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Some Rising Pressure Points in Global Debt

Introduction

Global leverage has been rising as a share of GDP over the past decade. This is a growing concern, as questions around sustainability loom large in some pockets. Also, although global financial conditions remain largely accommodative, debt servicing costs will continue rising over the next year after an extended period of low borrowing costs, putting pressure on balance sheets.

Some Rising Pressure Points in Global Debt

BY STEVEN G. COCHRANE, KATRINA ELL AND MARC KOROBKIN

Global leverage has been rising as a share of GDP over the past decade. This is a growing concern, as questions around sustainability loom large in some pockets. Also, although global financial conditions remain largely accommodative, debt servicing costs will continue rising over the next year after an extended period of low borrowing costs, putting pressure on balance sheets.

Global trends

As the global business cycle has advanced over the 10 years since the financial crisis, the global economy has accumulated a record amount of outstanding debt when measured as a percentage of gross domestic product. Data from the Bank for International Settlements trace global debt back to 2001 (individual country data go back further), when total global nonfinancial sector debt amounted to 191% of global GDP. It rose quickly following the dot-com bust of 2001 as governments increased spending to avoid recession. It reached 210% of GDP as the global economy entered the financial crisis in 2007. Fiscal stimulus caused debt to rise again through to 2013, and the subsequent slow pace of economic growth combined with historically low interest rates allowed total debt to continue to rise, reaching a record 246% of GDP by the first quarter of 2018.

This paper examines patterns of debt through time and across countries as well as across the household, corporate and government sectors to determine where there have been significant changes and implications for the economic outlook. This research will examine the global pattern but will focus on the Asian economies.

Debt has accumulated across the globe, but regional patterns vary (see Chart 1). A higher proportion of the debt has accumulated in China and other emerging markets. China's total nonfinancial debt has risen over the past 10 years from 141% of GDP in 2008 to 261% in the first quarter of 2018. It has risen above the ranks of other emerging markets to exceed that of the U.S. and match the euro zone's.

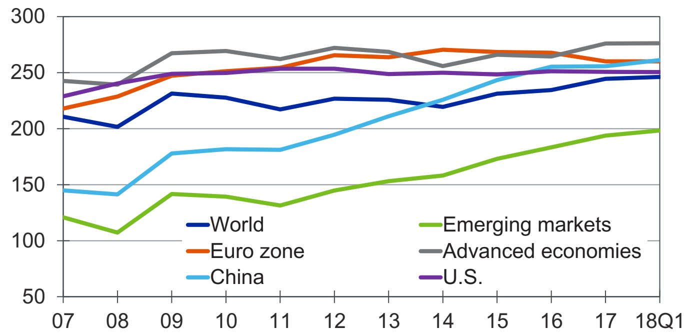
Although China's debt has marched inexorably upward since the 2008-2009 global financial crisis, when central banks worldwide went on a lending spree to stimulate their economies and avoid recession, total debt relative to GDP in the U.S. and the euro zone already peaked over the course of the past decade. The debt-to-GDP ratio in the U.S. peaked in 2011 as mortgage foreclosures were resolved and lending patterns tightened. The euro zone's ratio peaked in 2014 as it struggled to rein in sovereign debt. Further, the pattern of debt growth has varied greatly when comparing debt issued to households, corporations or government.

Household debt has tended to converge over the past 10 years in the advanced economies, including the euro zone and the U.S., reducing exposure to household debt, while China and other emerging markets have expanded household debt (see Chart 2). The movements in the U.S. and China went in opposite directions; household debt as a share of GDP fell 25 percentage points to 75% in the U.S. from 2007 to early 2018, while it rose in China by just more than 25 percentage points to end at 50% of GDP. Further, the shifts in both countries have largely been related to mortgage debt, as housing markets in China have boomed and those in the U.S. struggled under a severe price correction and subsequently tight mortgage-lending standards. The pullback or lack of growth among the advanced economies has offset emerging-market household debt to maintain a fairly flat global pattern over the past decade.

Corporate debt is a different story. In China, corporate debt has soared from just less than 100% of GDP to nearly 165% in

Chart 1: Debt Rises Across the Globe

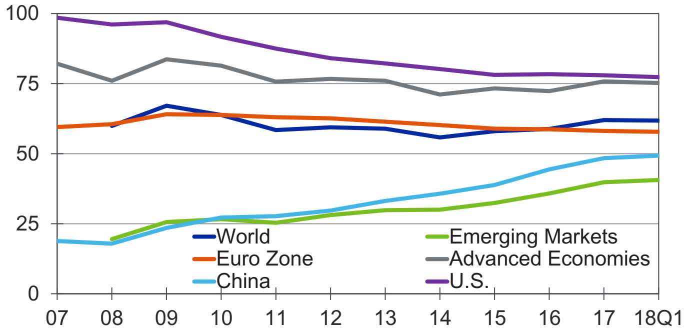
Total nonfinancial sector debt, % of GDP



Sources: BIS, Moody's Analytics

Chart 2: Household Debt Converges

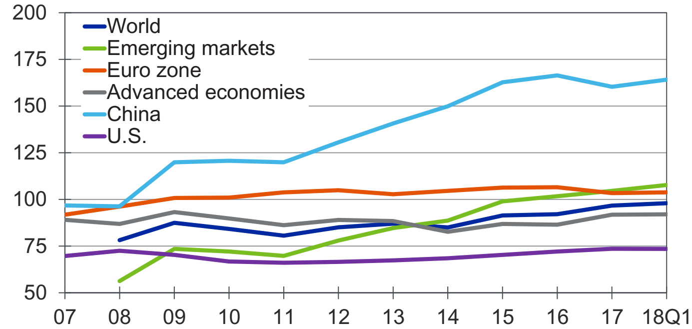
Total household debt, % of GDP



Sources: BIS, Moody's Analytics

Chart 3: Surge of Corporate Debt in China

Total nonfinancial corporate debt, % of GDP



Sources: BIS, Moody's Analytics

the first quarter of 2018 (see Chart 3). Only in 2017 did this figure fall by more than a rounding error as policymakers worked to rein in credit and begin a long-awaited deleveraging process.

