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China

Why we are bullish on China

We expect China to avoid a financial shock and achieve high income status by 2027. Our view is that moving to higher value-added activities will propel the economy forward and drive the continued medium term outperformance of MSCI China versus MSCI EM, providing significant investment opportunities.

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Preface

China's shift from low income to middle income status has been the largest and most rapid economic transition in world economic history. Yet, throughout this journey doubts have been raised about its sustainability. Rising imbalances prior to 2007, a rapid buildup of debt after 2008, the currency regime shift in 2015 and more recently the impact of rising protectionism have all been cited as factors that could constrain China's economic development.

We take a positive view that China will continue to be able to navigate these challenges. Although investors have turned more skeptical and indeed hold a decade-low underweight position in China equities, we are confident that China will avoid a financial shock and complete its transition towards high-value added manufacturing and services and hence attain a high per capita income status.

In this report, we are taking a step back from our usual 12-18 month view and instead we focus on the longer term, laying down the macro outlook for China, addressing the key debates and identifying the key transitions and investment opportunities.

We lay out the view that China will be able to avoid a financial shock, as the self-funded nature of China's growth, its specific macro setup and policy preferences will allow policy makers to manage liquidity conditions and prevent the debt cycle from becoming adverse. Under this scenario, a one-off devaluation of the currency is not our base case. That said, we think the currency will depreciate by a moderate but manageable pace over the forecast horizon.

More importantly, we estimate that China will be able to attain a high income status by 2027 as we expect per capita incomes to reach US$12,900 by then, up from US$8,100 currently, thereby crossing the high-income threshold of US$12,500. China will therefore have broken out of the middle income trap and joined the rarefied ranks of a high income society, which has been achieved by only two large economies with a population of above 20m (Korea and Poland) over the past three decades. Indeed, the attainment of high income status will be the key defining moment in China's economic development over the next decade.

Alongside this rise in per capita incomes, there will also continue to be significant structural changes in the economy. To continue on its journey towards a high income society, China will need to move up the value chain in economic activities, shutting down capacities in old, redundant industries while fostering the development of new, high value-added economic activities in sectors such as high end manufacturing, healthcare, education and environmental services. Consumption and services will come to dominate the economic landscape .

China will complete its recent rapid emergence as a formidable competitor to traditional leaders in the high value-added manufacturing spaces in sectors such as telecom equipment, semiconductors, railways, power supply infrastructure and defense. The further development of indigenous automobile and aircraft manufacturing is a key area to watch. Meanwhile, a key structural weakness of poor SOE performance is likely to be addressed though the mechanism chosen by China of more top down reorientation and consolidation of SOEs into national champions rather than by improving efficiency via privatization.

To be sure, the journey towards high income will have its risks. The two key anchors that will determine whether our base case will pan out is how policy makers are managing the debt cycle and how the key transitions into higher value economic activities are proceeding. In our view, the most recent and arguably the most significant development on the policy front is that **policy makers are now signaling a willingness to accept slower rates of growth**, and place more focus on preventing financial risks and asset bubbles, indicating that they would not protect growth at all costs, often with the use of investment of a low return nature. This gives us greater confidence that policy makers will be able to slow the pace of rise in debt to GDP and will focus their efforts on setting a more stable environment which will allow China's vibrant private sector and formidably resourced SOE to continue the move towards high value added economic activities.

As these transitions materialise, China will continue to present significant investment opportunities for global investors. We are confident that MSCI China can continue its long run track record of outperformance of global emerging markets. Moreover, in this report, we have identified sectors and stocks which are specifically positively geared towards the themes that we have discussed. The list that we have presented here is by no means exhaustive or static. We will be sure to keep a watchful eye on the progress of the transition and its implications on the markets and stay engaged with you on this topic in the coming months.

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Executive summary

Embarking on journey towards high income society

China's macro challenges have been well-telegraphed – a high leverage ratio, excess capacity in industrial segments, an over-reliance on investment as a growth driver. More recently, the risks of protectionism have cast an additional shadow. There is much common ground amongst investors on the need to address these challenges. However, that's where the debate starts. There is wide dispersion on views on the steps needed to be implemented to resolve these challenges and what the end outcome will look like.

Investors appear most concerned about the risks of a financial shock happening in China and, by extension, there has been greater and rising scepticism on whether China can ensure continued prosperity. This caution is also reflected in the fact that EM investors have consistently held an underweight position in China equities relative to the benchmark and the underweight position is at a decade-low.

Exhibit 1:

China's weight in GEMs funds - near record underweight

Source: EPFR, MSCI, Morgan Stanley Research. Monthly data as December 2016.

However, we take a positive view that China will be able to navigate these challenges:

1) We view the risks of a financial shock as low because of the specific characteristics of this debt cycle. Investors are concerned that China could face a financial shock similar to that of the US in 2008 and Asia in 1997/98, as debt has risen from 147% of GDP in 2007 to 279% in 2016, leading to concerns about the sustainability of the debt buildup.

However, there are three mitigating factors at play. *First*, the buildup of debt has been funded by China's own savings and has been used to fund investment, rather than consumption. *Second*, strong net asset positions both domestically and externally (with a positive net international investment position of 15% of GDP) provide adequate buffers against shocks.

Finally, from a macro stability management perspective, the starting point of a strong external position in the form of current account surplus, high level of FX reserves and the lack of significant inflationary pressures does mean that China will be able to manage its domestic liquidity conditions and thus avoid a financial shock.That said, the high levels of debt to GDP reflects that China has borrowed a lot from the future. The payback will be in the form of a significant slowdown in growth rates.

A connected debate is the issue of a potential one-off, sizable devaluation of the currency. It is our view that policy makers would not opt to devalue the currency as it would risk upsetting the management of the trilemma[1] pressures, which could potentially lead to a spike in interest rates and cause a period of risk aversion in the financial system. That said, we do recognise that there will be manageable, moderate currency depreciation ahead.

2) Notwithstanding slower growth in the years ahead, a high income status is attainable and is the most likely outcome over the next decade. The second key macro debate is whether China can transition towards high income status (US$12,500) from its current status of middle-high income (US$8,100). In the context of the recent macro challenges and the prospect of a financial shock, investors have expressed reservations as to whether China will be able to continue on its journey towards high income status.

However, our base case projections suggest that per capita incomes will reach US$12,900 by 2027, crossing the high-income threshold of US$12,500, and by then China would have broken out of the middle income trap that only a select group of 19 economies in total have been able to exit over the past 30 years, of which only two (Korea and Poland) have a population size of more than 20 million.

Two crucial anchors to macro outlook

The journey towards a high income status, however, will not be an easy one and will rest on two crucial factors.

1) Policy makers will still need to manage the debt cycle deftly to avoid negative repercussions on the economy. To address this at its core, policy makers would have to allow the economy to grow in line with its potential rather than target unsustainable high rates of growth. **Indeed, policy makers have recently signalled a willingness to accept slower rates of growth**, and place more focus on preventing financial risks and asset bubbles, indicating that they would not protect growth at all costs, often with the use of investment of a low return nature.

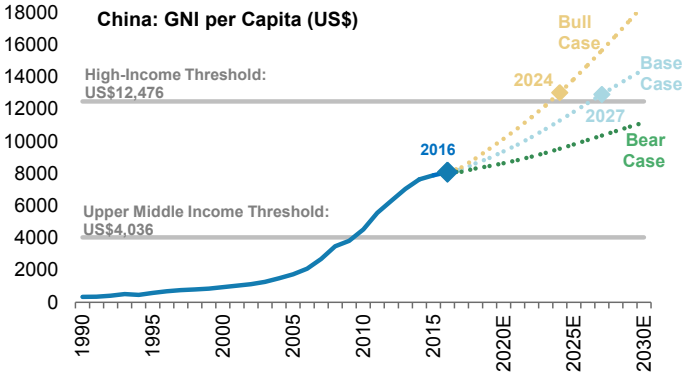
The key implication of this shift in economic management would be that policy makers will manage monetary policy in a prudent manner and not lower real interest rates too quickly and aggressively as a means to cushion growth. Indeed, cutting real rates too quickly would entail the risk of accelerated capital outflows, which would invoke the trilemma challenge of having to manage the currency alongside preventing a spike up in interest rates.

In the context of managing the debt cycle, one of the key issues to resolve is that of deflation risks. Over the past 18 months, the government has made progress on structural transitions. Policy makers have recognised the risks of excess leverage and over-investment. Indeed, a gradual shift in growth mix, significant deceleration in manufacturing investment in sectors with excess capacity, shut down of old unviable capacities, and recovery in external demand leading to improved capacity utilization in tradable goods have begun to reduce disinflationary pressures.

We think that the worst of the deflationary pressures is behind us. While there would still be a lingering challenge of low-flation in the producer price index (PPI) in the near term, we do not expect an environment of entrenched PPI deflation. We do expect PPI inflation to decelerate from the current high levels as the supportive base effect wanes but, if the above mentioned factors stay supportive, PPI is unlikely to return to the deep deflationary territory that we experienced over 2H 2012 - 1H 2016.

Exhibit 2:

We expect China to achieve high-income status by 2027



Source: World Bank, Morgan Stanley Research. E=Morgan Stanley Research Estimates. GNI= Gross National income. We adopt the classification of income status as defined by the World Bank. As of 1 July 2016, high-income economies are those with a GNI per capita of US$12,476 or more. Upper middle-income economies are those with a GNI per capita between US$4,036 and US$12,475.

A backdrop of reduced disinflationary pressures, coupled with tolerance for slower growth, will result in a slowing pace of increase in debt to GDP. The credit intensity (or in other words - the incremental units of credit needed for an incremental unit of GDP) will too improve significantly from 2017 onwards and by extension the pace of debt buildup will also slow.

Investors have raised some concerns at the pace of increase in household debt in 2015-16, which had been on the back of a cut in real rates and also relaxations of property purchase restrictions from 3Q14 onwards (before subsequently tightening again from March 2016). While leverage in the household balance sheets are, on aggregate, still relatively benign there will be some risks in certain pockets with the recent sharp rise in credit growth. Interestingly though, while demand for the real estate sector has been boosted, the control on supply and new starts has been kept tight, resulting in a reduction of inventory and meaningfully taking out the systemic risks in the property sector.

Still, our base case remains that China's growth in the coming years will sufficiently support its transition towards a high-income economy. Its current account surplus (i.e. excess investment is funded with their own saving) and a positive external investment position means that the likelihood of a shock is fairly low. In this sense, China's debt management path will be quite similar to Japan's. The consequence of an elevated debt burden will be in the form of lower growth in future, though we still expect China's growth to compound at a much higher rate in the coming years relative to Japan's experience. In our base case, China's real GDP growth will

slow to an average of 4.6% in 2021-25. With a starting point of lower debt (China's debt to GDP today is where Japan's was in 1980) and per capita levels (China's per capita GDP (PPP) today is where Japan's was in the mid-80s) and by not allowing for a sharp appreciation of its currency as Japan did after the Plaza Accord, China today is arguably better positioned to still achieve growth rates that can outpace global growth.

2) Policy makers will need to initiate significant structural changes considering the challenges emerging in the form of a decline in working age population, a starting point of high levels of debt in the SOE corporate sector and a major shift in the external environment. These transitions include a shift towards consumption and services, further development of the higher value added manufacturing sector, the reform of state-owned enterprises and the managing out of excess capacities. These transitions are also consistent with the transformation into a high income society and will bring with it significant changes in how China will evolve as a marketplace.

Key transitions in this journey towards high income

Transitioning from high investment to high consumption…

The first key transition is that of moving towards a consumption oriented economy. China has already made giant strides in this direction and is the largest market globally for most key consumer products (e.g. autos, mobile phone handsets, on-line retail). In sub-sector after sub-sector investors have witnessed rapid development of the consumer market as disposable incomes have reached levels which make such activities affordable. Long gone are the days when basic consumer products such as noodles and flavoured teas dominated the landscape. Domestic players are now growing very rapidly in areas such as locally branded sports wear, cosmetics, budget airlines and hotels.

By our projections, the opportunity in private consumption will almost double in size over the next decade, rising to an estimated US$9.7 trillion by 2030 from US$4.4 trillion in 2016. Alongside the increase in aggregate private consumption, more importantly, the composition of the consumption pattern will continue to shift too as the consumer is getting richer, older and more tech-savvy, which will drive a more than proportionate increase in the segments of leisure, entertainment, travel and above all healthcare.

…and from manufacturing to services

We estimate that the services sector GDP will rise to US$12 trillion and will account for 60% of GDP by the end of 2030, up from 52% currently, as the shift towards consumption expenditures will be mirrored by the growing importance of the services sector on the output side. The services sector will offer the most exciting new avenues for growth potential. The growth opportunities would most likely be from the areas of business services and real estate, along with healthcare, education and personal services. In particular, considering the rapidly ageing trends, the rising trends in healthcare and education spending that have been observed historically in Japan, Korea and the US have yet to be observed in China, reflecting China's hitherto lower age dependency.

Exhibit 3:

Summary of our views on China's transformative decade

1	• High income status by 2027
2	• Private consumption to hit US$9.7 trillion by 2030
3	• Services sector as fastest growing segment, 60% of GDP by 2030
4	• Formidable player in high value-added manufacturing
5	• Vibrant private sector to reshape corporate sector, drive returns
6	• Elimination of excess capacities in industries, i.e. steel, paper
7	• China equities can continue to outperform EM over the cycle

Source: Morgan Stanley Research

Completing its emergence as a formidable player in high value added manufacturing

We expect China to continue to make progress in moving up the value chain, specifically targeting the higher end of the manufacturing value chain. Chinese firms already compete and win against developed market peers in heavy industrial sectors such as telecom equipment, power infrastructure (including nuclear), railway infrastructure (including high speed) and ship construction. In consumer sectors, the sheer size of the domestic market has led to the rapid emergence of domestic firms with strong brands in segments such as PCs and smartphones where local firms currently hold significant market share. The share of high value added exports has been steadily rising and now accounts for more than half of China's total exports. In particular, China has made progress in selected medium to high technology goods such as in electronic and circuit components (transistors and LCD screens). Companies such as Alibaba, Huawei and Sany Heavy now have strong brands and globally significant R&D facilities, and are engaged in M&A to further enhance their business models. That said, in key areas such as indigenous automobiles and large bodied aircraft, China still lags in brand / product quality and capabilities.

Reforming SOEs - China style

SOE reforms are imperative to improve aggregate corporate sector returns: The key issues that SOEs in China are facing are: (1) absolute ROAs and ROEs are at historical lows and still falling despite stabilizing somewhat in 2016; (2) SOEs' relative ROAs and ROEs compared with those in the private sector have also declined significantly; (3) leverage is high in absolute terms; (4) SOEs are continuing to lever up while private firms have been deleveraging; (5) non-industrial SOEs are even worse performers on key financial metrics than their industrial peers. While these issues are indeed commonly shared with other EM countries, the difference is that in China, the SOEs account for a much larger share than in other EMs. Reforming the SOE sector is imperative to improving overall returns in the economy.

China will improve SOE performance, but rather than ceding control, the reform plans are aimed at strengthening the largest SOEs, creating a smaller group of larger national champion SOEs and improving corporate governance in the SOE sector.

Managing out excess capacities

Since early 2015, the government has embarked on weeding out unviable and less competitive excess capacities in its industrial economy. We expect that, over a period of three to four years, China will be able to eliminate a significant amount of excess capacity, while investors are still somewhat skeptical about the elimination of excess capacity. This will drive an improvement in ROE across these industrial sectors though it will remain lower than the ROE of new economy sectors. Moreover, the success will not be uniform across all sectors. We expect the steel and paper sectors to be more successful in excess capacity reduction than others.

Whilst reform of China's underperforming SOE sector remains a key challenge for China's government, the good news is that organic bottom-up change is rapidly reshaping the corporate landscape in China. China's private firms already dominate the listed space (MSCI China) in the IT, consumer and healthcare sectors, generating far higher returns with less use of leverage than their SOE peers. They are likely to continue driving the growth transition forward. Non-SOE firms could reach 70% of MSCI China's market cap by 2020. Also, a very vibrant set of large private firms is appearing in the IT, advanced technology, consumer and services sectors. We show that there are currently more than 50 Chinese "unicorns" - i.e. private firms which have achieved a private equity / VC valuation of more than US$1bn. This is second only to the number of US firms which have achieved this status and more than the sum of the rest of the world ex the US put together.

Implications of this journey towards high income

A new China: implications for the global economy

China's move towards high income will impact the global economy in two ways, principally transmitted via the trade channel. As consumption becomes even more dominant as a growth driver in China amid an environment of rising disposable incomes, the composition of domestic demand will evolve and the consumption basket will shift significantly as well, resulting in changing import end-demand. Travel and tourism, healthcare and leisure services all have plenty of road to run and are areas of opportunity for foreign firms. However, China's likely success in continuing to move up the global value-added manufacturing chain, leveraging its gigantic domestic market and funding capabilities (both for R&D and industrial capacity building), represents a profound challenge to upstream manufacturing economies such as Korea, Japan and Taiwan in Asia and Germany in Europe.

Rise of China's MNCs – domestic champions and global players

The rapid development of China's corporate sector will continue to be a driving force of economic growth. The corporate landscape in China is characterised by ferocious competition in some areas but overt government ownership, regulation and control in others. Several Chinese firms have already emerged as domestic champions and are well on their way to being global multinational corporations (e.g. Alibaba, Sinopec, Huawei, or Fosun) or are domestic champions with the resources to compete globally near term (Baosteel, Tencent and Sinopharm).

We expect a big increase in the list of domestic champions and multinational corporations (MNCs) as China's transition towards high income status proceeds. These MNCs are already providing outsized positive spillovers to the overall economy primarily through productivity gains, which we see as critical to China's long-term development given its deteriorating demographic trends and declining overall return to capital investment in recent years.

A transformative decade ahead - how to play the China opportunity

Over the next decade, significant changes in the economy as the consumer, services and high end manufacturing sectors gain in importance while old economy sectors have to adjust to new realities will create a significant spillover impact but also give rise to opportunities.

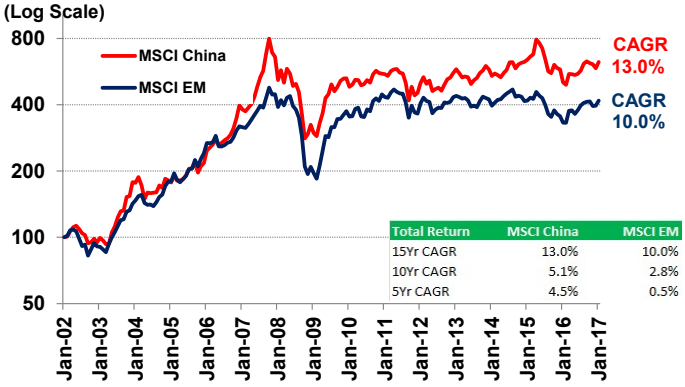
Broad stock market indices: If China can become a high income country in the next decade, we think it is very likely that MSCI China can continue its trend outperformance of MSCI EM. Over the last 15 years - the period since MSCI China began to have reasonably full sector representation - MSCI China has outperformed MSCI EM by 3.0% per annum, delivering a total US dollar return CAGR of 13% versus 10% for MSCI EM. MSCI China has also outperformed the S&P 500 by a far greater amount over this long time horizon, though the outperformance has paused in recent years. Our end of 2017 target for MSCI China is 66 (set at the end of November 2016 when MSCI China was 61), driven by a cyclical upswing in earnings and some modest multiple expansion on Southbound flows through the Connect programs.

Sector preferences: As the growth transition further unfolds we recommend maintaining our long standing consistent strategic preference over the cycle for the higher ROE, less leveraged, more private-sector skewed New Economy sectors (IT, consumer and healthcare) over the lower ROE, more leverage, more SOE-sector skewed Old Economy sectors (energy, materials and industrials).

China stock ideas: Exhibit 6 provides summary company information, valuation and Morgan Stanley price targets for 12 Chinese firms which are a) most positively leveraged to the key themes of this report including: from high investment to high consumption; from manufacturing to services; the transition to higher value-added manufacturing; eliminating excess capacity; and the development of global MNCs; b) Overweight rated by Morgan Stanley analysts and c) larger than US$2bn in terms of market capitalization. Other more detailed screens on these themes with a wider group of stocks are provided in Chapter 8 and 9, including for China's A share markets which are rapidly opening up to foreign investors.

Exhibit 4:

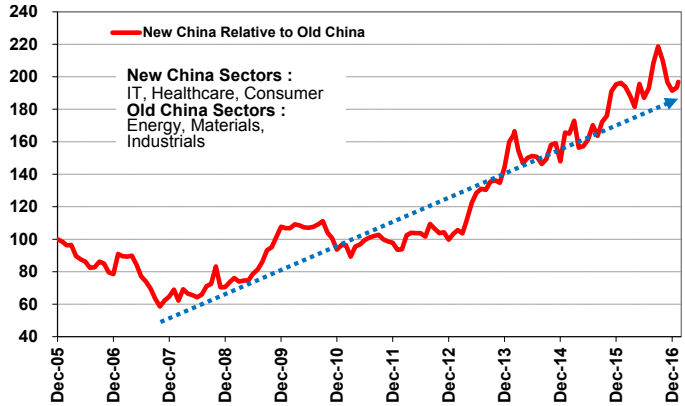
MSCI China versus MSCI EM – total return rebased index in US dollars



Source: MSCI, Morgan Stanley Research. Monthly data as of January 2017.

Exhibit 5:

Sector performance: We expect New China to continue to outperform relative to Old China



Source: Bloomberg, Morgan Stanley Research. Data as of February 9, 2017.

Exhibit 6:

12 Chinese firms which are a) most positively leveraged to the key themes of this report, b) Overweight rated by Morgan Stanley analysts and c) larger than US$2bn in terms of market capitalization

Reuters Code	Company name	GICS industry group	Market Cap U$Mn	Price	Stock rating	Target Price	% to Target	PE 2017E	PBV 2017E	DY 2017E	ROE 2017E
BABA.N	Alibaba Group Holding	Software & Services	264,757	103.3	OW	140.0	35.5%	38.4	5.47	0.0%	15.8%
2020.HK	ANTA Sports Products	Consumer Durables & Apparel	7,770	24.0	OW	27.2	13.3%	18.4	5.24	3.8%	29.8%
3988.HK	Bank of China Limited	Banks	149,688	3.7	OW	5.5	47.1%	5.6	0.67	5.4%	12.6%
600019.SS	Baoshan Iron & Steel	Materials	16,309	6.8	OW	7.5	10.3%	15.9	1.02	3.2%	7.2%
0386.HK	China Petroleum	Energy	100,923	6.2	OW	7.9	27.9%	13.6	0.92	3.7%	6.9%
1766.HK	CRRC Corp Ltd	Capital Goods	37,726	7.5	OW	8.8	17.2%	13.3	1.46	2.0%	11.5%
CTRP.O	Ctrip.com	Retailing	2,455	43.4	OW	55.0	26.8%	100.0	3.61	0.0%	3.6%
002415.SZ	HIKVision Digital	Technology Hardware &	23,298	26.2	OW	30.0	14.5%	15.4	5.00	1.9%	36.6%
600031.SS	Sany Heavy Industry Co.,	Capital Goods	8,165	7.4	OW	9.3	26.4%	21.4	2.26	1.4%	11.0%
1099.HK	Sinopharm Group	Health Care Equipment & Services	13,465	37.8	OW	47.0	24.5%	18.3	2.60	1.7%	15.0%
0700.HK	Tencent Holdings Ltd.	Software & Services	247,174	203.2	OW	230.0	13.2%	32.9	7.87	0.3%	26.6%
600066.SS	Zhengzhou Yutong Bus	Capital Goods	6,449	20.0	OW	28.0	40.0%	9.8	2.87	7.2%	30.6%

Source: Modelware, Morgan Stanley Research E = Morgan Stanley Research estimates. Data as of February 10, 2019 except US listed stocks as of February 9, 2017.

Challenges and risks

Risks to the base case are high...

While our base case is that China will continue to make steady progress towards a high income status, there are both external and domestic risks which could derail this process. Indeed, considering that most middle-income economies have not managed to make the transition towards high income status, the weight of the historical experience does seem to count against China successfully making the transition. Moreover, China's transition is happening at a time when the global economic environment is likely to be less supportive for growth considering that many large sized economies are also facing slowing potential growth rates in the face of rapidly deteriorating demographic trends and when global productivity growth has slowed in recent years.

Externally, the key risk would be extreme trade protectionism. As China is one of the world's largest trading nations, the impact on China would be significant. Going beyond the direct impact on China's exports growth, a protectionist environment would adversely affect corporate sentiment. More importantly, with significant manufacturing capacity and with select sectors still facing challenges of excess capacity, extreme trade protectionism would exacerbate existing issues and lead to the re-emergence of deflationary pressures for China. More broadly, the reduced competition and flow of goods, services and people in a more protectionist environment would reduce the exchange of ideas and slow the rate of technological transfer that has been one of the driving forces of China's rise towards middle income status.

Domestically, the slow pace of reforms and sub-optimal management of the debt cycle could result in a significant drag on productivity and overall GDP growth. In this scenario, policy makers continue to target higher growth with excess investment, but this will push up imbalances in the economy. Productivity growth falters and, reflecting the poor incremental productivity of credit, debt to GDP ratios continues to rise at a rapid pace. The pace of reforms disappoints and is unable to lift lacklustre productivity growth. As a result, growth rates decelerate at a faster pace and settle eventually at a lower level than in the base case. The adverse external environment and slow pace of domestic environment leads to faster currency depreciation, all of which combine to depress per capita incomes and China does not attain high income status over the forecast horizon.

From an equity market perspective, the near term risks to our view would centre on two issues. Firstly, an earlier downturn in China's macro-economic cycle (either an over-tightening of policy or the impact of trade protectionism). Secondly, whether the overhang of government holdings of stock from last year's intervention (the current estimated holding is about US$150bn) is released into the market too aggressively. This could damage sentiment in the A share market and in turn limit Southbound flows into Hong Kong through the Connect programmes, impacting our thesis of modest multiple expansion in 2017 for MSCI China. **Longer term risks** centre mainly on whether the high ROE/high revenue companies in MSCI China can continue to reinvest successfully in their business models and also be joined by new players with attractive business models targeting higher value added manufacturing and services.

...but we are confident that China will achieve high income status over the next decade

Risks notwithstanding, our base-case scenario remains that China will achieve high income status by 2027. Our confidence in the base case stems from a few reasons. First, policy levers and buffers remain adequate, leaving room for policy makers to maneuver and manage the debt cycle. Second, significant headway has been made in a number of the key transitions that would be needed to be taken. Hence, as the economy moves steadily in the right direction, we expect steady growth and continued progress towards a status of high income.

Exhibit 7:

Key points of debate

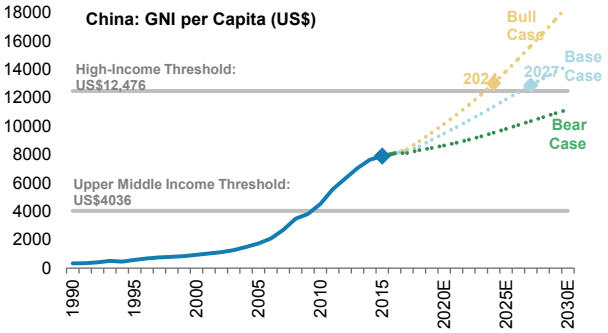
Key Debates	Market View	Our View	Reasons / Implications
Are the risks of a financial shock high?	Rapid debt buildup in recent years suggest the risks are meaningful.	We view the risks as low.	China's debt is mainly domestic. Macro set-up and policy preferences enable China to manage liquidity and prevent a financial shock.
Will China achieve high income status?	China will enter the "middle income trap" on its trajectory as current macro challenges will pose obstacles.	We expect high income status by 2027.	Even though growth rates will slow, no financial shock and continued transition towards high value economic activities will ensure incomes will compound over time.
How will China's shift in consumption landscape play out?	There is a lack of consensus on the magnitude and pace of transition.	The consumer economy already drives growth. We expect private consumption to reach 47% of GDP by 2030. IT, Consumer services and healthcare segments will benefit the most.	Emergence of richer, older and more tech savvy population will lead to significant changes in consumer behavior.
What lies ahead for the service segment development?	Barriers to foreign and private participation in services sector hinder development of the services segment.	The services sector will be the fastest-growing segment and will account for 60% of GDP by 2030.	Higher per capita incomes drive an increase in demand for services. Increased private sector participation will boost development of the services sector.
Can China emerge as a powerhouse in high value added manufacturing?	There are doubts about China's ability to compete in the higher end of the global value chain.	China is already winning globally in large segments of heavy industry (railways, power generation, ships, and telecom equipment) and key segments of consumer (smart phone handsets and PCs).	Chinese companies to emerge as global multinationals leveraging their huge domestic market, ultimately competing in consumer electronics, capital goods, advance semiconductors, autos and large body airplanes.
How is China reforming its SOEs, and will it work?	Investors are seeking an approach that emphasizes privatization and de-regulation.	Reforms are aimed at improving the efficiency of SOEs but the approach is to consolidate and strengthen SOEs.	The approach will result in consolidated SOEs and national champions but will be sub-optimal. The reforms will help lift aggregate returns, but not to levels comparable with the private sector.
Can China manage away its excess capacity?	Excess capacity remains a challenge.	We think China will be able to eliminate a significant portion of its excess capacity on a three- to four-year horizon.	Policy makers have curtailed investment growth in the sectors with excess capacity and they made progress on cutting excess capacity. Utilisation ratios will improve, as will ROEs.
Can China equities outperform?	Portfolio managers have been underweight China versus other EM for over 10 years and currently run a near record underweight position.	MSCI China has outperformed both EM and the S&P 500 over the last 15 years by a considerable margin and can continue to do so.	The sector composition of the equity market is shifting continuously towards the higher ROE, higher revenue growth sectors which are driving China's growth transition.

Source: Morgan Stanley Research.

China's transformative decade: an overview in charts

Exhibit 8:

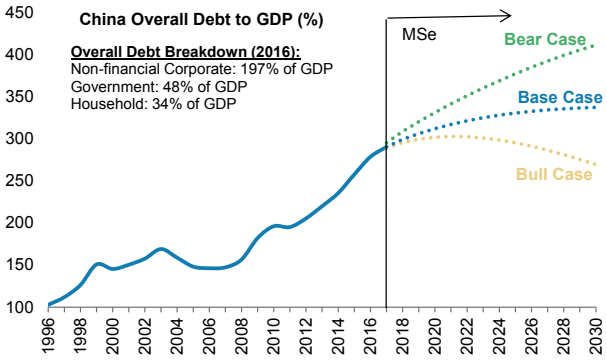
We expect China to achieve high income status by 2027



Source: World Bank, Morgan Stanley Research. E=Morgan Stanley Research Estimates. GNI= Gross National income. We adopt the classification of income status as defined by the World Bank. As of 1 July 2016, high-income economies are those with a GNI per capita of US$12,476 or more. Upper middle-income economies are those with a GNI per capita between US$4,036 and US$12,475.

Exhibit 9:

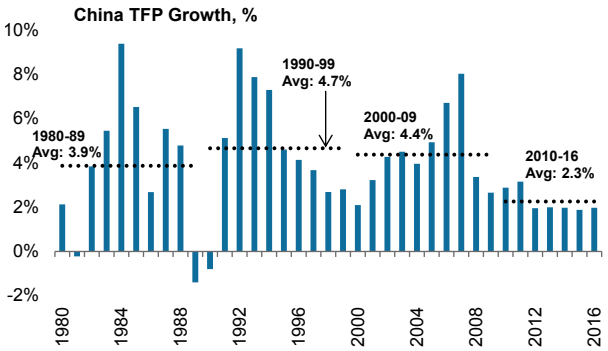
We expect the pace of increase in debt to GDP to slow



Source: CEIC, Morgan Stanley Research. MSe=Morgan Stanley Research Estimates.

Exhibit 10:

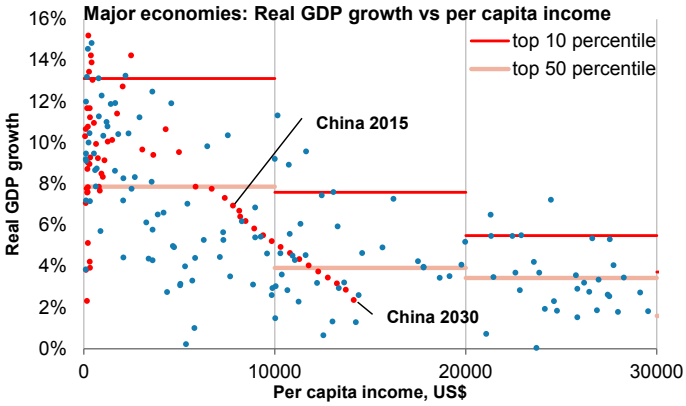
Successful transitions in its economic model will be needed to support productivity growth



Source: NBS, Morgan Stanley Research.

Exhibit 11:

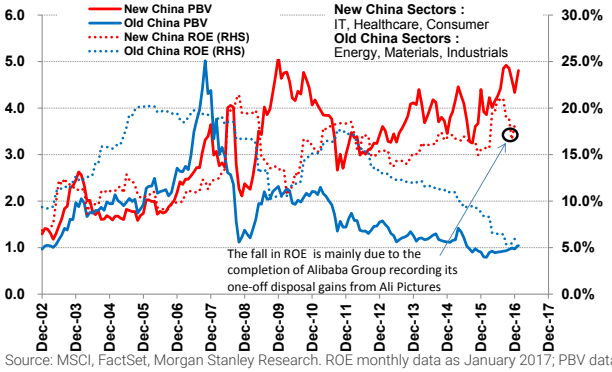
Slower overall growth will be inevitable in the process…



Source: Haver, Morgan Stanley Research.

Exhibit 12:

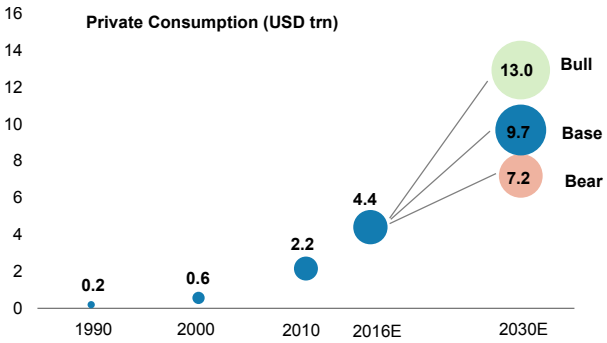
…with growth primarily driven by the new economy sectors. Indeed, we have already seen a divergence in ROE between "New China" and "Old China"



Source: MSCI, FactSet, Morgan Stanley Research. ROE monthly data as January 2017; PBV data as of February 9, 2017.

Exhibit 13:

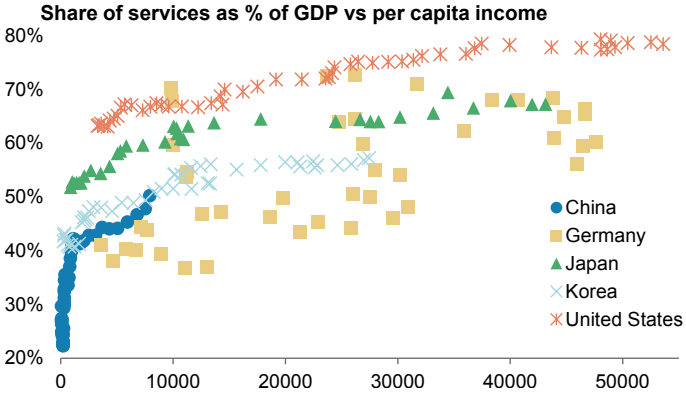
As China transitions towards high income, consumption will take center stage, accompanied by a shift in consumption patterns



Source: NBS, Morgan Stanley Research. E=Morgan Stanley Research Estimates.

Exhibit 14:

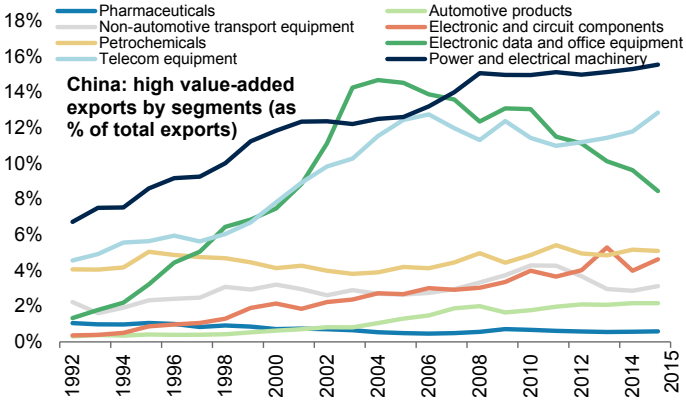
We expect the share of services to rise to 60% of GDP by end-2030



Source: Haver, Morgan Stanley Research.

Exhibit 15:

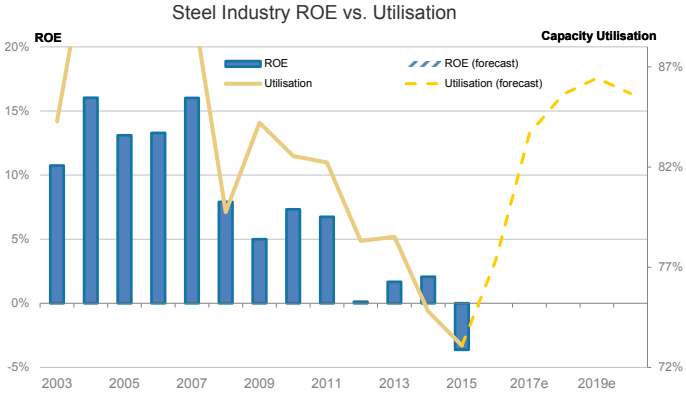
China's manufacturing sector will continue to climb up the value chain



Source: WTO, Morgan Stanley Research.

Exhibit 16:

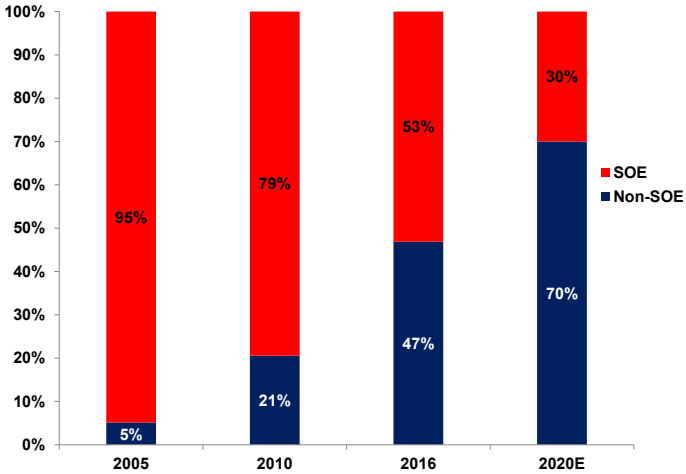
For the old economy sectors, we expect utilization ratios and ROEs to improve due to capacity cuts



Source: WIND, CISA, Morgan Stanley Research, E=Morgan Stanley Research estimates.

Exhibit 17:

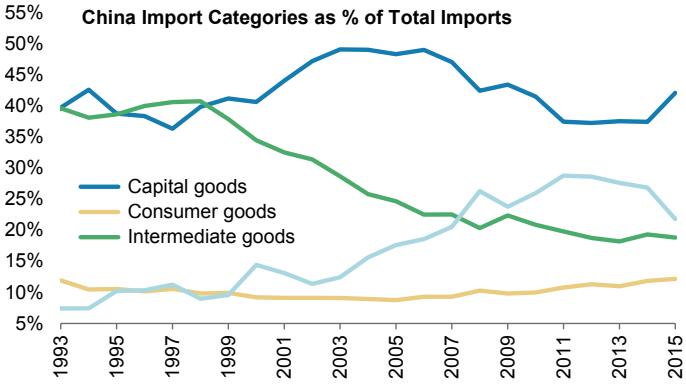
China's vibrant private sector – non-SOE firms could reach 70% of MSCI China's market cap by 2020



Source: MSCI, Morgan Stanley Research. E=Morgan Stanley Research estimates.

Exhibit 18:

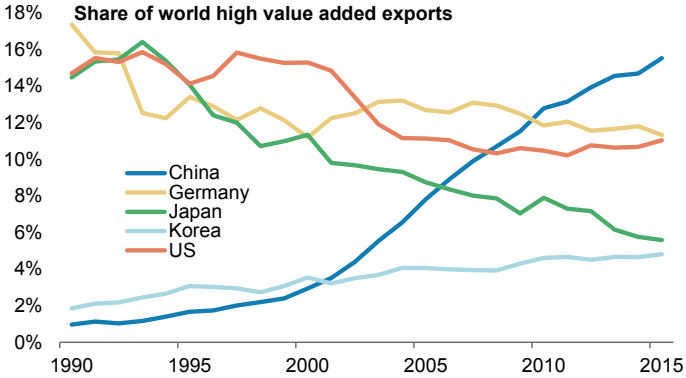
China's transition will mean an increase in consumption imports …



Source: UN Comtrade Database, Morgan Stanley Research.

Exhibit 19:

… and its move up the value chain will create more intense competition for developed economies



Source: WTO, Morgan Stanley Research.

Chapter 1: Ensuring continued prosperity

Investors are concerned about the possibility of a financial shock in China constraining the ability of the country to raise per capita incomes to a high level. However, we believe adequate policy buffers and deft management of the debt cycle will mean a high income status will be a likely outcome over the next decade. But, the economy still needs to navigate a number of mega trends and undergo a series of structural transitions over the next decade, and these will provide investors with opportunities.

In this chapter, we address the following key questions:

(1) Will the current debt buildup lead to a financial shock?

We differ from the consensus view that China will face a financial shock. We believe China's macro set-up of own misallocation of saving into investment, strong external position (current account surplus, positive net international investment position and large FX reserves), and lack of inflationary pressures will allow policymakers to control liquidity conditions, avoiding a financial shock.

(2) Will China attain high income status?

Investors are of the view that a possible financial shock and the intense deflationary pressures could lead to a sharper slowdown in real income growth. While we do expect growth to slow in the coming decade, we are confident that the transitions in the economy are taking place at a reasonable rate of progress in a way that would help ensure that China would be able to achieve high income status. We believe China can achieve this by 2027, allowing it to escape the middle income trap that had been the norm thus far.

(3) What does China need to do to reach the high income level?

To obtain status as a high income economy, China will need to be successful in five key transitions in its economic model, by transitioning from high investment to high consumption, from manufacturing to services, and from low value to high value added manufacturing, implementing meaningful SOE reforms and reducing excess capacity in the economy.

Rising investor anxiety over China's growth trajectory

In recent years, investors have become increasingly nervous about the outlook for China's economic development. At its core, the concerns stem from the following two related factors:

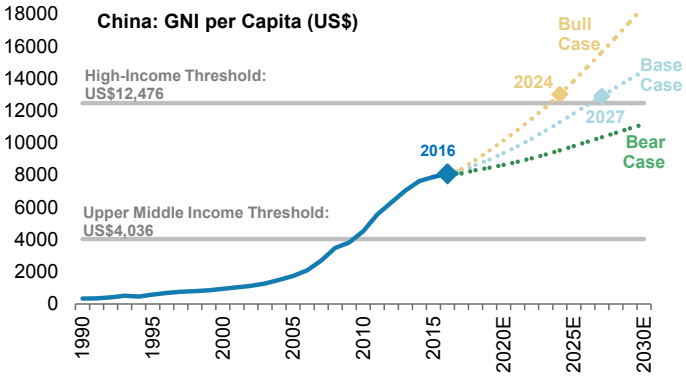
1) Sharp rise in debt to GDP: Since 2007, debt to GDP in China has been rising continuously. The rapid build-up of debt from 147% of GDP in 2007 to 279% in 2016 led to concerns over the sustainability of the debt build-up and also whether China would face a financial shock similar to that of the US in 2008 and Asia in 1997/98. Indeed, an International Monetary Fund (IMF) event study of the historical experience of financial crises suggests that financial shocks and/or growth slowdowns have tended to occur after an average build-up of debt to GDP ratios of more than 30ppt within five years. China's experience of the past eight years has thus been exceptional when viewed against this historical context.

2) Income growth trajectory: The possibility of a financial shock and the implications that a deleveraging cycle would have on the growth trajectory has led investors to reassess China's path towards a high income status. Investors are of the view that a possible financial shock and the intense deflationary pressures could lead to a sharper slowdown in real income growth.

However, on both of these issues, we disagree with the consensus view that a financial shock is inevitable and that China's progress towards high income status will stall. Instead, we think that specific characteristics and appropriate management of the debt cycle will mean that China would be able to avoid a financial shock. Moreover, the transitions in the economy are taking place at a reasonable rate of progress in a way that would help ensure that China would be able to achieve high income[2] by 2027, by our estimates.

Exhibit 20:

We expect China to reach high income status by 2027



Source: World Bank, Morgan Stanley Research. E=Morgan Stanley Research estimates. GNI= Gross National income. We adopt the classification of income status as defined by the World Bank. As of July 1, 2016, high-income economies are those with a GNI per capita of US$12,476 or more. Upper middle-income economies are those with a GNI per capita between US$4,036 and US$12,475.

Time to reshape the growth model

The powerful interplay of three macro factors – demographics, structural reforms, and globalization – drove a three-decade boom in China, similar to the rapid growth phases in other economies.

First, the improvement in China's age dependency (the ratio of the non-working age to working age population) since the 1970s provided the economy with a huge addition to its working age population, i.e., the demographic dividend. **Second**, to utilize the burgeoning work force, policy makers created a conducive environment for investment by maintaining a low cost of capital. In addition, policy makers undertook reforms that mobilized land and other resources effectively to build up supporting infrastructure. **Third**, increased globalization against a healthy global backdrop and China's own ascension to the global trade system provided the demand that the country's own expanding labour force and capex build-up could then help to meet. In other words, external demand provided a fillip to aggregate demand and accelerated job growth. This interplay of demographics, reforms, and globalization created a virtuous cycle of stronger growth in productive job creation, which then led to income growth, higher saving, and investment, creating a high growth and relatively low inflation environment, which prevailed until 2007.

However since then, changes in the macro environment have posed several headwinds to China's growth model. We think that the three mega-trends of (1) the changing nature of the global and external environment, (2) rising per capita income and productivity levels and (3) the ageing population have warranted a shift in the

growth model - away from an exports and investment-led growth model to a more consumption oriented one.

However, after the credit crisis, despite this backdrop of weakening demographics and structurally weaker export growth, policy makers have stimulated domestic demand with capex targeting high growth. In other words, China's response was to add to capacity supply when the global financial crisis affected the developed world's consumption and emerging economies' export outlook.

In particular, the aggressive employment of capital inputs has led to a decline in productivity and a surge in the incremental capital output ratio. Overall debt to GDP climbed from 147% in 2007 to 279% in 2016.

