



Signed Article

Foreign Exchange and External Sector Developments in China

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# Foreign Exchange and External **Sector Developments in China**

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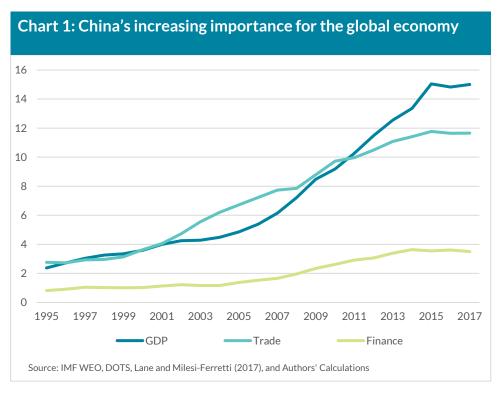
#### **Abstract**

China has experienced a number of episodes of capital flow and exchange rate volatility over the past 3 years. Meanwhile, the current account surplus has declined markedly together with net saving, while the real effective exchange rate appreciated. This note describes some aspects of these developments and explains how they relate to key features of the Chinese external sector and exchange rate arrangements. Despite market restrictions, periods of financial stress are typically associated with exchange market pressure on the Renminbi (RMB) and sudden stops in private capital inflows. In the second half of 2018, the RMB experienced a decline of 8 per cent against the U.S. Dollar (USD), raising fears that the period of financial market instability experienced in 2015 could be repeated. In our assessment, while current indicators provide little indication of further rapid RMB depreciation in the very short run, there are several risk factors that could trigger currency instability in the future. These risk factors include: i) an escalating trade war undermining Chinese growth; ii) internal and external pressure to liberalise financial markets jeopardising successful exchange rate management; iii) domestic financial market vulnerabilities undermining investor sentiment. Regarding potential international spillovers, although direct trade and financial linkages between China and Ireland are substantial relative to the latter's linkages to other emerging market economies, Ireland is more heavily exposed to advanced economies. Finally, Hong Kong plays a critical role as a financial intermediary, such that a close examination of Hong Kong-China linkages is essential to understand China's place in the global financial system.

### Introduction

China's rapid economic growth implies that development there can have important implications for the global economy. The share of global GDP accounted for by China now makes up 15% of global GDP, up from just 2% of global GDP in 1995. This trend appears likely to continue as the latest IMF Article IV report on China concludes that the near-term economic outlook remains positive, although the probability of a downturn has increased. Risks to the Chinese economy stem from three main sources:

1. The domestic financial sector; 2. A trade dispute with the US; 3. A destabilising capital outflow episode.



Note: China's share of global GDP, asset and liability flows (finance), and export and import flows (trade).

China's rapid economic development has entailed a substantial increase in trade and financial integration with the rest of the world. Following its accession to the World Trade Organisation (WTO) in 2001, China has become the world's largest exporter of goods and China's share in global trade increased from around 3 to 12 per cent (Chart 1). While China's financial integration is still limited in comparison, the Chinese authorities have gradually eased existing capital account restrictions. While this gradual liberalisation lead to an increase in financial integration, it has also

<sup>&</sup>lt;sup>1</sup> IMF (2018) Article IV Consultation: People's Republic of China. https://www.imf.org/en/Publications/CR/Issues/2018/07/25/Peoples-Republic-of-China-2018-Article-IV-Consultation-Press-Release-Staff-Report-Staff-46121

been associated with a number of episodes of capital flow and exchange rate volatility over the past 3 years.

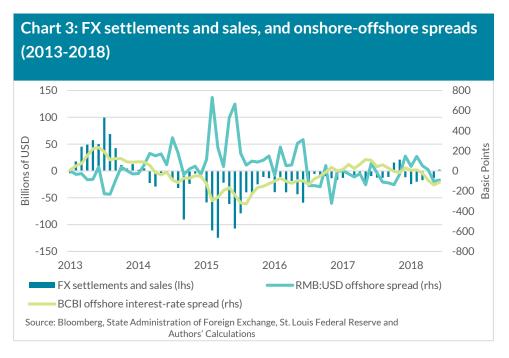
The increasing size and integration of the Chinese economy, imply that a hard landing in China could entail adverse spillovers to the global economy. This is also the case for Ireland, albeit primarily through indirect channels, including through its effects on Ireland's trading partners. For instance, recent research by the Bank of England finds that a hard landing scenario that sees Chinese GDP fall by 10% below the IMF baseline forecast could reduce the level of UK GDP by up to 1.4%.2 This hit to UK GDP could be increased twofold by amplification mechanisms, depending on the size of exchange rate and asset price moves. The extent to which these amplification mechanisms unfold depend, in turn, on how the Chinese authorities manage the exchange rate and the financial account. This is why we examine recent developments in the exchange rate and external accounts of China in this article.