In the U.S., the corporate debt cycle had followed the early years of the business cycle, peaking in 2008 and then falling through 2011. But historically low interest rates encouraged an uptick in lending as the economic recovery gained traction, so that corporate debt peaked at 73.6% of GDP in 2017, which held steady through the first quarter of 2018.

Sovereign debt is the only component that has been rising slowly but steadily across the world (see Chart 4). Government debt rose sharply in the U.S. and other advanced economies through 2012 because of stimulatory monetary policy. But as austerity replaced stimulus, the debt-to-GDP ratio leveled off. The same was true in the euro zone, but with a lag of about two years. In China, a sharp stimulatory rise in debt in 2009 has been followed by a very slow but steady gain. The gap between emerging-market government debt and that of the advanced economies has actually widened over this time.

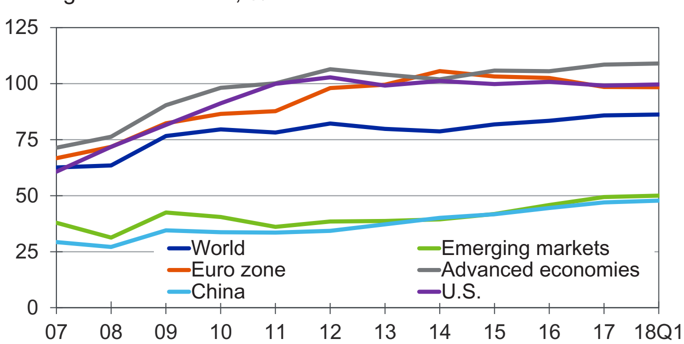
Recent trends

Developed economies generally can manage higher levels of debt relative to GDP, with a cluster of them ranging between 200% and 300% (see Chart 5). These countries, mostly in Europe and North America, have better regulatory control, more transparent loan origination standards, and stronger portfolio management methods. Levels of debt in a few of these countries, however, have risen rather quickly in recent years. Norway, France, Canada and Austria have each had an increase greater than 20 percentage points as a share of GDP over the past five years. But Ireland, Spain and Denmark are among the countries where debt has fallen significantly over this period. The data for Ireland, however, overstate the improvement because of revisions to GDP that raised its value by 25% in 2015 as several large foreign firms switched their operating base to Ireland via acquisitions of small, locally based firms. Following their change of domicile, their operations were incorporated into the corporate sector of Irish GDP. So although exposure to debt has improved in Ireland, the BIS data overstate the case. But Spain, Denmark and Portugal have seen real improvements in recent years, while Greece has not.

Most emerging markets have much lower debt-to-GDP ratios than developed economies. But in some cases, total debt has risen quickly; Chile, Brazil, Turkey and Saudi Arabia are examples. Some of the greatest increases, however, have been in Asia. Hong

Chart 4: Government Debt Edging Upward

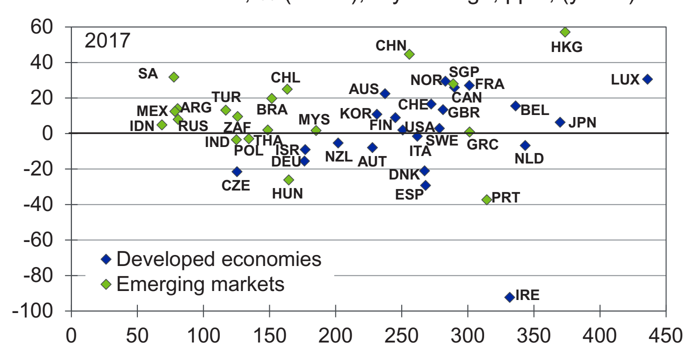
Total government debt, % of GDP



Sources: BIS, Moody's Analytics

Chart 5: Total Nonfinancial Debt

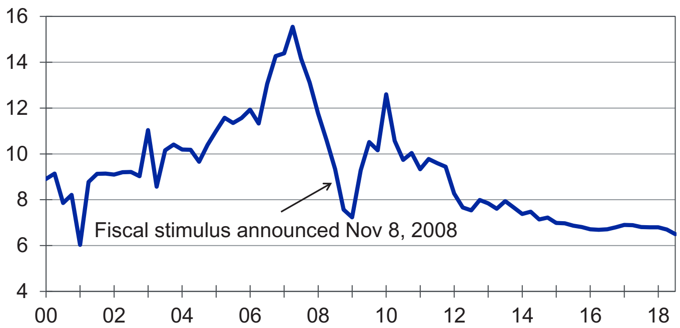
Total debt-to-GDP ratio, % (x-axis), 5-yr change, ppts, (y-axis)



Sources: BIS, Moody's Analytics

Chart 6: Chinese Stimulus Drove a Rebound

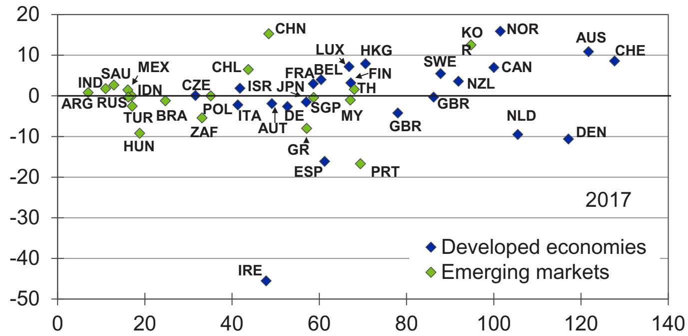
China real GDP, % change yr ago



Sources: National Bureau of Statistics, Moody's Analytics

Chart 7: Varied Household Debt Patterns

Household debt-to-GDP ratio, % (x-axis), 5-yr chg, ppts, (y-axis)



Sources: BIS, Moody's Analytics (classifications according to MSCI Index)

Kong joins China as countries with the fastest-growing debt relative to GDP reported by the BIS between 2013 and 2017.[1] China's debt began to rise earlier in 2009, when it pumped liquidity into its economy to avoid recession during the financial crisis. Beijing implemented an unprecedented US$586 billion (13.4% of GDP) stimulus package, more than 30% of which was allocated to infrastructure.

This helped to propel real GDP by 9.3% in 2009 and 10.7% in 2010, while much of the rest of the world suffered the ill effects of the financial crisis (see Chart 6). But the cost was a more highly leveraged economy with the total debt-to-GDP ratio rising nearly 35 percentage points in 2009 alone and 114 percentage points over the 10 years ended in 2017 to 257% of GDP.

