BANCO DE ESPAÑA
Eurosistema

ECONOMIC BULLETIN 4/2017
ANALYTICAL ARTICLES

China's economic imbalances and the role of the financial sector

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5 October 2017

China's economic success in recent decades has been associated with a distinctive, highly investment dependent, pattern of growth, which has led to a high level of non-financial private sector debt. The Chinese authorities, recognising that this model has reached its limits, have made "rebalancing" the pattern of growth one of their key economic policy objectives. One feature of this rebalancing is that of promoting an orderly deleveraging process to avoid a sharp adjustment of the economy. In this context, this article discusses the challenges being faced by the Chinese authorities as they seek to reduce non-financial sector debt levels and mitigate the risks associated with the excessive growth of the financial system, and of the shadow banking sector in particular.

CHINA'S ECONOMIC IMBALANCES AND THE ROLE OF THE FINANCIAL SECTOR

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Introduction

China's economic success in recent decades has been associated with a distinctive growth pattern based on public investment and exports on the spending side and manufacturing industry on the supply side, accompanied by significant growth of non-financial sector debt. However, since the global financial crisis, this model has begun to show serious signs of exhaustion, which has ended up being reflected in a significant slowing of the rate of GDP growth. Thus, the Chinese economy has grown by less than 7% per year in real terms since 2015, compared with an average of 10.5% over the period 2000-2007. Thus, total factor productivity growth has been low and declining (see Chart 1.1) and the imbalances in the economy have widened.

The Chinese authorities, recognising that this situation fails to guarantee sustained economic progress, have made "rebalancing" the growth model one of their key economic policy objectives. In particular, the Chinese government included this objective in its 2011 and 2016 five-year plans. This complex and multidimensional process of rebalancing entails the transition to a new framework, the "new normal", characterised by acceptance of a more moderate economic growth rate and abandonment of an "unbalanced, uncoordinated and unsustainable growth model" [IMF (2016)]. The most significant aspects include boosting domestic demand to mitigate dependence on external demand, taking environmental issues into account, and a concern about income distribution [Zhang (2016)].

Deleveraging the economy and reforming the financial sector, particularly the banking sector and shadow banking sector,[1] are crucial aspects of this rebalancing process. Rising debt levels were accompanied by the extraordinary fiscal stimulus deployed by the Chinese government in response to the global financial crisis so as to shore up investment and GDP growth. At the same time, this was accompanied by the rapid expansion of the shadow banking sector. This growth not only contributed to the exponential growth of the financial sector, but also to increasing the risks stemming from the greater opacity, complexity and interdependence characterising this sector. The deleveraging process will need to take place against the backdrop of a complex institutional context, the features of which include the presence of state owned companies operating under conditions of skewed competition and responding to multiple conflicting goals. These goals are as much strategic (for example, stimulating internationalisation or employment) as economic, and can have an impact on profitability.[2]

This article discusses the challenges being faced by the Chinese authorities as they seek to reduce non-financial sector debt levels and mitigate the risks associated with the excessive growth of the financial system, and of the shadow banking sector, in particular. Section 2 describes the development and indebtedness of China's non-financial sector. Section 3 outlines the reasons for the rapid growth of the shadow banking sector and analyses its main characteristics. Section 4 reviews the measures taken by the Chinese

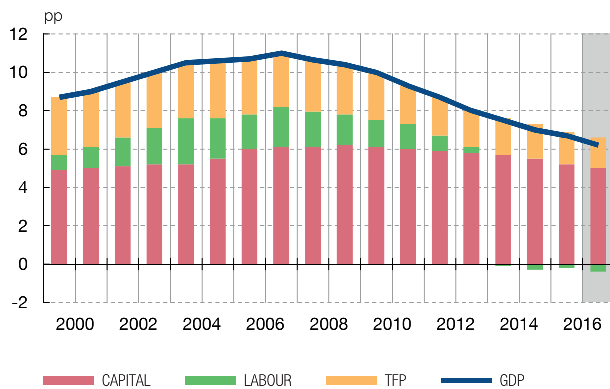
1 The shadow banking sector is defined as credit intermediation by entities and activities that are wholly or partially outside the ordinary banking system [FSB (2017)].