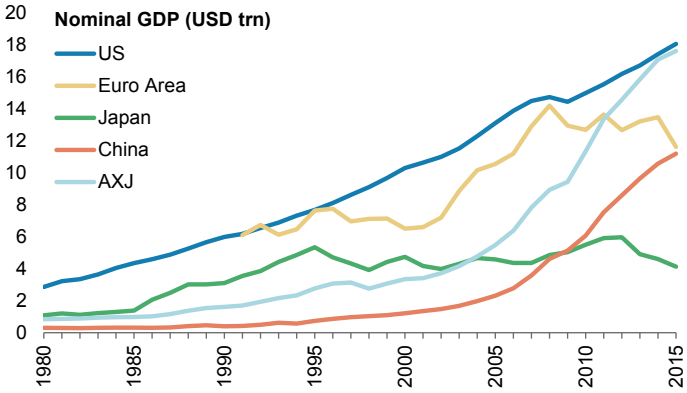
Against this backdrop, investors have been concerned that the debt build-up could result in a potential financial shock, which would be akin to the experience of the US in 2008 and emerging markets in the 1990s. **However, we think that the macro set-up and policy preferences will mean that the risk of a financial shock in China is low.**

There are three key characteristics of China's current macro set-up: i) Debt is being largely funded domestically, i.e., China is misallocating its own excess saving; ii) it remains a net creditor to the world (with a net international investment position of 14.7% of GDP) and it runs a current account surplus; and iii) it does not face inflationary pressures, which will allow the central bank to inject liquidity to manage any potential risk aversion in the domestic financial system. While there are non-performing loans in the banking system, policy makers will have significant control of liquidity conditions that would prevent a financial shock.

Even though policy makers will be able to prevent a financial shock, the elevated debt levels will weigh on growth and the deleveraging cycle will remain somewhat bumpy as the economy will go through mini-cycles of slowdown and recovery. If aggregate demand slows by more than policy makers' comfort zone, policy makers will enact stimulus to cushion growth and prevent any attendant effect on social stability. Indeed, the economy has just been through one such mini-cycle over the past two years. The economy slowed in late 2014 and early 2015 and policy makers responded with monetary and fiscal stimulus, leading to a recovery phase which began in late 2015 and lasted through 2016.

Exhibit 21:

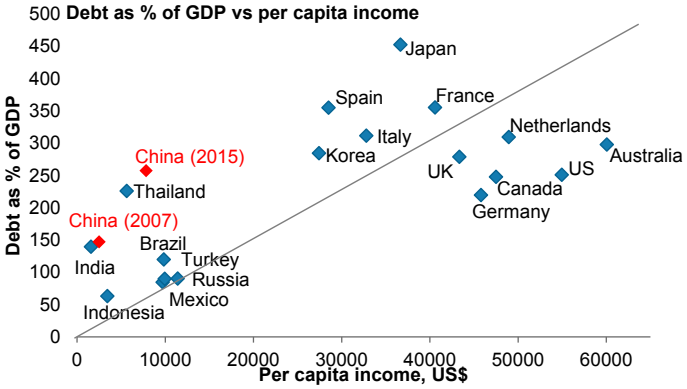
Nominal GDP evolution by country



Source: International Monetary Fund (IMF), Morgan Stanley Research. Note: AXJ includes China, Hong Kong, India, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan and Thailand.

Exhibit 22:

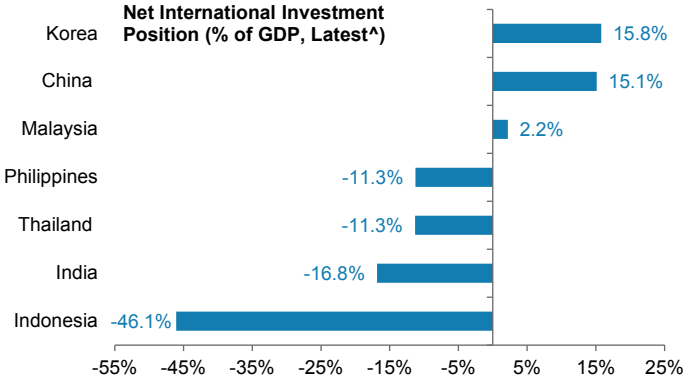
China's debt to GDP: Elevated among peers with comparable per capita income levels



Source: CEIC, Haver, Morgan Stanley Research

Exhibit 23:

China remains a net creditor to the world



Source: Haver, Morgan Stanley Research ^Latest as of September 2016

Three mega trends warranting shifts in the growth model

Structurally though, China's growth model of relying on investment as a key driver is increasingly out of sync with the current realities of the domestic and external economic environment. This has thus given rise to a myriad of related challenges, chief of which is the build-up of debt and slowing of productivity growth. Specifically, we identify three mega trends that the economy has not fully adapted to.

1) Changing nature of global and external environment

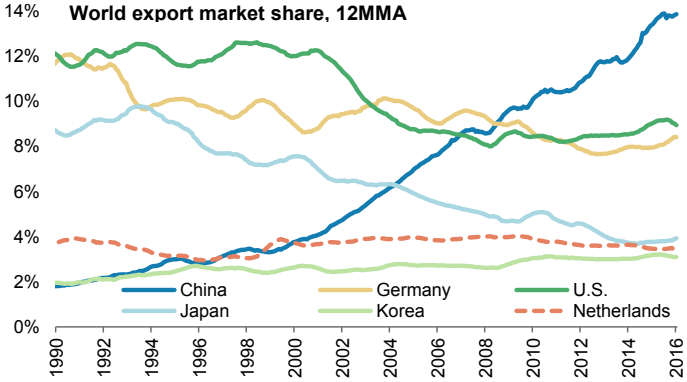
China has been a key beneficiary of globalization. The openness of the global trade and production network allowed the cross-border flow of goods and production, which facilitated the rise of China as a global manufacturing powerhouse. China was thus able to leverage on exports as a source of demand, which allowed China to effectively utilize its working age population and grow its per capita incomes.

However, the external demand dynamics has changed completely in recent years. Growth in global trade volume has declined to an average of 1.8% YoY since 2012, compared to the pre-crisis average of 5.7%YoY in 2001-07. There are a variety of causes behind the sluggish growth in global trade in recent years. Over and above cyclical factors, such as a stronger dollar and lower commodity prices, which have led to a decline in the dollar value of trade, structural factors, including changes in China's growth patterns, the global shift to services-led growth from manufacturing, and the narrowing geographical distance between producers and consumers have also weighed on global trade growth.

Even though China has still managed to lift its market share in global exports in recent years, the subdued global environment has meant that China's exports growth have been structurally weaker. Export volume growth has slowed to an average of 3.1% YoY in the last three years, against an average of 8.4% YoY in the past decade.

Exhibit 24:

China's market share in global goods exports has risen to just above 14%



Source: IMF, Morgan Stanley Research.

Increased trade friction, rising protectionism

Trade frictions have increased and a number of countries have imposed tariffs and brought cases before the World Trade Organization (WTO) related to (usually cheap) imports from China while policy makers have been increasingly vocal about the trade deficits with China.

In addition, the recent shift in political rhetoric in the US has raised the risk of potential policy change related to trade (for more details, see *US & Asia Economics: Risking Risk of Protectionism: Measuring the Impact*, January 5, 2017)**.** At the heart of this development are the prolonged period of weak wage income trend in the US, and the subsequent political exploitation of globalization and its impact on the US economy as the main cause behind sluggish income trends. It is in this context that the backlash against globalization and trade proliferated during the US election year, and indeed across the globe. We expect that a proactive and resolute management approach to trade relations would help boost export growth and job creation, turning trade into an economic growth driver.

It is in this context that China has emerged at the forefront of this US trade protectionism drive, given that the US runs an outsized trade deficit with China. The Trump administration, accompanied by a Republican-controlled Congress, provides sufficient political motive and opportunity to suggest a shift towards more protectionist trade policies.

Potential measures by policymakers include (1) border tax adjustment as part of a wider tax reform package, or (2) an increase in import tariffs. The tax reform currently proposed seeks a radical transformation of the corporate income tax system into a destination-based cash flow taxation system that would 'border adjust' by not taxing revenues from exports and disallowing deductions for the cost of imports. While theoretically trade neutral, we anticipate it to benefit net exports and hurt net importers due to foreign exchange impact. Additionally, the introduction of import tariffs would also see the US shift away from its currently very open goods trade regime. These measures are feasible from a legal perspective, because the president's constitutional power over foreign affairs and multiple statutes enacted by Congress should theoretically allow the president to unilaterally raise tariffs and cancel trade agreements.

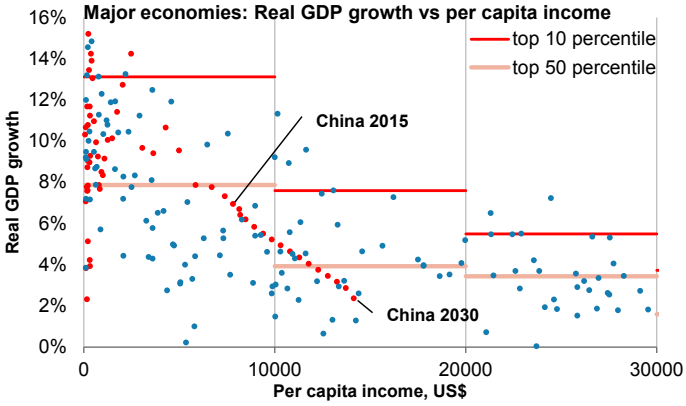
The impact of US protectionist trade measures on China would therefore be multi-fold, given its close trade relationship with the US, and its role in the intertwined global and Asian supply chain. Given the US's strong reliance on Chinese imports, limiting the flow of goods and services would have the direct, near-term impact of weakening external demand, which would weigh on export growth. This would create a significant headwind to China's real GDP growth. In particular, top Chinese export categories to the US such as telecommunication equipment, computers and related automatic data processing parts and miscellaneous manufactured articles (mostly consisting of lower value-added goods), would be adversely impacted. From a broader perspective, this would be seen as a retreat of the globalization wave which has been one of the enabling factors that has allowed for better growth in China.

In the long term, an escalation of global trade protectionism, spearheaded by the US and subsequent retaliations by trade partners, would hurt China's access to the global market. This would slow capital deepening and limit technological diffusion between China and the global technology frontier, weighing on productivity growth further. It could potentially result in a permanent loss of output in the long run.

Since the US has withdrawn from the Trans-Pacific Partnership (TPP), another regional trade deal in the pipeline – the Regional Comprehensive Economic Partnership (RCEP) – has emerged as a comparable alternative. The deal is an Asia-focused trade pact (participant countries include the 10 members of ASEAN - Brunei-Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam - and Australia, China, India, Japan, Korea, and New Zealand) on tariff reduction and harmonization in manufacturing industries.

Exhibit 25:

Real GDP growth typically turns lower as per capita income rises



Note: The major economies represented here include China, Germany, Japan, Korea and US. Haver, Morgan Stanley Research.

In addition, China has commissioned a study on the possibility of a more comprehensive Free Trade Area of the Asia Pacific (FTAAP) agreement, which would also include the US. However, given the current conditions in the US, the possibility of such an agreement is unlikely to be taken up for negotiation anytime soon. Additionally, China is also pursuing other Free Trade Agreements (FTAs), including China – Gulf Cooperation Council free trade agreements, as well as with Israel, Norway, Sri Lanka, Pakistan, the Maldives and Georgia. However, given the long time frame before trade negotiations can be concluded, these new trade agreements in the pipeline will be unable to mitigate the immediate impact of US trade policy changes.

The changing nature of the external demand towards slowing global trade, a more protectionist tilt, especially in developed market economies, and a shift in demand towards emerging markets has raised challenges for China's export machinery.

2) Rising per capita incomes and productivity levels

The second mega trend is rising per capita incomes. China's per capita incomes have already risen to what the World Bank classifies as middle-high income. Rising incomes typically mean that the economy is approaching the technology frontier, limiting the pace of further catch-up growth. Indeed, China has caught up with or even exceeded some developed economies in terms of a number of the World Bank's key developmental indicators over the past decade. These include the share of hi-tech exports as a percentage of manufactured exports, mobile cellular penetration, and R&D expenditure as a percentage of GDP. Although, China is still lagging behind in terms of health care expenditure and tertiary education enrollment.

The rising per capita incomes and productivity levels would typically trigger changes in the growth model because of the changes in the nature of demand. However, economies will naturally experience a moderation in productivity growth during this period, as the transition towards a consumption and services-led growth phase takes place.

3) Ageing population

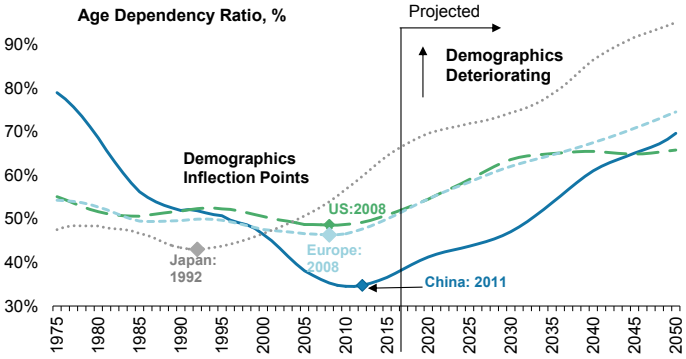
The third and perhaps most important mega trend relates more to the supply side of the economy. Demographic tides are reversing very quickly with a rising age dependency and declining working age population over the past five years. Specifically, China's working age (ages 15-64) population declined by 0.1% in 2015. United Nations projections suggest a period of larger declines in the working age population in the years ahead. Also, the UN projects that the prime working age population (ages 25 to 50) will also shrink from 2016.

Despite the removal of the one-child policy in October 2015, we believe this is unlikely to have a material effect on raising the total fertility rate and stemming the decline in the working age population. The experiences of other countries suggest that fertility rates tend to fall as per capita incomes rise and in most cases, the total fertility rate does not rise back above 2.1 (replacement rate). Moreover, considering the size of the work force in China (of about 800mn), it is unlikely that China will be able to utilize migration as an effective tool to offset the headwinds from demographics.

The reversal of the favourable demographic trends will pose headwinds to growth, in the form of a direct effect on labour force growth and also somewhat indirectly via its effect on productivity growth. Previously, China's strong growth had been driven by the continued increase in the working age population and the policy efforts to lift investment and job creation, which would effectively utilize this growing work force and generate overall income growth. However, a declining labour force would directly reduce the labour inputs in an economy, and thus weigh on overall growth. At the same time, an ageing workforce will have an additional negative effect on productivity growth, a fact borne out by growth accounting exercises for Japan, Korea and Europe.

Exhibit 26:

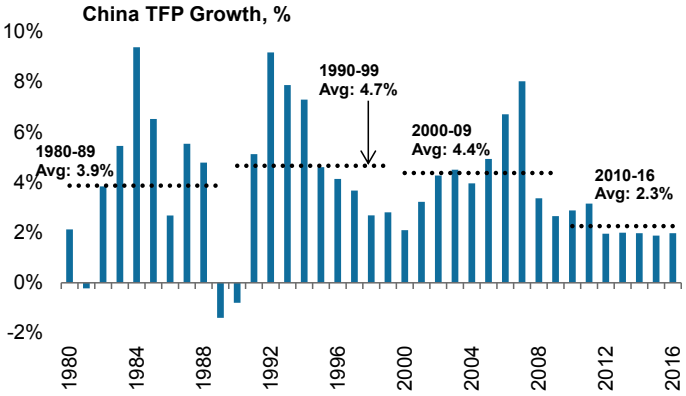
China's age dependency ratio has already inflected, in 2011



Source: United Nations, Morgan Stanley Research. Projections from United Nations

Exhibit 27:

Total factor productivity growth has been slowing in China



Source: NBS, Morgan Stanley Research.

Indeed, China's total factor productivity (TFP)[3] growth has been declining in recent years, reflecting the rising limitations that China's current growth model is facing. For 2016, we estimate total factor productivity (TFP) growth was only 2.0%, compared with 3.2% that was achieved in 2011.

Two crucial factors for ensuring China's continued prosperity

China is now at crossroads, facing challenges in its transition toward a new era. These mega trend changes in the backdrop have triggered the need to reengineer the growth model. The key developmental aspect/transition now is to ensure that China will be able to overcome these constraints and obstacles to growth and achieve a high income status. However, the path ahead remains challenging as the historical experience suggests that only a handful of economies have been able to successfully transition from middle to high income and escape the middle income trap.

Indeed, only 19 of the 74 (26%) economies that were classified as middle income in 1987 had become high income economies by 2015. Moreover, only two economies (Korea and Poland) with a population size of more than 20 million had been able to achieve a high income status over this time period.

The slowdown in productivity growth is the key reason why economies fail to escape the income trap. The transition towards middle income had usually been fuelled by sharp improvements in productivity as the economy industrialises. However, as the phase of rapid catch-up growth fades, economies are not able to sustain the high rates of productivity growth, resulting in a slow pace of income growth and eventual transition towards high income status (See Eichengreen: Escaping the Middle-Income Trap). In that context, the ability to defend the productivity slowdown therefore becomes critical. **With diminishing returns from the current growth model, persisting with it for longer will mean that the transition towards high income status will be delayed.** There is also a need to reaccelerate the pace of reforms and the nature of reforms needed have moved from the ability to mobilise resources efficiently to promoting innovation and encouraging greater flexibility in factor markets.

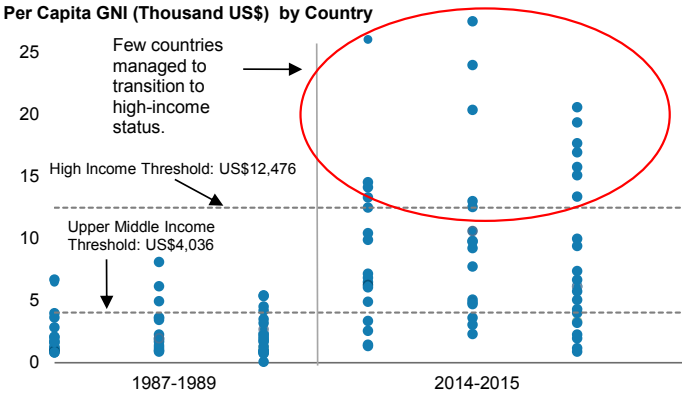
From this perspective, we think this rests crucially on two key factors:

1) Debt / monetary policy management

Although we do not expect the elevated debt levels to result in a financial shock, policy makers will still need to manage the debt cycle deftly to avoid negative repercussions on the economy. Specifically, policy makers will need to ensure credit is flowing towards the right productive areas and also that debt to GDP does not increase at too rapid a pace. (For a detailed analysis on the flow of credit, see How market misperceptions undervalue China's banks by Richard Xu et. al., November 11 2016.)

Exhibit 28:

Few economies have managed to escape the middle income trap



Source: World Bank, Morgan Stanley Research. Dots refer to individual countries classified as Lower Middle or Upper Income by the World Bank in 1987-1989.

Willingness to accept slower growth rates is a helpful step in this regard: As potential growth in China has slowed in light of the mega trends that we identified earlier on, policy makers had initially been targeting high rates of growth relative to potential, which has resulted in the situation of rising imbalances principally in the form of rising debt to GDP ratios. To address this at its core, policy makers would have to allow the economy to grow in line with its potential.

In this regard, policy makers have recently signaled a willingness to accept slower rates of growth, and place more focus on preventing financial risks and asset bubbles, indicating that they would not protect growth at all costs, often with the use of investment of a low return nature. The key implication of this shift in economic management would be that policy makers will manage monetary policy in a prudent manner and not lower real interest rates too quickly and aggressively as a means to cushion growth. Indeed, cutting real rates too quickly would entail the risks of accelerated capital outflows, which would invoke the trilemma challenge of having to manage the currency alongside preventing a spike up in interest rates.

In the context of managing the debt cycle, one of the key issues to resolve is that of deflation risks. Over March 2012 to August 2016, producer prices in China had been in deflation territory, leading to elevated real rates for the levered industrial sector (with troubled balance sheets in China). However, over the past 18 months, the government has made progress on structural transitions. Policy makers have recognised the risks of excess leverage and over-investment. Indeed, a gradual shift in growth mix, significant deceleration in manufacturing investment in sectors with excess capacity[4], a shut-down of old unviable capacities, and recovery in external demand leading

to improved capacity utilization in tradable goods have begun to reduce disinflationary pressures.

We think that the worst of the deflationary pressures is behind us. While there would still be a lingering challenge of low-flation in PPI in the near term, we do not expect an environment of entrenched PPI deflation. We do expect PPI inflation to decelerate from the current high levels as the supportive base effect wanes but, if the above mentioned factors stay supportive, PPI is unlikely to return to the deep deflationary territory that we experienced over 2H 2012 - 1H 2016.

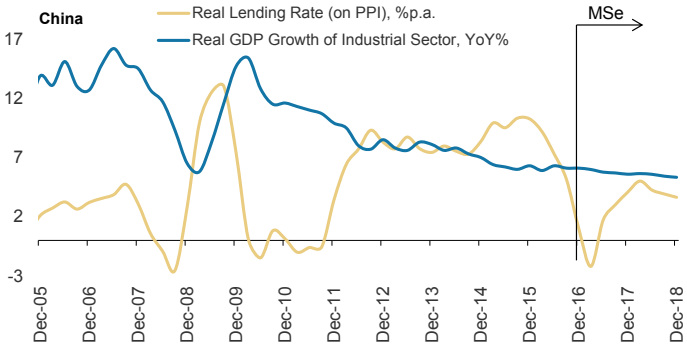
A backdrop of reduced disinflationary pressures, coupled with tolerance for slower growth, will result in a slowing pace of increase in debt to GDP. For the levered industrial sector (with troubled balance sheets in China), the reduced disinflationary pressures will mean that they will be able to manage debt dynamics better. For this purpose, we have been observing the real rates versus real GDP trend for the secondary sector since 2013. The recent increase in PPI inflation has helped to lower real rates meaningfully below real GDP for the sector. While real rates are expected to rise again as PPI inflation decelerates, the situation should be significantly better than the experience of 2H 2012 - 1H 2016.

At an aggregate level, accepting lower rates of growth will mean that policy makers will slow down the pace of debt growth. The credit intensity (or in other words - the incremental units of credit needed for an incremental unit of GDP) will too improve significantly from 2017 onwards. Against this backdrop, the pace of increase in the debt to GDP ratios will slow from the 21% points of GDP in 2016 to 6% points by 2020 and 3% points by 2025. The debt mix will also shift more towards the government and household balance sheets as policy makers seek to delever the troubled corporate balance sheet, a step that was largely in line with our view when we first discussed the challenges related to the deleveraging cycle back in 2013 (see China Deleveraging: A Bumpy Ride Ahead, 23 July 2013).

In that context, investors have raised some concerns at the pace of increase in household debt, which had been on the back of a cut in real rates and also relaxations of property purchase restrictions from 3Q14 onwards (before subsequently tightening again from March 2016). While leverage in the household balance sheets are, on aggregate, still relatively benign there will be some risks in certain pockets with the recent sharp rise in credit growth. Interestingly though, while demand for the real estate sector has been boosted, the control on supply and new starts has been kept tight, resulting in a reduction of inventory and meaningfully taking out the systemic risks in the property sector.

Exhibit 29:

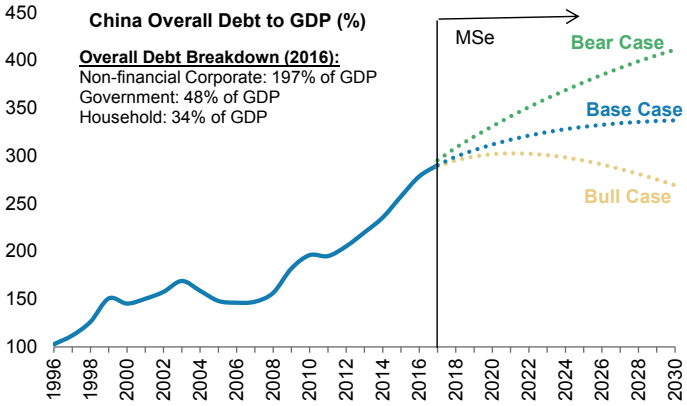
Real lending rate (on PPI) has moved below real GDP growth of the industrial sector recently and is expected to remain so over the forecast horizon



Source: CEIC, Morgan Stanley Research. MSe = Morgan Stanley Research Estimates.

Exhibit 30:

We expect a slower pace of increase in debt to GDP in our base case



Source: CEIC, Morgan Stanley Research. MSe=Morgan Stanley Research Estimates.

Still, our base case remains that China's growth in the coming years will sufficiently support its transition towards a high-income economy. Given its large current account surplus (i.e. excess investment is funded with its own saving) and a positive external investment position, the likelihood of a shock remains fairly low in our view. In this sense, China's debt management path will be quite similar to Japan's, with the consequence of an elevated debt burden taking the form of lower growth in the next decade. Still, we expect China's growth to compound at a much higher rate in the coming years relative to Japan's experience.

In our base case, China's real GDP growth will slow to an average of 4.6% in 2021-25, while debt to GDP ratios will rise also at a more gradual pace to around 312% of GDP by 2020. The key differences between China today and Japan in the 1990s are that: a) China's debt to GDP today is where Japan was in 1980 and Japan itself saw reasonable GDP growth between 1980 to 1990, b) Japan allowed a sharp appreciation of its currency after the Plaza Accord which resulted in a severe drag on the economy from the external front, and finally c) China's per capita income levels today are lower than Japan then as China's per capita GDP (in PPP terms) today is where Japan was in mid-80s. This backdrop would still be supportive of China's growth continuing to outpace that of the global economy.

2) Successfully transition the economic model

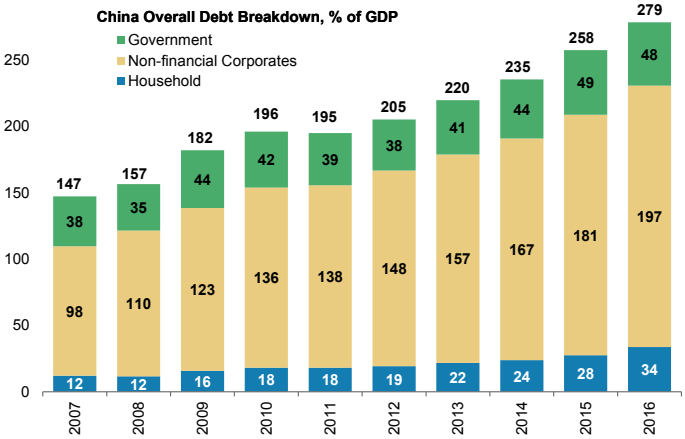
We identify five key transitions we believe China would have to make to ensure a path of continued prosperity and eventual transition towards high income status. We provide further details on each in subsequent chapters.

a) Transitioning from high investment to high consumption...

Propelled by underlying shifts in the population dynamics and rising per capita incomes, consumption growth in China will stay relatively high as compared with investment growth. By our projections, the opportunity in the private consumption market will double in size over the next decade, rising to an estimated US$9.7trillion by 2030 from US$4.4 trillion in 2016. Alongside the increase in overall consumption, more importantly, the composition of the consumption pattern will shift too as the consumer is getting richer, older, and more tech-savvy. This will drive a more than proportionate increase in the leisure, entertainment, travel, and health care segments.

Exhibit 31:

Mix of debt shifting towards government and household balance sheets



Source: CEIC, Morgan Stanley Research.

b) ....and from manufacturing to services

Mirroring the shift in consumption expenditures will be the growing importance of the services sector on the output side. We estimate services sector GDP will rise to US$12 trillion and will account for 60% of GDP by the end of 2030, up from 52% currently. The growth opportunities would most likely be from the areas of business services and real estate, along with health care, education, and personal services. In particular, considering the rapidly ageing trends, there is still significant scope for healthcare spending to rise in China in the coming decade.

c) Completing its emergence as a formidable player in high value added manufacturing

We expect China to continue to make progress in moving up the value chain, specifically targeting the higher end of the manufacturing value chain. Chinese firms already compete and win against developed market peers in heavy industrial sectors such as telecom equipment, power infrastructure (including nuclear), railway infrastructure (including high speed) and ship construction. In consumer sectors, the sheer size of the domestic market has led to the rapid emergence of domestic firms with strong brands in segments such as PCs and smartphones where local firms currently hold significant market share. The share of high value added exports has been steadily rising and now accounts for more than half of China's total exports. In particular, China has made progress in selected medium to high technology goods such as in electronic and

circuit components (transistors and LCD screens). Companies such as Alibaba, Huawei and Sany Heavy now have strong brands, globally significant R&D facilities, and are engaged in M&A to further enhance their business models. That said, in key areas such as indigenous automobiles and large bodied aircraft, China still lags in brand / product quality and capabilities.

d) Reforming SOEs – Chinese style

Although efficiency in China's state-owned enterprise (SOE) sector – as measured by ROE trends – is comparable with that in the SOE sectors in other emerging markets, it pales in comparison with that in the private sector in China. SOEs account for a much larger share in China than they do in other emerging markets, so reforming the SOE sector is imperative to improve overall returns in the economy. We believe China is unlikely to take up fully fledged privatization, such as in developed western economies. The government's plan to reform SOEs is centred around consolidation to improve efficiency and create national champions. Hence, although we do expect improvement in ROE in the SOE sector, it will remain less than optimal and will not match the returns of the private sector.

e) Managing out excess capacities slowly but surely

Since the credit crisis, although the domestic and external macro environment warranted a shift in China's growth model, this transition had been delayed until recently. The outcome of reliance on the old growth model for longer was reflected in large excess capacity in industries such as steel, cement, coal, capital goods, and paper. However, since early 2015, the government has embarked on weeding out unviable and less competitive excess capacity in its industrial economy. We expect that, over a period of 3-4 years, China will be able to eliminate a significant amount of excess capacity. This will drive an improvement in ROE across these industrial sectors though it will remain lower than the ROE of new economy sectors. Moreover, the success will not be uniform across all sectors. We expect the steel and paper sectors to be more successful than others in terms of reducing excess capacity.

Base case outlook – China to attain high income status by 2027

Over the next 10 years, the path of China's rebalancing and reforms will determine when the country will be able to attain a high income status. Against this backdrop, we model three possible scenarios for China's growth trajectory via a traditional Cobb-Douglas production function. For our projections, the labour input assumptions are sourced from the population projections from the UN and are unchanged across scenarios. However, for the different scenarios, the capital inputs and productivity growth assumptions are adjusted to reflect the progress of rebalancing/structural reforms.

The commonality across the scenarios is that overall GDP growth will slow, driven by a deceleration in labour and capital inputs. The extent of the growth slowdown will then depend on the pace of overall productivity growth. At the heart of this is the slowing of labour inputs (changing demographics), which will have an attendant effect on trends in saving and capital input growth. As the population ages, the life-cycle hypothesis (rising share of consumers relative to producers) suggests that savings to GDP ratios too tend to decline, and at the same time, the shrinking work force will lower the natural demand for capital inputs as there is a limit to which one can increase capital inputs without causing a severe drag on capital productivity. Finally, as discussed earlier, productivity growth has tended to slow as the working age population ages and the economy is nearer to the technological frontier.

In our base-case scenario, we assume policy makers will manage the debt cycle and economic transitions successfully, notwithstanding slower GDP growth. China will be able to attain a high income status by 2027. Real GDP growth slows gradually over the forecast horizon, reaching a terminal rate of 2.4% by 2030 and nominal GDP rises from US$11 trillion currently to US$20 trillion by 2030. As the economy matures, the structure of the economy shifts more towards consumption. We expect overall consumption to rise to 67% of GDP from 53% currently, while private consumption will take up 47% of GDP by 2030, up from 39% currently. We expect private consumption to reach US$9.7 trillion in 2030 from US$4.4 trillion in 2016.

In the context of the rebalancing and deleveraging path, investors have tended to look towards the historical experiences of US (2008) and Japan (post 1990s) for signposts as to how China's journey would evolve. These episodes resonate clearly in investors' minds because of the commonalities of an unproductive

build-up of debt in a particular sector, the specter of rising deflation risks as deleveraging proceeds and an ageing demography.

In our view, the debt management philosophy of policy makers in China today would be most similar to that of Japan in the 1990s. In both instances, the macro setup and policy preferences have meant that there would be low risks of a financial shock but the overhang of elevated debt levels on the financial system and economy would likely persist for some time. Indeed, we do expect China's debt to GDP ratios to continue to rise, albeit at a slower pace than before.

However, we do think that the growth outcomes in China in the coming decade will be better than that of Japan post 1990s. Over the next decade, we expect China to be able to still grow at a rate that would be faster than Japan in the post-1990s period. While the need for rebalancing and demographic trends in China today is arguably greater than it was in Japan during the 1990s, the relatively lower debt levels and per capita incomes suggest that there remains significant scope for China to be able to maintain catch-up rates of growth, which will continue to propel China towards a high income status.

Our confidence in this base-case scenario panning out arises from a few factors. First, policy levers and buffers remain adequate, leaving room for policy makers to maneuver and manage the debt cycle. Second, significant headway has been made in a number of the key transitions that would be needed to be taken. Hence, as the economy moves steadily in the right direction, we expect steady growth and continued progress towards a status of high income.

Exhibit 32:

China: Growth accounting, economic structure, and national income

	Growth Accounting 5Y Average				Economic Structure End of Period		National Income Level End of Period	
	Real GDP Growth	Capital Input	Labor Input	TFP Growth	Consumption to GDP, %	Investment to GDP, %	Nominal GDP, USD Trn	GNI Per Capita, USD
2011-2015	7.9%	5.6%	0.0%	2.2%	52%	45%	11.1	7,896
2016-2020E	6.1%	4.3%	-0.1%	1.9%	57%	40%	13.2	9,378
2021-2025E	4.6%	3.1%	-0.1%	1.6%	62%	35%	16.7	11,836
2026-2030E	3.1%	2.2%	-0.2%	1.2%	67%	30%	20.5	14,464

Source: NBS, Morgan Stanley Research. E=Morgan Stanley Research estimates.

Risks

While our base case is that China will continue to make steady progress towards a high income status, there are both external and domestic risks which could derail this process. Indeed, considering that most middle-income economies have not managed to make the transition towards high income, the weight of the historical experience does seem to count against China successfully making the transition. Moreover, China's transition is happening at a time when the global economic environment is likely to be less supportive for growth considering that many large sized economies are also facing slowing potential growth rates in the face of rapidly deteriorating demographic trends and when global productivity growth has slowed in recent years.

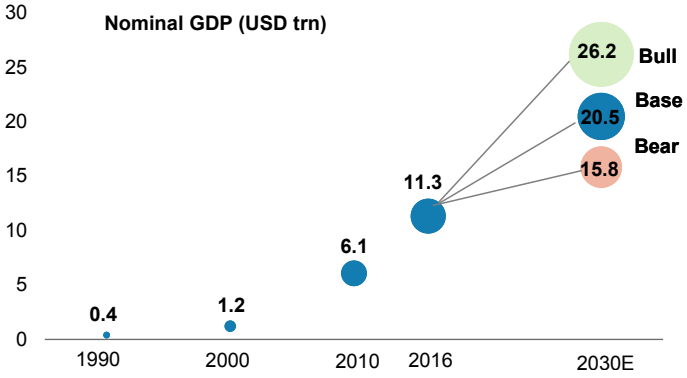
Externally, the key risk would be extreme trade protectionism. As China is one of the world's largest trading nations, the impact on China would be significant. Going beyond the direct impact on China's exports growth, a protectionist environment would adversely affect corporate sentiment. More importantly, with significant manufacturing capacity and with select sectors still facing challenges of excess capacity, extreme trade protectionism would exacerbate existing issues and lead to the re-emergence of deflationary pressures for China. More broadly, the reduced competition and flow of goods, services and people in a more protectionist environment would reduce the exchange of ideas and slow the rate of technological transfer that has been one of the driving forces of China's rise towards middle income status.

Domestically, the slow pace of reforms and sub-optimal management of the debt cycle result in a significant drag on productivity and overall GDP growth. In this scenario, policy makers continue to target higher growth with excess investment, but this will push up imbalances in the economy. Productivity growth falters and, reflecting the poor incremental productivity of credit, debt to GDP ratios continue to rise at a rapid pace. The pace of reforms disappoints and is unable to lift lacklustre productivity growth. As a result, growth rates decelerate at a faster pace and settle eventually at a lower level than in the base case. The adverse external environment and slow pace of domestic environment lead to faster currency depreciation, all of which combine to depress per capita incomes and China does not attain high income status over the forecast horizon.

In an optimistic scenario, policy makers are able to accelerate the pace of reforms and rebalancing, thereby bringing about more sustainable productivity growth trends. Hence, even while capital input growth slows, policy makers are able to mitigate the slowdown in productivity trend. The external environment remains somewhat supportive too for China. Under this scenario, China achieves high income status by 2024, and the economy is able to sustain a higher terminal growth rate.

Exhibit 33:

China's GDP to reach US$20trn in 2030



Source: CEIC, Morgan Stanley Research. E=Morgan Stanley Research estimates.

Exhibit 34:

China: Bull-bear scenarios for GDP and TFP growth

	Real GDP Growth 5Y Avg	TFP Growth 5Y Avg	Nominal GDP, USD Trn, EOP	GNI Per Capita, USD, EOP
2011-15	**7.9%**	**2.2%**	**11.1**	**7,896**
Base Case				
2016-2020E	6.1%	1.9%	13.2	9,378
2021-2025E	4.6%	1.6%	16.7	11,836
2026-2030E	3.1%	1.2%	20.5	14,464
Bull Case				
2016-2020E	6.2%	2.1%	14.3	10,158
2021-2025E	4.9%	2.1%	19.6	13,864
2026-2030E	3.9%	2.0%	26.2	18,493
Bear Case				
2016-2020E	5.5%	1.3%	12.1	8,644
2021-2025E	3.8%	0.7%	13.9	9,805
2026-2030E	2.5%	0.6%	15.8	11,172

Source: NBS, Morgan Stanley Research. E=Morgan Stanley Research estimates.

Structural transitions to drive China's macro outlook

Investors remained focused on China's macro outlook, while global investors are also concerned about China as a source of shocks for global markets considering the macro challenges that China is facing today. However, **we think China will be able to successfully navigate these macro challenges given the considerable policy buffers.**

Over the next decade, as income growth continues to compound, China will achieve high income status. Moreover, there are a number of profound, structural transitions that China will undergo in the coming decade that will provide opportunities for investors to be involved in and we turn to each of these in the coming chapters.

Chapter 2: From high investment to high consumption growth

The shift towards a consumption-oriented economy will take place at an accelerated pace over the next decade, with private consumption rising to 47% of GDP in 2030 from 39% currently. The next phase of consumption growth will also be driven by a consumer who will be richer, older, and more tech-savvy. In this context, industries that could capitalize on the rising penetration of e-commerce and changing consumption patterns are likely to do well, which, in our view, include autos, healthcare, and household electronics & appliances.

In this chapter, we turn to the first key structural transition - the shift towards a consumption-oriented economy. Specifically, we address the following key questions:

(1) How big will the private consumer market will be by 2030?

We believe China's private consumer market will reach US$9.7 trillion in 2030, or 47% of GDP, up from US$4.4 trillion currently (39% of GDP). The increase in consumption will primarily be driven by rising per capita income, aging demographics and higher internet penetration.

(2) What would a typical consumer look like by then?

From a micro perspective, the future Chinese consumer will be richer, older and more tech-savvy. We expect household disposable income to reach US$8,800 by 2030, while the median age will rise to 43 and internet penetration will increase to 75%.

(3) How would population dynamics and changes in lifestyle patterns influence consumption patterns?

Rising age dependencies means that the share of consumers within the economy will rise, lifting the share of overall consumption within GDP. Meanwhile, higher per capita income and a more tech-savvy population will likely lead to a preference towards services-related consumption relative to goods consumption.

(4) How will e-commerce shape the consumption landscape?

The increasing mobile internet penetration in China will drive mobile technology innovation to meet the diverse needs of Chinese consumers, while providing monetization opportunities in electronic payment, shopping and banking services. In particular, we expect E-commerce to drive rural consumption growth via increased accessibility to consumption.

(5) Which industries will gain or lose from these shifts in consumption patterns?

The changes in the consumption landscape will likely benefit sectors which provide high-end goods and services , as well as experienced-based industries including auto, leisure travel, healthcare, household & electronic appliances, jewelry and luxury goods, and sportswear. On the other hand, food & beverage, home and personal care, and apparel and footwear industries in general will need to adapt to fast-changing consumption trends and overall lower allocation of spending on their products.

Brief overview: how will the Chinese consumption market evolve?

Exhibit 35:

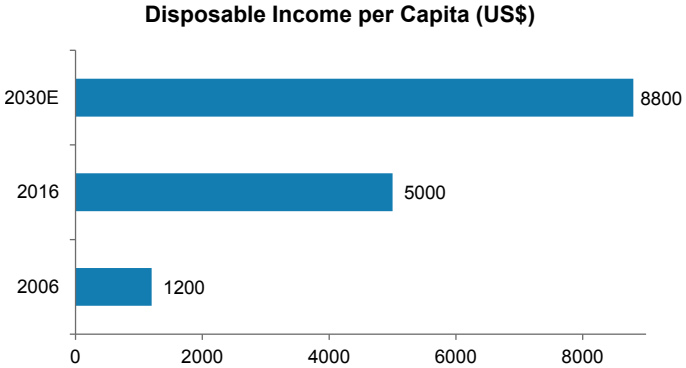
Consumption landscape: past, present and future

	2006	2016	2030E
Disposable Income per Capita (US$)	1,200	5,000	8,800
Median Age	33	37	43
Share of Population Born after 1980s	37%	48%	66%
Internet Penetration Rate	11%	52%	75%
Top 3 Spending Groups by Growth	(1) Jewelry & Luxury Goods (2) Personal Care (3) Transport	(1) Hotel & Catering (2) Household Goods & Services (3) Healthcare	(1) Healthcare (2) Hotel & Catering (3) Household Goods & Services
Bottom 3 Spending Groups by Growth	(1) Healthcare (2) Education (3) Food & Beverages	(1) Food & Beverages (2) Education (3) Recreational & Cultural Services	(1) Food & Beverages (2) Utilities (3) Clothing & Footwear

Source: China Internet Network Information Center (CNNIC), Euromonitor, NBS, United Nations, Morgan Stanley Research. Note: On 2030E estimates, median age projection from UN, projections of share of population born after 1980s from Euromonitor and NBS, projections of top 3 and bottom 3 spending groups by growth from Euromonitor, projections of disposable income per capita and internet penetration from Morgan Stanley Research.

Exhibit 36:

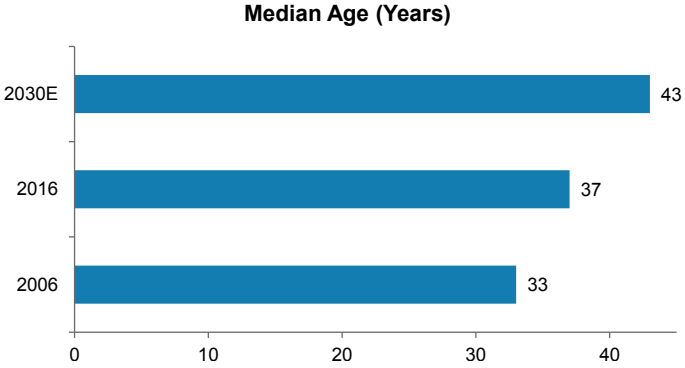
The future Chinese consumer will be richer...



Source: NBS, Morgan Stanley Research. E=Morgan Stanley Research Estimates.

Exhibit 37:

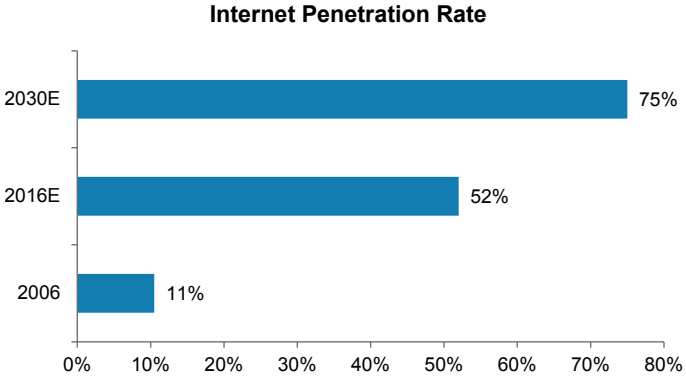
...older...



Source: United Nations, Morgan Stanley Research. E=UN Projections.

Exhibit 38:

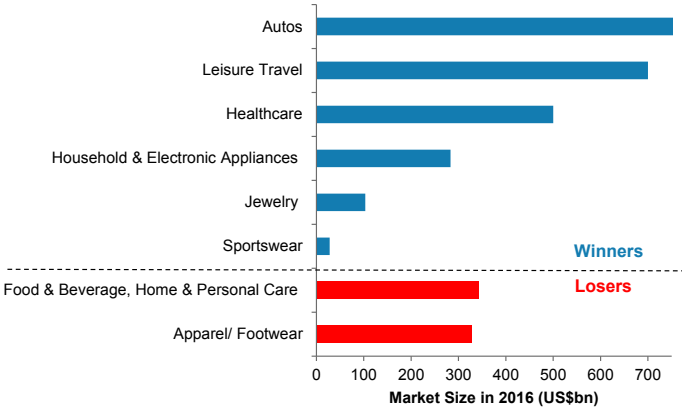
...and more tech-savvy



Source: China Internet Network Information Center (CNNIC), Morgan Stanley Research. E=Morgan Stanley Research Estimates.

Exhibit 39:

Who will be the industry winners and losers?



Source: Morgan Stanley Research.

The consumption landscape

How big will the consumer market will be by 2030?

Private consumption to rise to 47% of GDP by 2030: From a macro perspective, the share of consumption in the economy will rise further, driven by the two mega trends of rising per capita incomes and an ageing population. Our projections indicate that overall consumption in China will rise to US$13.7 trillion (67% of GDP) in 2030 from US$6 trillion (53% of GDP) currently, while private consumption in China will rise to US$9.7 trillion (47% of GDP) by 2030 from US$4.4 trillion (39% of GDP) currently. From a micro perspective, the future Chinese consumer is going to be richer, older, and tech-savvy, and these trends will also trigger a shift in the spending pattern of consumers.

The understatement of consumption in China's official GDP series

Prior micro work undertaken by Morgan Stanley Research has suggested that China's economy may be farther down the road of transition to consumption oriented. This work published in February 2013 entitled "Asia/GEMs Strategy: Asia Insight: China - Household Consumption: Bottom-up data suggest US$1.6trn larger than officially stated - reiterate Chinese Consumer as key theme" suggested that some features of China's household expenditure survey led to the systematic under-recording of consumption on big ticket durables and modern services such as internet, leisure and education.

Recent academic work has tended to support this conclusion (see for example 1: Jun Zhang and Tian Zhu's report "Re-Estimating China's Underestimated Consumption" dated September 2013 and 2: Xiaolu Wang and Wing Thye Woo's report "The Size and Distribution of Hidden Household Income in China") that consumption expenditure may already be at around 60% of GDP, with GDP itself being meaningfully understated. Note that in this Blue Paper we have not attempted to adjust for this issue but use official data throughout.

