%	0%	0%	Agriculture and fuels
Congo, Rep.	5%	93%	1%	0%	Fuels
Indonesia	24%	36%	21%	19%	Diversified
Mauritania	1%	10%	89%	0%	Ores
Mongolia*	3%	50%	47%	1%	Fuels and ores (coal and rare minerals)
Nigeria	2%	88%	7%	3%	Fuels (oil)
Pakistan	12%	0%	16%	71%	Manufacturing
Papua New Guinea	74%	19%	6%	1%	Agriculture
Philippines	3%	1%	14%	81%	Manufacturing
Solomon Islands*	100%	0%	0%	0%	Agriculture (timber)
Sudan	2%	98%	0%	0%	Fuels (oil)
Vietnam*	21%	15%	4%	60%	Manufacturing
Yemen	0%	99%	0%	1%	Fuels (oil)
Zambia	3%	0%	96%	0%	Ores (copper)

Notes:

(a) Defined as those having over 5% of total export value accounted for by exports to China.

(b) Manufacturing includes manufactured goods classified chiefly by material, machinery and transport equipment, miscellaneous manufactures and commodities not elsewhere specified.

\* Denotes country selected as case study in Section 2.4.

Source: Authors' calculations using data on Chinese imports from the UN's COMTRADE database.

The most vulnerable country in relation to China's demand for exports is Mongolia because of the very high proportion of its exports destined for China (87% of the total) and their concentration in extractive materials including construction materials (copper). Other LMICs which face similar exposure in relation to extractive exports include Yemen, Zambia, Congo, Cameroon and Mauritania.

LMICs with exposure through their manufacturing sectors include the Philippines, Vietnam and Pakistan. The Philippines has exposure to China, its third-largest export market, through its role as a

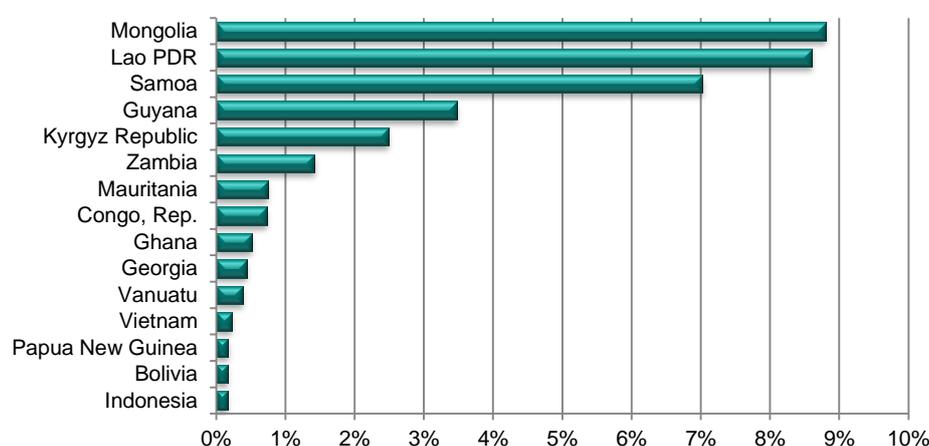
supplier of intermediate products in electronics (for example, integrated circuits, processing units and chips) which are closely related to China's export growth in finished electronics.<sup>29</sup> Similarly, Vietnam is exposed through its manufacture of intermediate goods, and is discussed further in the case studies in Section 3.4. Pakistan's main exports to China, which is its third-largest export market, are in diversified basic manufactured goods, including cotton yarn and fabric, leather goods and processed fish products<sup>30</sup> which can be related to both production and consumption in China. This makes it less vulnerable to a short-term slowdown in China and may present medium-term growth opportunities relating to the anticipated medium-term increases in consumption in China.

The Solomon Islands, Papua New Guinea and Cameroon are exposed through agricultural exports. Papua New Guinea is less vulnerable because its exports are concentrated in basic foods (coffee, cocoa, vegetable oils and fish), as is Cameroon because its exports are in agricultural goods for consumption and manufacturing (coffee and cotton). However the Solomon Islands is exposed in the short term because its main agricultural product is timber (see case study in Section 3.4).

LMICs can also be exposed to a slowdown in China through dependence on its FDI. FDI from China has grown in recent years, including from SOEs seeking resources such as coal, oil and rare metals, and from private companies seeking commercial opportunities through establishing assembly plants in target markets and seeking lower costs, especially in cheaper labour markets (Li, 2013).

A limited number of LMICs are moderately reliant on inward FDI from China (Figure 18). Mongolia has relied on China's FDI to develop its capital-intensive mining industries as well as trade and agro-processing. It is likely to be impacted if mining-related FDI contracts.<sup>31</sup> In the Lao People's Democratic Republic (Lao PDR), China's FDI has been important in a number of sectors, including the development of hydroelectric power, commercial agriculture and mining (Hiratsuka, 2006; Jalilian, 2013) that are less vulnerable to a slowdown. Transparency in relation to FDI in Samoa is very limited because of its status as a tax haven (Garnaut and Song, 2007).

**Figure 18: LMIC FDI from China as a percentage of GDP**



Note: Only countries with Chinese FDI share of GDP of over 0.1% are shown. Data are for 2012.

Sources: Chinese FDI flows – United Nations Conference on Trade and Development (UNCTAD), Bilateral FDI Statistics 2014; GDP – World Bank, World Development Indicators.

<sup>29</sup> Source: Philippines Export Confederation.