2 For further information, see Grieger (2016).

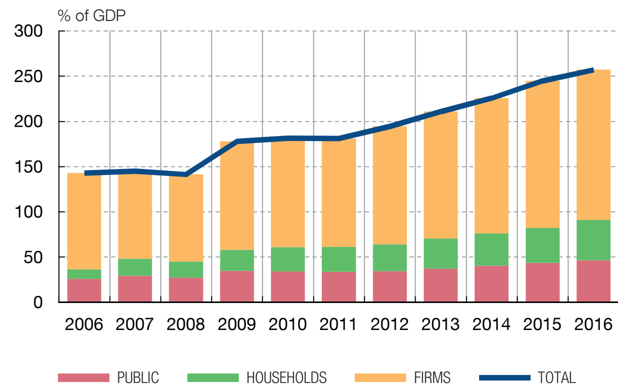
TRENDS IN CHINA'S GDP AND INDEBTEDNESS

CHART 1

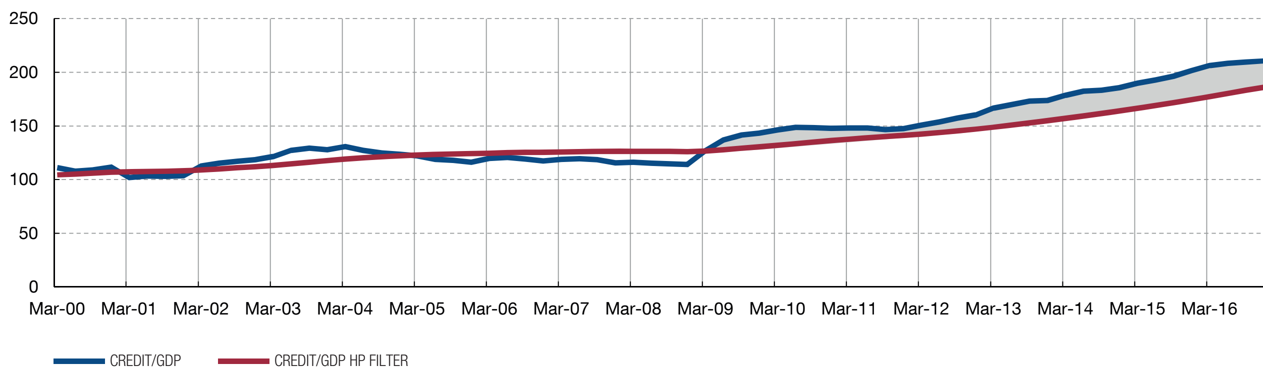
1 BREAKDOWN OF GDP



2 DEBT BY SECTOR



3 CREDIT-TO-GDP GAP



SOURCES: OECD, BIS.

authorities with a view to curbing the build-up of financial imbalances. Section 5 assesses some of the factors that could mitigate the emergence of a financial crisis and discusses the international channels of transmission should a crisis arise. Lastly, Section 6 concludes with the main challenges for the future.

