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Global Research
12 September 2019

J.P. Morgan Perspectives

China's index inclusion: A milestone for EM as an asset class

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See page 97 for analyst certification and important disclosures.

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Executive summary

China's index inclusion: A milestone for EM as an asset class

- China's entry into the J.P. Morgan GBI-EM Global Diversified index will start on February 28, 2020 and will take place over a 10-month period.
- China's entry into the GBI-EM and mainstream global bond indices is a major milestone in the opening of the country's capital markets, which will likely lead to increased inflows into China.
- We estimate the inclusion of China in the major fixed income benchmarks can generate approximately $250-300bn in flows.
- China's entry confirms EM Asia's rise in the EM asset class. China's marketable debt markets have grown too big to ignore with a size of $13tn and are second only to the US in terms of outstanding notional.
- EM Asia's share of local currency sovereign bonds now exceeds 50% of the $10tn debt stock, with China's share at 24%.
- EM external corporate bond issuance has increased fourfold over the past decade to $2.3tn, with 54% originating in Asia.
- The composition of the EM debt indices is shifting to include higher-rated and lower volatility countries.
- China's bond market is under-owned with overseas investors holding only $293bn or 2.5% of onshore bonds, a big mismatch relative to the 18% share of Chinese onshore bonds in the global bond universe.
- The increasing risk that the US is en route to join Europe's and Japan's zero/negative bond world makes the case for holding EM local bonds more compelling. A 20-30% allocation for DM-based fixed income investors seems quite reasonable for the low/falling yield world of DM.

Five phases of EM debt as an asset class

- Phase I: Origins of the EM debt asset class with the issuance of Brady bonds (1990-1998).
- Phase II: Rise of China and post-Asian Financial Crisis reforms: End of the boom-bust cycles and structural decline in contagion (1998-2008).
- Phase III: EM as a source of global stability and rise to investment grade post-GFC and Eurozone crises (2008-2012).
- Phase IV: Slower growth, higher debt and deficit levels, fallen angels and rise of protectionism (2012 to present).
- Phase V: New directions: Negative DM yields, higher-rated EM debt index entrants, rise of algorithmic trading and ESG considerations support the case for strategic allocations to EM fixed income.

EM macro and political outlook

- Anti-trade and anti-globalization measures constitute the biggest downside risks with potential for EM growth to revert back to a scenario of lower growth and possibly higher volatility.
- Nevertheless, EM remains an important driver of the global economy with Asia accounting for 27% of the contribution to global growth, while China's share of the global economy is projected to stabilize at 20% by 2030.
- Despite the escalation of trade tensions, China remains committed to financial sector opening to foreign investors and capital market reforms, while EM Asia leads in improvements for the "ease of doing business" with the financial stress index trending down.
- Capital markets should replace trade as the new anchor of the US-China relationship.

This report is part of our J.P. Morgan Perspectives series, which brings together views and analysis from across the broad scope of J.P. Morgan's Global Research franchise to look at big ideas and critical global issues transforming investment markets. In this report, we highlight recent developments in the EM fixed income asset class, including structural shifts in the global economy, investor base and composition of the debt markets, as well as future trends and growth prospects. We hope this series will both inform and foster public debate on evolving economic, investment, and social trends.
– Joyce Chang, Chair of Global Research

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China's index inclusion: A milestone for EM as an asset class

- **China's entry into the GBI-EM and mainstream bond indices is an important milestone and a potential game changer for inflows into EM as an asset class, potentially generating ~$250-300bn in EM dedicated and crossover flows.**
- **China's entry further confirms EM Asia's rise in the EM asset class. EM Asia's share of local currency sovereign bonds now exceeds 50% of the $10tn debt stock, with China's share at 24%.**
- **EM external corporate bond issuance has increased fourfold over the past decade to $2.3tn, with 54% originating from Asian issuers.**
- **Asia now accounts for 27% (0.7%-pt) of the contribution to global growth, compared to 27.4% for the US and only 17.5% for the Euro area. Asia's share of global trade has increased to 40% compared to 30% ten years ago.**
- **Rising risk that US is en route to join Europe's and Japan's zero/negative bond world makes more of a case for holding EM local bonds.**
- **The composition of EM debt indices is shifting to more higher-rated and lower volatility countries.**
- **20-30% allocation for DM-based fixed income investors seems reasonable for low/falling yield world of DM, while under past circumstances, DM fixed income investors held ~5%-plus of EM cash, or short duration instruments for yield, and another 10%-plus EM local bonds currency hedged for diversification and yield convergence.**
- **China's bond market is under-owned with overseas investors holding only a modest 2.5% of onshore bonds ($293bn as of 2Q19), a big mismatch relative to the 18% share of Chinese onshore bonds in the global bond universe.**
- **We highlight the five phases of structural changes in the EM debt asset class. Lessons learned from previous EM crises still hold, and reforms since the 1990s have helped most EM countries avoid boom-bust cycles.**
- **Lower growth stemming from anti-trade and anti-globalization measures constitute biggest downside risks to EM growth, with China's growth estimated to slow to the 4.5% range over the next decade, implying that China's share of the global economy will stabilize just below 20%.**

China's index inclusion brings a major bond market into EM local markets

With China's entry into the Emerging Markets (EM) local currency indices and mainstream global bond indices, we assess the implications for EM debt as an asset class. Beginning February 28, 2020, liquid Chinese Government Bonds (CGBs) will be included in J.P. Morgan's EM local market bond indices: the GBI-EM Global Diversified (GBI-EM GD), GBI-EM Global, GBI-EM (Narrow), and GBI-EM (Narrow Diversified). As per benchmark eligibility criteria, only liquid CGBs will be eligible for index inclusion. China's weight will hit the 10% cap in the GBI-EM Global Diversified and GBI-EM (Narrow Diversified), with inclusion phased in over a 10-month period (see *2019 Index Governance Review: China CNY government bonds (CGBs) eligible for J.P. Morgan's flagship local currency indices*, G. Kim et al, 4 Sep 2019).

In this issue of J.P. Morgan Perspectives, we highlight the structural changes that have occurred in EM economies and the asset class over the past 30 years, including a discussion of the macro reforms undertaken, implications of rising geopolitical risks, as well as shifts in funding sources and the composition of the investor base. We also consider the relative value of EM versus other asset classes as the universe of government bonds traded with a negative yield has risen to $13.3tn as of September 9. Negative yield government debt makes up 32.2% of developed markets (GBI-DM) and 63.3% of the Eurozone (EMU) index. Structural reforms undertaken in the aftermath of the 1997-98 Asian Financial Crisis helped EM economies outperform during the 2008 Global Financial Crisis (GFC). However, the growth of assets under management (AUM) tracked to the EM asset class has stalled over the past few years as EM economies have experienced lower growth, higher debt, lower inflows and a spate of rating downgrades, which brought the asset class to sub-investment grade status.

Recent events in EM have prompted soul-searching on whether it will ever become a mainstream asset class. China's entry into EM and mainstream indices is occurring at a moment in time when the relationship between the US and China is undergoing a fundamental change. The confrontation between the two powerhouses has disturbingly escalated into a tariff war with spillovers into the tech sector, and now a currency war has started to emerge (Zhu, Aziz, Liao, Guo). Beyond the escalation of the trade war between the US and China, EM investors cannot help but have a sense of déjà vu watching the contours of Argentina debt restructuring

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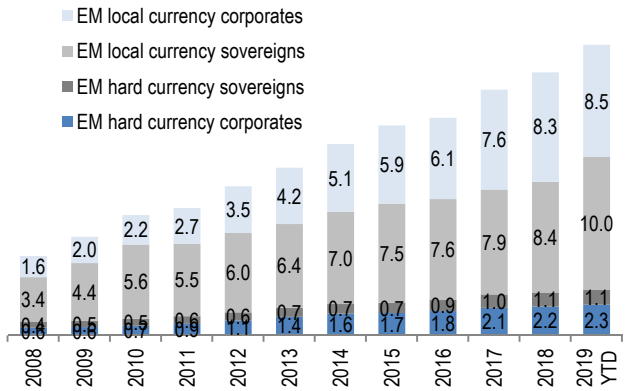
unfold in the last weeks of August 2019. Argentina's $101bn sovereign bond default in 2001[1] was back then the biggest sovereign default in history and came less than six months after what was then considered a huge $8bn IMF support package. Since Argentina's presidential election primary (PASO) in August, 5y CDS for Argentina's sovereign bonds widened by 2700bp, with foreign-law global bonds now trading around 40 (see *Argentina: Debt Restructuring Considerations*, T. Nguyen, D. Pereira et al., 30 August 2019).

Despite the risks to the EM macro outlook, we argue that the case for diversifying into EM fixed income is actually strengthening, not weakening, as the US looks to be at risk of joining Europe's and Japan's zero/negative bond world. The J.P. Morgan Global Bond Index Emerging Markets Global Diversified (GBI-EM GD) yields offer a 380bp pick-up relative to 10y UST yields in nominal terms and a 236bp pickup in real terms (deflating nominal rates by realized YoY headline inflation). Chinese government bonds offer a 152bp pick-up over 10y UST yields in nominal terms and a 26bp pickup in real terms. Despite the volatility around Argentina and Venezuela this year, the EMBIGD has delivered double-digit returns of 14.1% YTD as of September 9, outperforming both US High Grade and US High Yield indices, while the EM local currency index has posted returns of 8.4%, even accounting for -1.3% of EM FX weakness.

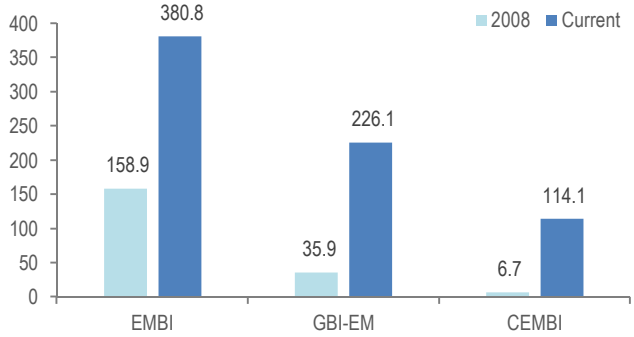
While EM local markets have been the fastest growing and largest segment of the EM debt asset class over the past decade, reaching a debt stock of $10tn as of end-August 2019, it has been slow to attract a dedicated following. The J.P. Morgan EM Bond Index Global Diversified (EMBIGD) remains the most widely tracked EM benchmark with $305bn in AUM tracked against it (~80% of the $381bn in AUM for the entire EMBI series) versus the GBI-EM series ($226bn) and the CEMBI corporate bond index series ($113bn). AUM benchmarked to the GBI-EM peaked at $233bn in April 2018 and has gradually declined to $226bn as of August 2019. China's entry into the EM indices and other mainstream benchmarks has the potential to be a game-changer for inflows and is an important milestone in its increasing relevance for global investors as 32% of the DM bond index (GBI-DM) is near zero/negative yields. Amid the search for yield, inflows into EM bonds have remained resilient YTD at $50.9bn as of end-August 2019, with strategic inflows of $10bn in 1Q19 not far behind the all-time record high of $12bn in 1Q18. While more than 80% of inflows into EM fixed income YTD have been attracted to hard currency debt, Loeys and Kundu makes the strong case that DM-based investors will need to hold higher allocations to EM local bonds, both currency hedged and unhedged, as the rising risk of zero yields in the US would leave no alternative to investors in need of yield.

Figure 1: EM debt universe has quadrupled since the GFC
EM debt universe broken down by asset class, $trillion



Source: J.P. Morgan, Bloomberg. Data as of August 30, 2019

Figure 2: AUM tracked against J.P. Morgan EM indices has risen since the 2008 GFC but remains modest compared to size of the EM debt universe
$billion



Source: J.P. Morgan Index Research.

Upon full inclusion, China's weight is expected to hit the 10% cap in the GBI-EM GD, which translates to an estimated $20bn of foreign sponsorship of CGBs from dedicated index managers assuming they are benchmark neutral. China will enter J.P. Morgan's global government bond indices as well. Our global government bond indices, GBI-AGG and GBI-AGG Diversified, will see China included on February 28, 2020 with an estimated weight of 0.78% and 2.58%, respectively (Kim, Linzie, Ram, Liu).

[1] See https://www.sec.gov/Archives/edgar/data/914021/000095012305000302/y04567e424b5.htm#123

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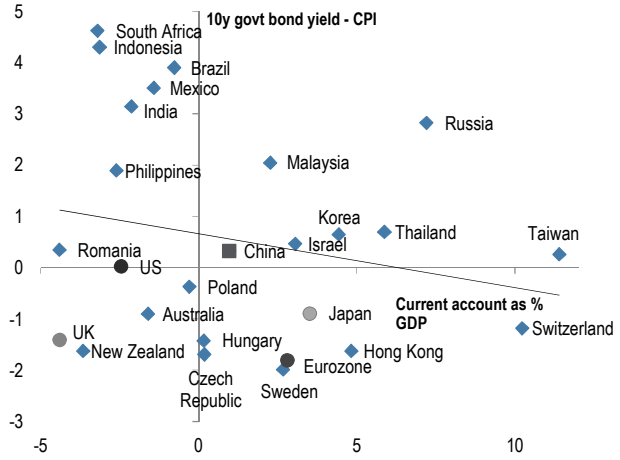
Luk points out that China's marketable debt markets are now too big to ignore at $13tn, second only to the US market. China is the world's second largest economy accounting for 19% of global GDP[2], and though its bond market is also amongst the largest, the country's bonds have been highly underrepresented in the most frequently used global bond indices. China's marketable debt markets are second only to the US in terms of outstanding notional according to the latest PBoC statistics as of May 2019. CGBs offer international investors a return-volatility ratio commensurate with both a global cross-asset portfolio and a global government bond portfolio, real long-term yields reasonably compensating for China's rising public debt and the narrowing current account balance, and low cross-correlation with other DM and EM bond markets (Figure 3) (Luk).

Figure 3: China real rates are not low compared to all other "liquid bond markets" in the rest of the world



Source: J.P. Morgan

Despite the escalation of trade tensions, China remains committed to financial sector opening to foreign investors and capital market reforms. It is possible that capital markets will replace trade as the new anchor of the US-China relationship. Incentives are strong for both the US and China for continued capital market integration. China and Japan remain the largest holders of US Treasuries ($1.1tn each as of end June 2019[3]), while concerns about the health of China's banking and corporate sector point to the continued need to attract outside financing and improve the intermediation of credit flows within its economy. Table 1 outlines the progress in opening China's domestic bond market to foreign investors since 2016.

Table 1: China domestic bond market reforms: Actions taken towards GBI-EM Global Diversified Eligibility

Key China CGB accessibility actions	2016	2017	2018	2019
Access: Onshore by foreign investors (CIBM)	√	√	√	√
Access: Offshore by foreign investors (Bond Connect)		√	√	√
DvP: Onshore by foreign investors (CIBM)	√	√	√	√
DvP: Offshore by foreign investors (Bond Connect)			√	√
CIBM: Onshore block trading	√	√	√	√
Bond Connect: Offshore block trading			√	√
Clarity of tax treatment for CGB. Onshore Corporate Bonds		√	√	√
Repo market			√	√
QFII: Removal of repatriation cap (20%)			√	√
QFII &RQFII: Cancellation of lock-up period (3 months)			√	√
Less frequent auction schedule for new benchmarks (3y, 5y, 7y, and 10y)				√
Bond Connect: Green light from Ireland for UCITS funds to use the platform				√

Source: SAFE, PBoC, J.P. Morgan

Foreign ownership of Chinese onshore bonds is still low with international investors likely to come under heavier pressure to add as the index inclusion process advances. In April 2019, the Bloomberg Barclays Global Aggregate Index started including Chinese RMB-denominated government and policy bank securities to be phased in over a 20-month period. FTSE Russell continues to assess the inclusion of CGBs in the World Government Bond Index (WGBI) at the time of this publication. We estimate that inclusion of China in the three major bond benchmarks can generate approximately $250-300bn in flows (Table 2).

Table 2: China's estimated index sponsorship can generate ~$250-300bn in flows

Index	Est. AUM ($bn)	Est. Weight	Est. Flows ($bn)
GBI-EM Global Div	202	10%	20
GBI-EM Series	24	10-15%	2-4
Crossover Global IG (Bloomberg Barclays Global Aggregate)	2,000	6- 7%	120-140
Crossover Treasury IG (FTSE World Government Bond Index)	2,000- 2,500	5-6%	114-143
Total	**4,000-4,500**		**250-300**

Source: J.P. Morgan Index Research Team. Note: Bloomberg Barclays has started China's inclusion since April 2019, so inflows may have occurred already. China inclusion into J.P. Morgan's GBI-EM GD will start February 28, 2020. FTSE has not made any announcements of formal China inclusion, so US$114-143bn estimated inflows are contingent on FTSE index decisions.

[2] Source: IMF World Economic Outlook, Gross domestic product based on purchasing-power-parity (PPP) share of world total.

[3] See https://ticdata.treasury.gov/Publish/mfh.txt

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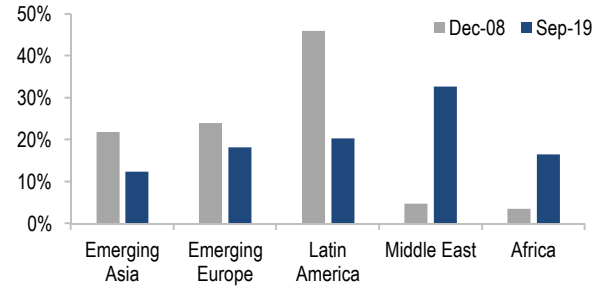
China's local government bond market has tripled over the past five years and will continue to increase over the medium term, as room to disintermediate bank credit is large. The 20% annualized growth in market capitalization over the past five years has been driven by government and financial bond issuance. Policy will continue to support direct financing, including bond financing for domestic corporates. The growth of the Panda bond market opens a channel for foreign sovereigns and corporates to issue onshore RMB debt to raise funds (Luk).

Overseas investors currently hold a modest amount ($510bn) of onshore Chinese equities and bonds (Panigirtzoglou, Inkinen, Poddar). According to the PBoC, as of March 2019 external institutions' holdings of Chinese bonds stood at RMB1.8tn, or 2.0% of the RMB92tn stock of onshore bonds including government, policy bank and corporate bonds. The equivalent share for equities was 3.2%, i.e., overseas investors held RMB1.7tn of Chinese stocks as of March 2019 versus a stock of RMB52tn of onshore equities (unadjusted for free float).

According to the equity index providers' roadmaps, China's total share in EM equity indices is expected to rise from around 30% currently to above 50% under full inclusion of Chinese shares at their free float adjusted weight. This full inclusion assumes no foreign ownership limits, abolishment of the quota system, full liberalization of capital mobility restrictions, and alignment of international accessibility standards. In this case, the **equivalent total share of China in world indices would be close to 5.5%** (Panigirtzoglou, Inkinen, Poddar).

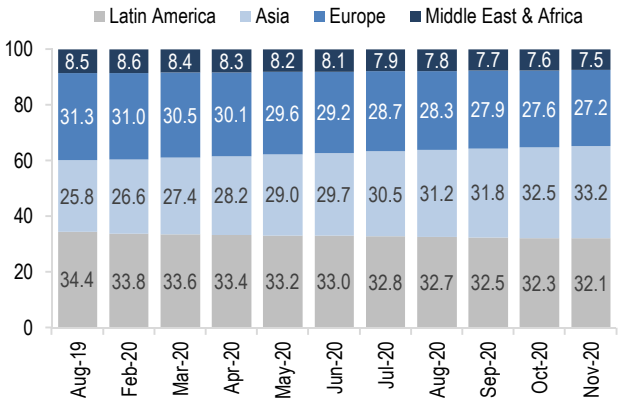
Gulf Cooperation Council (GCC) countries' recent inclusion in the EMBIG index alongside China's upcoming inclusion in the GBI-EM GD index highlights the degree to which the composition of the EM asset class is shifting to include higher-rated and lower volatility countries. In 2008, the composition of the EMBIGD was 46% Latin America compared to 20% as of September 3, 2019, while the Middle East & Africa had a total weighting of only 8% compared to 49% today, making it the largest regional weighting by a wide margin. In the GBI-EM GD, Latin America's weight has remained unchanged at 34% since 2008, while Asia's exposure has increased from 23% to 26% as of September 3, 2019. With China's inclusion, Asia's weight is expected to increase to 33.2% by the end of November 2020 (Figure 5). Europe's weight has largely remained unchanged, decreasing by 1%-pt to 31%. See earlier Figure 1 for the size of the EM debt universe, broken down by asset class, while Figures 4-6 illustrate how the weightings in the GBI-EM GD and EMBIGD have shifted by region.

Figure 4: Middle East is now the largest regional weighting within the EMBIGD, increasing six-fold over the past decade, while LatAm has declined
Weight (%) by region in the EMBIGD



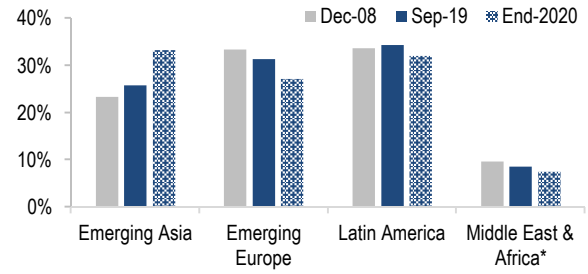
Source: J.P. Morgan

Figure 5: China's staggered inclusion will increase EM Asia's weighting in the GBI-EM GD to one-third of the index
Weight (%)



Source: J.P. Morgan. Data as of August 30, 2019. *Middle East & Africa region in GBI-EM currently contains South Africa exposure only

Figure 6: EM Asia will become the largest regional weighting in the GBI-EM GD after China's staggered inclusion
Weight (%) by region in the GBI-EM GD



Source: J.P. Morgan. *Middle East & Africa region in GBI-EM currently contains South Africa exposure only

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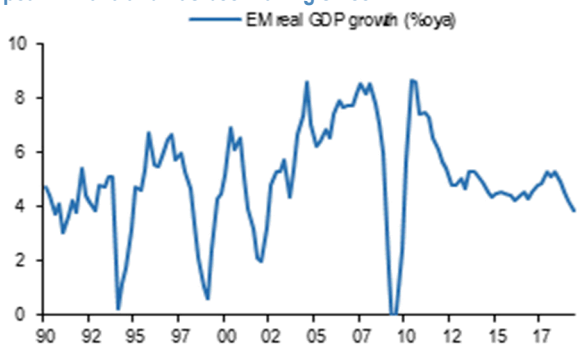
Five phases for EM as an asset class

We review developments in the EM fixed income asset class since its inception with the issuance of Brady bonds in 1990, outlining five phases for the evolution of the asset class. It's been nearly seven years since we published our last update on EM debt as an asset class report (see *EM Rerates as an Asset Class*, J. Chang, 28 September 2012). At that time, hopes were high that EM debt had finally moved into the mainstream as an asset class. EM debt outperformed the two major shocks of the past decade: the 2008 GFC and the 2010-2011 Eurozone Crisis (see *EM Moves into the Mainstream as an Asset Class*, J. Chang, 4 October 2010). Back in 2010, the potential growth rate for EM economies was 5.8% compared to 1.6% for developed economies (Figure 7), with many predicting that China's economy would match the size of the US economy by 2020. In 2012, EM economies accounted for 37% of the contribution to global growth and were growing at more than four times the pace of DM economies. EM FX strengthened versus the USD over the 2000s cycle, while EMBIGD spreads reached all-time tights in 2007, and post-GFC tights in 2010.

Figure 7: EM GDP growth re-rated higher from mid-90s to the peak in 2010 and has been falling since

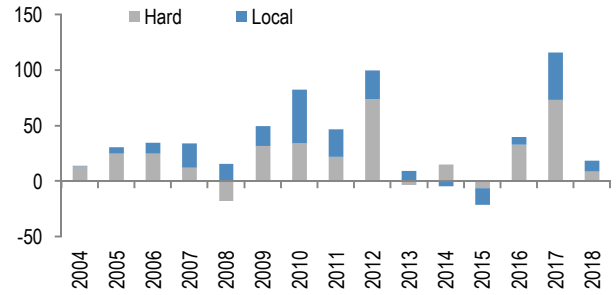


Source: J.P. Morgan

Inflows into EM local markets reached an all-time high of $48.5bn in 2010, accounting for 59% of all inflows into EM fixed income, before declining to $9.7bn in 2013 and then ultimately reversing to $4.3bn and $15.3bn of outflows in 2014 and 2015, respectively (Figure 8). Foreign ownership in EM local currency government bonds peaked at 28% in 2013, compared to 25% at present. In 2013, EM FX reserves reached a peak of $8.2tn or ~64% of global FX reserves, while EM fiscal deficits averaged only 2.2% of GDP compared to 6.2% of GDP for DM economies. Frontier markets were touted as the next opportunity to invest in EM in their infancy, with the Next Generation Emerging Markets (NEXGEM) index launched in November 2011.

Figure 8: Inflows into EM local debt peaked in 2010

Annual bond flows by currency exposure; $bn



Source: J.P. Morgan EM Strategy Research, EPFR Global, Bloomberg

The Fed taper tantrum in 2013 brought an end to this period of optimism, and China emerged as a risk factor for EM following the devaluation of its currency in August 2015, bringing into question its role as an anchor for global financial stability. Figure 9 highlights that EM FX has weakened consistently since 2011. From 2014-2016, capital outflows reached $1.5tn in China and exerted significant downward pressures on the RMB and broader EM FX markets throughout this period.

Figure 9: EM FX strengthened vs the USD over the 2000s cycle, but has consistently weakened since 2011

Return Index = 100 at 1st Jan 2003 for FX component vs USD

Source: J.P. Morgan. Data as of August 30, 2019.

The past two decades for EM are unusual in their characterization for exhibiting strong growth yet low volatility across all three regions. However, with the forces driving growth now ebbing, it seems we could be reverting back to a scenario of lower growth and possibly higher volatility, with implications for EM FX markets. Table 2 shows that EM local market drawdowns have been large, even in positive return years.

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Table 3: EM local market drawdowns have been large, even in positive return years
Index returns, %

	Max drawdown (%)			Full year return (%)		
	GBI-EM	EMBIG DIV	CEMBI BROAD	GBI-EM	EMBIG DIV	CEMBI BROAD
2003	-4.3%	-7.0%	-5.6%	16.9%	22.2%	15.7%
2004	-7.1%	-10.4%	-6.7%	23.0%	11.6%	10.3%
2005	-6.1%	-4.6%	-3.1%	6.3%	10.2%	6.3%
2006	-10.5%	-5.2%	-2.4%	15.2%	9.9%	6.5%
2007	-7.6%	-4.5%	-1.8%	18.1%	6.2%	3.9%
2008	-27.7%	-29.5%	-28.8%	-5.2%	-12.0%	-16.8%
2009	-14.0%	-2.7%	-3.0%	22.0%	29.8%	37.5%
2010	-7.7%	-5.5%	-3.3%	15.7%	12.2%	12.5%
2011	-11.6%	-5.7%	-9.1%	-1.8%	7.3%	3.0%
2012	-8.6%	-3.1%	-2.1%	16.8%	17.4%	15.2%
2013	-15.7%	-11.4%	-7.9%	-9.0%	-5.3%	-1.3%
2014	-14.4%	-5.9%	-5.8%	-5.7%	7.4%	3.6%
2015	-17.7%	-4.6%	-5.1%	-14.9%	1.2%	1.2%
2016	-9.8%	-6.5%	-2.7%	9.9%	10.2%	10.8%
2017	-5.5%	-1.7%	-1.0%	15.2%	10.3%	8.0%
2018	-16.4%	-7.0%	-3.4%	-6.2%	-4.3%	-1.2%
Average	-11.5%	-7.2%	-5.7%	7.3%	8.4%	7.2%

Source: J.P. Morgan

Phase I: Origins of the EM debt asset class—Issuance of Brady bonds (1990-1998)

In 1990, when I was an analyst at Salomon Brothers just out of graduate school, I worked on the launch of the first Brady bond index. At the time, the EM bond market emerged following a wave of restructurings of commercial bank loans owed by EM governments that had been defaulted on in the previous decade. Few would have predicted the rise of the asset class across hard currency and local markets. J.P. Morgan then created a comprehensive set of benchmarks establishing EM as an asset class with the launch of the EMBI in 1992, GBI-EM in 2005, CEMBI in 2007, NEXGEM in 2011 and JESG EM in 2018 (see *Emerging Markets Timeline: Opportunities and challenges through the cycles*). In total, AUM benchmarked against these indices now totals $725bn.

The Brady Plan, combined with the participation of the International Monetary Fund (IMF), World Bank and other official creditors, provided a mechanism by which debtor EM countries could repackage large amounts of defaulted debt into easily tradable bonds. At the time, US banks' total exposure to developing countries had decreased to less than 0.5% of total assets as banks took substantial reserves against EM loans. Many banks took a second special reserve in 1989 and 1990 after it became clear how onerous the Brady Plan discounts would be (35%). Nonbank institutional investors did not enter the market until these mechanisms were created. Foreign investment in local markets was at a nascent stage, and Brady bonds accounted for 51.6% of the total volume of EM debt traded in 1993. When the Tequila crisis hit Mexico in December 1994, the EMBIG index contained just 16 countries compared to 73 today. EM countries that had restructured their debt were only able to return to the international capital markets beginning in 1995.

For much of the 1990s, EM economies experienced boom-bust cycles. Average growth in EM economies in the 1990s was only 2.6% compared to 4.9% for developed economies. Inflation was still high in many parts of EM, averaging 55%. EM economies still wrestled with high public debt burdens, averaging nearly 70% of GDP, with countries like Argentina (150%), Bulgaria (160%), and Lebanon (180%) in the triple digits, and high fiscal deficits averaging 4.3% of GDP. Currency regimes were often pegged and unsustainable, at the same time that foreign exchange reserves were very limited.

Phase II: The rise of China and post-Asian Financial Crisis reforms—End of the boom-bust cycles and structural decline in contagion (1998-2008)

The Asian and Russian financial crises of 1997-98 prompted a decade of reforms that included abandoning fixed exchange rates, adopting inflation targeting, increasing foreign exchange reserves, and dramatically reducing external debt levels (Aziz, Szentivanyi). After making the difficult decision to devalue during the 1997-98 Asian and Russian crises, most EM economies took to self-insurance by accumulating FX reserves by improving their savings-investment balance. In contrast to the contagion to the EM asset class following the 1994 Tequila Crisis and 1997-1998 Asian and Russian crises, Argentina's default on $101bn[4] of sovereign debt in 2001—then the largest sovereign debt default in history—triggered virtually no contagion to the broader Emerging Markets asset class (see *Emerging markets External Debt as an Asset Class*, 21 October 2004).

[4] See https://www.sec.gov/Archives/edgar/data/914021/000095012305000302/y04567e424b5.htm#123

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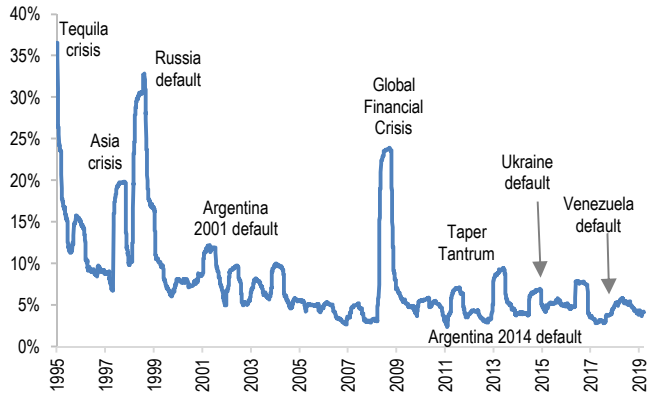
Figure 10: There has been a structural decline in contagion following a decade of reforms after the Tequila Crisis and Asian and Russian financial crises
EMBIGD 6-month rolling volatility (calculated using daily returns)

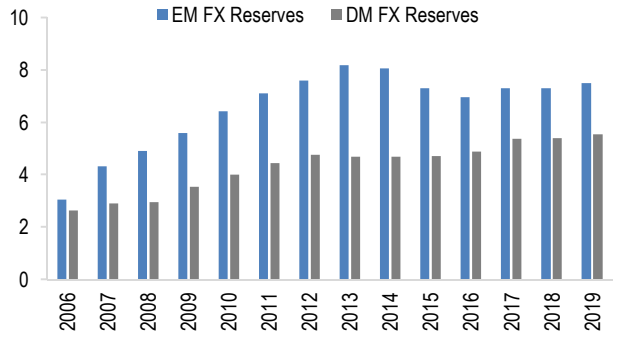


Source: J.P. Morgan

While EM countries are dependent on cyclical factors, recent history has shown less of a boom-bust pattern. However, the past two decades for EM are unusual in their characterization for exhibiting strong growth yet low volatility across all three regions (Ong, Park). Many EM countries moved to current account surplus positions, reaching peak levels in 2006 and 2007 on the back of favorable global liquidity conditions and the strength of commodity prices. **These reforms gave a broad and diverse range of EM countries the scope to undertake countercyclical policies and implement fiscal stimulus measures in response to the 2008 GFC:**

- **More flexible exchange rate regimes**. Less fear of floating has improved EM's ability to adjust to shocks.
- **Self-insurance through high FX reserves.** EM FX reserves peaked in 2013, but EM still accounts for 57% of global foreign exchange reserves today, with China accounting for 25% of FX reserves on a global basis. EM FX reserves ($7.5tn) remain significantly higher than that of DM economies ($5.6tn) as of end June 2019 (Figure 11). Asia FX reserves now account for 33% of world reserves, although excluding China they only account for 8%. Two decades after the market trough of the Asian currency crisis, the combined FX reserves of EM Asia-10 economies stand tenfold higher at $5.8tn, with their proportion in regional GDP rising from 21% to 26% and their share in world reserves from 28% to 45% (Luk). Since 2015, aggregate reserves have been declining, by ~1.5% per annum, led primarily by China against a backdrop of free-floating exchange rates (Luk).

Figure 11: EM FX reserves peaked at $8.2tn in 2013 but still account for 57% of global FX reserves today
Total EM FX and DM FX reserves (including gold); in $ trillion



Source: J.P. Morgan, IFS. Note: 2019 data as of end-June 2019.

- **Shift to local currency funding.** Over the past decade, EM countries have increasingly shifted toward financing in domestic currency, propelling the growth of EM local markets and ownership by foreign investors. Public sector indebtedness moved away from the "original sin" of foreign currency borrowing. By 2006, most of the Brady bonds in existence were either retired or exchanged, effectively marking the end of the Brady bond era[5]. EM governments shifted funding increasingly to domestic sources, with a multi-decade fall in government financing from external sources. As local capital markets have developed, EM countries have been able to self-fund from domestic sources and reduce the FX exposure of their public debt. The emergence of a domestic buyer base in the form of banks, pension funds, and asset managers has occurred alongside the growth of local markets. As a result, large EM countries have shifted their borrowing to originate from domestic local bond markets even as they have increased their overall government debt levels. Foreign ownership in EM local markets has also increased. By the end of 2009, foreign investors owned on average just 12% of local currency bond markets of EM countries, but this has risen to 25% currently. The market capitalization of EM local currency bonds (GBI-EM) eligible for our indices stands at $2.5tn as of end August 2019, compared to the index-eligible hard currency EM sovereign bond's (EMBIG) market capitalization of $1.1tn.

[5] See *Era of Brady Bonds Ends for Developing Nations*, WSJ M. Cowley, 7 April 2006

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Phase III: Source of global stability and rise to investment grade post-GFC and Eurozone crises (2008-2012)

The 2008 GFC marked the first time that EM countries were able to serve as a stabilizing force, as they were better positioned than their DM counterparts entering the crisis and could adopt countercyclical policies. Lessons from earlier crises have endured, including adherence to a more flexible exchange rate regime and the buffer of adequate FX reserves. External vulnerabilities for the most part remain contained 10 years after the GFC (Aziz, Szentivanyi), particularly as EM funding has shifted to domestic sources rather than external funding.

Fiscal policy was a crucial support during the 2008 GFC, and China limited the global spillover by injecting fiscal stimulus measures equivalent to 7% of GDP. In 2008, China led the fiscal stimulus with the equivalent of 7% of GDP of stimulus measures funded partly by the private sector, which helped to limit the global spillover from the GFC and contributed about one-third of global growth as the rest of the world fell into recession (Zhu, Aziz, Liao, Guo). Although the magnitude of the fiscal stimulus was much more modest in the rest of EM, collectively at less than 1% of GDP, the fact that many EM countries were able to adopt countercyclical fiscal policies at a time of external shocks and recession was in itself unprecedented. EM central banks also eased monetary policy as aggressively as DM central banks, reducing rates by an average of 300bp during 2008 and 2009. Around the same period, the peak-to-trough cut for the Latin America region was 475bp while EMEA EM reduced rates by 378bp, compared to peak-to-trough rate cuts of 400bp and 300bp from the US Fed and the ECB, respectively. Figure 13 on the next page shows the deterioration of EM fiscal accounts, with consequences that linger today.

In 2011, EMBIG[6] achieved its first steady investment grade rating by all three rating agencies following an improvement in credit quality that dated back to the early 1990s and which had accelerated following reforms after the 1997-98 Asian financial crisis.

[6] The EMBIG index tracks total returns for USD-denominated debt instruments issued by EM sovereign and quasi-sovereign entities: Brady bonds, loans, Eurobonds. The EMBI Global Diversified (GD) is a uniquely-weighted version of the EMBI Global. It limits the weights of those index countries with larger debt stocks by only including specified portions of these countries' eligible current face amounts of debt outstanding. The countries covered in the EMBI Global Diversified are identical to those covered by the EMBI Global.

Phase IV: Slower growth, higher debt and deficit levels, fallen angels and rise of protectionism (2012 to present)

The tradeoff for EM post-GFC was a slowdown in growth as globalization has slowed and political support for further expansion has waned significantly across DM economies. Despite recovering since 2015, world trade growth has floundered in recent years, and with that the fortunes of EM economies have been waning in general, with export-oriented economies like China being particularly affected (Zhu, Aziz, Liao, Guo). Slower growth has been accompanied by higher debt and fiscal deficits, and as well as rising income inequality.

- **Growing risks from China.** The fiscal and credit stimulus in the aftermath of the GFC was overdone. China's policy response came at a high cost as it chose not to devalue the currency. CNY has appreciated in real terms by more than 25%, while the current account surplus has fallen from 9.9% of GDP in 2007 to 0.4% of GDP in 2018. China's state-owned enterprises (SOEs) assumed the responsibility to stabilize growth and employment and leveraged up significantly after the GFC. Total debt in the non-financial sector rose from 157% of GDP in 2008 to 261% in 2017, with corporate and local government debt now the key vulnerabilities for China's financial sector. The augmented fiscal deficit is projected to reach 11.3% of GDP in 2019, including off-budgetary items such as local government financing vehicle (LGFV) borrowing, net land sale revenue, and fiscal spending via policy bank special bond issuance.
- **Lower growth with downside risks.** While external buffers provided a cushion in the aftermath of the 2008 GFC, they did not shield EM from the growth shock. Potential growth rates for EM economies have fallen by 1.6%-pt (Figure 12). The EM growth differential with DM should stay positive, but it faces headwinds from the trade war. Excess EM savings have declined by 2% of GDP, while DM savings have increased by a similar amount (Aziz, Szentivanyi). Despite the concerns about the growth outlook for China, Asia still accounts for 27% (or 0.7%-pt) of the contribution to global growth compared to 27.4% for the US and only 17.5% from the Euro area. Asia's estimated share of global trade has increased to 40% compared to 30% ten years ago.

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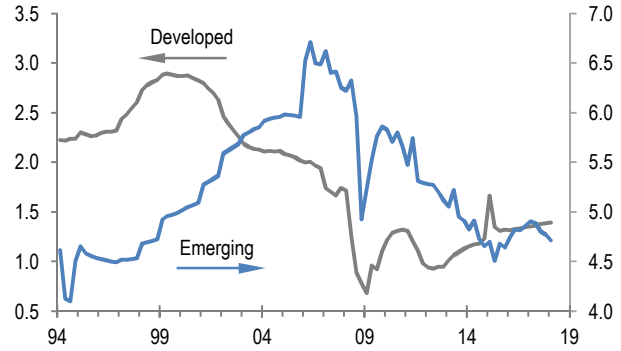
Figure 12: Potential real GDP growth has declined for both DM and EM countries since the 2008 GFC

Potential real GDP. %y/y; both scales

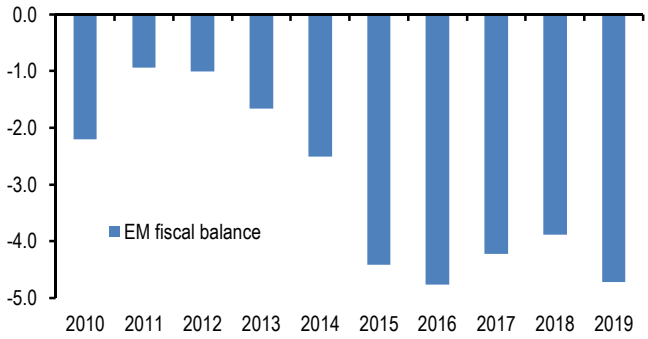


Source: J.P. Morgan

- **Higher fiscal deficits.** Fiscal issues have become more of a concern for EM countries (Figure 13), especially for commodity-producing countries following the collapse in prices of raw materials over 2014-2015. These economies are expected to fall short of achieving debt sustainability. Brazil, Chile, Mexico, Peru and South Africa all require primary surpluses in order to maintain a stable debt ratio. Unsurprisingly, Brazil is the worst positioned with a 2.9% surplus required but a projected deficit of 1.8% for 2019. Colombia, Peru, and South Africa need to show greater fiscal discipline than is expected to achieve sustainability. By contrast, Korea, Hungary, and Poland are all projected to achieve sustainability to varying degrees.

Figure 13: EM fiscal deficits have deteriorated and persisted for the last five years

% of GDP

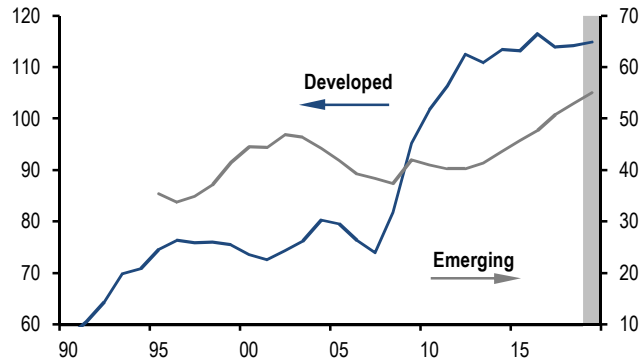


Source: IMF, J.P. Morgan

- **Higher debt levels.** EM overall debt levels are going into this part of the cycle at all-time highs as a percentage of GDP for both EM sovereigns and corporates. Since the 2008 GFC, EM economies have experienced a 12%-point rise in gross government debt. While worrisome, this is still well below the roughly 41%-points of GDP surge in DM debt over the past decade. EM general government debt now stands at 50.8% of GDP (Figure 14), while EM private sector debt has increased to 116.5% of GDP (Dulake). Dulake estimates the EM external corporate bond stock has increased to $2.3tn from $548bn in 2007, but does not see this as a systemic risk as more than 50% of EM corporate bonds are quasi-sovereigns, and local EM investors hold over 50% of EM corporate bonds. Asia has accounted for $900bn of the $1.6tn increase, with China standing out as bonds outstanding rose from only $25bn in 2010 to $627bn to become the largest country segment by far (Dulake).

Figure 14: EM debt levels are reaching all-time highs, but average EM debt level remains 60%-pts of GDP below that of DM countries

% of GDP, both scales



Source: J.P. Morgan

- **Slowdown in capital inflows to EM.** In 2015, EM debt experienced capital outflows for the first time since the GFC. At present, gross inflows (i.e., investments by nonresidents) remain below pre-GFC levels in USD and are much lower as a share of EM GDP (Aziz, Marney). The annual pace of EM capital inflows has declined from its peak of $1.5tn in 2011 to $1tn currently. Nearly eight years after its launch, the NEXGEM index has attracted only $1.0bn of benchmarked assets.

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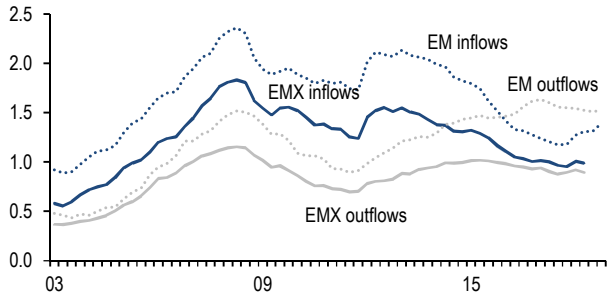
Figure 15: EM has experienced outflows in recent years with gross inflows below pre-GFC levels

% of GDP, rolling 4-year avg



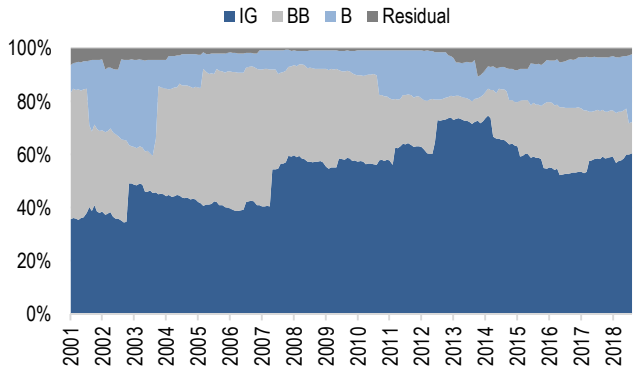
Source: Haver, national sources and J.P. Morgan

- **Ratings downgrades and fall to sub-investment grade.** It would take 11 years for the EMBIG to achieve an IG rating from all three rating agencies after Mexico achieved its initial investment grade rating from Moody's in 2000. Once the EMBIG achieved its first investment grade rating by all three rating agencies in June 2011, it lasted only 17 full months before falling back to sub-investment grade in November 2012. From 2014-2018, EM ratings experienced a rapid reversal after suffering from a spate of rating downgrades that impacted countries with some of the highest weightings in the EMBIG index, including Brazil, Oman, Russia, South Africa, and Turkey. For both the higher and lower-rated segments, sovereign ratings downgrades have also persisted. China's credit rating was also downgraded from the double-A category to A1/A+ by both Moody's and S&P in 2017. Argentina and Lebanon have all experienced downgrades to the triple-C and below level over the past two years.