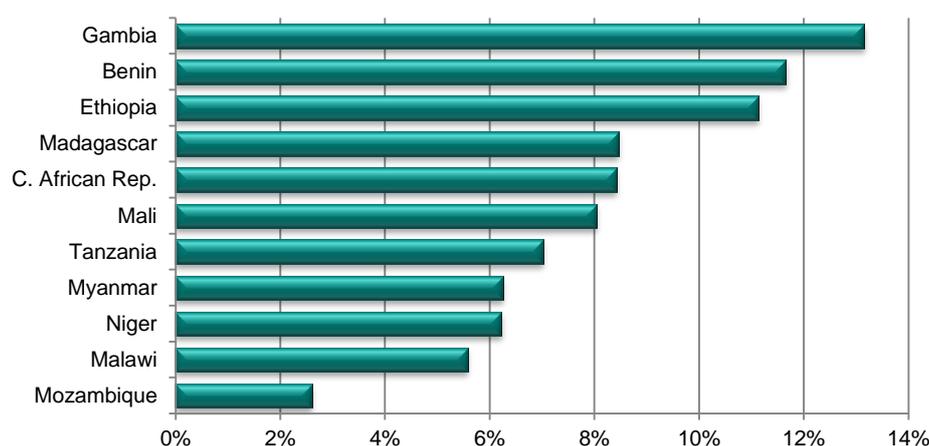
<sup>30</sup> Source: Trade Development Authority of Pakistan.

<sup>31</sup> Source: UNCTAD.

### 3.3 Low-income countries

China is generally a less important export market for LICs than for LMICs. For none of the LICs for which data are available<sup>32</sup> did China account for more than 14% of total exports in the latest data year, and for only three was its share 10% or more (Figure 19). These three countries' exports to China were concentrated primarily in agricultural products (Table 4). Medium-term, LICs may be able to develop new export markets to China. This is discussed further in Section 3.5.

**Figure 19: LIC exports to China as a percentage of total exports (by value)**



Notes:

(a) Only LICs for which China accounts for 2.5% or more of the total value of exports are shown. Appendix 2 includes all countries.

(b) Data are for the latest year available, which is either 2012 or 2013.

Source: Authors' calculations using data from the UN's COMTRADE database.

**Table 4: Export composition of LICs with high export dependence on China<sup>a</sup> (percentage of total exports to China, 2010–13)**

	Agriculture	Mineral fuels and lubricants	Mineral ores and metals	Manufacturing <sup>b</sup>
Benin	86%	0%	13%	0%
Ethiopia	86%	0%	4%	10%
Gambia	82%	0%	17%	0%

Notes:

(a) Defined as having over 10% of total export value accounted for by exports to China.

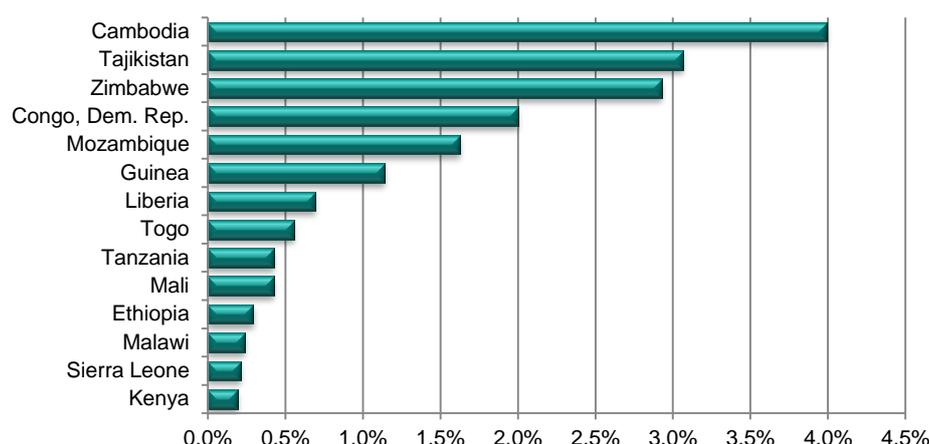
(b) Manufacturing includes manufactured goods classified chiefly by material, machinery and transport equipment, miscellaneous manufactures and commodities not elsewhere specified.

Source: Authors' calculations using data on Chinese imports from the UN's COMTRADE database.

LIC FDI inflows from China are also much more limited, representing less than 5% of GDP in all cases (Figure 20), limiting their vulnerability through this channel.

<sup>32</sup> i.e. all except: Chad, Democratic Republic of the Congo, Haiti, People's Democratic Republic of Korea, Liberia and Somalia.

**Figure 20: LIC FDI from China as a percentage of GDP**



*Note: Only countries with Chinese FDI share of GDP of over 0.1% are shown. Data are for 2012.*

*Sources: Chinese FDI flows – UNCTAD, Bilateral FDI Statistics 2014; GDP – World Bank, World Development Indicators.*

LICs' capital needs remain high but their ability to tap private capital, including FDI, is limited and consequently their need for development financing, including grants and concessional financing, continues (Tyson et al, 2014). Since 2007 China has become an important donor, both through multilateral development agencies and bilaterally. It is also anticipated that China's role in development financing will increase in importance, including through the new BRICS bank and the new bilateral infrastructure development bank which will be capitalised with US\$300 million.<sup>33</sup> LICs could potentially benefit from such initiatives. However, it is possible that a slowdown will reduce China's ability or willingness to provide development financing, especially concessional financing. However, there is currently little objective basis to assess more fully the path of China's development financing in the event of an economic slowdown.

### 3.4 Case studies of vulnerable countries

In Section 3.5 of this paper, policy options in relation to these issues will be discussed. However, before doing so, this sub-section presents case studies to illustrate in more detail the complexity of policy formulation.

Three case studies have been chosen, one in relation to each of the three export sectors identified in the discussion above in relation to LMICs, namely extractive industries, agricultural products and manufacturing. The case studies selected in relation to these sectors are Mongolia, the Solomon Islands and Vietnam, respectively.