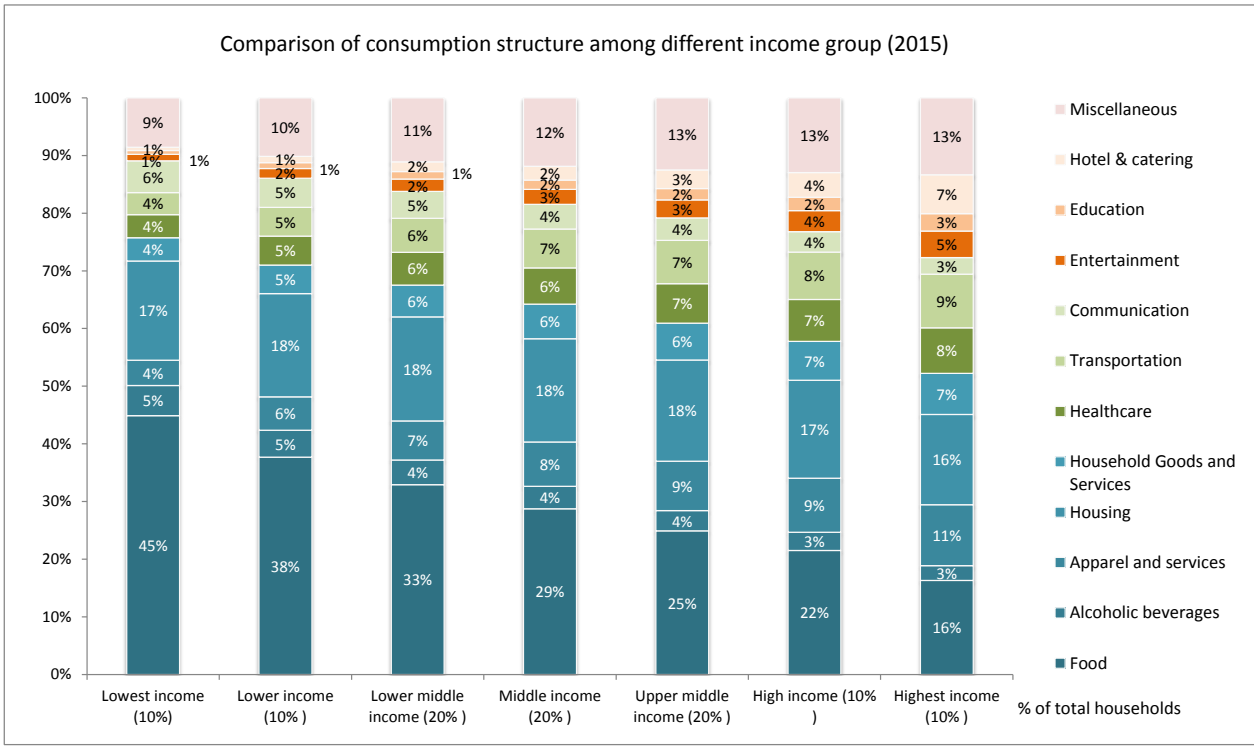
What would a typical consumer look like by then?

Household disposable income to reach US$8,800 by 2030: Private consumption has grown at a rapid pace of a 16% CAGR in 2005-15 and 10% CAGR in 2012-15, reaching over US$4.4 trillion in 2016 as compared with US$0.9 trillion a decade ago. This rapid pace of private consumption growth took place against a backdrop of a 17% CAGR in disposable incomes in 2005-15. Based on our projections, household disposable incomes in China will reach US $8,800 by 2030, implying a CAGR of 4.2% from 2016, which will translate into a private consumption expenditure CAGR of 5.8% over the same time period, as the consumption to income ratio rises.

While rising incomes will support private consumption growth, the rise in disposable incomes and its evolving income structures will bring about changes in consumer preferences, which will influence the growth rates of different segments of consumption. Typically, as disposable incomes rise, the typical consumer will likely allocate a larger share of consumption towards services relative to goods products. The interplay of rising disposable incomes and changes in wallet share allocation for different consumption categories will therefore determine the trajectory of consumption growth within segments in each consumption category, as well as relative growth among different categories.

Exhibit 40:

The rise in disposable incomes and its evolving income structures will bring about changes in consumer preferences, 2015

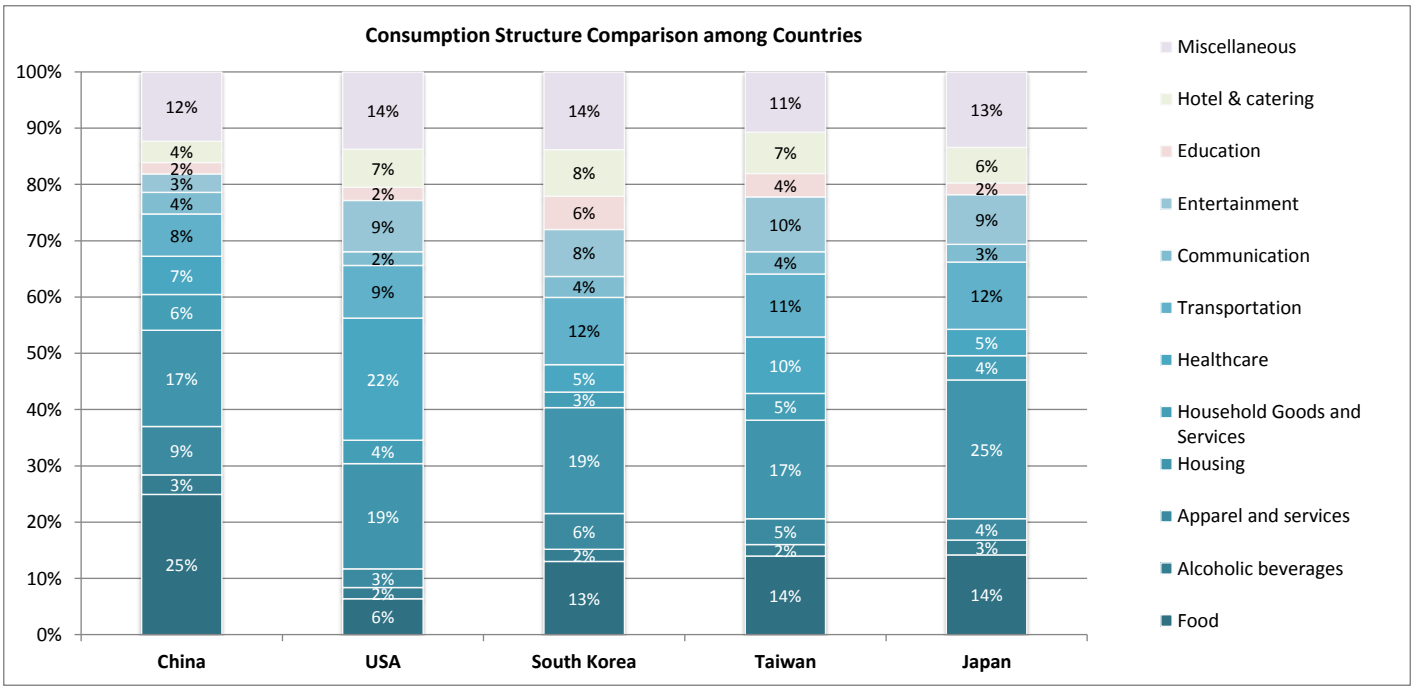


Average Per Capita Disposable income (US$)	734	1,450	2,298	3,535	5,391	8,155	18,170

Source: Euromonitor, Morgan Stanley Research.

Exhibit 41:

Experience-based spending still relatively low in China



Source: Euromonitor, Morgan Stanley Research.

US$9.7 trillion private consumption market by 2030

Private consumption as a share of GDP has gradually risen but remains low compared with that of other emerging market and developed market economies. The low share of consumption (over the past 30 years) was driven by four key factors: (1) a relatively low wage share in GDP; (2) low real deposit rates; (3) restrictions on private ownership of property until the late 1990s; and (4) lack of social security. Indeed, China's growth model had been predicated on ensuring a high saving rate for investment and job creation. However, with the ageing population, there is now a need to shift the growth model more towards one that is consumption-led.

Our model projections suggest that private consumption to GDP in China will continue to rise at a somewhat accelerated pace in the coming decade, driven by rising per capita incomes and age dependencies.

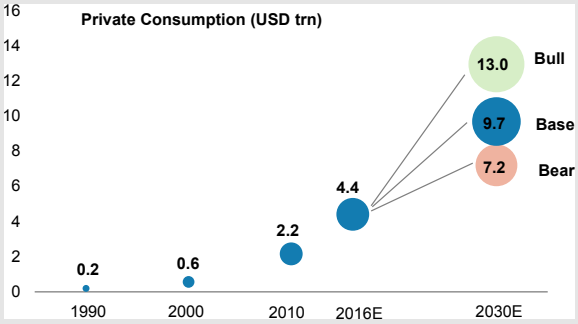
In our base case, we expect private consumption to account for 47% of GDP by 2030. In absolute terms, we expect private consumption to rise to US$7.4 trillion in 2025 and US$9.7 trillion by 2030, up from US$4.4 trillion in 2016, implying a CAGR of 5.8% in 2016-30 compared with a CAGR of 16.5% in 2005-2015.

In our bull-case scenario, a faster pace of rebalancing brings about a more sustainable productivity growth trend and hence higher income and consumption growth. In this scenario, private consumption rises at a faster pace and reaches US$13 trillion in 2030, or 50% of GDP, implying a CAGR of 7.9% in 2016-30.

Alternatively, a slow pace of reforms and rebalancing would mean that transition towards high income status would be delayed until beyond 2030, as capital input growth will be kept high but at the detriment of productivity growth. However, a rising age dependency will still lead to a rise in the share of private consumption to 45.5% of GDP by 2030. However, private consumption will grow by a slower 3.6% CAGR to US$6 trillion in 2025 and US$7 trillion in 2030. As these projections suggest, the delicate balance between reforms, rebalancing and its attendant impact on productivity growth will hold the key towards when China will be able to attain a high income status.

Exhibit 42:

Private consumption to rise, driven by rising per capita incomes and age dependencies



Source: NBS, Morgan Stanley Research. E=Morgan Stanley Research estimates.

What are the drivers of consumption?

We believe there are three factors which will primarily drive China's consumption trends going forward. They are (1) Household income structure, (2) Expenditure structure, and (3) Ageing demography, which we will explain in details below.

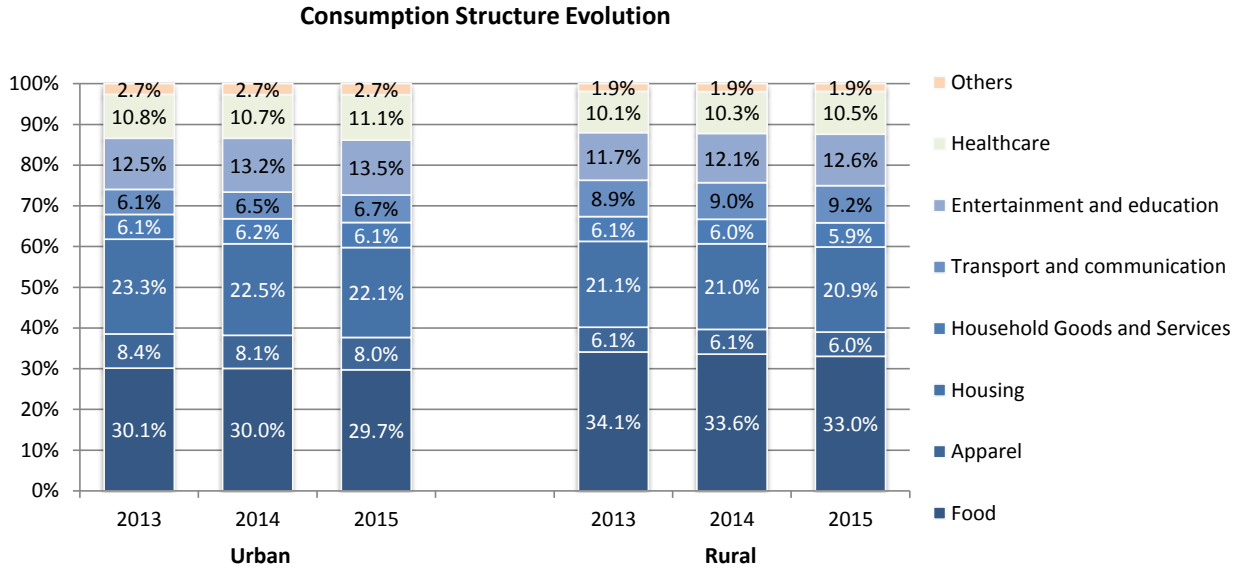
Driver #1: Household income structure

In 2015, the urban-rural split within the Chinese population was about 60-40, with middle-class households making up 60% of the urban population. In other words, the major consumption drivers in the near term will be the middle-class families and rural households.

We expect middle-class consumption patterns to undergo significant changes as per capita income rises. The average per capita income (US$4,600) among middle-class households is about half of that of the top 20% income quintile in 2015, and about double that of the lowest 20% income quintile. Given their relatively higher income levels, consumption preferences of this group will increasingly center on consumption upgrades and the traditional penetration model will likely lose traction for this consumer segment. In contrast, average per capita income in 2015 for rural households was at similar levels to that of the lowest 10% quintile of the urban population, implying volume growth driven by rising penetration would remain the major source of consumption growth in this particular group.

Exhibit 43:

Major consumption drivers in the near term will be the middle-class families and rural households

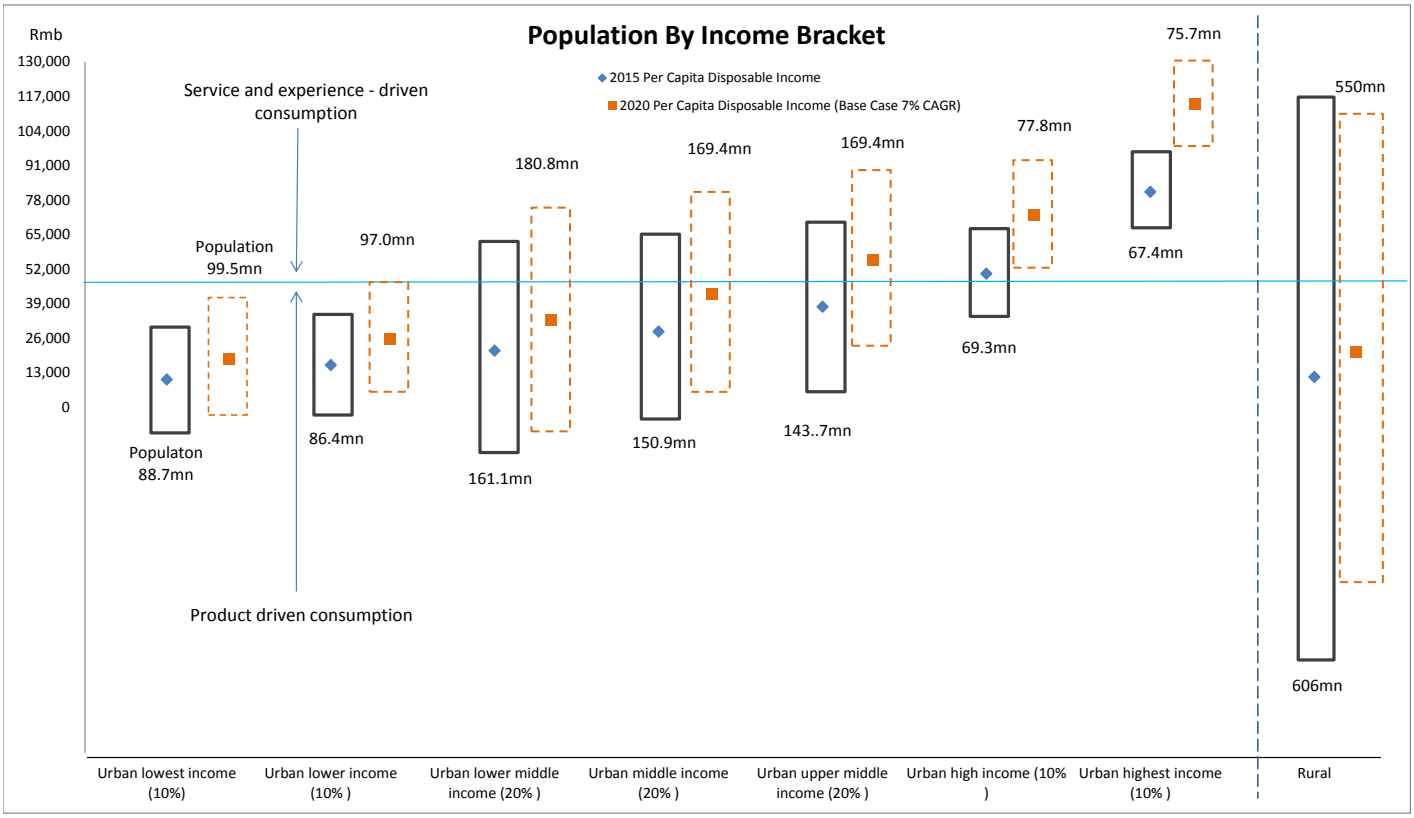


	Urban 2013	Urban 2014	Urban 2015	Rural 2013	Rural 2014	Rural 2015
Per Capita Disposable income (US$)	4,250	4,631	5,009	1,514	1,684	1,834
Per Capita Consumer Expenditure (US$)	2,968	3,206	3,435	565	633	696
Overall Consumption Value (US$ bn)	2,170	2,402	2,636	757	833	897

Source: CEIC, Euromonitor, Morgan Stanley Research.

Exhibit 44:

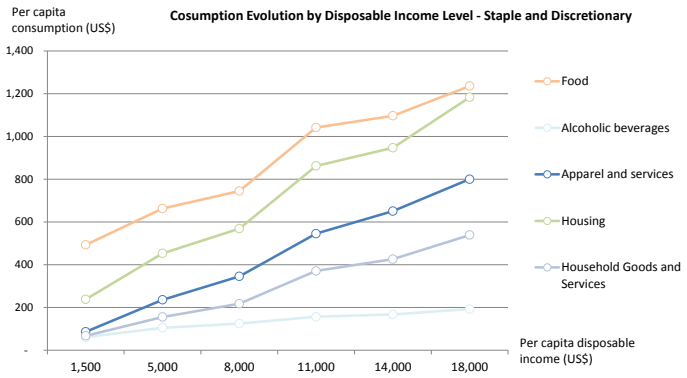
The emergence of the middle class in China



Source: CEIC, Morgan Stanley Research.

Exhibit 45:

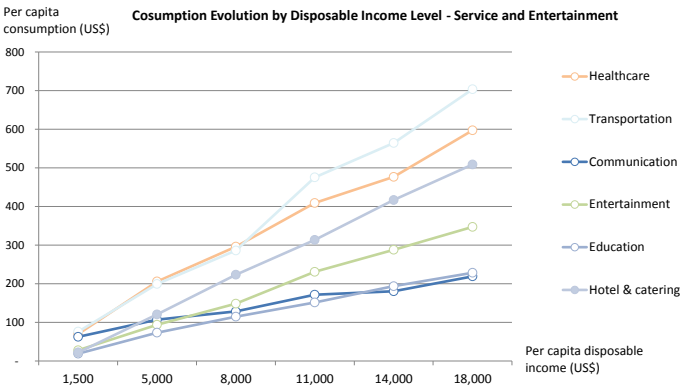
China consumption pattern - staples and discretionary



Source: NBS, Euromonitor, Morgan Stanley Research.

Exhibit 46:

China consumption pattern - services and entertainment



Source: NBS, Euromonitor, Morgan Stanley Research.

How would population dynamics and changes in lifestyle patterns influence consumption patterns?

Driver #2: Expenditure structure

With rising per capita incomes in China, experiences from other countries suggest that the wallet share of different consumption categories will gradually shift. Specifically, Euromonitor data suggest that as per capita income rises to US$8,000-11,000, expenditure growth in goods-related consumption slows, while services-related consumption growth starts to pick up.

Indeed, we expect the source of consumption growth to differ from previous high growth episodes in China. In particular, given that penetration for many of the traditional consumer goods is already at higher levels, we have started to see a shift in wallet share allocation of consumption to services, leisure/entertainment, travel, and health care. In contrast, while food remains the largest component of overall household consumption, its share has been declining over the past few years.

Our model suggests patterns of incremental consumption by 2020

We took both factors into consideration in our projection model and formulate the total consumption trend by category and by income level. Relatively speaking, food growth will be the slowest, while hotel, catering, entertainment, education, and transportation will deliver higher growth. In term of spending value, food and housing will continue to be the largest items. Urban upper middle class (upper 20% income quintile) and urban highest income group (top 10% income level) will contribute the biggest portion of incremental consumption from consumption trade-up. Rural catch-up consumption will be another important growth driver.

Exhibit 47:

Scenario analysis: How much incremental consumption can be generated in China by 2020?

	2015	2020e			Implied CAGR 2015-20		
		scenario 1	scenario 2	scenario 3	scenario 1	scenario 2	scenario 3
Income Growth p.a.		**5%**	**7%**	**9%**	**5%**	**7%**	**9%**
Incremental Consumption (US$bn)		**1,055**	**1,560**	**2,105**			
Consumption by Income Group	**Total Consumption**	**Incremental Consumption**			**Total consumption**		
Urban	3,094						
lowest income (10%)	158	47	68	90	5.4%	7.4%	9.4%
lower income (10%)	214	63	90	120	5.3%	7.3%	9.3%
lower middle income (20%)	464	136	195	259	5.3%	7.3%	9.3%
middle income (20%)	553	162	233	309	5.3%	7.3%	9.3%
upper middle income (20%)	671	196	282	374	5.3%	7.3%	9.3%
high income (10%)	408	119	171	227	5.3%	7.3%	9.3%
highest income (10%)	626	182	262	349	5.3%	7.3%	9.3%
Rural*	983	150	260	378	2.9%	4.8%	6.7%
Spending Structure							
Food	25%	24%	24%	23%			
Alcoholic beverages	3%	3%	3%	3%			
Apparel and services	9%	9%	9%	9%			
Housing	17%	17%	17%	16%			
Household Goods and Services	6%	6%	6%	6%			
Healthcare	7%	7%	7%	7%			
Transportation	8%	8%	8%	8%			
Communication	4%	4%	4%	4%			
Entertainment	3%	4%	4%	4%			
Education	2%	2%	2%	3%			
Hotel & catering	4%	4%	4%	5%			
Miscellaneous	12%	12%	12%	12%			
Total	100%	100%	100%	100%			

Source: NBS, Euromonitor, Morgan Stanley Research. E=Morgan Stanley Research estimates. Note: * Lower growth rate in rural total consumption due to a decrease in rural population from rising urbanization.

Driver #3: Ageing demography

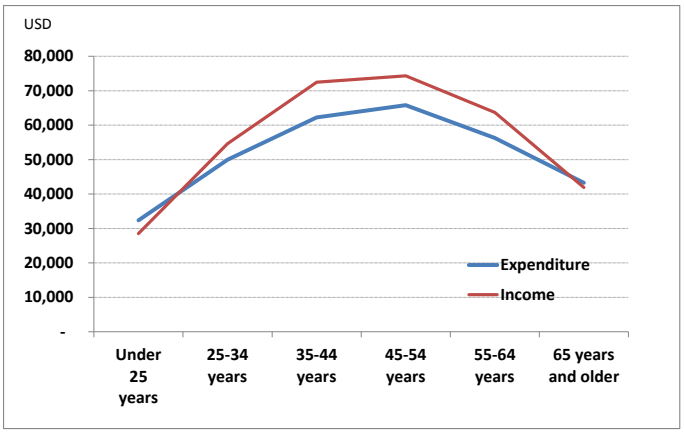
From a macro perspective, rising age dependencies mean that the share of consumers within the economy will rise and should lift the share of consumption within GDP.

However, ageing populations are also associated with spending growth as consumer expenditure levels generally tend to rise as people reach their late 20s and peak around the ages of 35-55 before falling back down. While the data for **Exhibit 48** is a US sample, this general pattern holds true across most countries. The rising mix of this "higher spending" group has been one of the tailwinds for consumption in the past 10 years. However, we are reaching an inflection point in China whereby this group will shrink by about 40mn people over the next 10 years. We estimate those aged 65 and above will increase from 9% of the population currently to 13% by 2025.

In China's case, a potential mitigating factor would be the emergence of the post-1980s generation as consumers. By 2025, we estimate about 55% of the higher spending 25-60 age group will make up the post-1980s generation, and we expect the share to increase to 70% by 2030. These "new generation" consumers generally spend more than the pre-1980s generation who had experienced much tougher living conditions. Boston Consulting Group (BCG) estimates suggest that the upper-middle-class Chinese consumers aged 35 and younger spend 40% more, on average, than the older generations with similar incomes. In this context, winners in the consumption space would be those who are able to identify and target the high-growth segment relative to their product offerings, as demographic trends change and preferences shift.

Exhibit 48:

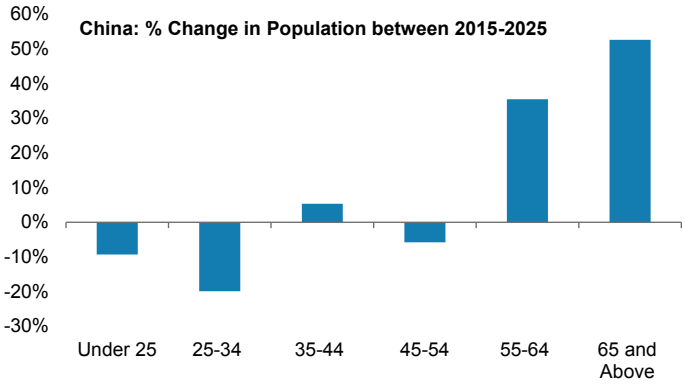
Expenditure and income across age groups in the US, 2015



Source: US Consumer Expenditure Survey, Morgan Stanley Research.

Exhibit 49:

Rising share of consumers aged 55 and above, shrinking share of "higher spending group"



Source: NBS, Morgan Stanley Research.

Exhibit 50:

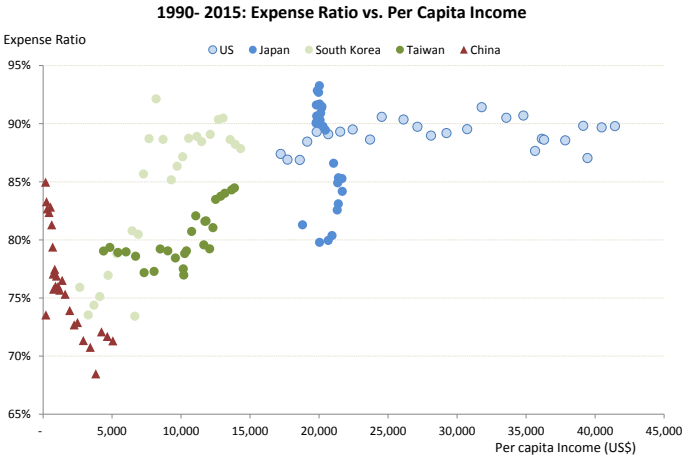
China population mix by age group

Age Bracket	2005	2010	2015	2020	2025	2030
0-9	13%	12%	12%	12%	12%	11%
10-14	8%	7%	6%	6%	6%	6%
15-19	9%	8%	7%	6%	5%	6%
20-24	7%	9%	7%	6%	5%	5%
25-29	7%	7%	9%	7%	6%	5%
30-34	9%	7%	7%	8%	7%	6%
35-39	10%	9%	6%	7%	8%	7%
40-44	8%	9%	9%	6%	6%	8%
45-49	6%	8%	9%	9%	6%	6%
50-54	7%	6%	7%	9%	8%	6%
55-59	5%	6%	6%	7%	8%	8%
60-64	3%	4%	6%	5%	7%	8%
65+	8%	8%	10%	12%	14%	17%
TOTAL	100%	100%	100%	100%	100%	100%
As % of Population between 25-59 yrs old						
% Born 1980s		13%	29%	28%	29%	31%
% Born 1990s				14%	26%	28%
% Born 2000s+						12%
Total post-80s / 25-59 yr olds		**13%**	**29%**	**42%**	**55%**	**70%**

Source: Euromonitor, NBS, Morgan Stanley Research.

Exhibit 51:

Expense ratio: Big gap between China and developed countries



Source: NBS, Euromonitor, Morgan Stanley Research.

How will e-commerce shape the consumption landscape?

Over the past five and a half years, e-commerce retail sales of goods have grown by an average of close to 50%. Online retail sales of both goods and services accounted for 13% of overall retail sales in 2015 and we expect this share to rise further to 15% in 1H16. Considering that by 2030, about half of the population in China will either have grown up with a smartphone or be sufficiently tech-literate to benefit from the sprawling e-commerce infrastructure, e-commerce is likely to remain a key driver of China's consumption. The advent of e-commerce – supported by rising penetration of mobile technology – has helped fill the demand gap in areas where offline retail infrastructure remains a hindrance. Higher pricing transparency has also turned the marketplace more competitive, especially in categories where product differentiation is insignificant. As consumers turn more tech-savvy and price-sensitive, we expect to see a divergence in pricing power across industries, both online and offline.

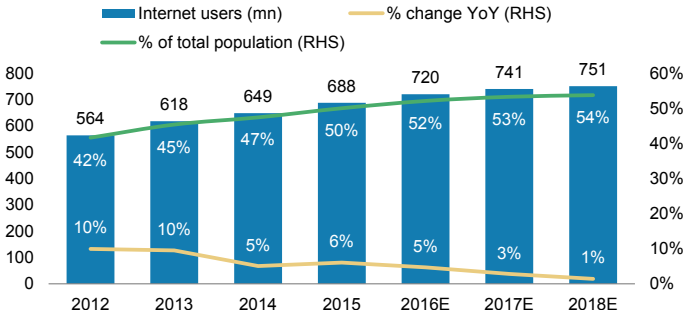
In addition, we expect to see deeper integration and collaboration of online marketplace and offline retail networks which will help to drive the overall retail market in China. For example, both online and offline parties could collaborate in consumer data collection and analytics to understand customers better and optimize customer experience – thereby better attracting, retaining, and serving customers from both online and offline channels. Such deeper integration and collaboration could also help to improve inventory turnover and increase supply chain efficiency for brands, which helps to differentiate the retail network and empower customer service and merchandising.

Increasing mobile internet penetration enables innovation and monetization: With the fast development of mobile technology, the adoption of the mobile internet has witnessed significant growth in China. According to China Internet Network Information Center (CNNIC), mobile internet user penetration reached over 90% of total internet users in 1H16, at over 656mn users, and we expect penetration to reach 94% in 2018. The increasing mobile population significantly boosts the mobile innovation to meet the diverse needs of Chinese consumers and, on the other hand, improves mobile monetisation capability to support the solid growth of internet companies in China.

Shifting time spent to mobile, more material impact on changes in consumer behavior: Given the high adoption rate, we see mobile internet as taking up an increasing part of Chinese consumers' time

Exhibit 52:

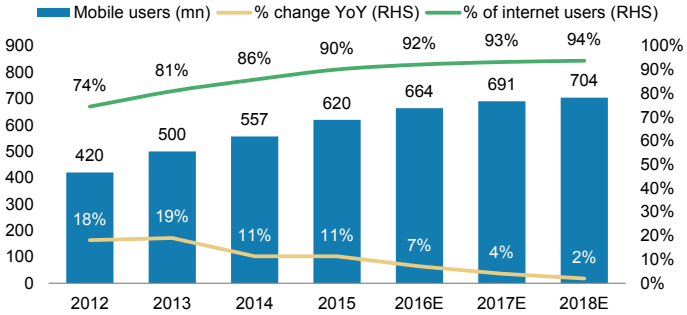
Internet penetration in China has increased in recent years



Source: China Internet Network Information Center (CNNIC), Morgan Stanley Research. E=Morgan Stanley Research Estimates.

Exhibit 53:

Mobile internet will take up an increasing part of Chinese consumers' time in terms of media consumption



Source: CNNIC, Morgan Stanley Research. E=Morgan Stanley Research Estimates.

in terms of media consumption. As estimated by eMarketer, time spent on offline media by China's adults shrank from 59.6% in 2012 to 50.3% in 2015, and should further decrease to 49.2% in 2016 as users shift their time towards online media, particularly mobile. According to eMarketer data, mobile time should account for close to 34% of the total adult time spent on media by 2016, up from 32.2% in 2015. The time spend shift is more material than penetration, as it represents the user engagement and stickiness. As the trend continues, we expect the time spent on mobile to further increase and become the dominate gateway for Chinese consumers. The time concentration on mobile will gradually change consumers' behavior and create a stronger connection between online and offline.

Payment, shopping, and banking are the major sub-categories with faster growth on mobile: Penetration of mobile internet in major sub-categories continued to grow in 1H16. Among the top 10 sub-categories, online payment, shopping, and banking exhibited faster growth on mobile, according to CNNIC, while mobile instant messaging is still the biggest sub-category with over 557mn users in 2015, and reached 603mn in 1H16. In addition, the number of users for

mobile payment grew 19% relative to 2H15, reaching 424mn in 1H16 driven by expansion of both online and offline usage of the technology. Along with the successful transition of major e-commerce platforms to mobile, the number of mobile shopping users reached 401mn in 1H16, compared with 340mn in 2015. The healthy development of fintech has also boosted the adoption of online banking. According to CNNIC, over 281mn consumers in China adopted mobile banking as a channel to manage their financials in 1H16, compared with 259mn in 2015.

E-commerce to drive rural consumption growth

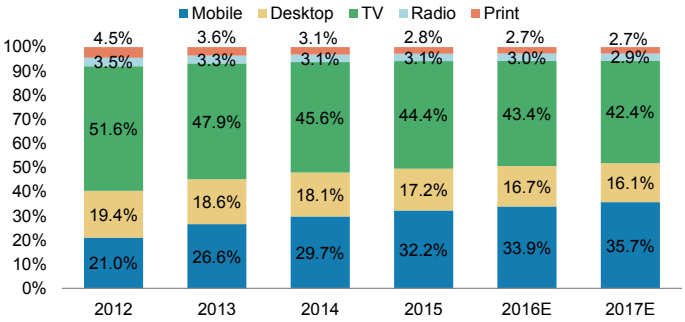
E-commerce has significantly increased the accessibility of products at competitive prices for consumers in lower-tier cities. In lower-tier cities and rural areas, a key constraint to further consumption growth, apart from income, has been the limited availability of goods due to an underdeveloped retail infrastructure – sometimes a certain product is simply not available in those regions. Goods are also often more expensive in lower-tier cities due to the more cumbersome distribution. There are also a lot more copycats or imitation products in lower-tier cities.

The growth of e-commerce could help rural consumption climb the penetration curve faster than it has in the past because of increased availability. In fact, a larger percentage of online spending has come from lower-tier cities, according to an April 2016 survey by McKinsey. In absolute terms, there are 257mn online shoppers in lower-tier cities compared with 183mn in higher-tier cities in 2016.

Size of the rural e-commerce market projected to expand rapidly: Currently, the rural China e-commerce market is much smaller than the urban market given that internet penetration is only 32% in rural villages as of 1H16 compared with 67% in urban cities, per CNNIC. We expect online shopping in rural China to grow much faster than in urban China. The major drivers of rural e-commerce include: (1) higher mobile internet penetration, which comes with greater 3G and 4G adoption; (2) rising employment and disposable income in rural areas; and (3) policy support for local e-commerce start-ups.

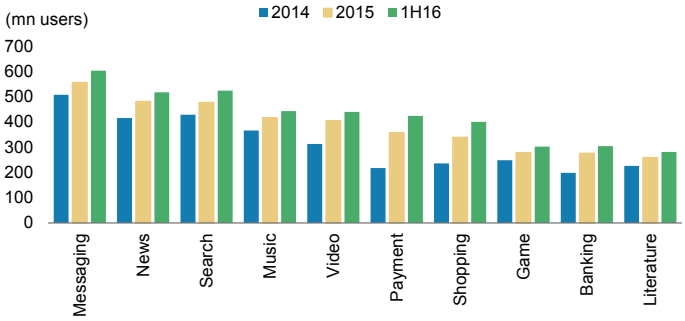
Key beneficiaries of higher online penetration in rural markets: Consumer electronics, home appliances, and softline goods are likely key growth categories. In urban cities, categories experiencing the strongest online demand growth have shifted to that of daily necessities with higher purchasing frequency. E-commerce companies are competing on quality, speed of delivery, and convenience in categories such as food & beverage (F&B), fast-moving consumer goods (FMCG), and household and personal care (HPC). Meanwhile, growth in rural e-commerce demand appears to be in categories that were most popular during the initial phase of e-commerce development in urban China. Specifically, according to Alibaba, four of the top 10 best-selling items in rural Taobao Service Stations are appliances and mobile-related products. Softline goods such as apparel and shoes are also popular. Similar to prior urban e-commerce experience, we believe lower prices and wider assortments are key reasons for rising online shopping in rural villages. Additionally, given smaller population and lower per capita income in these villages, offline retailers cannot economically support stores in these markets. The e-commerce channel appears to be filling this gap.

Exhibit 54:
Chinese adults are spending more time on mobile media



Source: eMarketer, Morgan Stanley Research. E=Morgan Stanley Research Estimates.

Exhibit 55:
Payment, shopping, and banking are the major sub-categories with faster growth on mobile



Source: CNNIC, Morgan Stanley Research.

Which industries will gain or lose from these shifts in consumption patterns?

Based on our analysis and understanding of the future consumption landscape, we identify the following industries as likely winners as consumption trends evolve: autos, leisure travel, health care, household & electronic appliances, jewelry and luxury goods, and sportswear.

Autos (market size in 2016: US$771bn)

China's auto market experienced strong growth during the past decade with a sales CAGR of 16% in 2005-15. Despite a sales slowdown in 2014-15 due to increasing car parc[5] and China's economic downturn, auto sales growth re-accelerated in 2016 on the back of a supportive purchase tax policy that has been in place since October 2015, implying strong and intact demand for autos in China. China's auto penetration rate, i.e., the number of vehicles owned per 1,000 people, reached 117 at the end of 2015, much lower than that of mature auto markets (806 for US, 632 for Japan, and 398 for Korea). It is also lower than the global average of around 145 at the end of 2015. We estimate China's auto penetration rate will reach about 190 in 2020, which suggests China's total number of autos will hit around 266mn units in 2020. We also forecast China's auto sales CAGR of around 5% in 2016-20, which implies a market size of US$817bn with sales volume of 31mn units in 2020.

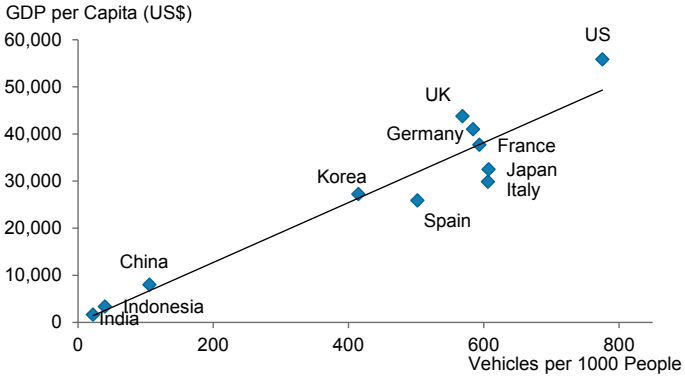
We expect overall private car ownership in China to continue to grow, thanks to higher disposable income, relatively lower car penetration, and underdeveloped shared modes of public transportation in rural areas. However, we have seen some general trends in auto demand in China, with the post-1980s generation comprising a larger proportion of spenders as they reach their 30s and enter the work force.

The post-1980s generation is becoming the largest auto consumer group in China: According to the Ministry of Public Security of the People's Republic of China, passenger vehicle (PV) registrations reached 18.9mn units in China in 2015. With increasing purchasing power as they reach their 30s, the post-1980s generation became the largest auto consumer group in 2015. Total PV registrations of the post-1980s generation reached 7.21mn units in 2015, accounting for 38% of total PV registrations.

Within the post-1980s generations, PV registrations by those born in 1985-89 outpaced PV registrations of those born in 1980-84 by 310k units in 2015. We expect those born after 1985 will continue to be the largest auto consumer group in the next 3-5 years and that their preference for autos will be a key driver of auto consumption.

Exhibit 56:

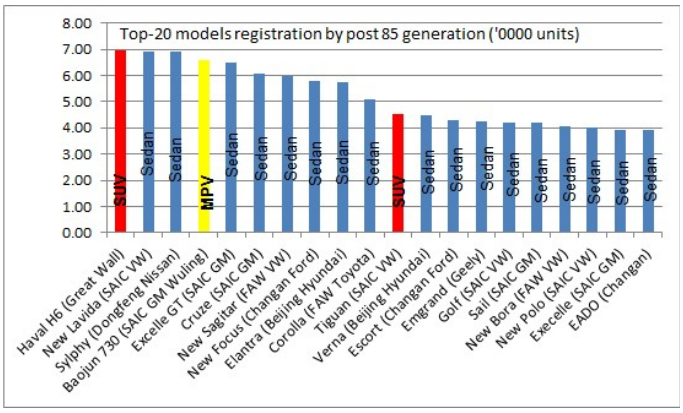
China's auto penetration rate is much lower than that of mature auto markets, 2015



Source: Morgan Stanley Research.

Exhibit 57:

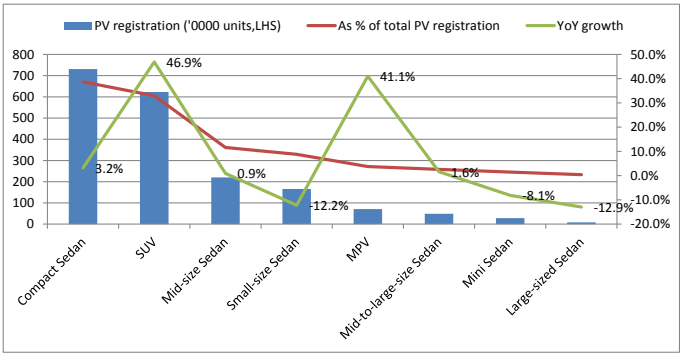
There is increasing demand for SUV models from the post-1985 generation, 2015



Source: The Ministry of Public Security of PRC, Morgan Stanley Research.

Exhibit 58:

Strong growth in SUV and MPV registrations, 2015



Source: The Ministry of Public Security of PRC, Morgan Stanley Research.

Two trends of auto consumption by post-1985 generation - increasing preference for SUV models and for domestic brands: Even though sedan models still account for the lion's share of top-20 model registrations, we have seen increasing demand for SUV models from the post-1985 generation. Moreover, Great Wall's SUV model Haval H6 was ranked the No.1 PV registration model by the post-1985 generation in 2015, according to the China Association of Automobile Manufacturers, suggesting strong demand for quality domestic SUV in China.

SUV and MPV registrations grew a strong 47% YoY and 41% YoY in 2015, respectively. Meanwhile, all sedan sub-segments recorded either just low-single-digit YoY growth or YoY declines in 2015, which bodes ill for sedan demand in the next 3-5 years.

There are four domestic models among the top-20 PV registrations by the post-1985 generation: Great Wall's Haval H6, SAIC GM Wuling's Baojun 730, Geely's Emgrand, and Changan's EADO. This implies a difference in preference versus the older generation, who have preferred foreign brands over domestic brands, which drove the strong growth in foreign PV brands in the past few years. The younger generation's domestic preference also suggests the improving quality-for-value nature of the domestic brands, and we believe this trend bodes well for auto sales of domestic brands in the next 3-5 years given their improving competitive advantage relative to the foreign brands.

Shared mobility could be a feasible business model in higher-tier cities: We expect to see divergent trends in metropolitan and lower-tier cities/rural areas. In tier-1 and tier-2 cities, shared mobility services are growing amid further deterioration in traffic and restrictions in vehicle licenses. Meanwhile, aggressive promotions by China's taxi/car rental companies have also propelled the prevalence of shared mobility business models. In contrast, we continue to expect car ownerships in lower-tier cities in China to record robust growth associated with improving households' purchasing power.

Ride-hailing apps fit into the new urban mobility model. Despite the lag in the development of new mobility models in China compared with the US and Europe, China's booming internet and app market bode well for the prevalence of ride-hailing apps. We note that China's top ride-hailing service by market share, Didi Kuaidi, recently rolled out a public software development kit that allows the addition of ride-hailing functions to any third-party app.

We expect relatively faster growth in shared miles[6] traveled and higher shared mobility penetration in China compared with other regions globally. This is mainly driven by fast-growing shared mobility services amid further deterioration in traffic as well as vehicle license restrictions in tier-1 and tier-2 cities. We forecast shared miles in China to rise at a CAGR of 33% in 2015-30 and account for about 34% of the total global shared miles by 2030.

Leisure travel (market size in 2016: US$700bn)

The tourism (both domestic and outbound) industry in China served 4.1bn customers in 2015, with direct and indirect contribution to the economy at about 5% and 11% of GDP, respectively. Revenue from domestic tourism rose 13% YoY in 2015 and accounted for 83% of total tourism revenue received over the year. Outbound tourism also experienced robust growth, with outbound trips taken by Chinese up 10% YoY to 128mn in 2015 and a CAGR of 17% in 2010-15. Higher disposable income has been the primary growth driver – both domestic and outbound bound tourism has been shown to be a positive function of income. In the next five years, we expect China's travel industry to achieve a robust revenue CAGR of 15%.

While the domestic tourism segment will likely remain the primary source of revenue in the tourism industry, we believe the key driver will shift from sightseeing to leisure travel. Data from the China National Tourism Administration (CNTA) shows that although sightseeing accounted for 45% of total urban domestic travelers in 2004, the figure has since dropped to 14% in 2014. In contrast, travel for leisure, vacation, and recreational purposes rose from about 20% in 2004 to about 50% in 2014. In our view, a growing supply of high-quality attractions for leisure travel will accelerate this shift, especially in light of the strong pipeline of theme parks in China.

Short-haul trips will likely become the preferred mode of travel, given the frequency of short-haul trips is currently much higher than long-haul ones. At the per capita level, a comparison with the domestic tourism market in the US also suggests further room for growth in China. On average, US residents took 6.8 domestic trips per person in 2015, compared with only 2.9 domestic trips per person in China.

In the outbound tourism segment, higher passport penetration and a rising number of visa facilities potentially offers further room for growth, with primary drivers likely to come from first-time outbound travelers from lower-tier cities and rural areas. We expect packaged tours and cruise lines to be the preferred mode of travel for outbound trips, given the ease of planning and looser visa restrictions for cruise lines.

Our growth outlook for the tourism industry remains benign, as higher disposable income will continue to be a primary driver. We

expect the number of domestic tourists to rise at a CAGR of 10% in 2015-20 and the number of outbound tourists to increase at a CAGR of 9% in the same period. As a result, the number of trips per year per capita could increase from 3 in 2015 to 4.7 by 2020. We expect outbound trips excluding Hong Kong and Macau, to grow at an average of 16% per annum and reach 132mn by 2020, from 62mn in 2015.

