

Bringing down the Great Wall?

Global implications of capital account liberalisation in China

By John Hooley of the Bank's International Finance Division.⁽¹⁾

- Capital account liberalisation in China and internationalisation of the renminbi would have a large impact on the global financial system. An illustrative thought experiment suggests China's gross international investment position could increase from around 5% to 30% of world GDP by 2025.
- The UK financial system is likely to be particularly affected. The Bank is working with the People's Bank of China to ensure a successful and stable development of renminbi activity in London.

Overview

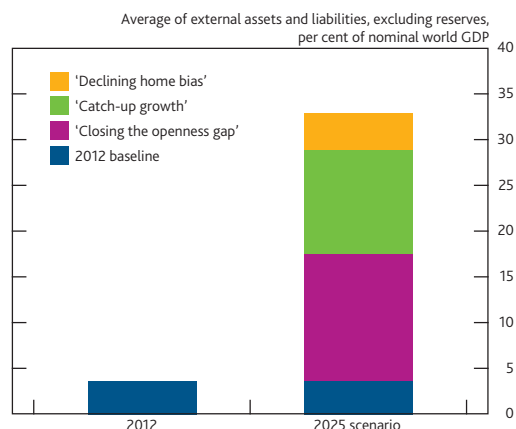
China's financial system is still very closed relative to other economies. But there are increasing signs the authorities are in favour of relaxing capital controls and promoting greater use of the Chinese currency abroad. Timescales are still uncertain, although full liberalisation could potentially occur within a decade.

If China does liberalise, few other events over the next decade are likely to have more impact on the shape of the global financial system. This article sets out a conceptual framework, identifying three separate factors which help explain why the scale of the subsequent movements in capital flows — both into and out of China — could be very large relative to the size of the world economy:

- 'Closing the openness gap'. There is a large gap between China's current level of openness and that of advanced economies. Liberalisation will lead this gap to close, generating large flows in the process.
- 'Catch-up growth'. China's economic growth is expected to be relatively high over the next decade. So even if China's capital flows do not increase relative to its own economy, they will relative to the world economy.
- 'Declining home bias'. Prior to the recent crisis, the global financial system became increasingly integrated. A resumption of these trends over coming decades would lead capital flows to increase both in China and globally.

Based on these three factors and some simple but plausible assumptions, the **summary chart** shows a hypothetical scenario for China's global financial integration in 2025. It

Summary chart Potential impact of capital account liberalisation on China's international investment position



Sources: International Monetary Fund, Speller *et al* (2011) and Bank calculations.

shows that China's gross international investment position could increase from around 5% to over 30% of world GDP.

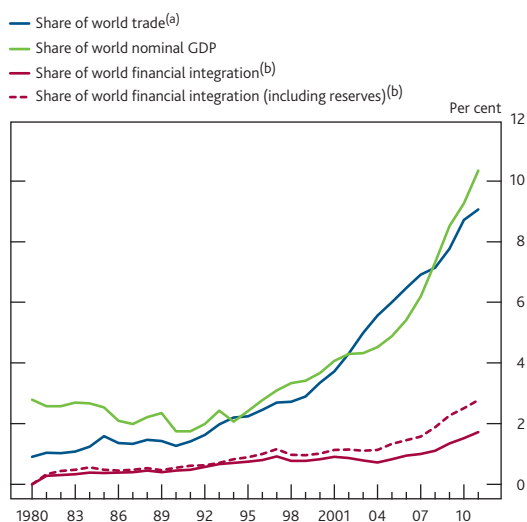
The global financial integration of China has the potential to be a force for economic growth and financial stability not just in China but also globally. The UK economy is likely to be relatively more affected than most due to its large and open financial system and existing strong financial linkages with China. However, the process of liberalisation would also be accompanied by risks which national authorities and international bodies will need to monitor and take appropriate policy actions to mitigate. The Bank is also working with the People's Bank of China to help ensure that renminbi activity in the United Kingdom develops successfully within a stable financial system.

(1) The author would like to thank Carsten Jung for his help in producing this article.

China's integration into the global economy over the past 30 years has been remarkable. By the end of 2012, it was the world's second largest economy and its largest exporter, having occupied only the sixth and eighth positions, respectively, at the turn of the century. China's economic rise has impacted on other economies through trade links and through its influence on global commodity prices.

But China's financial system is still very closed to the outside world.⁽¹⁾ Compared with a 10% share of world GDP and a 9% share of world trade in 2011, China had less than a 3% share of global holdings of overseas assets and liabilities, even when China's large holdings of foreign exchange reserves are included (**Chart 1**). The Chinese banking system is the largest in the world by total assets, but is also one of the most domestically focused. And the Chinese currency, the renminbi (RMB), is still little used for transactions outside China.

Chart 1 China's international integration in GDP, trade and finance



Sources: International Monetary Fund *World Economic Outlook* (IMF WEO), Lane and Milesi-Ferretti (2007) and Bank calculations.

(a) Ratio of the sum of exports and imports to world trade.

(b) Ratio of the sum of external assets and liabilities to world external assets and liabilities.

This striking discrepancy between China's economic and financial integration with the rest of the world is a result of tight restrictions placed on the flow of funds across its borders, or 'capital controls'. But this discrepancy is unlikely to last. There are increasing signs the Chinese authorities are in favour of greater financial openness, or 'capital account liberalisation' as China switches to a new model of growth. This was an explicit goal of the Chinese government's twelfth five-year plan in 2012, and was reaffirmed during the Third Plenum (a policymaking conference) in November 2013. Although timescales are uncertain, in 2012 the People's Bank of China (PBoC) — China's central bank — indicated that full liberalisation could occur over the next decade.

China's size means that any substantial loosening of its capital controls will matter for the rest of the world. If the process is

successful, it could lead to more balanced and sustainable growth in China and help to rebalance global demand. Integration of China in world financial markets could also lead to enhanced risk-sharing and liquidity. But the historical record for other countries suggests that episodes of capital account liberalisation can also be accompanied by risks to domestic economic and financial stability which, should they crystallise in China, would also likely impact the stability of the global financial system. And even if the risks from liberalisation are successfully mitigated, policymakers will still need to be aware of the changes in the structure of global capital flows that are likely to result.