#### 3.4.1 Case Study 1: Mongolia

##### **Resource-rich developing economy with high dependence on China as an export market and source of FDI**

Resource-rich developing countries (RRDCs<sup>34</sup>) face the challenges of transforming resource wealth into sustained development, while avoiding damaging boom–bust cycles that stem from volatility in natural resource revenues. As China has sought natural resources for its growing economy it has expanded imports from RRDCs. This has been positive for RRDCs because it has increased exports and supported global commodity prices. However, it has also made them vulnerable to a slowdown

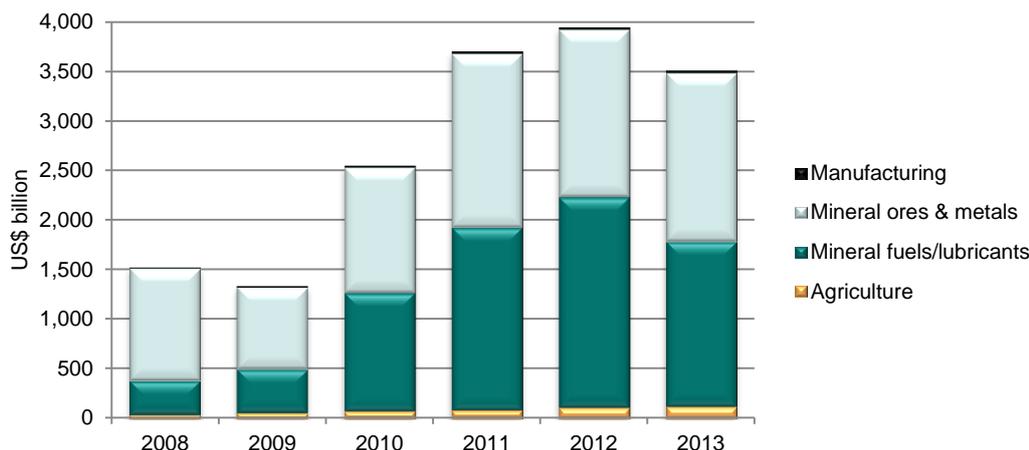
<sup>33</sup> Source: ODI interview material

<sup>34</sup> Identified by the IMF as: Angola, Bolivia, Cameroon, Chad, Dem. Rep. of Congo, Rep. of Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Guinea, Guyana, Indonesia, Iraq, Lao PDR, Liberia, Mali, Mauritania, Mongolia, Niger, Nigeria, Papua New Guinea, Sudan, Syrian Arab Republic, Timor-Leste, Turkmenistan, Uzbekistan, Vietnam, Yemen, and Zambia.

in the Chinese economy both through declining imports and through reduced demand in the Chinese economy creating a bearish market for commodity prices globally.

There are a number of countries which are vulnerable through commodity export channels, including Mongolia, Yemen, Zambia, Congo, Cameroon and Mauritania. Mongolia was chosen as an example case study because of its high dependence on commodity exports of extractive materials used in construction to China (Figure 21) and moderate dependence on FDI inflows from China, and because recent events have illustrated the difficulty of managing policy to balance the opportunities and exposure resulting from this dependence.

**Figure 21: Mongolia: exports to China by sector**



Source: Data on Chinese imports from the UN's COMTRADE database.

In the last decade Mongolia has seen strong economic growth and poverty reduction (Table 5). This has been driven by increasing demand for coal and minerals (including copper, iron ore, gold and uranium) which make up 85% of its total exports (all countries). China is its main market, accounting for 87% of exports in 2013. Post-2007, GDP growth has been strong, surging to 17.5% in 2011 – making it the fastest growing economy in Asia in that year. However, it fell to 12.4% in 2012, driven by weaker demand from China,<sup>35</sup> and continued to fall in 2013 and the first quarters of 2014, illustrating Mongolia's vulnerability to a slowdown in China.

Growth has also been supported by strong FDI inflows to the mining sector, including from foreign mining companies. Total inward FDI from all countries to Mongolia in 2011 exceeded US\$4.7 billion, more than 80% of which was accounted for by the mining sector. In 2012 total FDI fell by 17% to US\$3.9 billion and, as a proportion of GDP, fell from 54% to 43% due to project timing<sup>36</sup> and declining investor confidence owing to changes in investment law (IMF, 2014b; ADB, 2014). Estimates of FDI for 2013 are of a further decline of 55% (ADB, 2014). Inflows of FDI from China partially counter-balanced these declines from other countries, rising from US\$451 million in 2011 to US\$904 million in 2012 and from 5.1% to 8.8% of GDP (Table 5). However, a decline in FDI from China would add to contractionary pressures on the economy from reduced FDI from other countries.

<sup>35</sup> Exports of goods to China also fell because of new coal supplies in China and growing competition from other major coal-exporting countries

<sup>36</sup> The Oyu Tolgoi mine was completed in 2013.

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**Table 5: Mongolia: key economic indicators**

Indicator	2011	2012	2013
GDP growth	17.5%	12.4%	11.7%
GDP per capita	US\$3,181	US\$3,691	US\$4,056
Poverty headcount as % of population	33.7%	27.4%	n/a
FDI from China (% of GDP)	US\$451 mn (5.1%)	US\$904 mn (8.8%)	n/a
Exports to China (% of total exports)	n/a	n/a	US\$3.7 bn (86.7%)

Sources: GDP, GDP growth, GDP per capita and poverty headcount – World Bank, World Development Indicators; FDI – UNCTAD, Bilateral FDI Statistics 2014; Exports – UN COMTRADE database. (Note: Mongolia did not report trade data from 2007 to 2012).