Note: The five shaded areas highlight selected recent policy changes to the Chinese exchange rate regime: 1) March 2014, when the volatility range of RMB interbank spot exchange rate against US dollar was enlarged from one per cent to two per cent; 2) August 2015, the PBoC reformed the exchange rate regime to liberalise RMB exchange rate through improving the mechanism for determining the central parity of RMB exchange rate. This was also the month when the IMF took the decision to add the RMB to the SDR basket; 3) May 2017, the PBoC announced that the countercyclical adjustment factor would be introduced; 4) January 2018, when the PBOC announced that it was suspending the use of the countercyclical adjustment factor; 5) August 2018, the PBoC reintroduced the countercyclical adjustment factor.

<sup>&</sup>lt;sup>2</sup> Gilhooly et al. (2018). "From the Middle Kingdom to the United Kingdom: spillovers from China." Topical article. Bank of England Quarterly Bulletin, 2018 Q2. https://www.bankofengland.co.uk/-/media/boe/files/quarterlybulletin/2018/from-the-middle-kingdom-to-the-united-kingdom-spillovers-fromchina

China operates a managed-floating exchange rate regime. The floating band of the RMB's trading prices is 2 per cent against a basket of currencies (heavily weighted toward USD) in the interbank foreign exchange market. Although the Chinese authorities intervene in the foreign exchange market to stabilise the RMB's value within the band, this arrangement allows substantial exchange rate flexibility, particularly at frequencies lower than one day. In addition to direct reserve purchases and sales, some commentators assert that the authorities can influence the exchange rate by exerting pressure on state run banks to increase or decrease foreign lending, or by changing the stringency of restrictions on citizens wishing to move funds in and out of China. 4



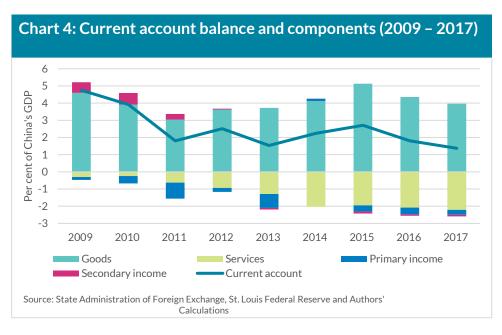
Note: Currency spread measured in non-standard units (Fen/100) for ease of comparison with interest rate spreads.

Periods of financial stress are typically associated with exchange market pressure on the RMB. Such pressures are observable in a number of higher-frequency indicators, including the spread between the offshore and onshore foreign exchange rates between the RMB and the USD (Chart 3). At times of weak investor sentiment regarding the RMB, the number of Yuan per USD tends to increase in offshore relative to onshore markets. In addition, weaker sentiment is also observable in official foreign exchange

<sup>&</sup>lt;sup>3</sup> According to the IMF, China officially maintains "a de jure managed floating exchange rate arrangement with a view to keeping the RMB exchange rate stable at an adaptive and equilibrium level based on market supply and demand with reference to a basket of currencies to preserve the stability of the Chinese economy and financial markets." <a href="https://www.elibrary-areaer.imf.org/Documents/YearlyReport/AREAER 2017.pdf">https://www.elibrary-areaer.imf.org/Documents/YearlyReport/AREAER 2017.pdf</a>

<sup>&</sup>lt;sup>4</sup> Brad Setser, Follow the Money, July 10, 2018 <a href="https://www.cfr.org/blog/my-latest-take-chinas-foreign-exchange-intervention-proxies">https://www.cfr.org/blog/my-latest-take-chinas-foreign-exchange-intervention-proxies</a>

settlement and sales data, where lower values denote greater RMB net sales. 5 These exchange market pressures can be managed through intervention by the People's Bank of China (PBoC), which are reflected in the reserve assets item of the financial account. China held a stock of foreign exchange reserves of almost USD 3.1 trillion in August 2018.