The rising indebtedness of China's non-financial sector

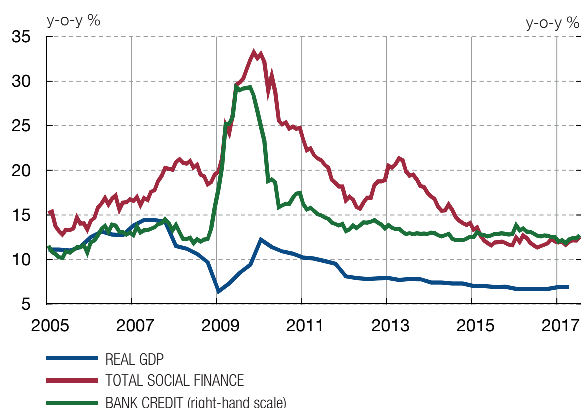
China has experienced rapid and widespread growth in lending to the non-financial sector, reaching a rate of 257% of GDP in late 2016 (see Chart 1.2), accompanied by high rates of investment in the economy. In particular, private sector debt rose by approximately 100 pp over the past decade, reaching 211% of GDP in the final quarter of 2016 [BIS (2017a)], while public debt came close to 46% of GDP.[3] Non-financial sector debt accounts for the bulk of aggregate private sector debt. Thus, over the past decade this sector's debt increased by 60 pp to reach 166% of GDP. This debt mainly comprises medium- and long-term loans associated with infrastructure and real estate projects, largely granted by state-owned enterprises[4] which are also financed by state-owned banks. Household debt, the other major component of credit to the non-financial private sector, still remains at acceptable levels by international standards, but it has also grown rapidly from 11% of

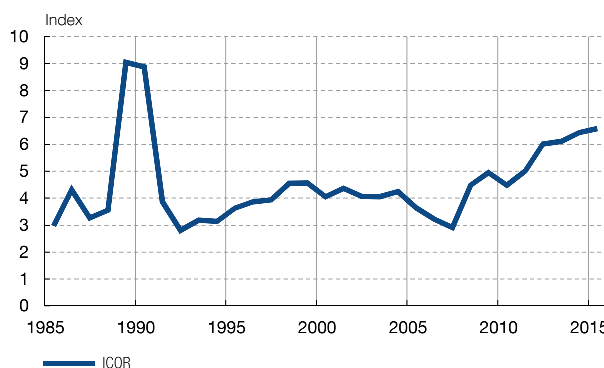
3 The real volume of public debt in China is hard to estimate and subject to a degree of controversy. This section presents the official statistics published by the Bank for International Settlements (BIS). Section 5 discusses this issue in more depth and looks at it in relation to the country's fiscal capacity.

4 The term "state-owned enterprises" (SOEs) refers to companies directly funded by the government or in which the government has a controlling or majority shareholding [OECD (2009)].

RESOURCE ALLOCATION EFFICIENCY METRICS

CHART 2





SOURCES: Datastream and CEIC.

GDP in 2006 to 45% of GDP in 2016. In this progress, the growth of residential mortgage loans stands out, accounting for approximately half of households' financial liabilities.

This high level of debt in absolute terms points to significant risks associated with the financial sector. The credit-to-GDP gap – the ratio commonly taken to signal excess credit in advanced economies – reached a record high[5] of 29% in the first quarter of 2016 (see Chart 1.3). Although this indicator has since gradually dropped, reaching 25% in the fourth quarter of 2016, the concerns about China's possible over-indebtedness have not abated. Firstly, the indicator remains at levels well above the thresholds usually estimated in early-warning models[6] and similar to those of economies suffering serious adjustments in the past [Maliszewski et al. (2016)]. Secondly, there has only been a slight slowing of credit growth, without a genuine deleveraging of the economy.

Rapid and widespread credit growth tends to result in less efficient resource allocation and creates the conditions for a future pick-up in the NPL ratio. Credit intensity, an indicator that measures the amount of new credit needed to generate one additional unit of GDP (see Chart 2.1), has risen systematically since the global financial crisis [Maliszewski et al. (2016)]. This means that the transmission of new credit to the real economy is increasingly limited. The level of misallocation of credit can be approximated with metrics of investment efficiency, such as ICOR (incremental capital output ratio). This ratio measures the number of units of input (capital) necessary to produce one unit of output (GDP). Its increase in recent years (see Chart 2.2) shows that the efficiency of investments – backed by credit – has declined. This is presumably because credit has been diverted disproportionately towards sectors with excess capacity or to an oversized real estate sector. These credit dynamics are particularly worrying in the light of the historical and international background [IMF (2017)] although China is taking far-reaching measures to curb it, and has substantial financial buffers.