The government responded to the slowing in GDP growth by a loosening of fiscal and monetary policy, but this resulted in a rising fiscal deficit, increasing public debt and currency weakness which then caused inflation to surge. The IMF/World Bank Debt Sustainability Analysis indicates that Mongolia is at moderate risk of debt distress (IMF, 2014b). Such policy responses can provide short-term anti-cyclical support for an economy but do not address structural issues and are not sustainable long term because of the public financing implications.

Mongolia established a fiscal stability fund that became active in 2013, with accompanying legislation that seeks to manage the fund prudently and transparently.<sup>37</sup> This legislation was partially a response to previous problems with disbursements for ‘pork barrel’ political usage that had plagued earlier resource-originated funds in Mongolia (Ognon, 2013; Robbins and Smith, 2014). The fund accumulated funds of US\$0.3 billion in 2013 (Natural Resource Governance Institute, 2014). It was expected to reach US\$0.5 billion in 2014 (Ognon, 2013).

Mongolia is also considering establishing a sovereign wealth fund for longer-term investment including pension provisions (Robbins and Smith, 2014). However to date no plans have been finalised<sup>38</sup>.

### 3.4.2 Case Study 2: the Solomon Islands

#### ***A small state with high dependence on agricultural exports to China***

The Solomon Islands has been chosen as a case study because of its small size relative to China, the importance to it of exports to China (which accounted for an average of 42% of its total exports between 2008 and 2012) and their concentration in agriculture. As such it is a good illustration of a country which has benefited from exporting to China but which is vulnerable to a downturn in China’s domestic demand. It also serves to illustrate the difficulty for small countries of formulating policies to develop export diversification when they are constrained by limited institutional capacity.

Since 2011 the Solomon Islands has faced decelerating GDP growth, reflecting declines in earnings from gold and agriculture (ADB, 2014).<sup>39</sup> Per capita income has increased but its growth has been restrained by strong population growth (ADB, 2014) (Table 6).

The Solomon Islands’ economy is heavily dependent upon agricultural exports, of which the main types are timber (including high-value timber from natural forests), fish, copra, cocoa and palm oil. China is its top export market, accounting for 40% and an estimated 50% of its exports in 2012 and 2013 respectively (IMF, 2014c) (Table 6), and almost all are agricultural (Figure 22).

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<sup>37</sup> The legislation was enacted in 2010 and includes rules for managing the fund based on international best practice, including fiscal rules and rules relating to deposits and withdrawals from the fund (Robbins and Smith, 2014).

<sup>38</sup> Ulan Bator Times, January 2014

<sup>39</sup> In 2014 the Solomon Islands economy was predicted to contract by 1.0% (ADB, 2014) because of cyclone-related flooding in Honiara and the capital city’s neighbouring provinces. The cyclone affected over 50,000 people, killing 22 and leaving roughly 9,000 homeless. It caused extensive damage to transport and other public infrastructure, private property, and gold and agricultural production (ADB, 2014).

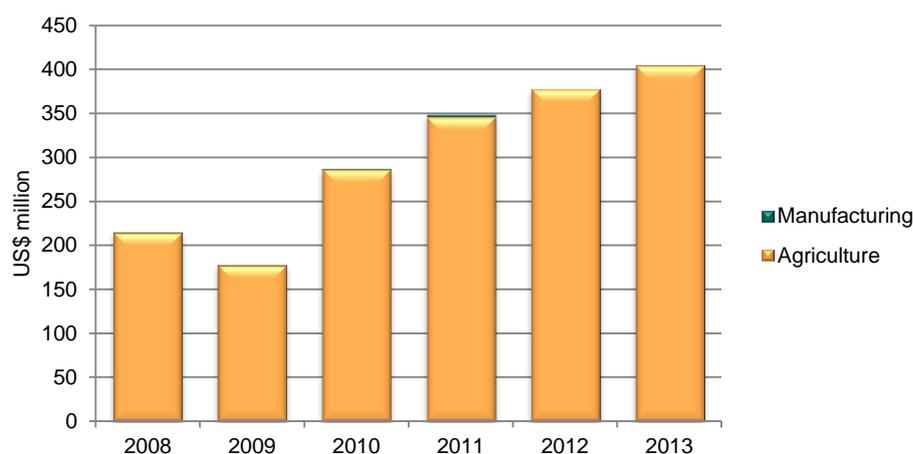
**Table 6: Solomon Islands: key economic indicators**

Indicator	2011	2012	2013
GDP growth	10.7%	4.9%	3.0%
GDP per capita	US\$1,614	US\$1,819	US\$1,954
Poverty headcount as % of population	n/a	n/a	n/a
FDI from China (% of GDP) <sup>a</sup>	n/a	n/a	n/a
Exports to China (% of total exports)	US\$193.1 mn (46.3%)	US\$197.5 mn (40.8%)	50% (IMF estimate)

Note:

(a) UNCTAD's Bilateral FDI Statistics 2014 show no FDI outflows from China to the Solomon Islands. Major investors are largely Australian mining companies rather than Chinese ones and so it can be assumed that FDI is largely non-Chinese. Sources: GDP, GDP growth, GDP per capita and poverty headcount – World Bank, World Development Indicators; Exports – UN COMTRADE database.

**Figure 22: Solomon Islands: exports to China by sector**



Source: Data on Chinese imports from the UN's COMTRADE database.

These factors expose the Solomon Islands to price and demand shocks in agricultural products, including through a slowdown in China. However, its agricultural exports are diversified. They include basic food products – fish, copra, cocoa and palm oil – whose demand is expected to be stable and inelastic in relation to Chinese GDP. This provides a short-term protective factor. Timber exports – mainly high-value tropical timbers for furniture and decorative interiors – are a major export to China and is likely to be elastic in relation to domestic demand.