Note: Positive values denote a surplus.

The Chinese authorities may also intervene in offshore debt markets. According to market commentators, the ability to manage offshore rates in isolation from onshore markets also means that the Chinese authorities can intervene internationally without introducing major changes in domestic financial conditions. However, this facility is dependent on the existence of stringent capital controls such that future liberalisation efforts could undermine the ability of the authorities to stabilise the currency.

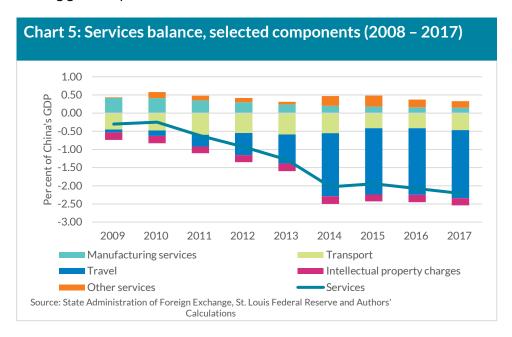
The 2015 episode interrupted China's progress toward financial liberalisation and a less tightly managed exchange rate. The authorities curtailed previous liberalisation efforts to contain the fall in the RMB. According to Eichengreen and Xia (2018), in January 2016 foreign banks became subject to the normal required reserves policy when making RMB deposits at their domestic agent banks, which increased required reserves. This policy aimed to suppress the shorting of the RMB, and reverse the expectation of RMB devaluation.<sup>6</sup> In future, greater exchange rate

<sup>&</sup>lt;sup>5</sup> See also Goldman Sachs, Asia Economic Analyst, July 04, 2016 https://research.gs.com/content/research/en/reports/2016/07/03/d1a4c1f9-0d37-4edc-bda0-04ab337b735a.html

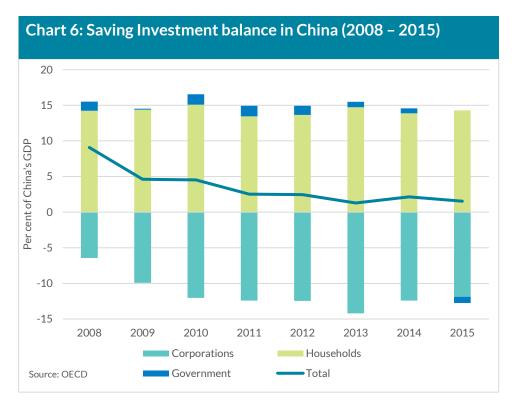
<sup>&</sup>lt;sup>6</sup> See: Eichengreen, B., and Xia, G. (2018) "China and the SDR: Financial liberalisation through the back door." Center for International Governance Innovation, No. 170.

https://www.cigionline.org/sites/default/files/documents/Paper%20no.170 0.pdf

flexibility could facilitate even the introduction of an inflation targeting monetary policy regime, towards which the PBoC appeared to have been moving gradually.<sup>7</sup>



Note: Positive values denote a surplus.

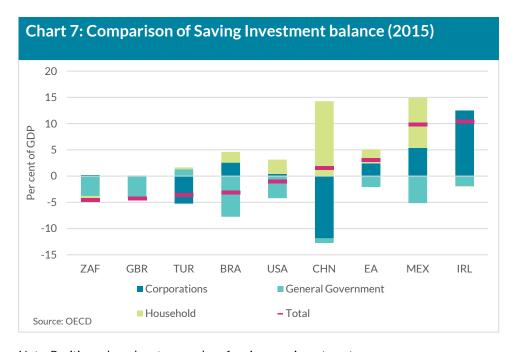


Note: Positive values denote a surplus of saving over investment.

<sup>&</sup>lt;sup>7</sup> See Girardin, E., Sandrine Lunven, and Guonan Ma (2018). China's evolving monetary policy rule: from inflation-accommodating to anti-inflation policy. *BIS Working Papers*, No. 641.

# **Exchange rates and offshore markets**

High frequency indicators of offshore exchange and interest rate market pressures remained subdued in recent months (Chart 3).8 The RMB experienced a sharp depreciation of close to 8 per cent versus the USD in the second half of 2018.9 However, on-shore off-shore spreads remained relatively narrow compared to previous episodes. The impact on the real effective exchange rate (REER) was also muted (Chart 2). The People's Bank of China has taken a number of actions to ease pressure on the currency, including through the reintroduction of the counter-cyclical adjustment factor in August, in order to offset market expectations of further depreciation. 10 At the same time, official statistics on Chinese FX reserve holdings suggest that they remained broadly stable over the course of summer 2018.