Healthcare (market size in 2016: US$500bn)

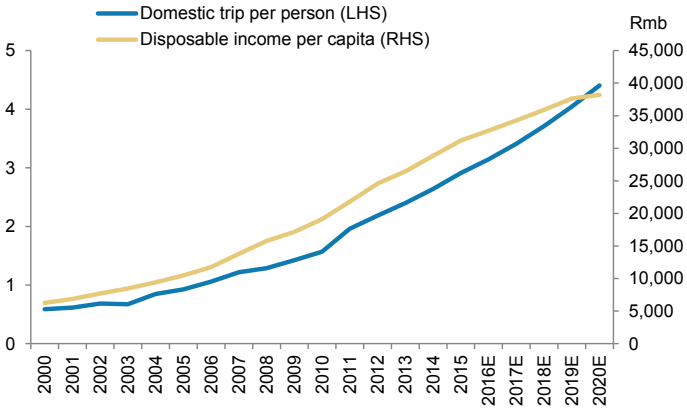
China faces a more aggressive ageing population problem compared with some developed countries. While an ageing population is a global problem, the situation in China is particularly striking because of years of population planning. In 2000, the population aged 60 years and above accounted for 7% of China's overall population. At the end of 2015, this age group comprised 15.2% of China's overall population, indicating an acceleration in the population's ageing. By 2050, we expect 30% of China's overall population will be more than 60 years old and 22.8% will be more than 65 years old. Given the overall low ranking of GDP per capita for China, it presents an enormous problem for the society.

A study "The Lifetime Distribution of Healthcare Costs" conducted by Alemayehu and Warner in 2004 based on US claims and expenditure survey data shows that people in their senior years (i.e., aged 65-85 years) incur about 36.5% of total lifetime health care spending with middle-age years (i.e., aged 40-64 years) taking 31% of total spending. Hence, the health care cost burden will rise sharply along with an ageing population.

Growth in health care spending to accelerate with policy support: Health care spending accounted for about 6% of GDP in 2015, compared with 17% in the US and 10% in OECD countries on average. The Chinese government expects health care spending to rise to 6.5-7.0% by 2020. Given the backdrop of a fast-ageing population, the State Council and the Chinese government introduced the broader concept of "Universal Healthcare", emphasizing disease prevention in addition to disease treatment. It also encompasses rehabilitation, long-term care, and life-style wellness. Document 40, released by the State Council in October 2013, specifies its goal of having a health care services industry with market scale of Rmb8 trillion by 2020. China Industry Information Network (CHYXX) estimated the health care industry to be a Rmb3 trillion industry in 2016, up from close to Rmb2 trillion 2013. If the State Council's goal is achieved, this would represent a CAGR of 28% in 2016-20.

Exhibit 59:

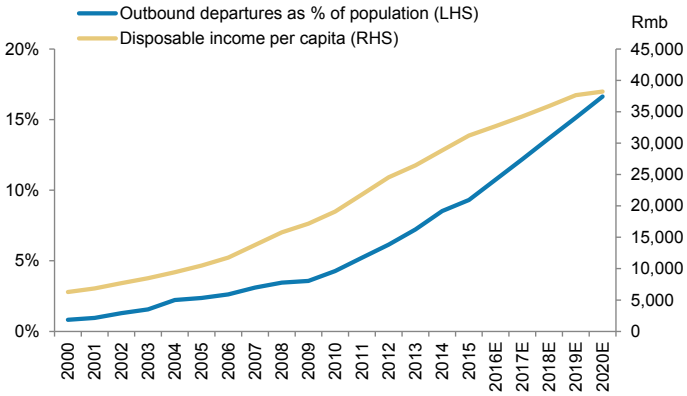
Rising disposable income per capita has had a positive impact on domestic trips per person...



Source: China National Tourism Administration (CNTA), NBS, McKinsey, Morgan Stanley Research. Disposable income per capita estimates from McKinsey, Domestic trip per person estimates from Morgan Stanley Research.

Exhibit 60:

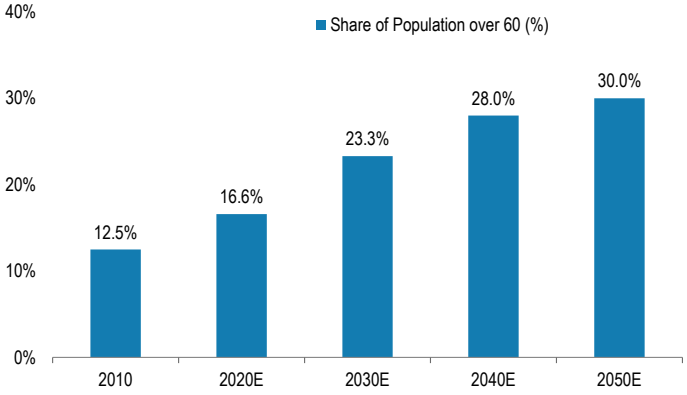
...and on outbound penetration



Source: CNTA, NBS, McKinsey, Morgan Stanley Research. Disposable income per capita estimates from McKinsey, Outbound departures as percentage of population estimates from Morgan Stanley Research.

Exhibit 61:

By 2050, 30% of China's population is expected to be over 60 years old



Source: China Industry Information Network (CHYXX), Morgan Stanley Research. E=CHYXX Estimates

Since 2009, the Chinese government has initiated health care reform. The five goals set out in 2009 include:

1) Further expand medical insurance coverage and increase the medical insurance participation rate: By 2014, over 95% of China's overall population was covered under one of three insurance schemes: 1) Urban resident basic medical insurance (URBMI) for non-working urban residents. 315mn people were covered under this scheme by 2014; 2) Urban employee basic medical insurance (UEBMI) for working urban residents. 283mn people were covered under this scheme by 2014; and 3) New rural cooperative medical scheme (NRCMS) for rural residents, with 736mn people covered under this scheme by 2014. The government's goal is to have complete coverage by 2020.

2) Set up a national essential drug list (EDL): The government's aim is to regulate physicians' prescription behavior and improve drug access for patients. It established clinical guidelines to ensure drugs on the EDL are prescribed ahead of those that are not; the reimbursement rate for EDL drugs is higher than for non-EDL drugs. The EDL was last revised in 2012 and includes 520 drugs, versus 307 in 2009, such as chemical generics, traditional Chinese medicine (TCM), and some biologics. Each province has slight adaptations to their own EDL.

3) Establish a grassroots health care system: The government's aim is to redistribute health resources to the poorer areas of the nation by building county-level hospitals and community health clinics and training primary care doctors willing to work in these hospitals.

4) Provide comparable health services in rural and urban areas: These include national vaccination programs and disease screenings. At the hospital level, the government implemented better filing of medical records and promoted better public health education, especially in rural areas.

5) Pilot the reform of public hospitals: One of the government's goals is to invite private capital into health care services, which has seen the formation of large private hospital chains since the policy reform and an increasing number of government hospitals with operations outsourced to private enterprises. The abolition of hospital markups on drug prices was widely implemented in 2016, while the relocation of pharmacy services outside of hospitals has accelerated, benefiting large distributors who can provide such services.

Exhibit 62:

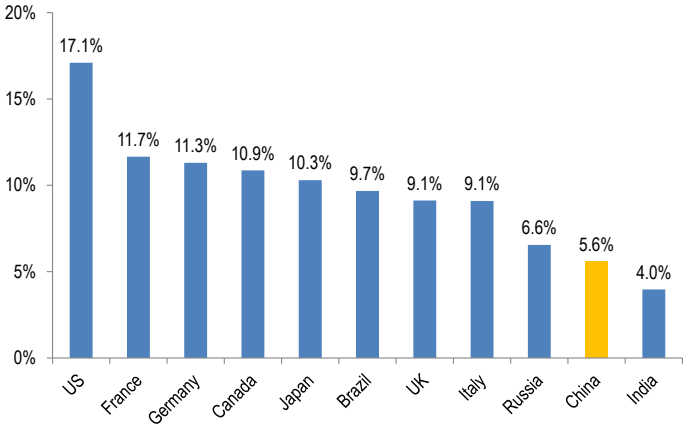
We spend 36.5% of total lifetime health care between 65-84 years of age

Life Stage	% of Lifetime Healthcare Spending
Childhood (0-19)	7.8%
Young adult (20-39)	12.5%
Middle-aged adult (40-64)	31.0%
Senior years (65-84)	36.5%
Old senior years (>85)	12.1%

Source: Health Serv Res. 2004 Jun; 39(3): 627–642; Morgan Stanley Research.

Exhibit 63:

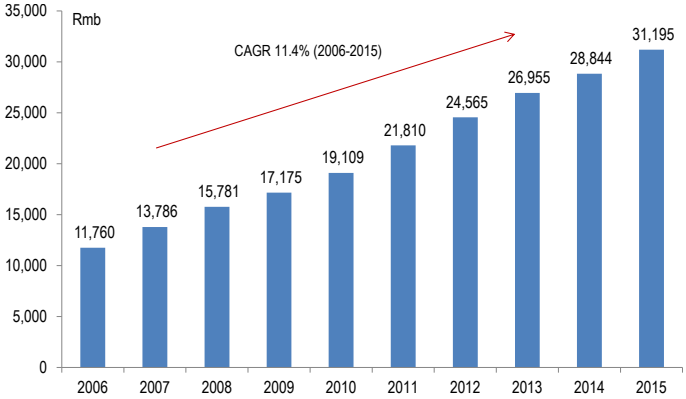
China's healthcare spending as a percentage of GDP lagged that of developed countries, 2013



Source: World Bank, Morgan Stanley Research.

Exhibit 64:

In 2015, Chinese spent Rmb31K on average on health care



Source: NBS, Morgan Stanley Research.

At the same time, the rise in disposable income per capita is spawning industries that are elective by nature, e.g., aesthetics and private hospital services such as LASIK. Frost and Sullivan projects the aesthetic services market in China to grow from US$4.8bn in 2013 to US$9.0bn in 2018, representing a revenue CAGR of 14%.

Furthermore, with the launch of critical illness insurance by the government, which now covers 920mn people, we expect more out-of-pocket spending by patients to be freed up. The critical illness fund helps pay for inpatient costs for illnesses such as end-stage renal disease, ovarian cancer, drug-resistant tuberculosis, beyond a certain deductible. Document 57 from the State Council in 2015 aims to bring the reimbursement ratio of related medical costs to above 50% eventually, up from current low levels which vary by medical condition and region.

One direct beneficiary of an ageing population will be the rehabilitation industry: Rehab encompasses the provision of health care services and products to the elderly population, the physically disabled, and patients with chronic illnesses. In China, the rehabilitation industry generated Rmb20bn in sales in 2013. China, however, has a long way to go compared with the US, whose rehab industry sales reached US$100bn in 2013, more than 30x China's. On a per capita basis, China's rehab spend per person is Rmb15 versus US$80 (or Rmb520) in the US. The lack of rehab equipment, medical staff, and community rehab clinics has held back the growth in China's rehab industry. On a positive note, the industry has the government's full support, evidenced by the creation of a three-tiered health care system - acute care handled by general hospitals, rehab care handled by rehab-dedicated hospitals, and long-term follow-up care handled by community clinics/hospitals.

A clear trend that is emerging in China is the incorporation of health care into mobile technologies. So far we have seen its implementation in various forms - large-scale mining of genomic data, digitized hospital pharmacies, online medical consultations, and drug e-commerce.

Household and electronic appliances (market size in 2016: US$272bn)

We expect three key themes in this space:

1) Replacement demand, which accounted for over half of China's white goods demand in 2015. Such demand becomes more frequent as product innovation shortens product life-cycles, especially for small appliances. We expect new demand for kitchen appliances such as smoke absorbers, stoves, and ovens, and for small domestic appliances such as air purifiers, coffee machines, juice makers, and induction cookers to increase in the next three years. We expect new demand for household air conditioners to remain stable and new demand for refrigerators and washing machines to decline in the next three years.

2) We estimate online penetration for home appliances will rise from 15% in 2015 to 28% by 2018. Service-oriented and experience-based barriers are diminishing.

3) Smart home appliance penetration will reach 80% in China by 2020, up from 29% in 2015, and we expect the smart home ecosystem to be run by internet giants. Appliance makers will play a key role in providing hardware, services, and innovation.

We think production innovation, improving product designs, and the increasing application of new technologies will drive replacement demand for home appliances. We believe product life-cycles will shorten over the next several years, especially in the small domestic appliance space, as they become cheaper to replace, easier to install, and trendy to upgrade, as compared with large white appliances.

Jewelry and luxury goods

Jewelry (market size in 2016: US$103bn): We expect jewelry consumption will continue to grow strongly in China, with Hong Kong jewelry brands such as Chow Sang Sang and Chow Tai Fook exhibiting market share gains. While foreign brands dominate in many consumer segments in China, e.g., sportswear (Nike, Adidas), handbags (Chanel, Louis Vuitton, Prada), and automobiles (Audi, BMW), we believe the jewelry segment is different. We attribute this to Chinese consumers' value consciousness, as evidenced by results of our jewelry shopping survey conducted in 2015, which favors mass market jewelry brands over foreign brands.

Hong Kong jewelry brands' market share gains contrasts with the fragmented nature of China's jewelry market. Market leader Chow Tai Fook commands only a high single-digit percentage share in China, compared with a 20% share in Hong Kong, which suggests large upside for further consolidation in China. We believe this is already taking place as owners of mom-and-pop stores in lower-tier cities turn into franchisees for bigger brands such as Chow Tai Fook and Luk Fook.

Within jewelry, we expect gemset jewelry (e.g., diamonds, gemstones, pearl) to fare better than pure gold jewelry, driven by increasing income and an expanding middle class in China, which nurtures increasing appreciation for high-end discretionary items. Gold jewelry's penetration level is already high in China regardless of income level, whereas penetration of gemset jewelry is more correlated to income level, suggesting upside as Chinese consumers' incomes rise. In particular, we see gemset "fashion" jewelry as an area of strong growth (as opposed to fine jewelry, solitaire diamonds, or wedding bands) as we expect the purpose of consumption to increasingly shift from being gifts relating to businesses to reward oneself following a life-driven event such as birthdays.

Luxury goods – from standing out to fitting in: We believe in the long-term growth potential of luxury goods in China, given China's cultural propensity for luxury goods, much similar to Japan's luxury boom in the 1990s. Japan's luxury boom was partially a result of the society's demographic evolution, where it was common to see single Japanese in their twenties and beyond, living with their parents, enabling them to spend the majority of their disposable income on luxury goods. We are starting to see parallels between the Chinese and the Japanese societies, with an ageing population and increasingly late marital ages, as well as high property prices, which could generate consumption patterns similar to that seen in Japan. Because luxury goods sold in China are more expensive than those sold in other markets, only 20% of luxury goods are purchased within Chinese borders, with the rest of transactions made overseas, according to a Bain study. We expect this trend to continue, as long as multiple layers of taxation (VAT, import tariff, and consumption tax) are imposed on imported luxury goods.

Moreover, international brands are likely to remain major players in the Chinese luxury goods market, as Chinese consumers still prefer western designs as a means to assimilate into the global community. As the Chinese market matures, consumer taste will likely become more diversified, allowing local brands to increasingly gain market share.

Regarding the long-term prospects for luxury hardgoods in China, we favor the jewelry category over the luxury watch category. In our view, luxury watches may face a structural downturn in China as Chinese consumers view them as being less attractive. The luxury watch category has been popular particularly among China's male population as a way to show off their success and wealth. This is similar to Hong Kong during the 1980s, when wearing gold necklaces and gold Rolex watches were symbols of success. However, as a society's economic status takes off, consumers' shopping patterns have shift to purchasing a home, automobile, or having a more luxurious lifestyle (e.g., taking overseas vacations). Also, as a result of China's anti-graft measures that have been in place since 2012, wearing luxury watches may now carry a negative connotation, and gifting may shift towards products with less transparent pricing such as expensive wine or antiques.

Sportswear (market size in 2016: US$28bn)

We expect China's sportswear apparel & footwear industry to rise at a revenue CAGR of 8% in 2014-20, spurred by rising sports participation, increased per capita spending, and favorable government policies. The Chinese government in 2016 came forward with a major plan to support sports infrastructure, participation, and the sports business at large. The Chinese government noted the potential impact of sports not only on public health, which is a key issue, but also on economic development and, particularly, foreign investment. As a result, it plans to increase the number of sports facilities in the country by over 60% by 2025 and set a goal of 500mn citizens regularly engaged in physical activity. The plan also includes proposals to liberalize the organization of sports events and encourage sports companies to help cultivate sports participation.

China's sports participation, i.e., percentage of population aged 6-69 who exercise at least three times a week, has risen from 28.2% in 2007 to 31.2% in 2014, and we expect this to rise further to 35% by 2025, based on the Chinese government's target of 500mn people regularly engaged in physical activity by 2025. This target is not unreasonable, in our view, as it would be similar to Japan (at 34%) and still well below western countries such as the US, Australia (both at 54%) and South Korea (at 56%). In particular, we see rapid growth in the following sports that will form the pillars of growth for the sporting goods companies: Running, basketball, soccer, winter sports, and outdoor sports.

Which industries may lose out in the consumption boom?

F&B, HPC (market size in 2016: US$343bn)

Most FMCG categories are past the significant growth phase in China as incremental spending is now more allocated to experience-based consumption.

Trade-up demand in the urban market and catch-up consumption in the rural market are the key drivers in the F&B industry. Companies are now facing a more complicated consumer market versus the previous penetration-driven business model.

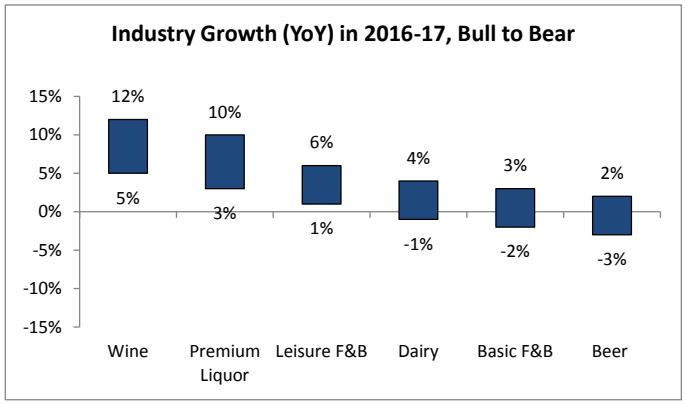
Shifting consumption preferences as the population becomes richer and older will result in different growth rates for various categories. We think categories with more "discretionary" elements will have a higher growth potential as consumption increases. For the daily consumer staples, we think competition will remain intense and players will benefit less from the trade-up trend. That being said, manufacturers that focus on product innovation and brand-building will likely stand out, compared with those that focus their efforts on improving their distribution channels.

Meanwhile, demand for imported goods is increasing, facilitated by cross border e-commerce, especially demand for overseas products that have an advantage in branding, quality, pricing or product diversification such as wine, infant formula, diapers, and increasingly, snacks. We think that increasing demand for imported goods will lead to rising demand for higher quality products and accelerate the upgrading pace, at the same time further fragmenting the market.

By segment, we expect relatively higher growth for wine, premium liquor, and leisure F&B, in line with our expectations for an acceleration in the pace of consumption upgrades as well as an ageing population that have more leisure time and prefer Chinese traditional flavors such as Chinese spirits. On the contrary, we expect low-single-digit or negative growth for categories such as noodles, diluted juice or tea, and beer that are more traditional and target the mass market.

We think F&B manufacturers would need to be pricing power-driven, especially in the current environment of slowing demand and low inflation. In the past five to ten years, pricing power formed an important part of earnings growth. In our view, it will be even more so in the next two or three years as we expect consumption volume growth to stay lukewarm during China's economic adjustment phase. We think four key determents are crucial to pricing power: supply balance, demand, competitiveness, and cost structure. We think Moutai, Yanghe, and Dali Foods will be able to increase ASP or drive product premiumization, whereas Tingyi, Tsingtao, and Yanjing will likely see declines in volume or ASP due to a lack of pricing power.

Exhibit 65:
Demand growth magnitude across industries



Source: Morgan Stanley Research estimates.

Apparel and footwear (market size in 2016: US$328bn)

We expect continued brand fragmentation in China's apparel and footwear market, underpinned by Chinese consumers' fast-changing tastes (i.e., weak brand loyalty), increasing need for individualization (i.e., preference for niche brands over mainstream brands), a general sensitivity to price, as well as e-commerce cannibalization that will lower the entry barrier and lead to more brand options for consumers. This market fragmentation, coupled with an oversupply of OEM capacity in China, could lead to fierce competition and low pricing power for brands in China. Amid this competitive landscape, we think winners will need to offer products that combine high quality, trendy and fashionable design, and economical prices. Examples of such winners include Zara, H&M, and Uniqlo among international brands, and Hailan Home among domestic brands. However, channel profitability will likely erode as a result of fast-changing trends in fashion and greater unpredictability of the weather as a result of global warming. This would make it harder for apparel retailers to accurately forecast sales, often resulting in mismanagement of inventory and high discounting.

Accelerated rise in consumption as a share of GDP, shifting consumer preferences

Consumption as a share of GDP has risen to around 52% in 2015 from a trough of 48% in 2008, but remains low compared with that of other emerging market and developed market economies. Our model projections suggest that consumption to GDP in China will continue to rise at a somewhat accelerated pace in the coming decade to 67% of GDP by 2030, driven by rising per capita incomes and age dependencies. From a micro perspective, the Chinese consumer is going to be richer, older, and tech-savvy, and these trends will also trigger a shift in spending patterns of consumers. In this context, we think the likely winners from the evolution in consumption trends include household & electronic appliances, mobile technology infrastructure, sportswear, autos, jewelry & luxury goods, health care, and leisure travel.

Chapter 3: From manufacturing to services

We expect services to remain the fastest-growing segment. We forecast its share of GDP to rise to close to 60% by 2030, driven by business and professional services, finance and insurance and personal and social services. Policy action in the form of privatisation and liberalisation of services and the removal of distortions that have traditionally favoured manufacturing will be key to encouraging the development of services.

In this chapter, we address the following key questions:

(1) What will continue to drive the transition from manufacturing to services?

Rising consumer income and increasing urbanization in China will continue to shift consumption patterns towards services relative to goods.

(2) How will China's services segment develop and which areas will benefit?

Based on the development path of major high income economies, we expect the services share of GDP to stabilize at close to 60% of GDP, with service sector growth continuing to outpace that of manufacturing. In this context, we see business and professional services, along with healthcare, education and personal services as likely to grow given policy support under the Five-Year Plan.

(3) What are the enablers of and obstacles to services segment growth?

The state retains heavy ownership in the services sector across industries, meaning private and foreign entries face strong competition from large SOEs. Additionally, foreign direct investment into the service sector as a percentage of GDP has steadily fallen since 1994. Allowing for greater foreign participation and encouraging foreign direct investments via services sector reforms will therefore likely lead to a smoother and swifter transition in the medium term, even if at the expense of short-term growth prospects.

Services segment to remain fastest growing segment

The services segment is fast becoming an important growth engine in China's economy – with the share of GDP rising to 52% in 2016 and the employment share climbing to 42% in 2015. Over the next decade, as China transitions towards a high per capita income society, we expect the services segment to remain the fastest growing, and its share in the economy is projected to rise to 60% of GDP by 2030. The rise of consumer incomes and increasing urbanization have meant that consumption patterns tends to gravitate towards more services than goods. In addition, China's age dependency has already begun to rise , and demographic changes will both drive final demand for services and at the same time reduce the labour inputs needed for manufacturing.

China's trajectory thus far

China's services segment has developed at an accelerated pace, with its share of GDP rising from a trough at 23% in 1983 to 52% in 2016. We can divide the services GDP share increase into three broad periods:

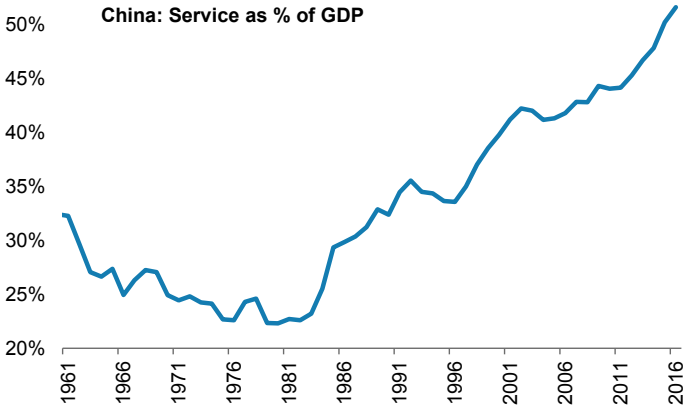
1)1983 – 1993: The first period of increase was driven by sharp pick-ups in wholesale and retail trade and finance, while transport also increased towards the end of period, offsetting falls in business services and real estate.

2)1996 – 2002: The second period can be characterised by a reversal in previous trends, as business services doubled from 8% to 16%, while the growth drivers of the previous period – trade, transport and finance – moderated.

3)2003 – Present: The current phase has been driven by a broad-based increase across services. We are seeing changes in GDP shares across services categories beginning to reflect those in major economies. Finance has increased by 4% to 8% of GDP, to levels similar to those in Korea and the US. Wholesale and retail trade have also picked up to 10%, approximately where other economies have stabilized.

Exhibit 66:

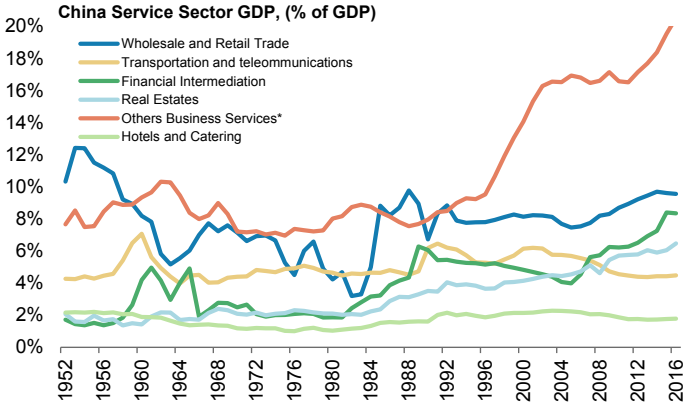
China's services share of GDP has undergone three growth phases



Source: Haver, Morgan Stanley Research.

Exhibit 67:

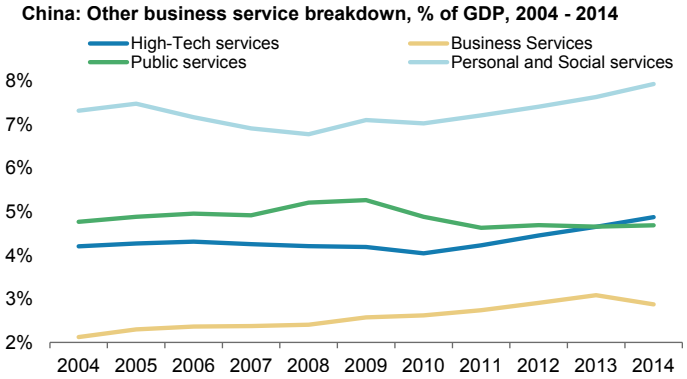
Broad-based gains in GDP shares across China's service sectors



Source: Haver, Morgan Stanley Research. *Other business services include information transmission, computer services, scientific research, education, health and services to households among others as defined by NBS.

Exhibit 68:

Current selected service sectors' growth trends



Source: Haver, Morgan Stanley Research.

A comparative look at services segment development in other major economies

The historical evolution of the service segment's share of GDP in other major economies gives us comprehensive insights into China's future segment composition. For these economies, the services to GDP ratios settled at an average of around 56% when they first hit the high income threshold of US$12,500, and they continued to rise well beyond those levels. To be sure, as economies transition towards higher incomes, their overall growth rates have tended to slow, and the historical experiences of Germany, Japan, Korea and the US suggest that, while the growth rates of both manufacturing and services GDP will decelerate, the deceleration will be more pronounced in manufacturing. Interestingly, the period in which services growth outpaces that of manufacturing most significantly is during the middle to high income transition across countries, and this is especially noticeable in the case of the US and Japan.

The evolution of China's services share of GDP has followed that of Korea's most closely. Indeed, if China were to continue to follow Korea on its evolution path, the share of services would likely rise to around 60% as its per capita income rises.

The evolution of the services segment can be divided into two phases:

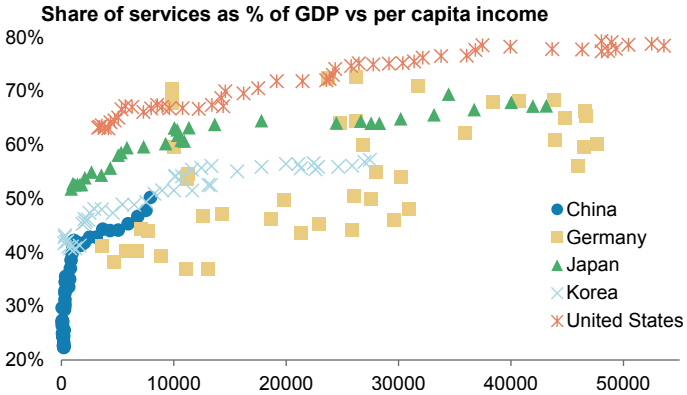
Phase 1: From mid to high income: During this period, the services share of GDP rises at a quicker pace as countries transition from middle to high income (US$7,000 – 12,500). This phase happened during 1973-80 for the US, 1976-81 for Germany, 1978-86 for Japan and 1991-2003 for Korea.

During this period, the share of services in GDP rose in Japan from 60% to 64%, in Germany from 44% to 47%, in the US from 66% to 67%, and in Korea - the most - from 49% to 56%. During this period, manufacturing's share of GDP peaked at around 25-35% of GDP as these economies attained middle-income status.

Phase 2: High income and beyond: The transition proceeds at a steady pace as economies move towards high income. As countries reach high income levels, the share of their services segment continues to rise, albeit more slowly than in the previous period when the economy was moving from middle income to the high income threshold.

Exhibit 69:

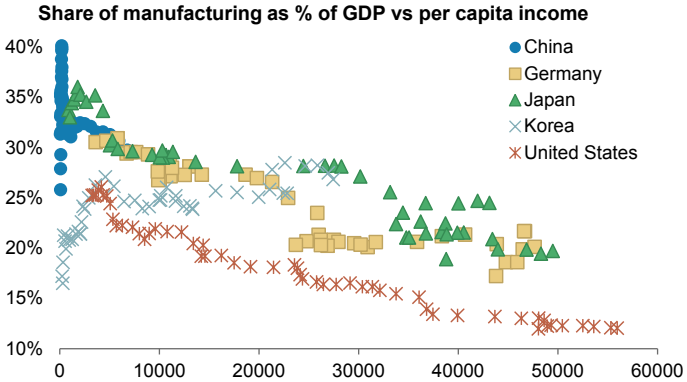
Economies have seen services share of GDP rise as they transition to higher income...



Source: Haver, Morgan Stanley Research. We have taken the earliest data available for each economy. China and US data from 1962, Germany from 1972, Japan from 1965 and Korea from 1970.

Exhibit 70:

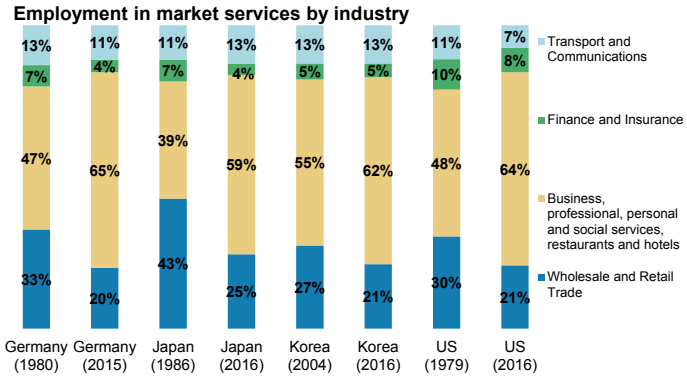
...while manufacturing share of GDP has fallen steadily as per capita income has risen



Source: Haver, Morgan Stanley Research. We have taken the earliest data available for each economy. China and US data from 1962, Germany from 1972, Japan from 1965 and Korea from 1970.

Exhibit 71:

Share of business and personal services has risen in services employment as economies transition from mid to high income



Source: Haver, International Labour Organization, Morgan Stanley Research.

The increase in the services share eventually stabilized, reaching above 70% in the US and Japan, while the shares in Korea and Germany stabilized at lower levels of around 55% to 65% respectively. All countries have seen the manufacturing share of GDP stabilize below 30%, with the share in the US dropping to the lowest at around 10–15%, while Germany and Japan normalized at approximately 20%, whereas Korea has maintained a higher share of manufacturing at around 25%.

Which specific categories within services tend to outperform?

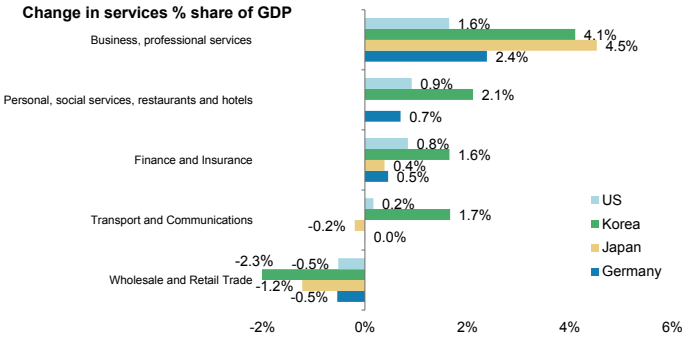
While on aggregate services share of GDP progressively rose, our intra-service analysis of major economies across income levels reveals important changes in the composition of services.

As countries transition from mid to high income, most services categories tend to gain in importance in the economy. Of the five services categories, business and professional services, personal, social services, restaurants and hotels, and finance and insurance led the increases in GDP share, while wholesale and retail trade generally lost share.

Business and professional services had the highest increase in share of GDP, averaging 3% points across countries. In particular, Japan and Korea had 4.5% and 4.1% point increases respectively. Personal, social services, restaurant and hotels was also a key growth driver, with Korea increasing by 2.1%, and the US and Germany up by 0.9% and 0.7% respectively. Finance and insurance also saw broad-based growth, with Korea and the US recording larger increases at 1.6% and 0.8%, and Japan and Germany seeing smaller rises at 0.5% and 0.4% respectively. On the other hand, transport and communication trends were more mixed; Korea increased by 1.7% and US edged up marginally by 0.2%, but Japan lost 0.2% and Germany stayed flat. Wholesale and retail trade saw an overall decline in importance in contrast with other segments, with the US and Korea recording sizeable decreases of 2.3% and 1.2%, while Germany and Japan both declined by 0.5%.

Exhibit 72:

Business, professional services and personal, social services, restaurants and hotels recorded largest gains in share of GDP across countries through their mid to high income transitions



Source: Haver, Morgan Stanley Research.

Exhibit 73:

Service industries growth trend continues as economies reach high income levels

Source: Haver, Morgan Stanley Research.

Trends persist beyond high income

Similar services category trends persist as countries grow past high income, with some slight variations. Business and professional services in these four countries increased further in importance to an average of 24% of GDP, while personal and social services, restaurants and hotels also rose by 3% on average. However, finance and insurance did not continue to increase, and both wholesale and retail trade and transport and communications largely stabilized.

The road ahead for China's services segment to 2020 and beyond

Enablers

In its Five-Year Plan, China has laid out plans to further raise its services share of GDP to 56% by 2020, from 50% in 2015. Assuming that China follows the development path of the other major economies, growth opportunities will most likely be from the areas of business and professional services, along with healthcare, education and personal services. In particular, considering the rapidly ageing population in China, the rising trends in healthcare and education that were present in Korea and the US have yet to occur in China, reflected by China's lower age dependency ratio.

Specifically in the five-year plan, policy makers have laid out support for the healthcare, education, information technology, finance and cultural and entertainment services sectors. China will also look to support the development of increasing intermediate inputs by services such as R&D and product design within manufacturing, particularly in equipment-related industries, to smooth the transition.

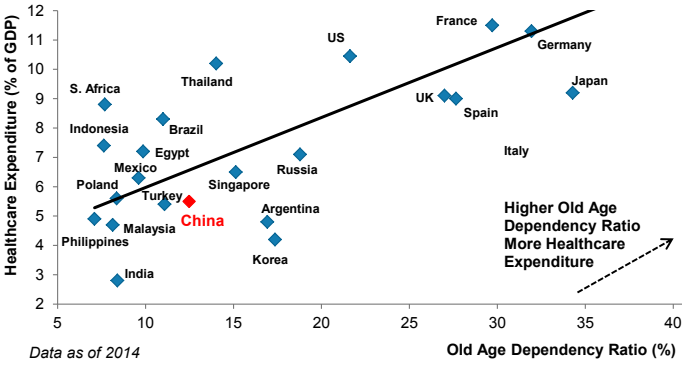
Healthcare (2014: 5.5% of GDP): The plan promotes the initiative of "Healthy China", by expanding and increasing the efficiency of the public healthcare system, especially in rural areas, while encouraging private sector participation in the health space. It aims to build one or two public hospitals in every county, and to increase the number of qualified healthcare professionals. Medicine and medical equipment expenditure will also be supported.

In our view, healthcare sector growth will be supported by the rising age dependency and associated increase in healthcare spending, as occurred in other advanced economies. China's age dependency has been steadily rising and according to United Nations' projections, will increase from 13.1% currently to 28% over the next decade. Currently healthcare spending as a percentage of GDP is 5.5%, but we think it could reach 11% of GDP over the next decade.

Education (2014: 3.3% of GDP): China is seeking to improve the reach and quality of its education system in an effort to bridge the rural-urban poverty gap. As such, private sector education will be promoted to help provide for underserved segments, particularly in rural areas. Investments in higher education institutions are to be supported by research and quality improvement initiatives. As it is, China's tertiary graduate outturn has increased from 0.9m in 2000 to 6.8m in 2015, with postgraduates reaching 0.5m from 58,000 in 2000. This will continue to trend upwards as demand for skilled labour increases. This will ensure an expansion of the sector to meet the needs of industries, and to prevent under-employment of graduates within the sector.

Exhibit 74:

China's rising age dependency suggest healthcare expenditure will rise



Source: Haver, Morgan Stanley Research.

Information technology (2014: 2.5% of GDP): The Internet + Action Plan aims to incorporate information technology, such as mobile technology, cloud computing and data analysis into manufacturing and services. It encourages the development of e-commerce and logistical networks to build innovative application technologies. Infrastructural improvements targets of increasing fixed and mobile broadband coverage from 40% and 57% in 2015 to 70% and 85% in 2020 will drive the reach of the sector. E-commerce is already a big driver in China, with online retail shares reaching 14% in 1H16. Rapid increases in internet users per 100 people from 34 in 2010 to 50 in 2015 will continue to support the expansion. We think that information technology will be dependent on continued efforts in encouraging domestic companies to innovate. In particular, we view better enforcement of intellectual property rights through the existing legal system as key to the development of the information technology sector.

Finance (2016: 8.3% of GDP): The financial sector will also likely see growth opportunities as more financial reforms materialize. China's Five-Year Plan details continued RMB internationalization, more innovative financial instruments, and improving market access to drive private sector investment. Over the past year, China has conducted A-Share market liberalization reforms to address critical issues on beneficial ownership rights, A-share investment quota allocation and capital mobility, especially regarding repatriation restrictions. However, other concerns, such as stock trading suspensions and anti-competitive clauses by Chinese stock exchanges, have worried institutional investors, resulting in the delay of A-share inclusions in the MSCI index. In our view, Chinese regulators have already

implemented new measures that have worked relatively well to address these concerns, such as punishing improper use of trading suspensions, and QDII policy loosening. China has continued to demonstrate its desire to further integrate into the global capital market, and the financial services sector will likely see benefits.

Cultural and entertainment services (2014: 0.7% of GDP): Media and entertainment industries will see policy support via digitization and infrastructure construction, while demand will likely rise as rural populations urbanise and consumption patterns shift towards creative culture.

Two main barriers to services segment development

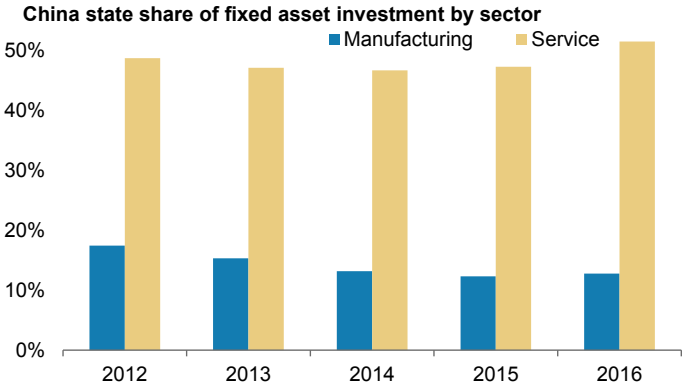
(1) State dominance in services segment

Despite these services development plans, China's services segment faces two substantial obstacles. The state retains a substantial ownership of the services industry across a broad range of sectors, such as telecommunications, banking and transport. State investments as a share of service sector investment climbed above 50%, while the state investment share in manufacturing has declined steadily to around 10%. Private and foreign entries into some sectors remain difficult due to the presence of large SOEs, such as the China Railway Corporation, which dominates the Chinese rail transport sector. The OECD Services Trade Restrictiveness Index, which measures the level of policy-imposed trade restrictions across services sectors, shows China's higher restrictiveness than other major economies in sectors such as banking, legal services and distribution.

Also, the dual identity of SOE managers as party officials complicates structural reforms, leading to slow implementation of programmes such as those that impose hard budget constraints for SOEs. According to the IMF, against a backdrop of slowing growth and weakening corporate fundamentals, policy makers have held back the reform progress of removing market distortions, which, while vital for medium-term growth, will damage short-term growth prospects.

Exhibit 75:

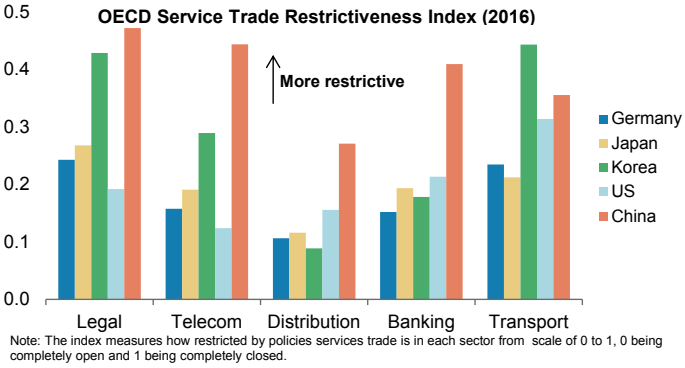
The Chinese state's share of investments is much higher in services than in manufacturing



Source: CEIC, Haver, Morgan Stanley Research.

Exhibit 76:

China remains restrictive across most service industries compared with advanced economies



Note: The index measures how restricted by policies services trade is in each sector from scale of 0 to 1, 0 being completely open and 1 being completely closed.

Source: OECD, Morgan Stanley Research.

(2) Liberalising foreign direct investment into services

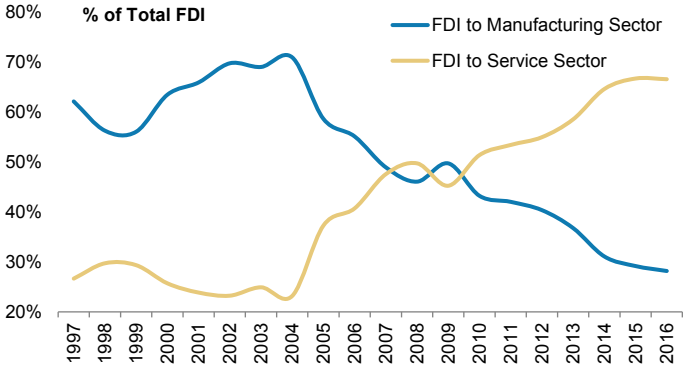
China's sectoral foreign direct investment (FDI) trends also reflect the current progress and future challenges of China's transition from manufacturing to services. China's FDI has already shifted from manufacturing to services in recent years. The services share of FDI overtook that of manufacturing in 2010 and has been sustainably higher since. FDI to services has rapidly risen from 23% of total FDI in 2004 to 67% in 2015, while manufacturing has fallen from 71% to 28% in the same period.

However, FDI to the service segment as a percentage of GDP has remained range-bound between 0.7% to 1.3% since 1997. Although this is above the figure for manufacturing, this is largely driven by a collapse in the latter from 2.9% in 1997 to just 0.3% in 2016. FDI to the service segment as a percentage of GDP remains much lower than the previous peak FDI levels to manufacturing. In this context, the recent relaxation of FDI restrictions to select service segments such as banking, insurance, credit ratings and accounting, along with an "orderly" opening of sectors such as telecommunications, internet and education is a welcome development that could help foster the growth of the services segment.

In summary, the services segment will likely remain the fastest growing, with its share of GDP eventually reaching 60% in 2030, up from 52% today. A shift in the demand patterns and policy support are the key enablers of this transition, while more efforts to privatise and encourage foreign direct investment in the services segment will be beneficial to foster the growth of the services segment.

Exhibit 77:

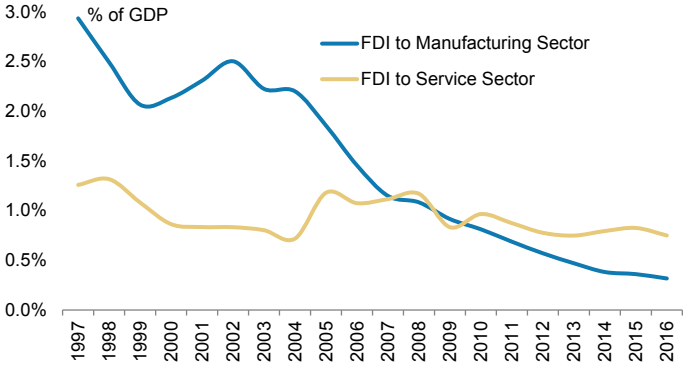
While services share of total FDI has risen...



Source: CEIC, Morgan Stanley Research.

Exhibit 78:

...as a percentage of GDP, FDI to service segment has declined



Source: CEIC, Morgan Stanley Research

Chapter 4: Manufacturing: from low value added to high value added

Although China today is one of the world's leading manufacturers, a sizeable proportion of its exports are still at the lower end of the value chain. With a declining working age population and rising wages, China will lose competitiveness in low value added manufacturing. Hence transitioning towards high value added manufacturing will be critical. We expect China to make inroads into this segment, competing with Germany, Japan and Korea.

In this chapter, we address the following key questions:

(1) What does China's income transition mean for the manufacturing sector?

Globally, high income economies have preserved some share of manufacturing, even as service sectors gain in prominence. This is because manufacturing sector contributes by making disproportionately large contributions to productivity growth, innovation and export trade. A move to higher value added manufacturing will therefore be vital for China to complete its income transition.

(2) Where does China currently stand in the global value chain?

China's cost competitiveness in manufacturing is being eroded by new entries at the lower end of the global value chain, necessitating a move upward to higher value end. China has already begun the transition process, and high value added exports share has risen to more than half of total exports in China. Specifically, China has made progress in some medium to high technology goods such as in electronic and circuit components (transistors and LCD screens), eroding Japan and Taiwan's market shares.

(3) How will China's manufacturing develop in the future?