  Compositional changes, however, brought the EMBIG index back to investment grade status on May 31, 2019, due to the inclusion of the Gulf Cooperation Council (GCC) countries (see *Unconstrained EMBIG average rating moves to IG despite Mexico rating actions*, N. Bhat et al., 7 June 2019). In contrast to the 2011 upgrade, this recent improvement to investment grade status was not due to an upward re-rating of EM fundamentals, but due to the addition of highly rated GCC countries where there has been an increase of issued debt entering into the index. Since the 2008 GFC, GCC countries have issued a total of $366bn of sovereign and quasi-sovereign debt as of August 2019. However, in the more highly followed EMBIG Diversified index, ratings have deteriorated since 2014 and it is still sub-investment-grade even with the inclusion of GCC countries, while the unconstrained EMBIG index has returned to investment grade with GCC inclusion (Figure 16 and Table 4).

Figure 16: After a spate of downgrades in 2015, the EMBIG has returned to investment grade due to GCC inclusion

% of EMBIG market capitalization by credit bucket



Source: J.P. Morgan Index Research

Table 4: EMBIG Div index is still sub-investment-grade even with the inclusion of GCC countries, while the unconstrained EMBIG index has returned to investment grade

Periods where EMBIG non-diversified and EMBIG diversified indices were investment grade rated

	EMBIG (non-diversified)	EMBIG Diversified
1	Jun 2011 to Nov 2012 (17 full months)	Feb 2011 to Mar 2011 (1 month)
2	Apr 2013 to May 2013 (1 month)	May 2011 to Nov 2012 (18 months)
3	Aug 2013 to July 2014 (10 months)	May 2013 to July 2013 (2 months)
4	Aug 2014 to Oct 2015 (13 months)	Aug 2013 to May 2014 (10 months)
5	May 2019 to present	

Source: J.P. Morgan Research. Note: GCC inclusion into the EMBI suite of indices began in January 2019

- **Rising income and wealth inequality.** Income inequality is rising in most countries. The top 10% income share, which captures the shifts happening at extremes of income distributions, has continued to increase over the past decade. The rise since the 1990s has been moderate in Europe but increased rapidly in China, India, and North America to 45-50% of total income in 2017 (Figure 17). In the Middle East, Africa, and Latin America, income inequality has remained relatively stable, albeit at extremely high levels.

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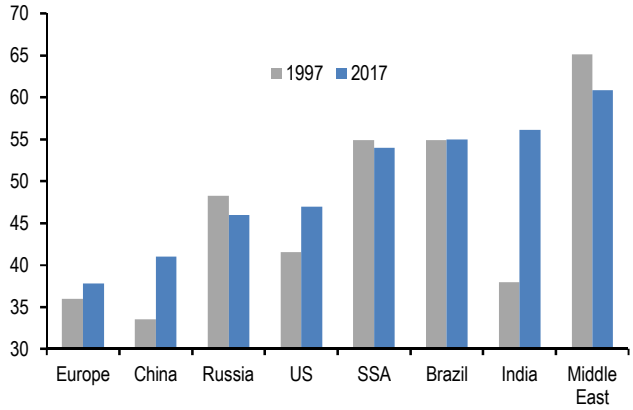
Figure 17: Growing inequality in China, India, Europe and United States post-GFC (top 10% income share)

% share of national income



Source: WID world (2017)

Anti-trade and anti-globalization measures constitute the biggest downside risks to the EM growth outlook in the near term. Dislocations in the aftermath of the 2008 GFC have triggered major paradigm shifts to previously established economic, financial and social norms (see *Ten Years After the Global Financial Crisis: A Changed World*, J. Chang et al., 10 Sept. 2018 and *Paradigm Shifts: What Lies Ahead?*, J. Chang et al., 5 April 2019). As China's development strategy has shifted to global high tech manufacturing, US policy towards China has moved from a policy of strategic engagement to a "great power" competition. The unabashed use of tariffs and trade restrictions by the world's largest economies clearly continues to damage both global trade and the broader economy (see *Trade war (what is it good for)*, J. Lupton and B. Kasman, 17 May 2019). China's share of global GDP stands at 19%, and China contributed about 30% to 2018 global growth. Our economists estimate that the Phase I and II tariffs have already cost China 0.4% of growth and that the partial Phase III tariffs imposed on September 1 will take an additional 0.1% off of China's growth, with China's 2020 growth to decline to 5.8%.

The risk of disruption to regional and global supply chains expected from US-China tariff war, with implications to global capital spending, remains a key risk. The ongoing tariff war with the US has shaken China's status as the world's largest exporter and could disrupt the global supply chain.

We have highlighted the central role that falling business confidence plays in transmitting this shock and have been surprised at the depth and breadth of the slide. Its impact on activity is now becoming more evident, but the magnitude of the drag remains difficult to gauge.

For EM Asia economies, DM capex spending remains a critical driver of exports, and weakening Chinese exports to the US could drag down the region's exports to China via supply chain links. While some economies, such as Vietnam, may be well positioned to gain from US-China trade frictions due to trade diversion or supply chain relocation, most major EM Asia economies will have to take a haircut.

The US-China conflict goes beyond trade. The competition in trade, new technology, and more broadly in the economic system, geopolitical interests, and other areas has intensified in recent years, and how to redefine the US-China relationship is arguably the biggest challenge China is facing down the road.

Despite the increase in protectionism, Asian economies continue to show the most improvement in the global rankings in the World Bank's "Ease of Doing Business" index. China was ranked amongst the most improved countries, moving to 46 from 78 last year. India improved its standing by 23 ranking points, while Malaysia moved from 24 to 15. The high income economies such as Singapore (2), South Korea (5), and Hong Kong SAR (4) outrank the US and UK (now 8th and 9th, respectively).

Phase V: Negative DM yields, higher-rated EM debt index entrants, rise of algorithmic trading and ESG considerations support the case for strategic allocations to EM fixed income

We have considered a set of long-term strategic questions on investing in EM from a multi-asset strategy perspective and the growth of the zero/negative bond world (*The Long-Term Strategist: Strategic questions on EM allocations*, J. Loeys et al., 28 September 2018). Over the full period since their entry into global markets, taken as the inception of their indices, EM has beaten DM across the four asset classes of equities, bonds, credit, and FX. But performance has been far from a straight line. EM has been a story of two feast and famine cycles, each roughly seven years up and then down, driven by growth cycles.

Since 2002, EM local currency bonds have outperformed DM bonds by 2.7% per annum, but almost all due to currency appreciation and carry (Figure 18). Average annual returns of EM local bonds

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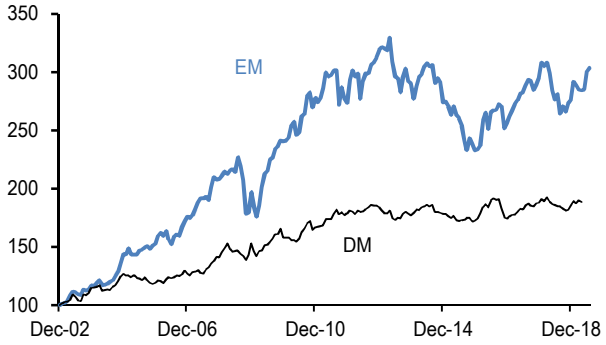
have been 7.5% in USD terms since 2004. Long-term Sharpe ratios for EM local markets since 2004 have lagged major global bond alternatives but would have been significantly improved by FX hedging (see *EM Local Markets Guide 2018*, 24 May 2018). **In currency-hedged terms, EM has outperformed by only 36bp per annum**. As with equities, EM bonds' relative performance went through feast and famine periods, around the same time as equities. And here too, starting from a different entry period changes the results.

Figure 18: GBI-EM has outperformed DM cumulative total return indices since 2002
Dec 2002 = 100

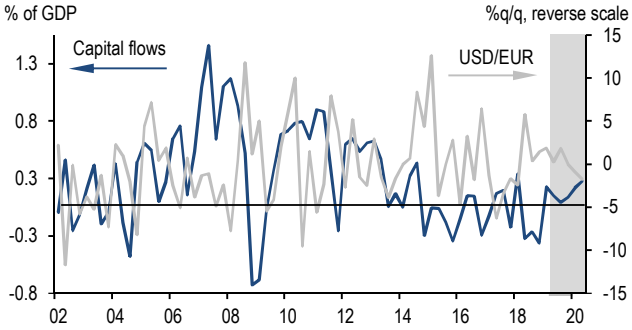


Source: J.P. Morgan. Last observation is Jul 2019.
EM: GBI-EM Global Diversified
DM: GBI-DM Diversified rebased to Dec 2002

We outline five factors that are likely to contribute to greater interest in EM fixed income going forward:

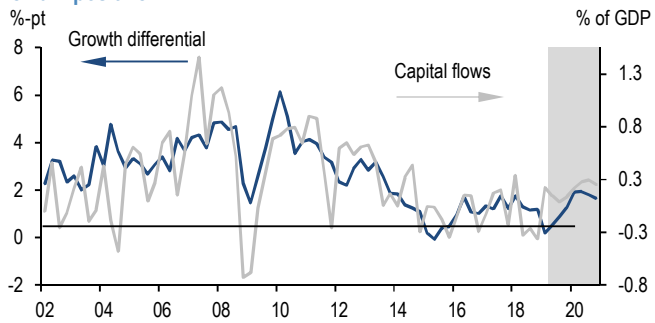
Rise of negative yielding bonds makes EM bonds a more attractive investment. We continue to view the EM-DM growth differential and change in USD movements as the dominant drivers of capital flows into EM (Figure 19-21). The underlying logic is simple and familiar: investing in EM is riskier than in DM, and the higher growth compensates for the additional risk. Assuming EM and DM economies grow in line with their potential rates of 3.6% and 1.4%, respectively, EM capital inflows should remain positive on the order of 0.4% of GDP (Aziz, Szentivanyi). With the dovish pivot by the Fed, BOJ and ECB opening space for central banks across EM to loosen policy, we still expect the EM-DM growth differential to improve this year (Aziz, Marney).

Figure 19: US dollar remains a dominant driver of EM capital flows



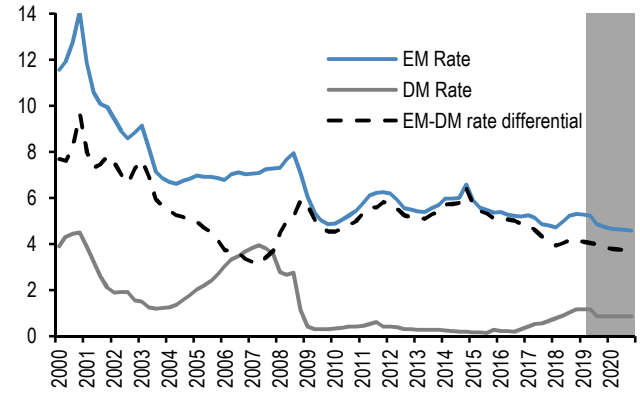
Source: J.P. Morgan; EM excludes China

Figure 20: EM-DM growth differential implies EMX capital flows to remain positive



Source: J.P. Morgan; EMX excludes China

Figure 21: EM-DM yield differential remains attractive given rise of negative yielding debt



Source: J.P. Morgan EM Macro Research

Loeys makes the case for a 20-30% allocation to EM local bonds, split hedged-unhedged by DM fixed income investors in a multi-asset portfolio for the low/falling yield world of DM. With bond yields during the month of August having seen new lows after a rally triggered by the escalation of the US-China trade conflict from end-July, the universe of negative yielding bonds expanded sharply. Indeed, negatively yielding bonds in the J.P.

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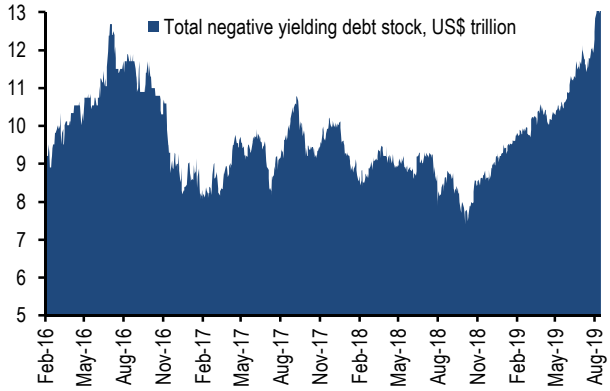
Morgan Global Agg index reached a new high of $10.2tn, or just over 21.2% of the index as of September 2019 by market value (Figure 22). The steady rally in yields has seen the entire yield curve of several countries trading at negative yields.

Figure 22: Negative yielding debt remains near all-time record levels



Source: J.P. Morgan

Prior to the GFC, the effective lower bound for the policy rate was assumed to be zero. However, since the GFC, a number of central banks have pushed the effective lower bound into negative territory to as low as –75bp in Denmark and Switzerland (Table 5). In Japan, the policy rate has been close to zero since 1995. The appetite for using negative policy rates has increased as global growth has slowed.

Table 5: Lowest policy rates reached since GFC

Basis points	
U.S.	12.5
Japan	-10
Euro area	-40
U.K.	25
Sweden	-50
Denmark	-75
Switzerland	-75

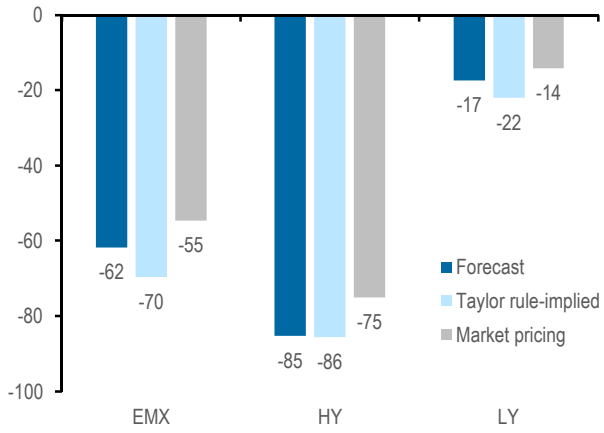
Source: Fed, BoJ, ECB, Riksbank, DNB, SNB

Loeys argues that under "normal" (i.e., past) circumstances, DM fixed income investors should hold some **5%-plus of EM cash**, or short duration instruments for yield, and another **10%-plus EM local bonds currency hedged** for diversification and yield convergence. A 20-30% allocation to EM local bonds, split hedged-unhedged seems quite reasonable for the low yield world of the DMs.

While there is limited scope for DM central banks to ease further given negative yields, our open economy Taylor-type model, which incorporates our projected quarterly paths for output gaps, inflation, DM rates and the trade-weighted USD, suggests EM central banks still have room to cut 70bps by end-2019; 86bp for high-yielders and 22bp for lower-yielders (Figure 23). The model then points to an additional 16bp in cuts from high-yielders in 2020.

Figure 23: EM central banks have greater scope to ease than DM banks based on Taylor-type model

% end-2019 less current policy rate



Source: J.P. Morgan. All figures exclude China and Argentina; sample for market pricing is from a smaller subset of countries, comparison is for indicative purposes only.

Entry of higher-rated and less volatile countries into the EM family of indices. Even including China's entry into the GBI-EM GD index, EM eligible local currency bonds are only 15.3% of the total EM local currency sovereign bond universe (Figure 24). The EMBIGD index contains 73 countries today, while the GBI-EM GD has only 19 countries (China will enter in February 2020). The share of EM local currency bonds that could become index eligible has scope to rise further, and the composition of the EM debt asset class will continue to evolve as higher-rated countries enter the index. Apart from China, higher-rated Korea, Israel and India have the largest non-EM dedicated debt holdings by foreigners. The EM foreign ownership of local government bonds has remained relatively stable in Latin America and EM Asia since 2016, but has picked up in 2019 for EMEA EM (Figure 25).

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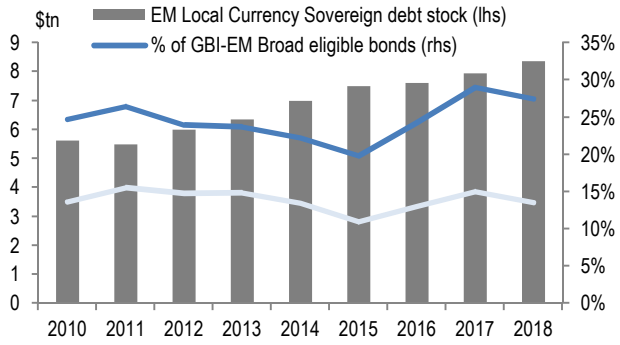
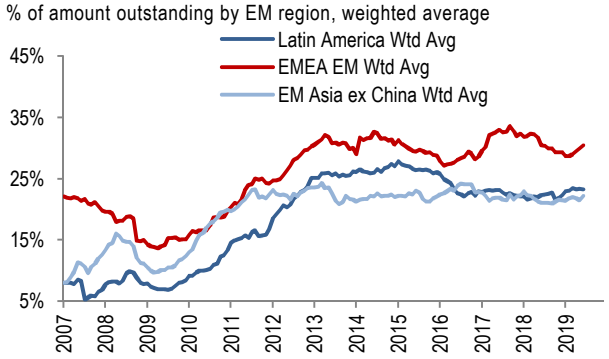
Figure 24: GBI-EM Global index-eligible bonds are only 15% of the total EM local currency sovereign bond universe



Source: J.P. Morgan

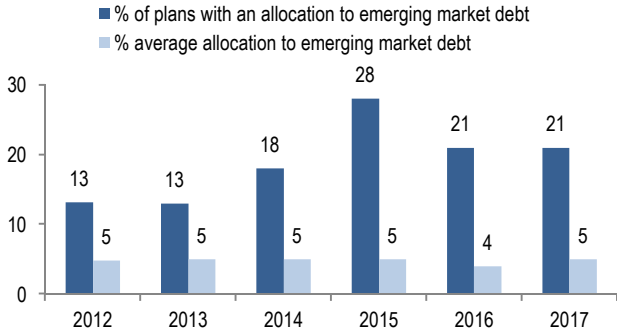
Figure 25: Foreign ownership of EM local government debt has remained relatively stable in Latin America and EM Asia but has recently picked up in EMEA EM in 2019



Source: J.P. Morgan

EM assets remain under-owned, particularly by pension funds most adversely impacted by negative yields. Panigirtzoglou notes (see *Flows & Liquidity: Negative rates are neither necessary nor unavoidable*, 20 August 2019) that pension funds and insurance companies, including those outside Japan, are facing an increase in their liabilities, and as a result, a deterioration in their funded status. Lower bond yields increase pension fund and insurance company deficits, putting pressure on pension funds to match assets and liabilities. This pressure to move further away from equities and other high risk assets into fixed income is even stronger in countries like Japan where demographic pressures are more intense. Pension funds and insurance companies, which are facing a big increase in their liabilities, have limited options such as taking a lot more FX and credit risk by shifting to foreign government or corporate bond markets, reducing benefits to new and sometimes to existing plan beneficiaries, or asking plan sponsors to increase their contributions. We note that only 21% of pension plans have an allocation to EM, down from a peak of 28% in 2015, and that the average pension fund EM debt allocation currently stands at only 5%, unchanged from 2012 levels (Figure 26).

Figure 26: Average pension fund EM debt allocations are 5%, while only 21% of plans have an allocation, down from a peak of 28% in 2015



Source: J.P. Morgan

EM debt less impacted by rise of algorithmic trading and passive investment. Our DM analysts highlight that one of the main attributes of the next crisis could stem from severe liquidity disruptions resulting from market developments since the last crisis. EM is one of the few asset classes less impacted by the rise of systematic trading and passive assets. The shift from active fundamental to quantitative and passive investment, the rise of high frequency trading, and automation of market making reduces the ability of the market to prevent large drawdowns. In the US equity market, Marko Kolanovic (see *Paradigm Shifts: What Lies Ahead?* J. Chang et al., 5 April 2019) estimates that Indexed Funds account for ~40% of equity AUM globally, while Quant Funds comprise an additional ~15-20% of equity AUM, with ~90% of trading volume coming from Quant, Index, ETFs and Options-related strategies. By comparison, EM bond ETFs account for a relatively small share of the EM retail bond market at ~$63bn AUM, or 13% of the EM retail bond universe; this is only 1.1% of the $5.5tn global equity and bond ETF market. We estimate $6.2bn of EM bond ETF inflows YTD (18% of YTD EM retail bond inflows), while EM equity ETF flows YTD are -$5.1bn, or 23% of EM retail equity flows YTD, and have been as much as 50% of total inflows in recent years. EM equity ETFs have a much higher market capitalization that is more than five times greater than EM bond ETFs, at $335bn (25% of EM retail equity universe).

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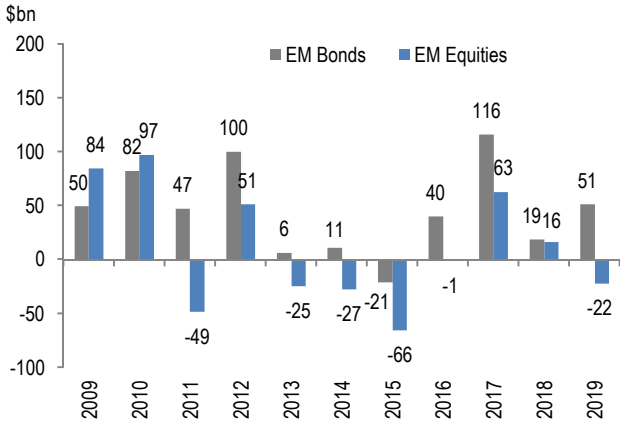
Figure 27: EM fixed income inflows have consistently outpaced inflows into EM equities



Source: J.P. Morgan, EPFR Global

High frequency trading has grown increasingly influential in the world's largest and most liquid bond market—US Treasuries. Our US rates analysts estimate that US Treasuries experienced a three-sigma decline in market depth in early August 2019 with Treasury yields declining by as much as 40bp due to the increasing influence of high-frequency trading in the Treasury market. Our rates strategists estimate that high frequency trading accounted for 80% of the order book and that less than half of the Treasury move in August was due to fundamentals (see *Where have all the cowboys gone?: Market depth has dropped into August, a move led by HFTs*, M. Salem, 14 August 2019). Overall liquidity in DM bond markets could also be affected by negative bond yields as real money investors are, in principle, less willing to trade bonds with negative yields.

ESG EM offers yield alongside social responsibility. Socially responsible investing (SRI), also known as Environmental, Social and Governance (ESG) investing, is moving into the mainstream as investors are looking to minimize reputational and operational risk and satisfy shareholder demands for ethical investment strategies. Asset managers are gravitating to more quantitative and systematic approaches that prioritize ESG without sacrificing potential returns. In April 2018, J.P. Morgan's Global Index Research team launched a fixed income index suite which integrates environmental, social, and governance factors in a composite benchmark, using the leading J.P. Morgan Emerging Market suite of indices (EMBI Global Diversified, GBI-EM Global Diversified and CEMBI Broad Diversified). The J.P. Morgan ESG indices (JESG) follow an integration approach combined with positive screening and ethical exclusions. Weights within the JESG are determined systematically based on a unique JESG index score. These ESG index scores for over 170 countries and 780+ issuers are calculated daily, using data from Sustainalytics, RepRisk, and Climate Bonds Initiative (CBI) as inputs. Currently, 98% of the issuers in the JPM EM bond indices have ESG input data available from either RepRisk or Sustainalytics (or both). Index rebalancing occurs monthly and historical levels are available from December 2012. The JESG indices are produced every weekday and rebalanced on the last business day of the month. Index data are available on Bloomberg (JPMX) and on DataQuery via J.P. Morgan Markets.

JESG indices have delivered comparable absolute returns to that of the baseline conventional indices, dispelling a popular industry notion that responsible investing involves giving up financial gains. JESG EM has returned 38.7% since inception (December 2012), exceeding the benchmark EMBIGD return of 36.7% and offering lower volatility over the same period. This relative parity is achieved despite the modestly lower yields for JESG indices from the exclusion of issuers with the weakest ESG scores, which are typically also associated with a higher risk premium. Since its launch in 2018, AUM tracked to the JESG EM has reached an estimated $8-10bn, and we believe that this figure could double to $20bn over the next year.

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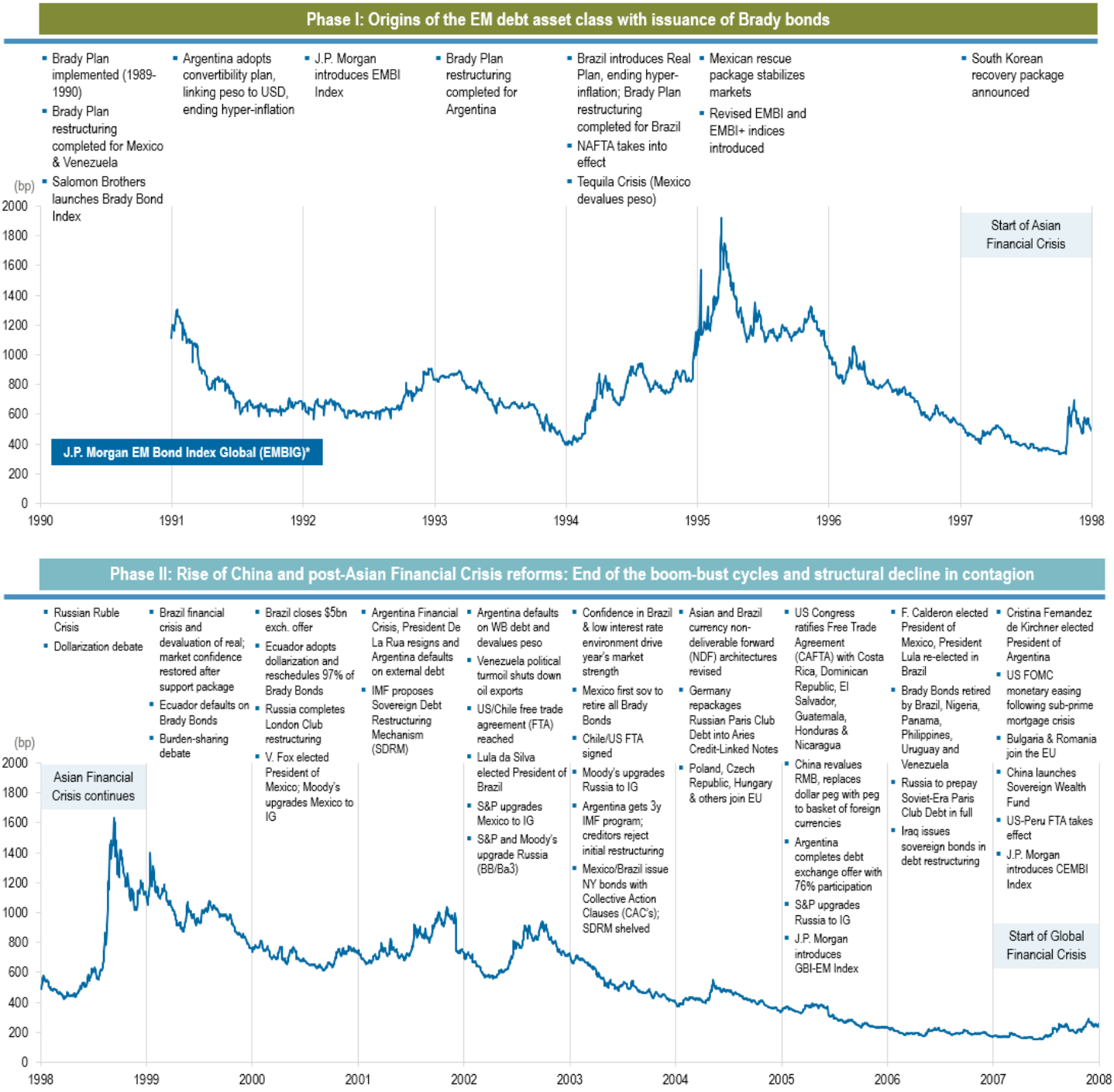
Emerging Markets Timeline: Opportunities and challenges through the cycles…



Source: J.P. Morgan, EMTA. *From 1991 to end-1997, EMBI spread to maturity used while from 1998, EMBIG spread to maturity used

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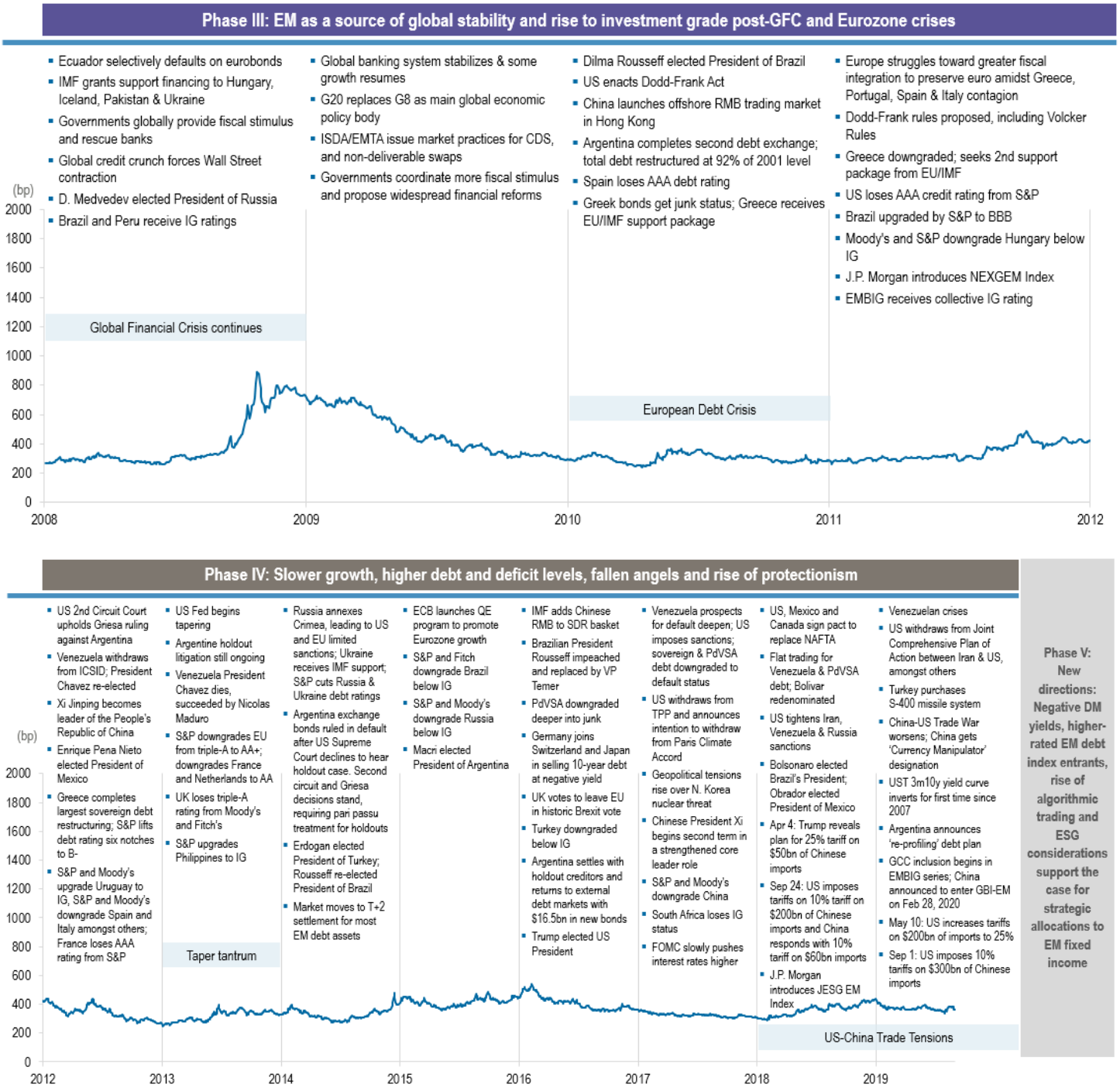

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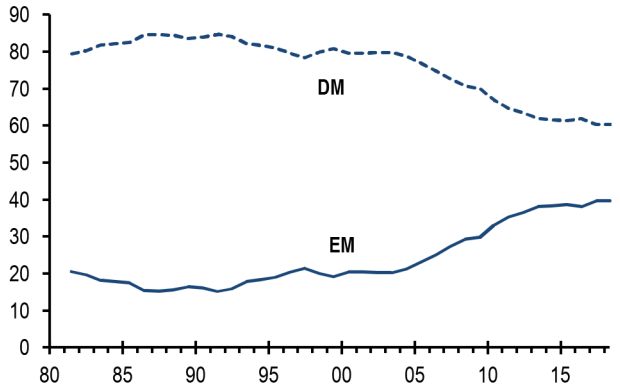
Emerging Markets: The story in pictures

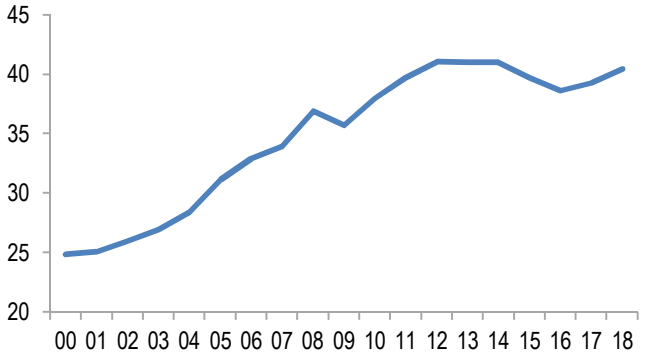
Rise of EM in the global economy

Figure 1: EM's share of global economy has risen to 40%
Percent



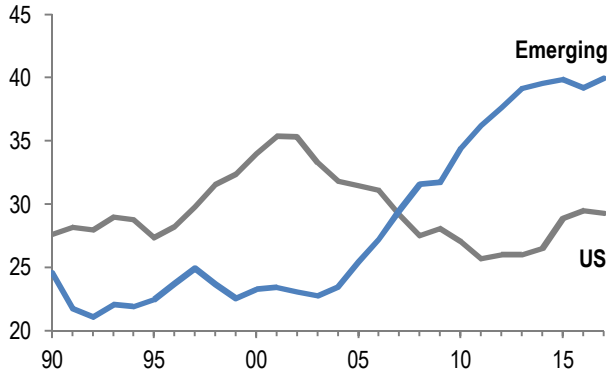
Source: IMF, J.P. Morgan

Figure 2: EM's share of global trade has remained about 40% in the last 10 years
% of global trade



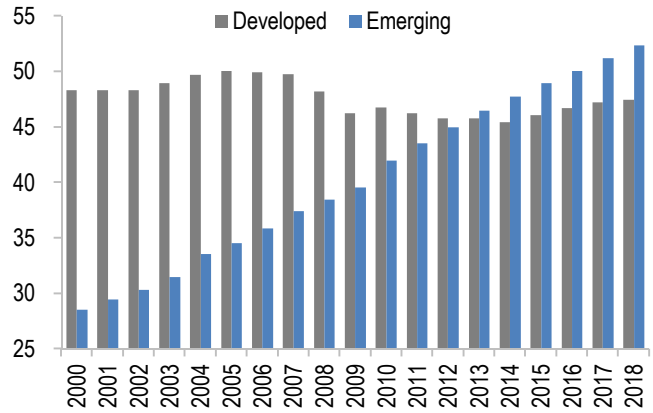
Source: J.P. Morgan EM Macro Research

Figure 3: EM now accounts for 40% of the share of global consumption
% consumer spending share of global consumer spending



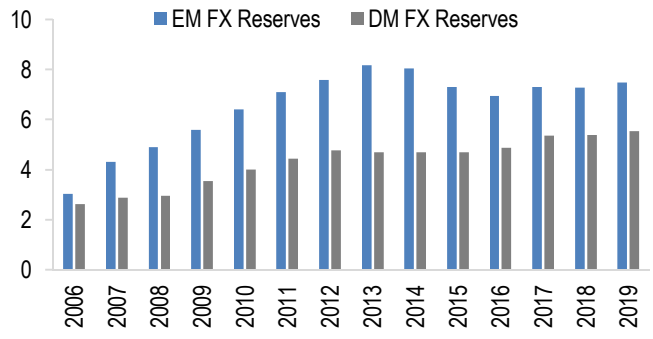
Source: J.P. Morgan Economic Research

Figure 4: Oil demand by EM now surpasses DM countries
mbpd



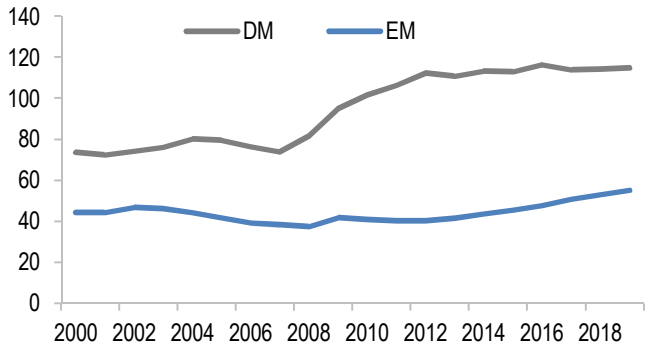
Source: J.P. Morgan Economic Research; BP Statistical Review of World Energy

Figure 5: EM FX reserves peaked at $8.2tn in 2013 but still account for 57% of global FX reserves today
Total EM FX and DM FX reserves (including gold); in $ trillion



Source: J.P. Morgan, IFS. Note: 2019 data as of end-June 2019.

Figure 6: EM debt as a % of GDP remains 60%-pts lower than for DM countries
% of GDP



Source: J.P. Morgan EM Macro Research

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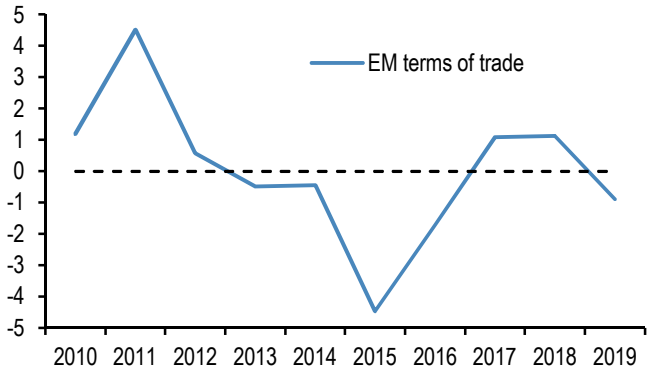
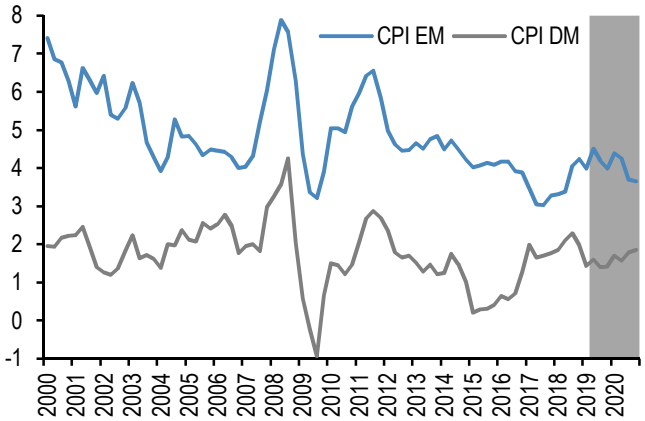
Key EM macro trends post-GFC

Figure 1: EM terms of trade are near or close to negative over the past five years
%oya



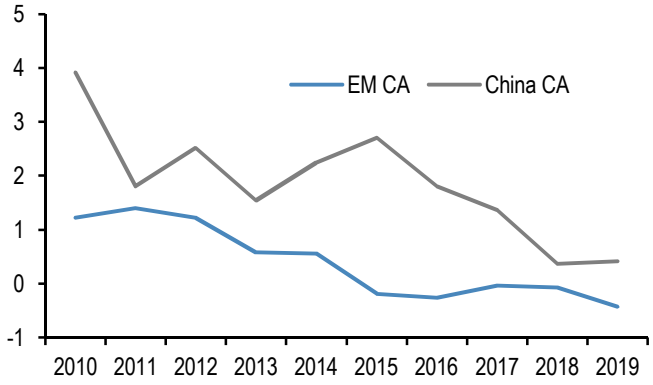
Source: IMF, J.P. Morgan Global EM Macro Research

Figure 2: Inflation in EM countries remain well contained
%yoy



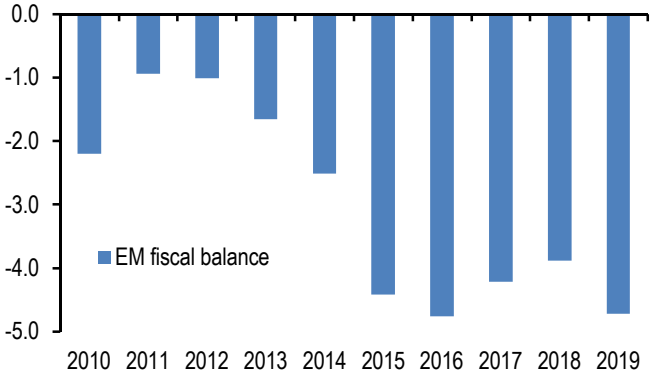
Source: J.P. Morgan EM Macro Research

Figure 3: EM current accounts have significantly worsened over the last few years, driven by China's shrinking surplus
% of GDP



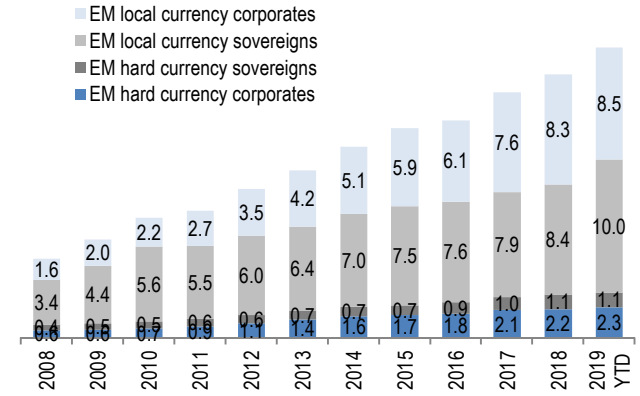
Source: IMF, J.P. Morgan Global EM Macro Research

Figure 4: EM fiscal deficits have deteriorated and persisted for the last five years
% of GDP



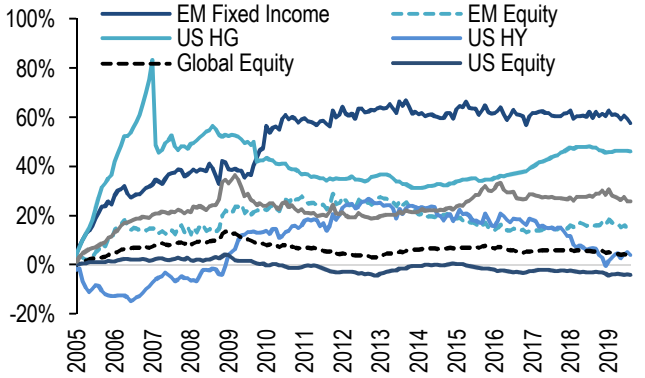
Source: IMF, J.P. Morgan Global EM Macro Research

Figure 5: EM debt universe has quadrupled since the GFC
EM debt universe broken down by asset class, $trillion



Source: J.P. Morgan, Bloomberg. Data as of August 30, 2019

Figure 6: Inflows into EM fixed income have remained stable post-GFC
Cumulative flows as % of AUM



Source: EPFR Global, J.P. Morgan Global EM Strategy Research. All retail fund flows and non EM-funds are US-domiciled

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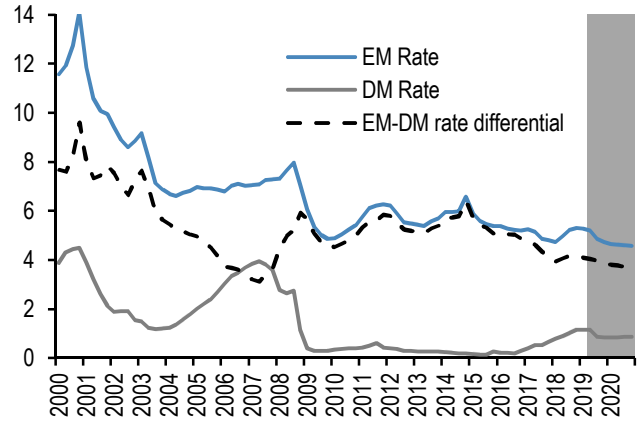
Latest trends in EM as an asset class

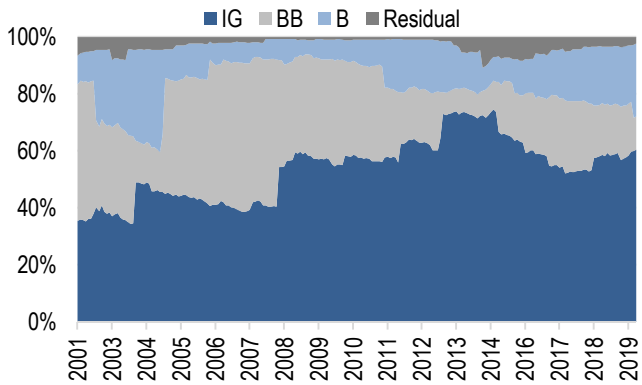
Figure 1: EM-DM yield differential remains attractive as negative-yielding debt has increased in Europe and Japan



Source: J.P. Morgan EM Macro Research

Figure 2: EM sovereign credits have slowly improved with EMBIG returning to IG, following a spate of downgrades in 2015

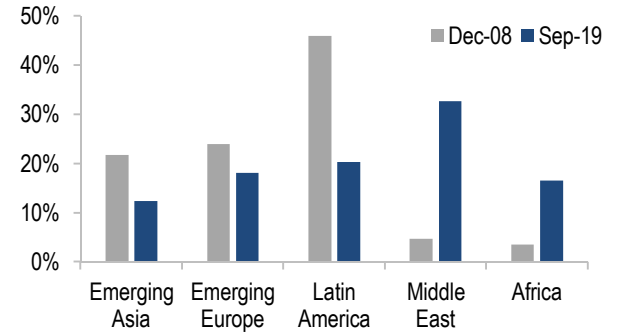
% of EMBIG market capitalization by credit bucket



Source: J.P. Morgan Index Research

Figure 3: Middle East is now the largest regional weighting within the EMBIGD

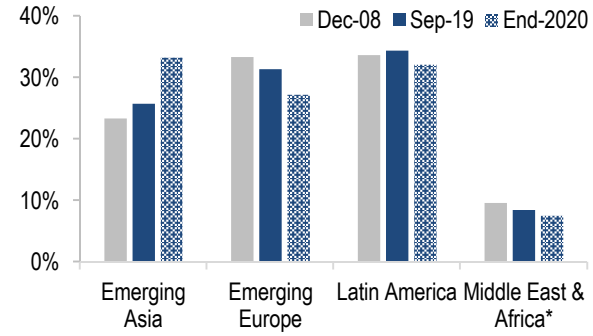
Weight (%) by region in the EMBIGD



Source: J.P. Morgan

Figure 4: EM Asia's share of GBI-EM GD will grow to one-third post China inclusion

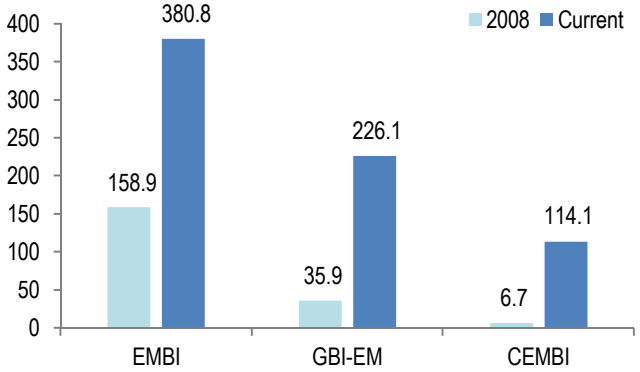
Weight (%) by region in the GBI-EM GD



Source: J.P. Morgan. *Middle East & Africa region in GBI-EM currently contains South Africa exposure only

Figure 5: AUM tracked against J.P. Morgan EM indices has risen since the 2008 GFC

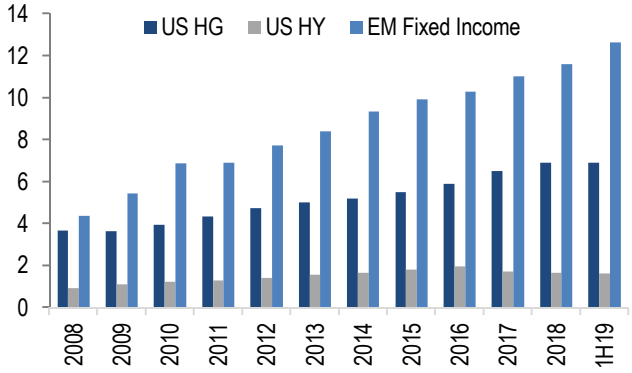
$billion



Source: J.P. Morgan Index Research. Current as of August 2019

Figure 6: EM debt universe now exceeds size of US HG and HY markets

$trillion



Source: J.P. Morgan, Bloomberg. Data as of June 2019.