Timber exports have been subject to problems. Concerns have been raised over the depletion of logging stocks because of unsustainable logging in natural forests. There have also been allegations of illegal logging, including avoidance of export taxes, and of corruption and fraud, including between domestic politicians and Chinese trading partners.

There have been recent moves to develop mining in natural resources, such as gold and nickel mining, but they have been subject to disputes between foreign investors and the government, and gold mining is considered close to capacity (IMF, 2014c).

The Solomon Islands is inherently disadvantaged by being a small island country. The Solomon Islands also faces other non-inherent challenges. These include poor infrastructure, with a need to develop energy supplies, transportation, and telecommunications. However, public finances are constrained, in part because they rely on tax revenues from a few natural-resource-based industries in which taxation collection has been poor.

The IMF considers that if the Solomon Islands were to experience economic shocks – such as a slowdown in China – it would raise the possibility of ‘moderate’ debt distress (IMF, 2014c).

Consequently, the Solomon Islands remain reliant on external grants, which accounted for 24% of GDP in 2013. The main donors have been Australia, New Zealand and the EU, non-Chinese bilateral sources, the World Bank and the Asian Development Bank (ADB).<sup>40</sup>

### 3.4.3 Case Study 3: Vietnam

#### *A less dependent, but more complex, economic relationship with China*

Vietnam is an interesting case study in relation to its vulnerability to a slowdown in China because of its less dependent, but more complex, economic relationship with China and because its exports to China are in manufacturing, a key area for the productivity growth that underlies structural transformation of an economy.

Vietnam has been successful in achieving export-led growth and poverty reduction since the opening of the economy in 1986 (Table 7).<sup>41</sup> Since 2007 Vietnam has developed a diversified export sector in terms of both products and markets, with strong growth in low-value manufacturing sectors for exports to a number of markets, including Europe and the United States (Khan, 2010).

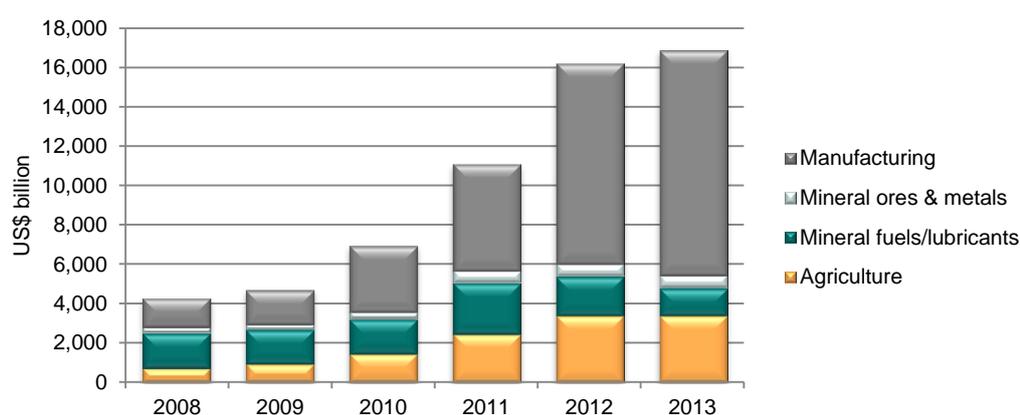
However, China is Vietnam's top export market and an important partner in bilateral trade. Vietnam typically exports raw materials and low-value-added manufactured goods to China (Figure 23) and imports high-value-added manufactured goods such as cars, motorbike parts, machinery, package equipment, pharmaceuticals and petroleum from China.<sup>42</sup> Growth in bilateral trade has been supported by the establishment of the free trade area between China and ten member states of the Association of Southeast Asian Nations (ASEAN) in 2010 and by investment in developing overland and sea transport corridors between China and Vietnam.<sup>43</sup>

**Table 7: Vietnam: key economic indicators**

Indicator	2011	2012	2013
GDP growth	6.2%	5.2%	5.4%
GDP per capita	US\$1,543	US\$1,755	US\$1,910
Poverty headcount as % of population	n/a	17.2%	n/a
FDI from China (% of GDP)	US\$189 mn (0.14%)	US\$349 mn (0.22%)	US\$2.3 bn* (1.34%)
Exports to China (% of total exports)	US\$11.6 bn (12.0%)	US\$12.8 bn (11.2%)	n/a

Sources: GDP, GDP growth, GDP per capita and poverty headcount – World Bank, World Development Indicators; FDI – UNCTAD, Bilateral FDI Statistics 2014 and (\*) Vietnam Ministry of Industry and Trade; Exports – UN COMTRADE database.

**Figure 23: Vietnam: exports to China by sector**



Source: Data on Chinese imports from the UN's COMTRADE database.

<sup>40</sup> Actual and expected donor financing in 2013 and 2014 is from Australia and New Zealand, the Asian Development Bank, the World Bank and the European Union (IMF, 2014c).

<sup>41</sup> Except during the Asia Crisis of 1997–8.

<sup>42</sup> Source: Vietnam Ministry of Industry and Trade.

<sup>43</sup> Ibid.

Vietnam's strong GDP growth has been supported by inward FDI, especially from manufacturing companies seeking to establish new plants in Vietnam to produce intermediate goods for export. Such FDI has helped pro-poor growth by creating low- and semi-skilled employment in the formal sector (Thoburn et al., 2007).