This article discusses these potential developments in more detail. The first section sets out the context, assessing how financially open China is today, and also looks at existing financial links with the United Kingdom. The article then considers the changes in capital flows that might arise if China opens its capital account. The final section looks at the potential implications for China and the rest of the world. A box assesses recent developments in offshore renminbi activity in the United Kingdom.

China's current financial integration

How open is China today to the flow of capital across its borders? This is an important issue to consider, since the more financially closed China is right now, the bigger the potential splash to come.

To help answer this question, it is useful to first define some terminology. Funds flowing across a country's borders generally relate to one of three types of transaction, which are recorded in separate 'accounts' in the balance of payments: the 'current account' records transactions related to the sale or purchase of goods and services (for example, a Chinese firm receiving payment for exporting a computer to a UK firm); the 'reserve account' records the sale and purchase of foreign exchange reserves by central banks (for example, purchases of US Treasury bonds by the PBoC); and the 'capital account' records transactions related to the accumulation of financial assets by residents other than the central bank (for example, the purchase of shares of a FTSE company by a Chinese household).⁽²⁾

The definition of 'capital flows' in this article relates to the transactions in the capital account only, while 'capital controls' refers to restrictions on those transactions. Both the purchase and sale of overseas financial assets by Chinese residents and

(1) For the purposes of this article, 'China' refers to mainland China, that is, excluding the Special Administrative Region of Hong Kong. Hong Kong is, of course, significantly integrated with the rest of the world financially.

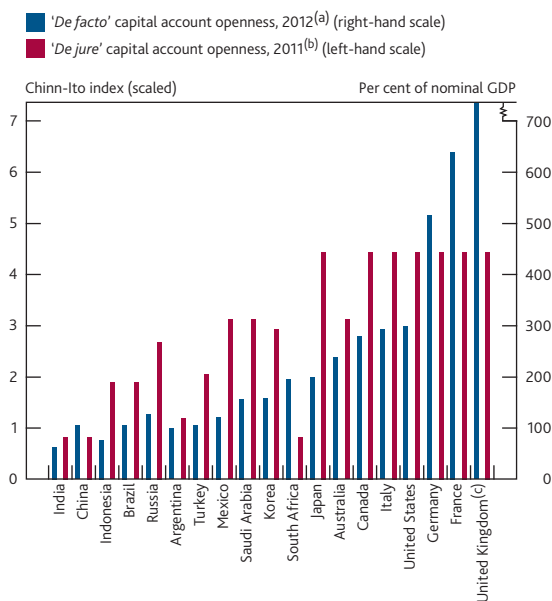
(2) According to the IMF balance of payments definition, the 'capital account' covers only a small set of transactions relating to transfers (for example, debt forgiveness), whereas the accumulation of financial assets by non-monetary authorities is recorded in the 'financial account'. However, the 'capital account' is the more commonly used term in the literature for the latter type of transactions.

the purchase and sale of Chinese assets by foreigners is subject to a myriad of such controls. In contrast, transactions on the current and reserve accounts are not subject to the same degree of control.

Two main methods exist for quantifying the extent of a country's capital controls, although each has shortcomings (Quinn, Schindler and Toyoda (2011)). 'De jure' measures are based on the number of transaction items within the capital account that are subject to restrictions. 'De facto' measures proxy effectiveness of capital controls with the actual stock or flow of a country's external assets and liabilities — the idea being that if a country has accumulated a lot of external assets or liabilities, its capital controls are not likely to be very tight.

De jure and *de facto* measures of capital account openness for the G20 economies are shown in **Chart 2**. Although the two measures sometimes give slightly different messages about the openness of a particular country, two broad conclusions can be made. First, China's capital controls appear tighter than every country apart from India.⁽¹⁾ And second, the advanced economies appear several times more open than China. This suggests that full liberalisation of capital controls in China could potentially lead to very large changes in flows.

Chart 2 Measures of capital account openness for G20 economies



Sources: Chinn and Ito (2008), IMF *International Financial Statistics (IFS)* and Bank calculations.

(a) Sum of external assets and liabilities as a share of own GDP.

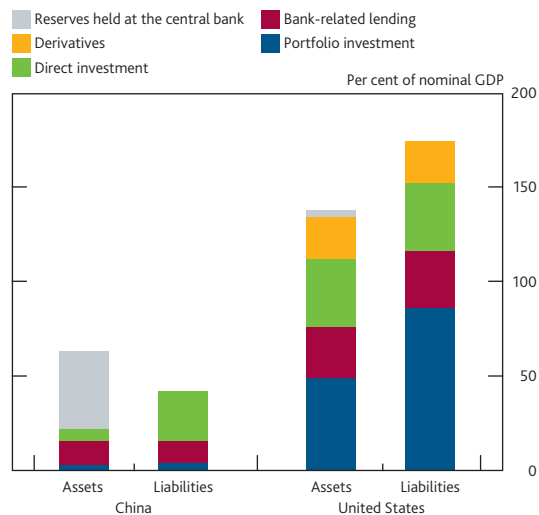
(b) Chinn-Ito index.

(c) The United Kingdom has a 'de facto' openness of over 1,300% of GDP, due to its status as an international financial centre.

Within China's overall regime of capital controls, different types of flow are subject to varying degrees of restriction, with the extent of controls differing according to whether they are inflows or outflows, as well as by asset class. To illustrate this, **Chart 3** shows China's gross international investment position

(that is, the stock of China's financial assets and liabilities with the rest of the world) in 2012. These stocks represent the accumulation of cross-border capital flows over time, including any valuation changes, and are decomposed into the main categories of cross-border flows: foreign direct investment (FDI), portfolio investment (mainly equity and fixed-income securities) and other investment (mainly bank-related lending) and provides a comparison with the United States.⁽²⁾

Chart 3 International investment positions: China and the United States, 2012



Note: The nominal value of the stock of external assets (liabilities) at a particular point in time represents accumulated capital outflows (inflows), including any valuation changes.

Sources: IMF *IFS* and Bank calculations.