We expect China to continue its transition into a high value added manufacturer. In particular, we see higher likelihood of China following Korea's model of balanced contributions across manufacturing sectors. In this regard, there will likely be companies which will become global players in the capital goods and electronics segments. Moreover, these companies will gain brand recognition, facilitating a move away from the current model of contract manufacturing.

China's current competitive edge is being eroded, necessitating change

China's competitive edge in manufacturing is still at the lower end of the value chain. Low-end links of the global value chain, such as energy and resource intensive commodities and processing, still account for 45% of China's added value from manufacturing, and they are not well suited to China's next phase of economic development.

As we highlighted, one of the megatrends is that China has a rapidly ageing population. With an overall shrinking labour supply and a smaller pool of potential migrant workers to draw upon, labour costs are rising rapidly in China, which poses challenges for it in sustaining its edge in low-cost, labour-intensive manufacturing. At the same time, competition at the lower end of the value chain is intensifying, as more developing countries are following the same developmental path that China did by utilizing their growing populations, enabling investment and grabbing market share.

Also, local manufacturers are facing increasing consumer sophistication, driven by the rise of a new middle class and urbanization across the country. Chinese consumers are becoming increasingly sophisticated, demanding higher-quality goods with more variety and customizability. This requires innovation, manufacturing and supply-chain capabilities that many producers have not yet developed. As a case in point, while the import intensity of capital goods fell from 100% in 2001 to 38% in 2015, the import intensity for consumer goods actually rose from 9% in 2001 to 23% in 2015, suggesting that domestic production capabilities have not kept up with changing consumer preferences.

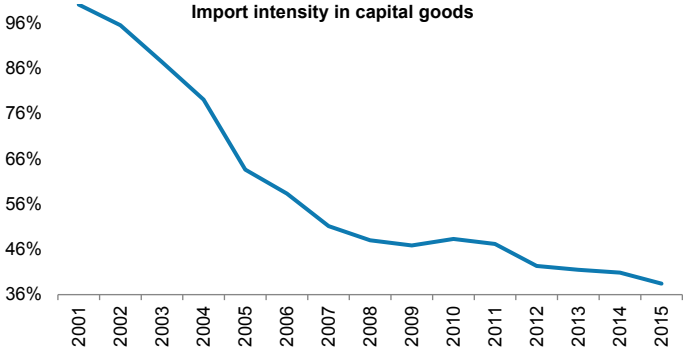
Moving towards high value added manufacturing - the experience of Korea, Germany and Japan

The US, Germany, and Japan still rank in the top 10 manufacturers globally (by value added terms). In these economies, manufacturing still accounts for 12-18% of GDP, while in Korea, the figure is higher at 26%. Average productivity levels of manufacturing in these economies have consistently risen over time, supported by the move towards high value-added manufacturing and a move up the value chain.

Indeed, reflecting the continued importance of manufacturing, China, the US, Germany, and Japan have in recent years announced plans to boost manufacturing capabilities. Specifically, the US plans to build 45 innovation centers each with specific research purposes countrywide through its National Network for Manufacturing. Germany's 2013 Industry 4.0 focuses on integrating internet technology into advanced manufacturing, building smart factories in the process. Japan's White paper for Manufacturing in 2014 targets high value added sectors in robotics, new-energy vehicles, medicine and 3D printing.

Exhibit 79:

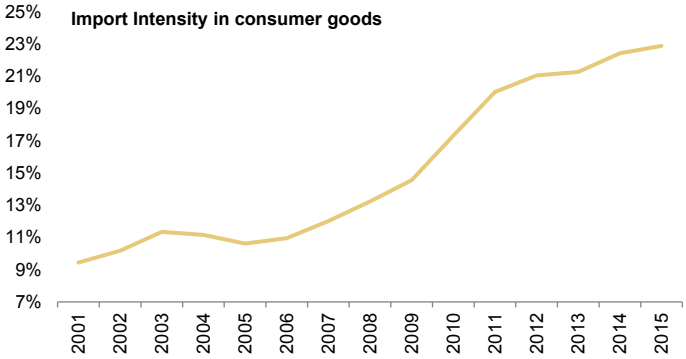
Import intensity in capital goods has steadily fallen...



Source: UN Comtrade, Morgan Stanley Research.

Exhibit 80:

...while the reverse has happened for consumer goods



Source: UN Comtrade, Morgan Stanley Research.

Similarly, China's "Made in China 2025" plan forms part of a three-stage blueprint to boost manufacturing competitiveness. The plan states that the goals are to become a strong manufacturer by 2025, to move to higher-end sectors and become a medium-level player among the strongest economies by 2035, and to become the leader in innovation and a top player by 2045.

The benefits of manufacturing are that it still makes disproportionately large contributions to productivity growth, innovation (R&D spending) and export trade. According to McKinsey estimates, in major economies, the manufacturing share of productivity

growth exceeds its share of employment, while it contributed 89% of business R&D spending in Germany and Korea, 87% in Japan and 67% in the US in 2008. McKinsey's estimates also shows manufacturing accounts for an average of 70% of major economies' exports. In this regard, it has a synergistic effect with services through spillovers, such as boosting demand for intermediate services inputs in design and R&D, and providing employment in both production and increasingly non-production roles, thus driving growth in producer services.

Below we map out the experiences of manufacturing in Korea, Germany and Japan when these economies transitioned from middle to high income and beyond.

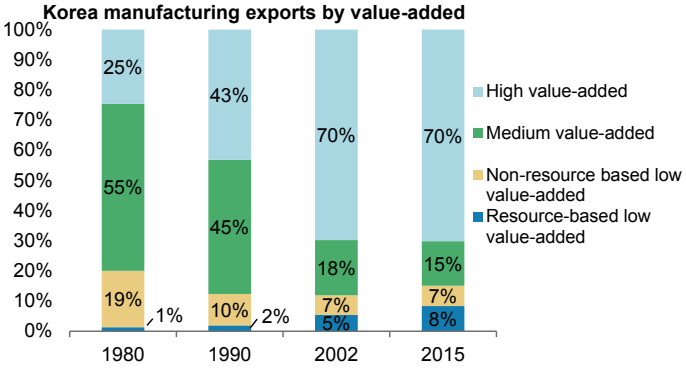
Phase 1: From mid to high income: In the first transition from middle to high income, the lack of data about value-added exports for Germany and Japan has meant that we have to primarily rely on Korea's experience. We have generally observed a decline in importance of low and medium value-added exports, with high value-added manufacturing increasing to above 65%.

As Korea reached middle income, the share of its high value-added exports increased from 25% in 1980 to 43% in 1990. Meanwhile its medium and low value added exports similarly declined in importance, from 55% and 20% in 1980 to 45% and 12% in 1990. As Korea transitioned from mid to high income, the share of its high value-added exports continued to steadily increase, stabilizing at 70% of manufacturing exports by 2002. The increase came at the expense of medium value-added exports, which saw an accelerated share loss from 45% in 1990 to 18% in 2002. On the other hand, low value-added exports halted their decline and maintained their exports share at 12%.

Phase 2: High income and beyond: In the second transition towards current high income levels, high value-added exports shares continued to account for a large share of total exports, stabilizing at around 65-69%% in Germany and Japan, while the share of Korea's high value-added exports increased steadily from 43% in 1990 to 70% in 2015. Meanwhile, medium value-added exports now consist of just 14-19% of total exports, with Germany recording 19% and Japan notably reaching just 14%. Interestingly, lower value-added exports in Japan and Korea now both make up a larger share of exports than medium value-added exports. Germany's low value-added normalized at 16% and remains below medium value shares.

Exhibit 81:

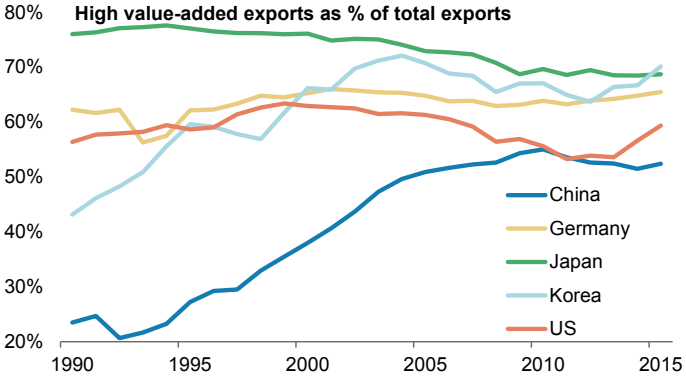
Korea's high value-added exports account for two-thirds of total manufacturing exports



Source: CEIC, WTO, Morgan Stanley Research.

Exhibit 82:

At high income levels, share of high value-added exports as a percentage of total exports has stabilised



Source: WTO, Morgan Stanley Research.

Which high value-added manufacturing sectors tend to outperform?

Korea's high value-added growth drivers from mid to high income

Within Korea's high value exports increase from 43% in 1990 to 70% in 2002 as it transitioned from mid to high income, we see all high value-added export segments gaining in export share. Four segments increased to account for over 10% of total exports, with telecommunications equipment at 12.4%, power and electrical machinery at 11.1%, automotive products at 10.7% and electronic data processing and office equipment at 10.1%, with other segments all increasing to above 7% of total exports.

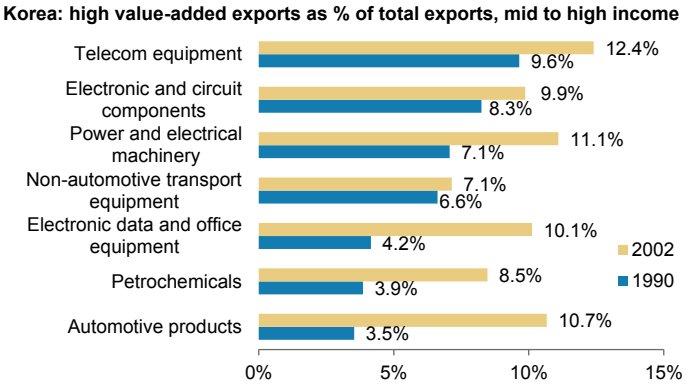
With the 27% increase in total export share by high value-added exports between mid and high income levels, automotive products accounted for 7.1%, electronic data processing and office equipment 6.0%, and petrochemicals and power generating machinery accounted for 4.6% and 4.0% respectively.

At higher income levels, we see broad trends of high value-added exports concentrating in power and electrical machinery, automotive products and petrochemicals. Power and electrical machinery contribute the largest shares of total exports within all high value-added segments, accounting for 22% of total exports in Japan, 20% in Germany and 15% in Korea. Automotive products are also a significant segment, generating 21% of total exports in Japan, 18% in Germany and 13% in Korea. Petrochemicals averaged between 10-12% as the third largest sector within high value-added manufacturing.

Interestingly, Korea sees comparatively balanced contributions to total exports across more high value-added manufacturing segments than Germany and Japan, with electronic and circuit components, non-automotive transport equipment and telecommunication equipment contributing 10%, 8%, and 7%, respectively.

Exhibit 83:

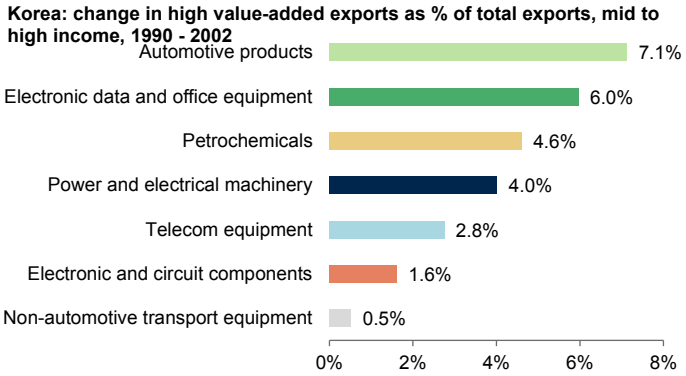
Broad-based increases across Korea's high value-added export categories in shift from mid to high income



Source: WTO, Morgan Stanley Research.

Exhibit 84:

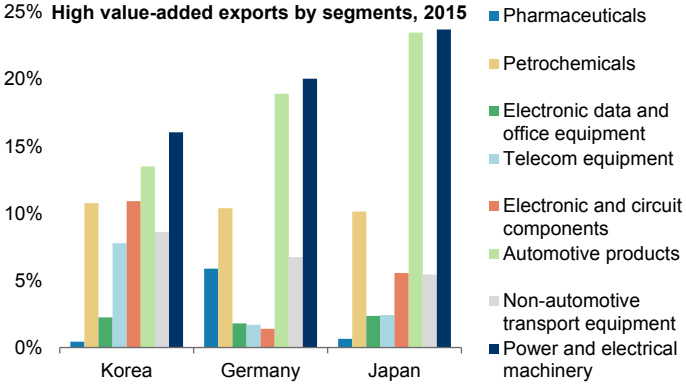
Key contributors include power and electrical machinery, telecom equipment and electronic data and office equipment



Source: WTO, Morgan Stanley Research.

Exhibit 85:

Germany and Japan have more concentrated sector contributions



Source: WTO, Morgan Stanley Research.

Current strengths of China's manufacturing

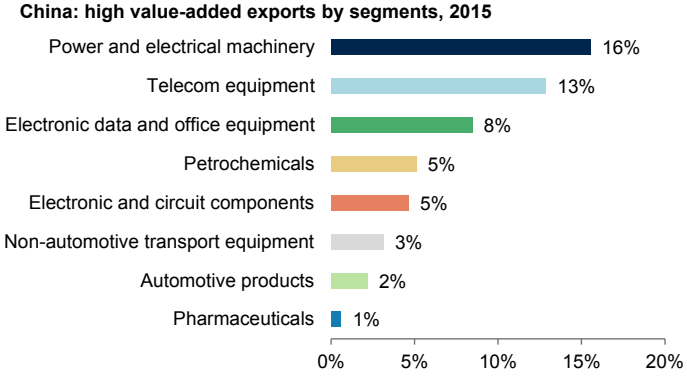
China's manufacturing sector remains a strong global exporter. Its share of world exports has accelerated from 4% in 2000 to 12.5% in 2014 and 14% in 2015. In the same period, the share of the US has declined from 12% to 9%, Japan has decreased from 7.5% to 3.8%. Germany has decreased marginally from 8.6% to 8.1%, while Korea has gained from 2.7% to 3.2%.

China's current manufacturing exports breakdown by value-added shows that the transition from low value added to high value-added manufacturing is well underway. Exhibit 86 shows that since 1980, the share of China's low value-added exports has decreased from 53% of exports to just 9% in 2015. The share of high value-added exports has gone in the opposite direction, increasing from 11% in 1980 to 52% in 2015. In terms of global market share, China gained in all value-added categories, with high value-added increasing from 0.1% of the world's total in 1980 to 7.2% in 2015. Medium value-added exports also increased from 0.3% in 1980 to 5.4% in 2015. In contrast, low value-added exports only increased marginally from 0.5% in 1980 to 1.2% in 2015.

If China follows Korea's path in this regard, China's high value-added exports will reach 65-70% of total exports as it moves towards high income. Medium value-added exports will also need to decrease from 46% now to around 15-20%. We would also expect to see low value-added exports decrease from 31% to 10-15%.

Exhibit 87:

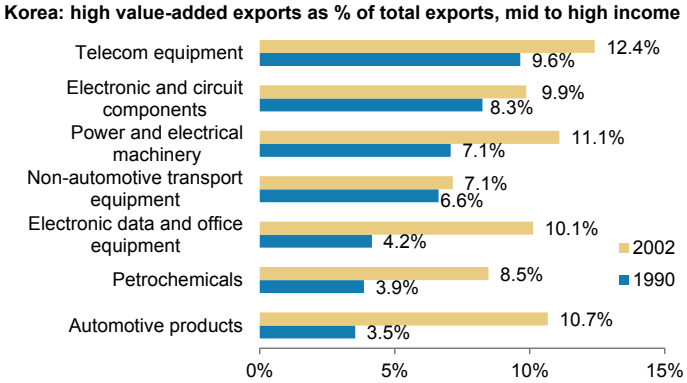
China's segment distribution of high value-added exports is similar to that of Korea



Source: WTO, Morgan Stanley Research

Exhibit 88:

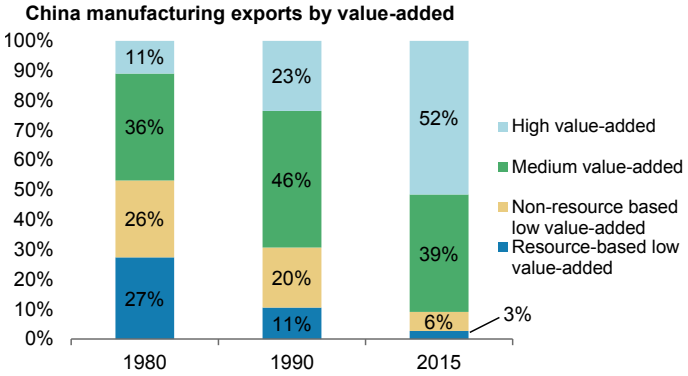
Balanced growth across high value export sectors will benefit China's transition



Source: WTO, Morgan Stanley Research.

Exhibit 86:

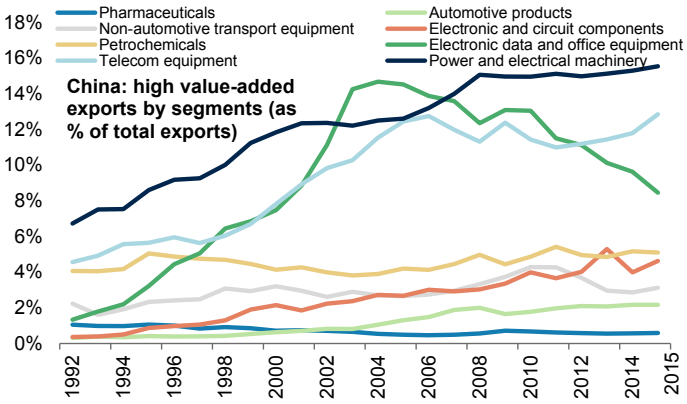
China's transition to high value-added exports has already begun



Source: WTO, Morgan Stanley Research.

Exhibit 89:

Selected sectors have steadily increased high value-added export shares, while others have stagnated



Source: WTO, Morgan Stanley Research.

China's high value-added export sectors and future development

Given China's current sector contributions, we see a higher likelihood that it will follow the balanced contributions of Korea's high value-added sectors than Japan's or Germany's trajectory. China has seen strong contributions from power and electrical machinery (16%), telecommunication equipment (13%), and electronic data and office equipment (8%) to its high value-added exports. In particular, since 1992, the power and electrical machinery and telecommunication equipment sectors have increased their share of high value-added by 9% and 8% points respectively, the strongest amongst all sectors. This was followed by the electronic and circuit components and automotive products sectors, whose export shares have increased by 4% and 2% points respectively. The share of electronic data and office equipment peaked at 15% in 2005, before steadily decreasing to 8% in 2015. In contrast, pharmaceuticals and non-automotive transport equipment have largely stagnated in terms of their share of high value-exports.

When comparing Korea's high value-added exports' makeup as it completes its high income transition with China's current levels, we should expect to see China address automotive products, electronic and circuit components, non-automotive transport equipment and petrochemicals. We expect automotive products and petrochemicals, both large high value-added export contributors in Korea, Japan and Germany, to increase most from the current shares of 2% and 5% to over 10% and 8-10% of total exports respectively. We expect the share of electronic and circuit components to rise from the current 4% to 10%, and non-automotive transport equipment, such as aircraft, railway vehicles, ships and all related equipment, to rise from 3% to 7%.

China has made progress in selected medium to high technology goods such as electronic and circuit components (transistors and LCD screens). According to the IMF, China's improving trade balance with advanced upstream economies such as Japan and Taiwan suggest it is increasingly competitive both within its own domestic market and in foreign markets, driven by China's onshoring of production for previously imported components. China's domestic value added content of exports has also risen across all manufacturing sectors and now exceeds levels in Korea and Taiwan, driven by a decline in the importance of low value added processing trade as well as a decline in import intensity of many Chinese exports.

Enablers of transition

From China's current experience and that of other advanced economies, it is critical for manufacturing to progress upstream in the global value chain to ensure its role in China's new economy. We see a number of enablers to this value-added transition that could help China to become a global competitor in higher-value added manufacturing. They are an innovative environment, Chinese multinational corporations, and policy support.

1) From adopting technologies to innovation

We see innovation as a key enabler in China's transition from low value added to high value added manufacturing. Globally, high value added manufacturing industries are R&D intensive in nature, and they require a constant stream of innovations to drive new product development. In the past, manufacturing companies in China have been able to largely import and imitate technologies from abroad. However, for China to reach the next phase of growth and drive the development of high value added industries, it will need to move beyond the role of technological follower and become an innovator.

In the Global Innovation Index, China currently ranks 25th, up from 29th in 2015 and 2014. In moving up, it became the first middle income economy to enter the top 25. China's performance in key categories such as institutions (79th), which assesses regulatory, political and business environments, and information and communication technologies (53rd), which includes ICT use and access, along with overall tertiary education (109th) remain poor and will need substantial improvements to further its ranking.

Categories of innovation

According to McKinsey, there are four types of innovations important to high value-added manufacturing industries that China should focus on developing. The same report cites that China currently holds an advantage in efficiency-driven and customer-focused innovations, but have had mixed outcomes in engineering innovation and poor outcomes in science-based innovations.

• **Efficiency-driven innovation** to improve efficiencies in the design and production processes: China has long been known to be a manufacturing-driven nation that has created a wide network of suppliers,

manufacturers, and logistics partners. This has allowed the country to develop efficiency-related advances, such as innovation in the modularization of production into smaller assembly lines. As a result, China has recorded strong performance in the solar panel and construction machinery manufacturing segments, with Chinese companies respectively accounting for 51% and 19% of global revenue pool in these segments in 2015.

We think China should expand its efficiency advantages to other efficiency-driven industries, such as equipment and semiconductor manufacturing. A shift in comparative advantages in wages and labour supply also means a new pipeline of innovations is critical to maintaining high efficiency in production.

• **Customer-focused innovation** - identifying and addressing customers' needs by developing new products and updates: China's large but fragmented manufacturing industry has led to developments in customer-focused innovation industry-wide. Chinese manufacturing companies developed fast commercialization capabilities, particularly in household and electrical appliances manufacturing to suit its middle-income population.

We expect a rise in per capita income to result in a shift in Chinese consumers' preference to high value-added goods. The integration of internet applications into manufacturing will be an important tool for companies to maintain their customer-focused advantage in consumer experience and customization. Many customer-focused sectors would need to have a continuous pipeline of new and original designs and updates to be globally competitive.

• **Engineering-based innovation** – solving engineering problems and integrating the solutions using know-how: China has had mixed performance in engineering-based innovations. Engineering innovations is experience-intensive and requires 'learning-by-doing'. Chinese engineering-based industries that have succeeded are therefore mostly due to state-induced knowledge transfers, i.e., through joint ventures with foreign players in state programmes. For example, the state-led Wind Power Concession Project in 2003 required 50% local content and led to a foreign transfer of knowledge to Chinese companies via joint-venture plants in China. The Chinese Ministry of Railways' high-speed rail initiative has also achieved similar knowledge transfers by establishing joint ventures between local firms with foreign firms such as Bombardier and Siemens. This has led to successes in high speed railways and wind turbine industries. In automotive manufacturing, where the pressure to innovate has been low thus far due to high demand and private joint ventures, technology transfers and, subsequently, engineering innovations have been weak, with top Chinese automotive manufacturers achieving only 70% of R&D spending that top global automotive manufacturers do, according to McKinsey.

Government directives will be significant in expanding opportunities for engineering knowledge transfers to other industries. We already see other industries also targeting the 'Made in China 2025' plans for engineering-based industries such as medical devices.

• **Science-based innovation** – generating new discoveries into products: China remains significantly behind other upstream economies in science-based innovations, and is restricted to the role of being a technological adopter in some high value-added industries such as pharmaceuticals and biotechnology.

In our view, China will need to expand its advanced research institutions, skilled labour force, along with strong intellectual property rights that it does not currently readily possess. Science-based innovations also require significantly longer periods of time to complete. We are already seeing some efforts to attract Chinese scientists through the government's Thousand Talents programme, along with reform directives aimed at improving the quality of higher education across the country. Continued coordination by the government and private efforts will be vital to China's scientific development and transition to high value-added industries.

2) Role of Chinese multinational companies

Globally, multinational companies are the main contributors to R&D activity and as such are China's key vehicles toward higher value-added manufacturing. As mentioned above, Chinese companies have performed well only in some facets of innovation. In the past, they have been under less pressure to develop new ideas by relying on global competitors to drive the innovation process. As such, many Chinese companies instead focused on efficiency-driven innovation, finding ways to conduct operations cheaper and faster, which, in our view, is neither sufficient nor necessarily the most important issue for all high value-added manufacturing industries.

Chinese corporations are making some progress to correct for these tendencies. In BCG's 2015 Most Innovation Companies Index, which surveyed executives across industries and countries, incorporating weights to profitability, three companies in the top 50 were from China, Tencent, Xiaomi, and Huawei. The figure is up from two in 2014 and one in 2013.

In our view, for Chinese companies to raise their market share in higher value-added manufacturing, they would need to invest more in building their R&D and big data analytics divisions to develop and commercialise new ideas. This means establishing and making overseas partnerships or acquisitions, while expanding talent recruitment, retention, and training to the international level. Chinese companies should also increase their investments in and encourage collaborating with start-ups. For example, Baidu recently launched a Rmb20bn investment fund targeting start-ups.

3) Role of policy makers

Explicit policy support will expedite the Chinese manufacturing sector's move up the global value chain. As mentioned above, the high-value added industrial transition will be supported by the Made in China 2025 plan and the longer-term three-stage blueprint. Policymakers have set specific policy goals within the plan:

- Increase large manufacturers' R&D spending as a percentage of operating revenue from 0.95% in 2015 to 1.26% in 2020 and 1.68% in 2025.
- Increase large manufacturers' effective patents per billion yuan of operating revenue from 0.44 in 2015 to 0.77 by 2020 and 1.1 by 2025.
- Generate manufacturing added value increase of 2% of GDP compared to 2015 by 2020 and 4% of GDP by 2025.
- Increase manufacturing labour productivity from 6.6% in 2015 to an average of 7.5% annually until 2020 and by 6.5% until 2025.
- Raising the domestic content of core components and materials in key industries from 10-25% in 2015 according to McKinsey estimates to 40% by 2020, and 70% by 2025.

The plan has also set ten strategic industries to support within the manufacturing sector:

- Aerospace equipment
- Robotics
- Maritime engineering
- New energy vehicles
- Electrical power equipment
- New materials
- Rail transportation
- Agricultural equipment
- Medical devices
- Information technology

Policy makers plan to support these industries by helping to ease industrial bottlenecks. Industry-specific bottlenecks that policy makers will concentrate on include microchip development, gas turbines for oil tankers, engines for aircraft, joints used for robots, and batteries for new energy vehicles. They will aim to do so by establishing 15 innovation centers across the country by 2020, rising to 40 by 2025. Innovation and entrepreneurship platforms should also be established in 80% of backbone enterprises in key manufacturing industries by the end of 2018. Universities and other research institutions will receive increased autonomy in research and funding decision-making. Policy makers will also provide the platform for innovation and mass entrepreneurship to develop by creating start-up incubators, crowd-funding, venture capitals funds, as well as fiscal support through tax cuts and exemptions. For example, China has already set up a Rmb120bn (US$19bn) investment fund to support the development of microchips.

We expect China to target the promotion of engineering and science-based innovations in specific high value-added manufacturing industries. More concrete and detailed industry-specific development plans will likely reveal the extent of the plan's potential success. Directives aimed at the development of research institutions and skilled labour are encouraging signs. We would need to see more coordination of public and private efforts to drive experience and knowledge transfers and ascertain any significant development.

Conclusion

We believe that China should continue to focus on maintaining or gaining market share in the manufacturing sector even as the Chinese economy gravitates towards the services sector due to rising incomes and demographic changes. This is because the manufacturing sector provides benefits in relation to productivity, innovation, as well as its synergistic effect on the services sector. Moving up the value chain is imperative and innovation will be a key enabler. Policy efforts can help to accelerate the transition and, in that context, efforts to encourage and lift R&D spending will be critical.

Chapter 5: Why does China need to reform its SOEs, and what does China mean by SOE reform?

The key purpose of driving a higher share of private sector participation is the need for innovation to drive the next stage of development, and with it, an improvement in returns on equity and assets. It appears the SOE reform plan announced in 2014 were put in place to improve efficiency through the consolidation of SOEs, but there is no clear privatization or aggressive privatization plan either through strategic asset sales or through stock market divestment of majority stake. We believe SOE reform will continue to progress further but will be largely focused on creating large national industry champions and reducing corruption risks.

In this chapter, we address the following key questions:

(1) How have Chinese SOEs performed in the past decade?

Efficiency and returns in China's SOE sector have declined significantly in both absolute terms and when compared to the private sector, though this trend is also observed across other EM economies.

(2) Do China's SOE reforms imply more privatization and de-regulation in the relevant sectors?

Although China remains focused on improving SOE performance, their approach will be different from the Washington Consensus approach of the 1980-90s in the Western Countries. Rather, China aims to strengthen the largest SOEs through these reforms, while capital and labor re-allocation decisions remain largely in the hands of policymakers. Hence, we expect the SOE sector to remain a drag on China's overall growth for some considerable time to come.

(3) What is the role of the private sector in driving the growth transition?

China's private sector firms have already dominated the listed space in the IT, Consumer and Healthcare sectors, while a very vibrant set of large private firms has also congregated in the related industries. These firms have generated far higher returns with less use of leverage, and would likely be a primary driver of growth in the near term.

In this section, we review the challenges that China faces in reorienting its SOEs and the role of the private sector in accelerating the transition of China's economy from a lower value-added, old-economy manufacturing to a higher value-added, technology-driven manufacturing and services new-economy.

We begin by documenting the problem of deteriorating returns and rising leverage in the SOE sector. We show that the current situation is severe, but that China's SOE sector problems are actually shared by other emerging markets. We then go on to analyse the details of the government's agenda of supply-side reform and SOE restructuring, comparing and contrasting this with the approach used under the "Washington Consensus" in the US, Europe, and in emerging markets during the 1980s and 1990s.

More importantly, we show that China's approach is different from other countries and regions in several important regards. The government does not aim to cede control of SOEs; it targets to strengthen the largest SOEs rather than unbundling and dismantling them. The process for capacity reduction and labour reallocation will likely be largely government-driven from the top-down and will not be a bottom-up process through the operation of market forces. In its own terms, we think China's SOE restructuring and supply-side reform will succeed.

This will most likely be the case in creating a smaller group of larger national champion SOEs and reducing corrupt practices in the SOE sector. However, measured against the key problems of declining returns, excess capacity, and excess leverage, the SOE sector is likely to remain a drag on China's overall economic performance for some considerable time to come.

Key challenges for China's SOEs

At the outset, the key issues that SOEs in China are facing are:

(1) SOEs' absolute ROAs and ROEs are at post-2002 lows and are still falling despite stabilizing somewhat in 2016;

(2) SOEs' average ROAs and ROEs have also declined significantly versus the private sector;

(3) SOEs have high and rising leverage in absolute terms despite starting to deleverage in 2014;

(4) SOEs levered up significantly from 2008 to 2013 whilst private firms have been deleveraging most of the time since 1998,

(5) China's non-industrial SOEs are even worse performers on key financial metrics than their industrial peers.

However, these problems are not unique to China and are indeed common, shared with other emerging market countries.

Whilst reform of China's underperforming SOE sector remains a key challenge for its government, the good news is that organic bottom-up change is rapidly reshaping the corporate landscape in China. China's private firms already dominate the listed space in the IT, consumer, and health care sectors, generating far higher returns with less use of leverage than their SOE peers. They are likely to continue driving the growth transition forward. Moreover, a very vibrant set of large private firms is appearing in the IT, advanced technology, consumer, and services sectors.

Why is SOE reform a key agenda item in achieving economic transition and deleveraging?

We have long identified capacity shutdowns, increased private sector competition with SOEs, and reform in SOE management as key components of our 10-item policy agenda for achieving "beautiful deleveraging" in China. A summary of our latest scorecard is provided in the report last published on 18 May 2016. By "beautiful deleveraging" we mean the policy goal of slowing the growth of credit to GDP, raising total factor productivity, and hence, sustaining the GDP growth rate through a period of slower investment and declining labour force growth.

Our overall score in this area was unchanged at 5/10 in our last review in May 2016, indicating in aggregate our uncertainty on the likelihood that reform is meaningful in this area and will contribute to the overall goal of deleveraging. In this chapter, we provide a detailed rationale for this uncertainty and signposts for what might tip the balance one way or the other.

A quick guide to the evolution of China's SOEs - fewer but bigger over time

Chinese SOEs have always been the primary owners of corporate assets, a feature attributable to the country's institutional structure, although the share of SOE ownership has declined over time. Socialist economic systems historically have placed a heavy emphasis on government ownership and control of corporate assets. This was achieved through nationalisation of existing privately owned entities and/or state-directed investment in new enterprises. State planning agencies were tasked with resource allocation in the corporate sphere at the national level, with the goal often of achieving self-sufficiency or competence in areas of key strategic importance (energy supply, utilities, large-scale industrial processes such as steel / petrochemicals / defence equipment). In China, local governments are also owners and instigators of SOE creation.

Capitalist economic systems have historically retained a high degree of private ownership and control of corporate assets. In the US, industries including railways, power generation & distribution, steel & coal production, as well as car production have always remained in private hands, while in Europe, these industries were largely nationalized between 1945 and 1980.

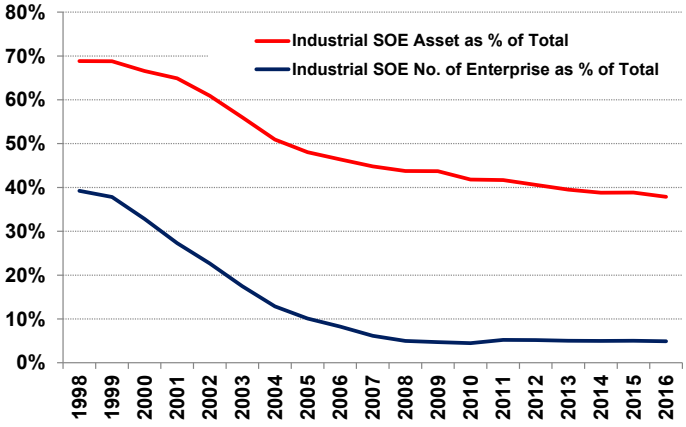
For China, in 1998, which is the year of the oldest data available from National Bureau of Statistics (for listed and unlisted entities in aggregate), SOEs controlled around 70% of the assets of all industrial enterprises in the country based on industrial enterprises above a designated size.

However, following the reforms of the 1980s and early 1990s, SOEs accounted for only a minority - around 40% - of the number of enterprises. Hence, private firms have been and continue to remain smaller than SOEs on average in terms of asset size. During the SOE reform era of 1998-2002, the SOE share of assets fell significantly to around 50% by 2004. It continued to fall to below 40% by 2013, but has since stabilized at around this level.

Consolidation in the number of industrial SOEs and the rapid development of private sector corporate activity starting in the late 1990s has led to an even more rapid decline in the share of SOEs within the total number of corporate industrial enterprises in China. According to data from the NBS, large SOE industrial enterprises, i.e., with revenues over Rmb 20mn, now account for only 4.9% of the total number of such enterprises, down from around 39% in 1998. However, 4.9% still amounts to around 18,600 firms.

Exhibit 90:

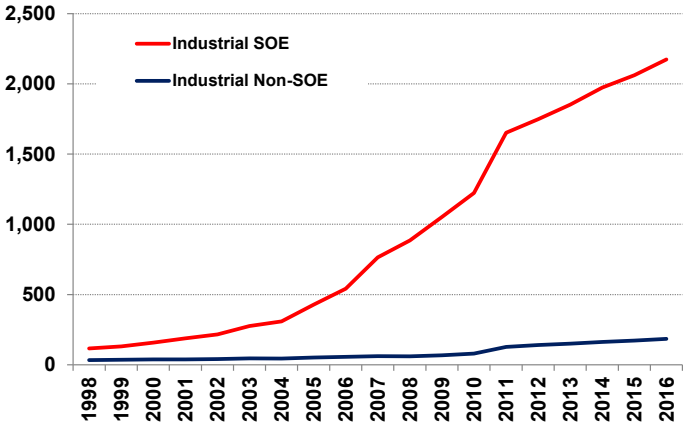
China Industrial SOE share of total industrial enterprises by assets and numbers - SOE share has been falling



Source: NBS, CEIC, Morgan Stanley Research. Note: From 2011, the scope of industrial statistics of industrial enterprises above a designated size have been increased from principal business revenue over Rmb5mn to Rmb20mn.

Exhibit 91:

China Industrial SOE versus industrial non-SOE: average size by asset (Rmb mn) - SOE is much larger



Source: NBS, CEIC, Morgan Stanley Research.

Note: From 2011, the scopes of industrial statistics of industrial enterprises above designated size have been increased from principal business revenue over Rmb5mn to Rmb20mn.

China's industrial SOEs are much larger than their private sector industrial peers. The average SOE now operates an asset base of Rmb2,174mn or almost 12x the size of the average non-SOE corporate, according to SOE data from the NBS.

China industrial SOE sector ROAs and ROEs are low and declining, both in absolute terms and relative to private sector peers

While financial return is only one of the many ways to assess the merits of different ownership structures, China's industrial SOEs have consistently earned lower returns on assets relative to their private sector counterparts.

From 1998 to 2007 both SOE and non-SOE returns on assets rose with non-SOEs delivering on average an ROA premium of around 175bps relative to SOEs. This high-return environment was driven mainly by a persistent low-to-mid-teens nominal revenue growth environment across the economy. There was a divergence between 2007 and 2011, with SOE returns starting to decline from a peak of around 7% to below 6% and non-SOE returns continuing to rise to above 10%. This divergence appears to have been driven by the rapid appearance of excess capacity and slowing revenue growth in the old economy SOE-facing sectors of energy, materials, and industrials. In contrast, the non-SOE new economy sectors of IT, consumer, and health care continued to exhibit relatively high revenue growth and

Exhibit 92:

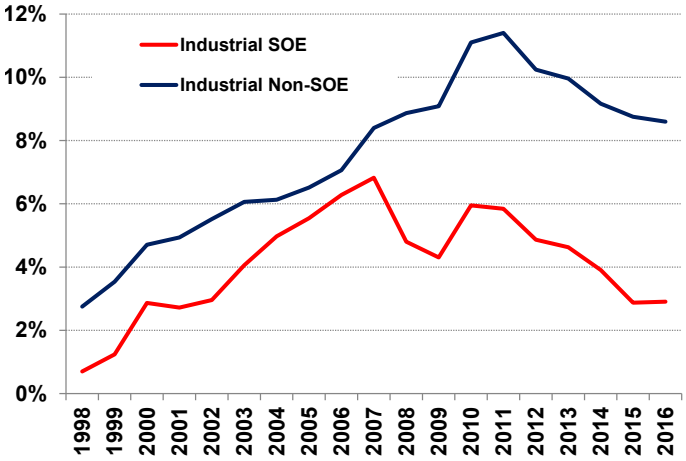
Major Chinese Industrial SOE ranked by assets - concentrated in energy, material, industrial and utility sectors

Name	Sector	Assets (US$Mn)
China National Petroleum	Petroleum Refining	634,811
State Grid	Utilities	466,298
Sinopec Group	Petroleum Refining	359,182
China National Offshore Oil	Mining, Crude-Oil Production	180,427
Shenhua Group	Mining, Crude-Oil Production	149,685
China Huaneng Group	Energy	149,606
China State Construction Engineering	Engineering, Construction	148,914
Aviation Industry Corp. of China	Aerospace and Defense	128,887
China Guodian	Energy	126,877
China Huadian	Utilities	117,112
China Railway Engineering	Engineering, Construction	110,473

Source: Fortune China 500 - 2015, Bloomberg, Morgan Stanley Research.

Exhibit 93:

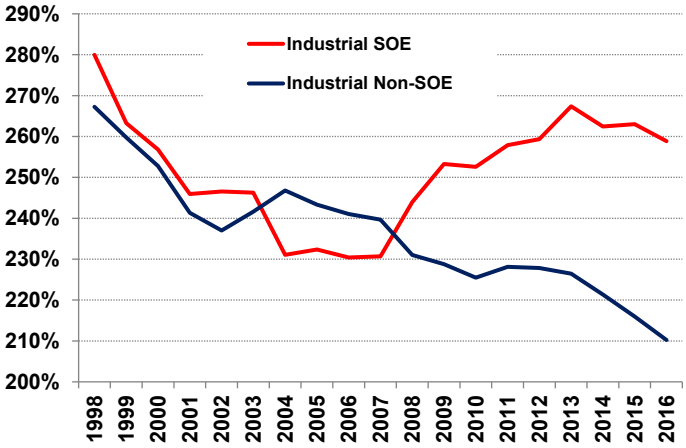
China Industrial SOE versus Industrial Non-SOE: Return on Assets - the gap has widened since 2007



Source: NBS, CEIC, Morgan Stanley Research. Note: From 2011, the scopes of industrial statistics of industrial enterprises above designated size have been increased from principal business revenue over Rmb5mn to Rmb20mn. Non SOE includes Private Enterprises, Enterprises with Funds from Hong Kong, Macao and Taiwan, Foreign Funded Enterprises and enterprises in other ownership forms where state shares is not in controlling majority.

Exhibit 94:

China Industrial SOE versus Industrial Non-SOE: Leverage (assets/equity) - SOEs have higher leverage



Source: NBS, CEIC, Morgan Stanley Research. Note: From 2011, the scopes of industrial statistics of industrial enterprises above designated size have been increased from principal business revenue over Rmb5mn to Rmb20mn. Non SOE includes Private Enterprises, Enterprises with Funds from Hong Kong, Macao and Taiwan, Foreign Funded Enterprises and enterprises in other ownership forms where state shares is not in controlling majority.

were less impacted by excess capacity. After 2012, ROAs fell in both SOE and non-SOE firms. However, the decline in ROA was far more severe in the SOE firms with a fall to below 3% in 2016 (versus a little over 8.5% for non-SOE firms). The gap between SOE and non-SOE ROA has widened to an average of 520bps since 2007 and is still higher than those levels as of 2016, despite the pickup in GDP growth and commodity prices in 2016.

Hence, we can identify two key issues in relation to SOEs' performance in China.

1) SOEs' absolute ROAs and ROEs are at post-2002 lows and are still falling despite stabilizing somewhat in 2016.

2) SOEs' average ROAs and ROEs have also declined significantly versus the private sector.

A simple diagnosis that SOEs are "poorly run" is not good enough. Private firms have a very different sector skew to their operations than their SOE peers, as we discuss below in relation to the listed equities universe.

The Chinese government clearly recognises that combatting low returns should be a key goal of the SOE reform agenda. For a video clip from the State Council of China's English language website on the overall SOE reform agenda which discusses low returns please click here.

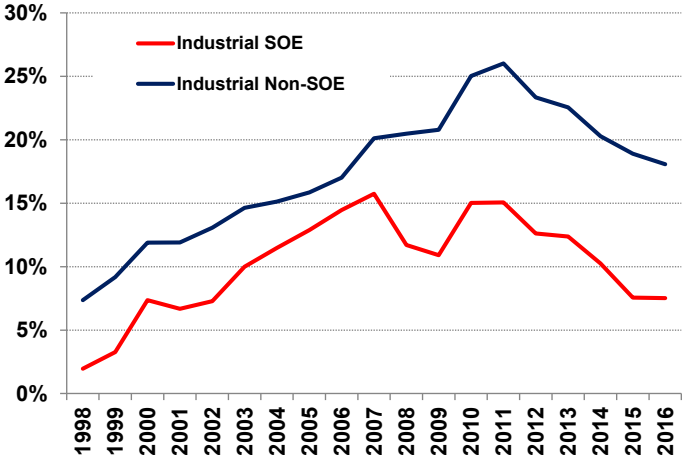
China SOE leverage is also rising, both in absolute terms and relative to private sector peers

Another key problem for China's SOE sector is excessively leveraged balance sheets. As mentioned in Economics and Strategy Insights: China deleveraging – overall progress has slipped a bit since our last update; new scenario analysis (18 May 2016), corporate leverage lies at the heart of China's leverage problem.

SOE leverage (i.e., assets divided by equity) fell from 280% in 1998 to around 230% in 2004-07. However, it subsequently rose back to over 260% during 2013-2015 and only fell back to slightly below 206% in 2016. In contrast, private firms have continued to delever, with leverage now much further below their SOE peers than ever before, at around 210% in 2016.

Exhibit 95:

China Industrial SOE versus Industrial Non-SOE : Return on Equity - SOE ROE is close to the low since 2002



Source: NBS, CEIC, Morgan Stanley Research. Note: From 2011, the scopes of industrial statistics of industrial enterprises above designated size have been increased from principal business revenue over Rmb5mn to Rmb20mn. Non SOE includes Private Enterprises, Enterprises with Funds from Hong Kong, Macao and Taiwan, Foreign Funded Enterprises and enterprises in other ownership forms where state shares is not in controlling majority.

Hence, the third and fourth key issues for China's SOE corporates are:

3) SOEs have high and rising leverage in absolute terms despite starting to deleverage since 2014.

4) SOEs have levered up significantly from 2008 to 2013 whilst private firms have been deleveraging most of the time since 1998.

In a rising rate environment, the substantial rise in leverage would have increased the financial vulnerability of these SOEs, which may partly explain the deterioration in their performance in recent years. The net effect on ROE of the ROA trends and leveraging trends just discussed is shown in **Exhibit 95** . ROE in the SOE sector rose from the low single-digits in 1998 to a peak of almost 15% in 2007. It has since declined to around 7.5% in 2016. In contrast, ROE in the non-SOE sector peaked later at around 25% in 2011 and has since fallen to around 18.1% in 2016. The gap between SOE and non-SOE ROE has increased from an average of 450bps in 1998-2007 period to over 1,000bps after 2007.

Performance of non-industrial SOEs seems to be even worse than industrial SOEs

Data from the Ministry of Finance suggest that ROA for all Chinese SOEs ex-financials has fallen in 2016 to a new low since 2001 of below 1.8%, below that of industrial SOEs at 2.9%. ROE for the total universe of China's SOEs has fallen to a new low of only 5.2%, well below that of industrial SOEs (Exhibit 96 and Exhibit 98). The data include state-owned and state-controlled enterprises, including enterprises controlled by the central government as well as central government agencies, and provincial level state-owned or controlled enterprises.

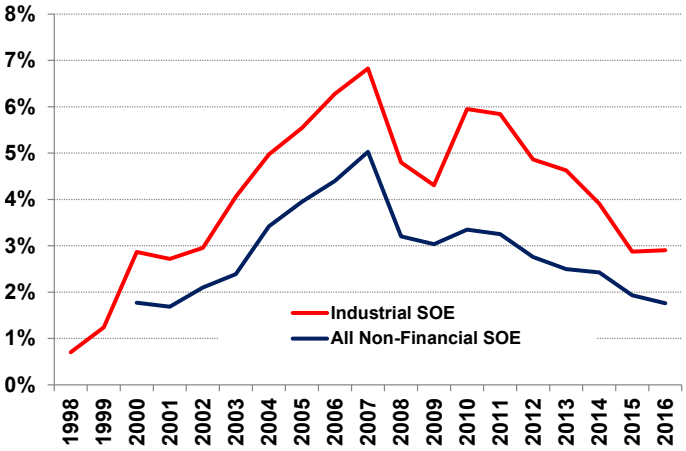
It is also the case that the non-industrial SOEs have leveraged up even more than the industrial SOEs. Hence total SOE leverage (assets/equity) is close to 300% in 2015 and 2016. Again, this is a new high.