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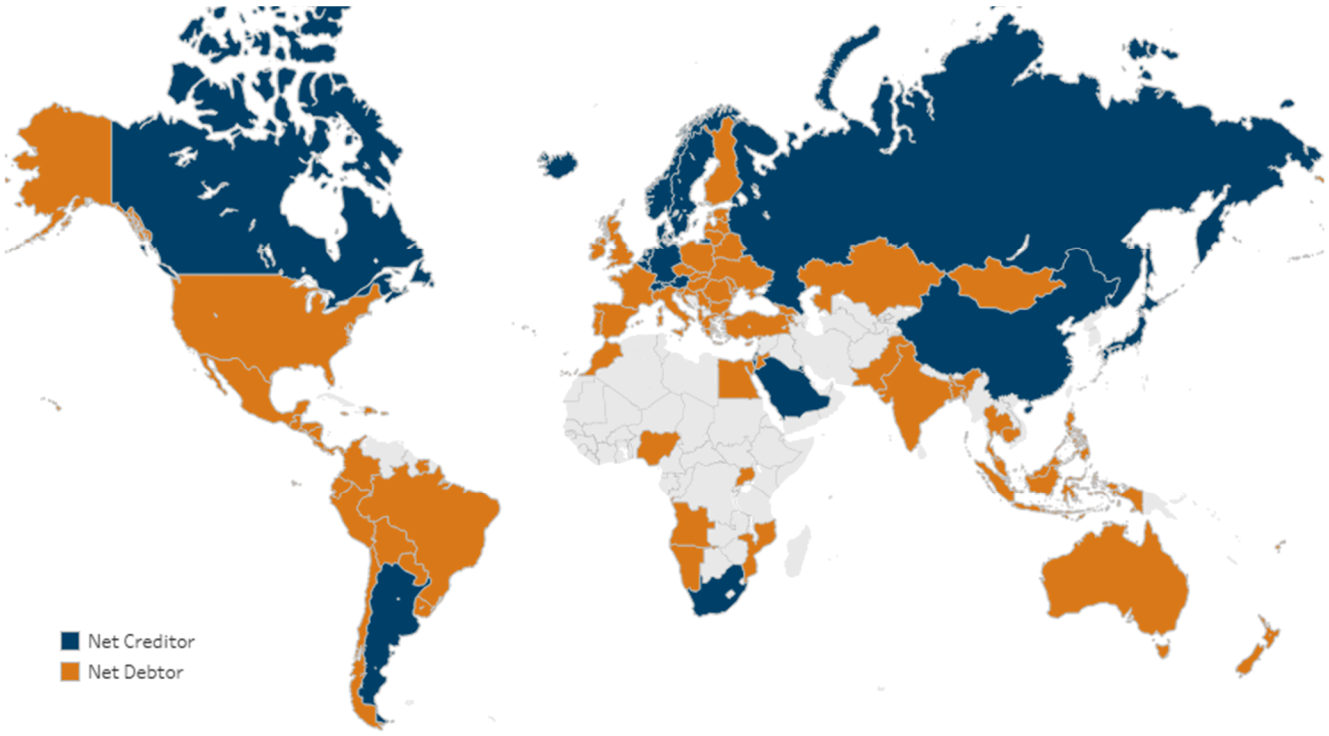
Figure 7: Many EM countries in our tracking universe have become net external debtors



Select EM Countries	Net Creditor	Net Debtor	Current Account Balance ($bn)
Latin America			
Argentina	X		-27.7
Brazil		X	-14.5
Chile		X	-9.2
Colombia		X	-12.7
Mexico		X	-22.2
Peru		X	-3.4
Uruguay		X	-0.3
EMEA EM			
Croatia		X	1.7
Czech Republic		X	0.4
Egypt		X	-6.0
Hungary		X	0.8
Israel	X		7.0
Kazakhstan		X	1.0
Kuwait	X		18.0
Nigeria		X	8.5
Poland		X	-4.3
Romania		X	-11.1
Russia	X		114.9
Serbia		X	-2.6
Saudi Arabia	X		65.2
South Africa	X		-12.4
Turkey		X	-27.8
Ukraine		X	-4.7
Emerging Asia			
China	X		49.2
India		X	-68.5
Indonesia		X	-31.1
Korea	X		76.4
Malaysia		X	8.3
Philippines		X	-8.5
Thailand		X	37.7

Source: IMF, World Economic Outlook Database April 2019, J.P. Morgan Strategic Research. Note: Net external creditor/debtor designation based on 2018 net international investment position (NIIP) data from the IMF whereby a net positive NIIP indicates a net creditor country and a net negative indicates a net debtor country

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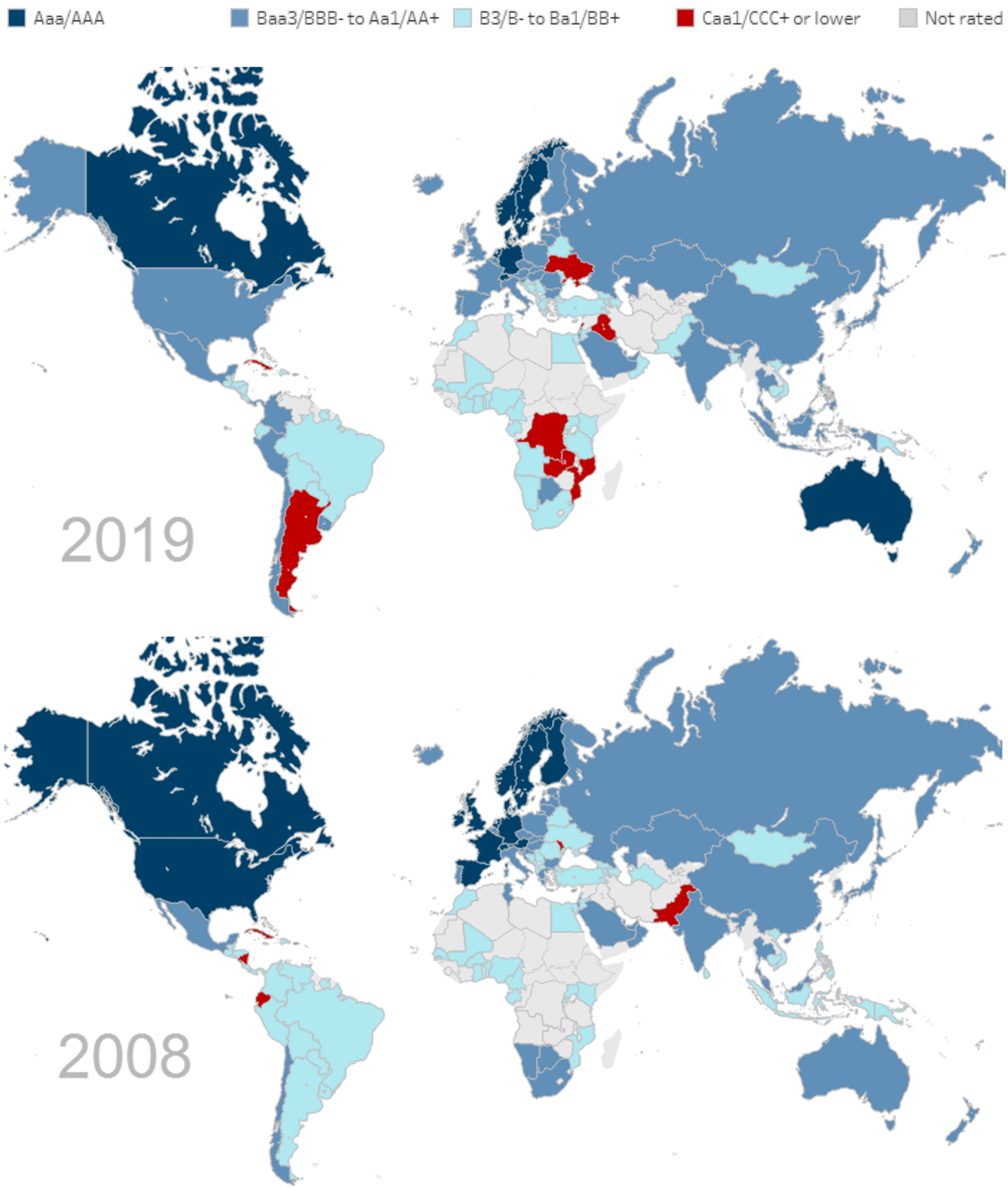
Figure 8: The triple-A universe continues to shrink post 2008 GFC while the triple-B rated space has become even more crowded
Current ratings as of September 4, 2019 (top map) versus 2008 ratings (bottom map)



Source: J.P. Morgan Strategic Research, Bloomberg. Note: Constructed using an average of Moody's, S&P and Fitch sovereign ratings.

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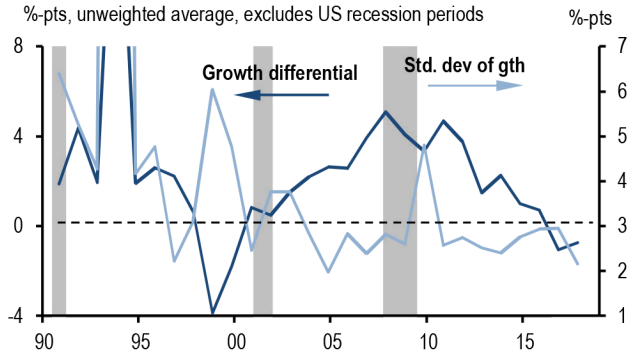
EM behavior as a macro story: Volatility and resilience of growth and inflation outcomes

- **The past two decades for EM are unusual in their characterization for exhibiting strong growth yet low volatility across all three regions. However, with the forces driving growth now ebbing, it seems we could be reverting back to a scenario of lower growth and possibly higher volatility.**
- **China plays a central role linking the manufacturing and commodity producing halves of EM, effectively being the glue that binds regional convergence.**
- **China has countered cyclical downturns in external demand with countercyclical policy while their mindfulness of tradeoffs reduces the risk of a hard landing.**

China and EM: The trade ties that bind

When examined over the longer time horizon, the past two decades for EM are unusual in their characterization; exhibiting strong growth yet low volatility across all three regions (Figures 1 and 2).

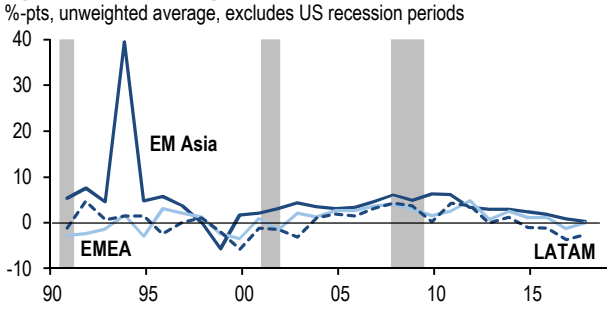
Figure 1: EM-US GDP growth differential and its dispersion



Source: J.P. Morgan, shaded area denotes US recessions

This compares to the prior period from the 1990's in which growth across the EM regions had been divergent rather than convergent. With the forces driving growth now ebbing, it seems that we could well be reverting back to the past growth experience of EM, typified by lower growth and possibly higher volatility (Figure 2).

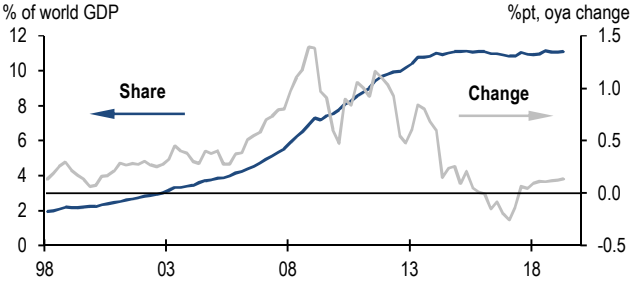
Figure 2: EM-US GDP growth differential



Source: National sources, shaded area denotes US recessions

One hypothesis for the EM convergence in the past couple decades points to the role of China following its accession to the World Trade Organization back in 2001, leading to a material expansion in its growth and a concomitant rise in China's global GDP share (Figure 3). However, since 2012, its share has stabilized, and its relative impulse on the rest of the world has also likely ebbed as well. It is not coincidental that the slowing in China's growth has had spillovers into EM, both on the way up and on the way down, likely acting primarily through the trade channel.

Figure 3: China share of global nominal GDP



Source: National sources

Linking trade to China and EM

As a general observation, EM GDP growth is intricately linked to exports. External demand thus plays a key role in the influencing of the cyclical contours in EM, aligning well with global capital expenditures (Figures 4 and 5). This is where China plays a central role linking the manufacturing and commodity producing halves of EM, effectively being the glue that binds regional convergence.

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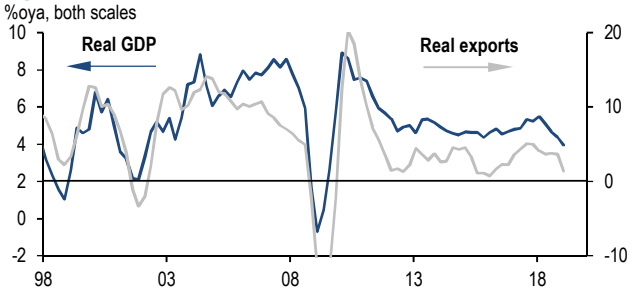
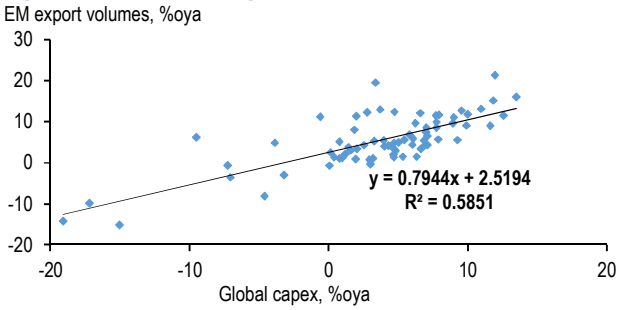
Figure 4: EM real GDP and exports



Source: CPB and J.P. Morgan

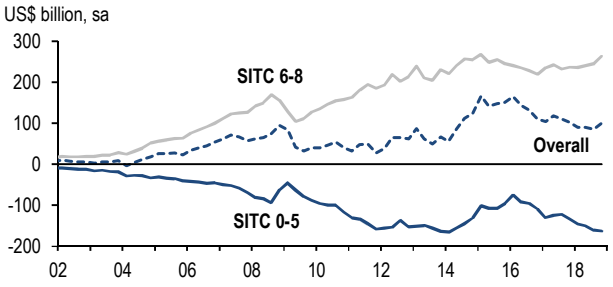
Figure 5: EM exports and global capex



Source: J.P. Morgan

We can describe China broadly as a net exporter of manufactured products and a net importer of primary products. This characterization is gleaned from the compositional differences in its exports and imports, with the breakdown by SITC trade classifications providing useful analytical insights. China's persistent surplus in manufactured goods (SITC 6-8) juxtaposes with its deficit in primary products (SITC 0-5), with the two sets of balances—manufactured and commodity mirroring each other (Figure 6).

Figure 6: China trade balance



Source: GAC

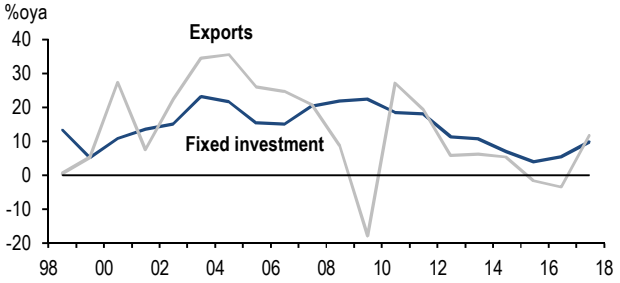
Table 1: Drivers of China's imports

Dependent variable: Real imports, quarterly, 02Q1-18Q2

	Total imports		Commodity imports		Manufactured imports	
	Coeff.	P-val	Coeff.	P-val	Coeff.	P-val
Constant	0.55	0.91	-3.02	0.77	1.95	0.70
Lagged import growth	0.21	0.04	0.27	0.04	0.58	0.00
Fixed asset invest.	**0.42**	0.00	**0.96**	0.00	0.07	0.44
Retail	-0.04	0.93	-0.07	0.95	-0.04	0.93
Exports	**0.31**	0.00	-0.11	0.45	**0.50**	0.00
China REER	**-0.97**	0.00	**-0.98**	0.00	-0.61	0.01
R-sq	0.82		0.56		0.87	

All data in %oya. Source: J.P. Morgan

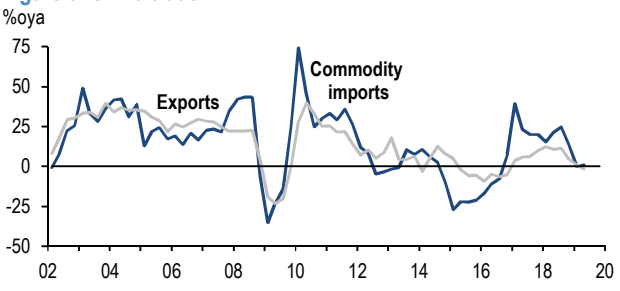
Figure 7: China real exports and fixed investment



Source: IMF

The inference is that income effects from exports transmit to domestic demand in China, especially fixed asset investment, which then manifests in imports of commodities (Figure 7). Thus, it should also not be surprising that China's exports of manufactured goods move in a correlated fashion with its imports of commodities (Figure 8). Similarly, when exports in China slow, so too does domestic demand, especially fixed investment, which tends to be the marginal driver of commodity imports (Table 1 and Figure 9).

Figure 8: China trade



Source: GAC

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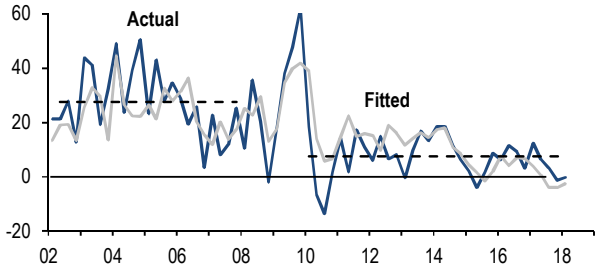
Figure 9: China's commodity goods imports
%oya, dashed lines show period averages



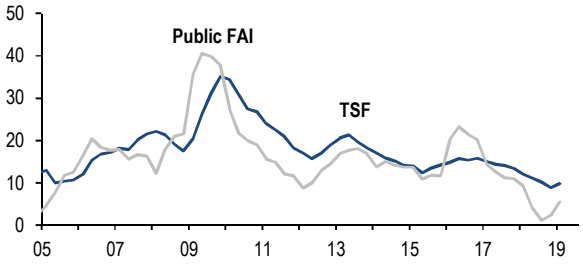
Source: General Administration of Customs; J.P. Morgan

Given the linkages between China's exports of manufactured goods and its imports of commodities, both exporters of manufactured goods and commodities are intertwined, and this explains the unusual linkage between the two, giving rise to the correlations in growth across the EM blocks as noted previously. Similarly, with the post-GFC slowdown in global trade, commodity demand in China has slowed, as have commodity prices, with a knock-on effect to the rest of EM.

A China mindful of tradeoffs reduces the risk of a hard landing

China has countered these cyclical downturns in external demand with countercyclical policy, with three counter-cyclical fiscal impulses in the past decade; in 2009, 2012 and 2016 (Figure 10).

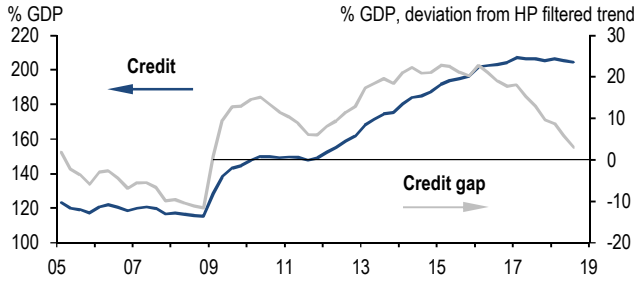
Figure 10: China TSF and public FAI
%oya



Source: NBS and PBOC

However, while public FAI could provide a short-term fillip to growth, there are trade-offs, firstly through a rise in debt levels which runs against the policy desire to reduce financial risks. We note, however, that a good deal of policy effort has been spent in the recent past to reduce financial risks, reflected in the paring of debt growth, narrowing the credit gap (Figure 11). Secondly, much of the FAI in 2016 had been driven by an expansion of PBOC's net domestic assets, given the limited accumulation in China's external surpluses. Excessive NDA expansion could lead to deterioration in the quality of the PBOC's balance sheet and undermine financial stability (see Box 1 below).

Figure 11: China credit to non-financial sector



Source: BIS

Thus, given these costs, it remains to be seen whether caution around financial stability will be thrown to the wind. Indeed, the repercussions from the recent takeover of Baoshang Bank, an unlisted city commercial bank, serves as a reminder of the need for financial stability, and the evolution of funding markets bears watching (see *China banks*, K. Lei et al., 26 May 2019). This is the first time since 1998 that a commercial bank has been taken over with a *de facto* restructuring on the liability side. While policymakers' tolerance for failure of commercial banks is a positive development by itself, which should improve market discipline and reduce moral hazard, it could have important implications on monetary policy transmission in the near term. In particular, smaller banks, which depend heavily on the wholesale market for funding, could face higher funding costs, and thus, constrain TSF growth. Given the trade-offs, it is possible that the quantum of fiscal expansion will be calibrated against the expected longevity of the trade tensions and suggests that expectations of a drawn-out trade war would imply a judicious and measured response given the need to preserve policy space. This would possibly suggest a more active use of FX adjustments in the near term and tighter controls over the capital account and lower growth as an acceptable cost.

While China's response to trade tensions has yet to be fully determined, its reluctance to turn on the credit spigot is a positive signal and speaks to its focus on financial stability. If so, this would reduce the risk of a financial cycle driven hard landing in China.

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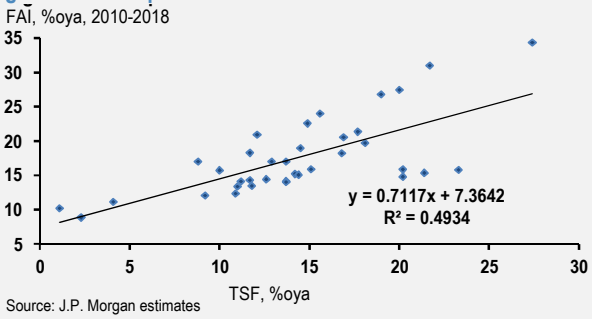
Box 1: Total social financing (TSF), fixed-asset investment (FAI) and PBOC's balance sheet

Given the link between public FAI, TSF and the monetary base, it becomes apparent that large-scale public FAI used to require a material TSF credit impulse would, in turn, require a significant expansion in money supply (M0). Using a simple scenario analysis, to deliver a 23% public FAI expansion, a quantum equivalent to the 2016 expansion, would require an equivalent 23% rise in the TSF stock (Figure 12). Such a rise in TSF would require an RMB7 trillion (~7% of GDP) rise in M0. To deliver this without any expansion of net foreign assets would require a net injection of the equivalent quantum in domestic liquidity, either via RRR or OMOs. Assuming this is all done via RRR cuts, such a quantum would require a 450bp cut in the RRR, which would bring the RRR to 9.00% from 13.5% in 1Q19 (Table 2). In the event that the balance of payments experiences net outflows, this would require even more liquidity injection by the PBOC just to stabilize the monetary base.

Figure 12: China public FAI and TSF



Source: J.P. Morgan estimates

Table 2: Scenarios around China M0 and TSF

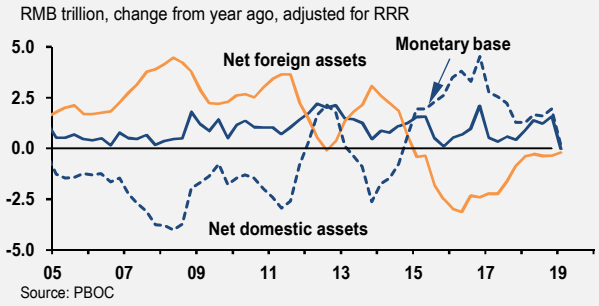
RMB trillion, assuming 23% TSF growth

	1Q19	1Q20f	Chg[1]
TSF	205.68	252.98	47.31
TSF/MB multiplier	6.77	6.77	
Monetary base	30.37	37.36	6.99
1. NFA	21.81	21.81	-
2. NDA	8.56	15.55	6.99
Of which RRR cuts only			
- 450bp TRR cut			6.99
- Residual NDA needed			(0.00)
Memo: Deposits with PBOC	20.96		
TRR, % of deposits	13.50		
1%pt TRR equivalent in M0	1.55		

Source: PBOC and J.P. Morgan calculations; 1. 1Q20f less 1Q19

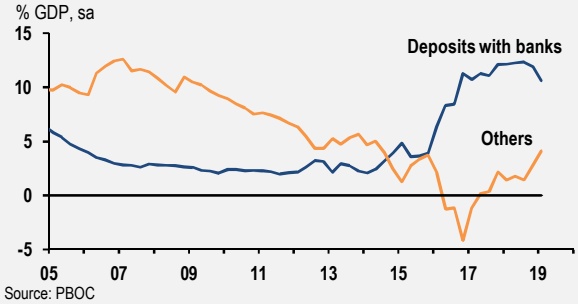
An alternative to RRR cuts is for the central bank to provide liquidity through expanding its net domestic assets (NDA, Figure 13). The NDA injection arises via the MLF, PSF, and SLF facilities, where banks present collateral in the form of treasury bonds, central bank bills, policy bank financial bonds, and high-grade credit bonds, effectively exchanging banks assets for short- to medium-term PBOC liquidity. One reason for the use of such facilities, involving a broader class of collateral, is likely the limited stock of government bonds on the balance sheet of the banking system, amounting to RMB8.9 trillion, rising an average of 0.63 trillion per year since 2012 and well below the average NDA rise of 1.3 trillion over the same period. Through these facilities, the stock of PBOC liquidity provision to the banks increased to 12.5% of GDP in 3Q18 from 3.9% of GDP in 4Q14 (Figure 14). Thus, if China were to pursue an aggressive FAI expansion, this could entail a widening of acceptable collateral for OMO operations, which may well imply a deterioration in the quality of PBOC's balance sheet if only relying on NDA expansion.

Figure 13: China sources of adjusted monetary base



Source: PBOC

Figure 14: China net domestic assets of the PBOC



Source: PBOC

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Global Emerging Markets Research
J.P. Morgan Perspectives
12 September 2019

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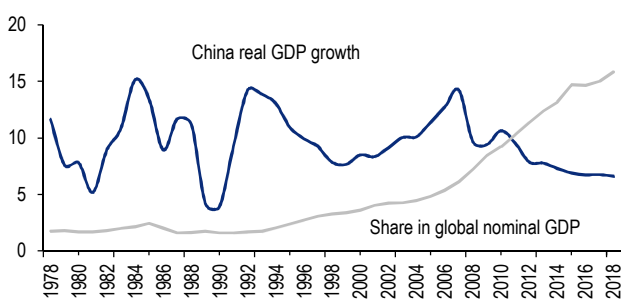
China as a driver of the global economy

- **After rapid gains, China's share of global GDP stands at 16%, and China contributed about 30% of 2018 global growth.**
- **Much of this rise has been due to expansion in trade, which has benefited other EMs through the spread of the global supply chain.**
- **However, the ongoing tariff war with the US has shaken China's status as the world's largest exporter and could disrupt the global supply chain.**

China's rise as a global economic power

The rise of China as a new economic superpower is one of the most remarkable changes for the global economy. Since China adopted the reform and open-up policy in 1978, China has maintained an average growth rate of 9.6% in the past 40 years, and China's share as a % of the global economy increased from 1.8% in 1978 to 16.3% in 2018 (Figure 1).

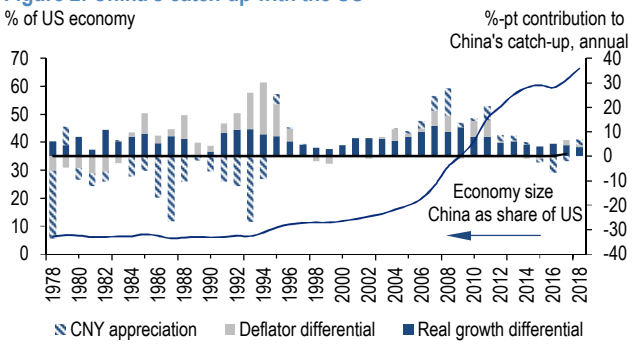
Figure 1: China's economic growth and share in global economy



Source: World Bank, J.P. Morgan

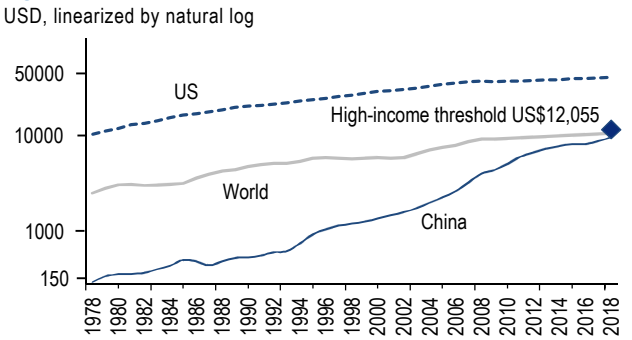
Despite the economic slowdown in the past decade, China's contribution to global economic growth stands at around 30%, and it became the second largest economy in 2010. Relative to the US economy, China has increased from 11.8% in 2000 to 66.6% in 2018 (Figure 2). The catch-up process was in part driven by higher nominal GDP growth and in part due to currency appreciation (cumulative 23% appreciation over 2000-18, especially in 2005-13 when CNY appreciated by 26.3% against the USD). This catch-up appears more dramatic when set against the average global per capita income (Figure 3).

Figure 2: China's catch-up with the US



Source: World Bank, J.P. Morgan

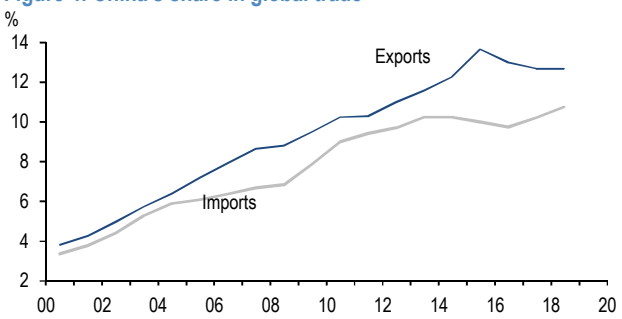
Figure 3: GDP per capita



Source: World Bank, J.P. Morgan

Much of this rise has been due to expansion in trade. In the past two decades, China's share in the global trade market has risen significantly (Figure 4), and the country has gained the status of "World factory." After China joined the WTO in 2003, it has been tightly woven into the global supply chain and has become the hub for processing and assembly activities.

Figure 4: China's share in global trade



Source: World Bank, J.P. Morgan

The emergence of the global supply chain has relocated different stages of production into different countries based on their comparative advantages, and thus, greatly improved the quality and efficiency of products. Overall,

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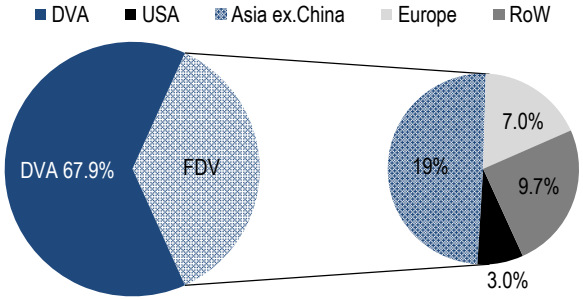
nearly 20 cents of every dollar of goods "made in China" are actually made in Asia excluding China, while about 7% of China's gross exports originate in Europe (Figure 5).

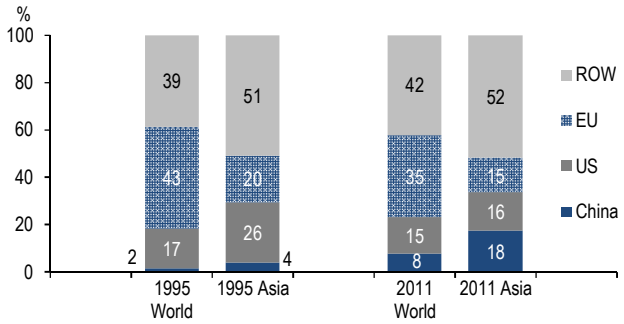
Figure 5: Decomposing "made in China"



Source: OECD, J.P. Morgan

While China's high-speed growth in the past decades has benefited many trading partners via the global supply chain, China's booming domestic demand, which has been mainly fueled by the surge in fixed asset investment, becomes increasingly important for the world, especially for EM Asia. China's domestic demand accounted for 8% of total world exports in 2011 versus the merely 2% in 1995 (Figure 6).

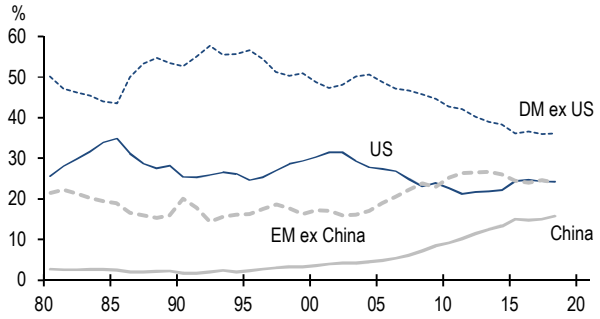
Figure 6: Sources of demand for exports in VA terms



Source: TiVA-OECD and WTO, J.P. Morgan

As a result, China's share of global output has surged from about 3% to 17% over the past two decades. At the same time, China's climb has helped lift other EM economies, which in aggregate (excluding China) have seen their share of global activity rise from 16% in 2000 to 23% as of 2017. While the US has lost some ground, the rise of EMs has come largely at the expense of other developed markets—particularly Japan (Figure 7).

Figure 7: Global nominal USD GDP shares

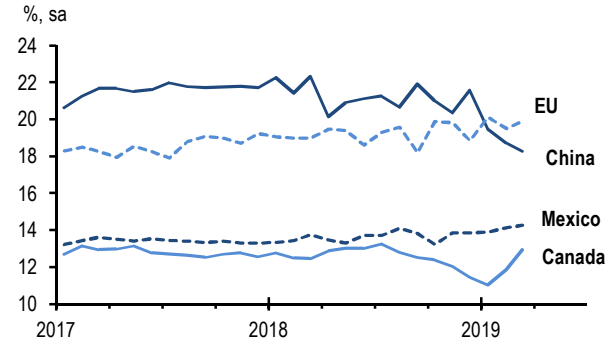


Source: IMF, J.P. Morgan

Tariff war disrupts China's economy and the regional and global supply chain

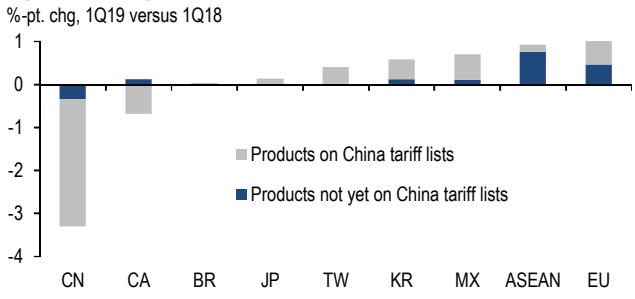
However, China's status as the world's largest exporter has been shaken by the ongoing tariff war with the US, with a notable decline of market share in the US market (Figure 8), especially in the goods market with additional tariffs imposed (Figure 9).

Figure 8: Share of US imports, top four markets



Source: US Census, J.P. Morgan

Figure 9: Change in US import share



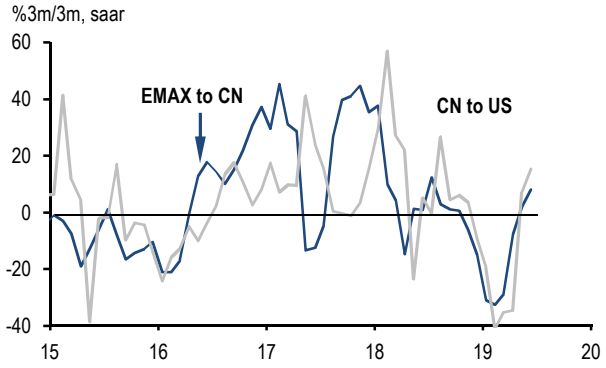
Source: J.P. Morgan

The escalation in the US-China trade war has a significant impact on the global economy, dragging growth in the near term and causing disruptive global supply chain relocation in the medium term. We estimate that the

accumulated impact of rounds of tariff hikes since 2018 could drag China's growth by 0.9%pt, and an additional 10% tariff on the remaining $300 billion Chinese exports to the US will further slow the economy by 0.3%pt. This takes into account the direct impact via the trade channel, and by extension the hit on consumption and investment, as well as the indirect impact via the hit on business sentiment.

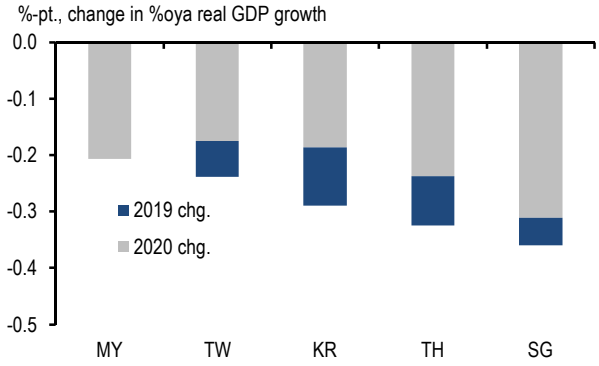
For the EM region, while DM capex spending remains a critical driver of the region's exports, weakening Chinese exports to the US could drag down the regional exports to China via the supply chain (Figure 10). While some economies, such as Vietnam, may be well positioned to gain from US-China trade frictions due to trade diversion or supply chain relocation, most major EM Asia economies will have to take a haircut (Figure 11).

Figure 10: EMAX exports to CN and CN exports to US



Source: National sources

Figure 11: EM Asia 2019 and 2020 real GDP revisions*



Source: J.P. Morgan forecasts. 1. Revisions from August 2

The US-China confrontation has disturbingly expanded from trade to the tech sector, and the war on currency increases the risk of further spillover to other areas. The changing relationship between China and the US is a fundamental issue that could affect the global economy, trade and financial market in the coming decades.

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Global Emerging Markets Research
J.P. Morgan Perspectives
12 September 2019

J.P.Morgan

China in 2030: Share of global economy to stabilize at ~20%

- **China's growth potential will slow from the current 6.5% level to 5.5% in 2021-25 and 4.5% in 2026-30.**
- **As a result, China's share of the global economy will stabilize just below 20%, and global trend growth will dampen by 0.4%pts.**
- **China's transition to slower potential growth could be volatile and requires balancing reforms to move to a more domestically driven growth model with deleveraging and public-sector restructuring.**

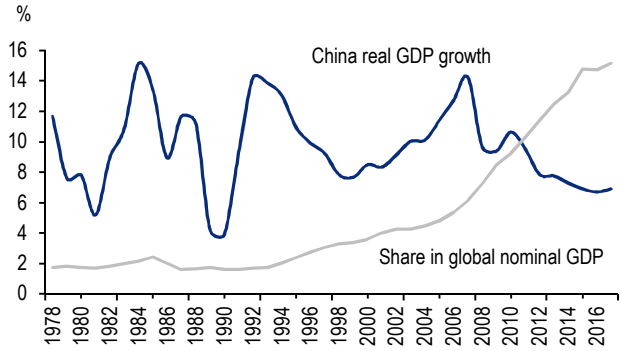
A changing environment

China's success in economic growth has benefited from both external (globalization) and domestic (market-oriented reform and open-up policy) reasons. These factors have changed in recent years and have affected China's growth dynamics, and such impacts will continue to exist in the medium term.

First, globalization has slowed markedly since the GFC and political support for further expansion has waned significantly across DM economies. Despite recovering since 2015, world trade growth has floundered in recent years, and with that, the fortunes of EM economies have been waning in general with export-oriented economies like China in particular.

Second, China has been a current account surplus (CAS) country since it joined the WTO in 2001. For many years, net exports have been a key contributing factor to China's fast growth. It peaked in 2007 with CAS at 9.9% of GDP (Figure 1), with net exports contribution to GDP growth at 1.5%-pts. Since then, China's CAS has continued to decline, falling to 0.4% of GDP in 2018 and is estimated to be 0.1% 2019 and -0.1% in 2020. In the next one to two years, it is very likely that China will turn from a CAS country to a current account deficit (CAD) country (our forecast is a CAD of 0.3% of GDP in 2020). Such a change has two-sided implications. On the one hand, China will need to increasingly rely on domestic demand, while on the other hand, China's role in the global economy will shift from the supply side (biggest exporter) to the demand side as one of the fastest expanding consumption markets.

Figure 1: China's economic growth and share in global economy

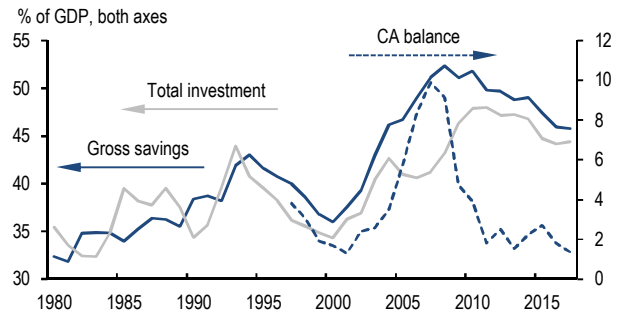


Source: World Bank, J.P. Morgan

Third, on the domestic front, there will be continuing efforts to transform from an investment-driven growth model to a consumption-driven one. In the aftermath of the GFC, China rolled out a large-scale stimulus plan, mainly via investment. Excessive investment has led to a decline in investment efficiency and other structural problems. However, a fundamental problem is that high investment, high output, but low domestic consumption cannot coexist with relatively weak global demand. Therefore, the transformation from investment to consumption is a necessary part of China's rebalancing.

Fourth, as the economy shifts from being a CAS to a CAD economy, China will move from an excess-savings economy to a deficit-savings economy despite the likely decline in investment (Figure 2). This decline in the savings rate will be felt across both households and corporates. The adjustment has already started in recent years and will continue going forward (*China's saving rate*, H. Zhu, G. Ng and M. Chen, 1 July 2016). Part of the decline, of course reflects the aging of China's population, which will become more severe in the coming decade (Figure 3, also see below discussion).

Figure 2: China savings, investment and current account



Source: IMF-WEO, J.P. Morgan

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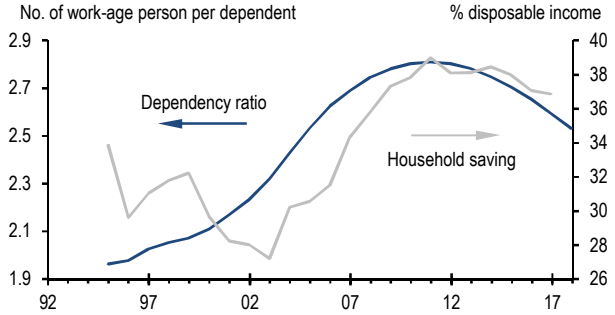
Figure 3: Dependency ratio and household savings



Source: J.P. Morgan

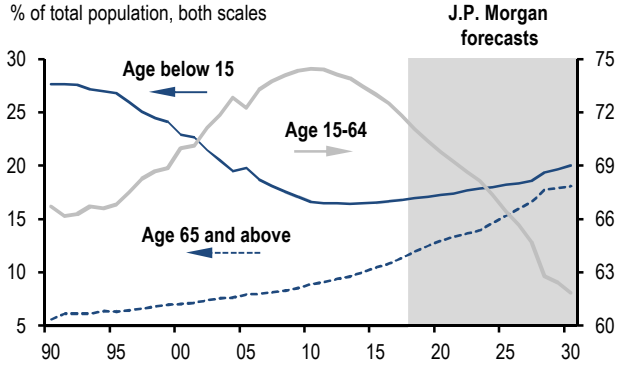
Lastly, but perhaps most importantly, the relationship between China and the US is undergoing a fundamental change. The confrontation between China and the US has disturbingly escalated into a tariff war, with spillover into the tech sector, and now the war on currency has started to emerge. The competition in trade, new technology, and more broadly in the economic system, geopolitical interests, and other areas has intensified in recent years, and how to redefine the US-China relationship is arguably the biggest challenge China is facing down the road.