Note: Positive values denote a surplus of saving over investment.

<sup>8</sup> It may be the case that the most recent depreciation was somewhat less managed by the Chinese authorities than the 2015 episode as the depreciation observed in 2015/16 occurred much more gradually. See also: Brad Setser, Follow the Money, September 24, 2018. https://www.cfr.org/blog/how-did-china-manage-itscurrency-over-summer

<sup>&</sup>lt;sup>9</sup> Note that, while being significant, this depreciation vis-à-vis the USD pales in comparison to those the Turkish Lira (25%) and the Argentine Peso (45%) witnessed over the same period.

<sup>&</sup>lt;sup>10</sup> First introduced in May 2017, the counter-cyclical adjustment factor was added to the RMB:USD Central Parity rate quotation model used by the Peoples Bank of China. This model contains three factors: 1) closing price; 2) exchange rate movements of a basket of currencies; and 3) the counter-cyclical factor, with the latter signalling the willingness of the authorities to act to disrupt market expectations of future depreciation. See press release from Secretariat of FX Market Self-Disciplinary Mechanism, Peoples Bank of China, August 24, 2018. http://www.pbc.gov.cn/english/130721/3610729/index.html

The RMB was close to fundamentals according to the most recent IMF Article IV report on China (although it was drafted in June 2018 prior to the recent depreciation), while the external position was considered to be moderately stronger than was justified. Taking a longer term perspective, while the nominal RMB:USD exchange rate now stands at levels similar to those observed in 2008, it is important to note that the REER has appreciated substantially since the pre-crisis period (Chart 2).<sup>11</sup>

#### **Current and financial account balances**

The decline in the REER has also been paralleled by a gradual decline in the current account surplus. 2018Q1 figures show a current account deficit on a quarterly basis. This has been associated with persistent trends in the trade balance over a number of years, specifically a decline in the goods surplus, combined with an increase in the services deficit (Chart 4). While the decline in the goods balance also relates to rising oil prices, the deterioration of the services balance is primarily attributable to the travel balance (Chart 5). To some extent this is because China liberalised outbound travel after the global financial crisis. In addition, a significant portion of the travel deficit may actually consist of misclassified, sometimes illicit, capital outflows. 12 China has a deficit on charges for the use of intellectual property, while running a manufacturing services surplus (related to contract manufacturing), mirroring some characteristics of the Irish current account. Finally, although the aggregate trade balance has declined in recent years, the bilateral balance with the US has continued to increase, contributing to tensions with the US administration.

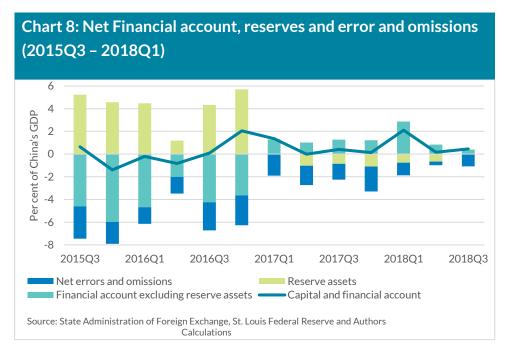
The decline in the current account surplus has been mirrored by a deterioration in the financial balance of the corporate sector (Chart 6). This is a consequence of measures taken by the Chinese Government to maintain economic growth during the global financial crisis, whereby credit was extended by state owned banks to corporations in order to stimulate investment. In contrast, the household saving rate has remained stable at

https://krugman.blogs.nytimes.com/2015/08/13/china-2015-is-not-china-2010/

<sup>&</sup>lt;sup>11</sup> Paul Krugman, August 13, 2015

<sup>&</sup>lt;sup>12</sup> Changes in the methods used to compile the balance of payment statistics by the State Administration of Foreign Exchange are believed to have resulted in a reduction of 1% of GDP in the current account surplus in 2015 and 2016. Essentially, some remittances reported as travel, and some overseas purchase transactions executed using bank cards are recorded as imports actually represent investment abroad. Some commentators have suggested that the timing of changes in the classification of travel were taken strategically in order to keep the current account surplus below the threshold level necessary to be categorised as a currency manipulator by US authorities. For more see: Wong, A. (2017) China's Current Account: External Rebalancing or Capital Flight, Federal Reserve Board of Governors, International Finance Discussion Papers No. 1208 <a href="https://www.federalreserve.gov/econres/ifdp/files/ifdp1208.pdf">https://www.federalreserve.gov/econres/ifdp/files/ifdp1208.pdf</a>