Three things in particular stand out from the composition of China's international investment position. First, external liabilities are much larger than external assets (excluding foreign exchange reserves). This is consistent with looser restrictions placed on capital inflows relative to outflows. China's stock of foreign exchange reserves, at over 40% of GDP, is very high but should be excluded from measures of China's financial integration, since the high level of reserve accumulation (much of it into US Treasury securities) by the central bank is partly a reflection of the closed capital account.⁽³⁾ Second, China's FDI liabilities, at 26% of GDP, are similar to the equivalent share for the United States (36% GDP), whereas all other types of investment are much smaller. This reflects the important role played by inward direct investment in China's growth strategy and its associated favourable regulatory treatment. Third, the biggest difference between the international investment positions of China and the United States is in portfolio investment. The stock of outward portfolio investment is 3% of GDP in China, compared with 49% in the United States and the contrast is

(1) Ma and McCauley (2013) conclude that India is slightly more open than China, however, based on a broader set of openness metrics.

(2) The United States is chosen as a comparator, since it is one of the most open economies but also closest in economic size to China.

(3) China is estimated to hold around 12% of the entire stock of US Treasuries at end-2012.

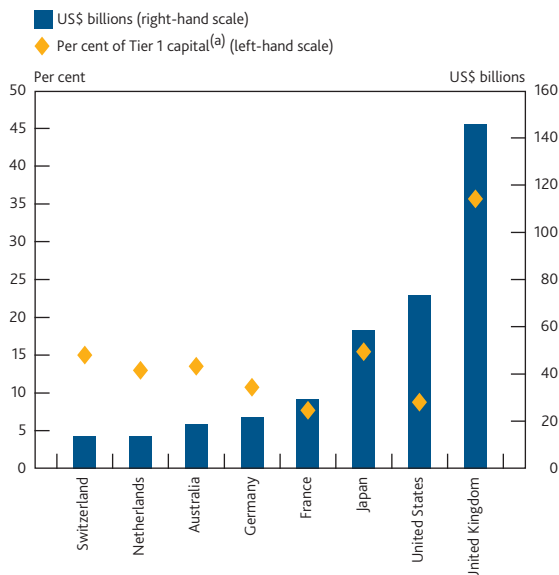
even starker for inward portfolio investment (4% compared with 86% in the United States).

Although China's capital account is still very closed relative to other economies, the situation is starting to change. Since the 2008 global crisis there has been a relaxation of controls in several areas. For example, investment quotas for the existing schemes governing foreign currency portfolio (equity and bond) inflows and outflows have been increased, while new channels for inward RMB portfolio investment have been introduced.⁽¹⁾ Pilot schemes have also been set up, introducing less stringent capital controls in specific locations in China. These include the cross-border scheme between Qianhai and Hong Kong and the Free Trade Zone in Shanghai.

Existing financial links between China and the United Kingdom

Although China's financial opening up will have implications for many economies, the United Kingdom is likely to be relatively more affected, given its large and very open financial system.⁽²⁾ UK banks' claims on mainland China are larger than any other banking system's, both in absolute terms and relative to capital (Chart 4). A large share of these claims are concentrated in HSBC and Standard Chartered, who historically have had a large Asian presence.⁽³⁾ The United Kingdom's FDI and portfolio linkages with China have also grown rapidly in recent years, albeit from a low base.

Chart 4 Claims on China of major banking systems, 2012



Sources: Bank for International Settlements (BIS) consolidated database, SNL Financial and Bank calculations.

(a) Predominantly common stock and retained earnings.

The City of London is rapidly developing as an offshore centre for the renminbi. A recent survey documented strong growth in renminbi-denominated foreign exchange trading and trade finance in 2012 and estimated the United Kingdom's renminbi deposit base to be around RMB 12 billion (equivalent to

£1.2 billion). The five largest Chinese banks all have a presence in the United Kingdom and in October this year it was announced that the Bank's Prudential Regulation Authority (PRA) will be prepared to see Chinese banks open new branches in the United Kingdom, under the PRA's general approach to branches of all non European Economic Area banks. And in June 2013, the Bank and the PBoC established a reciprocal three-year, sterling/renminbi currency swap line which provides a backstop in the unlikely event of a generalised shortage of offshore renminbi liquidity. A box on pages 308–09 describes the development of renminbi activity in the United Kingdom in more detail.

Given these strong financial linkages between China and the United Kingdom, the Bank of England's policymaking committees will need to monitor closely the liberalisation process as it evolves. Although the path of reform is uncertain, it nevertheless seems prudent to consider the issue now, since few events are likely to have more impact on the shape of the global financial system over the next decade.

What changes in capital flows might be expected from further openness?

The previous section showed that China's capital account is still significantly closed relative to both advanced and other emerging economies. And although recent relaxation of some controls indicates the direction of travel, there is still the potential for significant further liberalisation.

This section presents some initial considerations of the potential changes in capital flows that might arise from liberalisation. Changes in both the magnitude of capital flows and their composition in terms of asset class and currency denomination are discussed. This is, of course, a hypothetical exercise: in practice, the path of liberalisation and its impact are highly uncertain. The Chinese government has not published an official 'roadmap' for opening the capital account and the desired end-point is also unclear; there is no reason to expect China to become as financially open as economies such as the United Kingdom. The impact of removing restrictions will also depend on the extent to which those restrictions are binding in the first place and on the prevailing macroeconomic conditions, both in China and the rest of the world (Bayoumi and Ohnsorge (2013)).

Magnitude of flows

Even small changes in China's openness might be expected to have a global impact, given the size of China's economy. But if

- (1) Schemes governing portfolio investment include the Qualified Foreign Institutional Investor (QFII: inward, FX), Renminbi Qualified Foreign Institutional Investor (RQFII: inward, RMB) and the Qualified Domestic Institutional Investor (QDII: outward, FX).
- (2) Non-financial economic links are also important. In 2012 China accounted for 3% of UK exports and 6% of imports. And developments in Chinese demand can impact on the prices of global commodities such as oil, which are important contributors to UK inflation.
- (3) According to 2012 published accounts.

Offshore RMB activity in the United Kingdom

One result of China's relaxation of capital controls in the recent past has been increasing use of the Chinese currency, the renminbi (RMB), outside of mainland China.⁽¹⁾ Several international financial centres have seen growing activity in this so-called 'offshore RMB' business and offer a wide range of RMB-denominated financial products and services. Locations with a significant RMB presence currently include Hong Kong, Singapore, Taiwan and London. This box reviews recent developments in RMB activity in the United Kingdom and the Bank of England's role in its past and future development.