Hence we have a fifth key issue for China's SOE corporates:

5) China's non-industrial SOEs are even worse performers on key financial metrics than their industrial peers.

Exhibit 96:

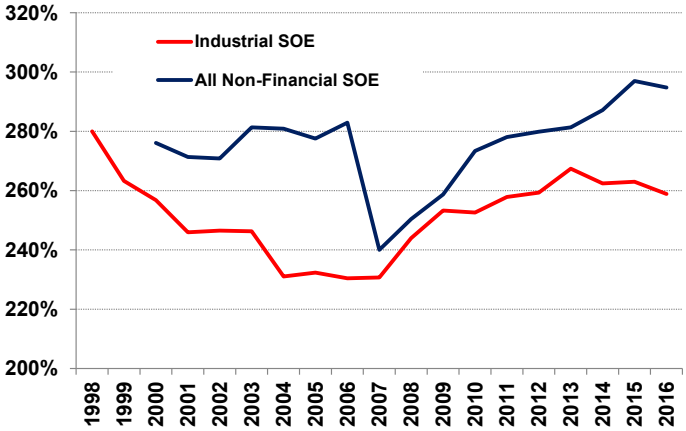
China Industrial SOE versus All Non-Financial SOE : Return on Assets - All Non-Financial SOEs' ROA has fallen to a new low



Source: NBS, Ministry of Finance (MoF), CEIC, Morgan Stanley Research. Note: From 2011, the scopes of industrial statistics of industrial enterprises above designated size have been increased from principal business revenue over Rmb5mn to Rmb20mn. All SOE : all state-owned and state-controlled enterprises, including enterprises controlled by central government as well as central government agencies, and provincial level state-owned or controlled enterprises. State-owned financial enterprises are not included.

Exhibit 97:

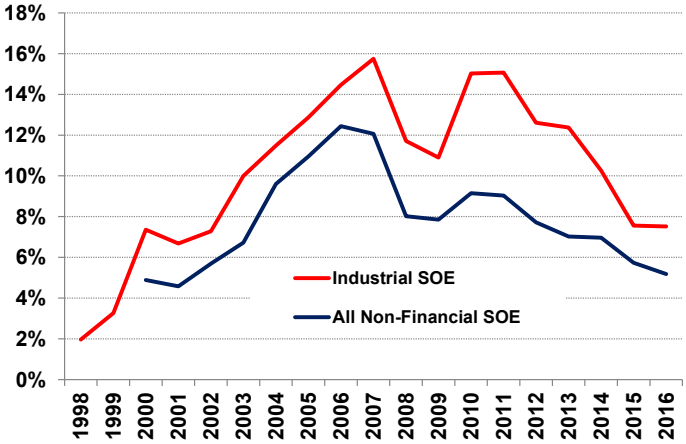
China Industrial SOE versus All Non-Financial SOE : Leverage (assets/equity) - All Non-Financial SOE leverage is close to new high



Source: NBS, MoF, CEIC, Morgan Stanley Research. Note: From 2011, the scopes of industrial statistics of industrial enterprises above designated size have been increased from principal business revenue over Rmb5mn to Rmb20mn. All SOE : all state-owned and state-controlled enterprises, including enterprises controlled by central government as well as central government agencies, and provincial level state-owned or controlled enterprises. State-owned financial enterprises are not included.

Exhibit 98:

China Industrial SOE versus All Non-Financial SOE : Return on Equity - All Non-Financial SOEs' ROE has fallen to a new low



Source: NBS, MoF, CEIC, Morgan Stanley Research. Note: From 2011, the scopes of industrial statistics of industrial enterprises above designated size have been increased from principal business revenue over Rmb5mn to Rmb20mn. All SOE : all state-owned and state-controlled enterprises, including enterprises controlled by central government as well as central government agencies, and provincial level state-owned or controlled enterprises. State-owned financial enterprises are not included.

China's listed SOEs assessed in a pan-EM context versus other listed peers

The same trends for SOE versus non-SOE performance that we saw in China's overall corporate universe are also visible within the listed China equities space offshore. For MSCI China, we have classified all companies in the universe into SOE and non-SOE firms. China has a relatively high ratio of SOE firms, amounting to around 53% of the MSCI Index weight, the third highest in the MSCI EM universe after the UAE at 67% and slightly below Russia at 55%.

Within the MSCI China universe, SOEs make up the bulk of market capitalisation in the energy, telecoms, materials, industrials, financials and utilities sectors. In contrast, non-SOE firms dominate the information technology, consumer discretionary, consumers staples, and health care sectors. We define these sectors as new economy and have been OW on them since the 2008 global financial crisis. We continue to recommend an OW stance on new economy sectors overall given their superior top-line growth, ROE, and balance sheet characteristics.

Exhibit 99:

MSCI EM: SOE versus Non-SOE contribution in free float market cap and trailing last 12 months new income (arranged descending based on SOE market cap weight) - China SOE percentage is the third highest in terms of market cap and the highest in terms of net income in the MSCI EM country universe

	Free Float Mcap		Trailing last 12 months Net Income	
MSCI EM Country	**Non-SOE**	**SOE**	**Non-SOE**	**SOE**
United Arab Emirates	33%	67%	34%	66%
Russia	45%	55%	43%	57%
China	47%	53%	23%	77%
Qatar	54%	46%	39%	61%
Czech Republic	55%	45%	50%	50%
Poland	56%	44%	57%	43%
Indonesia	60%	40%	54%	46%
Thailand	70%	30%	67%	33%
Malaysia	73%	27%	71%	29%
Colombia	80%	20%	87%	13%
Brazil	84%	16%	98%	2%
Turkey	86%	14%	82%	18%
India	91%	9%	76%	24%
Korea	95%	5%	87%	13%
Taiwan	96%	4%	96%	4%
Greece	98%	2%	94%	6%
South Africa	99%	1%	99%	1%
Chile	100%	0%	100%	0%
Egypt	100%	0%	100%	0%
Hungary	100%	0%	100%	0%
Mexico	100%	0%	100%	0%
Peru	100%	0%	100%	0%
Philippines	100%	0%	100%	0%
Total	**76%**	**24%**	**62%**	**38%**

Source: MSCI, Morgan Stanley Research. Data as of December 30, 2016.

For MSCI China, ex-financials ROA has fallen from a peak of around 9% in 2005 to less than a third of that level in 2015 (we note that year-end 2016 data will not be available for several more months). Moreover, performance has deteriorated versus the non-SOE peer group, which are delivering ROAs still above 6%, lower than in recent years but broadly comparable with ROAs in the mid-2000s.

MSCI China ex-financials net debt to EBITDA for the SOE universe reached a new high of around 160% in 2015. This is in sharp contrast to the non-SOE universe, mainly the large capitalisation IT names, which had negative net gearing of around -70% in 2015.

MSCI China ex-financial ROE in the non-SOE sector has been generally higher than in the SOE sector. In recent years the gap between the two has grown, with MSCI China SOE ex financials ROE falling to below 7% in 2015 (the latest available full year financial data), or only around half that of the non-SOE enterprises. Both are declining but the non-SOE enterprises are still delivering ROE of over 15%.

Exhibit 100:

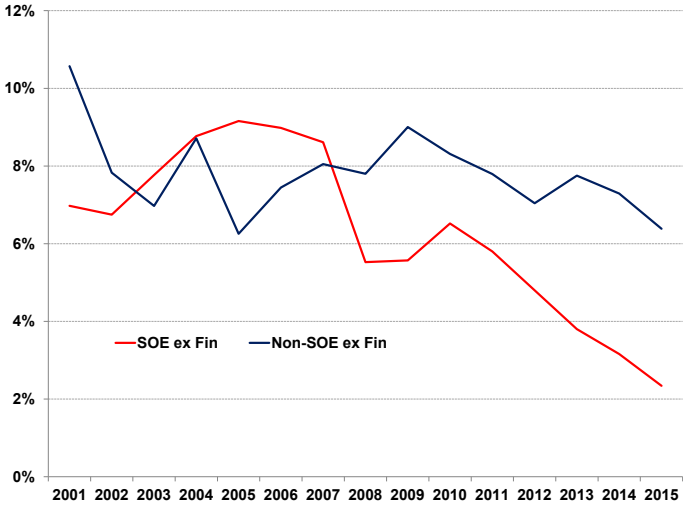
SOE versus Non-SOE free float market cap weight in MSCI China sectors (arranged descending based on SOE market cap weight) - SOEs are concentrated in the energy, telecoms, materials, industrials, financials and utilities sectors

MSCI China Sectors	Non SOE	SOE
Energy	0%	100%
Telecommunication Services	2%	98%
Materials	11%	89%
Industrials	13%	87%
Financials	16%	84%
Utilities	18%	82%
Consumer Staples	60%	40%
Health Care	66%	34%
Consumer Discretionary	87%	13%
Information Technology	96%	4%
Total	**47%**	**53%**

Source: MSCI,, Morgan Stanley Research. Data as of December 30, 2016.

Exhibit 101:

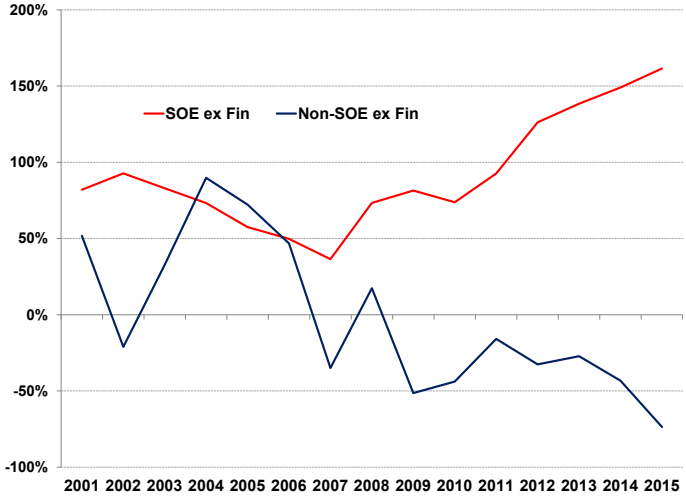
MSCI China ex financial ROA breakdown by SOE and Non-SOE companies - SOEs' ROA has fallen from a peak in 2005



Source: MSCI, Worldscope, Morgan Stanley Research.

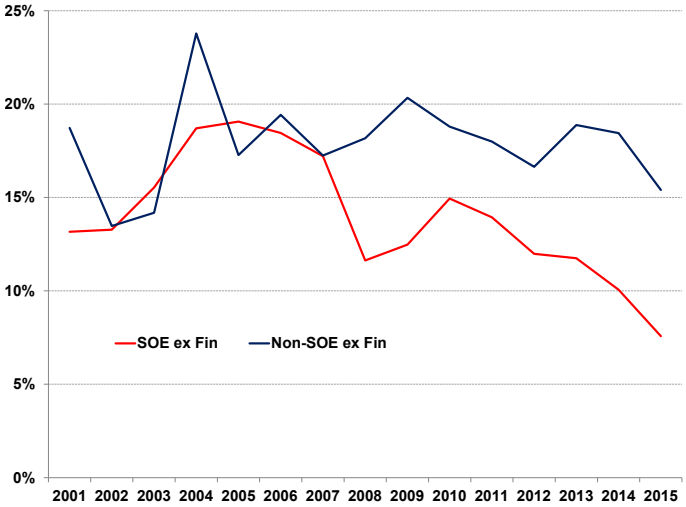
Exhibit 102:

MSCI China ex financial Net Debt to EBITDA breakdown by SOE and Non-SOE companies - SOEs' leverage reached a new high in 2015



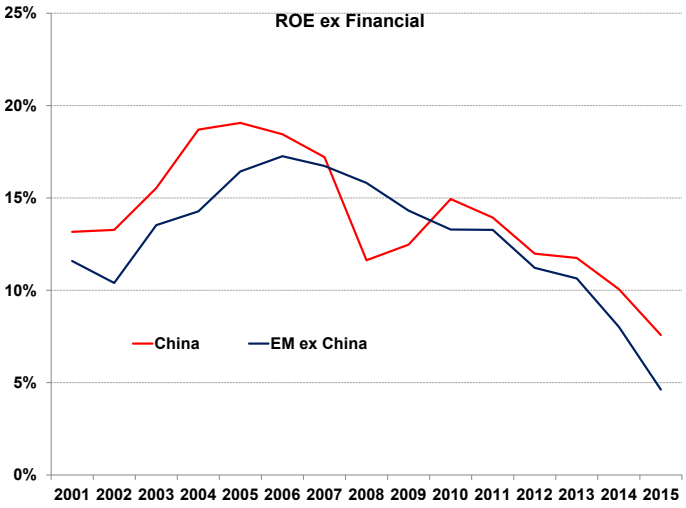
Source: MSCI, Worldscope, Morgan Stanley Research.

Exhibit 103:
MSCI China ex financial ROE breakdown by SOE and Non-SOE companies - SOEs' ROE is only around half that of non-SOEs in 2015



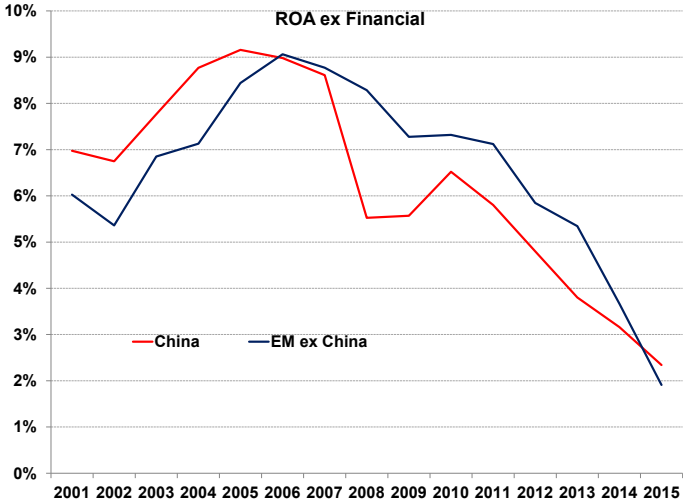
Source: MSCI, Worldscope, Morgan Stanley Research.

Exhibit 104:
ROE comparison of MSCI EM ex China SOEs versus MSCI China SOEs (both ex-financials)



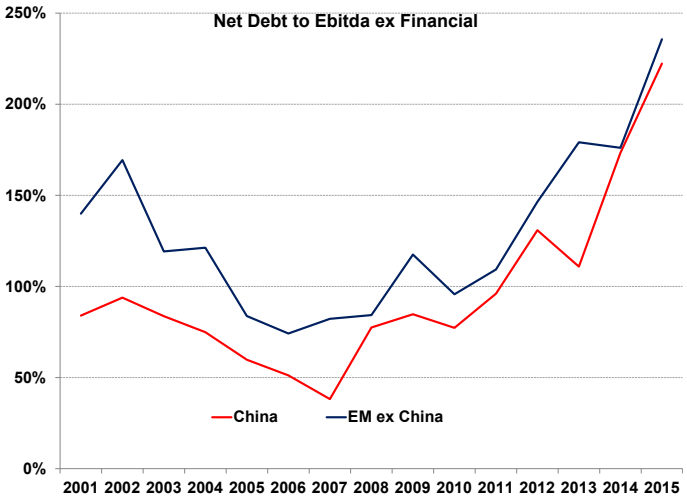
Source: MSCI, Worldscope, Morgan Stanley Research.

Exhibit 105:
ROA Comparison of MSCI EM ex China SOEs versus MSCI China SOEs (both ex-financials)



Source: MSCI, Worldscope, Morgan Stanley Research.

Exhibit 106:
Net Debt to EBITDA comparison of MSCI EM ex China SOEs versus MSCI China SOEs (both ex-financials



Source: MSCI, Worldscope, Morgan Stanley Research.

The performance of China SOEs is similar to that of SOEs in the rest of EM

Exhibit 104, Exhibit 105 and Exhibit 106 suggest that China's SOE performance is neither better nor worse than other EM SOEs. ROAs in the ex-financials sectors have fallen from around 9% in 2005/2006 to around 2% in 2015 in both cases, China SOEs and other EM SOEs. Net debt to EBITDA has risen steeply in both cases, although at a slightly faster pace in the case of China's SOEs. In 2007, net debt to EBITDA for China's ex-financial SOEs was below 50% versus around 80% for similar EM ex-China SOEs. Both groups currently have net debt to EBITDA ratios of around 220%.

Clearly, these trends are the result of common pressures, in particular on pricing power in the commodity-facing sectors. More importantly, MSCI China's SOEs are much larger than their EM peers in terms of net income and MSCI index weighting (See **Exhibit 99**)and it is their excess capacity problems that tend to set the pricing environment in key global industries such as steel and coal where other EM SOEs operate.

Assessing the Chinese government's SOE restructuring and supply-side reform agenda

Having diagnosed at least the narrow financial aspects of the poor performance of China's SOEs, we now turn our discussion to the government's SOE restructuring agenda within the context of overall supply-side reform. We show that some parts of this agenda are clearly targeted at addressing some of the root causes of SOEs' poor performance. However, other parts of the agenda have different objectives and may even worsen the financial performance of China's SOEs, in our view. Moreover, we will also show that SOE and supply-side reform in China today mean something very different from what it meant in the Washington consensus era, that of former British prime minister Margaret Thatcher and former US president Ronald Reagan and their counterparts in the western world and emerging market countries in the 1990s.

The top-down goals of SOE reform encompass several areas of focus (Exhibit 107), addressing the roles and tasks of the state, public enterprises and private firms in the economy. The first goal sets a time limit for the reform process to run up to 2020 and sets overall objectives including several commitments that the reform be "market-oriented". The second goal is to regroup SOEs into two categories: commercial and non-profit. The implication is that the former category will undergo a separate process of reorientation, at least in part to improve financial returns and performance. Meanwhile, we think the government's intention for the latter category will be to orient them to achieve non-financial objectives (i.e., social objectives; this would be the case for national institutions focused on R&D). The third goal is to develop a mixed-ownership economy. Here, the authorities have been reasonably explicit about the desire to have more private capital invested in SOEs as either minority stake holders or co-investing with SOEs in JVs to develop new operations. The fourth area is improved management systems for state assets, focusing on capital management. This appears to be broadly targeted at the problem of low returns. The fifth area focuses on the role of the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) and makes it clear that going forward it should operate more as an owner than a manager. There is also a very clear reference by the government on its existing anti-extravagance and anti-corruption campaigns. Elsewhere in commentary on the reform process the government refers to a goal that it should "strengthen supervision to prevent loss of state assets".

Exhibit 107:
China State Council's statement of key goals and details of China's SOE reform initiatives

Goals	Explanation
#1. Crucial results should be achieved in key sectors by 2020	These results include: 1) a state-owned capital management system that is market-oriented and in line with China's economic system; 2) a modern enterprise system and a market-oriented operation system; 3) developing a large group of high-quality SOE managers; 4) cultivating a large number of innovative and globally competitive SOEs; 5) strengthening the vitality and counter-risk ability of SOEs.
#2. SOEs divided into two types: public welfare (non-profit) and commercial	These two types of enterprises have respective reform plans, supervision, and a responsibility and evaluation system.
#3. Diversify stakeholders by attracting market investors	Attract more market investors to diversify the spectrum of SOEs stakeholders. It also pledged to encourage more SOEs to list their assets holistically.
#4. No timetable set for mixed ownership reform	The development of the economy of mixed ownership is to magnify the influence of state capital and improve its efficiency in the market. Such development will be based on the characteristics of individual enterprises, according to the guideline, so no timetable has been set for the reform, and the reform will be carried out on a case-by-case basis.
#5. Government's role changed to the management of capital	The role of the SASAC and Administration Commission is to manage capital, instead of managing the enterprise. The separation of the right of ownership and the right of operation will make SOEs more independent and market-oriented, which will improve the vitality of State capital and its ability to counter risks.
#6. The Communist Party of China's leading role in SOEs emphasized	Integrating the leadership of the Communist Party of China and corporate governance. It requires clarifying the party's leadership and responsibility in the operation of the enterprise, strengthening the supervision and evaluation of SOE leaders, removing incapable leaders, and establishing an anti-graft system.

Source: The State Council of China, Morgan Stanley Research.

The Washington Consensus of the 1990s/2000s versus China's SOE restructuring and reform agenda of 2015-16

As these top-down goals gradually develop into more concrete policies and actual transactions and interventions, we have attempted to pull together what we know of China's current SOE restructuring and reform initiative 2015/16 and contrast it with that employed to tackle SOE underperformance in the western world in the 1990s. Not every country undertook the same set of measures as the Washington Consensus (WC), but the approach was widely adopted enough to allow us to identify common themes across a number of dimensions.

WC typically involved a more or less explicit goal of reducing the size of SOEs as a percentage of GDP. This was done directly either through the sale of 100% of the equity of SOEs to private firms, or majority stake listings on stock markets. This was done indirectly, such as setting the policy environment to reduce government financing of SOEs and facilitating the institutional environment to allow private firms greater access to capital, such as tax breaks for venture capital (VC) funds and private equity.

It is apparent that this is not China's approach. Whilst stock market listing of SOEs is mentioned in China's SOE reform agenda, we think progress has been slow so far on this front. Plus, the government does not appear to be encouraging majority stake sales.

Exhibit 108:

Comparison of key elements of Washington Consensus versus China's SOE structural reforms - China is not following the Washington Consensus

Washington Consensus 1990s/ 2000s	China SOE restructuring and reform 2015/16
Separation of core government functions from commercial	Reform of SOEs into categories: commercial and non-profit
Goal of improving returns / productivity across the economy	Goal of improving returns / productivity across the economy
Explicit goal to reduce share of government in GDP	No explicit target for reduced share of government in GDP
Listings on stock markets	- Listing of major SOEs have slown down since 2010, particularly overseas - Listing of SOE assets referred to as a key reform goal; however yet to see progress
Privatisation (sale of state assets to private sector)	Authorities explicit that restructuring is not privatisation
Management incentivisation	Total compensation for management reported to have been reduced
Market forces drive capacity reduction	Top down targets for capacity reduction
Market forces drive labour reallocation	Top down targets for labour reallocation
Market forces drive bankruptcies	Bankruptcies have increased but lack of transparency in process
Movement away from industrial policy	Movement towards greater industrial policy - e.g. One Belt One Road
Open door to foreign FDI capital in former SOE sectors	Foreign FDI to China has reduced & strategic bank stakes sold
Movement away from national champions	Mergers to create national champions
No explicit anti-corruption agenda	Strengthen supervision to prevent loss of state assets (anti-corruption)
Corporate and personal tax reduction / shift to VAT	- Corporate VAT pilot has been introduced in May 2016, implementation progress to be evaluated - No change on personal income tax

Source: Morgan Stanley Research.

China's approach towards industrial policy, national champions, and foreign capital

Countries following the WC approach moved away from an industrial policy approach, **abolishing national development-type institutions** and allowing the market to determine investment patterns including in industries that had hitherto been thought of as strategic. India, under President Modi, has downgraded the status of its own national planning agency as part of its reform agenda.

Again, this does not appear to be China's approach. The major institutions guiding industrial policy remain in place, as does the concept of national five-year plans. Indeed the "One Belt One Road" initiative can be thought of as a new industrial policy initiative to globalise the scope of China's SOE operations. Whilst Chinese firms, including SOEs in a range of sectors, have engaged in outbound M&A, there was a slowdown in inbound FDI flows in 2016. Again, this is in sharp contrast to the approach of the WC era when many countries opened up swatches of the former SOE sector to foreign majority control and competition. Hence, in the UK it is now possible to source power from a French company and telecoms services from a Hong Kong company, as well ride a German owned and operated railway line to work.

The most visible evidence of the true nature of China's SOE reform is the wave of M&A within the SOE sector since early 2014 (Exhibit 109). Thus far, all of the major transactions that we can document where a large SOE is an acquirer involve the purchase of another SOE, mainly in the same sector. Hence, they appear to be targeted at creating larger "national champion" firms with bigger asset and employment bases. We provide our comments on the potential rationale in each case (as given by the firm's management). The major industries involved are steel, cement, property, railway equipment supply, shipping, and nuclear power plant construction. The only major transactions we have documented involving the sales of a division, and therefore the simplification of a business model, is the sale of Sinopec's marketing division to a financial consortium (See China Petroleum & Chemical Corp. Attracting Private Capital to Unlock the Hidden Value of Marketing Business, dated February 20, 2014), which kicked off in February 2014, and its sale of certain pipeline stakes in late 2016.

We have been unable to identify any recent transactions where a large SOE has bought a large non-SOE or vice versa. However, it could be the case that some smaller SOEs are engaging in M&A involving private sector firms. In the following chapter, we provide a detailed assessment of China's attempts at shutting down excess capacity. Here, the focus is likely to be on smaller firms in the SOE and non-SOE spaces.

Meanwhile, China's largest private sector firms have become highly prominent over the same timeframe in buying overseas private assets. Examples include Wanda Cinema Line's purchase of Australia's Hoyts cinema line, and Fosun International's purchase of various insurance companies across Europe, US, Hong Kong, and Israel, as well as its acquisition of ClubMed in March 2015. **This trend, however, may slow down quite significantly in 2017 as China continues to tighten its scrutiny of Chinese corporates' overseas M&A attempts.** According to Reuters (November 28, 2016), the State Administration of Foreign Exchange (SAFE) tightened the threshold of SAFE clearance from above US$50mn to above US$5mn for overseas payments under the capital account. The new rule also applies to M&A overseas direct investment. Projects that had been approved before the new rule but had not yet transferred the money should be reviewed again. The South China Morning Post reported (November 29, 2016) that a People's Bank of China (PBOC) document stated overseas direct investments over US$10bn, overseas non-core business M&A over US$1bn, as well as overseas real estate investments over US$1bn by SOEs would no longer be approved (news link).

Exhibit 109: Major China domestic SOE M&A and divestment announcements since 2014 overwhelmingly appear to be targeted at creating "national champions" with larger assets and employment bases

Sector	Acquirer	Target company	Combined asset size (Rmb bn)	Combined employee size	Comment on rationale/impact (company announcement and Morgan Stanley comment)
Insurance	China Life	Guangfa Bank	4,255	130,000	China Life is gradually diversifying from being a pure insurance operation towards becoming a financial services group and is aiming to become one of the largest financial conglomerates in China. The acquisition of Guangfa Bank will help China Life to expand its service scope, increase its operational scale and provide potential revenue and cost synergies. However, it adds operational complexity and balance sheet risks to China Life.
	China Pacific Insurance	Anxin Agricultural Insurance	984	93,000	CPIC acquired Anxin Agricultural insurance as part of Shanghai SOE reforms. The acquisition will help enhance CPIC's agriculture insurance business and create a stronger and more competitive provincial government owned insurance company. The acquisition of An Xin, a professional agriculture insurance operation, can help increase CPIC's knowledge and expertise in the agriculture insurance business and accelerate its development to becoming a market leader in this fast growing segment.
Energy	Sinopec - divestment of its own marketing division	Partnership with a consortium of firms including China Taiping, Tencent, Ruentax Group, Shunfeng Express, etc.	170	NA	Sinopec's top management aimed at non-fuel business development as its top priority for the marketing division's reform. Six growth drivers were set: 1) convenience stores; 2) auto service; 3) insurance & financial service; 4) e-commerce (O2O); 5) environmental protection; and 6) advertisements. The cooperation with leading e-commerce partners, including Tencent, yhd.com, and Shunfeng could be critical to long-term success.
	Sinopec's sale of gas pipeline stake	Aquired by China Life and SDIC Communications	23	NA	Sinopec sold its 50% stake in its Sichuan-to-East China Gas Pipeline to China Life and SDIC Communications, which is controlled by SASAC, with total consideration of Rmb22.8bn, which is at a 132% premium to the current book value. After the transaction, the gas pipeline will no longer be fully consolidated into Sinopec's financials.
Telecom	China Mobile Limited (listco)	China Mobile Group (parentco), TieTong	1,481	556,000	China Mobile would like to enter the fixed-line business and become an integrated telecom service provider. After acquiring TieTong, fixed-line broadband becomes one of CM's new growth drivers.
Real Estate	Poly Real Estate	AVIC Real Estate	457	50,279	SOE reform to consolidate property sector. We need more info disclosure to determine the potential impact.
	COLI	CITIC Property	486	14,519	SOE reform to consolidate the property sector. According to our analysis, 10% NAV accretive; replenish COLI's land bank at a much lower cost than the public auction market.
	COLI	CSCEC Real Estate	650	26,000	Parentco injection to support COLI. We think there is NAV and EPS accretion due to the inexpensive valuation and the premium price at which shares are issued to the parent.
Materials	BBMG Group	Jidong Cement	200	53,458	Consolidate the cement assets; increases cement market share (combined at 57%) and pricing power in Northern China market.
	Baosteel Group	Wuhan I&S Group	720	203,980	Industry consolidation; synergy in larger negotiating power and operational cost savings.
	CNBM Group	Sinoma Group	529	260,888	Industry consolidation for higher market share and pricing power: together they controlled 12.5% of China's cement sales volume and 22.4% of total clinker capacity. Synergy in consolidation of non-cement business segments.
	Minmetals Group	MCC Group	716	211,932	Consolidate business segments such as resources development and property development; achieve vertical integration from mining equipment to nonferrous mining.
	Anhui Conch	Jiangxi Shengta Industry Group	104	49,589	Industry consolidation; higher market share and pricing power.
	Anhui Conch	Anhui Chaodong Cement	104	52,722	Industry consolidation; higher market share and pricing power.
	CR Cement	Yunnan Kunming I&S Building Materials Group	56	NA	Industry consolidation; higher market share and pricing power in Yunnan market: leading players in Yunnan province are: KISBM 25% market share + CRC 5%.
	Tianrui Group	Shanshui Cement	54	37,759	Hostile takeover to take control of Shanshui Cement and consolidate cement operations.
Industrials	CNR & CSR	Merged into CRRC	312	187,000	CSR and CNR were competing against each other fiercely overseas and in the domestic metro train market and the government considers this inefficient. The merger would also improve efficiency in operations as well as R&D. The combined company benefited from a higher ASP on metro train orders signed after the merger, therefore the gross margin from this segment will improve. However before the merger both CSR and CNR are already very big with numerous subsidiaries, so it may take more time for them to figure out how to materially improve efficiency.
	COSCO Group	China Shipping	593	120,000	The shipping business of these two groups suffers from an industry downturn and makes huge losses. Against this background China SASAC did research and approved the two groups merging to increase their competitiveness. Upon the merger, the product mix and service network expanded. Also it helped the company to get higher pricing power and bargaining power to suppliers. It decreases the cost of management and improves efficiency. However, the complexity of the integration process will cost time and money, as well as additional layoffs.
	COSCO Pacific (CPL)	China Shipping Port Development	45	3,300	The M&A is within the framework of COSCO Group merging with China Shipping Group. The Port segment under these two groups merged, with China SASAC researching and approving the merger plan. Positives: help expand the service port network of CPL, and potentially could increase management efficiency. CPL may also benefit from economies of scale. Negatives: Assets of CSPD include some low profit domestic ports and non-hub ports, which may drag the asset return of CPL. Also it takes time and cost for the management team to combine and extra employee layoffs.
	Ningbo port	Zhoushan port	49	13,000	The cities of Ningbo and Zhoushan, both in Zhejiang province, each operated their own port. Ningbo port was listed on the Shanghai Stock Exchange in 2010. In 2014, Zhoushan port also released a draft of a public offering prospectus. Without government intervention, it would be much more difficult for these two ports to merge if Zhoushan also went public. Positives: It helps solve competition between Ningbo port and Zhoushan port, by eliminating low pricing competition, optimizing future capex. It also helps increase management efficiency. Negatives: It takes time for the two management teams to merge and cooperate with each other. It also takes time for extra employees to be laid off.
	China Merchants	Sinotrans & CSC	700	NA	According to China Merchants Group Chairman Li Jianhong, the merger is to optimize resource allocation and to create a globally competitive first-class enterprise. Expected synergy centers around logistics, energy and bulk shipping, port/air intermodal cargo shipping, as well as equipment manufacturing, etc.
Utilities	CPIC (China Power Investment Corp)	SNPTC (State Nuclear Power Technology Corp)	722	140,000	Led by the government. Combined nuclear operation qualification (CPIC) + construction/technology development (SNPTC). After the merger, the new company has full scale in nuclear energy development.

Source: Company announcements, Morgan Stanley Research.

Capacity reduction and labour reallocation - the role of market forces

The WC agenda involved allocating resources to determine the key factors of production - land, labour, physical capital, and intellectual capital - to be increasingly taken with the private sphere and through the use of market and price signals. This did not mean a complete retreat in the role of the state but rather a shift from being a prime player in resource allocation towards being a regulator, standard setter, and guardian of fair play in the competitive process. Hence, the sphere of the market was greatly enhanced, with price deregulation in former SOE-controlled sectors being at the forefront of the agenda.

In China's case it is still somewhat early to make an assessment. There does appear in certain sectors to have been a push towards further price de-regulation (e.g., in utilities, telecom services, and parts of the pharmaceutical sector). However, it is not possible at this stage to discern a broad de-regulation trend despite a rhetorical commitment to the role of the market.

It is also apparent that capital and labour re-allocation decisions will not be left to market forces alone. Rather, the government itself continues to promulgate top-down national and even local targets for capacity reduction and, where job losses may be involved, social safety nets for those who would be impacted. Regardless, this was not the process used in, for example, the restructuring of the UK coal industry, where SOE assets were sold into private hands and the industry was then forced to compete on a global basis with imported products. As a result, an industry that was a major employer nationally in the early 1980s has now all but ceased to exist.

Management and employee incentives

A key part of the WC era of SOE reform in Europe in particular was the introduction of incentive pay for management and employees. Employee share ownership plans were set up and tax systems were adjusted to encourage employees to invest in firms where they worked. The idea here was to incentivise the organisation from top to bottom to improve operating and financial efficiency. In China's case, management incentive pay was quite widely discussed early on in the current drive for SOE restructuring, but more recently, what appears to have taken place is government-driven downward adjustment of pay scales, particularly cutting the salaries of senior executives in larger SOEs. However, employee share ownership plans do still appear to have significant government support and these can of course be linked to the stated goal of listing at least minority stakes on China's stock exchanges.

Anti-corruption / protection of value of state assets

Theft, fraud, and corruption practices are, unfortunately, present in all countries and the elimination of such activity was never an explicit feature of the WC reform agenda. That being said, enthusiasts of the WC era clearly hoped that exposing formerly SOE sectors to the market place and foreign competition, with management pay and shareholder interests aligned through compensation structures, would eliminate a substantial amount of the opportunity for such actions. Moreover, governments and international lenders such as the World Bank insisted on the introduction of open competitive tenders for products and services, which was subject to bureaucratic discretion.

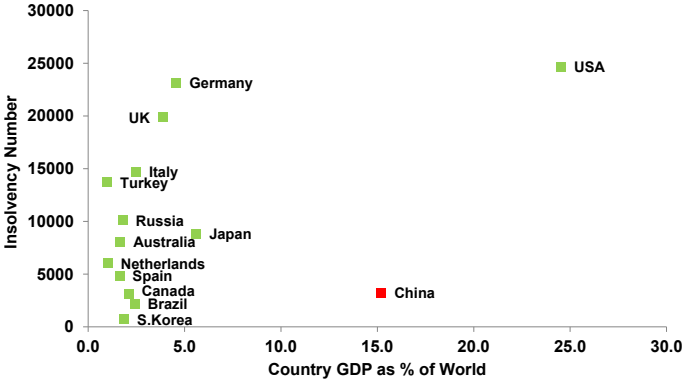
In China's case, anti-corruption and protection of the value of state assets is placed very firmly at the center of the SOE reform agenda. However, it is apparent that a very different set of mechanisms is being brought into play to achieve the desired outcome. The central authorities have empowered the Communist Party to undertake deep-dive investigations into SOEs in all sectors, beginning with the energy sector in PetroChina in 2013 and moving on to telecom and conglomerates (e.g. China Resources Group, source: Xinhua Net, April 17, 2014). Again, this is a top-down approach.

SOEs are now starting to experience corporate credit events - this is a good thing for the overall pricing of capital in the economy

One area where SOE reform does appear to be leading to change is corporate credit events. China has had a very low level of corporate defaults for an economy of its size (see **Exhibit 110** from Euler Hermes, a major credit insurance company). However, in the last two years authorities have begun to allow not just private firms but also some SOEs to enter into credit events. This is a welcome development for the capital reallocation process within the economy, although in most cases it is not yet clear if a formal bankruptcy process will take place or if the firm concerned has actually yet ceased operations. Asset injections, white knights, and other forms of equity investments have been used to resolve the situation in many cases.

Exhibit 110:

Numbers of corporate insolvencies by country in 2015 - China's appears low relative to its GDP



Source: Eule Hermes, Morgan Stanley Research. Note: Data as of 2015.

How does One Belt, One Road link to SOE reform?

We believe that the One Belt, One Road (OBOR) initiative is closely related to the excess capacity issue that China's corporates face, particularly the old economy sectors where SOEs are more concentrated. This effort, if executed smoothly, could supplement China's transition from a more investment-driven economy into a more consumption- and services-driven one by finding a sustainable outlet and application for some of the capacity that the country has built over the high-GDP-growth years into infrastructure building and other industrial activities. This initiative is clearly unique to China and was not deployed in the WC era.

China's OBOR initiative, in our view, mainly focuses on exporting capital goods such as railways, rolling stocks, and infrastructure building capacity globally, with the current leadership's steering. It is also a means to increase China's trade and economic influence. To facilitate these objectives, a US$40bn Silk Road Infrastructure Fund and Asia Infrastructure Investment Bank have also been set up under the Chinese government's strong support. Both entities aim at providing cheaper funding to countries that want to improve domestic infrastructures but are limited by financial resources.

Exhibit 111:

Key initiatives centering on "One Belt One Road' - "One Belt One Road", "Silk Road Infrastructure Fund" and "Asia Infrastructure Investment Bank" - closely related to the excess capacity issue in China

Initiative	Details	Impact	China's role
One Belt And One Road	Refers to "Silk Road Economic Belt" and "21st Century Maritime Silk Road"	Aims to connect and integrate the Asia Pacific region all the way through the Eurasia continent to Europe	Both concepts were put forward by China President Xi Jinping
Silk Road Infrastructure Fund	To invest in infrastructure, resources, industrial as well as financial cooperations, etc. in Asia	According to Xinhua News Agency, the fund will focus on China's One Belt And One Road Initiative to build roads, railways, ports, airports, etc. across central and south Asia	China will provide funding of US$40bn
Asia Infrastructure Investment Bank	To provide financing to infrastructure projects in underdeveloped countries across Asia. First proposed in 2013 with 21 countries signing the memorendum on Oct 24, 2014	Chinese officials have said that the bank is intended to complement existing lending organizations, not to compete with them. Countries that joined include India, Malaysia, Thailand, Vietnam, Philippines, etc.	Is reported to be funded with US$50bn initially, most of which is provided by China. The funding was doubled to US$100bn in 2014

Source: Xinhua News Agency, Morgan Stanley Research. Note: "One Belt" refers to a network of overland corridors that run from China's eastern seaboard though western and southwestern regions in China, all the way to the Baltic Sea, connecting East Asia with the Middle East and Europe. "One Road" refers to the idea of a 21st century maritime silk road that connects China's coastline with Southeast and South Asia, the Gulf and the east coast of Africa. The essence of the initiative is to enable connectivity between these areas with better trade, communication, and labor/talent flow.

Reduced role for capital markets in the SOE reform agenda

As China's government has moved away from an aggressive use of stock market listing to promote SOE reform, there has been a notable reduction in the number of IPOs and follow-on (FO) transactions. In 2011-15, on average US$3.3bn of such transactions took place each year versus US$40bn in 2006-10 and US$11bn in 2001-05. China is not the only country wherein the number of IPO and FO transactions has declined, as Russia and Brazil also saw a major slump in transactions. In contrast, India, under the Modi government, has experienced a substantial increase in transactions, from US$1bn per annum on average in 2001-05 to US$3bn on average in 2006-10, and to US$3.2bn on average in 2011-15.

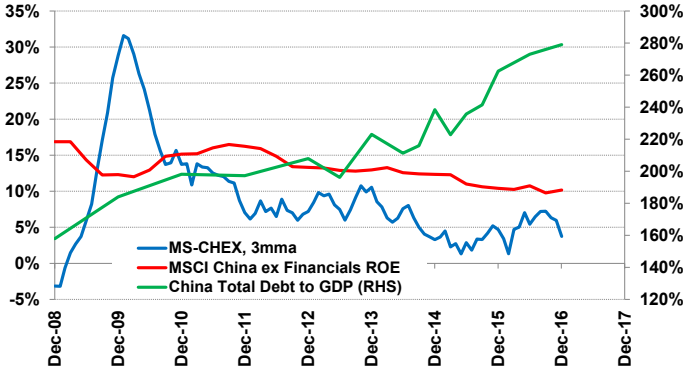
So what will SOE restructuring deliver?

So what's the bottom line to all of this? We have shown that China's SOE restructuring and reform agenda is in many respects very different from that of the reformers of SOEs in the WC era in the US, Europe, and EM. The Chinese government is likely to cede control relatively slowly, and the role of private capital and foreign capital will likely be far more limited. Industrial policy is still central, not least in the form of OBOR, and the most concrete transactions thus far involved creating even larger national champions (railways, nuclear, and steel) and adding scale to their operations. The process for capacity reduction and labour reallocation may be successful in the near term in achieving capacity reduction by administrative fiat, but will not be a bottom-up approach through the operation of market forces, in our view.

In other words, China's SOE reforms would primarily entail the creation of a smaller group of larger national champion SOEs and reducing corrupt practices in the SOE sector, and we therefore expect less meaningful progress concerning the five key problems we identified earlier in the chapter, in particular declining returns and excess leverage. This would require a far more wholesale reappraisal of the role of SOEs within the economy, similar to what took place in the countries that undertook the privatisation / WC agenda of the 1990s/2000s. China was probably closer to embracing these ideas in 1998-2005 than it is today. The SOE sector is likely to remain a drag on China's overall economic performance for some considerable time to come.

Exhibit 112:

MSCI China ex Financials ROE versus MS-CHEX and total debt to GDP - ROE continues to decline despite the rapid leverage buildup



Source: CEIC, MSCI, Morgan Stanley Research. Data as December 2016.

Don't forget China's vibrant private firm sector - non-SOE firms could reach 70% of MSCI China's market cap by 2020

In our view, China's SOEs are likely to remain dominant in large swathes of the economy. Unbundling, privatisation, and strategic sales to foreigners are not on the agenda. Moreover, through initiatives such as OBOR, the globalisation of their activities, or increased defense spending, China's SOEs may continue to grow their assets substantially over time; they are here to stay.

However, China's development model thus far has allowed room for private firm activity to take place in other parts of the economy (including consumer, IT, and health care) to a greater extent than peers such as Brazil or Russia. These are sectors that, based on the historical experience of China's east Asian peers such as Korea and Japan, are likely to take a bigger share in economic activity over time. Hence, despite the continued existence of a large SOE sector in China, it is also possible that private firms increase their share in economic activity, and to an even greater extent market capitalisation over time.

We have previously identified five major fundamental sectors/spaces that we believe will exhibit top-line growth that exceeds nominal GDP growth rates: 1) health care; 2) mass-market consumer; 3) environment and clean energy; 4) Technology (hardware, internet, e-commerce, telecom)/high-end manufacturing, and 5) defense/aerospace. These are sectors that should benefit from China's ongoing growth model transition and government policy support. Often these sectors tend to be less leveraged (with the exception of defense) and tend to have business models with structurally

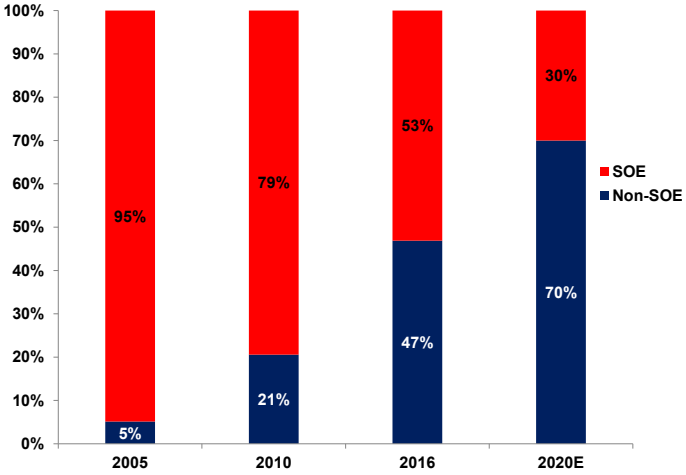
higher ROE than the more old economy-focused SOE companies (see China Equity Strategy: Asia Insight: Time to Look for Bottom-up ideas in China A-shares, 18 Feb 2016). Except for defense/aerospace, which for obvious reasons are likely to stay SOE-dominant, the other four sectors are already dominated by private companies, and we expect that weight to rise even further.

As recently as 2005, Chinese SOEs accounted for 95% of the market capitalisation of the MSCI China index. This had fallen to 79% in 2010 and is now only 47% in 2016.

Looking to the composition of MSCI China, we expect the private sector weighting to rise significantly, perhaps reaching more than 70% of MSCI China's market capitalisation by 2020. There are currently more than 50 Chinese "unicorns", i.e., private firms that have achieved a private equity/ VC valuation of market value more than US$1bn. This is second only to the number of US firms that have achieved this status and a number more than the rest of the world ex-the US combined. These firms are heavily skewed sectorally to IT and consumer, which we expect to generate revenue growth significantly above nominal GDP growth as China's growth transition progresses.