Prior to 2013 FDI was not sourced from China to any significant degree; other Asian countries (Japan, Korea, Taiwan and Hong Kong) were the main sources. In 2013 FDI from China increased sharply, from only US\$0.3 billion in 2012 to US\$2.3 billion (Table 7), bringing Chinese FDI to 7% of total FDI for 2013,<sup>44</sup> because the trend to relocate China's production to Vietnam to take advantage of wage differentials accelerated. This was assisted by the conclusion of a bilateral trading agreement, including agreement for China to construct a thermal power plant and industrial zones close to land borders between the two countries.<sup>45</sup>

As noted, Vietnam – with its greater diversification of export products and markets – is less dependent on China than are the other case study countries. However, it has greater complexity in its economic relationships with China, including not only exports but bilateral trade and FDI. In addition, because Vietnam is a supplier of intermediate goods for China's manufacturing it is also indirectly affected by domestic demand in China's key markets, including Europe and the United States.

Commentators, including the IMF and the World Bank, have discussed these risks. The near-term outlook is considered positive because of the relative diversification of exports, with Vietnam's growth likely to be supported if global demand is firm (IMF, 2012; World Bank, 2014). However longer-term continued growth depends on improvements in infrastructure and deepening of inter-regional and global trade (Aiyar et al., 2013). These factors are partially dependent upon partnership with China, which may be impacted negatively by a slowdown.

### 3.5 Policy options for vulnerable countries

The decades of growth in China have contributed to a number of the countries with exposure to the Chinese economy achieving graduation from LIC to LMIC status between 2000 and 2011, including Cameroon, Indonesia, Mongolia, Pakistan, Vietnam and Yemen (Sumner, 2011). Further, a high share of exports to China by LICs and LMICs has been a protective factor during the post-2007 recession in advanced economies (Songwe and Winkler, 2012).

China has also, in a more limited number of LMICs, contributed to pro-poor growth through low- or semi-skilled employment generation in higher-value manufacturing, as China has itself moved into higher-productivity manufacturing using imported capital goods and intermediate products. This has not occurred significantly in countries where export growth has been predominantly in primary commodities, as these provide limited employment generation (Gelb, 2012). This structural effect is important in formulating policy because some LMICs continue to have high poverty rates despite improvements in GDP (Sumner, 2011) and there is a need to create employment in order to ensure that growth is pro-poor (Basnett and Sen, 2013; te Velde and Kingombe, 2012).

However, as discussed, these opportunities have also created vulnerability to a slowdown in China's economy through exports. The extent of that vulnerability depends upon the export structure of each country.

Policy needs to address negative impacts of a short-term slowdown in exports to China. In reality, because the extended response times to restructure exports there may be little that can be done to change export composition or develop alternative markets.

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<sup>44</sup> 2014 figures are not available but may be negatively impacted by political tensions including anti-Chinese riots in Vietnam in 2014.

<sup>45</sup> However, despite bilateral trade, Vietnam's trade deficit with China is continuously rising and, along with territorial disputes relating to small islands and their offshore oil rights, this has caused political disputes between the two countries (IMF, 2012).

An alternative policy could be to use resource wealth to create stabilisation funds or sovereign wealth funds (Gelb, 2012). Such funds have already been established by a number of LMICs, especially those with commodity endowments, making the short-term use of such funds possible (Table 8). The funds offer an opportunity for countries to use funds for the public interest, including smoothing fiscal spending, financing national development needs or savings for long-term needs. This could include stabilization of the impact from slowing in the Chinese economy.

**Table 8: Selected stabilisation and sovereign wealth funds**

Country	Fund name	Fund value (US\$ billions) as at July 2014
Ghana*	Heritage Fund	0.13
Ghana*	Stabilisation Fund	0.32
Gabon	Sovereign Wealth Fund	0.40
Kiribati	Revenue Equalisation Reserve Fund	0.65
Indonesia*	Pusat Investasi Pemerintah.	2.00
Mauritania*	National Fund for Hydrocarbon Reserves	0.09
Mongolia*	Fiscal Stability Fund	0.21
Nigeria*	Sovereign Investment Authority	0.98
Papua New Guinea*	Sovereign Wealth Fund	n/a
Sao Tome and Principe	National Oil Account	n/a
Timor Leste	Petroleum Fund	15.7

Note: \* denotes countries identified in Section 3 as having export or FDI related vulnerability to a slowdown in China. Sources: Natural Resource Governance Institute; Pusat Investasi Pemerintah.

However they require strong governance to ensure funds are used for appropriate purposes, without which ‘patronage and nepotism’ can occur (Natural Resource Governance Institute, 2014). Governance needs include clear objectives, rules for deposits and withdrawals, investment mandates and transparency (ibid.). Although developing countries with resource wealth could benefit from such funds – particularly in relation to stabilisation of fiscal spending and development financing – accompanying institutional capacity to enact these governance structures is needed.

Longer-term LICs and LMICs need to develop export strategies that allow them to protect themselves against the slowdown in growth in China and – critically - allow them to seize the opportunity offered by the anticipated structural changes in its economy, including employment creation. This includes anticipated growth in consumption, as China rebalances its economy away from investment towards consumption, and changes in consumption patterns as China’s per capita GDP continues to grow.

Some possible specific options for LICs and LMICs to consider include;

- Specialisation and upgrading of established resource-based sectors through shifting to higher-productivity, but primary-based, products and services. This allows exporting countries to both “add-value” to their primary products and to create low-skill employment as many of these processing methods are labour intensive. Successes have already been achieved in agri-processing in horticulture, floriculture and fresh fish (Gelb, 2012; Kaulich, 2012). Similar strategies could be developed for commodities such as oil or metal processing.
- Export diversification or specialisation is supported where such developments are linked into global value chains (Keane, 2014; Nicita et al., 2013) because they offer an opportunity to increase the ‘value-add’ of exports. There is an opportunity for countries to assume production currently located in China. This has already happened in a number of Asian countries (as discussed earlier), driven by wage growth in China, and the trend can be expected to continue. However, this strategy requires efficiency and competence in exporting countries, including in meeting the requirements of buyers and establishing upgraded infrastructure (such as rapid transport facilities).