Developments in RMB activity in London

London has grown rapidly as a centre for RMB business over the past few years, with activity having expanded across a number of areas. A recent survey of major banks based in London documented strong growth in trade finance and foreign exchange trading in both deliverable and non-deliverable instruments. And more recent data for 2013 suggest that this strong growth is continuing: for instance, in September, the United Kingdom's share of global RMB FX trading activity outside Hong Kong was estimated to be 62%, an increase from 54% in 2012 (SWIFT (2013)). The survey also estimated the United Kingdom's RMB deposit base to be around RMB 12 billion (equivalent to £1.2 billion) at the end of 2012 (Table 1). Issuance of the first RMB-denominated bond in London took place in April 2012 by HSBC and there have been a number of others since, including by Chinese banks. In July 2013, the Chinese securities regulator (CSRC) permitted financial institutions based in London to invest directly in China's onshore securities markets through the Renminbi Qualified Foreign Institutional

Investor scheme (RQFII) with an initial quota of RMB 80 billion (£8 billion).

There are a number of possible reasons why London has attracted RMB activity. As a leading international financial centre, most major global financial institutions have operations there. Due to its attractive time zone and established expertise in financial products and services, London provides a convenient base for global financial institutions to manage liquidity across their groups. The United Kingdom also has a strong tradition in foreign exchange business and has the highest share of activity in the world, according to the Bank for International Settlements' triennial foreign exchange survey. London also played a central role in the development of the eurodollar market (US dollar-denominated deposits outside the United States) in the 1960s and 1970s, which some compare to the offshore RMB market today.

Liquidity provision and clearing and settlement

Financial institutions based in London can access RMB liquidity directly from the Mainland through trade-related flows or permitted capital flows. But liquidity can also be sourced indirectly from other offshore RMB centres, since once outside of China there are few restrictions on the use of RMB. In practice, Hong Kong acts as the primary source of liquidity for London, given the depth of its RMB markets and its links with the Mainland's economy and financial system.

In the event of short-term RMB liquidity needs in the offshore market, the Hong Kong Monetary Authority (HKMA) provides a liquidity facility that offers overnight, one-day and one-week collateralised repurchase agreements. These facilities are financed via a swap arrangement with the People's Bank of China (PBoC) which controls the total amount of liquidity that may move between the Mainland and offshore RMB markets. Access to these facilities is limited to participating authorised institutions (AIs). But banks in London can access these facilities either directly, if they have an affiliate in Hong Kong that is an AI, or indirectly, if they have a counterparty relationship with an AI. In the unlikely event that these facilities are insufficient to address RMB offshore liquidity needs, a number of central banks — including the European Central Bank and the Bank of England — can provide RMB liquidity to their own markets by drawing on their RMB swap lines with the PBoC (see below).

For the most part, offshore renminbi markets in London are currently cleared and settled across the HKMA's multi-currency Real-Time Gross Settlement (RTGS) infrastructure, which is linked to the Mainland's onshore payment system. This arrangement effectively meets London's RMB settlement needs, due to the well-established linkages between banks in London and Hong Kong.⁽²⁾

Table 1 Renminbi activity in London

| RMB billions | 2011 | 2012 |
|---|-------------|-------------|
| Foreign exchange trading^(a) | 10.6 | 16.8 |
| <i>of which, deliverable</i> | 2.5 | 7.7 |
| <i>of which, non-deliverable</i> | 8.1 | 9.1 |
| Bond issuance^(b) | 7.0 | 12.4 |
| Deposits | 15.1 | 11.9 |
| <i>of which, retail^(c)</i> | 0.3 | 0.2 |
| <i>of which, private banking</i> | 3.6 | 2.8 |
| <i>of which, corporate</i> | 2.9 | 2.1 |
| <i>of which, interbank</i> | 8.3 | 6.8 |
| Trade finance | 8.6 | 24.9 |
| <i>of which, letters of credit</i> | 0.2 | 1.0 |
| <i>of which, import financing</i> | 6.8 | 19.2 |
| <i>of which, export financing</i> | 1.7 | 4.7 |

Source: Bourse Consult.

(a) Average daily trading volume.

(b) Annual issuance.

(c) Sum of savings accounts, current accounts and term deposits.

There are two initiatives which may change how RMB activity in London is cleared and settled, however. In April 2012 the PBoC announced its intention to establish a new RMB settlement system for both onshore and offshore payments. The system will be called the China International Payments System (CIPS) and will be made available to banks outside of mainland China, therefore allowing banks in London to establish a direct settlement relationship with the PBoC and settle in central bank money. And in October 2013, the Bank announced the possibility of an additional RMB clearing bank being based in London (Carney (2013a)).

Future development of RMB business in London and the role of the Bank of England

The Bank of England is supportive of the development of London as an RMB centre, provided it is consistent with the stability of the UK financial system. The recent development has been market-led and promoted by a number of private sector-led initiatives. These initiatives include the City of London Corporation's work to develop London as a centre of RMB business and the London-Hong Kong Forum of international banks active in RMB. The Bank sits as an observer on both these groups in order to monitor any financial stability implications of the market's development and also to provide technical guidance on the Bank's operational framework and infrastructure.

The existing size of RMB activity in London is very small relative to activity in other foreign currencies (Table 2). And so even in the event of any disruption in these markets, they are unlikely to pose any systemic risk to UK financial stability at present.

Table 2 UK financial activity denominated in foreign currency, 2012

| £ billions | All FX | RMB | RMB as a share of all FX, per cent |
|--|---------|------|------------------------------------|
| Bond issuance | 149.5 | 1.2 | 0.83 |
| Average daily FX turnover ^(a) | 2,536.8 | 15.1 | 0.59 |
| Interbank deposits ^(b) | 1,057.9 | 0.7 | 0.06 |
| Non-bank deposits ^(b) | 1,414.1 | 0.5 | 0.04 |

Sources: Bank of England, Bourse Consult and Bank calculations.

(a) Data on FX turnover are for 2013 and taken from the Bank of England's triennial foreign exchange and OTC interest rate derivatives survey, which differs in methodology and coverage from the Bourse Consult survey.

(b) Assumes ratio of interbank to non-bank FX deposits from non-residents is the same as for FX deposits from residents.

But that might not last. Given further liberalisation in China, it is likely that offshore activity will grow both in London and other financial centres. And so it is possible that the scale of activity could grow to become of systemic importance in the medium term. The consequences of a shortage of foreign exchange liquidity became all too apparent in 2008, when the

dislocation in US dollar interbank markets acutely affected the UK financial system.