around 15 per cent of GDP. Although the aggregate net saving rate in China no longer appears exceptional, the large scale of household net saving and corporate borrowing stand out internationally (Chart 7).<sup>13</sup>



Note: Positive values denote net inflows.

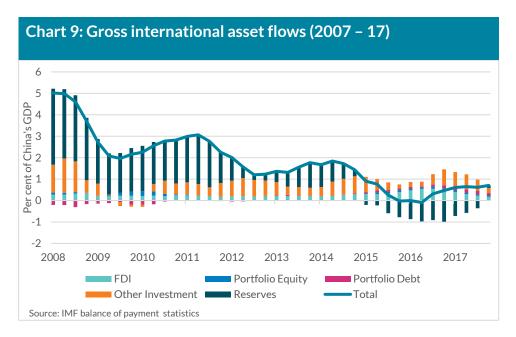
It is possible that outflows by Chinese citizens may be somewhat understated. The 'net errors and omissions' category has been negative for some time (Chart 8) and could capture the influence of illicit private capital outflows that occur in contravention of official capital flow management measures and financial restrictions. 14 These may partly reflect the desire of domestic Chinese firms and households to invest overseas, motivated by a desire to achieve higher risk adjusted returns or international portfolio diversification. Abstracting from the influence of official reserves flows, the combined capital and financial account was positive in 2018Q1. Higher frequency data suggest that the sharp RMB depreciation after June coincided with very moderate net capital outflows compared to the 2015 episode. This might reflect the fact that markets and Chinese residents have become somewhat desensitised to exchange rate fluctuations. 15

https://www.cfr.org/blog/chinas-currency-back-play

Hatzvi, E., Meredith, J., and Nixon, W. (2015) Chinese Capital Flows and Capital Account Liberalisation, Reserve Bank of Australia, Quarterly Bulletin, December 2015. https://www.rba.gov.au/publications/bulletin/2015/dec/pdf/bu-1215-5.pdf

<sup>&</sup>lt;sup>13</sup> Note that the very high savings rate of corporations reported in Ireland is due to the substantial activities of multinational enterprises and associated profit shifting. <sup>14</sup> For opposing views see: Brad Setser, July 23, 2018,

<sup>&</sup>lt;sup>15</sup> See Brooks, R., Ma, G., and Khan, T. (2018) "What is competitive devaluation for the RMB?", IIF Global Macro Views, October 18, 2018.



Notes: Gross liability flows. Rolling 4-quarter sums. Positive values denote net purchases of foreign assets by Chinese residents (i.e. outflows).



Notes: Gross US liability flows. Rolling 4-quarter sums. Positive values denote net purchases of US assets by Chinese residents (i.e. outflows from China to the US).

# Trade and financial links to China

Advanced economy trade and financial links to China are typically large relative to other emerging market economies. Tables 1 and 2 illustrate the relative importance of bilateral international linkages of selected advanced economies with China and other EMEs. As a result, RMB movements against the US dollar are often highly correlated with the movements of other EMEs. While EME exposures generally account for a small fraction of overall external exposures, China represents by far the most important EME exposure for all of the advanced economies in the comparison. This is

not surprising given the relatively large size of the Chinese economy in absolute terms.

Table 1: Average bilateral trade exposures

Trade links								
	EMU	IRL	USA	GBR	CHN	HKG		
TUR	1.5	0.5	0.5	1.7	0.5	0.1		
ZAF	0.4	0.1	0.3	1.1	1.0	0.5		
ARG	0.2	0.2	0.4	0.1	0.3	0.1		
BRA	0.7	0.3	1.6	0.6	1.9	0.4		
MEX	0.6	8.0	14.7	0.4	1.1	0.5		
SAU	0.6	0.4	1.0	0.8	1.2	0.2		
IND	0.8	0.4	1.8	1.2	1.8	2.7		
IDN	0.3	0.1	0.6	0.2	1.4	0.5		
RUS	2.0	0.3	0.5	0.9	1.9	0.3		
CHN	5.4	3.2	14.6	6.8		50.0		
HKG	0.5	0.3	1.4	1.7	7.4			

Source: IMF direction of trade statistics.