The development of the shadow banking sector

As mentioned, the accumulation of debt by state-owned enterprises seeking to meet the government's strategic targets, and the characteristics of the huge fiscal stimulus with

5 Data have been available since 1995.

6 10% according to the BIS for advanced economies. The issue is more complicated in the case of emerging economies, and also implies, among other things, an assessment of the absolute debt level – which is very high in China's case – and the currency in which this debt is denominated, etc. [for more details see Drehmann and Tsatsaronis (2014); BCBS (2010), BIS (2017b)].

which the government responded to the global financial crisis, kicked off the process that has led to China's current indebtedness. The ambitious 4 trillion renminbi (approximately 11% of GDP) fiscal plan announced by China's Council of State in November 2008 and implemented in 2009-2010 focused primarily on infrastructure projects, the real estate sector, and a mixture of the two in the reconstruction after the 2008 Wenchuan earthquake. Nevertheless, only a quarter of the planned investment was financed directly from the central government budget. The remainder was provided by local governments and various public undertakings [Santabárbara (2009)], which consequently increased their debt substantially. In this process, local governments created "financing vehicles" whose sole – or majority – shareholder was the local government. In order to get round the legal restrictions prohibiting local governments from issuing bonds or running a deficit, these vehicles do not consolidate their financial statement [Bai et al. (2016)]. The Chinese government subsequently introduced a series of fiscal stimulus packages with the aim of regaining economic momentum, of which the package implemented between late 2016 and early 2017 was the most significant.[7]

This situation created the ideal conditions for the shadow banking sector to expand, namely: i) somewhat unprofitable recent credit growth; ii) growing demand for credit to continue infrastructure projects begun in 2009; iii) significant refinancing needs among LGFVs as their bank loans matured; iv) state-owned enterprises operating under conditions of distorted competition and geared towards meeting strategic rather than commercial objectives; v) investors' pursuit of higher returns in an environment of regulated interest rates, particularly in the case of deposits; vi) strong competition between banks, particularly small and medium-sized ones, to attract customer deposits; vii) opportunities for regulatory arbitrage between the formal banking sector and the shadow-banking sector, due to the legal limits on expanding assets in economic sectors in which banks invest,[8] and viii) a (partial) deregulation of the shadow banking sector[9] [Ouyang and Peng (2015); Liu et al. (2016); Acharya et al. (2017); Chen et al. (2017a); Chen et al. (2017b)].

In this context, the shadow-banking sector began to grow at a year-on-year rate of 15%-20% between 2011 and 2015, reaching over 50 trillion renminbi (70% of GDP), representing 50% of bank loans and 27% of assets in 2016 [Banco de España (2017); BBVA Research (2017)]. There was also a widespread increase in banks' direct exposure to the shadow-banking sector, although not all banks took part in this process with the same intensity. Exposures rose particularly among small and medium-sized banks (so-called "City Commercial Banks", CCBs, and "Joint-Stock Banks", JSBs), which rely on less stable funding sources, such as the interbank market and typical shadow-banking instruments. Moreover, this expansion materialised through a range of instruments, such as trust loans, the assets of trust companies, bank drafts, private loans and wealth-management products (WMPs) (see Chart 3.1).

WMPs are investment vehicles that banks and other financial institutions sell to investors in both the retail (e.g. households) and wholesale (e.g. the banking industry) segments. These instruments have expanded considerably over the last five years, coming to represent more than 50% of the shadow-banking sector in 2016 (see Chart 3.2). They

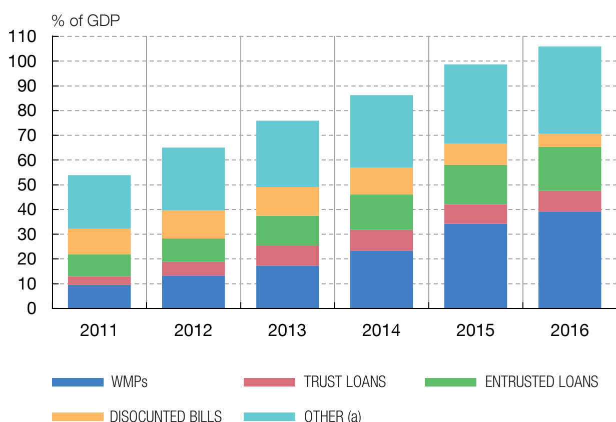
7 Initially (2008-2009), monetary policy shared fiscal policy's accommodative stance, but later became contractionary over the medium term (Xiong, 2012; Chen et al., 2017a).