Exhibit 113:

Composition of SOE and non-SOE companies in MSCI China now versus in 2010 and 2005 (based on index weights in MSCI China)



Source: MSCI, Morgan Stanley Research. E=Morgan Stanley Research estimates

Exhibit 114: List of major China unicorns sorted by valuation (US$bn) - heavily skewed to IT and consumer sectors

Name	Location	Sector	Valuation U$Bn	Founded Year	Investors
Ant Financial	Hangzhou	Internet finance	60	2014	Alibaba, China Construction Bank, China Development Industry Bank, China Investment Corporation, National Social Security Fund, Primavera Capital Group
Xiaomi	Beijing	Consumer electronics	46	2010	All-Stars Investment, Digital Sky Technologies, GIC Private, Hopu Investments Management, IDG Capital Partners, Management, Morningside Group (Holdings), Qiming Venture Partners, Qualcomm Ventures, Temasek Holdings, Yunfeng Capital Management
Didi Chuxing	Beijing	Transportation services	34	2012	Alibaba Group Holding Ltd., Ameba Capital, Apple Inc., Capital International Private Equity, China Investment Corp., Citic Private Equity, Coatue Management, DST Global, Farallon Capital Management, GGV Capital, GSR Ventures, Matrix Management, Ping An Ventures, Softbank, Temasek Holdings, Tencent Holdings, Tiger Global Management, Weibo
Lufax	Shanghai	Financial services	19	2011	CDH Investments, China International Capital, Shenzhen Ping An Innovation Capital Investment, Zheng He Capital Management
China Internet Plus	Beijing	Internet services	18	2003	DST Global, Trustbridge Partners, Capital Today
DJI	Beijing	Robotics	10	2006	Accel Partners, Sequoia Capital
Toutiao	Beijing	Internet Software & Services	9	2012	Sequoia Capital, SIG China, Sina Weibo, Source Code Capital, Yuri Milner
Zhong An	Shanghai	Insurance	8	2013	China International Capital Corp., CDH Investments, Keywise Capital Management, Morgan Stanley, Ping An Insurance, SAIF Partners, Tencent Holdings, Zhejiang Ant Small & Micro Financial Services Group
Koubei.com	Hangzhou	Internet Software & Services	8	2015	Alibaba, Ant Financial, CDH Investment, Primavera Capital Group, Silver Lake Partners, YF Capital
Cainiao	Hangzhou	Logictics	8	2013	Alibaba, GIC, Tamasek Holdings, Khazanah Nasional, Primavera Capital
JD Finance	Beijing	Internet finance	7	2013	China Taiping, Harvest Global Investment, Sequoia Capital
Lianjia	Beijing	Real estate rentals	6	2001	Tencent, Baidu, Huasheng Capital
Webank	Shenzhen	Internet finance	6	2015	Tencent, Paiyeyuan, Liye
Ele.me	Shanghai	Food delivery	5	2008	China Media Capital, CITIC Private Equity, Dianping.com, Gopher Asset, Hualian Group, JD.com, Sequoia Capital, Tencent Holdings
Meizu	Zhuhai	Consumer electronics	3	2003	Alibaba
Royole Corporation	Shenzhen	Rollable display developer	3	2012	IDG Capital,CITIC Capital, Knights Investment Group, Co-Stone Capital, Alpha Wealth,Shenzhen Capital Group, and Green Pine Capital.
Sogou	Beijing	Search engine	3	2004	Sohu.com, Tencent
Qudian	Beijing	Electronic retailer	2	2014	Ant Financial, Beijing Phoenix Wealth Holding Group, Hangzhou Liaison Interactive Information technology, Kunlun, Source Code Capital
Kuaishou	Beijing	Photo sharing app	2	2011	Sequoia Capital, DST, Baidu, DCM
Face++	Beijing	Artificial intellengence	2	2012	Legend Star, Sinovation Ventures, Qiming Venture Partners, Foxconn Technology Group, CCB International
Huimin	Beijing	eCommerce	2	2012	Zheshang Venture Capital, GP Capital, Western Capital Management
Mogujie	Hangzhou	E-commerce	2	2011	Banyan Capital, Bertelsmann Asia Investment, Hopu Investments Management, IDG Capital Partners, Qiming Venture Partners, Trust Bridge Partners
Yidao Yongche	Beijing	Transportation	2	2010	LeTV, Baidu, GIC, DCM Ventres, Ctrip, CBC Capital, Qualcomm Ventures,
Youxinpai	Beijing	Auction services	2	2011	Baidu, Bertelsmann Asia, Coatue Management, DCM Ventures, KKR & Co., Legend Capital, Tencent Industry Win-Win Fund, Tiger Fund, Warbury Pincus
Lakala	Beijing	Financial services	2	2005	China Continent Property & Casulty Insurance Co., China RE, China Taiping, Civil Aviation Development Fund, Fortune Venture Investment Group, Hotung International Co. Ltd., Kingsoft Corp., Legend Capital Co., China Canada Angels Alliance
WePiao	Beijing	Mobile ticketing platform	2	2014	Beijing Cultural Assets, Chinese Anci Films & Television Fund, CITICS Prosperity Fund, GGV Capital, Southern Capital, Gopher Asset of Noah Private Wealth Management, New Hope Group, Tencent Holdings Limited, and Dalian Wanda Group.
GuaHao	Hangzhou	Medical services	2	2010	Tencent, Morningside Group
URWork	Beijing	Shared office spaces	1	2015	Ant Financial Services Group, Dahong Group, Junfa Group
51Xinyongka	Hangzhou	Online financial services	1	2012	GGV Capital, JD.com, Meridian Capital China
58 Daojia	Beijing	E-commerce	1	2014	Alibaba, KKR&Co., Ping An
Apus Group	Beijing	Mobile software	1	2014	Chengwei Capital, SIG, Qiming Venture Partners, Redpoint Ventures, Northern Light Capital
BeiBei	Hangzhou	E-commerce	1	2014	Husor (parent company), Banyan Capital, Capital Today, IDG Capital Partners, New Horizon Capital
China Rapid Finance	Shanghai	Online lending	1	2001	Broadline Capital, DLB Capital, QED Investors, EDS World Corp.
Fanli (dba China	Shanghai	E-commerce	1	2006	Ignition Partners, Rakuten Ventures, SIG Asia Investment, Steamboat Ventures
Guazi	Beijing	eCommerce	1	2014	Sequoia Capital China, GX Capital
Huochebang	Guizhou	Transportation services	1	2011	All-Stars Investment, DCM Ventures, Eastern Bell Venture Capital, Genesis Capital
Icarbonx	Shenzhen	Medical services	1	2015	Tencent, Vcanbio
iTutorGroup	Shanghai	Online education	1	2004	Alibaba Group Holdings, CyberAgent Ventures, GIC, Goldman Sachs, Qiming Venture Partners, Russia-China Investment Fund, SBI Holdings, Silverlink Capital, Temasek Holdings
Lamabang	Beijing	E-commerce	1	2013	K2 Ventures, Greenwoods Investment, Matrix Management, Morningside Group, Vipshop Holdings
Liepin	Beijing	Recruitment site	1	2006	China Mobile, Matrix Partners China, Warbug Pincus
Mia.com	Beijing	Baby/maternal goods	1	2011	China Renaissance K2 Ventures, H Capital Online, Sequoia Capital, Zhen Fund
Miaopai (dba Xuanyixia aka Yixia Tech)	Beijing	Video app	1	2013	Sequoia Capital China, Sina Weibo, Kleiner Perkins Caufield & Byers, Redpoint Ventures
Mofang Gongyu	Shanghai	Real estate rentals	1	2010	Warburg Pincus, Aviation Industry Corporation of China
Panshi	Hangzhou	Internet advertising	1	2003	Fang Fund Partners, JD Capital, Lefeng Investment, NewMargin Ventures, WI Harper Group
Rong360	Beijing	loans	1	2011	Sequoia Capital China, Sailing Capital, Star VC
Shanghai Lian Shang Network Technology (dba	Shanghai	Software	1	2012	Haitong Kaiyuan Investment Co., Northern Light Venture Capital
Tujia	Beijing	E-commerce	1	2011	All-Stars Investment, Ascott, CDH Investments, China Broadband Capital Partners, China Renaissance Partners, Ctrip.com, GGV Capital, HomeAway, Ignition Partners, Lightspeed Venture Partners, Qiming Venture Partners
UBTECH Robotics	Shenzhen	Robotics	1	2012	CDH Investments, Goldstone Investments, Qiming Venture Partners
Womai	Beijing	Food shopping	1	2008	COFCO, IDG Capital Partners, SAIF Partners
Zhangyue	Beijing	Reading app	1	2008	Guo Jin Capital, Alpha Animation & Culture
Zhihu	Beijing	Internet Software & Services	1	2011	Tencent Holdings, Sinovation Ventures, Qiming Venture Partners

Source: CB Insights, Wall Street Journal (WSJ), Fortune, iResearch Global, company websites, Morgan Stanley Research.

Chapter 6: Dealing with excess capacity

The materials sector, which includes steel, cement, and coal, is now mired in significant excess capacity. Demand growth for these sectors has slowed, which is posing challenges in terms of returns on investment in the context of cost of capital. While there is still skepticism amongst investors, our materials team is confident that, slowly but surely, there will be meaningful reductions in excess capacities.

In this chapter, we address the following key questions:

(1) Can China phase out excess capacity in the materials sector in the next few years?

Top-down supply side reforms and financial support has been facilitating the adjustment in relevant sectors, and we expect China to eliminate a significant amount of excess capacities over a period of 3-4 years. Policy makers' tolerance for slower growth will lower investment growth, helping to manage the excess capacity problem.

(2) What are the implications for sector profitability?

We expect an improvement in ROE across industrial sectors as a result of the capacity cuts. However, ROE levels will remain lower than those in 2006-07 and than those in the new economy sectors.

(3) Which sectors will achieve maximum progress in cutting excess capacity?

The steel and paper sectors will be more successful in reducing excess capacity than other sectors.

While the new economy gradually takes center stage as China continues to undertake a structural transition, problems arising from resource misallocation in the old economy – partly the cause for China's domestic imbalances – would need to be addressed. Long the primary growth engine under an investment-intensive economy, the heavy industrials sector, which includes steel, cement, and coal, now finds itself mired in significant excess supply, eroding margins, and deteriorating productivity. In response, we expect the government to drive top-down adjustments to reduce excess capacity in the sector.

While we believe supply-side reforms would help improve margins and utilization in these industries in the coming years, there are two key debates surrounding the industry outlook. The first debate involves the pace of adjustment, which we expect to remain gradual due to considerations on social stability. The second involves the timeline on the revival of reasonable returns. Given China's ongoing structural transition towards a consumption-driven economy, the demand outlook for the old economy will likely soften, and there will be significant challenges in achieving the strong and high returns trend experienced in 2006-07.

Exhibit 115:

Steel, coal and cement industries are expected to have higher capacity utilization rates and profitability with successful supply side reform

	Steel	Coal	Cement
Sector revenue (2015, Rmb bn)	2,500	6,500	n.a.
Sector ROE	-3.6%	-2.2%	0.8%
Coverage ROE	3.9%	-8.1%	2.1%
Coverage ROCE	4.6%	-0.1%	4.0%
People employed ('000 ppl)	3,600	4,400	1,600
2015 end utilization ratio	73%	65%	72%
Healthy utilization	84%	72%	84%
2015 end producing capacities (mnt)	1,100	4,200	1,900
2015 end excess capacity (mnt)	90	900	27
13FYP national capacity cut targets (mnt)	140	800	n.a.
Capacity cut achieved by end 2016 (mnt)	65^	300	n.a.
Utilization Ratio in 2020 (Base)	86%	73%	85%
Utilization Ratio in 2020 (Bull)	89%	76%	87%
Utilization Ratio in 2020 (Bear)	83%	71%	82%
ROE in 2020 (Base)	9.6%	3.0%	8.5%
ROE in 2020 (Bull)	11.9%	3.7%	10.5%
ROE in 2020 (Bear)	7.3%	2.3%	6.5%

^ Note: Total steel capacity cut we tracked in 2016 reached 89mnt, sum of each province government's announcement. Of which around 65mnt is shutdown of legal capacities. Government is also cutting illegal capacities (induction furnaces) in addition to the 140mnt capacity cut target. The induction furnaces capacities total to around 80-100mnt, of which ~20mnt were shut in 2016 and rest will be closed by 1H17.

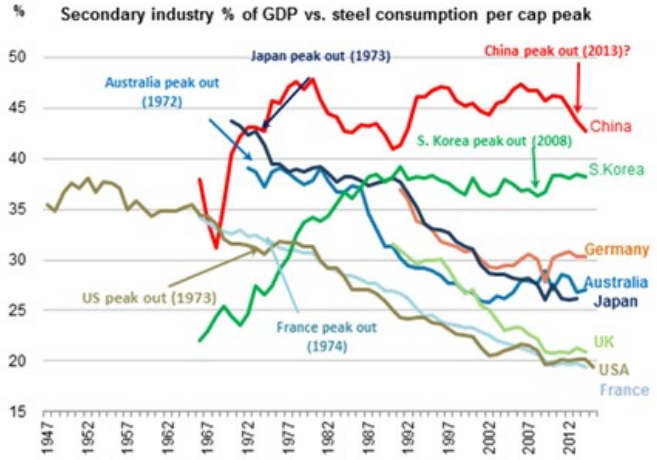
Source: NBS, National Development and Reform Commission (NDRC), Morgan Stanley Research.

Structural slowdown in the demand for commodities

Under a backdrop of China's structural rebalancing, the old economy currently faces two developments that will affect the demand outlook. Firstly, we expect real GDP growth to slow down regardless of the pace of transition in China's growth model, which implies an accompanying deceleration in the old economy given its primary role in supporting growth in the past decades. Secondly, the change in growth mix – specifically as the investment share in the economy declines – also implies slower demand growth for sectors in the near term. Experiences from countries that have successfully made the economic transition also point to a more subdued demand outlook for the old economy in the longer term. For instance, trends in the steel industry across a number of DMs suggest that per capita steel consumption tends to peak 10-20 years following the share of secondary industry in GDP has peaked. In China's case, the ratio of secondary industry[7] to GDP has already peaked around 2005, implying that China's per capita steel consumption would have started to flatten by now. From a per capita income perspective, although other countries' historical consumption of various commodities shows that China's per capita consumption has yet to peak, China's age dependency ratio has already inflected, contrary to the demographic dynamics in these countries at around the same per capita income levels. The subsequent structural shift in the relative importance of investment and consumption will therefore imply more subdued commodity consumption.

Exhibit 116:

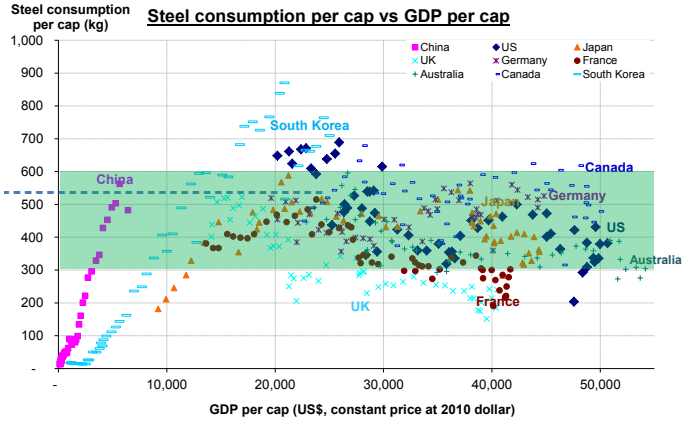
In China, the share of secondary industry in GDP peaked in 2005



Source: World Steel Association, World Bank, Morgan Stanley Research.

Exhibit 117:

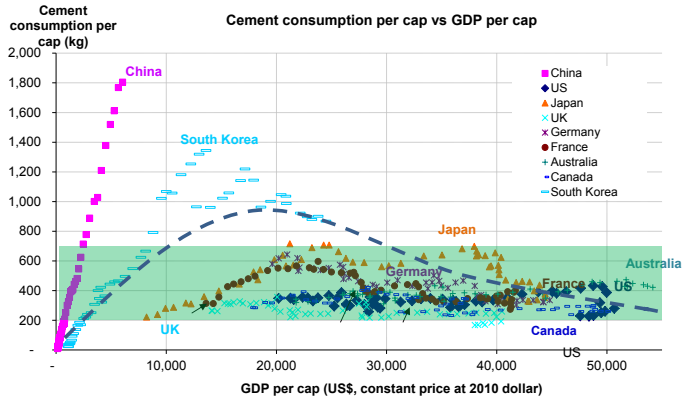
Sustainable steel consumption per capita: most developed economies ranging from 300-600kg/capita - China within the range



Source: WSA, Japan Iron & Steel Federation, Korea Customs Service, World Bank, Morgan Stanley Research. Note: Japan, South Korea and China steel consumption has been adjusted for steel content exported with auto, machinery and ship.

Exhibit 118:

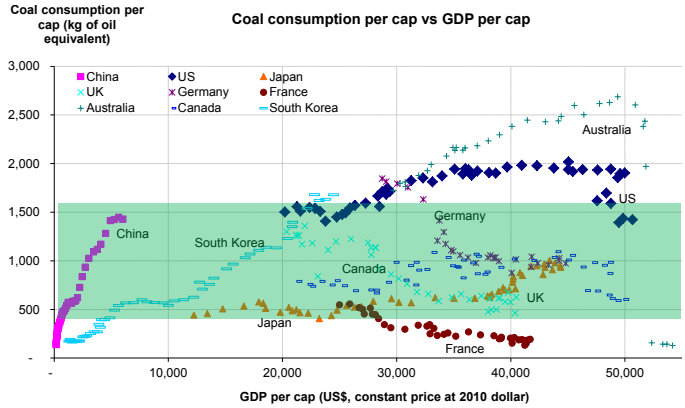
China's cement consumption per capita is above international peers' sustainable level



Source: Cembureau, World Bank, Morgan Stanley Research.

Exhibit 119:

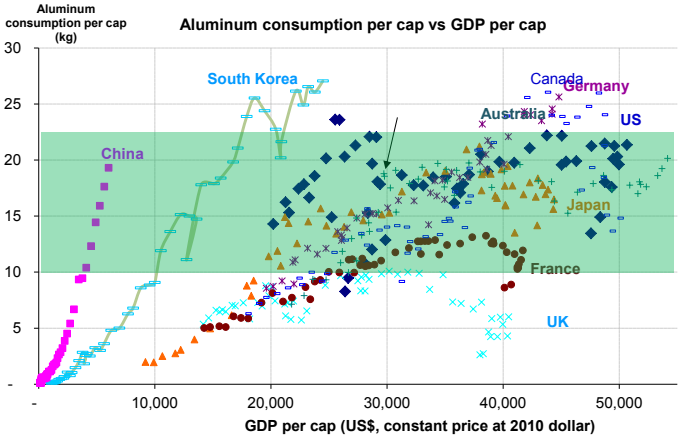
China's coal consumption per capita starts to level off at higher end of global peers' sustainable levels



Source: BP Statistics, World Bank, Morgan Stanley Research.

Exhibit 120:

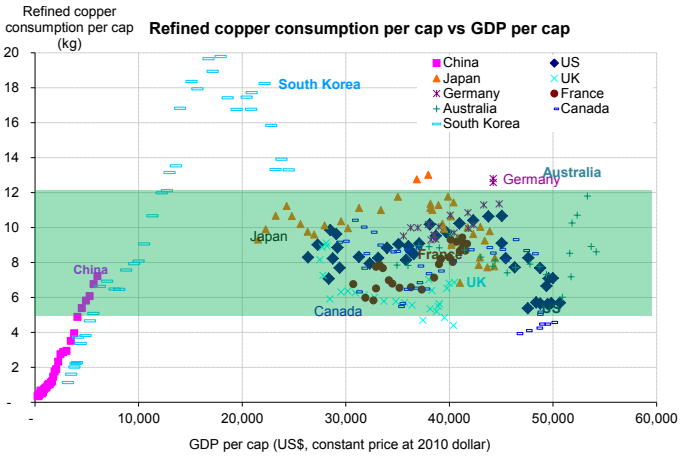
China's aluminum consumption per capita is still on upward trajectory



Source: Woodmac, World Bank, Morgan Stanley Research.

Exhibit 121:

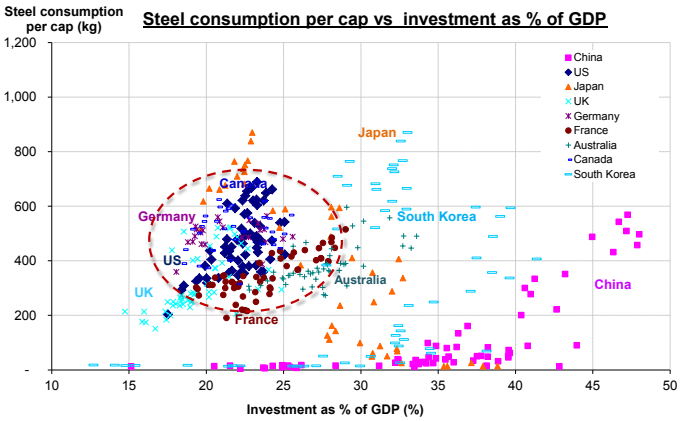
China's copper consumption per capita still has more room to grow versus global peers' sustainable levels



Source: Woodmac, World Bank, Morgan Stanley Research.

Exhibit 122:

If China's investment to GDP fell back to 18-28% of GDP as in the developed countries versus 45% in 2015, steel consumption per capita should be able to sustain at 300-600kg/cap

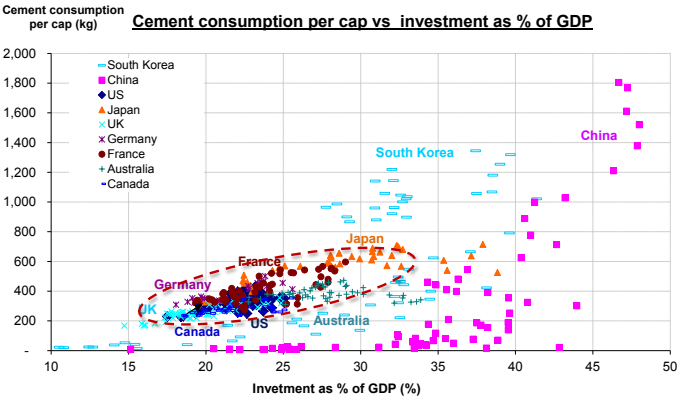


Source: WSA, Japan Iron & Steel Federation, Korea Customs Service, World Bank, CEIC, Morgan Stanley Research.

Note: Japan, South Korea and China steel consumption has been adjusted for steel content exported with auto, machinery and ship.

Exhibit 123:

If China's investment to GDP fell back to 18-28% of GDP as in the developed countries versus 45% in 2015, cement consumption per capita will likely fall from current level



Source: Cembureau, World Bank, CEIC, Morgan Stanley Research.

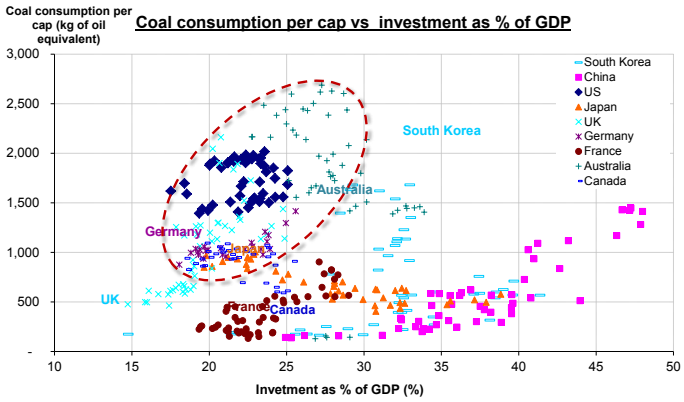
To understand the likely impact of a decline in investment to GDP on commodity consumption, we conducted a sensitivity analysis on per capita steel consumption relative to changes in the investment share in the economy. We selected historical periods in which investment as a percentage of GDP in developed economies declined after peaking and before bottoming, and used linear regression to study the sensitivity of per capita consumption on each percentage point change in investment to GDP in these economies.

These six economies (see **Exhibit 127**) illustrated sensitivities ranging between 11.6-23.3kg less steel consumption per capita for each percentage point decrease in investment share, with the average sensitivity at 18.7. Among these economies, South Korea appears to be an exception, as per capita steel consumption more than doubled during the period when its investment share of GDP shrank from 40% in 1990 to 28% in 2015. This is probably due to the high steel content in its exports such as auto, ships, and building modules.

We believe China's sensitivity is more likely to lie between Korea and Japan, given its substantial exposure to exports. In this context, per capita steel consumption would likely fall by about 15-34%, should investment to GDP fall from 44.5% in 2016 to 30% in 2030 as projected in our base case growth scenario.

Exhibit 124:

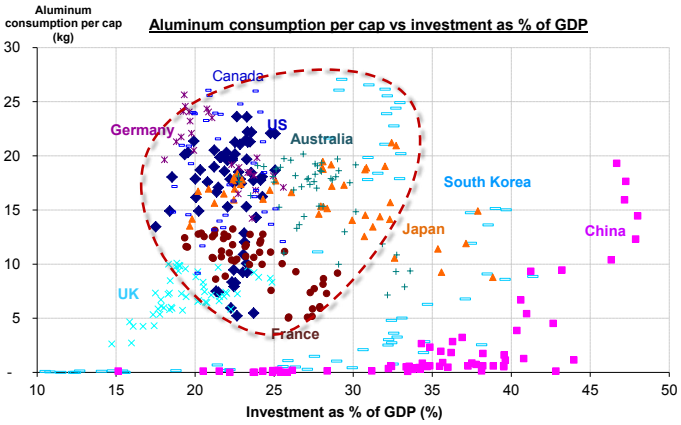
If China's investment to GDP fell back to 18-28% of GDP as in the developed countries versus 45% in 2015, coal consumption per capita should be able to be sustained at 1500-2000kg of oil equivalent/cap



Source: BP Statistics, World Bank, CEIC, Morgan Stanley Research.

Exhibit 125:

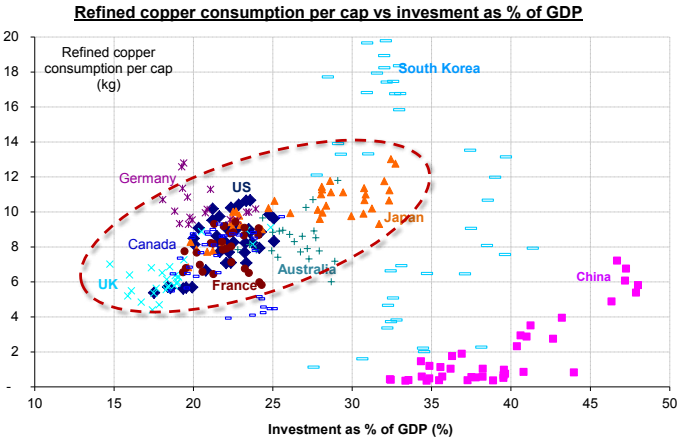
If China's investment to GDP fell back to 18-28% of GDP as in the developed countries versus 45% in 2015, we see aluminum consumption per capita has room to increase further before being sustained at 20-25kg/cap



Source: Woodmac, World Bank, CEIC, Morgan Stanley Research.

Exhibit 126:

If China's investment to GDP fell back to 18-28% of GDP as in the developed countries versus 45% in 2015, we see copper consumption per capita has room to grow further before being sustained at 6-12kg/cap



Source: Woodmac, CEIC, Morgan Stanley Research.

Exhibit 127:

Sensitivity Analysis: China's steel consumption sensitivity on change in investment as a percentage of GDP likely to lie between Korea and Japan, which means per capita steel consumption might fall 15-34% should investment to GDP fall from 45% to 30%

2015 China Steel Consumption per Capita (kg)		487																									
Investment to GDP Ratio		**Sensitivity of China's steel consumption to Investment % GDP (kg/cap per 1ppt)**																									
		25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
2016E	43.7%	456	457	458	459	461	462	463	465	466	467	468	470	471	472	473	475	476	477	479	480	481	482	484	485	486	487
2017E	42.4%	423	426	428	431	433	436	438	441	444	446	449	451	454	456	459	462	464	467	469	472	475	477	480	482	485	487
2018E	41.0%	389	393	397	401	405	409	413	417	421	425	429	433	437	440	444	448	452	456	460	464	468	472	476	480	484	487
2019E	39.7%	355	361	366	371	376	382	387	392	398	403	408	413	419	424	429	435	440	445	450	456	461	466	472	477	482	487
2020E	38.3%	320	327	334	340	347	354	360	367	374	380	387	394	400	407	414	421	427	434	441	447	454	461	467	474	481	487
2021E	37.6%	303	310	317	325	332	340	347	354	362	369	377	384	391	399	406	414	421	428	436	443	450	458	465	473	480	487
2022E	36.9%	285	293	301	309	317	326	334	342	350	358	366	374	382	390	398	406	415	423	431	439	447	455	463	471	479	487
2023E	36.2%	267	276	285	294	302	311	320	329	338	346	355	364	373	382	391	399	408	417	426	435	443	452	461	470	479	487
2024E	35.4%	249	259	268	278	287	297	306	316	325	335	344	354	364	373	383	392	402	411	421	430	440	449	459	468	478	487
2025E	34.7%	231	241	251	262	272	282	292	303	313	323	333	344	354	364	375	385	395	405	416	426	436	446	457	467	477	487
2026E	33.8%	208	219	230	242	253	264	275	286	297	309	320	331	342	353	364	376	387	398	409	420	432	443	454	465	476	487
2027E	32.9%	185	197	209	221	233	245	257	270	282	294	306	318	330	342	354	366	378	391	403	415	427	439	451	463	475	487
2028E	31.9%	161	174	187	200	213	226	240	253	266	279	292	305	318	331	344	357	370	383	396	409	422	435	448	461	474	487
2029E	31.0%	137	151	165	179	193	207	221	235	249	263	277	291	305	319	333	347	361	375	389	403	417	431	445	459	473	487
2030E	30.0%	113	128	143	158	173	188	203	218	233	248	263	278	293	308	323	338	353	368	383	398	413	428	443	457	472	487
Historical sensitivity of developed countries				USA: 23.3	Germany: 21.9	France: 21.9		Australia: 19.0	**Average: 18.7**			UK: 14.7			Japan: 11.6												

Source: Morgan Stanley Research estimates.

Exhibit 128:

Morgan Stanley estimates of downstream demand drivers for different commodities: property and infrastructure are important drivers for commodity demand

	Steel	Cement	Copper	Aluminum	Coal
Property	42%	33%	9%	35%	
Infrastructure	25%	33%			
Auto	6%		10%	16%	
Power			47%	16%	53%
White Goods	2%		15%	8%	
Electronics			8%	5%	
Machinery	15%				
Shipbuilding	3%				
Rural		33%			
Manufacturing					
Packaging				11%	
Metallurgy					18%
Building Materials					8%
Others	7%		11%	9%	21%

Source: Morgan Stanley Research estimates.

Excess supply due to aggressive capacity buildup

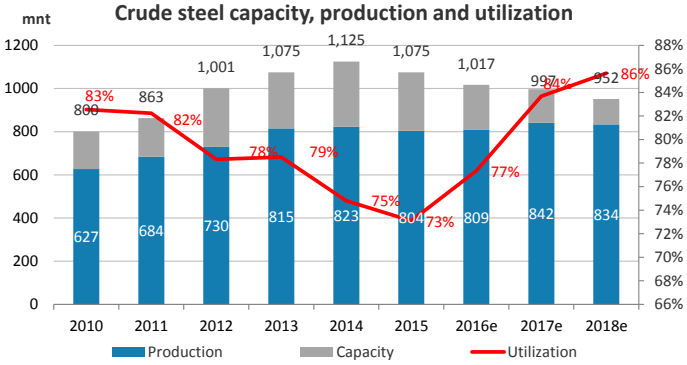
The current growth model is now facing certain limits. In the past 30 years, China's high growth primarily relied on the large-scale mobilization of resources through various reforms, which had worked successfully until 2007. Following the global financial crisis, China has since become victim of its own success in pursuing such approach, having remained indifferent to the structural shift in global and domestic demand. As a result, a rapid buildup of excess capacity in key sectors ensued, and it was in this context that policy makers rolled out supply-side reforms starting in 2015, as the subsequent deflationary pressures and decline in productivity not only hurt industry profits, but also weighed on overall economic growth.

Supply-side reforms mainly consist of capacity reduction targets and financial support to facilitate the adjustment. Policy makers have also instructed financial intermediaries to stop renewing debt to illegal and "zombie" enterprises in sectors marred by overcapacity to curb new resources support to unproductive agents. In the steel industry, the government's headline capacity cut target was 140mnt by 2020, which would be equal to a capacity reduction of 13% from 2015-20. In view of the fact that local government overachieved the 2016 annual target of 45mnt by 20mnt, and set a rigid deadline to crack down all induction furnaces (nationwide 80-100mnt capacities contributing 30-50mnt steel production annually) by 1H17, we believe the actual capacity elimination outcome will potentially exceed the target by 2020, with execution being front-loaded in 2016-18. As a result, we expect utilization in 2017 to recover to close to 84%, a level that suggests balance in supply and demand.

In the coal industry, government has stated that its plan is to cut 800mt (about 18% of 2015 capacity), in addition to a ban in new project approvals. So far 250-300mnt of capacity has been removed in 2016 and supply-side reform is making progress. However, the coal price rally that resulted from an artificial production cap set by the 276-working-day policy complicated the execution and caused the government to fine-tune production control policies. Moreover, softer downstream demand (power, steel and cement) could also offset benefits from supply cuts. In the cement industry, while policy makers have already detailed policies and targets to curb excess capacity, government-initiated or industry self-motivated off-peak production suspension has also effectively controlled production and inventory levels in 2016.

Exhibit 129:

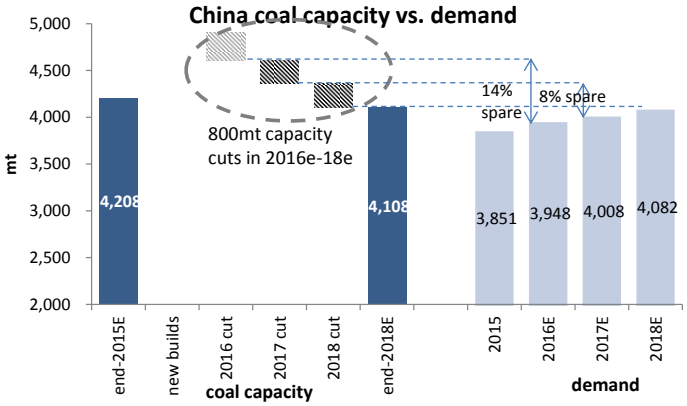
Supply-demand balance will be gradually restored following the implementation of supply side reforms



Source: Mysteel, World Steel Association, CEIC, Morgan Stanley Research. e = Morgan Stanley Research Estimates.

Exhibit 130:

Despite supply-side reform, the coal industry will maintain excess capacity until 2018



Source: China Coal Association, CCTD.com.cn, Morgan Stanley Research. e = Morgan Stanley Research Estimates.

Gradual policy response implies slower improvement in ROE and efficiency

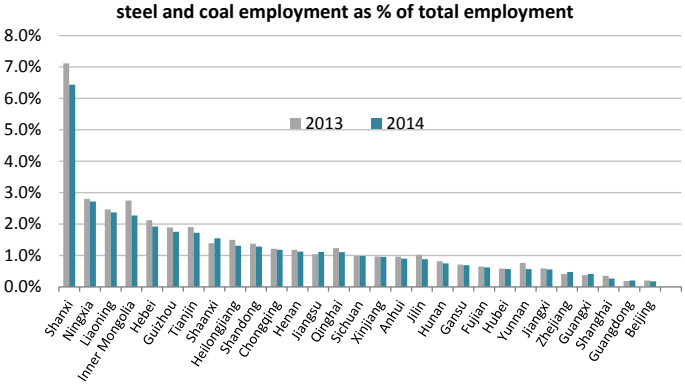
The policy response in addressing the issue of excess capacity has been gradual thus far. Should the targets for capacity cuts indeed be met by 2020, the supply-demand imbalance in the old economy would have prevailed for about a decade, given that the problem started to deteriorate in around 2011-12.

In our view, the genesis of this slow adjustment approach arose from two factors. Firstly, there has been resistance to abrupt, large-scale capacity cuts at the local level given the implications on social stability and economic growth, which is also a major reason why supply-cut efforts have been top-down. Secondly, the occasional attempt to boost growth – when the longer-term trend is sliding – has primarily relied on infrastructure and property market stimulus, both of which would support production in the old economy.

Consequently, the sectors in question will likely experience only a slow improvement in the ROE trend, instead of a quicker and deeper shock but faster improvement in ROE. In our base case projections, we expect utilization to gradually stabilize or pick up in the old economy over the forecast horizon, as a result of capacity cuts despite subdued demand growth. Industry ROE will likely pick up along with utilization, returning to more sustainable levels by 2019-20, according to our estimates. We expect ROE to rise from -3.6%, -2.2%, and 0.8% in 2015 to 9.3%, 3.0%, and 8.5% by 2020 in steel, coal, and cement, respectively, but still largely below 2006-07 levels and that in the new economy sectors.

Exhibit 131:

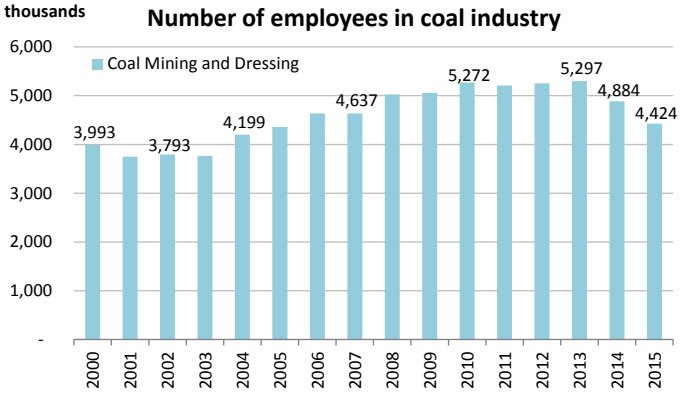
Besides Shanxi, the total number of steel and coal employees are less than 3% of China's total employment



Source: Wind, Morgan Stanley Research.

Exhibit 132:

The goverment's target of 1mn layoffs in the coal industry currently accounts for 23% of China's overall employment



Source: Wind, Morgan Stanley Research.

Exhibit 133:

Coal companies have been reducing staff headcount since 2013

Staff counts	2011	2012	2013	2014	2015	5 vs '14 YoY
Datong	21,417	24,811	23,402	14,578	13,544	-7.1%
Xishan	28,006	28,969	29,387	29,433	28,889	-1.8%
Yangquan	41,363	40,958	40,115	39,156	36,967	-5.6%
Lu'an	31,652	33,755	35,003	35,310	34,801	-1.4%
Shenhua	82,260	89,144	91,487	92,738	95,498	3.0%
China Coal	54,948	54,964	55,261	54,150	52,648	-2.8%
Yanzhou	56,103	69,381	73,046	68,193	65,894	-3.4%
Shaanxi Coal	58,911	58,911	63,170	63,170	56,694	-10.3%
Yitai	5,287	6,884	7,408	7,409	6,680	-9.8%

Source: Company data, Morgan Stanley Research.

Exhibit 134:

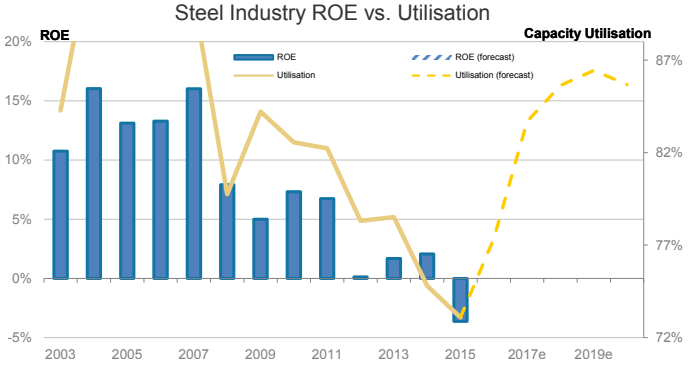
Expected timeline for China's supply-side reform

	2013	2014	2015	2016e	2017e	2018e	2019e	2020e
				----------13th Five-Year Plan----------				
Steel			**<2015-2018e>** Utilization from 73% to 84% **<2015-2018e>** Industry ROE from -3.6% to 7.3%					
Utilization	78.5%	74.8%	**73.1%**	77.3%	83.7%	**85.6%**	86.4%	85.7%
ROE	1.7%	2.1%	**-3.6%**	1.9%	7.5%	**9.3%**	10.0%	9.3%
Coal			**<2015-2019e> Utilization from 65% to 72%** **<2015-2018e> ROE from -2.2% to 3.0%**					
Utilization	n.a.	n.a.	**64.6%**	66.9%	69.0%	71.3%	**72.3%**	73.3%
ROE	9.0%	4.2%	**-2.2%**	2.0%	5.5%	4.0%	**3.0%**	3.0%
Cement				**<2016e-2018e> Utilization from 75% to 84%** **<2016e-2018e> ROE from 3.0% to 7.5%**				
Utilization	75.3%	77.3%	72.2%	**75.1%**	75.6%	**78.6%**	82.1%	84.7%
ROE	6.0%	5.3%	0.8%	**3.0%**	4.5%	**7.5%**	8.2%	8.5%
Paper	**<2013-2016e> Utilization from 80% to 87%** **<2013-2016e> EBITDA/t from Rmb479/t to Rmb553/t**							
Utilization	**79.7%**	82.9%	88.0%	**87.1%**	88.9%	90.7%	90.7%	90.7%
EBITDA/t	**479**	498	489	**589**	669	691	731	764
Glass		**<2014-2018e> Utilization from 82% to 89%** **<2014-2018e> ROE from 5.4% to 6.8%**						
Utilization	87.1%	**81.6%**	85.7%	87.4%	88.3%	**89.2%**	90.0%	90.0%
ROE	10.3%	**5.4%**	4.0%	4.8%	6.0%	**6.8%**	7.0%	7.0%

Source: Company data, Ministry of Industry and Information Technology (MIIT), Mysteel, China Iron and Steel Association (CISA), China Paper Association, Digital Cement, Coal Association, Morgan Stanley Research.

Exhibit 135:

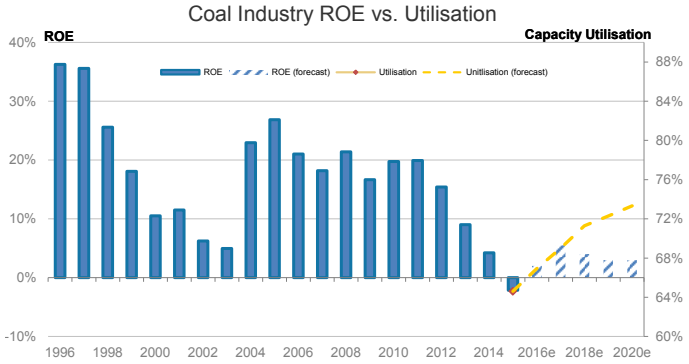
Steel industry ROE versus utilization: ROE to rise from -3.6% in 2015 to 9.3% in 2020



Source: WIND, CISA, Morgan Stanley Research. e = Morgan Stanley Research estimates.

Exhibit 136:

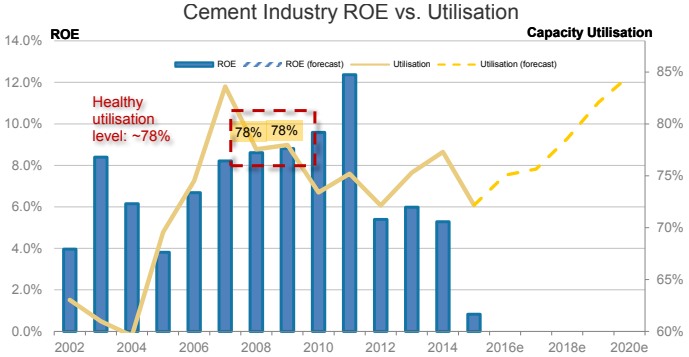
Coal industry ROE versus utilization: ROE to rise from -2.2% in 2015 to 3.0% in 2020



Source: WIND, company data, Morgan Stanley Research, e = Morgan Stanley Research estimates.

Exhibit 137:

Cement industry ROE versus utilization: ROE to rise from 0.8% in 2015 to 8.5% in 2020



Source: WIND, company data, Morgan Stanley Research, e = Morgan Stanley Research estimates.

Chapter 7: Impact of China's transition on the global economy

China's growing high-income population will bear implications on the rest of the world. This is particularly so considering the number of transitions that China has to navigate in the coming years.

In this chapter, we address the following key questions:

(1) How may China's transition impact the global economy?

We see two key impacts arising from the transition, primarily via trade: (i) the compositional change in China's domestic demand implies a corresponding change in import mix, which has implications for exporters to China, and (ii) China's move up the manufacturing value chain will intensify competition among upstream economies in the supply chain.

(2) Which countries will be most impacted by China's transition?

The US, Germany, Japan, Korea and Taiwan will likely be most impacted, given their current dominant positions in higher-end manufacturing. We also expect capital exporters and commodity exporters to face considerable headwinds, as China will gradually import a larger share of consumer goods relative to capital goods and commodities.

What are the implications on the global economy?

We see two key impacts on the global economy, principally transmitted through the trade channel.

1) China's evolution as a market place: As consumption becomes the main growth driver in China amid an environment of rising disposable incomes, the composition of domestic demand will evolve and the consumption basket will shift significantly as well, resulting in changing import end-demand. Economies and companies that are more geared towards these trends will benefit, while economies and companies that were supplying investment-related goods and services and commodities would find their demand remaining weak.

2) China's rise as a competitor: China's attempts to move up the global manufacturing chain would also mean increasing competition for economies at the high end of the supply chain. Indeed, China has already been gaining market share in some high value-added goods markets against upstream economies such as Korea and Taiwan. While the first stage of China's economic development allowed economies to tap into China as a source of low-income labour and indeed allowed other economies to move up the value chain, China is now encroaching into high value-added economic activities, particularly in the area of manufacturing, which will pose headwinds to developed economies that have traditionally led in this area, such as the US, Germany, Japan, Korea, and Taiwan.

China's evolution as a market place

As China's consumption share in the economy continues to grow while per capita income increases, consumers' wallet share allocation should move towards services, and preferences lean towards products with better quality and higher technology content. As a result, we expect the import share of capital goods and commodities to decrease, while that of consumer goods to pick up slowly. The share of capital goods imports in China's total imports peaked at 50% prior to the Asian credit crisis and has been trending lower since then. Moreover, reflecting the past developmental path, China holds a comparative edge in the capital goods space rather

than in the consumer space, and the supply side of the economy has been geared more towards the provision of capital goods rather than consumption. This is best reflected in a continued decline in China's capital goods import intensity over the years, while the import intensity of consumption has risen at the margin just as the consumption share in the economy has begun to rise.

At the same time, given our projections that investment growth will slow in China, global demand for commodities will continue to be adversely impacted given that China's consumption currently takes up about close to 50% of a few key global commodities. As commodity demand growth from other economies are unlikely to fully offset China's shortfall, China's transition will remain a headwind for global commodity prices, which could adversely affect commodity exporters for an extended period of time. India is the next large economy that can potentially follow China's path but, with the starting point of the size of its economy, it will not be able to completely offset this impact. Also, India is also self-sufficient in some of the key industrial commodities such as iron (steel), bauxite (aluminum) and thermal coal.