China and Hong Kong were not alone in continuing to allow debt to rise over the past 10 years. Indeed, the debt-to-GDP ratio rose continuously during this period in 21 of the 41 countries the BIS tracked, divided about equally between emerging markets and developed economies. Most countries did make an effort to rein in debt when the effects of the financial crisis began to wane. But during the five years ended in 2013 as well as the four years that followed, Hong Kong and China ranked first and second, respectively, for the gain in total debt relative to GDP.

Since patterns of debt accumulation in recent years vary greatly across the household, corporate and government sectors, the subsequent sections will review each in turn. Additionally, since household debt relative to GDP in Asia and in most emerging markets has been consistently rising over the past 10 years while it has fallen in most developing economies, this paper will begin with household debt and will focus on its patterns in the Asia-Pacific region.

Household debt

The global household debt-to-GDP ratio barely rose over the past 10 years, from just less than 60% in 2008 to 62% in 2017. During this period it dropped to less than 56% in 2014 before rising again. This relative stability, however, hides important differences across the globe that generate risks for emerging markets.

First, while the aggregate household debt-to-GDP ratio across developed economies is below its level of 10 years ago, the trend has turned in the past five years in a number of countries, mostly where rapidly rising house prices have increased mortgage debt. Australia, Norway, Switzerland and Canada are among those that not only have the fastest-rising household debt-to-GDP ratios, but also the highest ratios as well (see Chart 7). Denmark and the Netherlands are similarly high, but their ratios have improved by about 10 percentage points over the past five years.

Among developing economies, although the aggregate household debt-to-GDP ratio has consistently risen over the past 10 years, the details are mixed. Among those the BIS monitors, about the same number of countries have experienced declines in exposure to household debt as those with increases. However, the outliers are significant and indicate rising risks in Asia, as South Korea, Hong Kong and China have the highest household debt-to-GDP ratios in the region as well as the greatest gains in this measure over the past five years. Indeed, the growth rates of debt relative to GDP in China and Korea rival those of Norway and Australia.

Asia's household debt is a rising pressure point

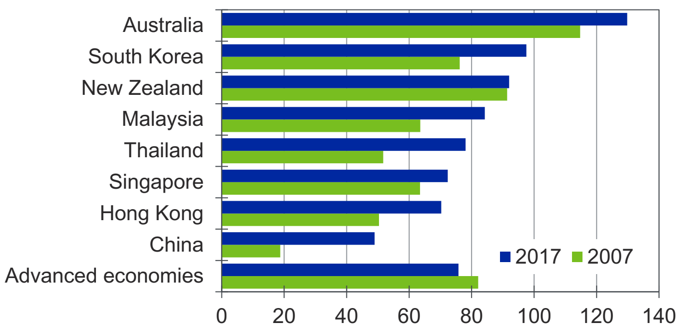
The remainder of this section will focus on patterns of household debt in the Asia-Pacific region, where households have taken on increasing amounts of debt with higher consumer spending and homeownership. Thus, consumers are more vulnerable to adverse shocks even as national regulators work to temper loan growth. Australia's hefty household debt looms particularly large, with leverage heavily tied to the local property market. In South Korea, easing credit requirements in 2014 encouraged households to take on greater debt.

Household leverage has increased across the Asia-Pacific region (see Chart 8). This is a rising concern as central banks begin scal-

1 It should be noted that some very small countries with a very large presence of firms operating internationally will have a debt-to-GDP ratio that may be overstated. In these cases, GDP may understate the size of overall economic activity because, by its definition, it does not include the value of final goods and services produced outside of the country. Thus, the denominator in the debt-to-GDP ratio is smaller, creating a larger ratio. Such economies include Hong Kong, Luxembourg and Singapore. An alternative method of measuring debt as a percentage of the total economy would be to create a debt-to-GNP ratio. GNP, or gross national product, does include goods and services produced abroad by firms based within the country of interest.

Chart 8: Household Leverage Crept Higher

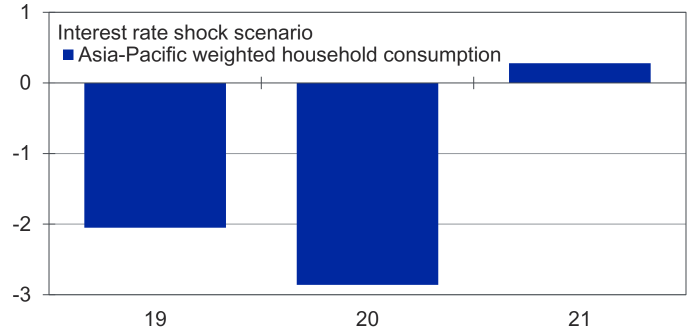
Household debt as % of GDP



Sources: BIS, Moody's Analytics

Chart 9: Vulnerable to Rate Hikes

% change yr ago, ppt deviation from baseline



Sources: Moody's Analytics Calculated and Forecast, Moody's Analytics

ing back the extraordinary stimulus released with the 2009 financial crisis, exposing households to higher debt-servicing costs. While financial conditions remain largely accommodative, they are tightening and are forecast to do so at least through 2019. In economies with a relatively large stock of household debt, central banks must proceed with caution when normalizing policy.

High household debt ultimately holds back consumption, because although there may be an initial increase in spending when the debt is taken on, this fades as consumers allocate a portion of their income to servicing the debt rather than to new purchases.

Consumers are critical to economies across the Asia-Pacific region. Households in developed economies often represent the largest expenditure share of GDP, and in developing economies consumers are of rising importance. Typically, household debt tends to be higher in developed economies, but in emerging markets across Asia, consumer loans tend to be of short durations—with fixed long-term rates uncommon—so higher debt-servicing costs can be quickly felt with higher lending rates.