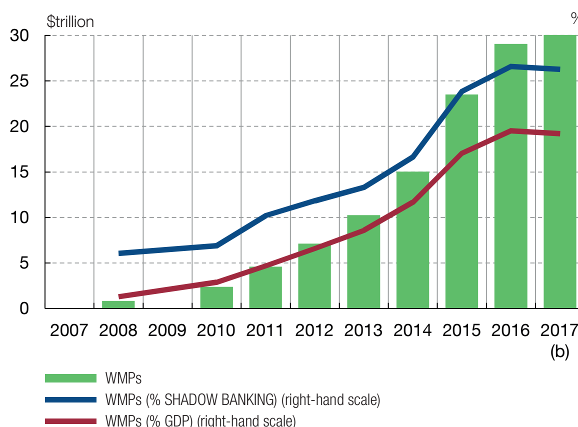
8 Restrictions on credit to high risk sectors such as real estate and sectors in which there is excess capacity.

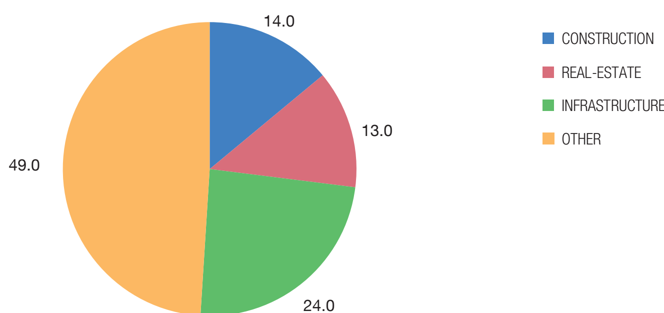
9 In particular, between 2014 and 2016, the People's Bank of China authorised the entry of wealth-management products (a detailed description is given below) into the interbank market, initially a limited number of products linked to the main banks, and subsequently, all institutional investors to limit financing structure complexity.

SHADOW-BANKING SECTOR

CHART 3







SOURCES: Datastream, CEIC, China Banking Wealth Management Registration System and BBVA Research.

a Share capital of non-financial companies, net private fixed income, foreign currency loans.
b Latest available data: 2017 Q2.

usually have fixed returns, at rates above those on deposits, which were fully deregulated in October 2015 [Cuadro-Sáez and Gallego (2016)], and a very short, fixed maturity (at end-2016, 60% of WMPs had maturities of between 1 and 90 days, and over 35% between 3 and 12 months). Although they are not guaranteed, investors assume there to be an implicit guarantee from the banks, and the banks, in turn, assume there to be an implicit guarantee from the government. These guarantees distort WMP prices, as investors underestimate their exposure to these products' underlying assets and only partially internalise the risk. In 2016, WMPs' underlying assets derived mainly from the construction industry (14%), housing (13%), and infrastructure (24%) (see Chart 3.3), the weight of these sectors having increased in recent years [BBVA Research (2017)].