The Bank is therefore ensuring that it has the necessary systems and surveillance capacity in place now, so that it will be well prepared to mitigate any risks that might arise in the future from RMB activity in the United Kingdom. And at the same time, it is keen to not inhibit the development of the market through any gaps in its operational and regulatory framework. To achieve these aims, the Bank is working closely with its counterparts at the PBoC and HKMA.

In June 2013, the Bank and the PBoC established a reciprocal three-year, sterling/renminbi currency swap line. In the unlikely event that a generalised shortage of offshore renminbi liquidity emerges that poses a financial stability risk, the Bank will have the capability to draw renminbi up to the value of RMB 200 billion under the swap facility in order to make this available to eligible institutions in the United Kingdom. And in October 2013, the Bank announced it would consider applications from Chinese banks to establish wholesale branches in the United Kingdom (Bailey (2013)). That should help further facilitate growth in RMB liquidity both in the United Kingdom and globally.

As the United Kingdom's trading and financial relationship with China becomes more important over time, development of this market is likely to have beneficial consequences for the growth and stability of the UK economy and financial system. For example, a UK company exporting to China will be able to purchase financial instruments to help manage its foreign exchange risk. And companies receiving payment in RMB will be able to reduce transaction costs by depositing in an RMB account in the United Kingdom. By focusing on maintaining a stable financial system, the Bank of England in turn should create the conditions in which RMB activity can flourish.

- (1) Offshore RMB trades on a free-floating basis and is widely denoted as CNH, distinguishing it from its mainland equivalent, CNY, which is subject to the PBoC's daily trading band.
- (2) Although the details differ, settlement of RMB via offshore infrastructure in Hong Kong is similar to the way in which other foreign currencies are settled. For example, payments in euro and the US dollar are both cleared overseas.

China undergoes a material liberalisation over the next decade, the increases in gross flows will likely be very large relative to the size of the world economy. This reflects three factors, which relate, in turn, to China's starting level of openness, its expected economic growth over the next decade and the potential for further financial globalisation. For expositional purposes these factors are labelled 'closing the openness gap', 'catch-up growth' and 'declining home bias', respectively:

Factor 1: 'Closing the openness gap'

The measures of capital account openness in **Chart 2** show that there is a large gap between China's current level of openness and that of advanced countries. This gap will close as China liberalises, resulting in a large increase in capital flows both into and out of China. For example, if China were to liberalise tomorrow and immediately reach the same international investment stock position as the United States shown in **Chart 3**, the associated increase in inflows and outflows would represent over 100% of China's GDP. In practice, of course, the adjustment would likely take place over a number of years, given the authorities' stated preference for a gradual and orderly liberalisation. But this figure illustrates the scale of the openness gap.

Factor 2: 'Catch-up growth'

Over the next decade, China is projected to grow more than 1.5 times more quickly than the world economy.⁽¹⁾ As a result it will represent an increasing share of global economic output over time. This, in turn, implies that even if China's capital flows do not increase as a share of its own economy, they would still increase relative to the size of the world economy.

Factor 3: 'Declining home bias'

Over the past few decades, the world became more financially globalised and cross-border asset holdings exhibited an upward trend. Part of that reflected ongoing financial deepening, but a large part also reflected increasing diversification of countries' assets and liabilities, away from home and towards overseas markets. Although financial globalisation has stalled in the wake of the financial crisis, it is reasonable to expect it to pick up again over coming decades, since countries' investment portfolios are still skewed more towards home markets than the optimal split between domestic and foreign asset holdings that would be implied by conventional asset pricing models (French and Poterba (1991), Hau and Rey (2008)). And if this so-called 'home bias' does continue to decline, it will give an extra boost to global capital flows — both in China and other economies — in what Haldane (2011) has called a 'capital flow substitution effect'.

Composition of flows

Asset class

All types of cross-border flow (portfolio investment, FDI, bank lending) would be expected to increase were China to undergo a material liberalisation. But given the discrepancies in

international investment positions between China and the United States highlighted in **Chart 3**, there would likely be relatively larger increases in cross-border portfolio and banking flows than FDI flows.

Currency

China's capital flows would also likely be increasingly renminbi-denominated under liberalisation. Cross-border use of the RMB has increased rapidly in recent years, albeit from a low base. Since restrictions on Chinese companies to settle cross-border trade in RMB were eased in 2010, current account-related RMB flows have increased over sixtyfold. But capital flows in RMB have also been increasing. The volume of offshore RMB-denominated bank deposits (CNH deposits) has increased thirteenfold since the beginning of 2010, to over RMB 800 billion. There has also been a large increase in the volume of RMB-denominated ('dim sum') bonds issued offshore. And new schemes for RMB-denominated portfolio and FDI flows have been introduced.

The internationalisation of the RMB is not the same thing as capital account liberalisation, although it is clearly related. Greater use of the Chinese currency outside of China can occur without any loosening of capital controls, for example through current account flows. Likewise, relaxation of capital controls could, in theory, occur without any increase in use of the Chinese currency. But in practice the two processes are likely to go hand in hand, given both the stated desire of the authorities and the practical benefits for companies outside of China with RMB trade invoices to access RMB financial instruments.⁽²⁾

Offshore use of the RMB is still small relative to the most widely traded currencies, however, and like capital account liberalisation, there is further to travel. The end-point of RMB internationalisation is even more uncertain than capital account liberalisation. Empirical studies suggest that financial openness is not the only determinant of a currency's international status; the economy's share of global trade and output and the level of domestic financial market development are also important (Chinn and Frankel (2007)). Moreover, the use of existing international currencies can take a long time to be displaced: during the early 20th century, for example, both sterling and the US dollar co-existed as dominant international currencies for some time, despite the fact that the US economy had surpassed the United Kingdom's in terms of size.

(1) According to the Bank of England's long-run world nominal GDP projections. See Speller *et al* (2011) for details.

(2) For example, a UK company that exports goods to China but receives payment in RMB may wish to hedge the foreign exchange risk through an RMB/GBP swap. At present, its hedging options are largely limited to the offshore non-deliverable forward market.