China growth potential will further slow down to 4-5% in next 10-15 years

We use the production-function based approach to forecast China's growth potential in the long run (2019-2030). Overall, we estimate China's growth potential will slow from the current level of 6.5% (over 2016-20) to 5.5% in 2021-25 and 4.5% in 2026-30. This decline reflects a number of factors that are enumerated below.

Aging population. China's one-child policy, introduced in the 1980s, has had a major impact on demographics. China's large population base, especially in rural areas, has been a key contributor to China's economic miracle in the past decades. However, since 2011 the working-age population has been gradually on the decline. Despite the relaxation of the one-child policy to a two-child policy in recent years, the birth rate has stayed at low levels (1.2-1.3%) in recent years. We expect the birth rate will rise modestly to 1.6% by 2030, but China's total population may peak at around 1.5 billion in 2027 and then start to decline. In addition, the aging of the population has become more severe. The share of the population aged 65 and above rose from 5.6% in 1990 to 11.4% in 2017, and is expected to further increase to 18.1% by 2030 (Figure 4). As a reference, the United Nations defines an aging society as one in which more than 7% of the population is over the age of 65.

Figure 4: China's demographic structure



Source: NBS; J.P. Morgan estimates

Shrinking labor dividend. Labor input contribution in the production function-based approach refers to total employment in the non-agriculture sector, hence it depends on three factors: 1) total number of working-age population; 2) employment ratio in working age population; and 3) the ratio of non-agriculture employment in total employment. As discussed above, the total number of working-age population has started to decline in China, and will likely continue to be a drag going forward. The low birth rate will likely lead to further relaxation in the "two-child" policy, and the retirement age will likely be raised to increase the scope of the economically active population. In terms of the employment ratio in the working-age population (similar to the labor force participation ratio), the ratio gradually came down from around 90% in the 1990s to 80-85% in recent years, and we expect it will be around 80% until 2030. Support for the labor dividend mainly comes from the urbanization process, i.e., increasing ratio of non-agriculture employment in total employment. Over the years, the ratio moved up from about 40% in 1990 to 73% in 2017. We expect the pace of urbanization will slow down, but the urbanization process will continue, and the ratio of non-agriculture employment will rise to 80% by 2025 and 82% by 2030. Taking all factors together, the labor contribution to China's GDP growth was on average 1.6%-pt in 2000-15, and will come down to 0.8%-pt in 2016-20, 0.4%-pt in 2021-25, and 0.1%-pt in 2026-30.

At the same time, the decline in the labor force provides China's policymakers the space to tolerate a lower growth rate without having to worry about creating a vast number of jobs every year. In popular discourse, it has often been argued that China cannot afford to slow growth as it needs

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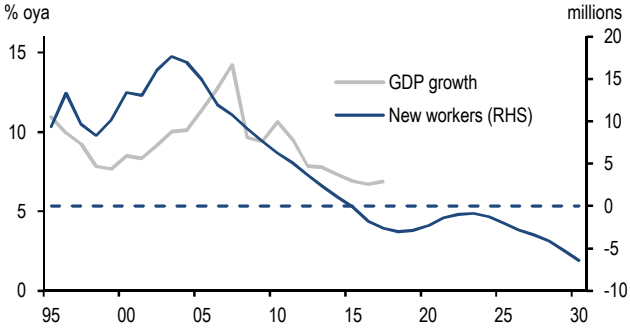
to create millions of new jobs to employ new workers entering the labor force each year and, in turn, maintain social stability.

Figure 5 shows that this was the case in the 2000s when 9-10 million new workers entered the workforce each year (measured as change in the working age population). But that is no longer the case. Since 2015, the net addition to the workforce has been negative and will likely remain so in the coming decades. Clearly, the need to create jobs, especially higher paid ones, will be there as in any other country. But the pressure to keep growth up just to maintain social stability is now much less.

Figure 5: Demographics and growth

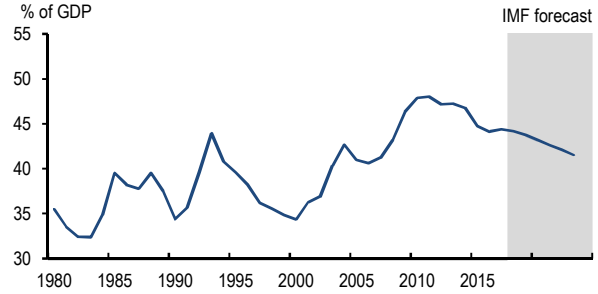


Source: UN Population Statistics and NBS

Human capital. Human capital is measured as the average schooling level, which has generally improved and is a stable contributing factor to China's GDP growth. The share of college (and above) graduates was only 2% of the total population in 1996, surpassed 10% in 2013 and reached 12.9% in 2017. We expect the ratio will continue to rise to 19 % by 2030, and its contribution to GDP growth will be pretty steady at 0.7%-pt in 2021-30.

Capital input. Investment has been the most important growth engine in China, especially after the GFC. Capital input on average contributed 4.8%-pt to China's GDP growth in 2008-15. In recent years, with the efforts for economic rebalancing, especially with the progress in supply-side structural reform that focused on overcapacity reduction and constrained investment in overcapacity industries, investment growth has continued to slow down. But overall, the pace of economic transformation has been gradual. According to the IMF, investment still accounted for 44.4% of China's GDP in 2017 (versus the peak of 48% in 2011) and will stay at 41.5% in 2023, which is amongst the highest in the world (Figure 6).

Figure 6: China fixed asset investment



Source: IMF-WEO, J.P. Morgan

From a stock perspective, China's capital stock (measured as a percentage of GDP) started from a low level (150% in the early 1980s) but has risen rapidly. In 2012, China's capital stock exceeded 250% of GDP. We estimate that China's capital stock further increased to 308% of GDP in 2017, the same level as Japan. The rapid increase in investment has led to excessive investment and the necessity for economic rebalancing. In our forecast, we expect China's capital stock will further increase to 320% of GDP by 2030, and the investment/GDP ratio will come down to 42% by 2020 and 36% by 2030. Based on these assumptions, the capital input contribution to growth will average 3.3%-pt.

Productivity. The decline in total factor productivity (TFP) since the GFC has been the main contributor to the decline in China's potential growth. In particular, the TFP contribution fell from 2.7%-pt in 2000-07 to 2.0%-pt in 2008-15 and around 1.5%-pt in recent years. The good news is that the TFP contribution seems to have stabilized in recent years (Figure 7). If China sticks to the reform agenda as laid out in the 3rd Plenum Session of the 18th CPC Party Congress, the TFP contribution could pick up again in the coming years. Our baseline scenario assumes that the TFP contribution will gradually pick up to 2%-pt by 2030 (from the current 1.5%-pt). It is unlikely to move back to the 3%-pt range as observed in 2000-07 because further productivity upgrades will take more effort than in earlier stages, and China will most likely continue to adopt a gradual-reform strategy going forward.

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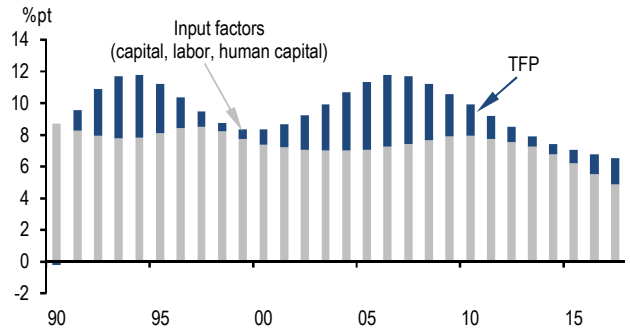
Figure 7: Contribution to potential growth



Source: J.P. Morgan estimates

Looking back, there were two episodes when TFP increased notably (to above 4%-pt)—one in 1993-95 and the other in 2002-07. Reforms played a critical role in both episodes. In the first episode, in response to very weak economic growth in 1989 and 1990 (4.2% and 3.9%, respectively) and sanctions from major industrialized economies, Deng Xiaoping made his famous south China tour speech in early 1992 and reaffirmed the reform program. In the following years, the government implemented fiscal reform, financial reform, and exchange rate reform, and encouraged non-state-owned enterprises (SOE) developments, and tackled the SOE problems. The SOE reform and factor reforms significantly improved efficiency in the economy. In the second episode, WTO access by China in 2001 opened the gate for China to participate in the wave of globalization, supplemented by domestic policies to improve infrastructure and promote industrialization.

Possible sources of further productivity growth could come from the following areas. First, China's urbanization process is still incomplete. The urbanization rate was 58.5% in 2017, and the *hukou* population is only 42.4%. The new urbanization process, which focuses on the settling of rural workers in urban areas not only as workers but also as citizens (with social security coverage) and consumers, will have major potential to increase consumption and investment demand. Rural land reform could be critical in addressing funding for the new urbanization process. Second, China has a comprehensive manufacturing structure and a skilled labor force, which can support innovations and industry upgrades if the government continues market-oriented reforms. Third, the large domestic market itself enables China to develop deeper trade ties, and reforms to unify the domestic market should also improve efficiency.

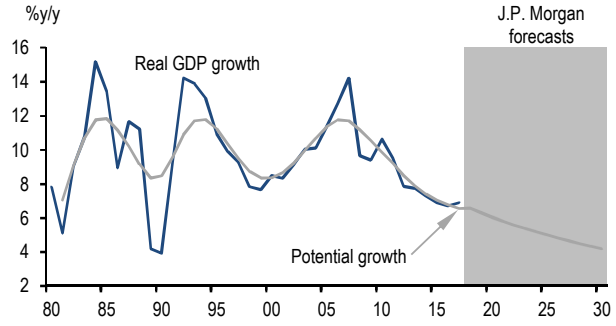
To sum up, we estimate that China's growth potential will slow down further in the next decade (Table 1 and Figure 8). For a country that has experienced an average growth rate of 9.6% in the past 40 years, a growth rate in the range of 4-5% might be disappointing. But for the second-largest economy in the world, we see such a growth rate as healthy and encouraging. Moreover, we estimate China's GDP per capita will increase to close to $20,000 by 2030.

Table 1: China's growth potential

	TFP	Capital	Labor	Education	Growth potential
2000-2007	2.7	4.7	1.7	1.1	10.1
2008-2015	2.0	4.6	1.6	0.8	9.0
2016-2020	1.6	3.4	0.8	0.8	6.6
2021-2025	1.9	2.3	0.4	0.8	5.4
2026-2030	2.0	1.7	0.1	0.7	4.5

Source: J.P. Morgan estimates

Figure 8: China's economic growth



Source: NBS, MOHRSS, Ministry of Education, J.P. Morgan

China and the global economy in the 2020s

Our global economics team assessed the impact of China's growth on the rest of the world (*Made in China 2025: China and the Global Economy*, 5 February 2019). On average since 2000, a 1%-point change in China's GDP growth has a 0.4%-point impact on the rest of the world (for a total global impact of 0.6%-point) over four quarters. Owing in part to its size, but also importantly to its role in the global production chain, developments in China matter for the rest of the world. As a downstream processor for global industry, moves in China factory output are a useful lens on the global cycle. At the same time, China's large base of domestic demand provides an important causal link to growth dynamics throughout the global industry.

But China's role has diminished somewhat. China appears to have become less connected to the rest of the world over the past half-decade. Chinese correlations of GDP

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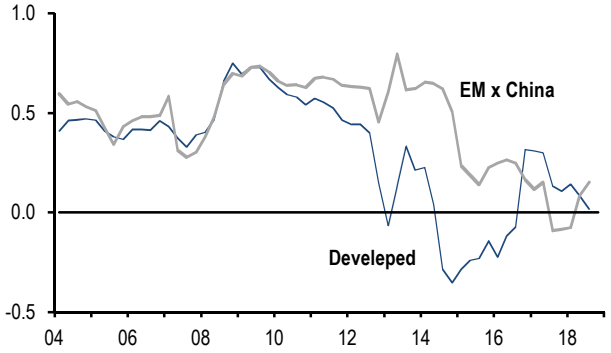
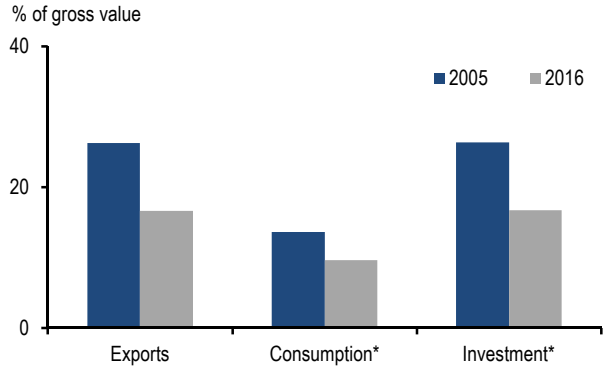
have declined both with DM and even with EM (Figure 9). Some of this may be cyclical in nature and relate to the rolling deleveraging cycles across DM and EM over the expansion. But some could also be structural, as China rebalances its economy: the rotation from exports and investment towards consumption which is less import-intensive, as well as on-shoring (increasing share of domestic value added in production, Figure 10).

Figure 9: Correlation with China real GDP growth
Rolling 4-yr (backward) correlation of %q/q GDP growth



Source: National statistical agencies, J.P. Morgan

Figure 10: Foreign value-added content in China's expenditure



Source: OECD-TiVA, J.P. Morgan. *Only 2015 data are available.

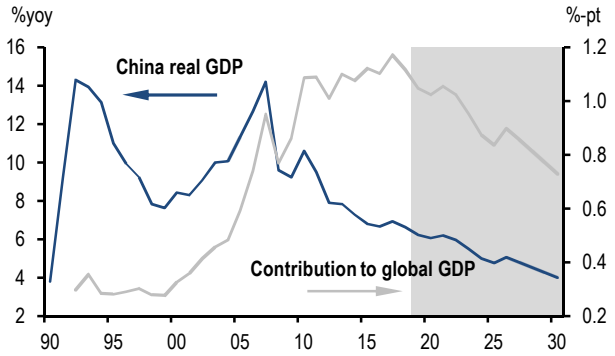
Based on recent IMF work[1], we extrapolate that the projected 2%-pt slowdown in China potential growth over the coming decade could damp global potential GDP growth by roughly 0.4%-point (Table 2). Also assuming more modest slowing elsewhere, China's share of global GDP will only edge up a little further and remain below 20% by 2030. With much slower growth, China's contribution to global growth will slip to below 0.8%-pt (Figure 11). The impact will be particularly felt by commodity exporters, while the US will be more insulated given the resulting fall in commodity prices. A greater shift in China's growth composition will shift the distributional impact of the slowdown.

Table 2: China slowing impact
%pt impact on potential growth (avg %ann rate)

	2021-2025	2026-30	2021-30
China	-1.2	-0.9	-2.0
Rest of world	-0.1	-0.1	-0.2
Global	-0.2	-0.2	-0.4

Source: J.P. Morgan

Figure 11: China's real GDP contribution



Source: National statistical agencies, J.P. Morgan

China's evolving role in the trading system will have important implications for existing linkages. Currently, EM trade is more integrated with the region's largest economy. By contrast, DM is less exposed to transmissions of shocks through trade. DM exports to China as a share of GDP are a mere 1.4%, compared to 6% for EM. As China reduces its role as a re-exporter in coming years, there will be broader ramifications for its closest neighbors. Processing or intermediate goods make up a significant share of China's imports and other EM countries have benefited enormously in the past two decades from this. But as the composition of China's demand changes, the current distribution of beneficiaries is likely to shift as well.

Policymakers in China have expressed a desire to fundamentally reshape the composition of Chinese growth. The "Made in China 2025" program intends to lift Chinese factory production up the value-added chain. China no longer wants to produce low-value consumer goods. Rather, China's aim is to produce sophisticated high-value technologies across a wide-range of applications, including 5G mobile, driverless cars, bio-

[1] *IMF Working Paper: Spillovers from the Maturing of China's economy*, International Monetary Fund, Allan Dizioli, Benjamin Hunt, Wojciech Maliszewski, November 2016 (https://www.imf.org/external/pubs/ft/wp/2016/wp16212.pdf)

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tech, and artificial intelligence. If policymakers are able to successfully make this transition, work through the huge stockpile of inefficient capital investment (and associated credit), and adjust to a much lower pace of population growth, China will emerge a stronger and healthier economy.

How will the China economy look in 2030?

First, it will take longer than expected for China to surpass the US to become the largest economy in the world. Many investors expect it will happen over the next 5-10 years, based on the rapid catch-up since 2000. Going forward, the pace of the catch-up process will depend on three factors: the growth differential (in real terms) between China and the US, GDP deflator differentials, and USD/CNY exchange rate movements. In our baseline scenario, if China's growth gradually slows down to 4-5% (while the US economy grows by 1.5-2% in the long run), the GDP deflator stays at around 3% (versus 2% on the US side), and the CNY depreciates against the US by about 10% (cumulatively), China's economy will continue to catch up with the US, but likely reach 90% of the latter's size by 2030.

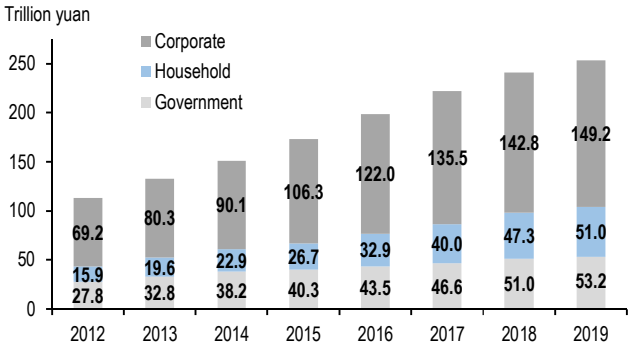
Second, China's economic structure will become more consumption-oriented. We expect the share of consumption in China's GDP will exceed 60% before 2025 and will likely increase to around 65% by 2030, in line with the rest of the world. By contrast, the share of capital formation in GDP will gradually decline to 36% by 2030.

Third, China will become a major source of global demand, not only in commodity demand but also in other products. This is driven by the change in the current account balance and the shift in domestic demand. On the one hand, China's global share in exports will likely peak, but its global share in imports will further increase. On the other hand, the shift from an investment-driven to a consumption-driven growth model suggests that China's demand will shift from investment-related commodity products to service-related products.

China's debt problem

Our analysis has so far not addressed the possibility of a major financial or economic crisis for China, which should not be ruled out ex-ante. Over the years, the biggest concern regarding financial stability and the sustainability of economic growth has been China's ballooning debt problem, especially in the corporate sector. Since late 2016, the government has taken deliberate steps to encourage deleveraging. The debt/GDP ratio rose by only 3%-pts in 2017 and declined by 3%-pts in 2018, compared to an average annual increase of 14.6%-pts in 2012-16. However, debt started to increase again in 2019 (Figure 12, also see *The resurgence of China's debt*, H. Zhu et al., 9 August 2019). The IMF's latest Article IV assessment forecasts China's debt will increase from 257% of GDP in 2018 to 266% in 2019, and further to 295% in 2024[2].

Figure 12: China's total social debt



Source: J.P. Morgan. Last observation refers to 2Q19.

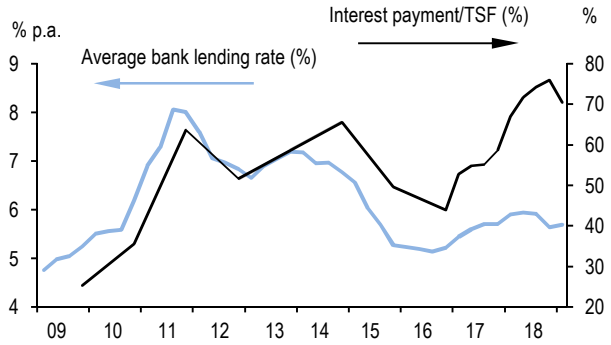
China's debt problem is largely structural. Corporate debt is among the highest in the world at ~160% of GDP (or USD21.3 trillion), and concentrated in SOEs, local government-related entities (not officially recognized as local government debt), and a few sectors dominated by non-SOEs (e.g., real estate and mining industries). In some cases, it is ambiguous to draw a line between corporate debt (SOE and local government-related entities) and government debt, because of prevalent implicit guarantees especially from local governments. By contrast, central government debt is healthy at 16% of GDP. Household debt has also climbed up quickly in recent years, from 17.5% of GDP in 2008 to the current level of 55%, and is expected to increase further to 61% by 2020 (*Putting the tempest into the teapot: Assessing China's household debt*, K. Lei et al., 29 Nov. 2017).

The biggest dilemma to address the debt problem comes from the tradeoff between debt sustainability, growth and monetary policy. At the current debt level, the average annual interest repayment burden of the non-financial sector (using the average bank lending rate) is equivalent to 70% of annual total social financing (TSF flow, Figure 13). This implies that only 30% of new TSF flow can be

[2] *People's Republic of China : 2019 Article IV Consultation-Press Release; Staff Report; Staff Statement and Statement*, Executive Director for China, 9 August 2019 (https://www.imf.org/en/Publications/CR/Issues/2019/08/08/Peoples-Republic-of-China-2019-Article-IV-Consultation-Press-Release-Staff-Report-Staff-48576?sc_mode=1)

used to support new economic activity, which is a key reason why credit policy transmission has been weakened in recent years. In addressing the debt problem, policymakers should avoid a debt-deflation cycle in which tight monetary policy and debt reduction jointly leads to a slowdown in economic activity and increases disinflationary and deflationary pressures. If this were to occur, then the debt/GDP ratio will continue to climb despite deleveraging efforts, which in turn will force further policy tightening, worsening the situation. On the other hand, an accommodative credit policy (i.e., credit growth significantly above nominal GDP growth) will be growth supportive but runs the risk of fueling leverage.

Figure 13: Interest payment burden of China's debt



Source: PBOC; J.P. Morgan

In our view, the right policy combination should include low rates (to reduce the interest rate burden), prudent credit policy (to reduce or at least stabilize the debt level), tightened credit standards and accelerated disposal of bad debt (to improve credit efficiency). All three elements are important. Since 2017, China has kept interest rates at historically low levels and tightened credit policy; meanwhile, the write-off of bad debt has been accelerating somewhat. The pace of bad debt disposal is still lagging; in particular, the continued prevalence of implicit guarantees for SOEs has been a major distortion in the credit market (a key reason why banks prefer to provide credit to the public over the private sector). This protection of "zombie" SOEs should be removed, and a proper bankruptcy scheme (legal-based and market-oriented) should be established to help an orderly restructuring of such firms.

A continuous delay in addressing the debt problem could put China's banking system in a new round of distress, like in the late 1990s and early 2000s and end up with a huge cost to recapitalize the banking system. There have been several bank failures in recent months, including the PBOC's takeover of Baoshang Bank (see *China banks: The aftermath of Baoshang Bank's seizure by the PBOC*, K. Lei et al., 5 June 2019), the ICBC (China's largest bank) acquisition of Jinzhou bank (see *China Financial & Macro*, K. Lei et al., 29 July 2019), and Central Huijin's taking a stake in HengFeng Bank. Although all of the troubled banks have been small or mid-sized and not treated as systemically important, the concern is that other small banks also are in distress, jointly posing a risk of systemic vulnerability. For years, we have warned that debt accumulation is the biggest risk to China's structural reform, and that city/rural commercial banks are the weakest link in the financial system (*China's regional banks*, K. Lei et al., 12 Jan. 2017). Smaller banks have been expanding their balance sheets more aggressively in recent years, but their risk management is less stringent than at big banks, and their balance sheet structure is more vulnerable. On the asset side, smaller banks have larger exposure to non-standardized assets (increasing concerns about credit quality); on the liability side, smaller banks rely more heavily on wholesale funding, which is more volatile and vulnerable amid financial deleveraging.

The complacency view of "this time is different" often leads to a crisis. Indeed, while the level of debt is much higher, the NPL ratio of China's banking system is much lower than in the late 1990s, even using the most pessimistic estimate in the market (official NPL ratio is 4.81%, including NPL and special mention loans, compared to 31.3% in 1998). Major banks are in a stronger position, compared to their peers and also themselves in the late 1990s. Nonetheless, the financial sector is much larger and more complicated, implying a different transmission mechanism if distress occurs this time. A combination of further reform in financial regulation, improved corporate governance and risk management of financial institutions, SOE reform as well as policymakers' determination to address the vulnerabilities in the financial sector are critical to ensure China's sustainable growth in the next 5-10 years.

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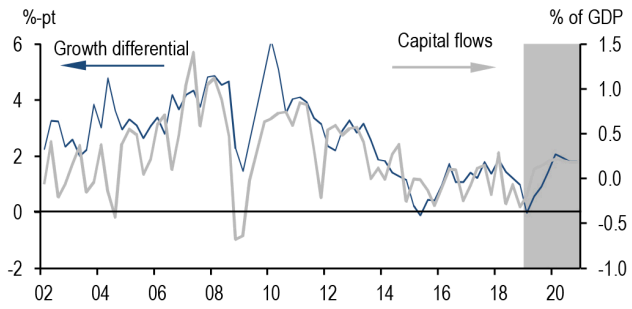
EM growth: Rising risk from trade tensions and protectionist wave

- **Likelihood of further escalation in US-China trade war on multiple fronts has risen as the US seeks to use trade for broader foreign policy aims.**
- **This could have a long-lasting impact on global business confidence, spending, and trade, and thus EM growth.**
- **EM low-yielders are in the direct line of fire of the trade war; CAD countries are less exposed and benefit more from DM policy easing.**
- **US-China trade war benefits other trading partners through substitution; supply chain disruptions in EM Asia muddy the near-term outlook.**

In trying to explain the relative performance of EM assets versus their DM counterparts, we have argued that EM-DM growth differentials are the dominant driver of capital flows into EM.[1,2] The underlying logic is simple and familiar: investing in EM is riskier than in DM, and the higher growth compensates for the additional risk. This relationship was strong and held well during the 2002-2007 EM growth surge, the adjustment during the 2008-10 global financial crisis (GFC), the subsequent decline in 2011-15, the 2016-17 recovery, and the slowdown since mid-2018. Assuming EM and DM grow in line with their potential rates of 3.6% and 1.4%, respectively, EM capital inflows should be positive on the order of 0.4% of GDP (Figure 1).

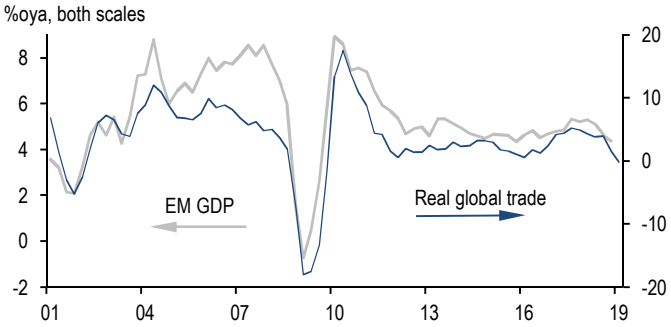
Figure 1: EM capital flows and growth differentials



Shaded area is J.P. Morgan forecast
Source: J.P. Morgan.

As global trade growth has been a crucial driver of EM economic activity, a meaningful decline in world trade would pose serious headwinds for EM growth (Figure 2). Simple macroeconomic frameworks suggest a least a 0.5% reduction in global growth from medium-intensity conflict, before accounting for sentiment shocks[3]. EMs typically bear the brunt of such a global growth hit, resulting in a narrowing of the EM-DM growth differential.

Figure 2: EM GDP growth and global trade



Source: National sources, CPB, and J.P. Morgan

It wasn't supposed to happen this way

The unabashed use of tariffs and trade restrictions by the world's largest economy clearly continues to damage both global trade and the broader economy (see *Trade war (what is it good for),* J. Lupton and B. Kasman, 17 May 2019). Despite the seemingly modest overall tax implied by the 25% tariff on $250 billion of Chinese exports to the US, the pass-through to US prices (see *When life looks like easy street...*, M. Feroli, 7 May 2019) has been larger than expected, as has been the decline in Chinese exports of the tariffed goods (see *Revision of China's growth outlook*, H. Zhu et al., 17 May 2019), the spillover into the Asian supply chain, and the impact on global capital spending (see *EM Asia and tariffs: When elephants fight, the grass suffers*, S. Ong et al., 24 May 2019). We have highlighted the central role falling business confidence plays in transmitting this shock and have been surprised at the depth and breadth of the slide. Its impact on activity is now evident but the magnitude of the drag remains difficult to gauge.

[1] *EM: It's all about growth*, 13 June 2016.

[2] Robin Koepke, "*What Drives Capital Flows to Emerging Markets? A Survey of the Empirical Literature*," IIF Working Paper, 2015.

[3] IMF model simulation assuming a 10%-pt across-the-board rise in US import tariffs with matching retaliation from the rest of the world.

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Figure 3: DM business confidence and global capex investment

Source: J.P. Morgan

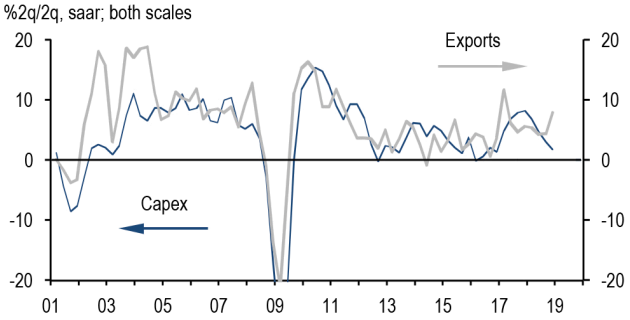
Similar to the May increase, the direct effect of a 10% tariff on the remaining $300bn of US imports from China (effective September 1) is relatively small. If fully passed on to US consumers it will represent a purchasing power drag of less than 0.2% of US GDP. At the global level, the hit to GDP growth through the direct channel is less than 0.1%-pt. The main risk to global growth once again comes from its indirect effect on business confidence. The US decision to label China a currency manipulator runs the risk of bringing the confrontation to the next level as the risks of an escalation of the trade war on multiple fronts increase. Given the wide gap between the US and Chinese positions, one can easily envisage that tariffs being ratcheted up to 25% on all Chinese exports with reciprocal reaction.

Our baseline projects that once the global economy settles to the higher levels of tariffs business sentiment will stabilize and recover and with that capital spending. But the risk is that like last year sentiment could keep deteriorating. Moreover, and perhaps more important, the earlier threat of tariffs on Mexico showed that the US not only is willing to use trade to meet other objectives but is also unwilling to defend the rules-based global trading order it helped to create over the last 50 years. This shift in policy could easily be interpreted as capricious and weaken faith in the global trading system, damaging long-term business sentiment and spending.

Draining the lifeblood of EM

Trade remains the lifeblood of EM, not only by driving overall growth through exports, but also through domestic components such as investment (much of EM investment including infrastructure is driven by the needs of the tradable sector) and consumption (because of large direct and indirect income effects arising from exports and export-related activities). The independent influence of domestic growth drivers has been limited to countercyclical government spending even in most of the larger EM economies that appear more closed on average. Thus, the decline in global trade and its major driver—global capex—is one of the biggest risks confronting EM growth (Figure 4).

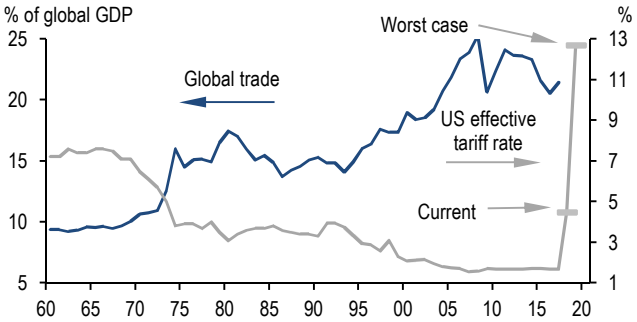
Figure 4: Real global capex and EM exports



Source: J.P. Morgan

Unless we see a resolution of the trade conflict the negative consequences of the recent rise in tariff rates are likely to extend beyond the horizon of the current business cycle. Globalization is a critical part of our framework for thinking about EM potential growth, and hence a sustained shift towards anti-globalization could have a serious and lasting impact (see *Emerging Markets: where has all the growth gone?*, J. Aziz and T. Jain, 9 Feb. 2017). Historically the relationship between global trade and tariff rates has been strong and negative (Figure 5). As a share of GDP, global goods trade peaked in 2008 and has drifted lower since with knock-on effects to potential growth. This decline has coincided with a stall in tariff rates. The impact of recent tariff increases could thus be severe both on near-term and potential GDP growth.

Figure 5: Global trade and US tariff rate



Source: WITS, J.P. Morgan

Formal analyses corroborate the importance of global trade and capex in influencing EM growth. As can be seen in Table 1, DM and China GDP growth and growth in real global trade and capex are all individually significant (Equations 1-4). For example, a 100bp increase in DM

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growth increases EM growth by 130bp while a similar-sized rise in the other three variables raises EM growth by 30-35bp.

Table 1: EM 21-country panel regressions, 1Q02-1Q19
Dependent variable: seasonally adjusted quarterly GDP growth

	Eq1	Eq2	Eq3	Eq4	Eq5	Eq6
Lagged growth	-0.02	0.10	-0.06	-0.07	-0.08	-0.06
DM growth	1.29				0.22	0.65
China growth		0.35			0.15	0.11
Global trade growth			0.31		0.20	
Global capex growth				0.34	0.07	0.15
Prob(J-statistic)	0.39	0.42	0.47	0.45	0.42	0.54

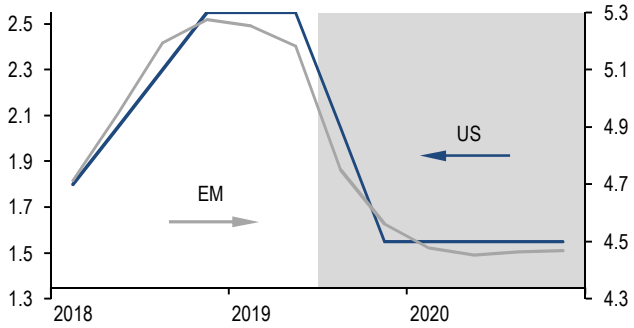
Notes: Results from first-difference GMM regressions with instruments.
Shaded cell denotes statistical insignificance at 5% level.

High-yielders to outperform as a base case

After two years of fairly strong growth through 2017, EM, along with the rest of the global economy, hit a soft patch that has continued through to mid-2019. Initially, the EM growth slowdown was concentrated in current account deficit (CAD) countries that entered recession in mid-2018 in response to US dollar strength, tightening financial conditions, and policy credibility concerns. While our expectations as of late last year were for a speedy rebound, owing in part to bounce-backs in Turkey and Argentina, new headwinds arose and growth slowed further. In the event, the soft patch not only has turned out to be longer and deeper than anticipated, but also has broadened. Adding to the trade war headwinds and sentiment shock, idiosyncratic drags weighed on a number of large EMs, dampening growth to a three-year low in 1Q19.

Following the latest tariff announcement, we cut EM growth projections again, and the forecast now shows slowing growth over 4Q19-1Q20. As already evidenced in the last 12 months, affected countries (not just China and the US, but also those connected by the global supply chain) could aggressively use policies to buffer the impact of the shock. Indeed, we expect Chinese officials to respond with comprehensive policy support that we think will begin to boost growth from the middle of next year (see *China's reaction as US ups the ante in the trade war*, H. Zhu et al., 12 Aug. 2019). Policymakers in the rest of EM have likewise moved to ease (Figure 6). While we expect policy stimulus to provide fuel for a growth recovery around mid-2020, risks to our forecasts remain tilted to the downside.

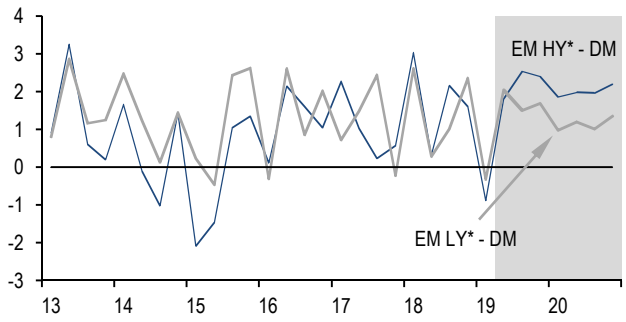
Figure 6: Monetary policy rate
%p.a.; Forecast 3Q19-4Q20



Source: J.P. Morgan

Under our baseline of the status quo prevailing on tariffs, the EM-DM growth differential should increase in 2H19. Importantly, the projected paths for EM-DM growth differentials differ across high-yielders (mainly CAD countries) and low-yielders (CAS countries). We expect high-yielders to outperform low-yielders; this has not happened for a number of years (Figure 7). CAD countries have adjusted some of their imbalances following the 2018 shock brought on by the spike in dollar financial conditions aggravated by electoral uncertainties and are thus better positioned for a cyclical recovery. CAS economies have seen their fundamentals worsen at the margin. CAD countries also suffer less from the trade war escalation than CAS countries as the former are typically less tied to China's supply chain (Figure 8).

Figure 7: EM-DM growth differential
%-pt difference in %q/q saar; Forecast 2Q19-4Q20



LY excludes China and HY excludes Turkey and Argentina.
Source: J.P. Morgan

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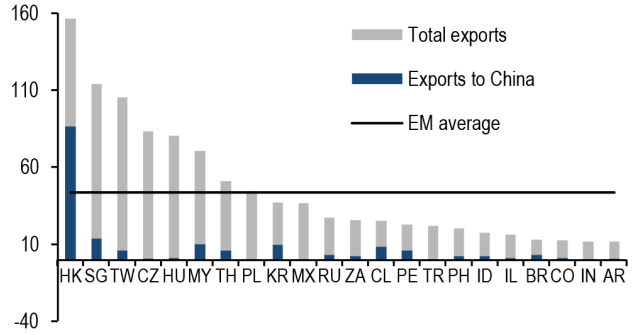
Figure 8: Low-yielding EMs most exposed to China

% of GDP



Source: J.P. Morgan

Additional Fed easing opens up the space for more EM easing and benefits CAD countries more than CAS countries. Based on the historical sensitivities, policy rates in EM high-yielders are more responsive to changes in DM rates (Table 2) than low-yielders. Although broad USD appreciation typically reduces EM easing space, and more so for high-yielders than low-yielders, the FX moves in our forecasts are insufficient to halt EM easing. This is in part because inflationary pressures and improving fundamentals for CAD countries are allowing EM central banks to recalibrate their reaction functions to prioritize growth over financial stability.

Table 2: High-yielders benefit more from DM easing than low-yielders

Dependent variable: quarterly change in policy rate, 2004Q1 2017Q2

	EM ex CN	High-yielders	Low-yielders
Constant	0.25	0.40	0.19
Inflation	0.07	0.06	0.10
Output gap	0.16	0.20	0.13
Lagged policy rate	-0.13	-0.12	-0.15
Change in DM policy rate	0.57	0.83	0.41
Change in USD	-0.04	-0.04	-0.04
USD appreciation dummy[1]	0.10	0.16	0.07
R-squared	0.27	0.27	0.29

19 country panel regression with fixed effects. Shaded area denotes p-value<0.95.

1. Change in USD index multiplied by the USD appreciation dummy.

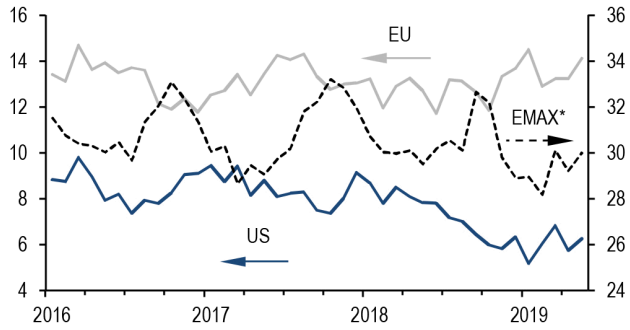
Source: J.P. Morgan.

EM Asia: short-term pain, long-term gain?

In a series of research notes this year we have analyzed the impact of higher US tariffs on Chinese goods and the repercussions for the Asian supply chain (see *EM Asia and tariffs: When elephants fight, the grass suffers*, Sin Beng Ong et al., May 24, 2019). On the flipside, we also looked at what happens as increased tariffs make it more expensive for Chinese firms to acquire US inputs, or if the US restricts China's access to telecom technology and capital imports more generally (see *Potential beneficiaries of US-China trade war: Part 2*, S. Park et al., 19 July 2019). China's share of US imports has slipped largely—but not solely—due to the three rounds of tariffs on a cumulative $250 billion of Chinese products. Similarly, the cumulative $110bn of tariffs on Chinese products has led to a decline in the US's market share in China. Other trading partners such as the EU have gained market share as a result (Figure 9).

Figure 9: Share in China's total imports

%, both axes



Source: China customs, and J.P. Morgan. *ASEAN, Korea and Taiwan, China

Our analysis on the substitutability of US imports from China points to several implications (see *US-China tariffs: Out of the frying pan...*, B. Shatil et al., 7 June 2019). The 10% tariff on $300bn of new China imports is different than previous rounds because there are fewer alternative global producers of these products. The impact of the current tariffs has been significantly larger on China as US imports of these products from China have been replaced with those from the EU, Mexico, and ASEAN. The new set of tariffed goods, however, comprises mainly machinery and equipment with few alternative global sources. China's dominant role as the key supplier of these goods to the US suggests that the trade impact could well be more painful for US consumers and businesses.

As a near-term impact, we have observed that the tariff hikes have disrupted EM Asia's regional manufacturing supply chain; EM Asia (ex. China)'s exports fell, led by a fall in exports to China and a fall in intra-regional trade. At the same time, some countries have benefited from positive substitution effects as US and Chinese imports are redirected elsewhere. For example, EMAX exports to the US have picked up in conjunction with the drag from China, with Vietnam, Taiwan, Thailand and Korea the main beneficiaries (Figure 10) (see *EM Asia and tariffs: When elephants fight, the grass suffers*, Sin Beng Ong et al., May 24, 2019). It appears manufacturers are increasing shipments from China to EMAX, possibly

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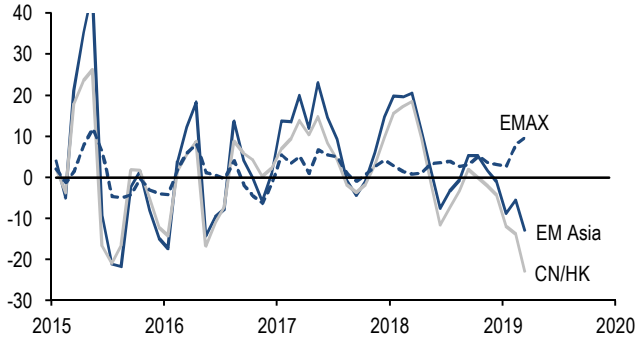
followed by further processing and re-exports to the end market (US) to avoid the higher tariffs.

Figure 10: US imports from EM Asia

%pt contribution to total %3m/3m, saar, US$ terms



Source: US Census

In the long run, if the trade war (in the tech sector specifically) persists, the positive spillover to EM Asian countries should become more visible. The first channel should be through the production base shifting from China to South Asia, notably lower-value-added final goods assembly. The other channel should be through limiting China's catch-up with North Asian countries on higher-value added components. The similarity of China and EMAX exports to the US has risen over the past 10 years. This points to convergence in tech exports across countries. The convergence would imply a rise in Southern countries (notably Vietnam) in establishing new production bases; also China catching up with North Asian (Korea and Taiwan) tech export portfolios. Restricted access to US patents and capital equipment would deter such convergence in the longer run.

In addition to the trade aspect, a separate and bigger story is evolving around licensing and transferring technology to China. Substitutability in this area might be much more important for China and its trading partners. However, we do not have any systematic data to analyze where alternative non-US sources of such technology exist and the feasibility (politically, for example) of shifting to these other sources. If China cannot do so, the only alternative is to develop such technology indigenously. This could take a long time, as China so far has made greater strides in scaling up and rolling out applications of technology than developing it.

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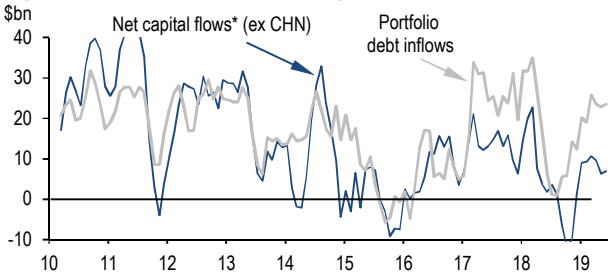
China's index inclusion could lift capital inflows into all EM

- **EM-DM growth differential and the USD have long driven capital flows into EM.**
- **China has, on balance, attracted inflows into other EMs instead of diverting flows.**
- **Inclusion in global equity and bond indices will likely increase both inflows into China and into EM as an asset class.**

We have argued for some time now that the EM-DM growth differential and dollar movements are the primary drivers of EM capital flows. An abrupt and sudden reversal in capital flows last year has given way to a robust recovery in capital flows in 2019. Initial estimates from the IIF indicate that net inflows are tracking at around $51bn in 1H19 compared to a $20.8bn outflow in 2H18 (Figure 1). Contrary to concerns that late-cycle dynamics would limit the lift to EM, we argued last year in our *Emerging Markets Outlook and Strategy for 2019*, L. Oganes and J. Goulden, 20 Nov. 2018 that this recovery was the logical result of an improving EM-DM growth differential and a more stable dollar (see *EM capital inflows: It's still about growth*, J. Aziz et al., 9 Feb 2018 and *EM: It's all about growth*, J. Aziz and S. Ong, 13 June 2016).