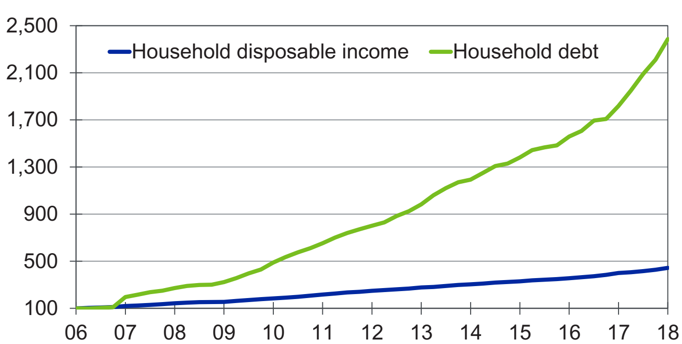
Quantifying sensitivity

High household debt means that consumers are more vulnerable to adverse shocks, including a downshift in economic activity that may cause job losses and subsequent problems servicing loans. We used our global macroeconomic model to quantify the sensitivity of household consumption to tighter lending conditions. This is particularly important, given that debt burdens are higher than in prior tightening cycles.

We examined the downside scenario of a supply-side shock to oil prices, where there is a reduction in global oil supplies from further sanctions on various oil-producing nations, which reduces global oil supply and pushes oil prices above US$90 per barrel in late 2019. This causes global inflation to accelerate, and central banks around the world respond to higher inflation by sharply increasing interest rates to try to anchor inflation expectations. Central banks in Asia respond with varying aggression, with around 100 to 150 basis points of additional hikes in 2019 on average.

Chart 10: China's Household Debt Runup

China 2006Q1=100



Sources: BIS, National Bureau of Statistics, Moody's Analytics

Under this scenario, the Asia-Pacific region's weighted private consumption expenditure component of GDP is 2.05 percentage points below baseline in 2019 at 2.3% y/y and is 2.9 percentage points below baseline in 2020 at 2.3% y/y (see Chart 9). We attach a 10% probability to this tail-risk event occurring. Although extreme, the scenario demonstrates the high sensitivity of household consumption to a sudden tightening of lending rates relative to the baseline projection, which forecasts gradual normalization in most cases.

China's rising household leverage

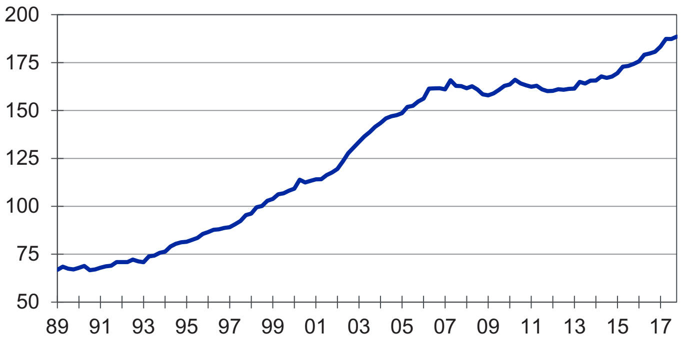
China's household leverage often flies under the radar, but it should not. Household debt hit a record high at almost 50% of GDP in the March quarter of 2018, according to the BIS. Household debt has increased almost 40 percentage points in the past 12 years (see Chart 10). The meteoric rise has been partially fueled by households being able to access bank loans only from 2003, so there is an element of catch-up. Moreover, a fully fledged private housing market did not develop until the late 1990s, when employer-allocated housing was abolished following a series of other market-oriented reforms to the housing sector.[2]

More than half of household debt is tied to the housing market, according to the

2 Reserve Bank of Australia, "China's Property Sector." Bulletin (March quarter 2015): 45-54.

Chart 11: High Aussie Debt Burden

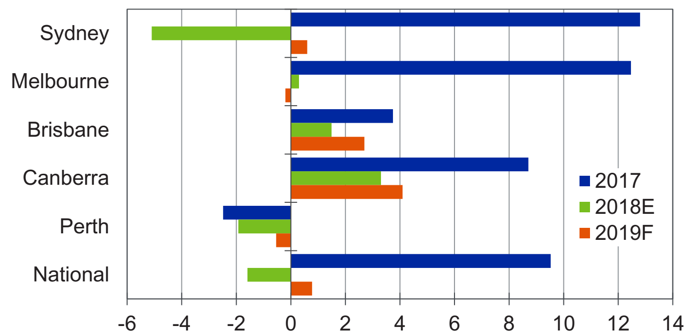
Household debt-to-disposable income, %



Sources: RBA, Moody's Analytics

Chart 12: Engineered Housing Slowdown

Greater Australian capital-city house value forecasts, % change



Sources: CoreLogic, Moody's Analytics

People's Bank of China. The strong gains in house prices in recent years, especially in Tier 1 cities such as Shanghai and Beijing, have contributed, as has the lack of alternative investment options.

Consumption has been rising in importance in China's economy along with rising incomes and the growing middle class, so an increase in debt is expected. But what is concerning from a sustainability perspective is the rising mismatch between household debt and disposable income. For the past six years, disposable income has increased an average 10% y/y, while household debt has grown an average 20%. In the past year, the average household debt growth rate has increased to 26%.

Aussie consumer debt tied to property

Australia's economy is highly regarded for its 27 years of recession-free growth, an enviable run by developed-economy standards. But the downside risks from the nation's hefty household debt loom large. Australia's household debt-to-disposable income ratio is running at almost 200% of GDP, according to the Reserve Bank of Australia (see Chart 11).

Australia's household debt is closely linked with the property market, where values have gained significantly in recent years. The Australian dream of homeownership has largely not wavered, even with prices being well above estimates of fair value, especially in the most desirable markets of Sydney and Melbourne. So with dwelling values rising, household debt has, too.

There are a few factors that keep the panic around the large stock of and runup in household debt at bay. The first is the regulatory environment. The Australian Prudential Regulation Authority has introduced a number of restrictions on bank lending, including to the housing market, in recent years to stem the continued upward trend in household leverage and house prices. This has had a noticeable impact on lending to investors, which has risen. Higher funding costs have also prompted some lenders to raise mortgage interest rates independent of the RBA's official cash rate in 2018. This has contributed to the cooling of the housing market, especially in Sydney and Melbourne. Regulatory measures have driven improvement in the quality of banks' mortgage lending. For instance, the stock of interest-only loans (where borrowers tend to carry higher leverage than other loan types) has fallen by 10 percentage points since June 2017 to just under 30% of outstanding loans, according to the RBA's Financial Stability Review for October 2018.