Note: The value shown is the average share of exports and imports in total exports and imports of selected economies (the euro area, Ireland, the US, the UK, China and Hong Kong) to and from selected large emerging market economies (Turkey, South Africa, Argentina, Brazil, Mexico, Saudi Arabia, India, Indonesia, Russia, China and Hong Kong). For example, 1.5% of all external trade of euro area countries was with Turkey. In each column, green, orange, and red indicate low, medium, and high exposures relative to other EMEs, respectively.

Table 2: Average private financial asset and liability exposures

Private financial links								
	EMU	IRL	USA	GBR	CHN	HKG		
TUR	0.3	0.1	0.1	0.3	0.1	0.0		
ZAF	0.5	0.3	0.3	0.9	1.3	0.0		
ARG	0.1	0.0	0.4	0.1	0.0	0.0		
BRA	0.6	0.2	1.1	0.6	0.3	0.0		
MEX	0.4	0.2	1.6	0.3	0.1	0.0		
SAU	0.3	0.1	0.5	0.5	0.4	0.3		
IND	0.2	0.1	0.5	0.5	0.2	0.4		
IDN	0.1	0.1	0.3	0.2	0.5	0.2		
RUS	1.1	0.6	0.2	0.3	0.4	0.1		
CHN	0.7	0.3	1.7	1.0		30.6		
HKG	1.3	0.5	1.4	1.7	44.5			

Source: IMF coordinated portfolio investment survey, BIS locational banking statistics.

Note: The value shown is the average share of FDI, portfolio equity, debt, and bank assets (excluding official reserves) and liabilities in total assets and liabilities of selected advanced economies (the euro area, Ireland, the US, the UK, China and Hong Kong) vis-à-vis selected large emerging market economies (Turkey, South Africa, Argentina, Brazil, Mexico, Saudi Arabia, India, Indonesia, Russia, China and Hong Kong). For example, 0.3% of all external financial exposures of euro area countries were vis a vis Turkey. In each column, green, orange, and red indicate low, medium, and high exposures relative to other EMEs, respectively.

Table 2 highlights the important role of Hong Kong as a financial hub for the Chinese economy. While advanced economies show substantial trade linkages with China, their direct financial links with Hong Kong are far more pronounced which, in turn, is the dominant source of private external financing for the Chinese economy. For example, only 0.7 per cent of the total external financial exposures of the euro area are to China, but when Hong Kong is added, this number grows to approximately 2 per cent. The role of Hong Kong as a financial hub for the Chinese economy can be further illustrated by an analysis of the sudden stop in capital inflows which China experienced in 2015 and 2016.

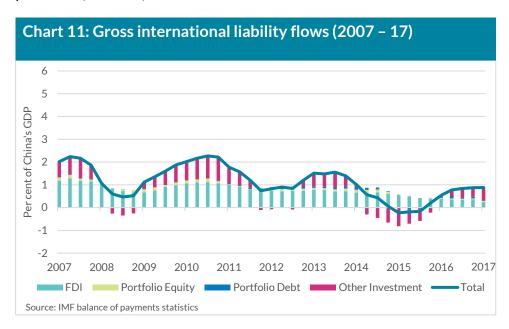
# Financial account during capital flow volatility in 2016

China experienced a bout of financial market turbulence in 2015 and 2016. 16 The severity of the 2015/16 episode is apparent from the scale of reserve outflows, which peaked at almost 1 per cent of GDP in 2016Q4 (Chart 9). In absolute terms, Chinese reserves declined by almost USD 1 trillion between the peak in June 2014 and the local minimum in January 2017, as the PBoC was forced to intervene to stabilise the RMB which nevertheless depreciated by 10 per cent against the USD between June 2015 and December 2016. It is also worth noting that these reserves, and the associated transactions, are heavily concentrated in the US (Chart 10). It has been speculated that official intervention in the offshore debt markets was also critical to the resolution of the 2015/16 episode as speculators were squeezed out of the market by official purchases. This intervention led to a substantial spike in the offshore interest rate spread vis-à-vis onshore debt markets demonstrating the usefulness of capital controls (Chart 3). As a result, offshore interest rates rose substantially above onshore rates for a time. 17 When exchange market pressures (EMP) flared up again at the end of 2016 the Chinese authorities, who had already run down official reserves by 20 per cent since June 2015, substantially tightened existing capital flow management measures, including on