A scenario for Chinese international financial integration in 2025

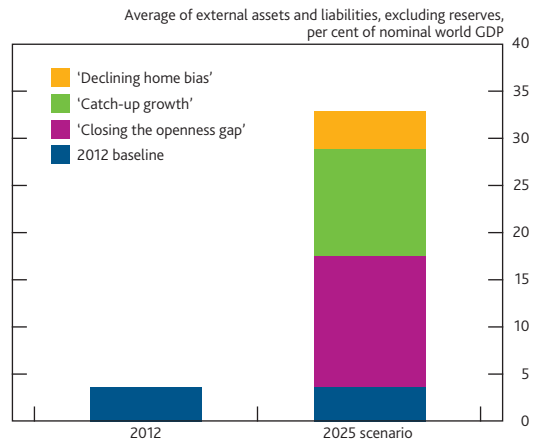
A small number of academic studies have attempted to model the impact of any future Chinese capital account liberalisation on capital flows (for example, Bayoumi and Ohnsorge (2013) and He *et al* (2012)). They each focus on different types of capital flow and use different methodologies and assumptions, and so are not directly comparable. Nevertheless, they suggest two broad conclusions which are consistent with the above discussion. First, there are likely to be large increases in the stock of both external assets and liabilities. And second, the increase in outflows (and hence China’s stock of non-reserve foreign assets) is likely to be greater than the increase in inflows.

By making some simple assumptions, it is also possible to construct a stylised projection for China’s international financial integration that incorporates the three factors outlined above. For the ‘closing the openness gap’ factor, China’s capital account is assumed to be fully liberalised by 2025 (that is, broadly in line with the time frame set out by the PBoC in 2012) at which point China’s level of openness (that is, its stock of external assets and liabilities relative to nominal GDP) reaches the current level for the United States. The ‘catch-up growth’ factor is modelled using the Bank of England’s long-run GDP projections, based on a cross-country growth convergence model (Speller *et al* (2011)). And to take account of potential increases in financial globalisation (the ‘declining home bias’ factor), global holdings of external assets and liabilities are assumed to increase at the same average rate as they have done over the past 30 years.

The results of this thought experiment are shown in **Chart 5**. Although this is a necessarily partial exercise, it provides a useful benchmark for thinking about the changes that could arise over the next decade, should the Chinese authorities undergo full and rapid liberalisation. The scenario suggests the stock of China’s external assets and liabilities could both increase from less than 5% of world GDP today, to over 30% by 2025 — similar to the US position today. Interestingly, all three factors play an important role in driving this large increase in China’s global financial integration. **Chart 6** shows these projections over time and suggests that the potential increase in China’s global financial integration would be broadly in line with the US experience from 1995–2007.

The scenario shown in **Charts 5 and 6** suggests that liberalisation will lead to large increases in gross capital flows both into and out of China. The consequences for net flows — which are important for global imbalances — are less clear-cut, however. In theory, net capital flows are pinned down by the balance of payments identity, according to which any domestic savings net of investments ($S - I$) that result in a current account surplus ($CA+$) must be invested abroad

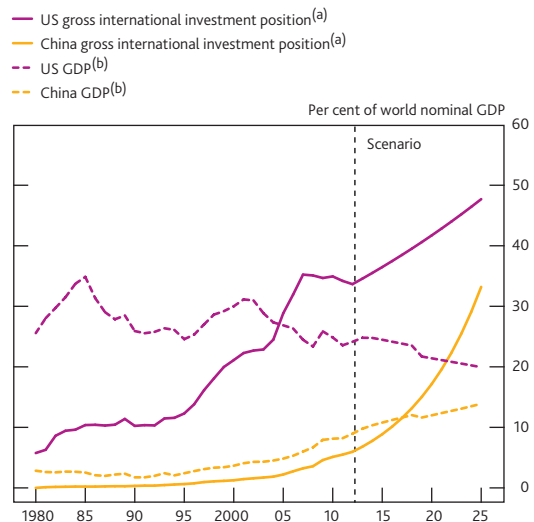
Chart 5 Potential impact of capital account liberalisation on China’s gross international investment position



Notes: The 2025 scenario is based on the following three assumptions: (i) China’s stock of external assets and liabilities relative to its own GDP reaches the United States’ 2012 level (138% and 174% GDP respectively), (ii) the Chinese and world economies grow in line with projections from the cross-country convergence model in Speller *et al* (2011), and (iii) external assets and liabilities of all countries relative to their own economies continue to grow in line with their average of the past 30 years (1.5 percentage points annually). China’s holdings of foreign exchange reserves are not shown in the chart. These accounted for 4% of world GDP in 2012 and are projected to account for less than 1% of world GDP in 2025.

Sources: IMF, Speller *et al* (2011) and Bank calculations.

Chart 6 Potential impact of capital account liberalisation on China’s gross international investment position



Sources: IMF, Lane and Milesi-Ferretti (2007), Speller *et al* (2011) and Bank calculations.

(a) The ratio of the average of external assets and liabilities to world GDP. See the notes to **Chart 5** for details on scenario to 2025.
 (b) Nominal GDP projections from Speller *et al* (2011).

through either net capital outflows ($KA-$) or reserve accumulation by the central bank ($FX-$):

Balance of payments identity*

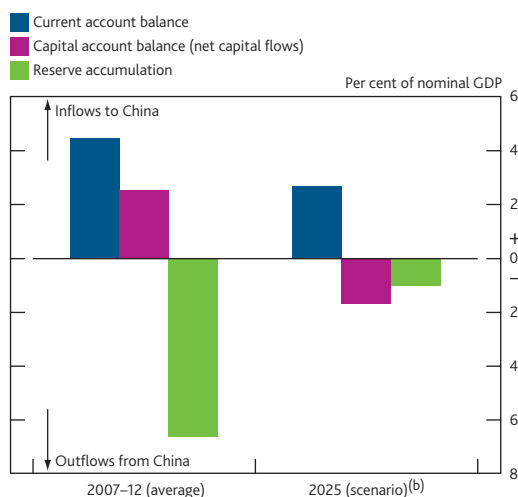
$$S - I = CA(+) = KA(-) + FX(-)$$

* (+) denotes net inflow and (-) denotes net outflow

At present, China saves more than it invests and therefore runs a current account surplus. But instead of investing this surplus abroad through capital outflows, it actually receives net capital

inflows due to its stricter controls on outflows relative to inflows. To square the circle, it therefore has to invest overseas an amount greater than its own savings through reserve accumulation. This is shown for the 2007–12 period by the large negative green bar on the left-hand side of **Chart 7**.