Figure 1: EM capital flows improving after sudden slowdown



Source: Haver, IIF, J.P. Morgan, *includes net errors and omissions

However, uncertainty regarding the future of EM inflows is still high as the inflows could just be a short reprieve resulting from easier global monetary policy, and with risks to global growth remaining as trade tensions continue to simmer, the runway for EM assets to perform could be limited. In addition, the rise of China and its inclusion in global equity and bond indices has added to this uncertainty: will China's inclusion help raise inflows to all EM or will it divert flows away from them?

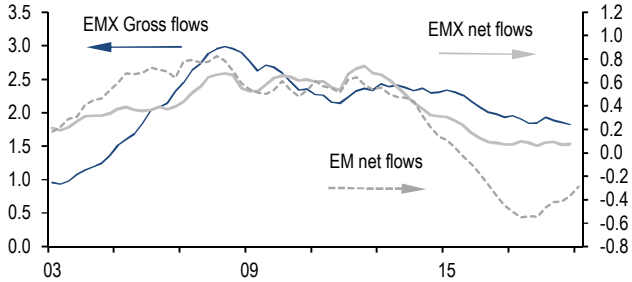
In this chapter, we return to our longstanding framework, (see *EM capital inflows: It's still about growth*, Feb 2018) to reiterate that while many different factors are important, the EM-DM growth differential and USDEUR remain the two "sufficient" statistics in determining EM capital flows as they have over the last two decades. If history is any guide, we do not find strong evidence that China's emergence as a new destination for capital flows has, or will, divert flows from the rest of EM.

The vagaries of capital flows

While much of the literature, including our previous research, has focused on net inflows, since these drive asset prices and currencies, *gross* flows have grown quite substantially as EM increasingly have liberalized capital controls, even as net flows have moderated (Figure 2). (For an explanation of our terminology, see Figure 3). Net capital inflows into EMX (emerging markets ex. China), on average, have declined quite sharply from 2013 after rising steadily since the early 2000s. Once China is included, EM net flows turn strongly negative in 2014-16 and remained there as of late-2018.

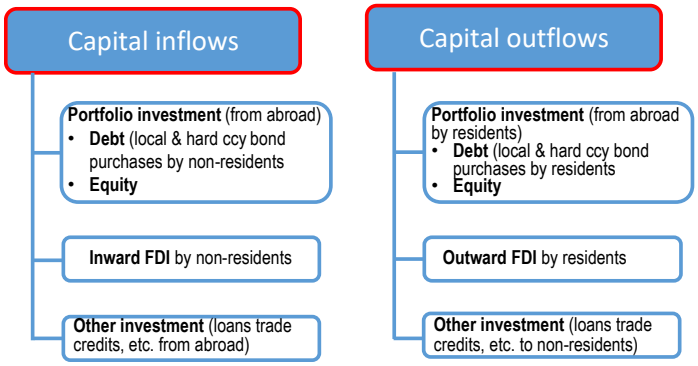
Figure 2: Gross and net capital flows

% of GDP, rolling 4-year avg, both axes



Source: Haver, national sources and J.P. Morgan; EMX refers to EM ex. China

Figure 3: Breaking down net flows into capital inflows and outflows



Source: J.P. Morgan.

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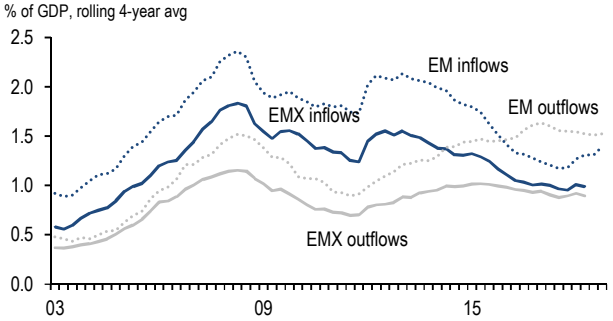
Gross flows, on the other hand, have been more buoyant as shown in Figure 4. Closer examination at EMX capital flows reveals that this mainly has been due to a gradual decline of foreign inflows with domestic outflows continuing to rise. Interestingly, EM *gross* inflows followed a similar trend—suggesting that inflows to China have also fallen.

Figure 4: Gross capital inflows and outflows



Source: Haver, national sources and J.P. Morgan

A simple rule for capital flows

To recap our previous research, EM-DM growth differential and changes in USD/EUR (USD basket works as well) predominantly drive net capital flows (Table 1). We estimate that a 1%-pt widening in the EM-DM growth differential raises net capital inflows by 0.06% of GDP. By contrast a 1% appreciation of USDEUR lowers inflows by 0.02% of GDP. EM-DM policy rate differentials have a very small and statistically insignificant impact on EM capital flows.

Table 1: Drivers of net EMX inflows

Fixed-effect panel regressions (21 countries, 1Q06-4Q18)

	Eq.1	Eq.2	Eq.3
Constant	0.05	0.00	0.08
Lagged capital flows	0.39	0.39	0.38
Growth differential	0.06	0.06	0.04
USDEUR change	-0.02	-0.02	-0.02
Policy rate differential		0.01	
China capital flows			0.15
R-sq	0.58	0.58	0.58
DW	2.11	2.11	2.11

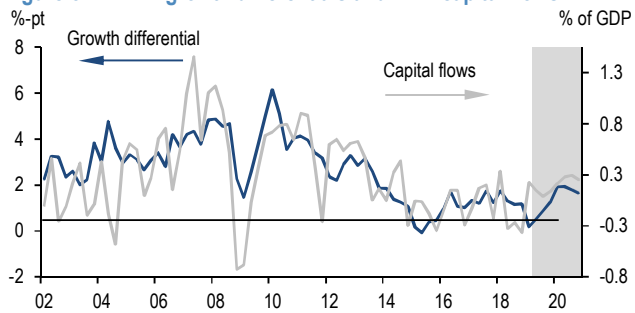
Source. J.P. Morgan; EMX excludes China

Not surprisingly, separate tests show that the same factors drive gross inflows or non-resident investments (see *Emerging Markets: Inflows, Outflows, and Sudden Stops*, K. Marney et al., 3 Dec. 2018). However, somewhat surprisingly gross outflows or resident investment abroad are strongly correlated with inflows and act as an automatic stabilizer of net flows. That is, when inflows increase they induce outflows and when inflows retrench, residents reduce or bring back capital.

EM-DM growth differential bodes well for capital flows; USD is the wild card

With the dovish pivot by the Fed, BOJ and ECB opening space for central banks across EM to loosen policy, we still expect the EM-DM growth differential to improve this year. The simmering and escalating US-China trade war could yet boil over, posing risks to EM growth, though we expect policy support in China to largely offset any growth drag. After an unexpected weakening to 0.0%-pt in 1Q19, we expect the EM-DM growth differential to reach 1.4%-pts by 4Q19 and 1.9%-pts in 2020 (Figure 5).

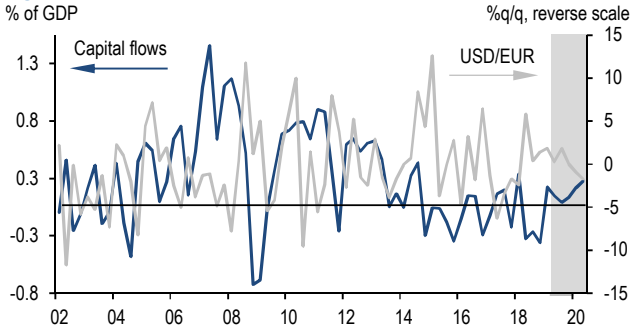
Figure 5: EM-DM growth differentials and EMX capital flows



Source: J.P. Morgan; EMX excludes China

Our view assumes a stable USDEUR to reflect worsening Euro area growth, and a more measured response by the Fed compared to the ECB (where we expect rate cuts and additional easing via QE). Added to that is a risk of USD appreciation triggered by uncertainty around trade that could see CNY/USD depreciate and doubts on global growth.

Figure 6: US dollar and EM capital flows



Source: J.P. Morgan; EM excludes China

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Using the estimated coefficients of Equation 1 in Table 1, this implies that net capital flows into EM ex. China should rise to average about 0.2% of GDP in 2019 from a 0.1% of GDP net outflow last year (Figure 6). The key risk to this scenario is the path of the USD: further strengthening of the dollar if the trade war escalates or Euro area growth disappoints once again would slow inflows into EM.

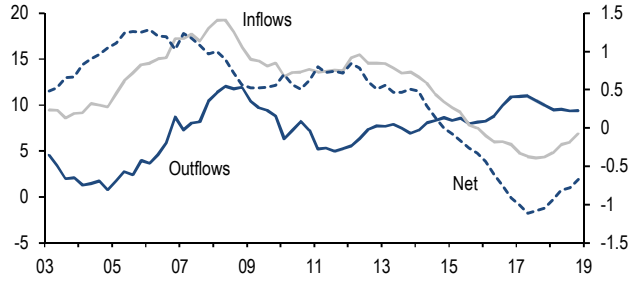
Beyond 2019, as DM and EM economies converge to their potential growth paths, which are lower in both regions in the post-GFC world, the EM-DM growth differential should stabilize around 2%-pts, which in turn should support net inflows of around 0.2% of GDP per quarter. This is significantly lower than the 0.7% of GDP quarterly average over 2007-13, but reasonably healthy with both *gross* inflows and outflows sustained at higher levels than at present.

Higher inflows into China are likely to raise overall investment into EM

Our framework excluded China capital flows from our EM aggregate, as very large outflows starting in 2014 stood apart from the rest of EM, reflecting uncertainties and concerns by locals over a large CNY depreciation, as well as portfolio diversification. Local portfolio diversification normalized in recent years, while inflows into China recovered (Figure 7). China's inclusion into global indices and likely rise in inflows could vastly alter the landscape for the rest of EM. Is China's larger potential share of capital flows zero-sum? Or can this increase the overall inflows into EM assets and thereby lift all boats?

Figure 7: China capital flows

% of GDP, both axes, rolling 3-year avg



Source: J.P. Morgan and Haver

To test this formally, we included China's net capital flows as an independent variable in our baseline regression for EMX flows. As shown in Equation 3 in Table 1, even though China capital flows have risen, a positive and significant coefficient shows that this has positively impacted the rest of EM. Put differently, each $1 of capital flows into China adds about $0.15 in flows to the rest of EM. While it is natural to infer that this is probably because higher Chinese growth has increased the EM-DM growth differential through the demonstrated strong spillover effects and therefore raised inflows into other EMs, this is not true empirically. Compared to Equation 1 (when capital flows into China are excluded), the coefficient on EM-DM growth in Equation 3 (when capital flows into China are included) is smaller. Thus, it is likely the case that inflows into China have attracted flows into other EM by increasing investor interest into EM as an asset class.

Thus, contrary to market fears higher capital flows into China instead of diverting flows from other EMs is likely to be a net positive for them. Of course, this might not be true for all EMs such that some will likely see some diversion of investment. On balance, however, we believe that China's inclusion in global indices will not only increase inflows into China but it just might be the tide that lifts all EM boats.

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Global Emerging Markets Research
J.P. Morgan Perspectives
12 September 2019

J.P.Morgan

EM political risk: Less democracy and freedom post-GFC, but EM Asia leads in "ease of doing business"

- **Political risk not only affects asset prices but also medium-term economic outcomes.**
- **The growth focus of political institutions of the past is now being challenged by rising inequality.**
- **Global trade remains the lifeblood of most EM economies.**
- **Rising DM anti-globalization populism and the ongoing trade war thus threatens EM's main engine of growth.**
- **Regime shifts in EM have so far not focused on the changing global politics.**
- **We summarize the rankings on social and institutional indicators tabulated by the World Bank, Transparency International, Economist Intelligence Unit, Freedom House, Bertelsmann Foundation, Cato Institute, and the Institute for Health Metrics and Evaluation.**
- **Since the 2008 Global Financial Crisis, rankings for the level of freedom, measured by political rights and civil liberties, have declined while business conditions have improved.**
- **More countries saw their democracy scores from the EIU Democracy Index rising than falling; however, a smaller portion of the population lives in some form of democracy compared to last year.**
- **The World Bank Ease of Doing Business report captured a record number of reforms over the past year with more than half of the economies making improvements in business environment.**
- **China was one of the most improved countries in ranking, moving to 46 from 78 last year.**
- **Corruption perceptions have abated since 2012, with both EM and DM countries becoming moderately more transparent according to Transparency International's Corruption Perceptions Index.**
- **Productivity for EM countries has increased seven-times faster than DM countries, by 32% and 4.5%, respectively, in the past ten years.**
- **As ESG investing moves into the mainstream, countries continue to improve on environmental and social criteria, while for investors, major ESG indices have largely tracked their conventional benchmarks.**

It is well known that changes in perceptions of political risk strongly affect asset price volatility in emerging markets. Beyond event risk, politics defined more broadly to include voice and accountability, rule of law, regulatory burden, control of corruption, good governance, and geopolitics can strongly affect medium and long-term economic growth. This is particularly important in EM where political institutions are still evolving and where the public sector often plays an outsized direct role in the economy and in financial markets.

While the theoretical underpinnings of the nexus between politics and economics is well established in the literature (after all economics began as political economy), empirical evidence has been harder to garner. To a large extent, this has reflected difficulties in measuring the characteristics of political institutions and political change. Nonetheless, in recent years methodological improvements in collecting primary data and in estimation techniques have increasingly established that political institutions play an important albeit complicated role in economic growth.

Much of this literature has focused on domestic politics and how uncertainty and changes in these institutions affect both investment and productivity. However, since the GFC attention has shifted to geopolitical changes, particularly in the attitude towards and support for globalization in DM and how these can affect EM growth. This is timely analysis, given that the threat of further escalation in the US-China trade war remains high, and uncertainty looms over global trade. Near and long-term EM growth could be the biggest collateral damage, given the significant dependence of EM on global trade.

The complicated relationship between politics and growth

Over the long run political and economic outcomes are endogenous in that they reflect a society's collective choice over the incentives it provides for investment in physical capital, human capital and technology and the economic growth and distribution of wealth that occurs as a result.[1] Despite the long-run endogeneity, over the medium and short-term political institutions are considered to evolve more slowly than economic outcomes, for example, subject to electoral cycles. Consequently, a greater degree of attention has been focused on how political risk, i.e., the likelihood of regime

[1] See for example, Acemoglu, Daron and James A. Robinson (2006) Economic Origins of Dictatorship and Democracy, New York: Cambridge University Press.

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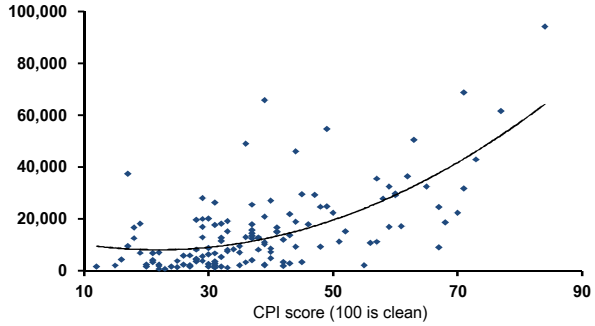
changes that can alter existing institutions (as broadly defined in the first paragraph) affects economic outcomes. However, as discussed in the last section economic outcomes also affect political regimes, and globally we are probably on the crossroads of such a transformation.

To better understand (and measure) the specific ways in which a political regime affects economics, the literature has broadly identified the following political institutions or "governance" indicators as being important for economic performance of an economy[2]:

1. *Voice and Accountability*: political, civil and human rights
2. *Political Instability and Violence* : violent threats to government, including terrorism
3. *Government Effectiveness* : the quality of public service delivery
4. *Regulatory Burden*: the incidence of market-unfriendly policies
5. *Rule of Law*: quality of contract enforcement, the police, and the courts, and expropriation risk
6. *Corruption*: the use of public power for private gain and state capture.

A large body of empirical studies has found that these indicators matter, in varying degrees, for economic growth, and that political regime changes that raise the risk of worsening any of these indicators adversely affect investment and productivity.[3] For example, as Figure 1 shows, clearly higher incidence of corruption leads to poor economic outcomes. In their own and often unique way these political institutions improve economic outcomes and living standards by enabling markets to function and allocate resources efficiently.

Figure 1: High corruption impedes living standards in EM
Per capita GDP (Current US$, PPP terms)



Source: Transparency international, IMF, J.P. Morgan

The endogeneity between political risk and economic outcomes is present even over the medium term. Higher political risk can result in weaker growth, which, in turn, can disrupt political institutions. Instability in governance, leads to weaker economic growth as risk-averse investors are less willing to increase investment or production during periods of political flux. Governments with fragile majorities or volatile coalition partners are often forced to bow to the demands of pressure groups, rather than pursue economically optimal policies. EM has more to fear since it relies also on external financing as foreign investors are more sensitive to political instability given their relatively lower visibility of a country's domestic politics.

Separately, it has been well established that, under a democratic system, high levels of economic growth in pre-election years increase the incumbent's chances of winning the upcoming election, and thus allowing stability. This helps explain why governments frequently embark on generous spending in election years on the likes of wages, pensions and other benefits. The theory broadly holds outside of democratic model: research finds that the likelihood of a coup d'état is lower when incomes are higher. Political risk also tends to be persistent, such that economies can be caught in a trap of weak growth that induces government instability, which is then followed by even lower growth, and so forth[4].

Is democracy superior for growth?

In all of this the role of democracy and democratic institutions is not uncontested. The EM region hosts various types of political regimes and it's not immediately obvious that one produces higher growth than another. There are a number of EM economies, mostly in EM Asia, who have enjoyed robust and persistent growth under non-

[2] See for example, Mushtaq Khan (2007), "Governance, Economic Growth and Development since the 1960s," DESA WP No. 54, and Kaufmann, Daniel et al (2005), "Governance Matters IV: Governance Indicators for 1996-2004.

[3] Pioneered by Robert Barro (1998), "Determinants of Economic Growth: A Cross-Country Empirical Study," Journal of Comparative Economics. World Bank compiles governance indicators at http://info.worldbank.org/governance/wgi/#home

[4] Alesina, Ozler, Roubini, Swagel (1992), "Political Instability and Economic Growth", WP No. 4173 National Bureau of Economic Research

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democratic systems—the most obvious being China. Yet, there are also plenty of growth disasters under autocratic rule: North Korea, Myanmar, and Cambodia, to name a few[5]. In academic literature, there is no broad-based consensus on whether democracy is entirely good or bad for economic growth, but the channels through which it is felt have been explored in depth[6].

One of the key arguments asserting that democracy impedes growth is that democratic governments are incentivised to make short-sighted policy decisions, driven by a need for continuous public support. This leaves governments vulnerable to suboptimal policy making and manipulation by interest groups. In a similar vein, it can be difficult for democratic governments to impose tough or unpopular policies, even if they are growth friendly.

Others argue that democracy is conducive to growth, and suggest that because democracy incentivizes the government to enrich the quality of life of the majority of its people, it results in policies geared towards growth acceleration. It's also acknowledged that democracies are more transparent than autocracies, which aids the flow of information and restricts corruption. More recently with improved estimation techniques and better analytical measurement of democratic institutions, empirical studies have found that democracy does improve economic outcomes across a wide spectrum of indicators, including investment, productivity, education, and health[7].

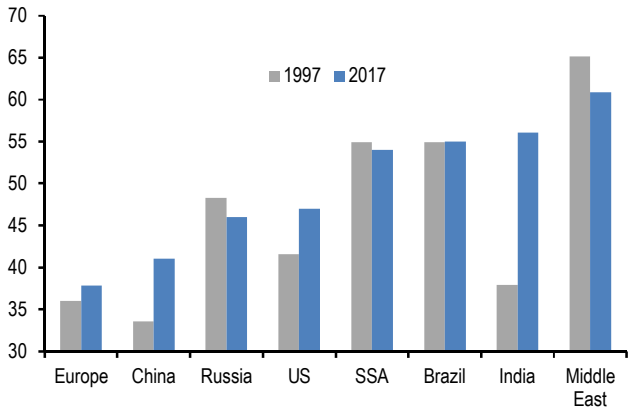
Inequality is increasing political risk

While growth-enhancing political institutions were extolled as virtues among policymakers and investors over the past few decades (the so called "Washington Consensus"), increasingly attention has focused on the adverse impact these might have had on income and wealth distribution, which, in turn, has led to the rise of populist politics in several countries.

To be sure, income inequality is rising in most countries, albeit with large variations in magnitude. The top 10% income share, which captures the shifts happening at extremes of the income distributions, has continued to increase over the past decade. The rise since the 1990s has been moderate in Europe but rapid in China and India, with the top 10% earning 45-50% of total income in 2017.

In the Middle East, Africa, and Latin America, income inequality has remained relatively stable, albeit at extremely high levels.

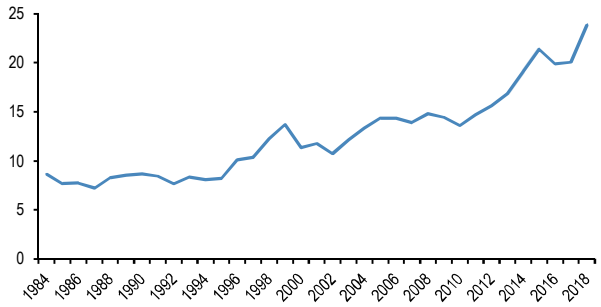
Figure 2: Top 10% income share across the world
% share of national income



Source: WID world (2017)

Three interrelated factors have likely contributed to growing income inequality: technological progress (e.g., the rise of automation), globalization, and financial markets deregulation. All three trends have generated winners and losers and have weighed on middle-class incomes and jobs, especially those who, because of their age, lack of skills, or education, were not able to adjust. In EM and DM Europe, the refugee crisis has likely also helped authoritarian-populist parties establish themselves as a permanent threat to liberal democracies. Observing these long-run trends, there are no signs that support for antiestablishment parties will decrease in the short run. Populism could thus remain a political force for a considerable time and political risks are unlikely to fade (Figure 2).

Figure 3: Support for populist* parties in Europe
% of total votes in elections, 4-year moving average



Source: ParlGov. * Includes both left and right-wing extreme parties

[5] Siegle, Weinstein and Halperin, (2004), "Why Democracies Excel", Foreignaffairs.org
[6] Qureshi & Ahmed (2012) ,"The Inter-linkages between Democracy and Per Capita GDP Growth: A Cross Country Analysis", PIDE Working Papers, 2012: 85
[7] Daron Acemoglu et al (2014), "Democracy Does Cause Growth," NBER, WP No. 20004

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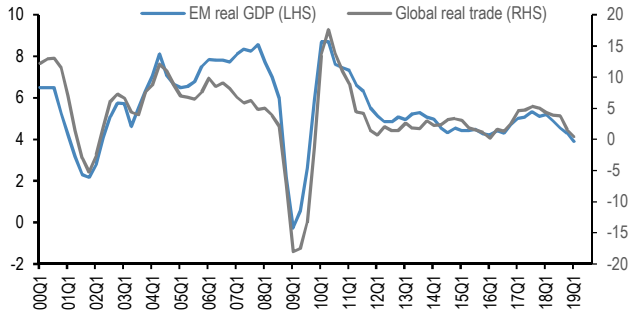
Backlash against globalization poses a serious threat to EM growth …

The rise in income inequality in DM and the modest income gains of the middle class since the 1990s, alongside the increase in economic dislocation in the wake of the Global Financial Crisis (GFC), have also led to popular discontent being directed against globalization. Whether globalization per se can be blamed for the rise in inequality is debatable. Economic theory has long established that increased trade causes job displacement and income losses for some groups and that these groups need to be compensated through redistributive policies and improved safety nets. Empirical evidence suggests that while the job displacement and income loss in DM was high in the wake of the rise in global trade since the 1990s, compensatory measures were also inadequate.[8]

However, regardless of what is to be blamed for the rise in inequality, the populist backlash against globalization in DM is growing. Moreover, the US and China are engaged in a trade war— in which the threat of further escalation remains high—and in the last 10 years there has not been any meaningful implementation of global or regional trade liberalization initiatives.

Figure 4: EM growth and global trade
%oya, both scales

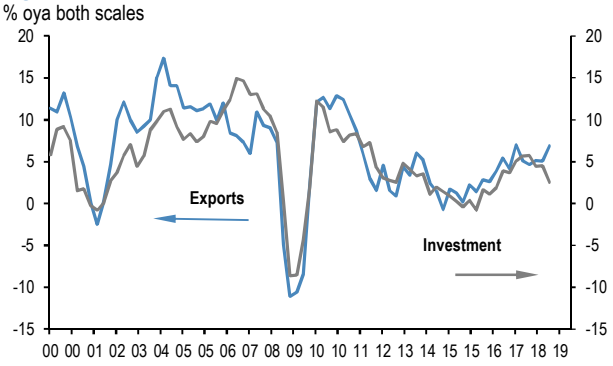


Source: National sources, CPB, and J.P. Morgan

A rise in anti-globalization politics, and the spillover to global trade, poses a serious risk to EM. As can be seen in Figures 4 and 5, much of EM growth and its main driver, namely investment, rely on trade. A lion's share of the rise in EM growth in the 2000s and the subsequent decline can be directly attributed to the rise and fall in the growth of global trade over this period. A protracted decline in the growth of global trade could easily keep potential growth in EM languishing in the absence of significant structural reforms and new domestic drivers of growth.

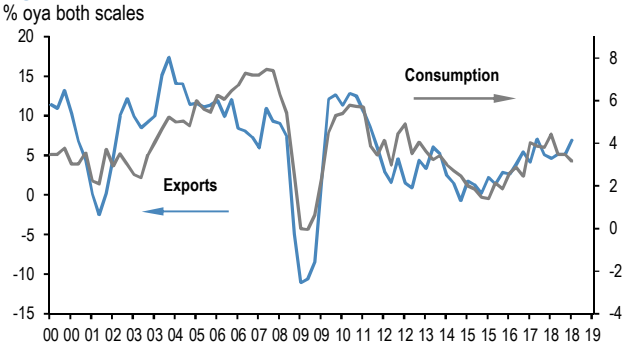
What is more problematic is that domestic drivers of EM growth, namely investment and consumption, are also hostage to exports. While episodically domestic investment growth has decoupled from export growth in the face of public infrastructure spending, these have not lasted for long. By and large, private investment in EM has been dictated by external demand. Similarly, directly and indirectly (via services that provide logistic support to manufacturing and exports), private consumption too has depended significantly on export growth (Figure 6).

Figure 5: EM ex CN: Investment's export dependence
% oya both scales



Source: J.P. Morgan

Figure 6: EM ex CN: Consumption too depends on exports
% oya both scales



Source: J.P. Morgan

… and productivity gains

Given the extensive dependence on trade, it is not surprising that productivity in EM also depends on export growth. In a controversial paper in the mid-1990s Alwyn Young had argued that much of the East Asian growth miracle was being driven by investment and not by productivity growth.[9] Consequently, as the industrial policies and financial repression that were driving the capital accumulation reached their limits, growth could

[8] For example see the studies cited in Dani Rodrik (2018), "Populism and the Economics of Globalization," Journal of International Business.

[9] Alwyn Young (1995), "The Tyranny of Numbers: Confronting the Statistical Realities of the East Asian Growth Experience, Quarterly Journal of Economics.

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come crashing down. Paul Krugman added fuel to the fire by not only endorsing Young's thesis but highlighting this was also why the Soviet economy collapsed in the 1980s.[10]

Growth did come crashing down in the 1997-98 Asian crisis, but most explanations attributed it to the fixed exchange rate policy of these countries and the CNY devaluation of 1994. In the period that followed, global trade expanded at a breakneck speed aided by China's entry to the WTO and EM growth rose at a feverish pace. The Krugman-Young argument was severely critiqued and a number of papers focused on establishing that EM prosperity was being driven by large productivity gains.[11] But with global trade rising unabated in the 2000s it was difficult to disentangle the impact of globalization on measured productivity.

However, with global trade having collapsed since 2010 and then recovering modestly since 2015, there is now strong evidence that much of the productivity growth in the 2000s reflected unmeasured increased utilization of labor and capital in the face of a relentless increase in global demand and/or technological and organizational efficiency gains as EM increasingly embraced the brave new world of global supply chain economics.

Table 1: 24-country EM panel regression, 2004-15
Dependent variable: Multi-factor productivity

	Coef	p-value
Terms-of-trade	0.04	0.01
Real global exports	0.29	0.00
Inflation	-0.13	0.00
J-statistics	12.70	0.63

Source: J.P. Morgan (Panel GMM estimates)

Consequently, in the absence of more domestic-oriented sources of growth or increased intra-EM trade, a decline in global trade will likely have a substantial negative effect on EM economic growth in both the near and medium term. EM will likely respond through policy changes and structural reforms that reorient growth drivers. However, this will likely require political regime shifts and internal rebalancing of political power among interest groups in EM.

[10] Paul Krugman (1994), "The myth of the Asian miracle," Foreign Affairs, November.
[11] See e.g., "Anchoring Growth: The Importance of Productivity-Enhancing Reforms in Emerging Market and Developing Economies," IMF, 2013.

Social and institutional indicators: less democracy and freedom post-GFC

Since the 2008 Global Finance Crisis, social indicators —particularly promoting democracy and freedom under a secure rule of law—have made limited progress according to independent surveys and assessments. Whereas freedom and democracy are on the decline, there have been modest improvements in business conditions and lower corruption perceptions. In our effort to assess the nature of the political regimes and the quality of political institutions across EM countries, we examine a number of independent studies that rate the level of democracy, freedom, corruption perceptions, social inclusion, human capital, and geopolitical risks. These studies are: the Democracy Index 2018 (Economist Intelligence Unit), Freedom in the World 2019 (Freedom House), Corruption Perceptions Index 2019 (Transparency International), and the Social Inclusion Index 2018 (Bertelsmann Foundation)[12], Human Freedom Index 2018 (Cato Institute), the Human Capital Index 2018 (World Bank), Expected Human Capital 2016 (Institute for Health Metrics and Evaluation), and the Geopolitical Risk Index 2019 (Caldara and Iacoviello).[13] Over the past 20 years, we have included the findings of many of these surveys in our Emerging Markets asset class reports (See *EM Rerates as an Asset Class: EM Fixed Income Passes a Second Stress Test*, J. Chang, September 18, 2012).

[12] The Democracy Index 2017 (Economist Intelligence Unit): https://www.eiu.com/topic/democracy-index
Freedom in the World 2018 (Freedom House): https://freedomhouse.org/report/freedom-world/freedom-world-2018
Corruptions Perceptions Index 2018 (Transparency International): https://www.transparency.org/cpi2017
Transformation Index (Bertelsmann Foundation): https://www.bti-project.org/en/home/

[13] Human Freedom Index 2017 (Cato Institute): https://www.cato.org/human-freedom-index
Human Capital Index 2018 (World Bank): www.worldbank.org/en/publication/human-capital
Expected Human Capital 2016 (IHME): www.healthdata.org/infographic/what-human-capital-and-why-it-relevant
Geopolitical Risk Index 2018 (Caldara and Iacoviello): https://www2.bc.edu/matteo-iacoviello/gpr.htm

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World Bank's "Ease of Doing Business Survey": EM Asia leads the way

The latest Doing Business report captured a record number of reforms[14] with more than half of the economies introducing improvements making it easier to do business over the last year. Most of these reforms have come about in the Emerging Economies with Sub-Saharan Africa leading the way (Figure 7). As EM countries have been opening up for business, DM countries continue to experience a general decline in their rankings. The only change to the top 10 countries in the ranking compared to last year was Macedonia breaking in (and Sweden moving out).

Asian economies continue to show the most improvement in the global rankings. **China** was one of the most improved countries in ranking, moving to 46 from 78 last year. India improved its standing by 23 ranking points over last year, while Malaysia moved from 24 to 15. The high income economies such as Singapore (2), South Korea (5), and Hong Kong SAR (4)[15] outrank United States and United Kingdom (now 8th and 9th respectively). Despite some Asian economies dropping in the rankings (Maldives, Philippines, and Mongolia have all dropped over 10 ranking points), several of them still rank as easier to do business than some European countries, such as France (32), Portugal (34), and Spain (30).

As noted last year, business-friendly conduct over the longer period remains aligned with regional political shifts. Since 2009, economies with the largest decline in ranking were Yemen (187), Maldives (139), Pakistan (136, though has improved over last year), and Bangladesh (176). On the other hand, Rwanda (29), Uzbekistan (76), Russia (31), Ukraine (71), and Morocco (60) have shown the biggest improvements over the last 10 years. Changes within EM remain highly varied as we see in Saudi Arabia's drop from a rank of 11 (in 2011) to 92 as of the last report.

Western European countries have dropped in ranking by an average of around 2.5 points compared to last year, though they have generally held steady over the last 10 years. Within the region though, there continue to be changes as we observe with Ireland dropping 6 ranking points this year and 16 over the last 10. Spain and Greece, among the worst affected European countries during the debt crisis have improved by 19 and 24 ranking points respectively over the decade.

[14] The World Bank "Ease of Doing Business" index is based on the study of laws and regulations in 183 countries. See Doing Business- the World Bank Group (http://www.doingbusiness.org).

[15] Asian ex-Japan countries are classified as emerging markets.

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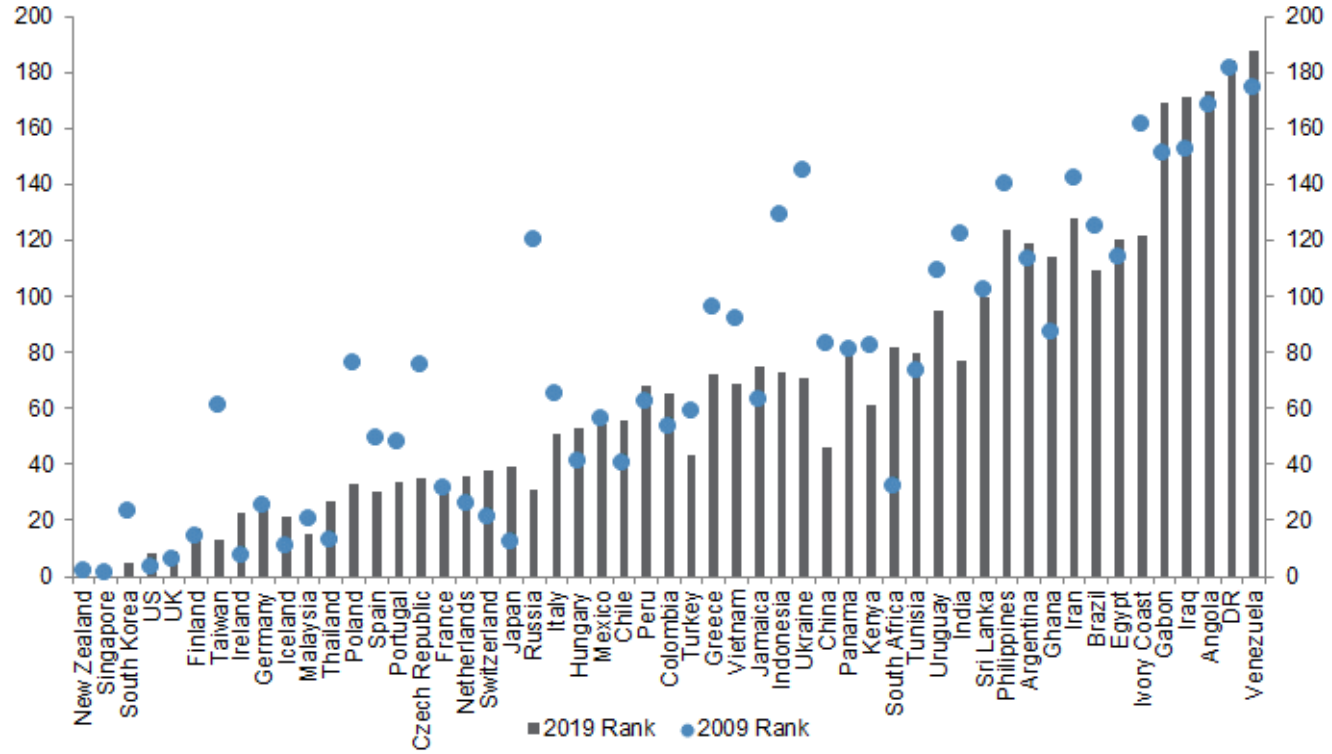
Figure 7: EM Asia shows the largest improvement in business practices

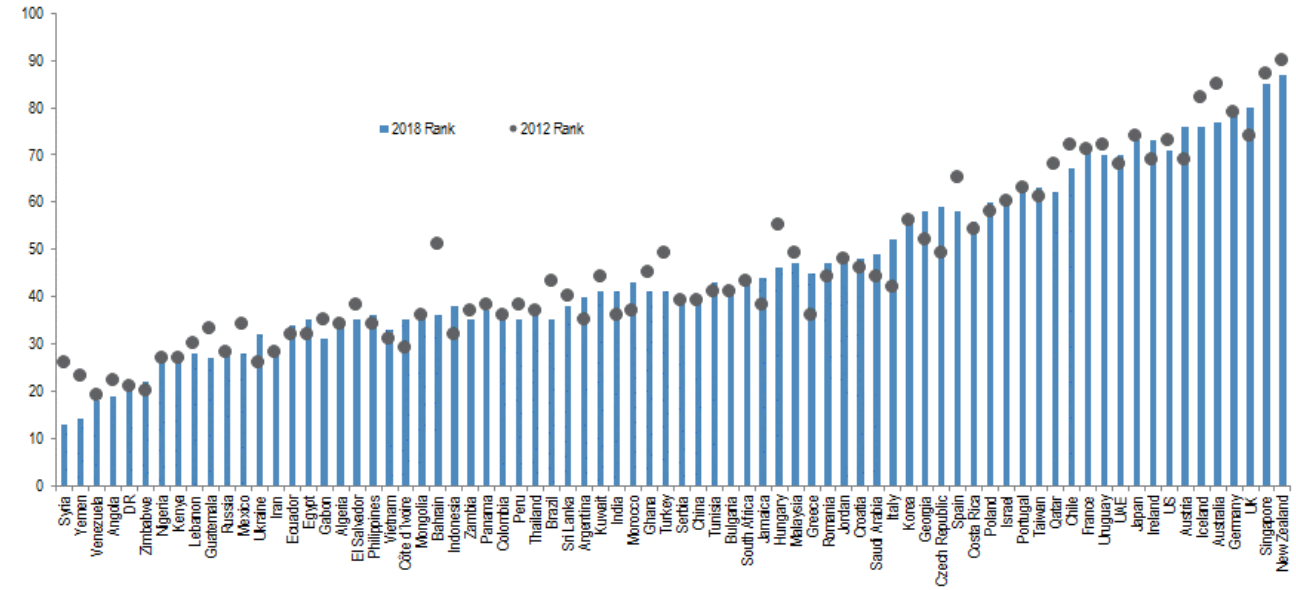
World Bank's ease of doing business rankings for select countries (lower is better)



Source: Doing Business 2009 and 2019 from IFC the World Bank

Figure 8: Corruption for EM remains consistently higher relative to DM countries

Corruption Perceptions Index for select countries (lower implies perceived corruption and higher implies greater transparency)



Source: Corruption Perceptions Index 2012 and 2018 from Transparency International

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Corruption Perceptions Index: EM remains below the average corruption score

Corruption perceptions have abated since 2012, with both EM and DM countries becoming moderately more transparent according to Transparency International's Corruption Perceptions Index (CPI)[1]. The methodology changed[2] in 2012, while year-on-year comparisons from then on are possible, results pre-2012 are not directly comparable to those after 2012.

DM countries have become less transparent since 2012 on the CPI while EM countries have seen an aggregate improvement of 30 points on transparency over this period (Figure 8). Despite the improvements, the EM average (38) is significantly below the global average (54).

Of the biggest movers, Greece, Latvia, Italy and Czech Republic are some of the European countries that have increased in transparency while Bahrain, Syria and Yemen have dropped the most in rankings.

Democracy Index 2018: Authoritarianism is on the rise

Democracy and freedom indicators have, on average, declined across the world in recent years according to three independent studies: "The Democracy Index 2018" (*Economist Intelligence Unit, EIU*)[3], "Freedom in the World 2019" (*Freedom House*)[4] and "The Human Freedom Index 2018" *(Cato Institute)*[5]. The EIU Democracy Index 2018 had an unchanged global score compared to last year though there were movements within the regimes. Costa Rica made the progression from a flawed democracy to full, as Nicaragua regressed from flawed to authoritarian. Encouragingly, more countries saw their democracy scores rising than falling (48 against 42), though as a percentage of population, fewer people live in some form of democracy compared to last year. Despite Costa Rica's progression bringing the number of full democracies to 20, there are fewer countries in this category now compared to 10 years ago (30 in 2008). The countries classified as full democracy are mostly developed nations from Europe, though Costa Rica and Uruguay represent Emerging markets that are also a part of this group. United States saw another drop in its score and continued to rank as a flawed democracy, with South Korea, Japan, Estonia and Chile ranking higher. The index saw drop in Western Europe over last year, having been on a sharp decline since the financial crisis, although there have been intermittent periods of improvement.

Nicaragua moving into the authoritarian regime category brings the number of countries in that group to 53 (higher than 51 back in 2008). Over 2/3rd of the countries classified as authoritarian are from Sub-Saharan Africa, the Middle East, or North Africa. On the aggregate democracy score, Africa and Asia have both shown good improvements, albeit these come from a relatively lower base. Eastern Europe has seen the sharpest decline in the Democracy Index (Figure 9).

On a direct score comparison, developed countries do have higher scores (both Western Europe and North America have average scores over 8, compared to scores for Latin America and Asia which have scores between 5 to 7). **However, EM countries have shown the most improvements to the Democracy Index.**

The Democracy index measures the state of democracy across 167 countries based on 60 indicators grouped in five different categories. The index values are a weighted average of the survey responses on a scale of 0 to 10, where 0 is an authoritarian regime and 10 is a full democracy.

Notably, according to all three indices, democracy and freedom indicators waned in the world's second largest democracy (by population), the United States. The EIU Democracy Index downgraded the US from a 'full' to a 'flawed' democracy in 2016. The Freedom in the World Index saw a downward trend of the United States score (lower scores indicate less political rights and civil liberties), and the Human Freedom Index ranked the United States lower in its latest study compared to 2008 (Table 2).

[1] Transparency International defines corruption as the abuse of entrusted power for private gain. For more information, see https://www.transparency.org/research/cpi/overview

[2] For more information, see https://www.transparency.org/files/content/pressrelease/2012_CPIUpdatedMethodology_EMBARGO_EN.pdf

[3] As defined by the Economist Intelligence Unit Index of Democracy, which measures the state of democracy for 165 independent state and two territories. For more information, see https://www.eiu.com/topic/democracy-index

[4] *Freedom in the World* is an annual global report on political rights and civil liberties. Source: https://freedomhouse.org/report/freedom-world/freedom-world-2019

[5] The Human Freedom Index presents the stat of human freedom in the world based on a broad measure that encompasses personal, civil, and economic freedom. Source: https://www.cato.org/human-freedom-index-new

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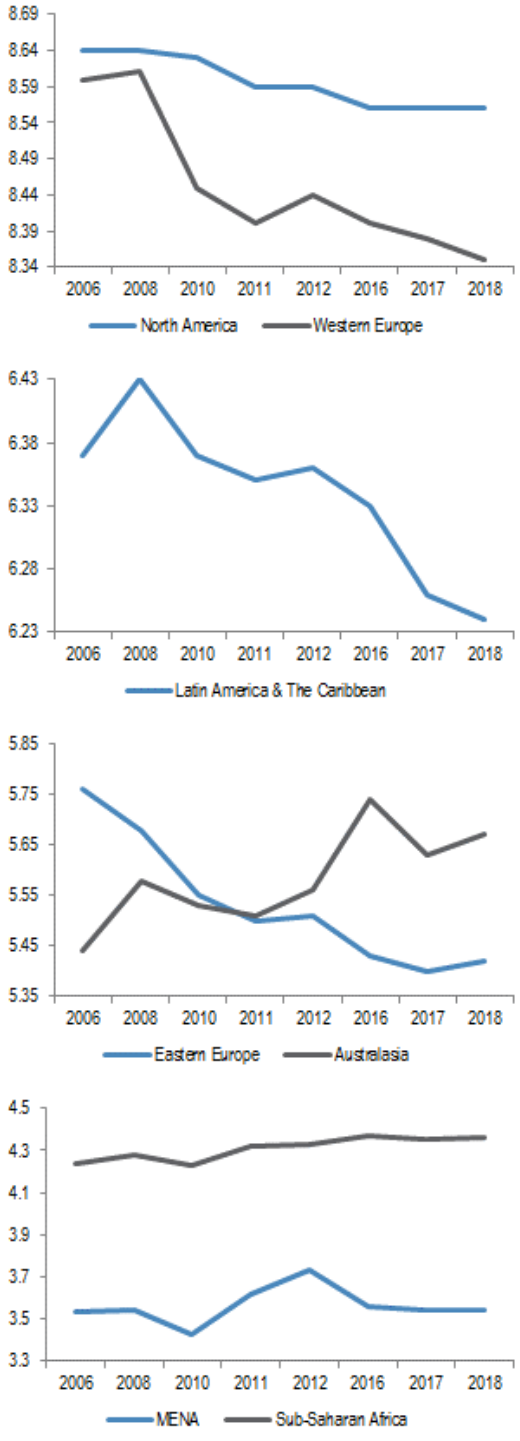
Figure 9: The Democracy Index shows that democratic institutions have proven to be resilient in EM (ex-LatAm)



Source: Democracy Index 2018

Table 2: Country specific democracy ranking and changes over a decade

Country	2018 Rank	2018 Score	2008 Rank	2008 Score
Norway	1	9.87	2	9.68
Sweden	3	9.39	1	9.88
New Zealand	4	9.26	7	9.19
Denmark	5	9.22	5	9.52
Canada	6	9.15	11	9.07
Australia	9	9.09	10	9.09
Switzerland	10	9.03	8	9.15
Germany	13	8.68	13	8.82
United Kingdom	14	8.53	21	8.15
Spain	19	8.08	15	8.45
Korea	21	8.00	28	8.01
United States	25	7.96	18	8.22
Italy	33	7.71	29	7.98
Japan	22	7.99	17	8.25
Chile	23	7.97	32	7.89
France	29	7.80	24	8.07
Israel	30	7.79	38	7.48
Taiwan	32	7.73	33	7.82
Czech Republic	34	7.69	19	8.19
Greece	39	7.29	22	8.13
South Africa	40	7.24	31	7.91
India	41	7.23	35	7.80
Bulgaria	46	7.03	52	7.02
Argentina	47	7.02	56	6.63
Brazil	50	6.97	41	7.38
Philippines	53	6.71	76	6.12
Poland	54	6.67	45	7.30
Colombia	51	6.96	60	6.54
Hungary	57	6.63	40	7.44
Malaysia	52	6.88	68	6.36
Peru	59	6.60	70	6.31
Romania	66	6.38	50	7.06
Mexico	71	6.19	55	6.78
Indonesia	65	6.39	69	6.34
Singapore	66	6.38	82	5.89
Ecuador	68	6.27	88	5.64
Turkey	111	4.37	87	5.69
Thailand	107	4.63	54	6.81
Venezuela	135	3.16	96	5.34
Russia	145	2.94	108	4.48
China	131	3.32	137	3.04

Source: Economist Intelligence United

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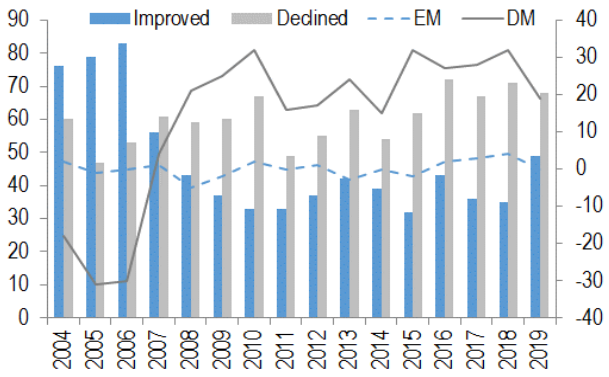
Freedom House and Human Freedom Index: global freedom in decline with modest improvements to EM recently

Freedom, measured by political rights and civil liberties, has declined for the 13th consecutive year globally, accordingly to Freedom House, with the freedom status improving in 50 countries and declining in 68 countries. Declines in freedom status have outpaced improvements since the onset of the global financial crisis and the gap has only become wider ever since (Figure 10). Both emerging and developed countries experienced a widening "freedom gap," however, it is in developed countries where we saw a consistent retreat of democracy as countries with declining freedom levels outnumbered nations with improving levels of freedom by double digits for the past decade.