In short, WMPs, and the shadow-banking sector in general, entail a series of risks. These range from credit risk (given the large exposures) and financing risk (high levels of leverage and asymmetry between the maturities of assets and liabilities), deriving from their complex, opaque structure, their procyclicality, and the risk of contagion through ownership of the instruments [IMF (2014)]. Indeed, the direct exposure of the regulated banking industry to the shadow-banking sector is one of the issues raising the biggest question marks over China's systemic risks: bank assets invested in the shadow-banking sector represent 11% of the total, whereas funding sources deriving from the shadow-banking

sector account for 14% of the total. Nevertheless, these aggregate figures, which reveal significant exposures, might be masking a wide heterogeneity of exposures across different banks. Moreover, the banking sector could be exposed to other risks through indirect channels, as WMPs have invested substantial sums in capital markets, such that any increase in market volatility could have a major impact on banks' profit and loss accounts. Meanwhile, households and businesses also have strong connections with the shadow-banking sector, which channels 19% of bank loans to businesses and holds 26% of bank deposits [BBVA Research (2017)].

The authorities' response to curb the accumulation of financial imbalances

The state of China's financial sector poses a number of heterogeneous medium- and long-term challenges to financial stability. The relevant authorities (the PBoC, CBRC, CSRC and CIRC)[10] have adopted a series of measures to mitigate systemic risks. These include monetary policy and macroprudential measures, regulations (geared towards eliminating opportunities for regulatory arbitrage,[11] limiting the freedom of movement of capital, and moderating the dynamism of the property market) and market-based initiatives (debt-for-equity swaps and the creation of a market for past-due loans). The vast majority of these measures are directly aimed at the shadow-banking sector.

Monetary policy has adopted a new instrument panel in response to the dual goal of safeguarding macroeconomic and financial stability. To this end, the PBoC has raised interest rates directly related to the money markets (reverse repos and medium-term lending facilities)[12] while interventions on benchmark interest rates for deposits and loans have been abandoned, with a view to averting an excessive slowdown in activity in a context of low inflation.

For its part, macroprudential policy has been geared towards encouraging a balanced deleveraging of the financial sector. Two things stand out in this context: (i) the inclusion of WMPs in the PBoC's macroprudential assessments as of the first quarter of 2017, so as to enable a fuller risk analysis; and (ii) approval of a series of directives and regulations on a broad range of issues.[13]

The set of policies adopted by the Chinese authorities includes constraints on capital movements, in contrast with the preceding trend towards deregulation,[14] and regulations on the property market. However, the measures taken to control capital outflows have constrained the possibilities of investing abroad. In conjunction with limited domestic investment opportunities, this has resulted in excessive concentration of households' savings in the real estate sector. This is driving sustained rapid growth in property prices, construction, and the stock of unsold flats [Glaser et al. (2017)].[15] Although the Chinese

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10 PBoC = People's Bank of China; CBRC = China Banking Regulatory Commission; CSRC = China Securities Regulatory Commission; CIRC = China Insurance Regulatory Commission.

11 At the recent "National Financial Work Conference" in July (convened every five years to develop the guidelines for financial sector conduct) a "Financial Stability and Development Committee" was established to create an institutional framework to eliminate regulatory arbitrage and encourage coordination between the various different Chinese institutions.

12 This measure was implemented not only to slow the excessive growth of shadow banking, but also to limit capital outflows, curb the depreciation of the renminbi, control the development of the property market, and signal to the market the moderate tightening of monetary policy.

13 Some examples include: the effective reduction of the permitted loan volume limits by including new products such as interbank refinancing for trade in the loan account; and strict regulation by the CBRC of activities of asset management products (AMPs) and banks' accounting practices.

14 From 2013 until mid-2016, China's domestic financial liberalisation advanced rapidly (interest rate, monetary policy instruments, and ownership structure of the banking system), with somewhat slower progress on the external front. For further details Cuadro-Sáez and Gallego (2016).

15 The authorities implemented various measures in late 2016, mostly at local level, in an effort to bring the situation under control. The main outcome has been a shift in demand towards cities with fewer restrictions.

real estate sector has certain characteristics that could give it a degree of stability (Chinese households consider home-ownership to be a longer-term investment than in some other countries, so the market tends to be less speculative; there are close links between property developers and the public sector; and the public sector plays a big role in the large-scale development of social housing), if there were to be a negative shock in the sector, the risks of contagion to the Chinese economy through the real and financial channels may be significant [Chan et al. (2016)].