Implementing such requirements can be challenging for LMICs and LICs because they lack the investment capital and knowhow required (Nicita et al., 2013).

- Export strategies could take advantage of the recent growth and potential of inter-regional trade. These strategies are being supported in Africa and Asia by international financial institutions such as the World Bank, the Asian Development Bank and the African Development Bank (Tyson and te Velde, 2014).
- Export diversification can also be developed such as, for example, tourism in sub-Saharan Africa and clothing and footwear manufacturing in Developing Europe, Asia and sub-Saharan Africa.

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## 4. Conclusion

The Chinese economy is slowing. This is part of a managed rebalancing in accordance with the Third Plenum reforms announced in 2013. Managing the rebalancing is being challenged by risks that have built up in the financial system and more decisive policy action is needed. There remains the possibility of a financial crisis in China. However, on balance, we conclude that risks in the financial system will be unwound in an orderly manner but that this process will create a deeper than expected drag on GDP growth.

The slowdown has important implications for LMICs dependent upon China for their exports and inflows of FDI. The countries that are vulnerable are those with a high share of total exports going to China and with export concentrations in extractive materials, agricultural products and manufacturing.

In responding to these vulnerabilities, short-term options are limited because of the lead-time for changes in export structures. More realistic is macro-economic management, including through use of stabilization and sovereign wealth funds.

Longer-term, countries need to respond to the structural changes in the Chinese economy – which present risks but also great opportunities including for pro-poor growth - including increased absolute and shifts in consumption patterns in China and global and regional production chains.

National governments and development agencies need to consider how they can support this. Improving infrastructure and support of the private sector are important. However, currently policy responses are hampered by a lack of empirical evidence relating to import elasticity's in Chinese markets, particularly in consumer markets, and a less than complete understanding of how consumption patterns in China are likely to change as the economy is rebalanced and per capita incomes increase. Further policy-orientated research in this area is needed.

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# Appendix 1. Indicative list of Tier I, II and III cities

Tier I	Beijing, Shanghai, Guangzhou, Shengzhen
Weak Tier I	Tianjin
Strong Tier II	Chongqing, Nanjing, Wuhan, Shenyang, Xi'an, Chengdu, Hangzhou, Qingdao, Dalian, Ningbo
Medium Tier II	Jinan, Ha'erbin, Changchun, Xiamen, Zhegnzhou, Changsha, Fuzhou, Urumqi, Kunming, Lanzhou, Suzhou, Wuxi
Weak Tier II	Nanchang, Guiyang, Nanning, Hefei, Taiyuan, Shijiazhuang, Hohhot, Foshan, Dongguan, Tangshan, Yantai, Quanzhou, Baotou
Strong Tier III	Yinchuan, Xining, Haikou, Luoyang, Wenzhou, Zhuhai, Shantou
Medium Tier III	Lhasa, Baoding, Qinhuangtao and so on
Weak Tier III	Benxi, Liaoyang, Jinzhou, Yinkou and so on

Source: Baidu Zhidao ([http://zhidao.baidu.com/link?url=Yi0nsRLqRYUM8bRlIKnr\\_0kpVzTxNT7MOjh2hVwoB2B-68IAX-QvoAKAxzmAzaQxB3m2fObEibsAWvyQEMrYhK](http://zhidao.baidu.com/link?url=Yi0nsRLqRYUM8bRlIKnr_0kpVzTxNT7MOjh2hVwoB2B-68IAX-QvoAKAxzmAzaQxB3m2fObEibsAWvyQEMrYhK))

# Appendix 2. LIC and LMIC exports to, and FDI from, China

**Table A1: LMIC exports to China as a percentage of total exports**

LMIC	China's share of total exports	Exports to World (US\$ 1000)	Exports to China (US\$ 1000)	Data year
Mongolia	86.7%	4,269,056	3,700,269	2013
Mauritania	44.1%	2,623,807	1,155,814	2012
Yemen	42.1%	6,864,729	2,888,832	2012
Solomon Islands	40.8%	483,903	197,460	2012
Zambia	21.3%	10,594,069	2,256,991	2013
Congo, Rep.	20.9%	6,917,585	1,446,689	2010
Cameroon	15.3%	4,274,981	652,972	2012
Indonesia	12.4%	182,551,754	22,601,487	2013
Philippines	12.2%	53,978,268	6,582,557	2013
Vietnam	11.2%	114,529,171	12,835,976	2012
Pakistan	10.5%	25,023,264	2,634,783	2013
Papua New Guinea	6.7%	4,517,686	302,113	2012
Sudan	5.7%	3,381,466	191,856	2012
Nigeria	5.6%	143,151,183	8,038,724	2012
India	4.9%	336,611,389	16,416,825	2013
Armenia	4.9%	1,359,044	67,064	2013
Ukraine	4.3%	63,320,469	2,726,653	2013
Kyrgyz Republic	4.1%	1,437,124	58,289	2012
Ghana	3.3%	18,761,239	628,052	2012
Bolivia	2.7%	11,793,372	314,422	2012
Honduras	2.5%	5,006,940	123,761	2012
Egypt, Arab Rep.	1.9%	28,779,409	560,000	2013
Georgia	1.8%	1,854,725	33,625	2013
Guatemala	1.7%	10,065,329	167,220	2013
Morocco	1.3%	21,417,184	278,809	2012
Sri Lanka	1.2%	9,180,064	108,110	2012
Cote d'Ivoire	1.0%	10,860,995	108,870	2012
Guyana	0.7%	1,056,120	7,443	2013
Syrian Arab Republic	0.7%	11,352,924	81,413	2010
Paraguay	0.6%	9,432,252	57,107	2013
Senegal	0.6%	2,531,665	15,820	2012
Moldova	0.4%	1,617,274	5,768	2013
Nicaragua	0.4%	2,690,040	10,580	2012
Vanuatu	0.4%	63,532	257	2011
Samoa	0.3%	47,229	137	2013
Lesotho	0.3%	628,128	2,180	2009
El Salvador	0.1%	5,491,094	5,400	2013
Bhutan	0.0%	452,963	133	2011