Figure 10: Global freedom, encompassing political rights and civil liberties, has been declining for more than a decade

Number of countries (LHS) and Decline-Improve Differential (RHS)



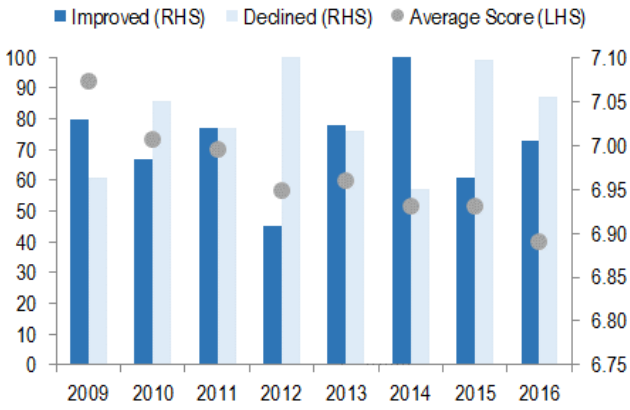
Source: Freedom House, J.P. Morgan

The Human Freedom Index (HFI), which is measured against indicators of personal and economic freedom by the Cato Institute, has consistently trended lower since the global financial crisis in 2008. Areas such as the Rule of Law, Expression and Information, Legal System and Property Rights, and many more are among the areas covered by the HFI to ensure a comprehensive measure (Figure 11).

On a scale of 0 to 10, the average human freedom score for 162 countries in the latest dataset (2016) was 6.89, down from 7.05 in the index inception year (2008), as seen in Figure 11. Among the top 10 jurisdictions, Hong Kong SAR (3) was the only emerging economy that made the list.

Figure 11: The Human Freedom Index has trended lower since the global financial crisis

Number of countries (LHS) and Average Freedom Score (RHS)



Source: Cato Institute

Linking country rankings and responsible investing

As ESG investing moves into the mainstream, countries continue to improve on environmental and social criteria, while for investors, major ESG indices have largely tracked their conventional benchmark indices, demonstrating that sustainable investing does not have to sacrifice returns, and may be of growing importance. (See *J.P. Morgan Perspectives: ESG Investing 2019 Client changes everything*, J. Chang et al., 30 May 2019.) The signatories to United Nations Principles of Responsible Investment now exceed 2300 members approaching AUM of over $86 trillion. In light of the interest in ESG and responsible investing space, we find growing focus in sovereign rankings for the individual E, S, and G pillars, for example Yale's Environmental Performance Index[6] measures environmental trends and progress for 180 countries, providing a gauge at a national scale of how close countries are to establish environmental policy goals. The countries occupying the top spots are mostly European (the first Emerging nation on the list is Taiwan at 23).

The top 10 countries ranked by ESG scores, according to J.P. Morgan's JESG index[7] (see *Introducing the J.P. Morgan ESG Index suite (JESG),* G. Kim et al., 18 Apr

[6] For more information, please see https://epi.envirocenter.yale.edu/about-epi

[7] J.P. Morgan calculates JESG scores for 170+ sovereign nations and over a 1000 corporate issuers across the Emerging and Developed markets. The JESG scores are calculated on a relative ranking system, therefore any rise or fall in scores is to be interpreted in the context of developments in the other peer countries. For more information, see https://www.jpmm.com/research/content/GPS-2793160-0

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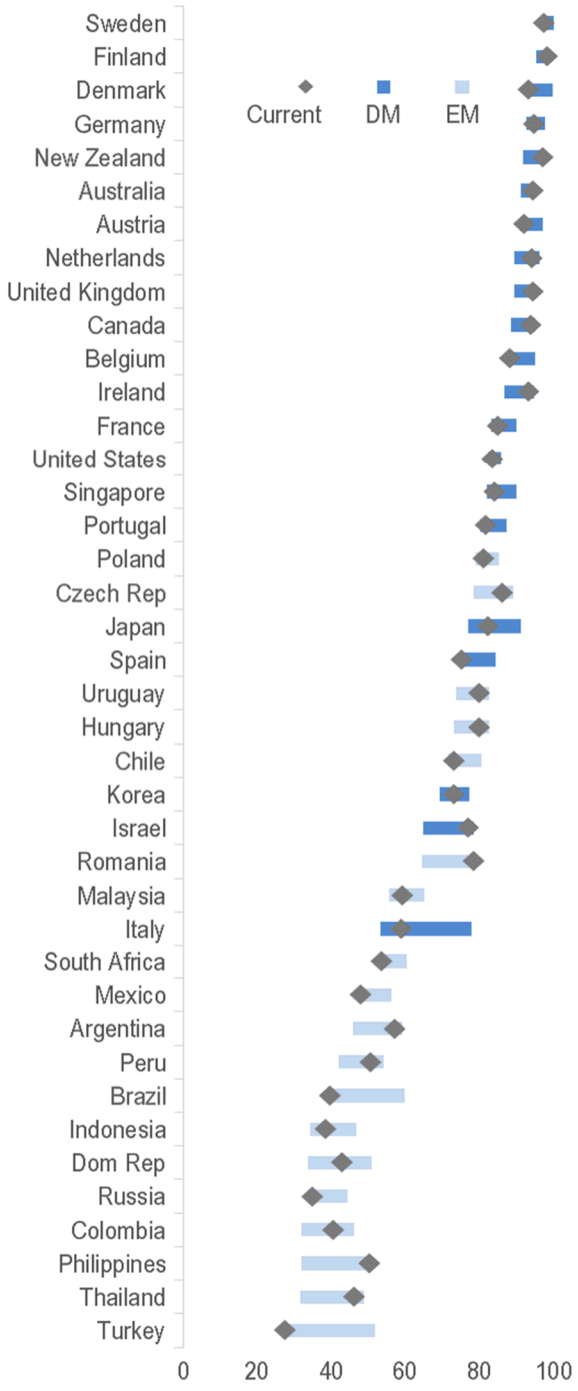
2018) are all developed markets, led by Finland with a current ESG score of 99. Czech Republic is the top ranked EM (13) country with a JESG score of 86, higher than that of France. Since the inception of the JESG index in 2012, developed markets had lower volatility of JESG score, shown by the tighter score ranges in Figure 12. Emerging markets, though volatile, had more room for improvement and hence saw the largest score pickup over the past year. Romania led the pack, improving its JESG score by 9 to 79, followed by Czech Republic posting a score uptick of 6 to 86.

Bertelsmann Stiftung's Transformation Index (BTI): Political stability fared worse than economic institutions

Social inclusion and political stability have trended slightly downwards over the past few years, with notable regional deviations due to political stability according to the Bertelsmann Stiftung's Transformation Index (BTI)[8]. The BTI status score has shown no clear global trend towards increasing social and political inclusion over the past six years, decreasing by less than a quarter of a point on average. However, in line with geopolitical stories, countries in the MENA and Eastern European regions saw the largest falloffs in democracy scores. Economic measures remained relatively consistent on the other hand, with Libya's descent standing out as the main outlier.

Overall, Eastern European countries improved their status rankings while MENA economies deteriorated according to the BTI index (Table 3). Syria has fallen the furthest on the average BTI status index, down by 21 positions to 128th place. However, Turkey and Libya dropped the most for democratic and economic transformation change, respectively. In terms of positive developments, Côte d'Ivoire demonstrated the largest improvement, moving up 52 spots in the BTI status index. A total of 58 countries, representing nearly 45% of the states analyzed by the BTI, are identified as potential global risk zones.

Figure 12: Global JESG scores have trended higher on average since 2012



Source: J.P. Morgan.

[8] Bertelsmann Striftung is a private, independent German foundation and think tank, which evaluates 129 EM countries on the ability of each country's policymakers to address and carry out targeted reforms across three categories—political, social, and economic—derived from an 18 question survey. For more information, see https://www.bti-project.org/en/home/

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Table 3: Top and bottom ten BTI ranking since 2012
BTI's Ranking status index (Positive change means improvement)

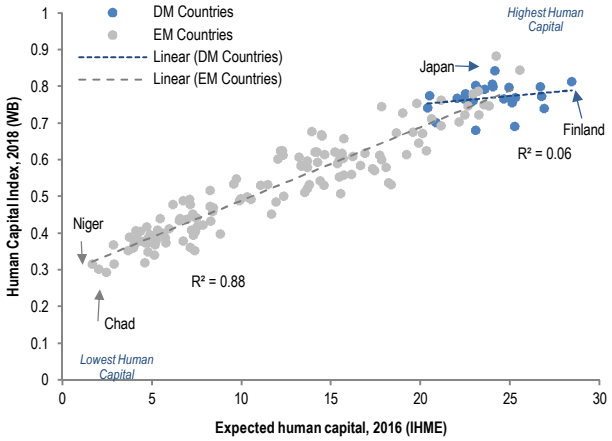
Top 10	2018	2012	Change
Czech Republic	1	1	0
Estonia	1	5	4
Taiwan	3	2	-1
Lithuania	4	7	3
Uruguay	5	4	-1
Slovenia	6	3	-3
Chile	7	9	2
Latvia	8	13	5
Slovakia	9	8	-1
Poland	10	6	-4
Bottom 10	**2018**	**2012**	**Change**
Somalia	129	128	-1
Syria	128	107	-21
Yemen	127	108	-19
Eritrea	126	126	0
North Korea	125	125	0
Sudan	123	119	-4
Libya	122	96	-26
Afghanistan	121	124	3
Congo, DR	120	122	2
Turkmenistan	119	116	-3

Source: bti-project.org

Human Capital Indices: EM countries productivity improving faster

Both the World Bank and the Institute for Health Metrics and Evaluation (IHME) launched human capital indices in 2018, designed to highlight how improvements in education and health shape productivity. While both indices aim to quantify how much human capital a person born today is expected to earn over the course of their life, based on education and health indicators, the two indices rely on different data sources. Overall, the ranking of both measures are highly correlated (r-squared of 0.95), with the main divergences occurring in developed market economies (Figure 13). The differences are primarily due to the underlying data sets, specifically: IHME incorporates post-secondary education and health conditions with strong links to productivity[9] whereas the World Bank uses enrollment data and adult survival rates as a proxy[10]. Despite the deviations, both indicators are highly correlated to GDP per capita (r-squared of 0.73 and 0.71, respectively).

Figure 13: human capital rankings diverge for DM countries



Source: World Bank, IHME

In the past ten years, productivity for EM countries has increased seven-times faster than DM countries, by 32% and 4.5%, respectively[11]. The MENA region has seen the largest improvement, with an overall gain of 2.7 years, vastly outpacing the growth of North American countries which added just 0.65 years over the same period. Turkey (+5.3 years), Palestine (+4.9 years) and Bahrain (+4 years) have seen the largest improvements, while DM countries remained relatively static. Despite minor changes to DM countries, they have retained their overall leadership in the rankings, with Finland and South Korea landing in the top five countries on both metrics.

[9] Expected human capital measured by Institute for Health Metrics and Evaluation (IHME), launched in Sept 2018, measures the expected years lived from age 20 to 64 years adjusted for educational attainment, learning or education quality, and functional health status using rates specific to each time period, age, and sex for 195 countries from 1990 to 2016. Source: https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31941-X/fulltext#fig1

[10] The World Bank's Human Capital Index, launched in Oct 2018, has three components: (1) survival rate from birth to school age; (2) education measured by enrollment rates; and (3) two broad measures of health—stunting rates and adult survival rates. HCI is measured in units of productivity relative to a benchmark of complete education and full health, and ranges from 0 to 1. A value of x on the HCI indicates that a child born today can expect to be only x ×100 percent as productive as a future worker as she would be if she enjoyed complete education and full health. Source: http://documents.worldbank.org/curated/en/816281518818814423/pdf/2019-WDR-Report.pdf

[11] IHME includes a time series from 1990 to 2016 whereas the World Bank only covers the most recent year. As the two metrics are highly correlated, we've used the IHME as a representative sample.

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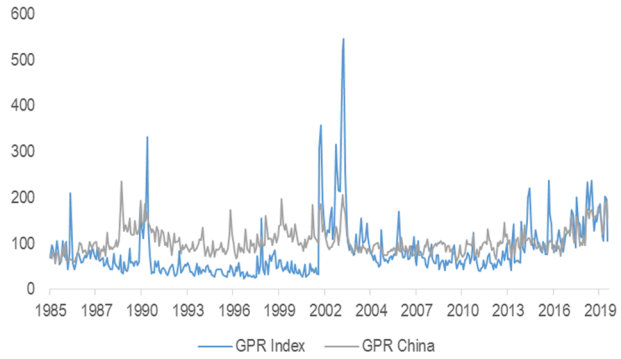
Geopolitical Risk Index (Caldara and Iacoviello)

We featured the Caldara and Iacoviello Geopolitical Risk (GPR)[12], a big data indicator, for the first time last year. The GPR Index deploys automated text-search to track the share of total number of news articles related to geopolitical risks that were published in 11 leading international newspapers and normalizes the results. Based on the search results, the GPR can be categorized into two sub-indices, namely the Geopolitical Threats (GPT) index, which measures newspaper coverage of geopolitical threats that have not materialized; and the Geopolitical Acts (GPA) index, which measures coverage on actual adverse geopolitical events. Data is also available for 18 emerging countries back to January 1985.

Since October of last year, when we first introduced this metric, search results suggest that geopolitical risks have moderately abated (down by 33%). On the other hand, the Geopolitical Acts (GPA) index, which measures actual adverse geopolitical events (instead of just risks) has increased by 25%. Finally, using the beta-country version indices, China's risks have been unchanged as of late (Figure 14).

Figure 14: Geopolitical Risk Index since 2000

The Geopolitical risk index assessed geopolitical tensions by measuring the frequency of articles in select newspapers



Source: Geopolitical Risk Index from Matteo and Iacoviello, July 2019

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[12] Dario Caldara and Matteo Iacoviello construct a monthly index of Geopolitical Risk (GPR Index) counting the occurrence of words related to geopolitical tensions in leading international newspapers. Source: https://www2.bc.edu/matteo-iacoviello/gpr.htm#overview

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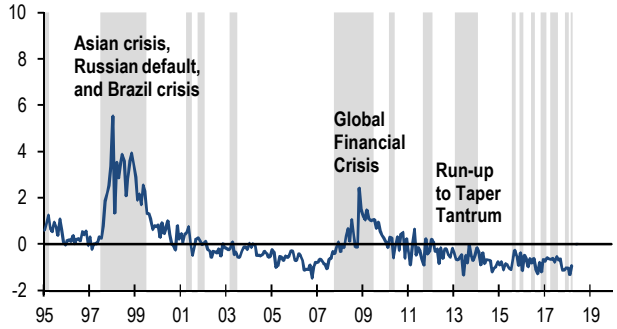
Asia financial stress index trending down

- **According to the ADB's composite financial stress index (FSI), financial stress in developing Asia rises during periods of global and regional financial instability, most notably the Asian Financial Crisis and 2008 Global Financial Crisis.**
- **Over the long run, developing Asia's FSI has gradually trended down, which could be attributable to financial deepening and better policy buffers.**
- **The extent to which individual countries respond to crises also varies. Japan's FSI cycle differs from most of developing Asia given the difference in financial cycles while China deviated from the rest of developing Asia with a small bump in the FSI around 2015-16.**

The Asian Development Bank (ADB) publishes a composite financial stress index (FSI) that quantifies the degree of financial stress at national and regional levels in the banking sector, and foreign exchange, equity and bond markets. According to the FSI, financial stress in developing Asia rises during periods of global and regional financial instability, most notably the Asian Financial Crisis in the mid-1990s and the 2008-09 Global Financial Crisis (Figure 1).

Figure 1: Financial Stress Index of developing Asia
Index, larger number indicates more financial stress

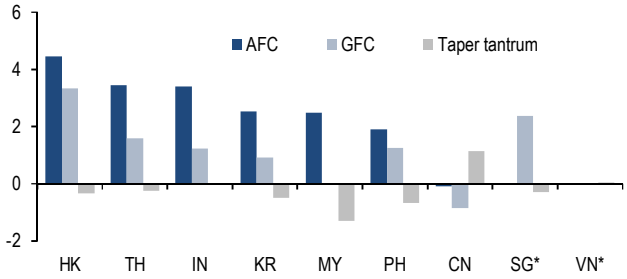


Source: ADB, J.P. Morgan

Over the long run, developing Asia's FSI has gradually trended down, with the peak of each crisis episode also lower, which could be attributable to financial deepening and better policy buffers that have made the region's financial markets more resilient against external shocks.

The extent to which individual countries respond to crises also varies. In Figure 2, the height of each bar represents the average point-increase in the FSI for each country during a stress episode. Financial stress increased the most in Hong Kong SAR and Singapore during the Asian and global financial crises, likely owing to their role as regional financial centers. By contrast, the taper tantrum did not amplify financial stress across countries, according to the index.

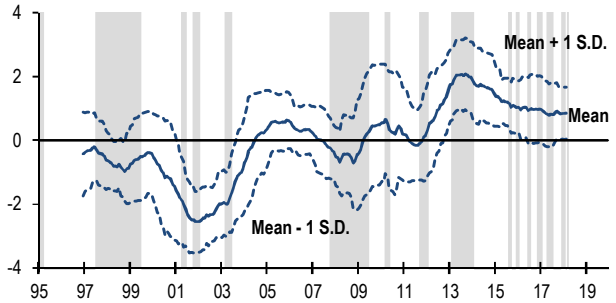
Figure 2: Average increase in FSI during crisis
Index, average change



Note: Data only available for SG since 2000 and for VN since 2008.
Source: ADB, J.P. Morgan.

Japan's FSI cycle differs from that in most of developing Asia, which is unsurprising given the difference in financial cycles (Figures 3 and 4). While developing Asia's FSI has edged down over the past two decades, Japan's index has risen gradually, lifted by the 2008 GFC and 2012 euro area sovereign crisis episodes, but has declined since 2013.

Figure 3: Japan FSI
Index, 24-month moving average and volatility



Source: ADB, J.P. Morgan

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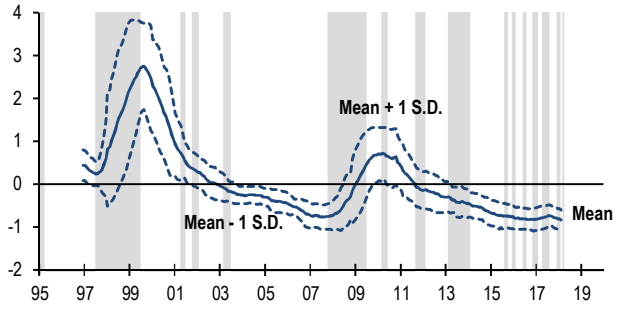
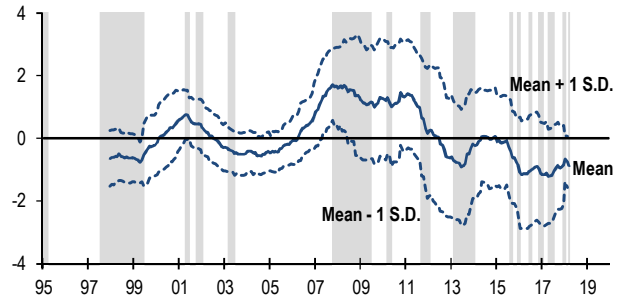
Figure 4: Developing Asia FSI
Index, 24-month moving average and volatility



Source: ADB, J.P. Morgan

China deviated from the rest of developing Asia with a small bump in the FSI around 2015-16 (Figure 5), possibly because during a cyclical downturn, financial stress rose due to a sudden collapse in equity market returns and expansion of volatility in the equity and FX markets, judging from the formula used to construct the FSI.[1]

Figure 5: China FSI
Index, 24-month moving average and volatility



Source: ADB, J.P. Morgan

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[1] Asia Regional Integration Center - Asian Development Bank https://aric.adb.org/datacenter

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What case today for a strategic allocation to EM local bonds?

- **Today, the case for a strategic allocation to EM local bonds has improved due to the improved opportunity set with China's inclusion and now the increasing risk that the US is en route to join Europe's and Japan's zero/negative bond world.**
- **From last year, we carry over cheap entry points into EM currencies against the dollar and EM bond yields against DM, as well as the continued diversification value of EM local bonds—better than in credit or equities.**
- **A 20-30% allocation for DM-based fixed income investors seems quite reasonable for the low/falling yield world of DM.**

In our September 2018 piece on *Strategic Questions on EM Allocations*, we concluded, inter alia, that the case for a long-term allocation to EM equities in DM portfolios was weak as it depended on EM economies medium term accelerating their growth potential relative to that of DM. We were, and remain, on the pessimistic side here as any such EM growth acceleration depends on a renaissance of trade globalization and/or domestic economic reform and governance improvements. In several papers since, we and a number of our research colleagues have expressed downside concerns on trade and EM reform (see, e.g., *Deglobalization*, J. Loeys et al., 5 April 2019 and *Made in China 2025: A New World Order?*, J. Chang et al., 31 January 2019 and updates earlier in this compendium). The intensifying US-China trade war and Great-Nation conflict have only reinforced our concerns about EM growth and EM equities.

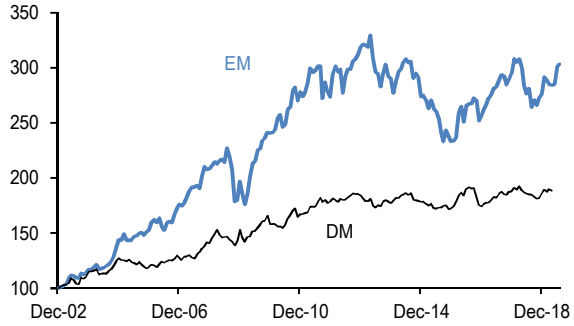
The case for EM fixed income is much less dependent on growth and more on value. DM investors can buy EM local debt on either a currency hedged or unhedged basis and thus need to consider both the local bonds and the currencies as two distinguished asset classes. We will investigate both in turn.

EM local bonds

Figures 1-2 show the cumulative total returns on our EM and DM government bond indices in both currency-unhedged and hedged terms in USD. Since the inception of our GBI-EM Diversified local government bond index in Dec 2002, EM local bonds have earned 6.8% pa in USD, on a currency unhedged basis, and 4.7% after hedging into USD. Our DM GBI earned over this period 4.1% and 4.3%, respectively, on an unhedged and hedged basis. Figure 3 shows the same as total return ratios of EM over DM bonds.

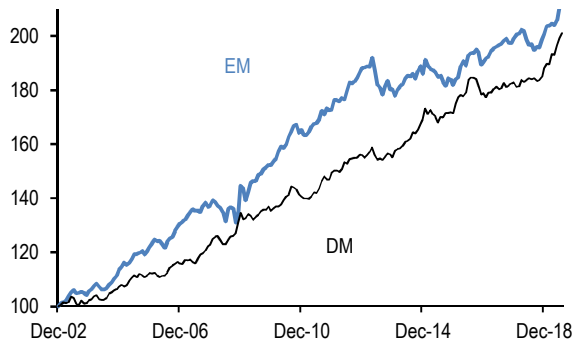
Since 2002, EM has thus beaten DM bonds by 2.7% pa, but almost all due to currency appreciation and carry, which we discuss in the *Currencies* section below. **In currency-hedged terms, EM has outperformed by only 36bp pa**. As with equities, EM bonds' relative performance went through feast and famine periods, around the same time as equities. And here too, starting from a different entry period changes the results.

Figure 1: GBI EM and DM Cumulative Total Return Indices ratios, Unhedged in USD
Dec 2002 = 100



Source: J.P. Morgan. Last observation is Jul' 2019.
EM: GBI-EM Global Diversified
DM: GBI-DM Diversified rebased to Dec'02

Figure 2: GBI EM and DM Cumulative Total Return Indices ratios, Hedged into USD
Dec 2002 = 100



Source: J.P. Morgan. Last observation is Jul' 2019.

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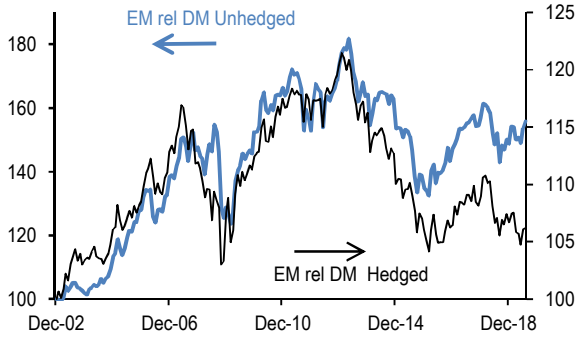
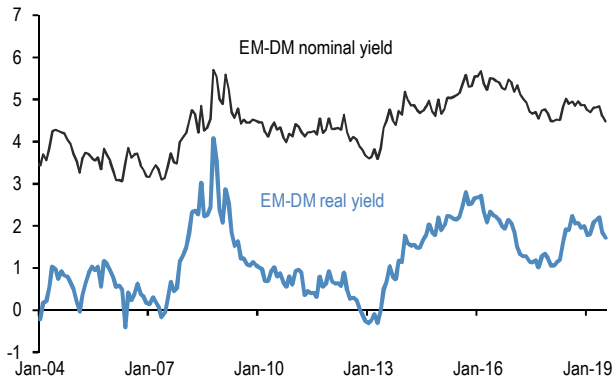
Figure 3: GBI EM to DM relative Total Return Indices ratios, Hedged and Unhedged
Dec 2002 = 100



Source: J.P. Morgan. Last observation is Jul' 2019.

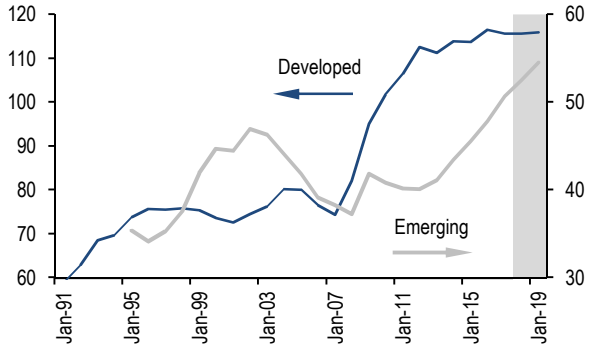
EM local government bonds pay **higher yields** than DM ones both in nominal and real terms, using past inflation as measure of inflation expectations (Figure 4). The higher nominal yield reflects a higher inflation rate among most EMs. The higher *real* yield largely reflects higher real economic growth and risk and perhaps the perceived inability of EM to cope with higher fiscal deficits or debt loads, even as the latter are on average actually much lower than those in DM (Figure 5). Weaker governance, past debt crises, and a reliance on foreign capital inflows are probably the reason why most EMs cannot run the same high deficits of many DMs.

Figure 4: EM versus DM real and nominal yield
%



Source: J.P. Morgan. Last observation is Jul' 2019.
EM is GBI EM Global Diversified while DM is GBI Global

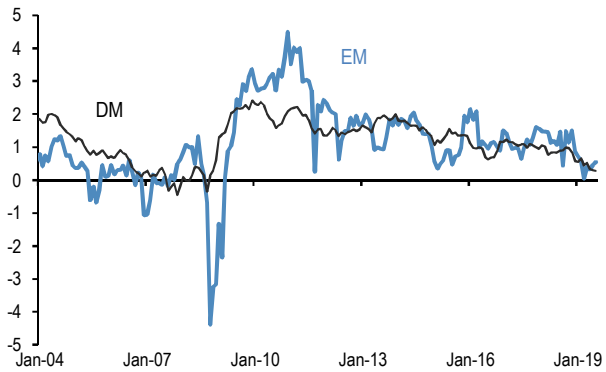
Figure 5: General government gross debt
% of GDP



Source: J.P. Morgan. Last observation is 2019, shaded areas are forecasts.

One could argue and expect that higher inflation and governance risk on EM (see Loeys and Kundu, *Long-term Strategist: Politics and markets, long term*, 6 November 2018) should create a higher term premium than DM and thus steeper yield curves that global investors can harvest by strategically overweighting EM local bonds. The fact that our currency hedged EM local bond index barely beat its DM equivalent suggests that may not be the case, although that could be due to the short sample period. However, we do find, in Figure 6, that when we look at the average carry along the curve of EM bond market markets is virtually the same as that on DM bonds, even as EM carry is clearly a lot more volatile.

Figure 6: EM bond carry more volatile than its DM counterpart
%



Source: J.P. Morgan. Last observation is Jul' 2019.
Carry calculated as index yield minus cash index yield (1-month yield of each country, where available)

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Implications for future long-term performance

We have found a persistent risk premium on EM FX (see below), due to the failure of UIP, but have **not found evidence of a higher bond term premium on EM bonds than on DM**. Hence, from an empirical Finance point of view, there is no reason to expect *systematic* EM outperformance on EM local bonds, aside from the currency element that cannot be gained without incurring local EM duration risk.

Is there a good entry point today, though?

Figure 4 shows that both the nominal and real yield gaps between EM and DM markets with the real gap over half a sigma wide, but the nominal close to the mean, suggesting a decent but not overwhelming entry point for EM. There appears to be an uptrend in the EM/DM yield gap that could thwart mean reversion and EM outperformance, but this is probably largely due to some $10tr in QE buying by DM central banks post the GFC. Both the real and the nominal yield gap have mean reverted quite cleanly over these 15 years and are thus meeting the most important condition to make a relative value judgment, at least for the real one.

Is there a **macroeconomic reason** to buy EM local debt? The US economic expansion is now over 10 years old—a new record—but the Q2 contraction in global capital spending, quite likely related to the worsening trade war, and falling US profit margins are raising the risk of a recession over the next year. Our Recession model[1] continues to show a ~40% probability of a recession over the coming 12 months. EM assets tend not to perform well during the flight to quality that we usually see in a recession. However, as we discussed most recently in *The Long-term Strategist: What if the US joins the Zero Yield world?*, 12 July 2019, to this analyst, the odds are significant that the macro economic shock of a recession will pull the US into the same conditions that pulled Japan and Europe into zero and then negative bond yields.

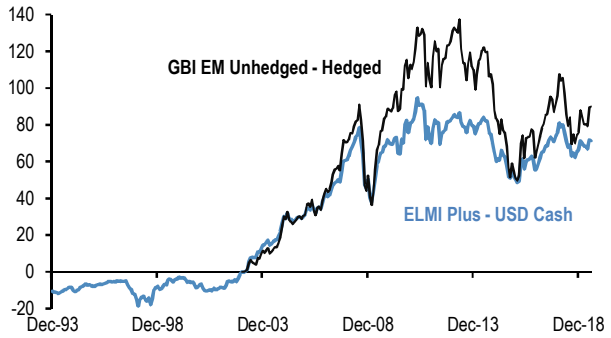
In the above paper, we found that after the deflationary shock that pushed their bond yields steadily towards zero, Japanese and European investors did not abandon fixed income in favor of equities. Instead they pursued an income strategy of high-dividend stocks, real estate and foreign bonds, thus depreciating their currencies. Japanese and European investors had the option of moving into the better yielding and still quite liquid US dollar bond markets. If the UST curve, like Japan and Europe, falls to zero and then below it, USD based investors will not have this luxury and the only decently better yielding government bond yields will be in EM.

Currencies

When investing in foreign currency bonds, investors have the option to hedge the currency risk usually on a rolling 3-month basis, or to leave the currency risk unhedged. In the case of investing in EM local bonds, hedging the currency risk typically costs as much as the full yield pickup on the bonds. Hence, investors try to judge whether the foreign currency has good value, or not against their domestic currency. How have EM currencies generally performed against DM ones?

Figure 7 shows the cumulative return of owning **EM currency cash-like instruments**, funded in dollars (thus deducting USD 1-month cash) on our ELMI+ index since 1994. As an alternative measure, it also depicts since 2002 the cumulative returns on the EM currency element of our GBI-EM Global Diversified index of local EM government bonds, further reviewed in the next section. This measure of EM FX returns takes GBI-EM unhedged returns minus the same hedged in USD and thus also takes out USD funding costs.

Figure 7: Cumulative returns of EM currencies against USD
Dec 2002 = 100, ELMI+ minus USD cash; GBI-EM Global Diversified Unhedged in USD minus hedged into USD



Source: J.P. Morgan. Last observation is Jul' 2019.

The chart shows that EM currencies gained against US dollar cash since inception of our ELMI+ index at the start at December 1993. Over that period, ELMI+ earned 5.3% pa in USD terms. Taking out the average funding cost of 2.8% in USD left **2.5% excess return p.a. of EM over USD cash**. During this period, the average yield on ELMI+ was 9.17%, showing that EM currencies over the

[1] *US Real-time Quant Econ: Recession risk tracker little changed after mixed data*, J. Edgerton
https://www.jpmm.com/research/content/GPS-3089022-0

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period actually depreciated against the dollar, but by 2.5% less than implied by the interest rate differential (Uncovered Interest Parity, UIP). The difference between our GBI EM hedged and unhedged return, for the shorter sample since end 2002, at 2.8% produced a similar result, despite its different country composition. ELMI+ **since 1993 produced an excess return to risk of 0.36,** while the FX component of our EM local bond index **since 2002 gave us a Sharpe of 0.26**. Both are very close to the returns to risk earned on US equities, bonds and credit over the past 90 years and thus can be considered **normal**. EM FX performance looks to have been concentrated in the 2002-6 period, which corresponded to China's emergence, the commodity boom, and the impact of the EM reforms following the Asia financial crisis. For the decade prior to 2002 and the decade since 2008, EM FX returns have been flat.

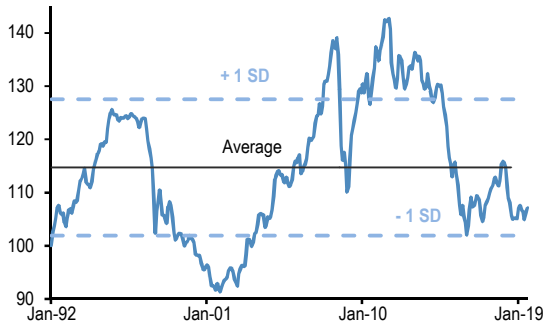
Implications for future long-term performance

EM FX has earned over the past 25 years what can be considered a normal return to risk. This risk premium was likely there to compensate investors for the extra risk of investing in EM instead of DM. **Can we count on this EM risk premium to still be there over the next decade?**

If all EMs have become "developed" by now, then this risk premium should have disappeared. Some EM countries have indeed emerged and have joined the DM bond and equity indices. And the overall region, especially Asia, has learned much from the 1990s crises and is now running more stability-oriented policies that should thus have reduced the required risk premium (see *1990s lessons helped EM avoid GFC crisis*, J. Chang et al., 10 Sep 2018). However, the persistence of higher interest rates in EM than in DM tells us that the world investor does not think that the overall EM block has fully emerged by now and continues to require an extra premium on EM currencies and local assets. Current EM countries may well emerge over time, but new frontier countries will likely continue to join the investable EM asset class and thus retain the case for an EM risk premium.

Is there attractive long-term Value in EM FX today?
With empirical observation telling us that the main part of carry on EM FX is higher EM inflation than DM, one should inspect whether EM FX offers good entry points today by looking at real, inflation-adjusted FX values. Figure 8 aims to do that by taking the average of 20 inflation-adjusted EM exchange rates against the US dollar. It shows slow but clean mean reversion in real EM FX, which is what we need to make a value judgement. Earlier last year, that average real EM exchange rate was close to its historic mean and thus did not offer an attractive entry point into a strategic long position. By now, with concerns about trade wars, softening growth expectations relative to the US and idiosyncratic shocks in EM, the average real EM FX rate has cheapened 5% against the dollar and is at end-July 7%, or a little more than half a sigma below its historic mean. Yes, from this long-term mean reversion point of view, **EM FX is cheap against the dollar** today and thus offers an **attractive re-entry point for long-term investors.**

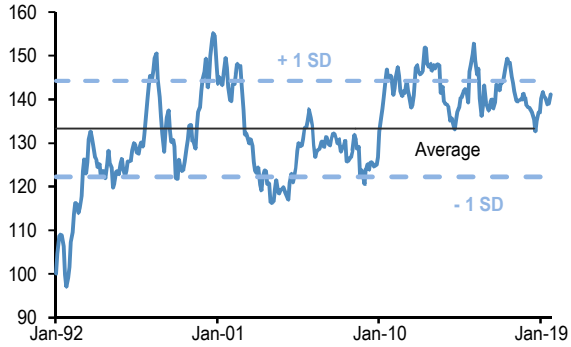
Figure 8: 20 country EM FX real spot index equally weighted versus USD
Monthly, deflated with relative PPIs



Source: J.P. Morgan. Last observation is Jul' 2019.

Figure 9 and 10 show the same real EM FX values against the **euro and yen**. Against the euro, EM FX is close to average valued. Against the yen, there has been no mean reversion of EM FX, because the yen itself has steadily fallen in real, inflation-adjusted terms against the dollar, making it hard to make any value argument for EM FX vs the yen.

Figure 9: EM FX Real Bilateral Index vs Euro



Source: J.P. Morgan. Last observation is Jul' 2019.

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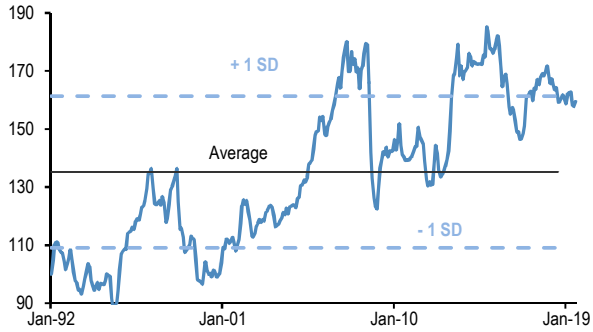
Figure 10: EM FX Real Bilateral Index vs Yen



Source: J.P. Morgan. Last observation is Jul' 2019.

Value is very much a question of how far one looks into the future. Real FX mean reversion takes some 5-10 years, and Figure 8 does not suggest real EM FX levels are necessarily stretched or approaching an imminent turning point. For investors looking at shorter time horizons we have developed other fair value tools in *Assessing EM FX Fair Value*, J. Cavenagh et al., 27 Jan. 2017. These standard REER models use variables such as productivity differentials, terms of trade, interest rate differentials, external balances and growth and also show that EM FX is currently cheap.

Does EM offer good diversification?

The case for higher returns on EM over DM in line with its higher economic growth thus very much depends on the asset class, with local FX and bonds giving more exposure to growth over the very long run and equities more over the short to medium run. But surely we should also look at whether exposure to EM economies through EM assets could provide risk diversification for portfolios that are largely allocated to DM. The impact on portfolio risk of adding EM assets to DM portfolios depends on how volatile EM returns are compared with DM and how correlated they are with DM. The lower EM vol is and the lower its correlation with DM, the more adding EM to DM portfolios will lower portfolio risk.

Table 1 shows the return volatility of the different EM and DM asset classes over the respective EM histories we have, as well as the correlation between the two. In the case of government bonds, we use the 1-10-year part on the DM side as otherwise the relative volatility will be driven by the much higher duration of DM. The table shows **that EM has had higher volatility than DM in each case**. In equities and credit, the correlations are relatively high, generally ~0.7. But they are lower in government bonds, at ~0.5, across the broad EM/DM divide, and much lower when we position EM bonds currency hedged against the US, Japanese, UK and Euro government bonds markets on their own.

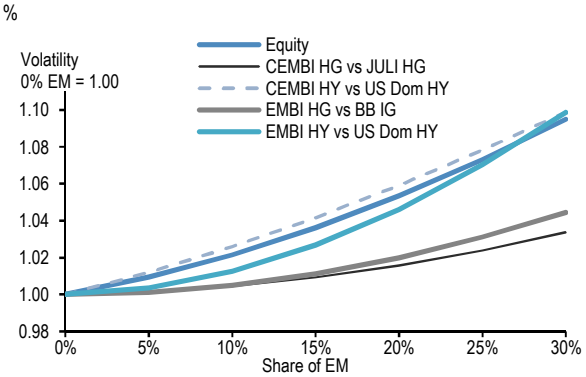
Table 1: Volatility and Correlation of the different asset classes

	EM Vol	DM Vol	Correlations	Since
Equity	22.80%	14.70%	0.74	Dec '87
GBI (1-10)Y vs EM Div Unhedged	11.72%	5.66%	0.54	Dec '02
GBI (1-10)Y Global vs GBI EM Div Hedged	4.27%	1.98%	0.42	Dec '02
CEMBI HG & JULI	6.68%	5.17%	0.77	Dec '01
CEMBI HG & US HY	12.38%	8.32%	0.80	Dec '01
EMBI HG & BB IG	7.43%	5.26%	0.71	Dec '93
EMBI HY & US Dom HY	13.81%	7.75%	0.57	Dec '93
GBI EM Hedged & (1-10)Y JGBs in Yen	4.28%	1.35%	0.11	Jan '03
GBI EM Hedged in Sterlg & (1-10)Y UK Gilts in Sterlg	4.40%	3.06%	0.38	Jan '03
GBI EM Hedged & (1-10)Y UST in USD	4.27%	3.00%	0.40	Jan '03
GBI EM Hedged & (1-10)Y EMU in Euro	4.14%	36.46%	0.36	Jan '03

Source: J.P. Morgan. Last obs is Jul' 2019.

Figure 11 and 12 show this differently by sequentially **adding EM to DM portfolios in 5% segments**. They assume equal EM and DM returns, and then measure how this changes portfolio volatility. Figure 11 shows that the high volatility of EM stocks and their relative high correlation with MSCI World means that any move into EM raises portfolio vol, although the impact is small. Adding 10% EM to a DM equity portfolio raises vol from 14.6% to 14.9%. In Credit, this is the case also for HY, though less so for HG where adding EM for 10-15% of the portfolio raises portfolio volatility only by 5bp to 5.27%.

Figure 11: Equity and Credit EM Diversification



Source: J.P. Morgan. Inception to 2018. The vertical axis rebases DM portfolio volatility to 1.00. A 1.02 volatility level for a 10% EM allocation means that portfolio vol rises to 1.02 times that of the 0% EM allocation, pure DM portfolio.

Figure 12 looks only at domestic government bonds. Adding the overall GBI-EM asset class to our DM government bonds index, both currency hedged and

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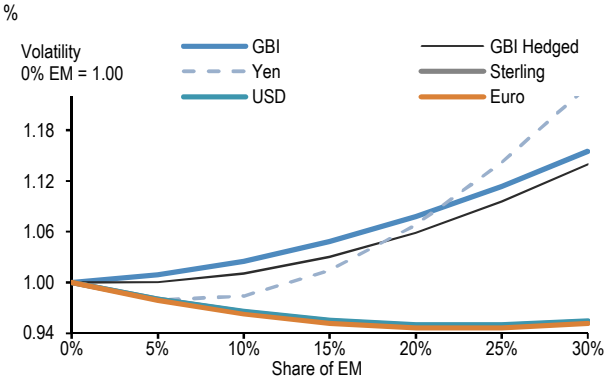
unhedged raises volatility, though only slightly when currency hedged. Most investors, however, hold only domestic bonds as they have nominal liabilities in their own currency. They would thus "launch" an EM venture from their own bond market. Figure 12 shows that adding EM bonds currency-hedged to US Treasuries, UK gilts or Japanese JGBs does significantly lower overall bond portfolio volatility, even at 20% allocations, largely due to the very low correlation with EM, shown in Table 1. In the case of JGBs, this reduced volatility reverses at over 15% EM allocation as the JGB market has so little volatility on its own.

Figure 12: GBI EM Diversification



Source: J.P. Morgan. Inception to 2018. The vertical axis rebases DM portfolio volatility to 1.00. A 1.02 volatility level for a 10% EM allocation means that portfolio vol rises to 1.02 times that of the 0% EM allocation, pure DM portfolio.
GBI: GBI Global (1-10)Y vs GBI-EM Global Diversified
GBI Hedged: GBI Global (1-10)Y Hedged vs GBI-EM Global Diversified Hedged
Yen: GBI EM Hedged in Yen vs GBI Japan (1-10)Y in Yen
Sterling: GBI EM Global Diversified Hedged in Sterling vs GBI UK (1-10)Y in Sterling
USD: GBI EM Global Diversified Hedged in USD vs GBI US (1-10)Y in USD
Euro: GBI EM Global Diversified Hedged in Euro vs EMU (1-10)Y in Euro

Conclusion

EM FX carry has offered and likely continues to offer a return to risk that is comparable with the main risk asset classes. Against the dollar, EM FX is cheap, but it is not against other currencies. EM FX is for return and yield, but costs you higher volatility. On their own, EM local bonds do not offer a risk premium versus DM as this is already captured by their currencies. EM local bonds do offer good relative value given the overvaluation of DM bonds caused by G4 QE buying. And currency-hedged EM local bonds offer good diversification against DM, especially for investors who hold at the moment only their domestic bond market.