Chart 7 Stylised scenario for China's net capital flows^(a)



Sources: IMF WEO, OECD and Bank calculations.

(a) The balance of payments identity implies the blue, magenta and green bars must sum to zero. In practice, the equality does not hold exactly due to measurement error, reported as 'net errors and omissions' and transfer payments.

(b) Current account projection for 2025 is taken from the 2013 OECD *Economic Outlook*.

Capital account liberalisation would lead this picture to change dramatically. Although China's saving and investment dynamics over the next decade are projected to lead to continued — albeit declining — current account surpluses (OECD (2013)), these would be invested abroad very differently under an open capital account than they are currently. Since outflows appear to be more restricted than inflows, full liberalisation might lead to sizable swings to net capital outflows. Conversely, reserve accumulation is likely to fall, given that China's stock of reserves is far in excess of both the OECD average and precautionary needs as a defence against external shocks (International Monetary Fund (2011a)). **Chart 7** shows an illustrative scenario of the potential shift from net capital inflows to net outflows. Intuitively, it shows how China's excess domestic savings (blue bars) — which currently leave China through the PBoC's purchases of foreign exchange reserves (green bars) — could, in the future, increasingly leave through capital outflows via banks, businesses and households (magenta bars).

Global implications of Chinese capital account liberalisation

The potential changes in both the magnitude and composition of capital flows outlined in the previous section would dramatically alter the financial landscape both in China and globally. In principle, capital account liberalisation in China could be a powerful force that enables the Chinese and global

economies to become both richer and more stable. But on the other hand, it could also pose risks to stability, of which policymakers will need to be mindful.

Implications for China

For China, there are several potential benefits of liberalisation which can all be viewed through the broader lens of contributing to economic rebalancing. The Chinese economy is now starting to transition to a new model of growth, away from reliance on exports and investment as the key sources of demand.⁽¹⁾ The new model of growth will therefore place a greater emphasis on consumption as a source of demand and an increase in the production of services relative to exportable manufactures. This is a challenging task and will require an ambitious agenda of structural reforms. Among these reforms, capital account liberalisation will play a key role.

A removal of restrictions on outflows, for example, will allow Chinese companies and households to diversify their large pools of savings by investing in overseas assets. This should help to spread risk, reducing the need for precautionary saving and hence free up income for current spending. And it may also boost household income if returns earned on overseas assets are higher than on domestic assets (which is likely given that real deposit rates in China are currently negative due to regulatory caps).

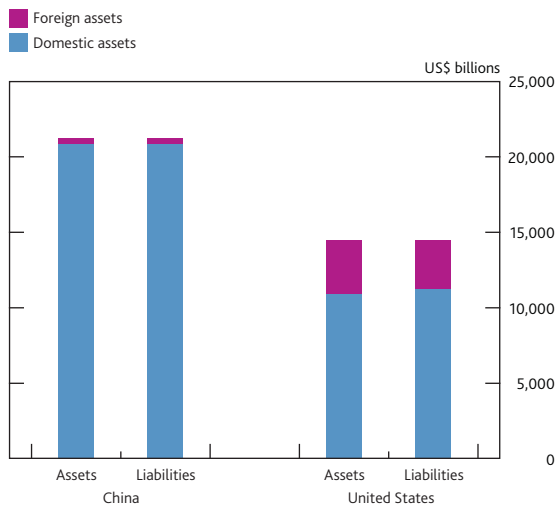
China has the biggest banking system in the world by total assets but it is very domestically focused (**Chart 8**). If China's banks were to diversify their balance sheets by expanding abroad — either directly through cross-border bank lending, or indirectly through lending to foreign affiliates — they may become more resilient to an adverse shock in their home market and so be better able to maintain lending to domestic companies and households in China.

Allowing more channels for inflows, on the other hand, will help to deepen and diversify China's financial system, providing alternative sources of capital for Chinese borrowers. Should liberalisation also lead to lower reserve accumulation, it could lead to an improvement in China's fiscal balance since the return on its FX reserves is lower than the cost of sterilising those purchases (Rodrik (2006)). And if it were accompanied by a more flexible exchange rate regime (as was suggested by the Third Plenum), it could allow China to operate a more effective monetary policy, increasing its ability to respond to domestic shocks.⁽²⁾ All of these factors should promote China's rebalancing and its transition towards a new model of growth.

(1) See Dew *et al* (2011).

(2) According to the 'impossible trinity', a country can have at most two of the following simultaneously: independent monetary policy, an open capital account and a fixed exchange rate.

Chart 8 Balance sheet of Chinese and US-resident banking systems, 2012



Sources: BIS locational banking statistics, CEIC, Federal Deposit Insurance Corporation and Bank calculations.

But there are also risks. There are several notable examples where capital account liberalisation has resulted in instability. The most recent, perhaps, was the Eastern European countries where large capital inflows contributed to unsustainably rapid credit growth that ultimately culminated in economic and financial crisis in 2008 (Bakker and Gulde (2010)). Chinese policymakers will need to ensure they have sufficient scope to set policy to offset shocks that could pose risks to economic and financial stability. It will be particularly important to sequence carefully external liberalisation with appropriate domestic macroprudential and microprudential policies to mitigate risks from excessive credit growth and asset price volatility.

One concern is that by opening the financial gates, some banks and, ultimately, borrowers in the Chinese real economy may find themselves faced with a shortage of liquidity. China's banking system is heavily reliant on domestic deposits for its funding, which account for around two thirds of total liabilities. A reallocation overseas of even a small share of these deposits could therefore cause funding difficulties. By enabling higher real returns for Chinese domestic savers, however, domestic interest rate liberalisation could help to reduce these risks.

Another set of risks are related to inflows. In the short run, there could be indigestion in China's asset markets, which are still small relative to potentially large inflows of capital. And over a longer time period, inflows could lead to an unsustainable build-up of maturity and currency mismatches in national balance sheets (for example, long-term domestic investment funded by short-term overseas FX-denominated borrowing). Large mismatches are susceptible to unwind in a disorderly way, as was the case for some Asian economies in 1997–98.⁽¹⁾ Finally, the risks arising from a more flexible — and

potentially more volatile — exchange rate would need to be effectively managed.