<sup>&</sup>lt;sup>16</sup> According to Eichengreen and Xia the initial triggers for the market volatility were primarily domestic factors. In the aftermath of the global financial crisis, the authorities had extended considerable liquidity to support GDP growth, but some of which was perceived to be fuelling property and financial market speculation. Efforts to clamp down on some of these practices in 2014 and 2015 contributed to financial market volatility. However, it should also be noted that the exchange rate setting mechanism was modified on August 11, 2015, whereby instead of using midpoint for the daily trading band of plus or minus two per cent, it changed to a system where the midpoint of the next day's exchange rate trading band was based on the previous day's closing price.

<sup>&</sup>lt;sup>17</sup> The PBoC also uses bank reserve requirements to manage pressure of the RMB. For instance, in January 2016 the PBoC introduced measures to make foreign banks making deposits and domestic agent banks subject to the normal required reserves policy. According to Eichengreen and Xia, this policy was intended to inhibit shorting the RMB and reverse the expectation of future RMB devaluation.

offshore RMB lending. 18 This coincided with significant spike in the Hong Kong inter-bank offered rate (Hibor) and easing exchange market pressures (Chart 13).



Notes: Gross assets flows. Rolling 4-quarter sums. Positive values denote net purchases of Chinese assets by foreign residents (i.e. inflows).

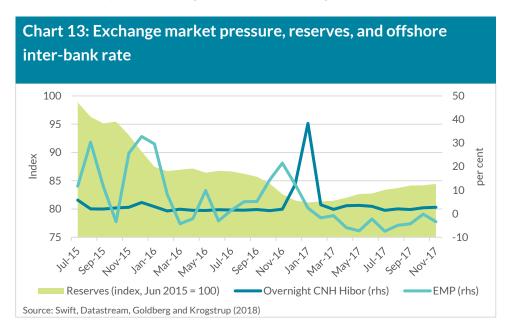


Notes: 4-quarter moving sums of fx and break adjusted change in stocks. Country based on residence of reporting bank.

Bank flows are the most volatile component of China's international financial linkages. Chart 11 displays international liability flows and illustrates the large reversal of other investment inflows during the

<sup>&</sup>lt;sup>18</sup> See IMF (2017) Article IV Consultation: People's Republic of China. https://www.imf.org/~/media/Files/Publications/CR/2017/cr17247.ashx

2015/16 episode. <sup>19</sup> The decline in FDI inflows during that time was more muted, while portfolio investment inflows to China generally remain negligible due to investment restrictions, irrespective of financial conditions more generally. Taken together, Charts 10 and 11 suggest that the 2015 episode was driven primarily by a withdrawal by foreign investors, specifically banks, from existing positions in China. However, a more nuanced picture emerges when BIS banking statistics are examined.



Note: The overnight Hong Kong Inter-bank Offered Rate (Hibor) is the annualized rate charged for inter-bank lending on RMB denominated instruments. EMP is the exchange market pressure index for China developed by Goldberg and Krogstrup (2018). Last observation is for November 2017.

Identifying the role of Hong Kong is critical to understanding financial flows to and from China. Chart 12 provides a geographic breakdown of the decline in bank claims on China, and highlights the central role of Hong Kong in intermediating international bank flows in and out of the mainland.

Chinese banks were primarily responsible for the withdrawal of funding from China via Hong Kong during the 2015 episode. There is evidence suggesting that the role of foreign banks in the 2015 episode was limited in comparison to institutions from the mainland. So while many of the loans appeared to be *foreign* in origin, many were actually vis-à-vis Chinese banks, although the latter may have used international capital to fund the loans. This highlights the role of negative feedback loops during which depreciation undermined the sustainability of offshore borrowing, which lead Chinese residents to repay foreign loans in anticipation of potential future depreciation, i.e. capital outflows in the form of a reduction in the

<sup>&</sup>lt;sup>19</sup> Note also that gross liability flows (Chart 10) have been substantially smaller than gross asset flows (Chart 8), such that there have been net financial outflows over most of the past decade.

foreign liabilities of domestic borrowers. The Chinese authorities reacted to this by introducing the countercyclical adjustment factor in order to offset market expectations of further depreciation.