Under "normal" (i.e., past) circumstances, DM fixed income investors should hold some **5% plus of EM cash**, or short duration instruments for yield, and another **10% plus EM local bonds currency hedged** for diversification and yield convergence. However, with zero to negative yields prevailing in the government bonds markets in Europe and Japan, and near zero for much of their credit markets, combined with the rising risk that the US is headed the same way, a strong case can be made that DM-based investors will need to hold higher allocations to EM local bonds, both hedged and unhedged, as the arrival of zero yields in the US would leave no alternative to investors who need to have yield. A 20-30% allocation to EM local bonds, split hedged-unhedged seems quite reasonable for the low yield world of the DMs.

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China's inclusion in the GBI

- **China will enter the J.P. Morgan GBI-EM Global Diversified Index starting February 28, 2020, over a 10-month period.**
- **Landmark market reforms have paved the way for China's increasing exposure in global fixed income benchmarks.**
- **We estimate the inclusion of China in the major fixed income benchmarks can generate approximately $250-300bn in flows.**

On September 4, 2019, J.P. Morgan announced that liquid CNY-denominated Chinese government bonds (CGBs) will be included in the flagship Government Bond Index-Emerging Markets Global Diversified (GBI-EM GD) starting February 28, 2020. China's estimated weight of 10% in the index will be staggered across a 10-month period. China's local currency (i.e., Renminbi) denominated bonds have traditionally been under-represented in major global bond indices relative to the size of the Chinese economy and the stock of RMB denominated debt outstanding. China is the world's second largest economy accounting for 19% of global GDP[41], and though its bond market is also amongst the largest, the country's bonds have been highly underrepresented in the most frequently used global bond indices. This was predominantly due to accessibility hurdles and policy restrictions that were in place until landmark market reforms were enacted in recent years, including the opening of the onshore interbank market (CIBM Direct) and offshore connectivity to mainland China's bond market from Hong Kong SAR (Bond Connect). **The enhanced accessibility and favorable policy measures have brought the RMB-denominated bond market in scope for eligibility in prominent global bond indices.** In April 2019, Bloomberg Barclays Global Aggregate Index started including Chinese RMB-denominated government and policy bank securities, phased in over a 20-month period. FTSE Russell continues to assess the inclusion of CGBs in the World Government Bond Index (WGBI) at the time of this publication.

Beginning February 28, 2020, liquid CGBs will be included in the flagship GBI-EM GD, and a suite of other EM and broad-based indices. China's inclusion will begin on February 28, 2020 to avoid the seasonal low liquidity period coinciding with Lunar New Year, and will be staggered over a 10-month period through a uniform monthly weight increase. The flagship J.P. Morgan GBI-EM GD index tracks local-currency government bonds from 19 investible emerging markets (currently excluding China and India). As the most widely followed benchmark in the EM local markets space, it is tracked by an estimated $202bn in assets. Given current liquidity conditions in the market, *only the latest on-the-run CGBs and the next two tranches of the most recent on-the-run CGBs will be initially included in the benchmarks*. Instruments will need to have a maturity date beyond April 28, 2023 (i.e., 2.5 years from the end of the staggering) to qualify for inclusion (Table 1). **Upon full inclusion, China's weight is expected to hit the 10% cap in the GBI-EM GD, which translates to an estimated $20bn foreign sponsorship of CGBs from index managers assuming they are benchmark neutral.**

Table 1: Current list of eligible CGBs for inclusion in GBI-EM Global Diversified, GBI-EM Global, and JADE Global Diversified

Sample eligible CGBs for GBI-EM GD based on August 2019 data

Instrument	ISIN	Face OS (CNY bn)	Face OS ($ bn)	Series
Upcoming 5yr (to be issued in Oct-2019)				
Upcoming 7yr (to be issued in Dec-2019)				
Upcoming 10yr (to be issued in Nov-2019)				
CGB 3.19% Apr 24	CND100025LF0	232	33	Current 5yr
CGB 3.25% Jun 26	CND100029RW4	142	20	Current 7yr
CGB 3.29% May 29	CND1000291L3	184	26	Current 10yr
CGB 3.29% Oct 23	CND10001Q6P2	173	24	Prev.5yr
CGB 3.22% Dec 25	CND10001SWR7	207	29	Prev.7yr
CGB 3.25% Nov 28	CND10001RRB3	183	26	Prev.10yr

Source: J.P. Morgan. Data as of August 30, 2019.

Additionally, J.P. Morgan bond indices have a 14-year track record of covering CGBs in the broadest GBI-EM Broad series since the benchmark was first launched in December 2005. The GBI-EM Broad benchmark tracks 21 different markets including China, which is the largest country with a market capitalization of $896bn across 57 instruments. In terms of index weight, China makes up 36% of the unconstrained GBI-EM Broad product, and 10% (which is the max possible weight) of the GBI-EM Broad Diversified index. Although the GBI-EM Broad series provides the broadest coverage in terms of countries and securities, only about $2bn in assets track this benchmark.

[41] Source: IMF World Economic Outlook, Gross domestic product based on purchasing-power-parity (PPP) share of world total.

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In J.P. Morgan's Asian regional benchmarks, JADE Broad and JADE Global, which track local-currency government bonds issued by Asian countries excluding Japan, China is currently capped at a 10% weight in JADE Broad and has no presence in the more selective JADE Global. The JADE index family has a robust following (est. $10bn in AUM benchmarked) among Asia-domiciled investors who have mandates for Asia bond markets. Starting February 28, 2020, China's weight cap will be raised to the 20% threshold in JADE Broad, with the additional 10% weight phased in over a 10-month period; similar to the GBI-EM GD, liquid CGBs would enter JADE Global with an estimated weight of 10%, and the inclusion would follow the same staggered schedule.

China will enter J.P. Morgan's global government bond indices as well. Global government bond indices, GBI-AGG and GBI-AGG Diversified, will see China being included on February 28, 2020 with an estimated weight of 0.78% and 2.58% respectively. The fixed income Global Aggregate Bond Index (GABI) will also include CGBs on February 28, 2020, with an estimated weight of 44bps. Due to the relatively small weight impact on these indices, China's inclusion will not be staggered and included in its entirety on February 28, 2020.

Within the larger investment grade fixed income index space, China is currently in the 20-month phase-in period of Bloomberg Barclays Global Aggregate Index inclusion, scheduled to be completed in October 2020. Assuming an AUM of $2trn benchmarked against the Bloomberg Barclays Global Aggregate index and managers are index-neutral, we estimate an international demand of $24bn for CGBs and China policy bank bonds by the end of the year, and a further $61bn allocation to these securities in 2020.

Following the inclusion of China in two out of three major global bond indices, FTSE Russell is also assessing the inclusion of China in their flagship investment grade World Government Bond Index (WGBI), with their scheduled announcement on September 26, 2019. Earlier this year, FTSE Russell had determined that the market accessibility of China was one notch below the requirement for inclusion in the WGBI.

2019 marks Year One for RMB-denominated bonds on the international stage as they entered their first global bond benchmark and are scheduled to enter another one after Lunar New Year in 2020. The benchmark inclusions come as a result of recent market reforms and improved accessibility for global investors; however, several trading and operational hurdles still persist even on the newly available access channels (CIBM Direct and Bond Connect). The process to appoint bond and FX trading counterparties and the registration process with Chinese market regulators were not seamless, and it required several months to get on-boarded to the platforms. The skew of liquidity among onshore China bonds is another concern for global investors, and we explore this topic in more details below.

We estimate the inclusion of China in the three major benchmarks (J.P. Morgan GBI-EM Global Diversified, Bloomberg Global AGG and FTSE WGBI) can generate approximately $250-300bn in flows. The combined assets under management for all three indices are estimated to be $4.5-5trn; China will hold a weight of approximately 6-7% in the Bloomberg Global AGG and FTSE WGBI indices. In the J.P. Morgan GBI-EM Global Diversified index, we estimate China's initial weight to be 10% as only liquid bonds will be included initially. China's larger weight in the GBI-EM GD is due to the index comprising of a smaller universe which tracks just local currency EM rates versus the FTSE WGBI, which is a broader based benchmark tracking DM and EM rates and the Global AGG, which tracks additional assets such as quasi sovereigns, securitized and corporates.

China is the third largest sovereign bond issuer in the world, but liquidity is not universal

China government bonds (CGBs) issued by the Ministry of Finance currently total approximately $2trn outstanding according to the latest PBoC statistics as of May 2019. The onshore market boasts an active yield curve through frequent bond auctions—CGBs with benchmark tenors 1y, 3y, 5y, 7y, and 10y have monthly auctions, while 2y, 30y and 50y CGB auctions are less frequent. New issuance, if too frequent, can be a double-edged sword as it aggravates the already severe liquidity issue faced by non-benchmark bonds. YTD CFETS trade volume data suggests that 61% of trading activities in the interbank CGB market was concentrated in bonds issued in the past year, the 'On-The-Run Proxy,' even though these newly issued instruments constituted only 23% of the market as of July month-end (Figure 1). In addition to diminishing market depth, off-the-run CGBs often trade at wider bid-ask spreads than their on-the-run counterparts.

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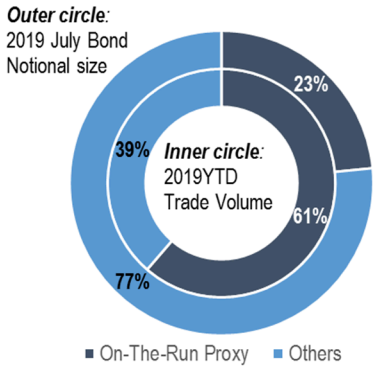
Figure 1: Newly issued ('On-The-Run Proxy') CGBs only constitute 23% of total CGB outstanding, but account for 61% of 2019 YTD trading volumes

2019 YTD CGB trade volumes and notional size in the interbank market



Source: J.P. Morgan, CFETS. Data as of 2019 July month-end.

Prior to 2019, new benchmark CGBs were issued once every three months, and non-benchmark bonds were issued two to three times a year. Given the frequent auction schedule, CGBs only remain on-the-run for a matter of months with ample market depth during the period, but liquidity starts to taper off once these bonds become off-the-run. This leads to a significant dispersion between on-the-run and off-the-run CGBs in terms of accessibility and cost of trading. Since the onset of 2019, the Ministry of Finance reduced the issuance frequency of new securities across all tenors (Table 2). This is a welcome change in the market since it increases the shelf-life and liquidity of the benchmark bonds. If the Ministry of Finance were to conduct re-opening auctions (i.e., taps) on existing bonds, instead of issuing new bonds at frequent intervals, it would further preserve the traction on benchmark tenors and enhance the overall liquidity of CGBs. Lastly, the large domestic Chinese investor base is often blamed for the lack of liquidity in the secondary market as local investors tend to buy government bonds with the purpose of holding them to maturity. Our J.P. Morgan EM strategist Luk noted that commercial banks tend to hold short- to medium-tenor CGBs (see *A Guide to China's Local Bond Market*, A. Luk et al, 30 May 2019). Collectively, they are the largest holder of government bonds, owning two-thirds of CGBs outstanding, the majority of which are classified as hold-to-maturity investments. Insurance companies are the primary buyers of longer-dated CGBs, and they typically have a buy-and-hold strategy as well. As a result, foreign ownership remains small (8%) in the China onshore bond market despite the recent growth.

Table 2: 2018-2019 Auction schedules of CGBs with latest "on-the-runs"

Tenor (year)	2018 Auction freq.	2019 Auction freq.	2019 Issuance Schedule	Bond Description
Benchmark Tenor				
1	3 month	4 month	Jan-19	CGB 2.31% Jan 20
			May-19	CGB 2.65% May 20
			Sep-19	-
3	3 month	5 month	Mar-19	CGB 2.69% Mar 22
			Aug-19	CGB 2.75% Aug 22
5	3 month	6 month	Apr-19	CGB 3.19% Apr 24
			Oct-19	-
7	3 month	6 month	Jun-19	CGB 3.25% Jun 26
			Dec-19	-
10	3 month	6 month	May-19	CGB 3.29% May 29
			Nov-19	-
Non-Benchmark Tenor				
			Feb-19	CGB 2.44% Feb 21
2	3 per year	3 per year	Jul-19	CGB 2.71% Jul 21
			Nov-19	-
30	3 per year	1 per year	Jul-19	CGB 3.86% Jul 49
50	2 per year	1 per year	Jun-19	CGB 4% Jun 69

Source: J.P. Morgan, Ministry of Finance.

Investors may utilize policy bank bonds for liquidity and alpha opportunities

China policy bank bonds hold the credit worthiness of the sovereign in the eyes of the investor base and provide better off-the-run liquidity, but present dispersion among issuers. Currently, there are three major policy banks in China, namely China Development Bank (ticker: SDBC), the Agricultural Development Bank of China (ticker: ADBCH), and the Export-Import Bank of China (ticker: EXIMCH). As it stands today, China policy bank bonds total RMB15trn (approximately $2.1trn) outstanding, and their liquidity is better than CGBs (Figure 2). Similar to CGBs, policy bank bonds' liquidity starts to taper off as they become off-the-run but not to the same extent. Policy bank bonds and CGBs issued in 2018 (off-the-run) were of roughly the same sizes as of July month-end (CNY2.9trn vs. CNY2.8trn); however, CFETS trade volume data has shown that policy bank bonds were traded 3.5 times more than CGB YTD.

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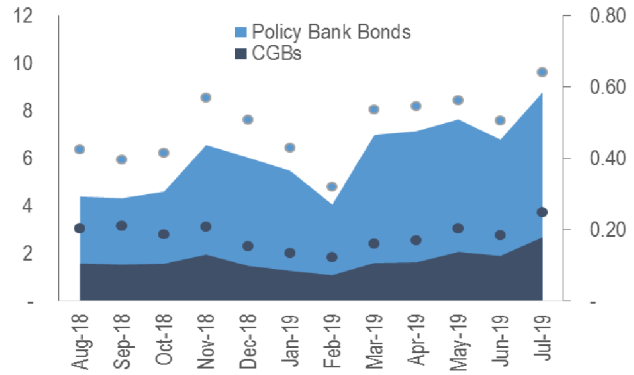
Figure 2: China policy bank bonds have better liquidity than CGBs

CFETS trade volume, in CNY trillions, (LHS) and monthly turnover ratio (RHS)

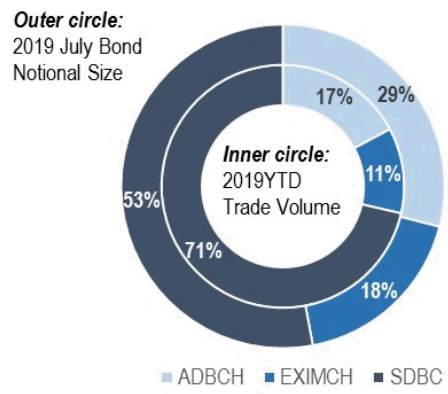


Source: J.P. Morgan, CFETS, Bloomberg

Among the policy banks, China Development Bank has the largest amount of bonds outstanding, accounting for more than half the size of policy bank bonds on the interbank market. Furthermore, China Development Bank bonds constituted an even larger portion of trading activities over the past year (Figure 3). Although there is no explicit government guarantee for policy bank securities, there is implicit government support, making these instruments attractive to CGB benchmarked investors. Policy banks are not eligible for the J.P. Morgan GBI-EM Global Diversified or the FTSE WGBI as these indices only include government bonds. Policy banks are eligible for the Bloomberg Global AGG benchmark.

Figure 3: Comparison across the three policy bank bonds

2019 YTD Policy Bank trade volumes and notional size in the interbank market



Source: J.P. Morgan, CFETS, Bloomberg. Data as of 2019 July month-end.

The fundamental differences between CIBM and Bond Connect: two main channels to access China local bonds

China Interbank Market Direct (CIBM Direct) (2016) and Bond Connect (2017) are the preferred channels by which international investors access China's domestic fixed income market. Both channels were introduced to liberalize China's domestic bond market, and since their inception, both channels have evolved to enhance access to China's onshore bond market and improve market efficiency.

CIBM Direct is an investment channel that allows foreign investors to access the China onshore bond market through a "Type A" approved custody and settlement bank that resides onshore. The channel was first piloted with sovereign investors in 2015 and was later extended to other types of investors in February 2016. With the pilot program, sovereign wealth funds and pension funds were given a head start, and it continues to be the preferred investment channel for this type of investor in accessing the onshore bond market. At its inception, CIBM Direct offered several improvements compared to older channels like QFII and RQFII and included: 1) **Registration process**: through CIBM Direct, investors only need to pre-file with the PBoC and no longer need to acquire approval before trading; 2) **Investment quotas**: investors on CIBM Direct are not subject to investment quotas or the need to state the intended investment amount; and 3) **Accessible instruments**: in addition to non-listed cash bonds, CIBM Direct investors can access a wide range of hedging tools (e.g., onshore interest rate derivatives are available to all CIBM investors, and repo transactions are open to select types of CIBM investors).

Commenced in July 2017 in a pilot form, Bond Connect is the latest innovation in China's domestic bond market liberalization process. The platform allows overseas investors access to the onshore fixed income market through Hong Kong SAR without having to open an onshore account. The platform has been popular among all types of international investors, in addition to large institutional investors who tend to access the market through both channels. Since its inception, ongoing developments aimed at bringing the Chinese bond market to international standards have been implemented on Bond Connect. In the summer of 2018, provisions for block orders on Bond Connect was introduced in July, followed by delivery-versus-payment settlement in August, which reduces counterparty risks for investors, as well as clarification of tax treatments. Bond Connect shares some common features with CIBM Direct, such as no investment quotas and a fast registration process, but it also differs in many aspects, including accessible instruments (e.g., onshore interest rate derivatives and repo transactions are not currently available through Bond Connect), trading and settlement processes, and remittance restrictions, etc. For a detailed comparison between the two platforms see Table 4.

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Table 3: Index inclusion rules comparison

	J.P. Morgan GBI-EM Global Div.	Bloomberg/Barclays Global AGG	FTSE WGBI
EM or DM	EM only	EM or DM	EM or DM
Min. Rating (inclusion)	N/A	IG (middle rating of Moody's, Fitch and S&P).	A3 / A- (S&P & Moody's)
Min. Rating (exclusion)	N/A	Two of three agencies need to have a local ccy rating below IG	Both S&P & Moody's need to have a local ccy rating below IG
Min. Size	USD 1 billion at the instrument level USD 500 million for globally settled (local ccy linked) bonds	Minimum issue sizes for each local currency instrument. For example: USD 300 million (excl. ABS) GBP 200 million JPY 35 billion CNY 5 billion	Total of eligible issues must be USD 50 billion, EUR 40 billion AND JPY 5 trillion. *Additional instrument level criteria applies (e.g., MXN 10 billion, ZAR 10 billion, MYR 4 billion)*
Min. Maturity	2.5 years for inclusion Below 13 months is excluded	At least one year remaining maturity	At least one year remaining maturity
Instrument type	Sovereign	Sovereign, Quasi and Corp	Sovereign
Liquidity criteria	Regular two-way pricing, objective factors incl. bid/offer spreads, exchange trade volumes, investor surveys, turnover	Regular two-way pricing, objective factors incl. bid/offer spreads	Regular two-way pricing, objective factors incl. bid/offer spreads, exchange trade volumes, investor surveys, turnover
Regulatory	No capital controls, investment restrictions or quotas	No capital controls, investment restrictions or quotas	No capital controls, quotas Sustainable issuance Transparent monetary policy
Taxes	Taxes acceptable provided does not impair index replicability; similar to index peer group	Clarity on tax regime	No taxes
Settlement	Global clearing preferred or equivalent seamless domestic option; Suitable settlement cycle for foreign investors	Global clearing (e.g., Euroclear) preferred or equivalent seamless domestic option; DVP, suitable settlement cycle for foreign investors	Global clearing (e.g., Euroclear) preferred or equivalent seamless domestic option; DVP, suitable settlement cycle for foreign investors
Custody	Connectivity with Global custodian preferred or alternative local equivalent with seamless access	Connectivity with Global custodian preferred or alternative local equivalent with seamless access	Connectivity with Global custodian preferred or alternative local equivalent with seamless access
FX	Tradable, no convertibility issues	Freely tradable and convertible, and not exposed to exchange controls; Established fwd. or NDF market	Freely convertible spot and forward Established fwd. market or NDFs
Fixed Income Derivatives	Availability is considered but not a precondition for inclusion	Presence of sufficient interest rate derivative products will be considered	Sufficiently developed and liquid fixed income derivative markets
Barriers-to-Entry	No accessibility hurdles such as capital or exchange controls, or other policies impairing ability of investors to replicate index performance	No accessibility hurdles such as capital or exchange controls	Market should actively encourage foreign investor participation

Source: J.P. Morgan, Bloomberg, FTSE

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Table 4: Comparison of CIBM Direct and Bond Connect

	CIBM Direct	Bond Connect
Inception Year	2016	2017
Investment Quota	No	No
Regulated By	PBoC, SAFE	PBoC, SAFE, and HKMA
Registration and application process	Filing with PBoC with assistance of the Bond Settlement Agent	Filing with PBoC through Bond Connect application and China Foreign Exchange Trading System (CFETS)
Accessible Products	• Unlisted cash bonds (open to all investors) • Onshore interest rate derivatives (open to all investors) • Onshore repo transactions (open to select investors)	• Unlisted cash bonds
Trading	• Execute with onshore approved market maker/CIBM dealer • Execution by voice • Trade input on CFETS via the Bond Settlement Agent	• Executed with approved Bond Connect market makers • Electronic execution via recognized platform (e.g. TradeWeb)
Trading Hours	• 09:00- 12:00 China local time • 13:30 - 16:30 China local time	• 09:00- 12:00 Hong Kong SAR time • 13:30 - 16:30 Hong Kong SAR time
Account location	China (onshore)	Hong Kong SAR (offshore)
Settlement Method	Delivery- versus- payment ("DVP")	Delivery- versus- payment ("DVP")
Foreign Exchange Management	• Both CNH/CNY and foreign currency funding allowed • Investors can convert foreign currency to CNY in the onshore FX market via their Bond Settlement Agent	• Both CNH/CNY and foreign currency funding allowed • Investors can convert foreign currency to CNY in Hong Kong SAR via trade settlement banks
Remittance Restrictions	Restriction on the remittance ratio of CNY to foreign currency amount: a 10% deviation is allowed	Proceeds from foreign currency funded trades must convert back into the same currency at the prevailing rate

Source: J.P. Morgan

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China's twin inclusion: Gaining importance in global portfolios

- **Index inclusion of Chinese onshore equities and bonds began last year and is intensifying this year and next.**
- **Index inclusion is the first step on a roadmap that will eventually make Chinese onshore equities an important component of global equity portfolios and onshore bonds an important component of global fixed income portfolios.**
- **Overseas investors currently hold a modest amount of ~$510bn of onshore Chinese equities and bonds.**
- **This is more than double the amount they held a couple of years ago but still represents a big mismatch relative to the 12% and 19% shares of Chinese onshore equities and bonds in global equity and bond universes.**
- **This shows how under-owned investors are currently in terms of onshore Chinese assets and how much they would need to buy over the coming years as Chinese onshore assets become important components of global portfolios.**
- **A key requirement for this scenario to play out over the coming years is currency convertibility.**
- **This is where the challenge lies with Chinese policy makers as currency volatility and uncertainty about China's currency regime have taken their toll over the previous years.**
- **Standard Chartered's Renminbi Globalization Index (RGI index) declined between 2015 and 2017. It rose modestly in 2018 helped by Chinese reforms to open their onshore equity and bond markets to international investors and by index providers announcing the inclusion of onshore Chinese equities and bonds to their indices.**
- **The appetite of FX reserve managers for Renminbi assets increased last year, especially in Q2 2018 as indicated by the IMF's COFER data.**
- **The involvement of central banks is important as they add legitimacy to the renminbi market even as onshore renminbi is not yet fully convertible.**

The process of including **Chinese A-shares** in major equity indices began last June with MSCI. A-shares were included in the MSCI China and related composite indices, such as MSCI Emerging Markets, with a 5% inclusion factor. 2.5% was added last June and a further 2.5% was added last September, bringing the total number of companies up to 235. After this inclusion Chinese A-shares took a 0.7% weight in the MSCI Emerging Markets Index and attracted approximately $2bn of passive inflows based on calculations by our index team.

Subsequently, MSCI announced plans to increase the respective **free float-adjusted market cap** inclusion factor of A-shares from 5% to 20%, with the August 2019 quarterly index review increasing inclusion from 10% to 15% before rising to 20% in the November 2019 review. That would raise the weight of Chinese A-shares to 2.8% in the MSCI Emerging Markets Index, and our colleagues in equity strategy estimate that this would attract an additional $10bn of passive inflows in total (*MSCI impact to China A-share*, Zhang et al, 4 June 2019).

Following MSCI, **FTSE** is increasing the share of A-shares in its indices by 10%-pt in September 2019 to 15%, and another 10%-pt to 25% in March 2020. Upon completion of the first phase, China A Shares are expected to constitute 5.6% of the total FTSE Emerging Index, attracting initial net passive inflows of $10bn.

While the above inflows from purely passive investors appear small, we believe this greatly underestimates the bigger impetus that could potentially arise from active managers or other non-benchmarked institutional investors, who are much bigger in size than purely passive investors and have little or no exposure to onshore Chinese equities. This is especially true as the above moves represent only initial steps to a roadmap that should eventually see the share of China rising significantly in equity indices.

According to the equity index providers' roadmaps, **China's total share in EM equity indices is expected to rise from around 30% currently to above 50% under full inclusion** of Chinese shares at their free float adjusted weight. This full inclusion assumes no foreign ownership limits, abolishment of the quota system, full liberalization of capital mobility restrictions, and alignment of international accessibility standards. In this case, the **equivalent total share of China in world indices would be close to 5.5%.**

These calculations suggest that as capital liberalization continues and the above roadmap progresses, the Chinese

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equity market would dominate Emerging Market equity indices over the coming years, and this process could be self-reinforcing, as an initial inclusion would generate impetus for further capital liberalization in the medium term which would see a faster progression along the above roadmap. In addition, as the participation by foreign institutional investors rises at the expense of domestic retail investors, who currently account for more than 80% of trading volumes, the onshore Chinese equity market would become more diverse in terms of its investor base and thus more stable, inducing further foreign investor participation.

However, the impact of capital liberalization is not only confined to equities. **Chinese onshore bonds** are approaching inclusion into the flagship J.P. Morgan GBI-EM GD index starting February 28, 2020. Our colleagues in EM bond index research estimate that if Chinese government-related bonds were to enter into the three leading global bond indices, this could generate approximately $250-300bn in flows (see G. Kim et al. above).

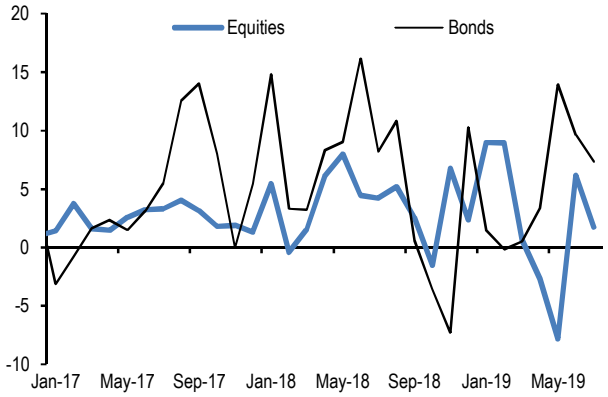
Similar to equities, we believe this flow underestimates the bigger impetus that could potentially arise from other non-benchmarked institutional investors who have little overall exposure to onshore Chinese bond markets and are seeing the beginning of a process that will eventually make Chinese onshore bonds an important component of fixed income portfolios.

An early sign that the inclusion of Chinese A-shares and Chinese government-related bonds into major benchmarks are manifesting themselves into reallocation flows is evident in the data on foreign investor holdings of Chinese equities and bonds in PBOC and CCDC data. Figure 1 depicts monthly changes in foreign investor holdings of Chinese bonds adjusted for bond returns and monthly net inflows via the Northbound Hong Kong Connect program and shows an increase in inflows in 2018, particularly in bonds.

The foreign ownership of Chinese onshore assets is still so low that international investors will likely come under heavier pressure to add as the index inclusion process advances. According to PBoC, as of March 2019, external institutions' holdings of Chinese bonds stood at RMB1.8trn, or 2.0% of the RMB92trn stock of onshore bonds including government, policy bank and corporate bonds. The equivalent share for equities was 3.2%, i.e., overseas investors held RMB1.7trn of Chinese stocks as of March 2019 versus a stock of RMB52trn of onshore equities (unadjusted for free float). Overseas investors thus currently hold a modest amount of only $510bn of onshore Chinese equities and bonds. This is $80bn more than in October 2018, and more than double the amount they held around 3 years ago ($200bn as of May 2016), but still represents a big mismatch relative to the share of Chinese onshore equities and bonds in global equity and bond universes, which rise to as high as 12% and 19%, respectively, on a free float unadjusted basis (Figure 2). This shows how **under-owned** investors are currently in terms of onshore Chinese assets and how much they would need to buy over the coming years as Chinese onshore assets become more important components of global portfolios.

Figure 1: Foreign investors' net buying of Chinese onshore bonds and equities

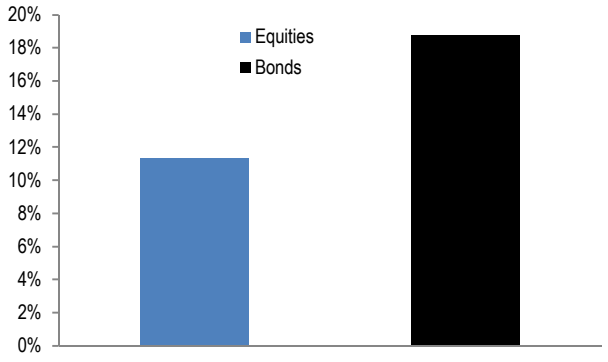
$bn per month, for bonds, flow adjusted for market value changes using the JPM GBI-EM China bond index. For equities, the cumulative sum of daily net Northbound flow on the Shanghai and Shenzhen - Hong Kong Connect program. Data up to end-July 2019



Source: Chinabond, SHCH, HKEX, J.P. Morgan.

Figure 2: Current share of onshore Chinese equities and bonds in the world

Share as % of the total universe of equities and bonds in the world with no free float adjustment.



Source: J.P. Morgan.

A key requirement for this scenario to play out over the coming years is **currency convertibility**, and this is where the challenge lies with Chinese policy makers. In

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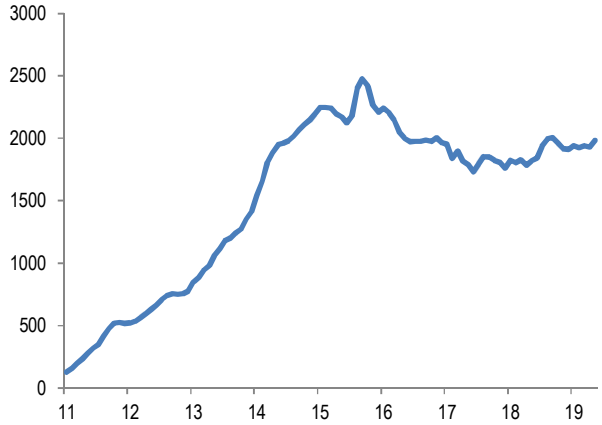
previous years, up until 2014, the yuan rose exponentially in cross-border trade settlements as a result of financial liberalization and the opening up of the capital account. The Renminbi had overtaken almost 30 currencies and in August 2015 had reached a record 4th place in SWIFT rankings in terms of the most used currencies for payments by value. But this process has stalled since August 2015. Since then, currency volatility and uncertainty about China's currency regime has taken their toll with the Renminbi falling to sixth place by April 2016.

Standard Chartered's Renminbi Globalization Index (RGI index) is sending a similar message. The index aims to measure overall growth in offshore Renminbi usage. The RGI is computed on a monthly basis, based on four CNH market components with weights inversely proportional to their variance: 1) CNH deposits, 2) trade settlement and other international payments, 3) Dim Sum bonds and certificates of deposit (CDs) issued, and (4) FX turnover, all from an offshore perspective and denominated in Renminbi. The index had risen sharply up until the end of 2014, but fell over 2015-2017. It rose modestly in 2018-19 helped by Chinese reforms to open their onshore equity and bond markets to international investors and by index providers announcing the inclusion of onshore Chinese equities and bonds to their indices (Figure 3).

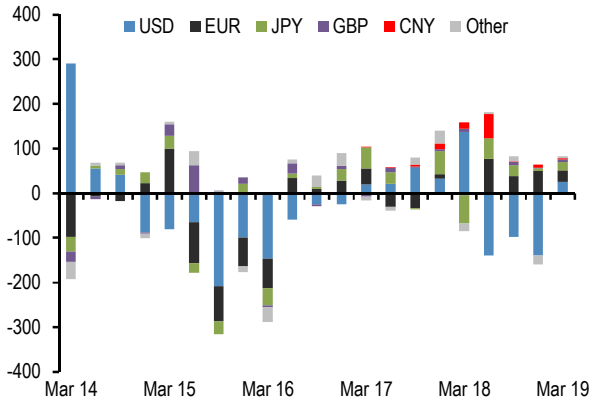
The rising status of the Chinese Renminbi in international payments systems up until 2014 had also attracted foreign central banks who were finding the combination of low volatility and an appreciating trend for Renminbi difficult to beat by other currencies or assets. Numerous central banks had announced the inclusion of the renminbi in their foreign currency reserves. However, the previous combination of low volatility and an appreciating trend was no longer in place from August 2015, reducing the relative attractiveness of the Chinese Renminbi. But with central banks still hungry to diversify away from major currencies and with the IMF recognizing the Chinese Renminbi as a reserve currency, the appetite of FX reserve managers for Renminbi assets increased last year, especially in Q2 2018 as indicated by IMF's COFER data shown in Figure 4. While this demand has since slowed, the involvement of central banks is important as they add legitimacy to the Renminbi market even as the onshore renminbi is not yet fully convertible. **China targets to achieve full Renminbi convertibility over the next few years**. Such commitment to achieve full currency convertibility is an essential component for the above roadmap of index inclusion for onshore assets to progress swiftly.

Figure 3: Standard Chartered Renminbi Globalization Index
The index aims to measure overall growth in offshore Renminbi usage. The RGI is computed on a monthly basis, based on four CNH market components with weights inversely proportional to their variance - (1) CNH deposits, (2) trade settlement and other international payments, (3) Dim Sum bonds and certificates of deposit (CDs) issued, and (4) FX turnover, all from an offshore perspective and denominated in Renminbi. Location-specific data for each component is used to compute a corresponding global aggregate. More centers are added to the index as they become more significant.



Source: Standard Chartered.

Figure 4: Quarterly flows by FX Reserve Managers
In $bn per quarter. Based on COFER data* adjusted for both bond and FX returns. Last obs is for Q1 2019.



* CNY allocations reported separately from 4Q16.
Source: IMF COFER, J.P. Morgan calculations.

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Global Emerging Markets Research
J.P. Morgan Perspectives
12 September 2019

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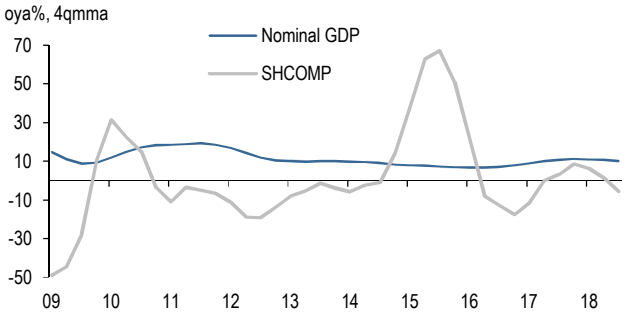
China equity markets: Rising to international standards

- **China's equity market has diverged from its macro fundamentals.**
- **The underperformance of the equity market is attributable to a number of factors, e.g. regulatory problems, dominant SOE sectors that are not profit-oriented, a relatively closed capital account, and the investor base.**
- **Regulatory reform, institutionalization, and openness are key to equity market development.**
- **Financial market openness and reform has picked up pace in 2019.**

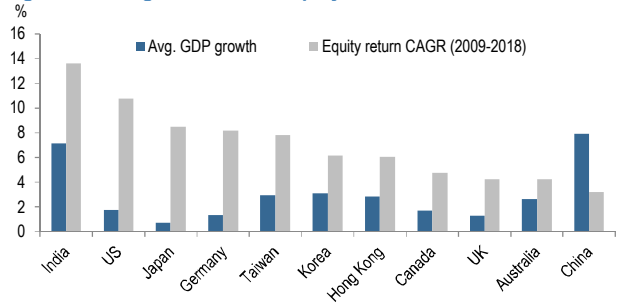
China's equity market performance has diverged from its macro fundamentals. Despite robust economic activity, China's stock market has significantly underperformed global peers since the recovery from the GFC and is the only country amongst major markets where equity performance has lagged economic growth. SHCOMP has only returned 3.2% CAGR over the past 10 years, compared to over 10% for the SP500. When compared to emerging markets such as India, China's stock market performance looks even worse. India has grown over 6% per annum over the past decade, and its NIFTY index has generated an annual return of 13.6% over the same period.

Figure 1: China GDP growth and SHCOMP index



Source: CEIC, J.P. Morgan

Figure 2: GDP growth versus Equity return



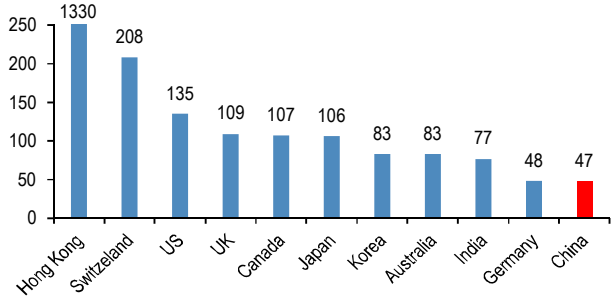
Source: Bloomberg, J.P. Morgan

The China equities underperformance can be attributed to a broad range of macro and micro factors, ranging from heavy government regulation, dominant SOE sectors that are not profit-oriented, a relatively closed capital account, as well as the investor base. These issues are in part a reflection of China's equity market being relatively young and immature. As China continues to open up its financial markets, some of these issues will be addressed. Indeed, financial market reforms appear to be gathering pace and are at the forefront of China's push to open up domestic markets.

Still relatively young and small

While the Shanghai Stock Exchange (SSE) history extends back to the 1860s, it is important to note that the exchange was shut down for roughly 50 years following the communist revolution. In its current form, the SSE and Shenzhen stock exchange (SZSE) have only been in operation for 28 years (since 1990). In terms of size, the China equity market remains relatively small, at only 47% of GDP. That compares to over 100% of GDP for most developed economies. As such, the stock market still has many caveats, e.g., overly strict regulation on the IPO side but insufficient supervision on listed companies, the use of the equity market for fund-raising rather than for long-term investment, and the lack of long-term investors, etc. Hence, the link between China's economic and equity performance tends to be weak.

Figure 3: Stock market cap as % of GDP (2018)



Source: Bloomberg, IMF

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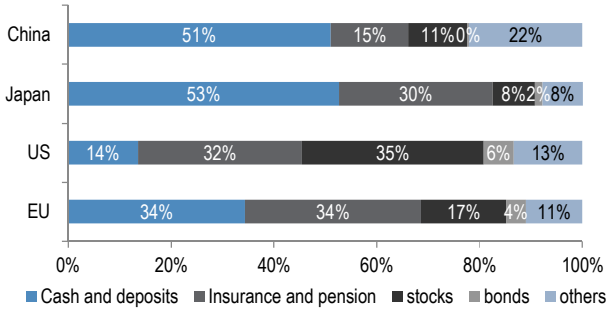
Chinese household allocations to stocks are also low compared to other countries. For this generation of Chinese households, stock trading and public company investment is a relatively new concept. China households are underinvested in equities due the traditional concept of holding cash and property for security and retirement, as well as a lack of investment channels and capital controls. According to the Survey and Research Center for China Household Finance, housing represents close to 70% of household assets in China, while financial assets only accounted for 12% of household assets. Within financial assets, cash and equivalents accounted for 51% and equity only accounted for 11%. As such wealth effects from equity returns have a limited impact on consumption in China, weakening the feedback loop between equity markets and the economy.

Figure 4: China household financial assets allocation



Source: China household financial asset allocation risk report - 2016>, SWUFE

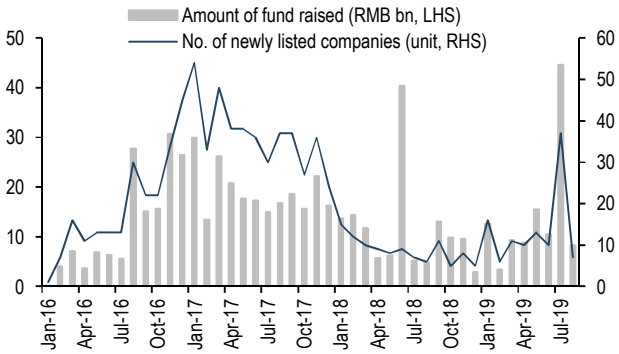
While household investment in the stock market is still small, the China equity market is highly driven by retail investors, and the participation rate of institutional investors remains low. According to Shanghai Stock Exchange, domestic individuals contribute to over 80% of the trading volume, whereas institutional investors are just account for c.15%. The market is therefore highly speculative and volatile due to the dominance of the less fundamentally driven retail investors. This prevents some of the risk-averse and foreign intuitional investors, which are more fundamental driven, from entering into the onshore stock market.

Regulatory reform still in progress

The highly-regulated primary fund-raising mechanism is one of major overhangs for the development of the China equity market. China runs an approval-based system for IPOs, for which companies need to obtain CSRC approval before listing on the Shanghai/Shenzhen Exchange. To be fair, other equity markets also had high regulatory processes early on in their development stage. The British government enacted the Bubble Act in 1720, requiring a similar IPO approval process, which was in place for over a century before it was repealed in 1825.

One issue of this approval system is that it has led to China equities being skewed towards SOEs (accounting for roughly two thirds of A-share market cap), which are less profit-oriented than private enterprises (more details below). Secondly, the pace of IPO approval varies in different years, and CSRC tends to slow the pace when market sentiment is weak. Historically, A-share IPOs were suspended in ten periods since 1994, mainly during the global and domestic market downturns. The regulator has pledged to speed up the approval progress and gradually transition to a registration-based IPO system. In November 2018, a science and technology innovation board (officially named STAR Market) was announced at the SSE to experiment with a registration-based system for IPOs. On 22 July 2019, the STAR Markets was officially launched with 25 listed companies, which was met with generally positive response and trading volume from market participants. The STAR board launch provided a boost to the slow IPO environment since 2018 (Figure 5).

Figure 5: A shares IPO funds raised and number of newly listed companies



Source: CEIC, CSRC. Foxconn Industrial Internet debuted on 7 June 2018, raised RMB27bn. 25 companies of STAR Market debuted on 22 July 2019, raised RMB37bn.

Historically, the approval-based IPO system leads to artificially high IPO prices in China, which limits the secondary market performance in the equity market. With regulators aware of this issue, an implicit cap on the P/E ratio was put on IPOs beginning in mid-2014. Since then, IPO valuations have become more in line with markets such as Hong Kong SAR (Figure 6).

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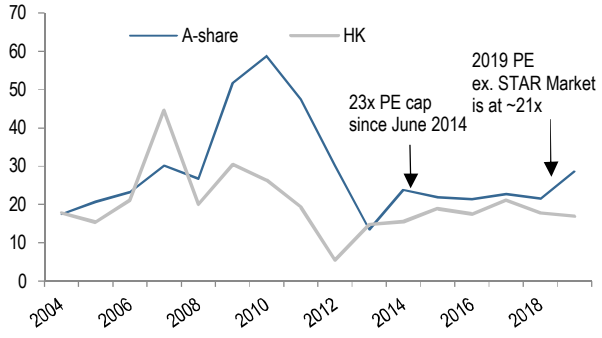
Figure 6: IPO P/E comparison (annual average of listed stocks)



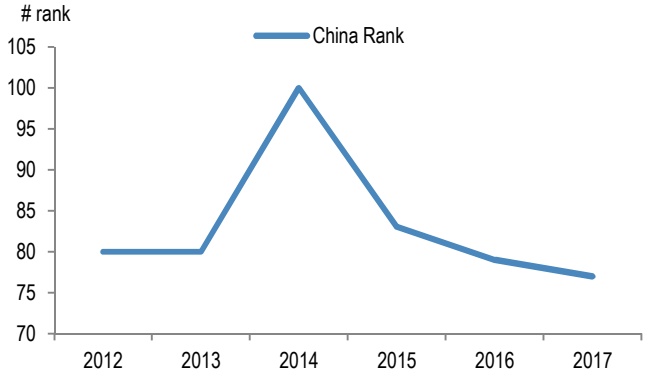
Source: Wind, J.P. Morgan; Note: Excludes HK IPO with PE>200x or <-200x

Another problem in the regulatory framework is that tight control in the IPO process but lax supervision on listed companies and the absence of a de-listing system. As a consequence, the equity market has faced the problems of inadequate corporate governance, unreliable financial data, and insufficient penalties for company misconduct. The regulator has been aware of these problems, and recent regulatory reform has focused on the reform of the IPO system (to a registration-based system), strengthening supervision of listed companies, and developing a de-listing system. These reforms have been broadly implemented in the STAR board launch.

Corporate governance and transparency

The divergence between equity market and macro performance also reflects confidence issues in terms of corporate governance and transparency. Looking at the global Corruptions Perceptions Index, China ranked 77th globally, modestly improving (excluding the 2014 outlier) since President Xi took office and enforced an anti-corruption campaign (Figure 7). While the index is a measure of public sector corruption, it creates additional uncertainties and risks even amongst private enterprises that are unmeasurable by fundamentals. Anti-corruption is positive to address this problem in the long run, but in the near term could be negative news. In general, the announcement of a high-profile corruption investigation not only affects the company being investigated, but also related sectors and companies with similar profile.