Moody's Analytics forecasts that national housing values will continue cooling through most of 2019 (see Chart 12). It is impressive that the APRA has so far been able to engineer a likely soft landing in house prices, and if the market were on a faster-than-desired cooling trend, the regulatory lending restrictions could be reversed quickly, if need be. If ultimately successful, Australia's housing market will remain one of only a handful of developed housing markets to have avoided a sizable correction.

The second comfort is that Australia's macroeconomic outlook remains favourable. GDP growth is expected to remain around potential at 3% in the next two years. A healthy economy will keep employment growth ticking up, while the RBA is not forecast to begin a mild tightening cycle until mid-2020 at the earliest, helping to keep debt service costs down.

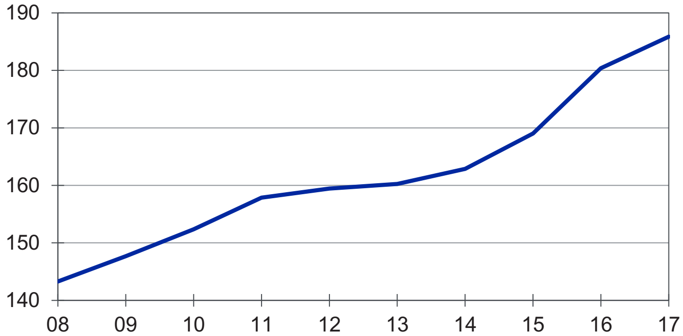
But there is still cause for concern. Given that most household wealth is in the relatively illiquid asset of housing, there would be systemic implications if instances of repayment difficulties increase. For example, a significant rise in unemployment could force some households into delinquency, ultimately leading to a glut of housing supply on the market. So while regulators can have a handle on managing local risks, households and the economy are still vulnerable to a broader economy-wide shock.

Easier credit conditions lifted leverage in South Korea

South Korea's household debt-to-disposable income ratio was 186% in 2017, according to the OECD (see Chart 13). The most recent acceleration in household loan growth occurred after mortgage loan requirements were eased in 2014 to bolster domestic demand. This involved raising the maximum allowable loan-to-value ratios as well as the allowable debt-to-income ratio. This is a problematic strategy in the medium term because those allowed into the market by relaxed restrictions have a higher probability of problems servicing loans.

Chart 13: Highly Leveraged South Koreans

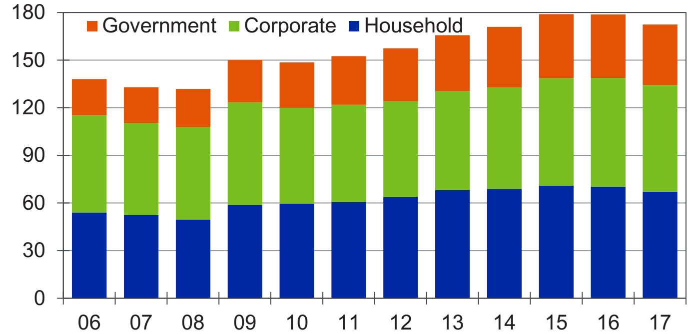
Household debt-to-net disposable income ratio, %



Sources: OECD, Moody's Analytics

Chart 14: Debt Has Climbed

Debt by sector, Malaysia, % of GDP



Sources: BIS, Moody's Analytics

Subsequently, the government tightened consumer credit conditions in 2017 to dampen household debt growth. The Financial Services Commission announced new guidelines in late 2017 for home mortgage loans, requiring financial institutions to examine a borrower's income for two years, higher than the prior one-year requirement. For borrowers with existing mortgages wishing to apply for a new one, the commission changed the previous rule where only interest payments for previous loans were counted as debt to now include the principal as well. The financial regulator also released guidelines for loans to self-employed workers aimed at protecting those at risk of becoming overleveraged.

Pressure is rising on the Bank of Korea to tighten rates further on top of the 25-basis point hike at the November board meeting. We expect more increases in the next two years, with the policy rate rising from 1.75% to 3% by the December quarter of 2020. Weakened domestic demand and employment growth, alongside the uncertain and cooling global outlook, are holding back more aggressive tightening, as is hefty household leverage.

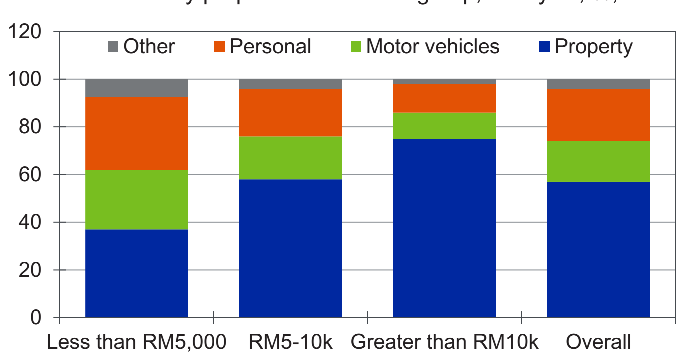
Malaysia's relatively rapid debt runup

Malaysia has had a broader trend towards higher debt levels (see Chart 14). Government debt has increased from 23% of GDP in 2006 to 38% in 2017, according to the BIS. The Mahathir government has made fiscal consolidation a policy priority, and part of this has meant that some important infrastructure projects have been sidelined.

Malaysian households are among the highest-leveraged in Asia. Around 50% of household debt is tied up in residential housing loans, according to Bank Negara Malaysia (see Chart 15). Malaysia has a relatively high homeownership rate; it was 76% in 2016. However, homeownership has become less attainable because it has become less affordable. In 2016, Malaysia's house prices were on average around five times the annual median household income, up from 4.4 in 2009.

Chart 15: Lower Incomes, Less Housing

Household debt by purpose and income group, Malaysia, %, 2016



Sources: Bank Negara Malaysia, Moody's Analytics

The ratio of loans on non-appreciating assets is relatively high at 49.7%, and this includes car loans, personal loans and credit cards; car loans represented the bulk at 26%. The high debt burden is more prevalent among lower-income households, who are more highly exposed to personal and motor vehicle loans. For 21% of households earning less than RM3,000, more than 60% of their income is used to repay debt, according to Bank Negara Malaysia.