The authorities have also implemented market mechanisms intended to help the banking industry divest itself of its higher-risk assets. These mechanisms include debt-for-equity swaps and the creation of a market for past-due loans. In any event, given the risk perception the Chinese economy is facing, it is worth analysing the potential for system-wide contagion and the buffers available to the economy.

Possible buffers and contagion effects in the Chinese economy

According to official data, apart from its interconnectedness with the shadow-banking sector, the formal banking industry's position is relatively robust, with a low NPL ratio (1.7% in the first quarter of 2017) and high capital ratios – an average of 12.8% for listed banks, in the first quarter of 2017,[16] [KPMG (2017)]. Profits, measured in terms of net interest income, are also high (2.1% in the first quarter of 2017), although the trend is downward, with a drop of 32 bp last year.[17] However, it is possible that the effective NPL ratio is higher, as the banks have incentives to delay recognition of non-performing loans, whether directly or indirectly through various financial instruments available in the shadow-banking sector [Bushman and Williams (2015)]. On this point, Fitch (2016) estimates that the NPL ratio could be somewhere between 3% and 20%, which would imply that an economic slowdown might have a much bigger impact on the banking industry than the official figures would suggest.

As mitigating factors for these risks, it should be noted that the PBoC has developed a broad set of tools to help prevent – or mitigate the effects of – a liquidity crisis [Bell (2013)], and it has access to substantial foreign exchange reserves (see Chart 4.1). The government also has considerable bail-out capacity, given the moderate levels of public debt: 46% of GDP according to the BIS, rising to somewhat over 60% on its broad definition according to the IMF,[18] although these levels are expected to rise in the medium term. Lastly, the high saving rate among China's households (see Chart 4.2) could also be considered a buffer against possible shocks, although in recent years households have tended to move their savings from bank deposits into less liquid, higher-risk investments (such as the property market or the shadow-banking sector). Moreover, it should also be borne in mind that households with the highest debt levels are not necessarily those owning the most assets.[19]

Were these risks to China's economy to materialise, they are likely to spread beyond the country's borders. The impact would mainly be propagated along three channels of transmission [Dizioli et al. (2016)]:

- Trade. A sudden correction in China's financial imbalances would translate into reduced private demand, which would shrink imports, particularly of end products, but also of intermediate goods.

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16 This ratio corresponds to 10.6% when Tier-1 is considered. There are spreads of over 480 bp between entities.

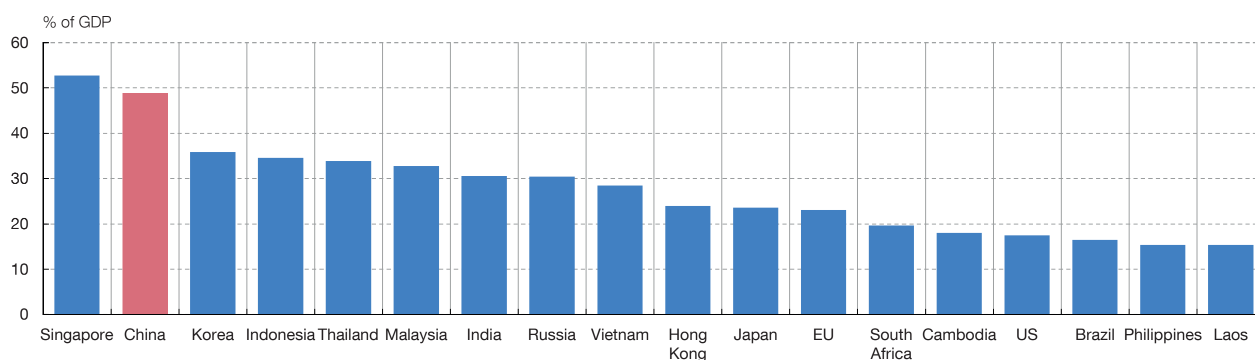
17 Similarly, net profit margins contracted as a result of market interest rates rising faster than the prices of assets on bank balance sheets.