Which of these outcomes — more sustainable growth or a rise in instability — would dominate will depend on the accompanying policy framework. The empirical evidence on the costs and benefits of financial openness tends to suggest that countries benefit most when certain threshold conditions — such as a well-developed and supervised financial sector and sound institutions and macroeconomic policies — are in place before opening up to large-scale flows of capital (Kose *et al* (2006)). This underscores the importance in China of careful sequencing of capital account liberalisation alongside other domestic reforms such as domestic interest rate liberalisation, development of effective hedging instruments and enhancing the microprudential and macroprudential regimes.

Implications for the rest of the world

From the perspective of policymakers outside of China, it is important to understand how capital account liberalisation might 'spill over' to affect other economies. Four such channels are discussed below, although there are undoubtedly others.

Greater exposure to the Chinese financial system

If liberalisation has a large impact on the Chinese economy or financial system, it is also likely to have a significant impact in other countries as well. Although China's economy is already considered able to generate material spillovers onto other economies (International Monetary Fund (2011b)), the process of capital account liberalisation will likely increase its systemic importance even further, by magnifying existing transmission channels, while also creating new ones. Foreign households, businesses and financial institutions will increase the amount and the number of their claims on China, while those in China will do the same with respect to the outside world, thereby deepening the complex web of financial interconnectedness.

If China does hard-wire itself into the global financial system, it will bring important benefits in terms of risk-sharing. Households that purchase Chinese assets whose returns are not perfectly correlated with their own income would be better able to smooth consumption. And foreign banks that expand in China would diversify their earnings base and potentially enhance their resilience.

The flipside of increased interconnectedness, however, is that the global financial system will be more sensitive to shocks originating in China. Increased holdings of Chinese assets, for example, would imply greater exposure to fluctuations in their price. Greater reliance of global banks on Chinese banks for funding, in turn, would bring about the possibility of a liquidity

(1) For more detail on national balance sheet mismatches see Al-Saffar, Ridinger and Whitaker (2013).

shortage if those banks were to repatriate funds in response to balance sheet pressures back home.⁽¹⁾

Increase in global liquidity

If China's financial walls are lifted, some of its vast pool of domestic savings will migrate into global capital markets, providing a significant boost to liquidity. The illustrative scenario in **Chart 5** suggests that these flows could amount to a substantial share of world GDP.

A new source of global liquidity from China could lead to several beneficial effects, particularly during a period where the world's financial system is becoming increasingly fragmented and retreating into national borders (Carney (2013b)). As well as providing a new source of finance for borrowers, it could lead to a more diversified and more stable global investor base. At the same time, however, a rapid increase in liquidity from China could lead to absorption pressures in some asset markets in the short run, which could lead to a mispricing of risk with adverse consequences for financial stability.

Increased global role of the renminbi

Greater international use of the renminbi would add another dimension to the global impact of capital account liberalisation. Potential benefits include lower transaction costs and a reduced risk of currency mismatches. But it may also amplify the international transmission of Chinese policy and domestic shocks, of which policymakers around the world will need to take into account.

Take the following hypothetical case: a country purchases a large proportion of its imports from China and its currency depreciates against the renminbi. If the prices of those imports are set and invoiced in the domestic currency of that country, the depreciation would not automatically lead to an increase in their price and hence no response in domestic monetary and fiscal policy would be needed.⁽²⁾ If, however, the imports were invoiced in RMB, then their price would increase in line with the exchange rate depreciation, leading to domestic inflation. Moreover, a country that had no trade with China but whose imports were set and invoiced in RMB — such that the RMB would be a 'vehicle currency' — would need to respond to macroeconomic or policy fluctuations in China that affect the exchange rate and feed through into domestic prices of that country.

There is a body of literature which finds evidence of these invoicing effects for the US dollar, as the world's most international currency. Goldberg (2010) finds that for non-US economies, large use of the US dollar in reserves and in international transactions is typically associated with greater sensitivity of trade, inflation and asset values to movements in the value of the dollar relative to the domestic currency. However, as discussed above, it would likely take

much longer than a decade for the renminbi to take on a similar role to that of the US dollar today.

Global imbalances

The literature on the causes and consequences of global imbalances is as vast as it is inconclusive. According to one influential perspective, the large imbalances in current account positions that accumulated over the past decade partly originated in high net saving rates in developing Asian countries (Bernanke (2005)). If true, capital account liberalisation in China could potentially help to alleviate these imbalances to the extent that it leads to a reduction in China's net savings and correspondingly its current account surplus (although clearly the impact of this on overall imbalances would depend on the corresponding adjustment in other countries). This may occur either because liberalisation lowers the incentives for precautionary saving or because it leads to a more flexible and higher exchange rate.

But even if Chinese capital account liberalisation were to lead to no reduction in global imbalances, it could still help to lessen some of the adverse consequences relating to these imbalances. There is evidence that reserve accumulation by foreign governments can materially depress the risk-free interest rate in the United States (Warnock and Warnock (2009)) which, in turn, may encourage excessive risk-taking behaviour globally. So to the extent that Chinese capital account liberalisation were to result in a switch in the composition of outflows, away from reserve accumulation by the central bank and towards overseas investment in riskier assets by other Chinese residents, this may reduce some of the downward pressure on government bond yields and related rates in the United States and globally. Of course, this would bring other challenges. But in the longer term, it could be beneficial for the stability of the international monetary and financial system as a whole.

Conclusion

If China proceeds to liberalise its capital account over the next decade or so, it has the potential to be a force for growth and stability not just in China but also for the international monetary and financial system. While this process will be accompanied by new and important risks, it falls to national authorities and international bodies to monitor and take appropriate policy actions to mitigate such risks.

This will not be a trivial task. Given that Chinese capital account liberalisation could lead to dramatic changes in the global financial landscape, policymakers will be facing

(1) Hoggarth, Hooley and Korniyenko (2013), for example, document foreign bank repatriation from the United Kingdom during the 2007–09 crisis.

(2) This is, of course, a highly stylised example. In practice, the Chinese exporter may choose to change its pricing behaviour since they would stand to receive less in RMB terms.

uncharted territory. To succeed, policy co-operation between national authorities is likely to be necessary, both to increase understanding of the risks and to develop common policy approaches. The Bank of England is currently working closely with the People's Bank of China regarding the development of offshore renminbi activity in the United Kingdom and will continue to seek other ways to support a successful integration of China into the global financial system.

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