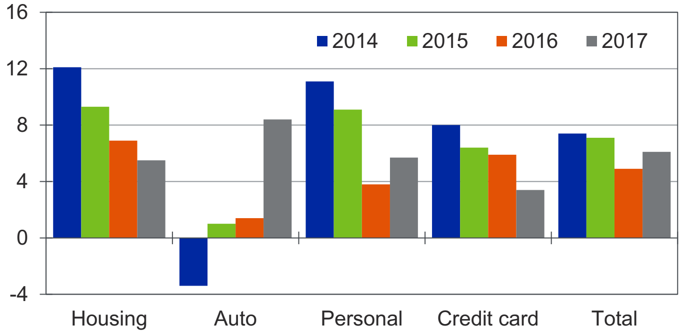
Vehicle loans have increased leverage in Thailand

Thailand carries the second-largest household debt burden among ASEAN economies, after Malaysia. Both countries have higher consumer borrowing levels as a share of GDP than does higher-income Singapore. Household debt stood at 68% of GDP in the first quarter of 2018, down from a peak of more than 70% in 2015 but still up from just 44% a decade ago.

Consumer loans represent 33% of total loans in Thailand. Much of the runup in household debt since 2008 can be attributed to the increase in housing loans, which account for the largest share of consumer loans at 16%. This has contributed to the 40% increase in house prices since 2008, with near record-low interest rates since 2015 providing a further lift. However, growth of housing loans has cooled and is poised to moderate further, as the Bank of Thailand will limit loan-to-valuation ratios for new mortgages to 80% (down from 90%) in 2019 for house purchases of at least 10 million baht and for any subsequent house purchased. This move should help to alleviate growing concentration risks in the financial sector, with a rising

Chart 16: Rapid Auto Lending Growth

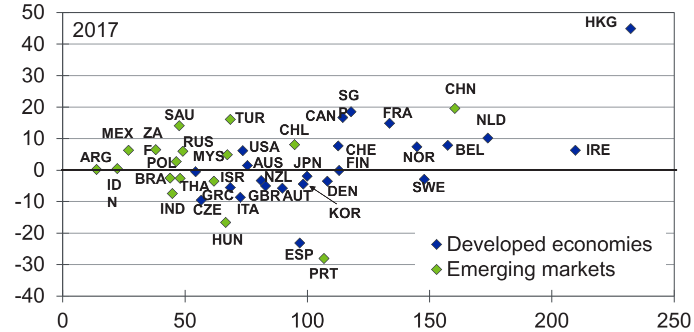
Consumer lending by type, Thailand, % change



Sources: Bank of Thailand, Moody's Analytics

Chart 17: Corporate Debt High in China

Corporate debt-to-GDP ratio, % (x-axis), 5-yr chg, ppts, (y-axis)



Sources: BIS, Moody's Analytics

number of loans extended for investment properties and worsening credit standards as lenders compete aggressively for customers.

Auto and personal loans each account for 6% of consumer loans, with a further 2% accounted for by credit cards, according to the BoT using December 2017 data. Vehicle loans have risen rapidly as of late, attributable to the end of car ownership requirements under the 2011-2012 car subsidy scheme (see Chart 16). To curb riskier lending and temper loan growth, the BoT has tightened requirements for credit cards and unsecured personal loans. From September 2017, only individuals earning at least THB50,000 per month can get a maximum credit limit of five times their monthly salary. But the potency of this measure has been limited because it applies only to new credit cards.

The BoT is on the verge of hiking rates after keeping the policy rate at 1.5% since April 2015, meaning high household leverage is firmly in the spotlight. While the central bank is not under near-term pressure to raise rates, especially given that inflation is subdued, it is wary about the risks of leaving rates low for too long. Although we expect a mild interest rate-hike cycle to commence in December, debt servicing costs should remain manageable, as interest rates are likely to stay relatively low.

Corporate debt accelerates

Global nonfinancial corporate debt now amounts to nearly 100% of GDP. The rise has been fairly rapid over the past five years after the rate remained steady at around 85% of GDP between 2009 and 2014. Low interest rates around the globe have encouraged borrowing across developed economies and emerging markets. Indeed, since 2014 the corporate debt-to-GDP ratio in emerging markets has exceeded that of developed economies, and the spread has widened, although the ratio has risen within both groups of countries.

Among developed economies, the debt load has risen in a number of countries in Europe, including Ireland, the Netherlands, Belgium, Norway, France and Switzerland. The trend is not uniform across the Continent, but those countries with the strongest gains also have the highest debt loads (see Chart 17). Spain and Portugal went through deep contractions during the financial crisis, as their housing markets suffered sharp corrections. Resolution of debt and recent economic recovery has worked to significantly reduce the corporate debt-to-GDP ratios in these two countries. A rise in corporate debt in North America extends across the U.S., Canada and Mexico as firms have taken on new debt at historically low interest rates.

Emerging markets have a higher count of countries with rising corporate debt-to-GDP ratios than those with falling rates. Further, they are located around the globe to include Turkey, Saudi Arabia, South Africa and Chile. Many such as Saudi Arabia and Chile have taken on debt because of falling commodity prices. Turkey and South Africa have suffered weakened economic growth because of poor governance and rising inflation.

And yet the standouts are located in the Asia-Pacific region. Hong Kong and China have had the greatest gains in corporate debt-to-GDP ratios. Malaysia and Australia have had more modest gains, and Indonesia has held rather steady during the past five years. The remainder of this section will focus on the Asia-Pacific region and the risks arising from the gains in corporate debt.

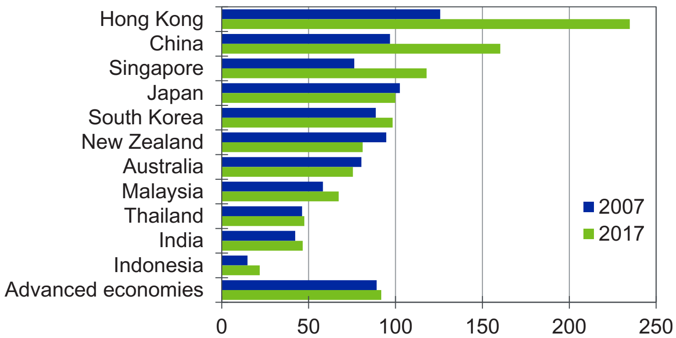
Asian corporate debt: Focus on China

Corporate debt has risen across all of the Asia-Pacific region with two important exceptions: Australia and New Zealand each enjoy debt levels that not only are relatively benign—below the average for all developed economies—but that are also below their debt-to-GDP ratios of 10 years ago (see Chart 18). Although Australia's corporate debt was up slightly in 2017 from 2013—to 75.5% from 74%—it was still below the 80.4% of 10 years prior. In New Zealand, the figure has steadily fallen from 94.7% in 2007 to 81.1% in 2017. Corporate debt is not a problem in either country, as lending standards have remained rather tight, and a recession-free economy for nearly three decades—in Australia at least—has limited the need for firms to borrow.