LMIC	China's share of total exports	Exports to World (US\$ 1000)	Exports to China (US\$ 1000)	Data year
Djibouti	0.0%	157,483	7	2009
East Timor	0.0%	8,093	0	2005
Swaziland	0.0%	1,086,382	4	2007
Sao Tome and Principe	0.0%	6,938	-	2013
Occ.Pal.Terr	0.0%	556,025	-	2012
Kiribati	0.0%	5,816	-	2012
Cape Verde	0.0%	69,228	-	2013

Source: UN COMTRADE database.

**Table A2: LMIC FDI from China as a percentage of GDP**

LMIC	FDI inflows from China % of GDP	FDI inflows from China (US\$ mn)	Year
Mongolia	8.80%	904	2012
Lao PDR	8.59%	809	2012
Samoa	7.02%	48	2012
Guyana	3.47%	99	2012
Kyrgyz Republic	2.49%	161	2012
Zambia	1.42%	292	2012
Mauritania	0.74%	31	2012
Congo, Rep.	0.72%	99	2012
Ghana	0.51%	208	2012
Georgia	0.44%	69	2012
Vanuatu	0.38%	3	2012
Vietnam	0.22%	349	2012
Papua New Guinea	0.17%	26	2012
Bolivia	0.16%	43	2012
Indonesia	0.16%	1,361	2012
Nigeria	0.07%	333	2012
Cameroon	0.07%	18	2012
Egypt, Arab Rep.	0.05%	119	2012
Pakistan	0.04%	89	2012
Yemen, Rep.	0.04%	14	2012
Philippines	0.03%	75	2012
Sri Lanka	0.03%	17	2012
Senegal	0.03%	4	2012
Cote d'Ivoire	0.02%	4	2012
India	0.01%	277	2012
Paraguay	0.00%	1	2012
Ukraine	0.00%	2	2012
Morocco	0.00%	1	2012
Sudan	0.00%	-2	2012
Honduras	-0.01%	-1	2008
Syrian Arab Republic	-0.03%	-11	2007
Uzbekistan	-0.05%	-27	2012

Source: Chinese FDI flows – UNCTAD, Bilateral FDI Statistics 2014; GDP – World Bank, World Development Indicators.

**Table A3: LIC exports to China as a percentage of total exports**

LIC	China's share of total exports	Exports to World (US\$ 1000)	Exports to China (US\$ 1000)	Data year
Gambia	13.2%	11,222	1,476	2011
Benin	11.7%	434,474	50,622	2010
Ethiopia	11.1%	2,874,297	319,861	2012
Madagascar	8.5%	1,185,420	100,265	2012
C. African Rep.	8.4%	103,937	8,745	2011
Mali	8.0%	2,453,847	197,356	2012
Tanzania	7.0%	4,412,549	309,420	2013
Myanmar	6.2%	7,625,237	476,272	2010
Niger	6.2%	1,337,151	83,176	2013
Malawi	5.6%	1,206,017	67,311	2013
Mozambique	2.6%	4,023,719	104,980	2013
Cambodia	2.3%	7,838,101	182,896	2012
Togo	2.3%	672,941	15,542	2013
Uganda	2.2%	1,701,698	37,728	2013
Comoros	2.2%	12,588	277	2009
Bangladesh	1.7%	13,142,953	222,218	2007
Guinea	1.4%	1,430,535	19,920	2008
Nepal	1.1%	907,634	10,214	2011
Afghanistan	1.1%	428,903	4,796	2012
Zimbabwe	0.9%	3,415,935	30,903	2013
Eritrea	0.9%	5,670	49	2003
Kenya	0.6%	5,169,112	31,680	2010
Burkina Faso	0.2%	2,312,412	4,597	2011
Sierra Leone	0.1%	41,422	46	2002

Source: UN COMTRADE database.

**Table A4: LIC FDI from China as a percentage of GDP**

LIC	FDI inflows from China % of GDP	FDI inflows from China (US\$ mn)	Year
Cambodia	3.99%	560	2012
Tajikistan	3.07%	234	2012
Zimbabwe	2.93%	287	2012
Congo, Dem. Rep.	2.00%	344	2012
Mozambique	1.62%	231	2012
Guinea	1.14%	64	2012
Liberia	0.69%	12	2012
Togo	0.55%	21	2012
Tanzania	0.42%	120	2012
Mali	0.42%	44	2012
Ethiopia	0.29%	122	2012
Malawi	0.23%	10	2012
Sierra Leone	0.21%	8	2012
Kenya	0.19%	79	2012
Afghanistan	0.09%	18	2012
Madagascar	0.08%	8	2012
Rwanda	0.07%	5	2012
Eritrea	0.06%	2	2012
Uganda	0.05%	10	2012
Nepal	0.04%	8	2012
Bangladesh	0.03%	33	2012
Niger	-2.89%	-196	2012

Note: GDP data are not available for Myanmar, which received FDI inflows from China of US\$749 million in 2012.

Source: Chinese FDI flows – UNCTAD, Bilateral FDI Statistics 2014; GDP – World Bank, World Development Indicators.



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ISSN (online): 1759-2917

ISSN (print): 1759-2909

Cover image: Judith Tyson

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This material has been funded by UK Aid from the UK Government, however the views expressed do not necessarily reflect the UK Government's official policies.