#### Conclusion

The Chinese current account surplus has declined substantially in the last decade. Although part of this decline is a consequence of deliberate policy actions, there has also been a substantial appreciation in the real effective exchange rate. This loss of competitiveness may undermine the sustainability of an export oriented economic development strategy. In the aftermath of the global financial crisis, China used financial restrictions to sustain economic growth by stimulating corporate borrowing and investment. Many Chinese citizens appear to want to invest capital overseas, creating pressure on the authorities to liberalise the financial system and capital controls. However, dramatic reforms risk unintentionally destabilising the RMB.

Despite the sharp RMB depreciation against the USD after June 2018, short-term indicators do not currently exhibit signs of foreign exchange market tension. Yet there are many near-term risks that could materialise, particularly against a background of underlying pressure for citizens to take money out of China. Furthermore, while previous episodes were primarily associated with sudden stops in capital inflows, much of this actually took to the form of a retrenchment of foreign investors/Chinese banks existing positions out of Hong Kong.<sup>20</sup> Specifically, depreciation undermined the sustainability of offshore borrowing, which lead Chinese firms to repay foreign loans in anticipation of potential future depreciation, i.e. capital outflows in the form of a reduction in the foreign liabilities of domestic borrowers.<sup>21</sup>

Such a tendency towards negative feedback loops is all the more worrying in the context of deteriorating political and trade relations with the US. An escalation of the current tension with the US into a full-scale trade war could undermine Chinese growth. Indeed, given the rapid economic growth and convergence achieved in the last decade, the likelihood of a growth

 $<sup>^{20}</sup>$  For more a closer examination of whether the 2015 episode was a sudden stop or a capital flight episode see: Herzberg, V. (2016) "Composition and Dynamics of Chinese Capital Flows: What has been the Role of Capital Controls?" Central Bank of Ireland, Quarterly Bulletin 2016, no. 3, Box B.

https://www.centralbank.ie/docs/default-source/publications/quarterlybulletins/qb-archive/2016/qb3-16/gns-5-1-1-1-quarterly-bulletin-no-3-2016.pdf?sfvrsn=10

<sup>&</sup>lt;sup>21</sup> For contemporaneous media coverage, see also: China capital outflows: bank loans dwarf foreign deals, Financial Times, December 18, 2016. https://www.ft.com/content/7567f612-c2bf-11e6-9bca-2b93a6856354

slowdown seems high, which could also lead to pressures on the currency. Tensions with the US could also lead to pressure on China to liberalise their financial markets, which could make it harder to manage the exchange rate. The 2015 episode demonstrated the potential for the now large Chinese banking sector to affect global financial conditions. 22 In this context, it is important to note the considerable domestic financial market vulnerabilities that exist in China, not least because of the relatively high level of credit to GDP (156 per cent of GDP in 2017) for an emerging market economy.

The Chinese authorities have successfully used the available policy levers and buffers to manage growth over the past decade. Yet this continues to be a difficult balancing act. While China holds a large stock of foreign exchange reserves, the 2015 episode demonstrated how rapidly this stock can decline. Nonetheless, the comparatively muted reaction in net capital flows in recent months compared to the 2015 episode might reflect the fact that markets and Chinese residents may have become less sensitive to short-term exchange rate volatility, such that depreciations in line with fundamentals are now possible without causing financial havoc. This could eventually help to pave the way for the introduction of an inflationtargeting regime. However, a number of reforms were reversed after the 2015 episode, demonstrating the tension between progress toward financial development and liberalisation, and short-term financial stability.

It will be important to continue to monitor the Chinese economy. In the short term, spillovers to Ireland are likely to come primarily through indirect channels as direct linkages to China remain limited. Yet continued economic growth and financial reforms are likely to see China become ever more important for international trade and finance, as the financial system becomes more open to international capital flows and the international role of the Renminbi increases. Hence, economic and financial developments in China will increasingly have global implications.

<sup>&</sup>lt;sup>22</sup> Cerutti, E. and Zhou, H. (2018) The Chinese banking system: Much more than a domestic giant, VoxEU, February 09, 2018. https://voxeu.org/article/chinesebanking-system