Elsewhere in Asia, nonfinancial corporate debt is primarily concentrated in China, Hong Kong and Singapore. But they are hardly comparable, particularly between China and Hong Kong, which have the highest debt-to-GDP ratios and the fastest growth over the past 10 years. The difference is defined by the market in which the debt is issued. Debt in China is primarily issued in the domestic market, whereas debt in Hong Kong and

Chart 18: Corporate Debt Risk: China

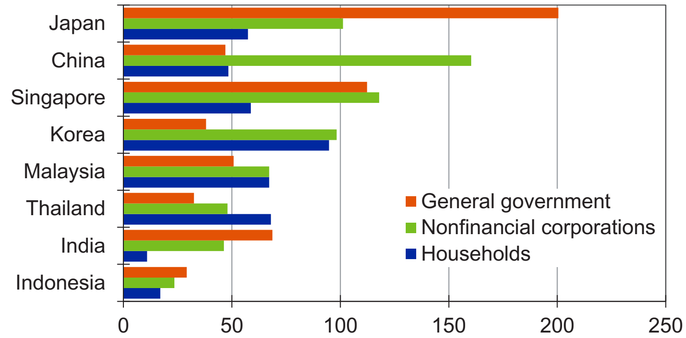
Total nonfinancial corporate debt, % of GDP



Sources: BIS, Moody's Analytics

Chart 19: Corporate Debt Dominates China

Total debt-to-GDP ratio, % of GDP, 2017



Sources: BIS, Moody's Analytics

Singapore is primarily issued in international markets. Although its data are imperfect, as reporting varies across countries, the BIS notes that 99% of Chinese nonfinancial corporate debt is issued in the domestic market, whereas none of the comparable debt in Hong Kong and Singapore is issued solely in domestic markets. Further, the small size of Hong Kong and Singapore and the outsize presence of international corporations with debt skews their figures higher.

Another difference is that nonfinancial corporate entities in China include many state-owned enterprises, blurring the line between government debt and corporate debt. Moreover, as nonfinancial corporate debt has surged in China since the financial crisis, it has come to account for 63% of all the nation's outstanding debt (see Chart 19). This is nearly double the exposure to corporate debt in any other Asian country, or any other country around the world, for that matter. Given that state-owned enterprises have been an important component of Chinese policymakers' efforts to maintain rapid economic growth, they now are at the highest risk in this debt-driven economy if a financial shock were to arise.

The global repercussions of such an event would likely be mitigated, however, by two factors. First is the fact that nonfinancial corporate debt in China is issued solely in the domestic market. Second, the financial sector in China is still relatively closed to foreign investors, so that contagion could be limited.

The debt-to-GDP ratios in Hong Kong and Singapore may be high, but virtually all is issued in international markets. Singapore is the most international, with 42% of debt securities issued by resident corporations (those with a location in Singapore) versus 58% by national corporations with headquarters in Singapore. Hong Kong's debt securities are concentrated more locally, with 75% issued by firms classified as national and 25% by firms classified as resident in Hong Kong. The high concentration of firms, either resident or headquartered in these two small Asian business hubs, elevates the debt-to-GDP ratio, much the same as it does in Luxembourg, where the nonfinancial corporate debt-to-GDP ratio reached nearly 350% in 2017 (it does not appear on Chart 19 so as not to extend the x-axis).

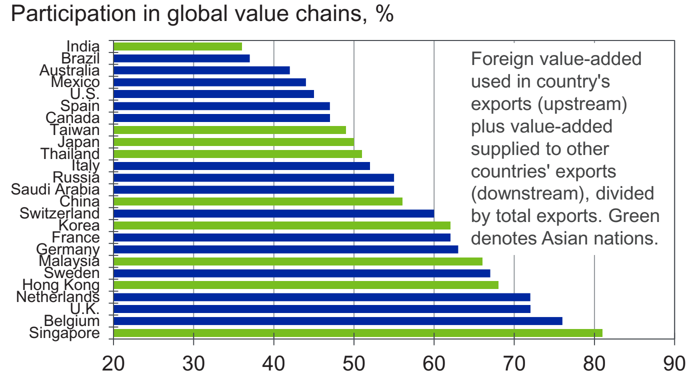
About 75% of Hong Kong's corporate debt is denominated in U.S. dollars; in Singapore the figure is closer to 65%. This removes much of the foreign exchange risk for both, since the Hong Kong dollar is explicitly pegged to the U.S. dollar and the Singapore dollar is virtually pegged to the U.S. dollar via monetary policy.

Other Asian countries with a high share of international debt denominated in U.S. dollars do run some foreign exchange risk even if their debt-to-GDP ratio is relatively low. For example, Indonesia's total debt ratio is the second-lowest among those the BIS tracks, but about 98% of this debt is denominated in U.S. dollars. This is one reason the Indonesian rupiah was at such risk earlier this year as the currency depreciated when investor sentiment soured on emerging markets. In the Philippines, 100% of international debt securities are denominated in U.S. dollars; similar figures are 82% in India, 73% in Thailand, and 66% in Malaysia.

Thus the long-term buildup of corporate debt in China is a risk factor that cannot be ignored as long as policymakers continue to use credit as a tool to maintain economic growth above a certain threshold. And even if the financial sector remains relatively closed, a significant credit event would likely slow China's economy sufficiently to multiply the impact via trade relationships through Asian economies deeply embedded in Chinese and global supply chains (see Chart 20).