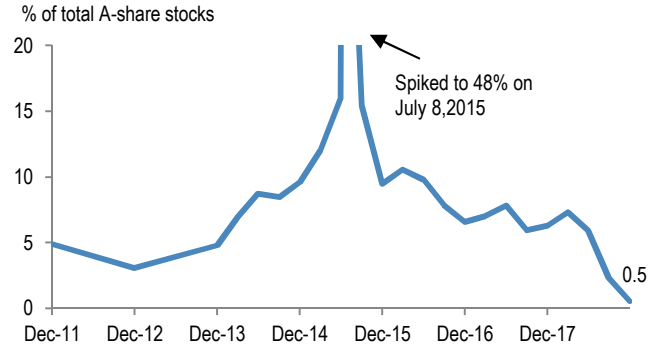
Figure 7: China's corruption perception ranking



Source: Transparency International, J.P. Morgan

Another somewhat unique feature of the Chinese equity markets, related to corporate governance, has been concerns over the relative ease of stock trading suspensions in the A-share market. During 2015 stock market crash, an astounding 1,346 stocks (out of the 2,808 A-share universe) were suspended from trading (Figure 8), limiting investor ability to mitigate the downturn. The issue is a significant risk for foreign investors, and was a key issue in A-share inclusion in indices such as MSCI. Strengthening regulation on disclosure and suspension has been a primary condition for further expansion of A-share inclusion in various indices, and progress has been made over the past year. In November 2018, CSRC announced new draft regulations to limit random suspensions, shorten the suspension periods, and increased disclosure requirements. In addition, share buyback rules were announced in September 2018, broadening the circumstances under which share buybacks are allowed, giving companies an alternative to share suspensions in managing equity market downturns.

Figure 8: % of trading suspension stocks in A-share



Source: Wind, J.P. Morgan

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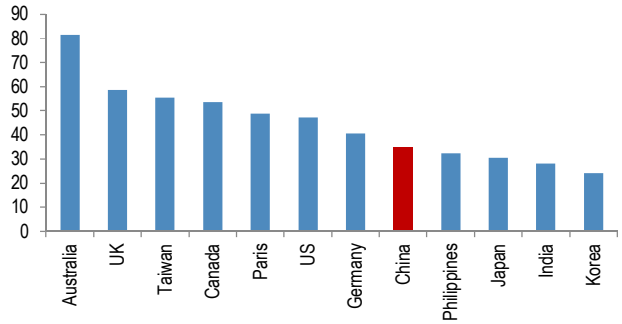
Institutionalization and openness key to further development

Looking ahead, apart from the issues mentioned above, structural reforms are still needed to elevate China's equity market efficiency in line with global peers. Indeed, financial market openness and increasing foreign participation in China's domestic market can accelerate the development process. The ongoing financial reform also reiterated that a healthy market for direct financing (including equity and bond markets) is a priority area to change the landscape of China's financial sector in the long run.

Increasing long-term investors, and reducing market speculation: Introducing long-term capital to China's domestic markets will reduce volatility and act as a market stabilizer. One way to increase the attractiveness of China's stock market to long-term investors, such as insurance companies and pension funds, are by increasing dividend payout ratios. China authorities have been encouraging listed firms to increase their cash dividend payout over the past years. According to CSRC, 70% of total number of listed companies declared a cash dividend in 2017, with a total amount of CNY 980 billion being paid. The overall dividend payout ratio for CSI300 was 33%, up from 28% in 2008. That said, the payout ratio for A shares is still low compared to some of the major stock markets (Figure 9). While international investors are generally investing in emerging markets for growth rather than dividends, the improving dividend payout is one of the key parameters that reflect the financial health and quality of the companies.

Figure 9: Dividend payout ratio (%)

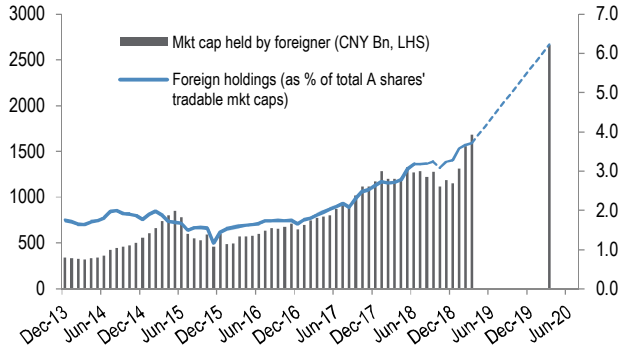


Source: Bloomberg

Increasing foreign/institutional participations: China A shares are playing a more important role in the global capital market amid the gradual opening of the financial industry. While the foreign investor participation rate is still low, for which foreign holdings as % of total A shares' tradable market cap was just c.3.7% as of March 2019 (Figure 10), we expect further de-regulation of the equity market and increasing product variety will attract more foreign investment in the long run.

Given the broader and better access to the A share market, major global indices have started to include A shares into their benchmark indices. In particular, MSCI China A-share inclusion has been carried out in phases since May 2018. The current 15% inclusion factor will be increased to 20% by the end of November (bringing the weight of A-shares in MSCI China to 12% from 8%). Meanwhile, FTSE has started adding A-shares to their Global Equity Index Series in June 2019 with a 5% inclusion factor, and will be increased to 25% in March 2020. Our derivative team forecasts a total passive fund inflows of $25.4bn during the whole inclusion process, and $153bn if including active flows.

Figure 10: Foreign holdings as % of total A shares' tradable market cap



Source: Shanghai Stock Exchange

Accelerating financial market openness: Related to increasing foreign and institutional participation in the A-share market is the acceleration of financial market openness. Opening up of the banking, broker, asset management and insurance industries to foreign companies will help establish institutional knowledge in China's financial markets (see *China announced opening policies for financial sector*, H. Zhu et al., 11 April 2018).

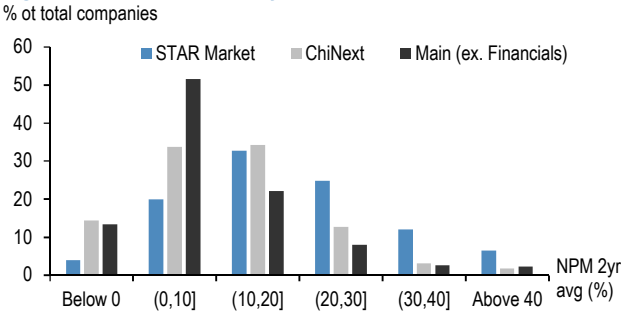
Recent developments in 2019

Since 2019, China authorities have taken some important steps on financial market opening and reform. Major announcements include (1) the STAR Market debut on July 22; (2) the Shanghai-London Connect launched in June; (3) 11 measures to further open up local financial market (see *Further measures in financial openness.* H. Zhu et al., 21 July 2019); (4) Discussions on relaxing

restrictions on foreign investor access to domestic futures markets have picked up pace, according to Bloomberg.

The Science and Technology Innovation Board (officially named STAR Market) has been well recognized as a critical step of finance market reform towards the market-driven mechanism. New features of the STAR Market include: a registration-based IPO system, market cap-based qualification, market-driven IPO pricing, more stringent delisting rules, more relaxed earning requirements (profitability is not a necessity depending on market capitalization) and higher thresholds for investors. Trading flexibility will also be increased, with daily trading limits of +/- 20% (10% on the main boards) and no limits on the first five days of trading. Industry wise, STAR Market mainly benefits innovative sectors that somewhat overlapped with the "Made in China 2025" plan, especially high-end equipment manufacturing. Regarding fundamentals, our analysis shows decent quality for 125 STAR Market companies (both listed and pipeline), compared to other trading boards (Figure 11). Of late, the trading debut on July 22 has led to upbeat buying sentiment. Up to August 2nd, the 25 listed companies' stock prices have surged more than 200% on average.

Figure 11: Decent profitability for STAR Market



Source: Wind, J.P. Morgan

The Shanghai-London Stock Connect went live on June 17th, which represents an important milestone as China continues to open up its capital markets and accelerate financial market reform. The platform provides two-way access between China and the UK, using a structure similar to American depository receipts that have long been used for Chinese companies to list in the US. Despite sharing a similar name with the Shanghai and Shenzhen-Hong Kong Stock Connect programs, there are several important differences. The most notable difference is the cross-border impact. In the Hong Kong Stock Connect, capital crosses borders to purchase shares in the respective local markets, whereas in the London connect, shares are transferred to the opposing market to be traded like local securities, hence there are no cross-border capital flows.

The 11 measures, announced on July 20, further open up China's financial market to foreign investors, by allowing foreign capital access to financial services such as the bond market, rating, security firms, insurance, wealth management and pension funds. Such measures to increase openness could not only attract foreign investment, but also serve as a way to balance capital flow dynamics, improve market discipline, and restore domestic confidence.

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China fixed income markets: Growing bigger and more liquid

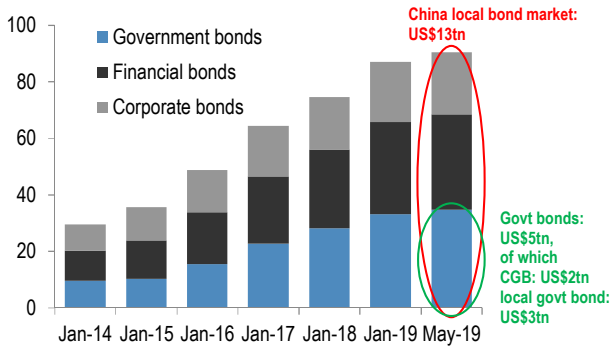
- **China Government Bonds (CGBs) offer international investors: 1) a return-volatility ratio commensurate with both a global cross-asset portfolio and a global government bond portfolio; 2) real long-term yields reasonably compensating for China's rising public debt and the narrowing current account balance; and 3) low cross-correlation with other DM and EM bond markets.**
- **Trading volumes of CGBs and Policy Financial Bonds have doubled in 1H19 vs a year ago. The rise in bond trading volume is accompanied by healthy growth in the interbank repo market and the FX market (both onshore CNY and offshore CNH).**
- **The expansion of China's bond market will continue over the medium term, as room to disintermediate bank credit is large. Policy will continue to support direct financing, including bond financing for domestic corporates. The growth of the Panda bond market opens a channel for foreign sovereigns and corporates to issue onshore RMB debt to raise funds.**
- **Foreign investors more than doubled their holdings of China bonds from Dec-16 to $293bn in Jul-19, but that is still a tiny 2.5% of the total outstanding stock. There remains ample room for a further rise in foreign holdings of Chinese bonds.**

China's marketable debt markets have grown too big to ignore with a size of $13tn and are second only to the US in terms of outstanding notional according to the latest PBoC statistics as of May 2019 (Figure 1). The 20% annualized growth in market capitalization over the past five years was driven by government and financial bond issuance.

For international investors, Chinese Government Bonds offer: a) a return-volatility ratio commensurate with both a global cross-asset portfolio and a global government bond portfolio; b) real long-term yields that reasonably compensate for China's rising public debt and narrowing current account surplus, especially when compared to the G4 bond markets which offer abysmal real yields (Figure 2); and c) low cross-correlations with other DM and EM bond markets (Figure 3). The result is that a 90%-10% mix of GBI-EM and China bonds (instead of 100% GBI-EM) would have improved the efficient frontier of a UST + EM bond portfolio over the past decade (Figure 4).

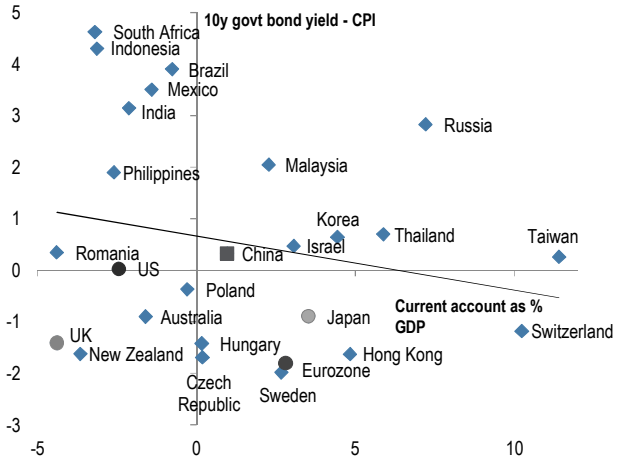
Figure 1: China's local government bond market has tripled over the past five years

Total outstanding domestic bonds by issuer types, CNY tn



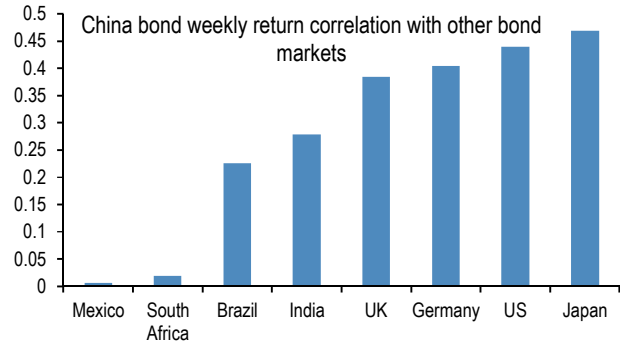
Source: PBoC

Figure 2: China real rates are not low compared to all other "liquid bond markets" in the rest of the world



Source: J.P. Morgan

Figure 3: The correlation of China bond price returns to those of global bond markets is low



Source: J.P. Morgan

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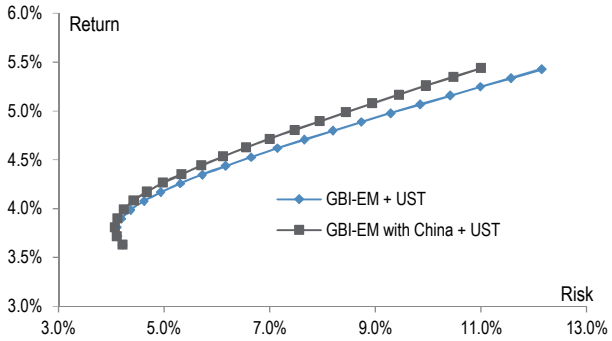
Figure 4: Adding China bonds to GBI-EM would have improved the efficient frontier of a UST+EM bond portfolio over the past decade

Returns and risks of UST+EM bond portfolio, in percent

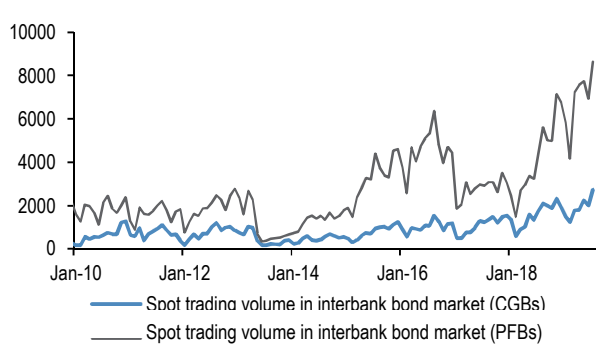


Source: J.P. Morgan

Liquidity in Chinese bonds is also increasing. China's bond market trading volume has been rising and has consistently ranked in the top five of EM local government bond markets according to the EMTA Debt Trading Volume Survey. In 1H19, trading volumes of Treasury Bonds (CGBs) and Policy Financial Bonds (PFBs) doubled vs a year ago (Figure 5). The growth of China's debt markets has been accompanied by an active FX market (~$50bn per day in spot FX for onshore CNY and offshore CNH combined). The Repo market has grown eight-fold in the past ten years, aided by PBoC's more active management of interbank liquidity through daily open market operations.

Figure 5: Trading volume of CGBs and PFBs doubled in 1H19 vs 1H18

CNY bn



Source: ChinaBond, J.P. Morgan

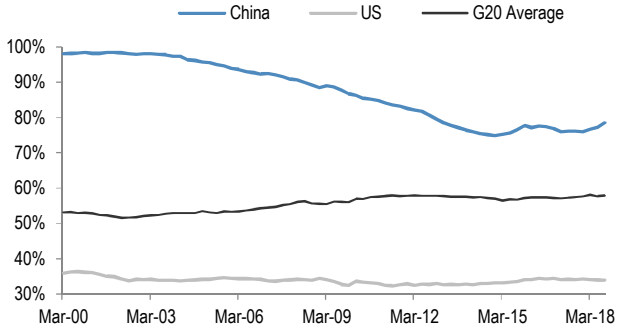
China's bond market opening is a timely development when viewed in the context of $13tn of negative yielding debt stocks globally. As of August 2019, the total notional of sub-zero yield debt reached an all-time high (see *Negative Yield Index Monitor*, B. Liu et al., 8 August 2019). Government bond yields of all 21 developed countries tracked by the GBI-DM index experienced at least double-digit tightening YTD, with 16 countries hitting record low yields over the past month. The Eurozone in particular, saw 9 out of 10 countries (Italy the sole exception) tracked by the EMU index dipping to unprecedented levels of negative yields. Germany, Netherlands, and Denmark yield curves are trading sub-zero across the board, rendering their entire sovereign debt stock (US$1.6 trillion) negative yielding.

Growth of China's bond market looks set to continue

The expansion of China's bond market will continue over the medium term, as room to disintermediate bank credit is large. For decades, traditional bank lending has dominated credit provision to the Chinese economy. BIS statistics showed that in the early 2000s, almost all credit to the private non-financial sector was in the form of bank credit. This ratio has fallen to 79% as of 4Q18, but that remains well above the 34% for the US, which has the world's most developed bond market, or 58%, which is the G20 average (Figure 6).

Figure 6: The room for bond markets to disintermediate bank lending is large as the latter still dominates credit provision to the Chinese economy

Bank credit / total credit to private non-financial sector



Source: BIS, J.P. Morgan

Policy will continue to support direct financing, including bond financing for domestic corporates. The opening up of the bond market, increased issuance of corporate and enterprise bonds, reduction of implicit guarantees, and allowing international credit rating firms to operate onshore are all healthy developments for the continued expansion of the corporate bond market. A more active bond market leads to more accurate pricing of credit risk and allows corporates to widen their access to financing channels.

Growth in the Panda bond market. As the Chinese bond market develops in size and liquidity, and the RMB is increasingly used for trade invoicing and settlement, it makes natural sense for foreign sovereigns and

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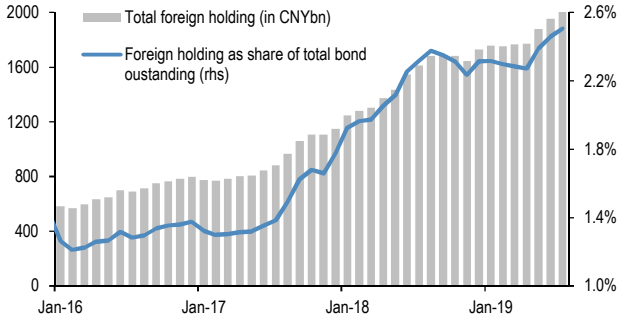
corporations to issue onshore RMB debt to raise funds, which are also known as Panda bonds.

Rise in foreign ownership of China bonds, from a low base

Foreign investors more than doubled their holdings of China bonds from Dec-16 to $293bn in Jul-19, but that is still a tiny 2.5% of the total outstanding stock (Figure 7). This followed enhancements to the Bond Connect Scheme, exemption from corporate income tax and VAT on interest gains on all bonds for a three-year period, and growing access to onshore FX instruments.

Figure 7: Despite recent increases, foreign holdings still account for ~2.5% of total bond outstanding

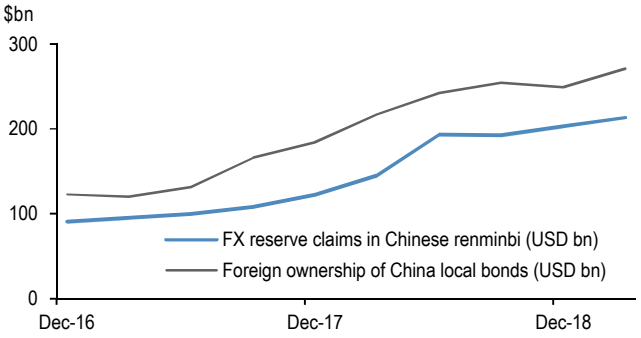


Source: Bloomberg, J.P. Morgan

Who are the foreign investors that invest in Chinese bonds?

FX reserve managers have been the major foreign investors in the Chinese bond market so far. The rise in foreign ownership of Chinese local bonds since 2017 coincided with the rise in share of global FX reserves held in RMB as reported in the IMF COFER data (Figure 8). Assuming FX reserves in CNY are held in local bonds, one could explain three quarters of total foreign holdings of Chinese bonds by central bank/SWF reserve allocation flows.

Figure 8: The rise in global FX reserve allocation to CNY explains the bulk of the increase in foreign holdings of Chinese bonds

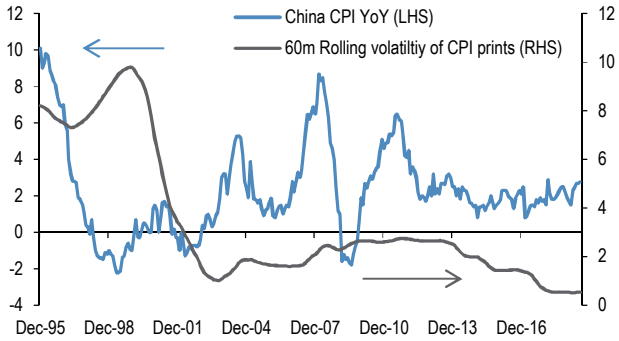


Source: IMF, PBoC

There remains ample room for a further rise in foreign central bank/SWF holdings of Chinese bonds. Only 1.95% of allocated global FX reserves are held in the Chinese Renminbi as of Q1 2019, which is materially smaller than China's share of global GDP and global trade. Financially, China's lower and more stable inflation trajectory over time should increase confidence in the currency as a store of value (Figure 9). One wildcard is that countries of reserve currencies are generally world leaders in terms of adherence to rule of law—US, Japan, Germany and UK are ranked 19th, 14th, 6th and 11th, respectively, out of the 113 countries in the World Justice Project's Rule of Law Index, while China is ranked 75th. If China's share of global FX reserves are to rise to 10% (RMB's weight in the SDR basket), foreign ownership of China bonds can go up by four-fold to over $1trn.

Figure 9: China's inflation has become more stable over time, which should appeal to international reserve managers

% (LHS); unitless (RHS)



Source: Bloomberg, J.P. Morgan

Bond Connect

Bond Connect is a platform officially launched in July 2017, which allows overseas investors to access the Chinese onshore fixed income market through Hong Kong SAR without having to open an onshore account. The commencement marks continued efforts in liberalizing China's domestic bond market and helps to bring the Chinese market up to international standards. The platform has been, since its inception, serving as an alternative channel to the CIBM, for all types of investors to access the domestic bond market. Continued refinement in payment settlement systems, improvement in block-trade allocation, as well as clarification on tax policy and initiation of trading on Bloomberg have all helped to boost liquidity and improve market efficiency. As of July 2019, the number of global institutional investors participating in Bond Connect reached 1134, up from 503 at the end of 2018. The US and Hong Kong

SAR accounted for 32% and 25% of the overall investor base, respectively.

To access Bond Connect, overseas investors need to register with PBoC through CFETS or Bond Connect Dealers. Different from trading under CIBM Direct, foreign investors can only trade with 47 designated dealers, and investment instruments are currently limited to unlisted cash bonds. For settlement, overseas participating institutions need to open an account in HKMA Central Moneymarkets Unit (CMU) through a global or local custodian bank and at the same time, a nominal holder account is also created with onshore depository institutions (CCDC and SHCH) to record all bond balances that are nominally held by overseas investors. Once any transaction is performed, settlement instructions are sent to CMU, who subsequently sends settlement confirmation to onshore custodians and completes the settlement between the CMU nominal holder account and onshore bond connect dealers' account.

Remaining gaps and challenges

Although Chinese authorities have been pushing through further and deeper regulatory and administrative changes to globalize China's bond market, gaps and roadblocks remain. Major hurdles cited by international investors include: 1) thin market liquidity for non-benchmark bonds; 2) uncertainty over tax treatment for non-government bonds after the three-year exemption window; 3) partial access to onshore FX hedging; 4) limited access to onshore interest rate derivative markets and bond repo markets; 5) trading hours in UK and US time zone; and 6) lack of consistent rules and fungibility across different access schemes to onshore bonds.

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J.P.Morgan

China credit: USD bonds may benefit from the opening of the onshore market

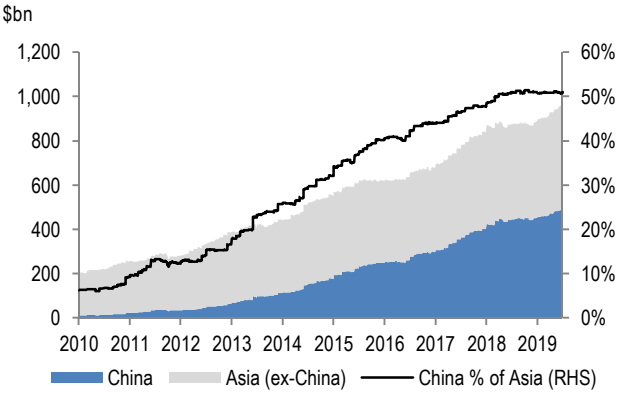
- **From being nearly nonexistent in 2010, China's USD bond footprint has rapidly expanded to $498bn today. The country's bonds now make up 50% of the JACI, with issuers including financials, corporates, quasi-sovereigns and the sovereign.**
- **Looking ahead, J.P. Morgan expects China to drive EM corporate net supply over full year 2019. The team looks for net supply of $65bn from China, while the global total would be $60bn as some regions see greater amortizations and coupons.**
- **We believe that China's onshore corporate bond market will evolve to become an important funding source for corporates, as in many developed markets.**
- **Growth in China's USD bond footprint and the opening of the domestic market will continue to draw the attention global investors. This will increase efficiency between onshore and offshore credit markets, and allow investors more flexibility to allocate between these two markets, depending on their currency and rate views. Issuers are also likely to benefit.**

A growing presence in USD credit

From being nearly nonexistent in 2010, China's USD bond footprint has rapidly expanded to $498bn. The bonds now make up 50% of the JACI, with issuers including financials, corporates, quasi-sovereigns and the sovereign (Figure 1).

The rise is also evident in a global context. The presence of China issuers in the CEMBI has risen from below 3% of the EM corporate credit universe to 25% today (Figure 2). In 2019, Chinese issuers have continued to be the biggest driver of the primary market: Asia at $192bn accounts for 68% of YTD EM corporate issuance, out of which $131bn came from issuers in China. The rest of Asia ($61bn) is still running higher than any of the other regions. The picture is similar in terms of net supply, with China ($63bn) contributing most of the amount followed by Asia ex-China ($22bn). Middle East and Africa ($13bn) is the only other region with positive net supply whereas EM Europe (-$10bn) and Latin America (-$6bn) are yet again posting negative net supply.

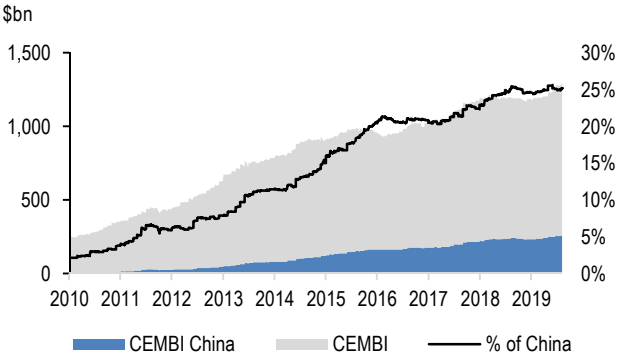
Figure 1: The market cap of China USD Bonds has grown to $498bn and accounts for 51% of the Asian credit market



Source: J.P. Morgan. Data as of August 2019.

Looking ahead, J.P. Morgan expects China to drive EM corporate net supply over full year 2019. The team looks for net supply of $65bn from China, while the global total would be $60bn as some regions see greater amortizations and coupons (see *EM Corporate Technicals* A. Meyers et al., 2 August 2019). Thus, it appears that the presence of China in dollar credit markets will continue to increase.

Figure 2: China now represents 25% of the CEMBI



Source: J.P. Morgan. Data as of August 2019.

Beyond this year, China's representation in hard currency markets looks set to grow further. Corporate issuers will continue to explore efficient funding options. Meanwhile, TLAC requirements for banks could represent a significant source of supply. We estimate TLAC issuance for the four Chinese global systemically important banks of RMB 4.4 trillion (see *Greater China Financials*, K. Lei et al., 11 Feb. 2019).

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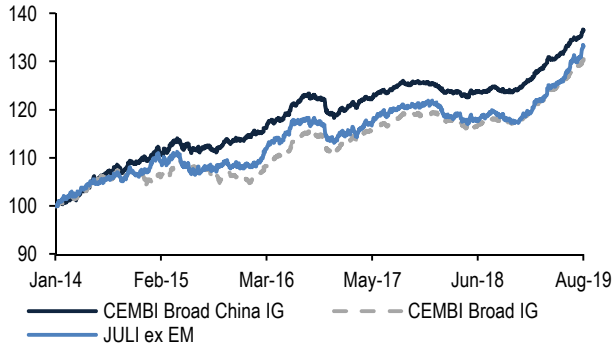
The growth in China's dollar credit market has been supported by steady performance. Whether looking at the country relative to EM more broadly or versus US markets, the country's bonds offer lower volatility and consistent returns. We find this to be the case across both investment grade and high yield (Figures 3 and 4).

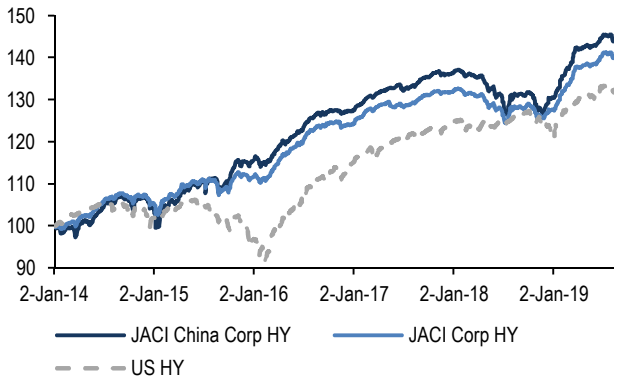
Figure 3: China's investment grade market has outperformed Asia more broadly, as well as US investment grade.
Total return. January 2014 = 100.



Source: J.P. Morgan.

Differences in duration do not explain China's outperformance. China IG credit has a duration of 4.4 years, while the broader CEMBI IG has a duration of 5.2 years. The JULI ex-EM has the longest duration of 7.9 years. The pattern is similar in HY, where China HY has a shorter duration than the comparable sectors.

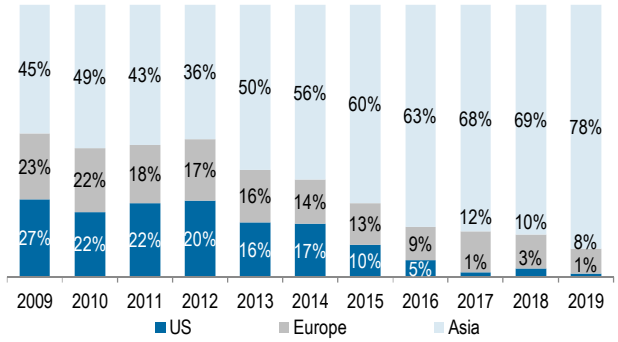
Figure 4: China high yield has also outperformed Asia HY more broadly, along with US HY
Total return. January 2014 = 100.



Source: J.P. Morgan.

China's dollar credit has tended to be less volatile than other regions. This is particularly the case in recent years, which we believe is due to the increased presence of domestic Chinese investors in hard currency markets (Figure 5). Such investors add to Asia's broad base of "sticky" investors, which include private banks, pension funds, insurance companies and asset managers.

Figure 5: Asia investors are the largest buyer of China credits based on new issue allocation statistics
New issue allocations by region



Source: Bond Radar and J.P. Morgan.

The onshore bond market - an alternative funding source

We believe that China's onshore corporate bond market will evolve to become an important funding source for corporates, as in many developed markets. While it grew to RMB86 trillion by the end of last year, the domestic market is still largely made up of central and local government bonds, as well as bonds issued by financials. Corporate enterprise bonds and MTNs make up only around 16% of the outstanding total (Figure 8). More developed capital markets should translate into greater efficiency in capital allocation. A gradual opening of the onshore bond market to foreign capital should also hasten the development of the market in coming years. For the banking sector, such disintermediation may create challenges, but this could be supportive of borrower discipline to the extent bank lending is potentially subject to government directive. At the moment, capital markets make up only a small share of total social finance, at 14.2%. This compares with 72.3% for bank lending. Greater options for financing in the bond market may eventually challenge banks' loan growth. However, fundamental concerns may be offset if banks are relieved of "national service" obligations that influence lending decisions.

Need to see greater credit differentiation

One development that could help the onshore bond market mature would be increasing credit differentiation. Currently, credit ratings of the onshore bond market are skewed toward AAA ratings, which make up close to 58% of bonds outstanding, while bonds rated AA make up another 32% (Figure 7). Such a high concentration in

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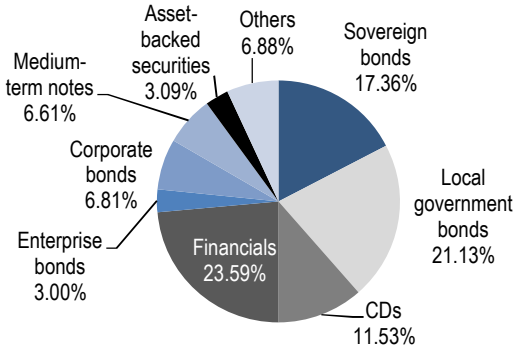
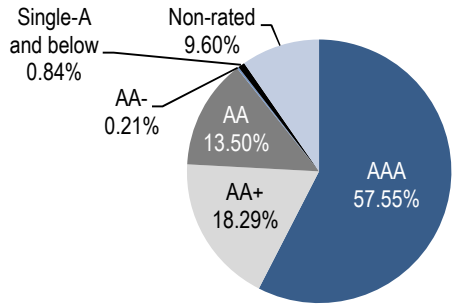
the highest categories discourages investors from sufficiently distinguishing between credit profiles. Ironically, some credits that carry AAA-ratings onshore are rated high yield in the USD bond market by international credit rating agencies. Such wide rating differentials between the onshore and offshore rating has called into question the creditability of the onshore rating process.

Figure 6: Breakdown of China onshore bond market



Source: WIND.

Figure 7: Onshore rating breakdown of corporate and enterprise and MTN



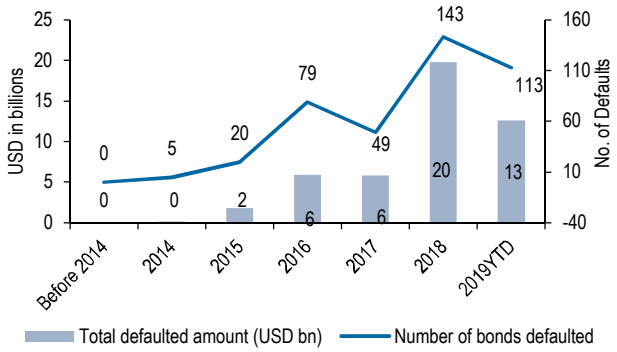
Source: WIND.

Ratings agencies and regulation can play a key role in greater credit differentiation. In July, S&P Global became the first international credit rating agency to assign a rating to a domestic issuer, when it rated ICBC Financial Leasing Co at AAA. Separately, reform of domestic ratings agencies is already underway, as the China Securities Regulatory Commission (CSRC) last year suspended Dagong Ratings for one year. Dagong was charged with offering consultation services to firms seeking ratings, in addition to providing false information to the National Association of Financial Market Institutional Investors (NAFMII), a body that oversees the interbank market and is backed by the PBOC. We believe such steps, combined with the growing presence of global ratings firms onshore, will be supportive of a more differentiated credit market.

Rising onshore default rate is positive in the long term

We believe that the rising default rate in the onshore bond market would also force investors to exercise greater credit differentiation. The onshore bond market saw its first default only in 2014, but defaults have since been rising steadily as regulators intervene less and move towards a more market-based regime. The 143 bonds that defaulted in 2018 still total a mere RMB131 billion (or less 1% of total outstanding). But we expect the rising trend to continue, partly due to a more challenging economic backdrop and less intervention by the regulator. The ensuing improvement in credit differentiation, or wider spread between IG and HY paper, should eventually attract new foreign investors and deepen the domestic corporate bond market, reducing the over-reliance on the banking sector for funding.

Figure 8: China's onshore bond market has seen a rising default rate in recent years



Source: WIND.

Evolving regulatory framework

A more rule-based and consistent regulatory framework should also make onshore corporate bonds more appealing to foreign investors. The domestic market is heavily controlled by overlapping regulators (i.e., the National Development and Reform Commission, the China Securities Regulatory Commission, the PBOC, and the National Association of Financial Market Institutional Investors). Besides such a complex regulatory framework, investors also have to contend with frequent changes in regulations that have amplified volatility in the onshore corporate bond market. One example is regulation on bond issuance by China property developers, which are heavily dependent on the

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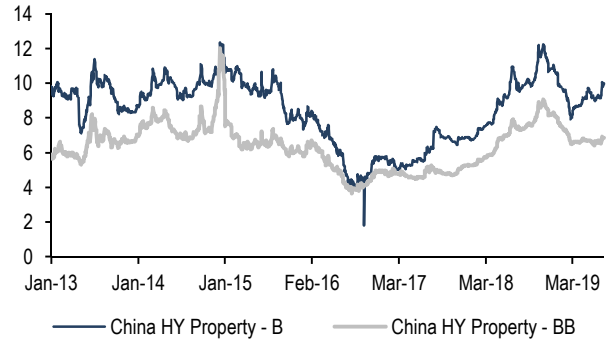
capital market given restrictions on using bank loans for land acquisition. After a surge in issuance in 2015 and 2016 due to a relaxation on regulations, the sector faced considerable refinancing risks in 2018 as the bulk of these issues were maturing at the same time the approval process was tightened. This forced China developers to flock back to the offshore bond market for refinancing, subject to the NDRC approvals. Time limits imposed on such NDRC approvals have occasionally led to lumpy issuance, especially toward year end, and wild swings in the market, as happened in 4Q18 when two-year double-B China property bonds were issued at high single-digit and single-B at near mid-teens, both of which could be considered distressed levels (Figure 9).

Figure 9: Regulatory changes have amplified volatility of China HY property bonds in recent years

y-axis: yield to worst



Source: J.P. Morgan

Outlook for China credit

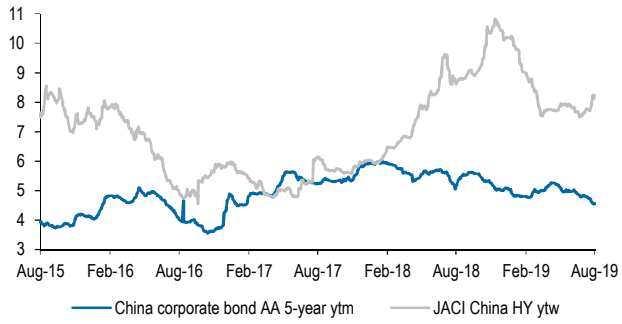
Growth in China's USD bond footprint and the opening of the domestic market will continue to draw the attention of global investors. This will increase efficiency between onshore and offshore credit markets, and issuers are likely to benefit.

Our sense from conversations in years past was that global investors largely avoided the region, with the possible exception of bonds issued by property developers. Common criticisms were that the country was "too rich" and "too hard to understand." However, more recent discussions reflect increasing exposure to China's dollar debt, as well as a greater understanding of its defensive characteristics.

We believe that the maturity of the onshore bond market could be viewed as an alternative investment opportunity for foreign investors, which have thus far focused largely on the offshore bonds issued by Chinese corporates. While we expect the China USD bond universe to continue to expand, we believe it will remain smaller than the country's onshore bond market. The eventual opening and maturing of the onshore bond market should open up an even bigger investment space for foreign investors. It would also allow investors greater flexibility to allocate between onshore and offshore, depending on their currency and rate views. This would also facilitate relative value considerations between onshore and offshore bonds from the same issuer, supportive convergence in yields after swapping currencies.

Figure 10: Differences in onshore and offshore yields may diminish, after hedging costs – Onshore corporate AA 5-year yield and offshore China HY yield

y-axis: yield to worst



Source: J.P. Morgan.

Issuers are also likely to benefit. Real estate and property developers are best positioned here as they have been some of the largest issuers into the USD bond market. China's four largest banks have a total of RMB3,797bn, or 7% of their loan portfolio, in loans to the property and construction sectors. Development of the onshore bond market would diversify funding options for higher-quality companies that had previously relied on either bank loans or USD funding (Figure 10).

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EM corporate fundamentals improve, but China HY industrials are the weakest link

- **The EM credit cycle has been on an improving trend in recent years due to more conservative behavior with very little M&A or shareholder-friendly activities.**
- **While the credit cycle is now closer to the peak, EM corporates and financials should have built up some buffer for more challenging macro environment ahead.**
- **There are also some divergences between regions underneath such broad improvement in trend. We also see several weak spots in each region.**
- **Asia IG corporates have deleveraged, and financials have probably seen the worst of their credit cycle. They are thus prepared to face the challenges ahead. Asia HY, in particular China HY industrials, are the weakest link.**
- **CEEMEA corporates are largely stable as the weakening trend for commodity names is largely offset by other sectors. Financials are seeing some divergence in trend with Turkish banks facing some challenges and Russian banks on an improving trend.**
- **Latam corporates have been focusing on deleveraging in the more recent past, but they could have seen the peak as commodity prices ease. Financials are following very different paths and largely depend on the sovereign story.**

Emerging Markets

Most of the EM regions have moved further along the credit cycle but are still in the improving phase or close to the peak. We believe additional improvement in credit metrics is likely to be limited given the more uncertain macro outlook, but we expect better resilience against a downturn as issuers have been conservative with very little M&A or shareholder-friendly activities. The focus has been more on balance sheet management and reducing debt, thereby supporting the decline in leverage ratios despite slower growth. Financials have remained broadly stable across the regions, and operating performance has held up even in countries that have been facing elevated macro volatility. The main risks to EM corporate fundamentals stem from select sovereign situations and the negative effects from economic slowdown that could also lead to a deterioration in funding conditions. That said, we do not expect meaningful contagion to corporates outside of the countries in question, which would keep the overall fundamental trend from weakening rapidly.

Asia

Asia Corporates: The fundamental trend continues to be slightly positive as overall capex spending and M&A appetite has declined somewhat over the last few years. China's ongoing deleveraging program has led to several of its SOEs deleveraging. Similarly, Hong Kong SAR corporates have deleveraged from muted capex spending even as earnings remain robust, helped by continued strength in the property sector as well as the strong market position of other credits. On the other hand, Indian and Korean corporates are seeing a renewed capex cycle, and this is where we think the improving credit cycle is at a more advanced stage. While heightened US-China trade tensions could be negative for China's macro and tech hardware sector, we don't believe it would derail this overall positive trend given most IG corporates have built up buffers. Also, any potential drag on China corporates should be partially offset by trade substitution to Korea and ASEAN. Given the higher leverage, Asia HY fundamentals will be more vulnerable to slower growth, especially as China HY industrials defaults have already increased due to excessive leverage and corporate governance issues. While we recognize China HY real estate may have to contend with softer property demand, we believe downside risk is mitigated somewhat as there is still room to relax the currently tight housing policy.

Asia Financials: Downside risks to growth in China may add to pressure on banks' credit quality, but the impact is likely to be asymmetrical. City and rural commercial banks may see pressure from concentrated loan portfolios and weak discipline around problem loan recognition, with data reflecting this pressure in 1Q'19. In contrast, joint stock banks and large banks have seen stable NPL trends, although increased pressure to support privately owned enterprises represents another channel for increased credit risk. In India, the system NPL ratio peaked in March 2018, and we expect a gradual decline in credit costs, which should begin to support profitability despite the persistence of some risks, notably in the non-bank financial sector. Reduced trade that weighs on growth could have a delayed impact on asset quality for banks in Singapore, Korea, and Hong Kong SAR, which have recently been enjoying benign credit trends.

CEEMEA

CEEMEA Financials: We continue to see several risks to the "muddle through" scenario for Turkish banks. External financing needs are still large, local and foreign investor confidence is low, the real sector measures lack sovereign participation, and there are geopolitical risks on the horizon. GCC banks are going through a phase of consolidation with second-tier banks being acquired by national champions. Weak economic growth and falling real estate prices are the main risks to asset quality in the UAE with negative implications for bank AT1s. Russian banks' credit fundamentals are on an improving trend, and the country has a strong external position; however, US sanctions are the main risk.

CEEMEA Corporates: Credit fundamentals are expected to remain largely stable with an increase in leverage from commodity-based sectors (oil & gas, steel), partially offset by precious metals and a stable outlook for defensive TMT and utility sectors. After years of reining in capex, companies with strong B/S from the M&M and O&G sectors are increasing both capex and shareholder distributions.

Latin America

Latin American Financials: Financials have once again followed different paths. Argentine banks are clearly following a deteriorating trend, although we think it should be temporary given the short-term nature of loans in Argentina. That said, improvements will likely depend on the sovereign story. At the same time, Andean banks have been recovering and should continue to do so, but likely at a continued gradual pace, particularly in Colombia where the corporate sector remains under pressure due to specific corporate cases. Mexico has been more resilient than expected but could be at the start of a deteriorating trend given the uncertainties related to trade and overall policies from the new administration. Finally, Brazilian banks have recovered, but further improvements depend on better economic activity, which has been somewhat on hold due to uncertainties related to the approval of the Social Security Reform.

Latin American Corporates: After facing pressure from cyclically low commodity prices and weak economic activity in key countries like Brazil and Argentina in past years, corporates in the region have largely focused on deleveraging in the more recent past, strengthening overall balance sheets and reducing the demand for fresh debt. Although some stories have lagged and could improve from a point of weakness, we believe that credit metrics are closer to the peak in aggregate, with gradual deterioration from current levels more likely, as some commodity prices (namely pulp and industrial metals) have been facing a downward trend, and growth across the region has been lower than expected, with lingering political and policy risk. However, we don't see a sharp drop in credit quality, given that investments and M&A activity are expected to remain subdued.

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Appendix

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