18 The IMF's Article IV consultation report (2017) defines "augmented" public debt as the sum of public debt in its traditional definition, LGFVs and other government funds. For more details, see IMF (2017).

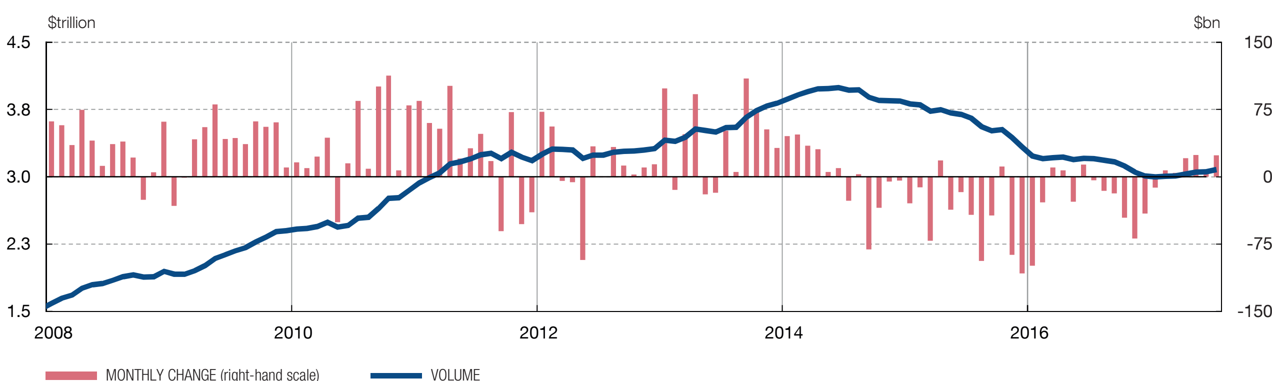
19 However, in this latter case there are regulations limiting the scale of the possible mismatch. One example is that of the regulations on mortgages, which require an initial payment of at least 35% of the value of the property.

POSSIBLE BUFFERS | CHART 4

1 NATIONAL SAVING RATE



2 INTERNATIONAL RESERVES



SOURCES: Datastream and CEIC.

— Commodity prices [Farooki and Kaplinsky (2012)]. China is the biggest consumer of almost all the world's raw materials, such that a slowdown in its economy (or a change in its composition, with a smaller contribution from investment), would have a negative effect on commodity prices and commodity exporters' terms of trade. Importers would benefit, but the aggregate effect, including the trade channel, would be negative overall.

— Financial sector. Despite the sector's process of liberalisation over the past decade, controls on capital flows in and out of the country continue to play an important role and the Chinese financial sector still has limited cross border links. However, a negative event in China could trigger a crisis of confidence in global financial markets. The most likely consequences would be an increase in volatility, with capital outflows and exchange rate depreciations in other emerging economies, particularly those with weaker economic fundamentals. Moreover, if China were to use its foreign exchange reserves – largely comprising US sovereign bonds – as a buffer, US long-term interest rates would rise [Warnock and Cacdac-Warnock (2009)],[20] with global repercussions.

20 In their article, Warnock and Cacdac-Warnock (2009) show that foreign capital flows are a determinant of the course of US government bond yields. In their absence, the interest rate could have been around 80 bp higher.

Some of the impacts just alluded to were observed in early 2016 during the bout of turbulence triggered by doubts about the ability of the Chinese authorities to maintain their control over the course of the country's economy.

Conclusions

China is confronting a transition towards a new growth model that is more balanced and sustainable. This process involves certain risks associated with imbalances that have built up in the economy. In particular, the Chinese economy is facing a historically high level of indebtedness and a diminishing contribution from productivity to economic growth. In this context, the authorities face a dual challenge of controlling the rate of deceleration while safeguarding financial stability.

5.10.2017.

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