Chart 20: Intermediate Supply Chains

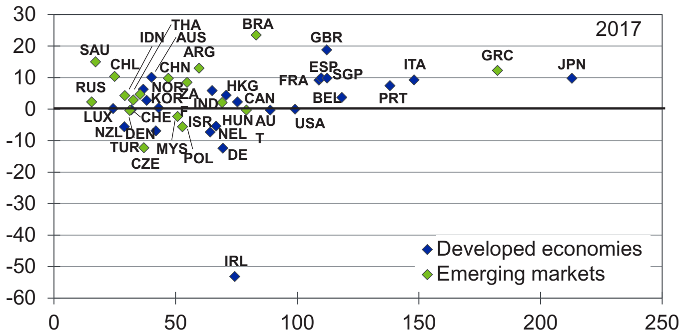
Participation in global value chains, %



Sources: UNCTAD-Eora GVC Database, Barclays Research, Moody's Analytics

Chart 21: Government Debt Up Broadly

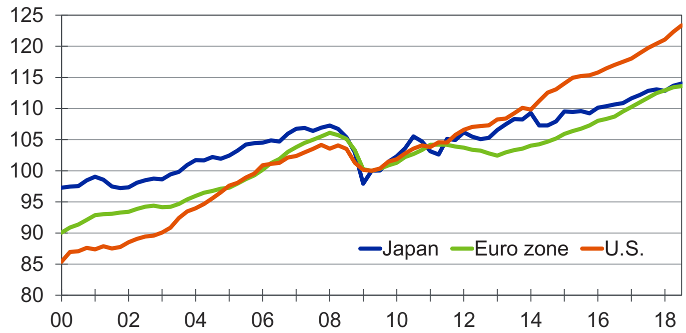
Government debt-to-GDP ratio, % (x-axis), 5-yr chg, ppts, (y-axis)



Sources: BIS, Moody's Analytics

Chart 22: Japan and Europe Struggle

Real GDP, 2009Q2=100



Sources: Eurostat, Japan Economic & Social Research Institute, BEA, Moody's Analytics

Government debt

Of the three general categories of debt—household, corporate and government—the pattern of government debt looks the most similar across the regions of the world and between developed countries and emerging markets (see Chart 21). Debt has risen in most of the countries as stimulatory fiscal policies and uncertain revenue since the financial crisis have required most governments to continue to borrow and add to their debt burden. The highest debt-to-GDP ratios occur in Japan and Europe, where the economies have struggled since the financial crisis to gain traction, accelerate growth and, until recently, improve unemployment rates (see Chart 22). Within Europe, Greece, Italy and Portugal have the highest government debt-to-GDP ratios, which have risen over the past five years in each case. Right behind them are the U.K., Spain, France and Belgium, and in all but Belgium the ratios have risen over the past five years about as fast as they have in Italy and Greece, the U.K. by even more.

Among the emerging markets, the highest government debt-to-GDP ratios are in Brazil, Hungary, India and Argentina. And Brazil and Argentina, along with Saudi Arabia and Chile, have seen the fastest runup in their ratios over the past five years. The first three have suffered for some time from either poor governance (Brazil and Argentina) or a slump in oil revenue (Saudi Arabia). Chile's overall government debt to GDP, while rising rapidly over the past five years, remains among the lowest of all countries.

Within Asia, government debt is less problematic than corporate or household debt. Among the Asian countries included in the BIS database, excluding Japan, India's government debt-to-GDP ratio is the largest. But at least it has held rather steady. Hong Kong, Malaysia and China rank next, but Hong Kong's debt has risen moderately and Malaysia's has not risen continuously. Further, Malaysia's new government, elected in 2018, is embarking on a period of fiscal austerity in an effort to bring its debt obligations down further.

China's government debt-to-GDP ratio rose by about 10 percentage points in the five years to 2017, continuing the pattern of debt growth seen across its household and corporate sectors. It pales in comparison, however, with the level of corporate debt in the country. The risk in China arises from indebted local governments, which in some cases may be closely tied to state-owned corporations that could face unforeseen financial shocks in the future.

And finally, the growth of government debt in Indonesia over the past five years has generated some concern, to the point that it has become an issue in the lead-up to the national election in April. And yet its debt-to-GDP ratio is among the lowest in the BIS dataset. Further, government debt has risen, as the country embarked several years ago on intensive infrastructure improvements, many of which are now complete or will be completed in 2019. Much depends, therefore, upon whether the improved infrastructure truly works to improve efficiency and productivity in the country, and whether it will attract more foreign investment in coming years.

Summary

Shifting patterns of household debt bring risks that may not have been present previously in several Asia-Pacific countries. The rapid rise of household debt has brought Korea's level relative to GDP to the highest among emerging markets, but regulators have been tightening lending conditions since 2017, helping to mitigate some of the risk. And similarly, Malaysia's and Thailand's past patterns of relatively easy credit conditions have brought their ratios above those of most other emerging markets. Further, while China's household debt-to-GDP ratio remains below these three others, it has risen the most rapidly by far over the past five years. Indeed, the volume of outstanding household debt in China has risen at twice the growth rate of disposable personal income over the past 10 years. Thus, while not all Asia-Pacific countries face risks from high or rising household credit, an interest rate shock or an economic shock would likely be felt the most in any of these four countries.

Within the Asia-Pacific region, corporate debt is more highly concentrated in China, where it accounts for nearly two-thirds of total nonfinancial debt. It is such an outlier in terms of both its corporate debt-to-GDP ratio and its rate of growth that other countries in the region do not even come close. Its rapid rate of growth over nearly 10 years and the close connection between this sector and government policy via state-owned enterprises makes the risks to the outlook uncertain. A gradual pullback in credit conditions and the ability to allow poor credits to be resolved in an orderly fashion would minimize risks. But continued growth of corporate credit increasingly exposes the sector to economic shocks from which it may not be further shielded. Indonesia and the Philippines have some foreign exchange risk, as their international corporate debt is denominated nearly entirely in U.S. dollars. The dollar has the potential to strengthen further in the near term versus many currencies as the Federal Reserve takes the lead on normalizing monetary policy.

Government credit is of less concern in the Asia-Pacific region, although while China ranks only in the middle of the pack for debt-to-income ratios in emerging market economies, it has grown the fastest as well within the region. But as drivers of economic growth and generators of economic risks, China's household and corporate debt loads play much greater roles. Elsewhere in the region, government debt appears manageable under a scenario of continued economic growth.

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