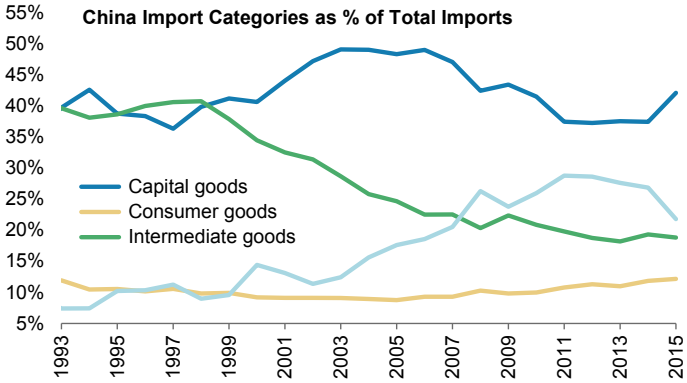
China's rise as a competitor

China's transition towards high-income status also involves a move up the value chain in manufacturing, which implies increasing competition for upstream exporters. Previously, China's entry into the global economy provided a significant pool of low-income labour, and the provision of incentives meant that investments took off in China. This has helped to utilize its growing working-age population. For the global economy, this meant that the bulk of low value-added manufacturing shifted towards China. While China's entry into these areas did disrupt production elsewhere globally, the gains from economies of scale in China meant that the global effect was on the net growth accretive.

As China began to shift and move up the value chain, processing trades gave way to a rise in middle-tech, capital-intensive production. The best way to assess the global implications, in our view, would be through the market share of exports by products. For instance, China gained market share in the power and electrical machinery industries, at 17% in 2015, up from 4% in the early 2000s. Over the same time period, France, Japan, and the US market share collectively fell by about 12ppt, suggesting a loss of market share to China.

Exhibit 138:

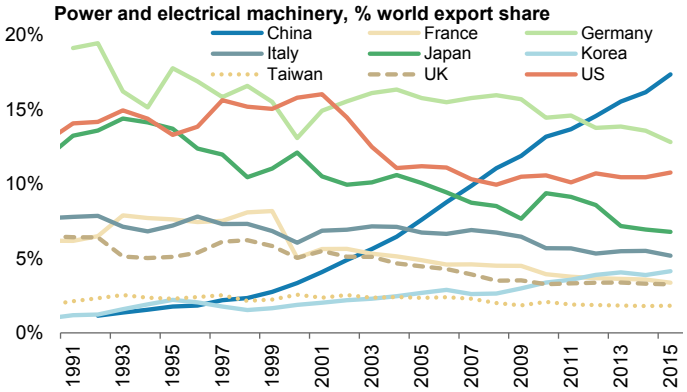
Capital goods imports make up over 40% of China's imports



Source: UN Comtrade Database, Morgan Stanley Research.

Exhibit 139:

China's export share in power and electrical machinery climbed to 17% in 2015



Source: UN Comtrade Database, WTO, Morgan Stanley Research.

Across other industries that have a high R&D intensity, China has been gaining market share in a few of them at a steady pace. In these industries, competitiveness is typically driven by efficiency gains and/or the ability to fine-tune current offerings (so as to cater for changing preferences), while technical know-how is usually acquired through joint ventures or foreign transfer. Examples include the electrical and circuit components industry, where China's export share climbed about 18ppt from 2000-15, with sharper gains observed in 2011-13 when smart hand-held devices proliferated. In contrast, the combined share of Japan and the US declined by about 21ppt from 2000-15. Perhaps more importantly, Taiwan's market share in the electrical and circuit components industry has also been rising since 2000, but its growth was eventually outstripped by China after 2010, reflecting China's capabilities in pushing through production and technological frontiers.

Another illustrative case can be found in the transport equipment ex-auto industry. Korea's export share also picked up in the early 2000s alongside China's, but was eventually outstripped by China in

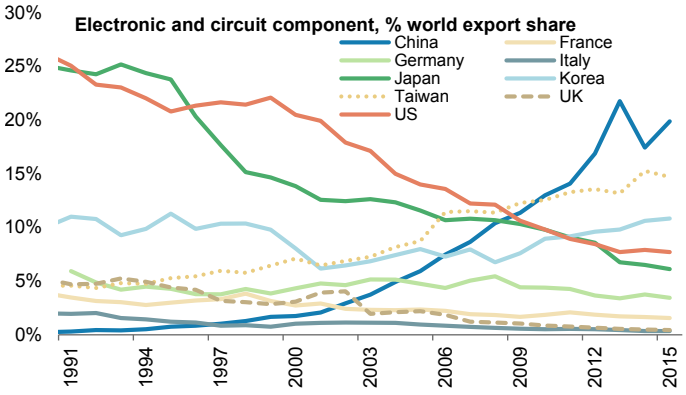
2009. In fact, we expect both Korea and Taiwan to face more intense competition from China, as China continues to move up the value chain.

However, China's market penetration remains relatively low in some high value-added manufacturing industries, such as pharmaceuticals and automotive products. In these industries, competitive gains require cutting-edge ideas at the granular level, often involving engineer-based and science-based innovations. In pharmaceuticals, China's export share has remained steady at a low of around 2-3% over the past two decades, while in automotive products, its share has also stabilized at 4%. Moreover, although market leaders in these two industries have rotated over time, DM manufacturing powerhouses such as the US, Germany, and Japan have maintained a leading position. This suggests more room for China to catch up in these high value-added industries, where considerable investments towards developing a talent pool and a strong institutional framework is required to flourish domestically.

To sum up, the impact of China's transition on the global economy would primarily be transmitted through the trade channel, firstly, through a change in China's domestic end-demand, and secondly, through increasing competition among exporters at the higher end of the supply chain. This transition would arguably be less beneficial to the global economy as compared to China's previous stage of economic development. While China's entry into low value-added manufacturing did disrupt production elsewhere globally, gains from economies of scale in China meant that the global effect was on the net growth accretive. However, China is now encroaching into high value-added economic activities, particularly in the area of manufacturing, which will pose headwinds to developed economies that have traditionally led in this area, such as the US, Germany, Japan, Korea and Taiwan.

Exhibit 140:

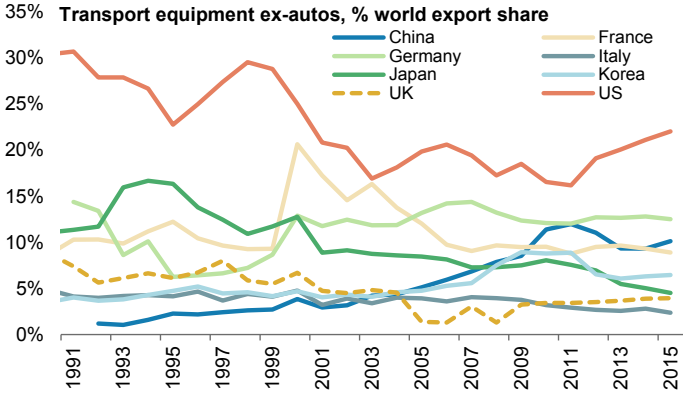
China rapidly gaining market share in electronic and circuit components



Source: UN Comtrade Database, WTO, Morgan Stanley Research.

Exhibit 141:

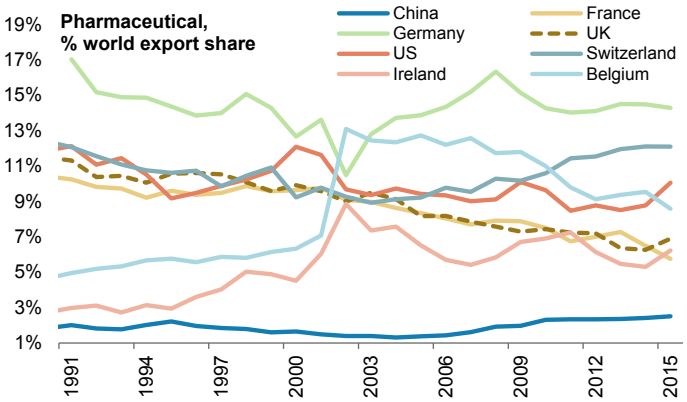
China's market share in transport equipment ex-autos has slowed in recent years



Source: UN Comtrade Database, WTO, Morgan Stanley Research.

Exhibit 142:

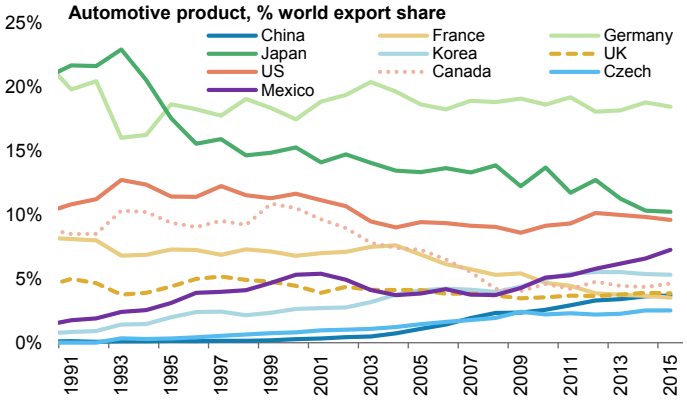
China's market share in pharmaceuticals remained the lowest among major economies



Source: UN Comtrade Database, WTO, Morgan Stanley Research.

Exhibit 143:

China's market share in automotive products has also remained among the lowest among major economies



Source: UN Comtrade Database, WTO, Morgan Stanley Research.

Chapter 8: Rise of China's MNCs – domestic champions and global players

The rapid development of China's corporate sector will continue to be a driving force of economic growth. The corporate landscape in China is characterised by ferocious competition in some areas but overt government ownership, regulation and control in others. Several Chinese firms have already emerged as domestic champions and are well on their way to being global multinational corporations or are domestic champions with the resources to compete globally near term (Alibaba, Tencent.

We expect a big increase in the list of domestic champions and multinational corporations (MNCs) as China's transition towards high income status proceeds. These MNCs are already providing outsized positive spillovers to the overall economy primarily through productivity gains, which we see as critical to China's long-term development given its deteriorating demographic trends and declining overall return to capital investment in recent years.

In this chapter, we address the following key questions:

(1) How will China's private sector evolve as China transitions to a high-income economy?

Given the agility and solid starting points of private firms, we expect China's private sector to continue to gain market share in the new economy segments, while driving the development of domestic champions and multinationals during the process.

(2) How may the rise of MNCs assist in China's growth transition?

Multinationals tend to account for a disproportionate share of total R&D spending in the economy, leading to outsized contributions to productivity growth – essential to China's transition given its deteriorating demographic trends and declining returns to capital investments.

(3) Who are the Chinese MNCs of today and tomorrow?

Working with our stock coverage teams, we identified 21 firms that are already MNCs or have the potential to make the transition. These firms come from a wide range of sectors, with some already well-known including Alibaba and Bank of China, while other names have made rapid progress on this front, including China Railway Construction and Fosun.

As China undergoes a structural transition, we expect the private sector to remain an important contributor to overall growth, especially given their strong starting point and responsiveness to changing macro conditions.

The rapid development of China's corporate sector will continue to be a driving force of economic growth. As the economy undergoes a major structural shift, firms must be nimble to gain market share. Winners tend to understand and capitalize on changing macro trends and shifting consumer tastes relatively quickly. Indeed, the private sector has made significant headway and private companies are dominant players in the "new economy sectors". Within the MSCI China Index, the private sector shares in IT, Consumer Discretionary and Healthcare are 97%, 86% and 61% respectively. As China's transition gathers pace, we expect to see an even more vibrant and prominent private sector given its agility and solid starting point.

We would also expect the rise of more domestic champions and multinational corporations (MNCs) as the private sector grows. MNCs could provide outsized positive spillovers to the overall economy primarily through productivity gains, which we see as critical to China's long-term development given its deteriorating demographic trends and declining returns to capital investments.

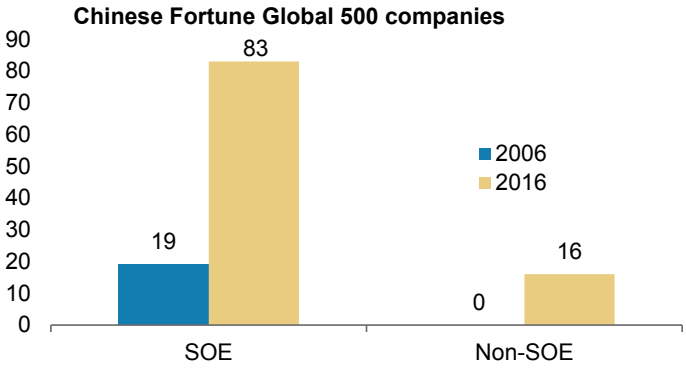
In the US, multinationals disproportionately drive total R&D spending in the country, which in turn leads to outsized contributions to productivity growth as well, according to a McKinsey study. Their estimated labour productivity improved more than twice as fast as their smaller peers' during the period from 1990 to 2007, making up 41% of labor productivity growth despite contributing only 23% of value added over the same period. As China's private sector continues to evolve, we would also expect a rising share of private R&D and resulting productivity gains in a similar fashion.

In the following section, we first provide an overview of the existing domestic champions and MNCs in China and then identify likely winners within the group.

There are two metrics which we use to identify the current MNCs. The first is the Fortune Global 500 list, where since 2006 China has seen a rise from 20 to 103 ranked companies. In particular, non-SOE companies have risen from zero to 16 companies, representing 15% of 2016 Chinese ranked companies. Of the 16 non-SOE firms on the 2016 Global Fortune 500 list, five operate in consumer goods sectors, ranging from autos to apparel industries. The second largest represented sector is real estate, with four companies.

Exhibit 144:

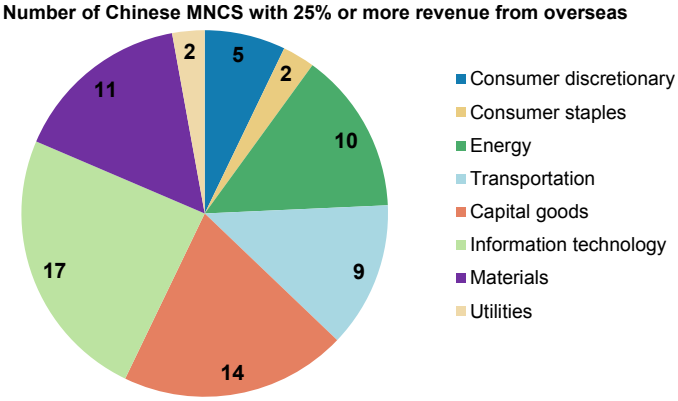
Chinese firms in Fortune Global 500: 2006 versus 2016



Source: 2016 Fortune Global 500 List, Morgan Stanley Research.

Exhibit 145:

70 Chinese companies under Morgan Stanley coverage derived 25% or more of their revenue from overseas in 2016



Source: Morgan Stanley Research.

The second metric to look at is the geographical sources of revenues. Within the Morgan Stanley Chinese company coverage space, 70 companies derived 25% or more of their revenue from outside China in 2016, representing 20% of Chinese companies covered. On a sector basis, 23 of these companies, or 33%, are in the Industrial sector. This can be further broken down into 14 in capital goods industries, which includes electronic, chemical and engineering machinery, and 9 in the transportation industry, encompassing shipping, logistics and aviation. The second largest sector is information technology with 17 companies, or 24%, and this includes technology and hardware companies such as Lenovo and ZTE Corp. Another 11 companies, or 16%, are in the Materials sector, which includes commodities, chemicals and mining companies. Finally, 10, or 14%, are in the Energy sector.

From a geographic perspective, the largest market for Chinese MNCs excluding China (which accounts for 55% of revenue on average) is the US. It accounts for 17% of revenue on average, with 31% of the MNCs receiving over 25% revenue from the US. The next

largest market is developed Europe, which accounts for 10% of revenue on average, with 13% of MNCs receiving over 25% revenue from the region. The revenue is concentrated within developed Europe ex-UK ex GIIPS (Greece, Ireland, Italy, Portugal and Spain). Other significant markets include Korea and Taiwan and other Asian countries, which account for 7% of revenue, although only 7% of MNCs have over 25% of revenue from the region.

China's corporate sector outbound investment

As a reflection of the growing importance of China's corporate sector in the global economy, we have observed a large increase in its corporate sector outbound investment activities. According to data from the American Enterprise Institute's China Global Investment Tracker (CGIT), corporate sector outbound investment has accelerated since 2005, from US$13bn in 2005 to US$203bn in 2016, while the number of transactions has risen from 13 in 2005 to 203 in 2016.

Chinese investment has also shifted in geographic focus from EM to DM economies, while simultaneously transitioning from early 2000s' focus on investing in energy and material sectors to satisfy the growing demand for natural resources, towards a more strategically diverse portfolio consisting of New Economy sectors.

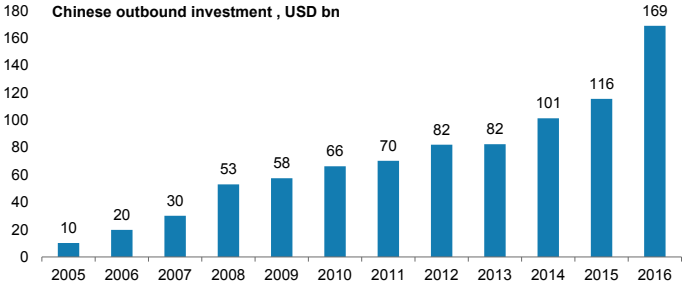
In 2006, four out of the top five countries ranked by percentage of total Chinese investment were EM economies, accounting for a combined 58%. In particular, Russia as the top destination saw 27% of total investment. Sectorally, energy and metals sector investments accounted for 85% of total investment.

By 2016, four out of the top five countries were DM economies, accounting for 51.6% of total investment. US was the top destination with 32.3% of total investment in 51 transactions, while UK was the second most popular destination at 7.3% in 19 transactions. Energy and metal sectors have decreased to 24% of total investment, with alternative energy investments responsible for 7%. Other top 5 sectors ranked by % of total investment include more service-oriented sectors such as technology (16%), entertainment (13%), tourism (12%) and transport (11%). Interestingly, Asia accounted for only 5.9% of total investment in 2006, and 11% in 2016, a relatively smaller proportion when accounting for geographical proximity.

Important note regarding economic sanctions: *Russia is a country which is generally the subject of targeted sanctions programs administered or enforced by the United States, the European Union and other countries. Users of this report are solely responsible for ensuring that their investment activities in relation to Russia are carried out in compliance with applicable sanctions.*

Exhibit 146:

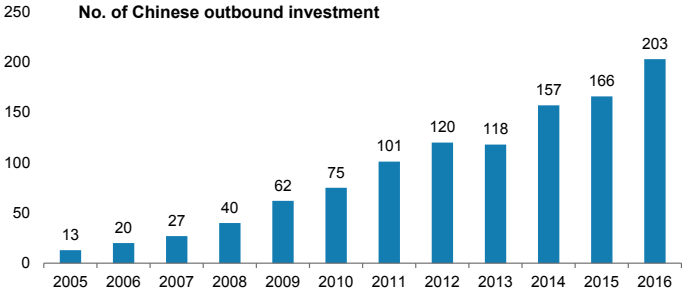
Chinese outbound investment has increased by the absolute amount...



Source: American Enterprise Institute, China Global investment Tracker database, Morgan Stanley Research.

Exhibit 147:

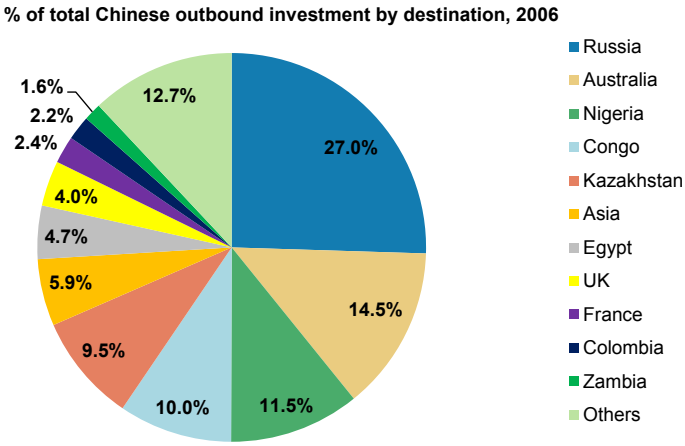
...and by the number of transactions



Source: American Enterprise Institute, China Global investment Tracker database, Morgan Stanley Research.

Exhibit 148:

China's corporate sector outbound investment has shifted from predominantly EM economies...



Source: American Enterprise Institute, China Global investment Tracker database, Morgan Stanley Research.

What lies ahead

Over the next decade, the corporate sector in China will face three major transitions. They are the consolidation of SOEs, the continued emergence of vibrant private sector companies especially in new economy sectors, and multi-national companies who are globally competitive and will derive an increasingly share of revenues outside of China.

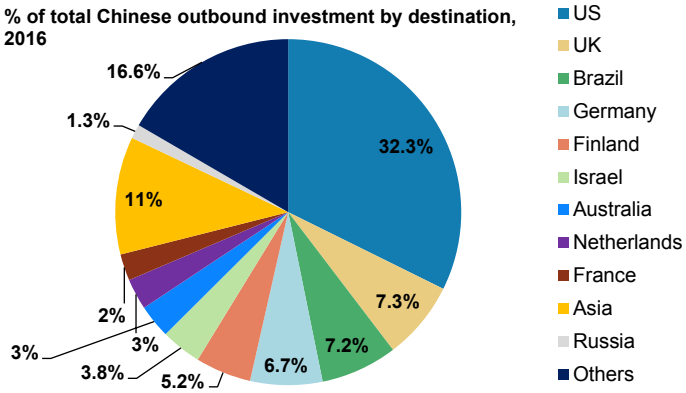
As we have argued in the previous chapter on SOE reforms, policy makers are working on improving efficiency of SOEs via consolidation and are not going down the route of full scale privatization of SOEs. Thus the end result is likely the emergence of larger, consolidated SOEs, which tend to be concentrated in the old economy sectors. Even as SOEs dominate the old economy sectors, private firm activity has flourished in the new economy segments including Consumer, IT and Healthcare. As China undergoes the major structural transitions in its economic structure, we believe that private sector firms will be better placed to adapt and capture the significant market opportunities that come with this, eventually increasing their share in economic activity and to an even greater extent market capitalization over time. Finally, alongside economic development, major developed economies also have strong multinational corporations which typify the economies' comparative advantages. Hence, China's continued economic development will also drive a new class of multi-national companies, which will be globally competitive.

China now has more unicorns than the rest of the world ex the US put together. One way to analyze the scope for further rapid development of large private sector firms is to track the number of unicorns in China and other major regions. A unicorn is a private firm, typically a start-up, which has achieved venture capital / private equity financing valuing the firm at least US$1bn. Such firms are rare on a global basis, hence the term "unicorn".

The US has a well understood ecosystem of entrepreneurship and funding with major universities and well established VC and private equity players interacting to literally create the future. Google, Facebook and Amazon all emerged from this ecosystem as did countless biotech and other information technology companies. Based on data from CB Insights, the Wall Street Journal, Fortune, iResearch Global, as well as company websites, we calculate that the US currently has 101 unicorns or more than half of the global total. However, China has on our count more than 50 such firms. This is more than the rest of the world ex the US put together. The model that has

Exhibit 149:

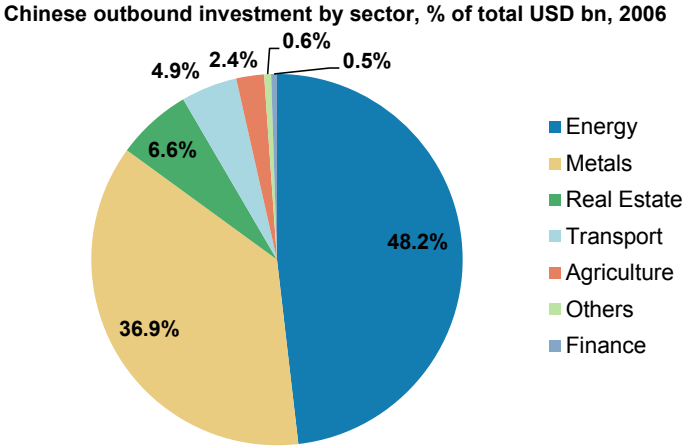
...to more DM economies



Source: American Enterprise Institute, China Global investment Tracker database, Morgan Stanley Research.

Exhibit 150:

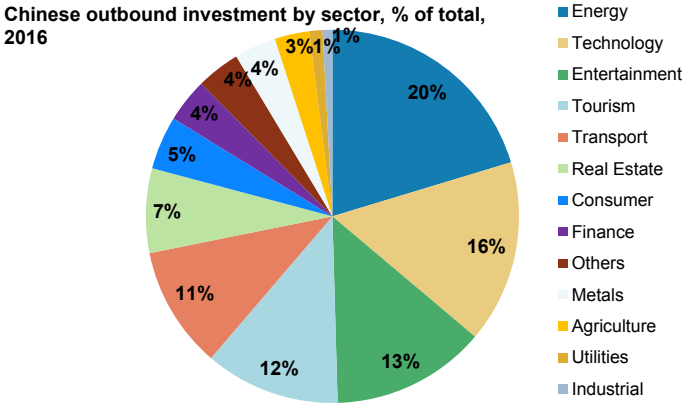
Outbound investment has also shifted from resource-oriented sectors...



Source: American Enterprise Institute, China Global investment Tracker database, Morgan Stanley Research.

Exhibit 151:

...to more diverse portfolio with New Economy sectors



Source: American Enterprise Institute, China Global investment Tracker database, Morgan Stanley Research.

worked so well in the US appears to be capable of generating a similar pattern of activity in China. An ecosystem of scientists and entrepreneurs is interacting with local and global private equity and VC firms in a manner which bodes well for the future of large scale private firm activity in China.

Naming China's current and future MNCs

We have worked with our stock coverage teams to identify Chinese firms which are already in the MNC category (meeting the two criteria just outlined) or have the potential to make this transition and become leading players in their global industries over the next ten years. We identified 20 such names, for which detailed information on the company and stock valuation and rationale for inclusion is given in **Exhibit 152** and **Exhibit 153** .

The firms are from a diverse range of sectors. Some are already well known to investors (eg. Alibaba, Bank of China or Tencent) and already quite widely held in portfolios. Others have been making rapid progress on the journey to MNC status organically as they pursuse global opportunities consequent upon the one belt one road or other initiatives (eg. China Railway Construction, CRRC, China Cosco, HIK Vision, Sinopec). Some firms have used a combination of organic growth and acquisition to accelerate their global expansion (eg Sany Heavy and Fosun). However, there is a group which are still largely domestically focused but have the scale and ambition to become regional or global players over a relatively short time horizon. This group includes Spring Airlines, Sinopharm, Jiangsu Henrgui, Anta Sports and Shenzhen Innovance.

Exhibit 152:

Chinese firms which are already in the MNC category or have the potential to make this transition and become leading players in their global industries over the next ten years

Reuters Code	Company name	GICS industry group	Market Cap U$Mn	Total Asset U$Mn	Price	Stock rating	Target price	% to Target	PE 2017E	PBV 2017E	DY 2017E	ROE 2017E	Analyst name	Business area	Why we think this company will become a true global winner in ten years' time
BABA.N	Alibaba Group Holding	Software & Services	264,757	65,117	103.3	OW	140.0	35.5%	38.4	5.47	0.0%	15.8%	Chen, Grace	e-commerce, payments and public cloud	Alibaba has considerable ambition to expand its success in China's e-commerce business to overseas markets. Its acquisition of Lazada in 2016 was good evidence of this. Global expansion will also help expand its payment business. Its burgeoning public cloud business has started with a focus on enterprises in China, but it has set up or plans to build datacenters globally in China, Singapore, North America, Europe, the Middle East, Russia and Japan.
2020.HK	ANTA Sports Products	Consumer Durables & Apparel	7,770	1,911	24.0	OW	27.2	13.3%	18.4	5.24	3.8%	29.8%	Lui, Edward	ANTA is a vertically integrated sportswear brand and manufacturer, with the largest Chinese sportswear brand in ANTA in addition to owning the rights to FILA and Descente brands in China.	ANTA is strong in brand building and has strengthened its brand through high profile partnerships with the Chinese Olympic Committee and the NBA, as well as well-perceived endorsements by famous athletes and celebrities. It continues to grow by acquiring brands, and has ambitions to acquire an overseas brand to eventually expand overseas. China's sportswear industry is only at the beginning of a multi-year structural growth story and we think ANTA is well-positioned to ride the wave.
000768.SZ	AVIC Aircraft	Capital Goods	9,553	5,731	23.7	EW	18.5	-21.7%	88.9	4.14	0.5%	4.7%	Xu, Edward	AVIC Aircraft is China's sole producer of large military aircraft, including strategic bombers and heavy transporters. It owns core resources of domestic military and civil aircraft and a full series of aircraft landing gear and aircraft wheel brake systems.	As a leading supplier of a broad range of medium-to-large size military aircraft, it aims to build itself into "China's Boeing"; it serves as a backbone enterprise in China's aviation industry and has expertise in entire aircraft manufacturing and development. It is poised to benefit from China's significant demand for both military aircraft (Y-20, H-6K) and modern commercial jets (ARJ-21, C919). Its strong manufacturing capability has also made AVIC Aircraft a major subcontractor for Boeing and Airbus, providing landing gear and braking systems.
2357.HK	AviChina	Capital Goods	4,085	11,286	5.8	OW	8.8	52.0%	20.0	1.85	0.7%	9.6%	Xu, Edward	AviChina is China's largest contract supplier of helicopters and avionics systems. It is primarily engaged in the development, manufacturing, sales and upgrades of aviation products. AviChina is the flagship overseas financing platform for Aviation Industry Corporation of China (AVIC).	With an aim to be "China's United Technologies", AviChina is an A&D conglomerate fully exposed to China's strong demand for helicopters and avionics systems led by its long-term comprehensive military modernisation. In addition, thanks to China's ongoing civil-military integration and further opening up of low-altitude airspace policies, we also see good civil market opportunities for the company from international subcontracting and indigenous commercial and GA aircraft demand.
3988.HK	Bank of China Limited	Banks	149,688	2,635,848	3.7	OW	5.5	47.1%	5.6	0.67	5.4%	12.6%	Xu, Richard	Bank of China is a state owned bank mainly engaged in the provision of commercial banking and related financial services.	BOC overseas institutions cover 46 countries and regions globally at the moment. BOC overseas loans account for 22% of its total loans currently. Its overseas loan 3-year CAGR is 12.4%, versus 8.6% for domestic loans. At the current growth rate, its overseas loans will reach a similar size to the current HSBC loan book after 9 years. Currently Chinese mainland revenue accounts for around 80% of total revenue. We expect a higher overseas revenue contribution given 1) a focus on ASEAN expansion to support the OBOR national strategy and 2) continued expansion of its RMB clearing networks globally amid RMB internationalization.
600019.SS	Baoshan Iron & Steel	Materials	16,309	34,744	6.8	OW	7.5	10.3%	15.9	1.02	3.2%	7.2%	Zhang, Rachel	The largest higher flat steel producer. Its main products are auto sheets, appliances sheets, silicon steel and oil & gas pipes.	Baosteel has a very good company management track record and its products have a brand premium to peers. The merger with WISCO will provide the company with more market share in the silicon steel market and higher raw materials purchasing power (the combined company is 5% of seaborne iron ore demand). With China executing well its plan of supply side reforms, we expect a continued increase in pricing power and margin expansion for major producers from fundamental improvements in the industry.
1919.HK	COSCO SHIPPING HOLDINGS CO LTD	Transportation	7,607	16,890	3.4	UW	1.6	-52.8%	NM	1.78	0.0%	-10.8%	Fan, Qianlei	China COSCO is mainly engaged in the container shipping and container terminal businesses. As of December 2016, it has a 7.7% market share in the global container shipping segment. The company also holds a 46.2% interest in COSCO Shipping Ports.	We believe China COSCO can potentially be a global multinational winner, as globalization is a key strategy to COSCO. It plans to increase its containership network coverage through cooperation with other global players. Also, COSCO Shipping ports already has invested in 9 overseas projects, and plans to complete 10 more projects including OBOR and South America, under its globalization strategy.
0386.HK	China Petroleum & Chemical Corp.	Energy	100,923	204,619	6.2	OW	7.9	27.9%	13.6	0.92	3.7%	6.9%	Meng, Andy	Integrated oil & gas	1. Solid balance sheet for overseas investment, which is from strong downstream earnings, introduction of external investors into marketing business and pipeline sale 2. Management indicated that the company is looking for good M&A opportunities overseas 3. However, we would also like to highlight that China oil companies have shifted towards a more return oriented strategy in this cycle. They are having a higher return requirement and turning more prudent in their investment decisions.
1186.HK	China Railway Construction	Capital Goods	24,087	103,897	11.2	OW	12.6	12.7%	7.8	0.97	1.9%	13.1%	Luo, Kevin	Railway construction	• Major beneficiary from China's 'One Belt, One Road' strategy; we expect it to gain significant growth from developing countries. • Strong technological know-how in engineering and construction for railway, highway and subways.
1766.HK	CRRC Corp Ltd	Capital Goods	37,726	48,533	7.5	OW	8.8	17.2%	13.3	1.46	2.0%	11.5%	Luo, Kevin	Railway rolling stock	• Major economies of scale and pricing competitiveness in global market • Strong technological advancement in rolling stock • Major beneficiary from China's 'One Belt, One Road' strategy; we expect it to gain significant growth from developing countries.

Source: Modelware, Morgan Stanley Research. E = Morgan Stanley Research estimates. Data as of February 10, 2017 except Alibaba Group as of February 9, 2017.

Exhibit 153:

Chinese firms which are already in the MNC category or have the potential to make this transition and become leading players in their global industries over the next ten years (Cont'd)

Reuters Code	Company name	GICS industry group	Market Cap U$Mn	Total Asset U$Mn	Price	Stock rating	Target price	% to Target	PE 2017E	PBV 2017E	DY 2017E	ROE 2017E	Analyst name	Business area	Why we think this company will become a true global winner in ten years' time
0656.HK	Fosun International	Capital Goods	13,717	64,854	12.3	EW	12.7	3.3%	14.1	1.10	1.6%	8.1%	He, Lin	Fosun is an investment holding company with a goal of becoming a world-class investment group underpinned by the twin drivers of "insurance-oriented comprehensive financial capability" and "global industrial integration capability taking roots in China".	Fosun has been expanding its exposure to global markets through overseas investments in various sectors including insurance, consumer, and energy. In 2015, it had over 30% of revenue and assets from overseas market.
002415.SZ	HIKVision Digital Technology	Technology Hardware & Equipment	23,298	5,190	26.2	OW	30.0	14.5%	15.4	5.00	1.9%	36.6%	Tsai, Yunchen	HIKVision researches, manufactures and provides surveillance products/ solutions, including front-end audio and video products, and back-end audio and video products such as surveillance video cameras.	• HIKVision has been the No.1 market share leader globally for video surveillance equipment and we expect it to continue to gain share at the expense of lower tier competitors • HIKVision is dedicated to providing global resources and locally-based technical, engineering, sales and service support to its customers around the world • HIKVision achieves a competitive advantage in technology through its strong R&D workforce and investment
600276.SS	Jiangsu Hengrui	Pharmaceuticals , Biotechnology & Life Sciences	16,373	2,014	47.8	OW	54.0	12.9%	35.2	7.36	0.2%	23.2%	Wu, Sean	An integrated drug company specializing in oncology, anesthesia, and imaging agents in China and overseas	Hengrui has invested significantly in its overseas pipeline. It has five generic drugs approved and sold in the US now. It also has an early stage innovative pipeline (immunotherapy) in the US. Though overseas sales only made up 6% of sales in 1H16, they grew 48% YoY.
2318.HK	Ping An Insurance Company	Insurance	94,254	761,595	41.7	OW	48.0	15.2%	10.8	1.55	1.7%	15.3%	Jiang, Jenny	Full suite of retail financial services	Piloting an ecosystem based financial service model. If successful, this can be replicated into other markets over time.
600031.SS	Sany Heavy Industry Co., Ltd.	Capital Goods	8,165	8,898	7.4	OW	9.3	26.4%	21.4	2.26	1.4%	11.0%	Luo, Kevin	Manufacturing of construction machinery	• Already over 40% of revenue from overseas markets • Overseas business covers more than 100 countries, with R&D center and manufacturing plants in India, the US, Germany and Brazil. Plans to further invest in emerging markets such as India and Brazil. • Major beneficiary from China's 'One Belt, One Road' strategy; we expect it to gain significant growth from developing countries.
300124.SZ	Shenzhen Inovance Technology	Capital Goods	4,883	974	21.1	OW	26.9	27.6%	28.0	6.67	2.0%	25.2%	Luo, Kevin	Industrial automation	• The leading automation company in China, which is expanding to overseas markets, such as the India elevator market. Though this expansion is in the initial stages, it is one of the domestic companies that is mostly likely to succeed overseas. • It is rapidly gaining Chinese domestic market share rapidly, by offering quality products and services at competitive prices.
1099.HK	Sinopharm Group	Health Care Equipment & Services	13,465	21,561	37.8	OW	47.0	24.5%	18.3	2.60	1.7%	15.0%	Wu, Sean	The largest drug distributor in China with national coverage	Sinopharm is already the most important distribution partner for MNC drug companies selling in China. As China is the second largest pharmaceutical market in the world and growing, we expect Sinopharm to maintain its market leadership.
601021.SS	Spring Airlines	Transportation	4,326	2,970	37.1	OW	51.9	40.0%	17.1	3.15	0.6%	20.1%	Xu, Edward	Founded as China's first low-cost airline in 2005, Spring Airlines is dominating China's LCC market. Spring Airlines offers scheduled domestic and international flights with fares typically 30% lower than other FSCs in China.	As a leading LCC in China, SPA is exposed to the world's 2nd largest aviation market yet with the fastest growth momentum. China's rising income levels will continue to drive the penetration of air travel, especially outbound travel, to even higher levels. Compared with its global peers, the company enjoys strong cost advantages, efficient management, strong innovation capabilities and government support.
0700.HK	Tencent Holdings Ltd.	Software & Services	247,174	52,562	203.2	OW	230.0	13.2%	32.9	7.87	0.3%	26.6%	Chen, Grace	Founded in 1998, Tencent is a leading Internet company in China with diversified services, including social communication and networking, online game development and operation, news portals as well as mobile payment.	In addition to building a strong game franchise organically, Tencent is also actively exploring M&A opportunities to incubate strategic synergies from investee companies, especially overseas. Tencent made a few successful strategic investments and acquisitions to enhance its game ecosystem globally, including Riot Games in 2011, Epic Games in 2012, Activision Blizzard in 2013, and Supercell in 2016. We expect Tencent to leverage its global game footprint and, in the long term, to enhance its global game distribution capability. We estimate Tencent's total revenue in 2016 accounted for 13% of the global game market, and we expect that to grow further.
600066.SS	Zhengzhou Yutong Bus Co	Capital Goods	6,449	4,684	20.0	OW	28.0	40.0%	9.8	2.87	7.2%	30.6%	Wang, Eddy	Yutong is the largest bus maker in China. With the strong growth of NEV buses in China, Yutong currently is also the largest NEV bus maker in China.	Yutong accounts for over 30% market share of China's bus exports. Yutong has sold its conventional buses to Europe and South America. Yutong also plans to export NEV buses to Europe in the next 2-3 years.

Source: Modelware, Morgan Stanley Research. E = Morgan Stanley Research estimates. Data as of February 10, 2017.

Chapter 9: Equity market outlook - long run outperformance of EM can continue - key stocks leveraged to themes of this report

One of the great ironies of EM equity investing is that over the medium to long term MSCI China has consistently outperformed the overall EM benchmark (and also the S&P 500). Yet, at no point in the last 10 years have investors held an overweight position. Moreover, they are currently running one of the largest underweight positions yet seen. This scepticism on China's long run equity market prospects reflects the persistent debate over China's structural challenges.

Although the process will not be smooth, the key message of this report is that China can transition to high income status, something few other EMs have achieved. We think it is likely that over the next 10 years MSCI China can keep up its long run track record of outperformance of EM. As the growth transition further unfolds we recommend maintaining our long standing consistent strategic preference over the cycle for the higher ROE, less leveraged, more private-sector skewed New Economy sectors (IT, Consumer and Healthcare) over the lower ROE, more leverage, more SOE-sector skewed Old Economy sectors (Energy, Materials and Industrials).

In this chapter, we address the following key questions:

(1) What is our long term outlook for China's equity markets?

We think that over the next ten years MSCI China can continue its long run track record of outperformance of emerging markets, albeit with volatility driven by issues such as the domestic business cycle, investor scepticism on structural reform or the current market debate over US / China trade protectionism. China's A share markets are also opening up to foreign investment and offer direct plays on key themes in this report.

(2) What are our sector and stock picks?

We maintain a strategic preference for New Economy Sectors including IT, Consumer and Healthcare which are taking increasing share in the MSCI China index over time. They have higher revenue growth prospects during the growth transition and also enjoy structurally higher ROE and lower leverage than the rest of the market. We have also undertaken a new screen for stocks geared to the themes of this report (e.g. from high investment to high consumption, from manufacturing to services, dealing with excess capacity). Our methodology consists of screening for Overweight rated stocks with upside to our price target within Morgan Stanley's coverage universe. We also undertake a similar screen for stocks which are likely to be challenged during the growth transition.

MSCI China is likely to continue its long run track record of outperformance of MSCI EM

If China can become a high income country in the next decade, we think it is very likely that MSCI China will continue its trend outperformance of MSCI EM. Over the last 15 years - the period since MSCI China began to have reasonably full sector representation - MSCI China has outperformed MSCI EM by 3.0% per annum, delivering a US dollar total return CAGR of 13.0% versus 10.0% for MSCI EM (see **Exhibit 154** for details). (This is no small matter when compounded over a long time horizon such as 15 years. It makes the difference between a US$100 investment becoming US$625 or US$418). MSCI China has outperformed S&P 500 by a far greater amount over this long time horizon (see **Exhibit 155**)

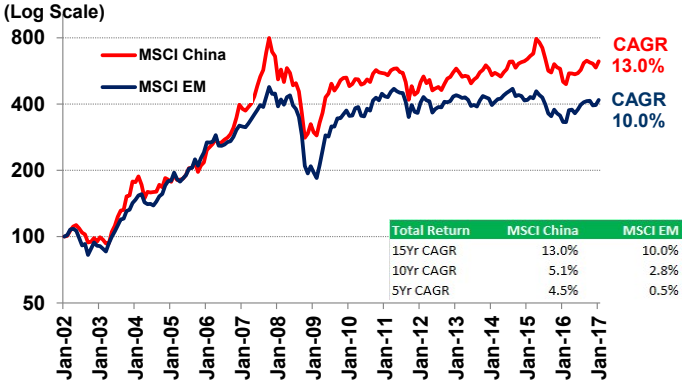
Clearly there is no simple mapping from higher GDP growth to superior stock market performance: that depends on sustaining superior ROE and EPS growth over the cycle. But the growth transition envisaged in this report does imply that the China equity market, both onshore and offshore, will continue to undergo a dynamic process of new listings likely continuing to build out sector diversity and raise private sector firm weightings over time. Please look back to Chapter 5 where we discussed the challenges in SOE reform for discussion on this topic. Recent examples of major changes in the structure of MSCI China include the inclusion of the major US ADRs into the index (Alibaba, Baidu and JD.com).

Putting to one side the long run macro thesis, MSCI China appears well positioned to continue its long run track record of outperformance based purely on valuations and positioning. Firstly, as shown in **Exhibit 156** , the MSCI China trailing ROE of 11.9% is some 150bps higher than MSCI EM at 10.4%. Yet the PBV multiple is almost exactly in line (1.68x versus 1.59x).

Secondly, from a fund positioning perspective, dedicated fund managers running EM portfolios are running an underweight of around 500 bps which is close to an all-time low underweight position. This reflects two things. Firstly, deep scepticism on the part of investors on the sustainability of China's macro model and by extension of its track record of equity market outperformance. Secondly, the fact that China is now the largest market in the EM index and fund managers typically find it difficult to run an overweight position on the largest index constituent be it by sector or country.

Exhibit 154:

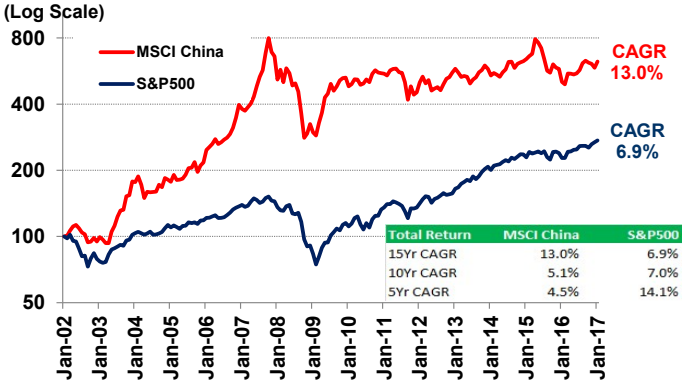
MSCI China has outperformed MSCI EM by 300 bps per annum in the past 15 years (total return in US dollars)



Source: MSCI, Datastream, Morgan Stanley Research. Monthly data as of January 2017.

Exhibit 155:

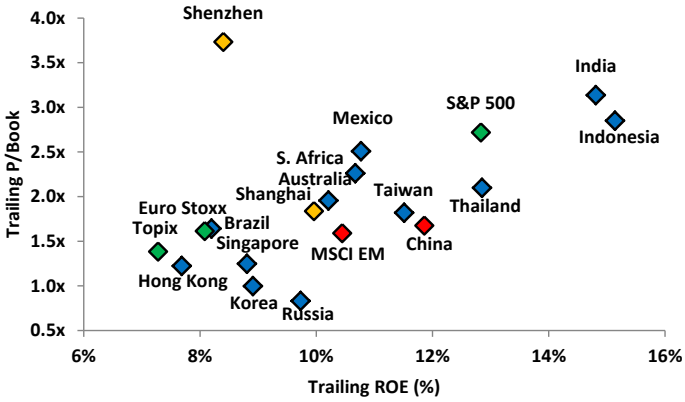
MSCI China also outperformed S&P 500 in the past 15 years (total return in US dollars)



Source: MSCI, Datastream, Morgan Stanley Research. Monthly data as of January 2017.

Exhibit 156:

MSCI China has higher trailing ROE than EM for similar PBV



Source: MSCI, Rimes, Bloomberg, Morgan Stanley Research. Data as of February 9, 2017.

Clearly, it is possible for portfolio managers to run even large underweights over time, but it is also possible for this extreme underweight to narrow should the macro and micro thesis of this Blue Paper come to fruition.

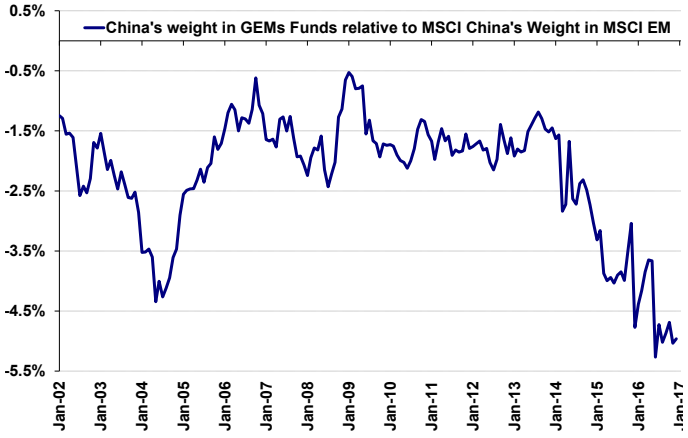
In late November we upgraded MSCI China back to Overweight versus MSCI EM

We initiated coverage on MSCI China almost ten years ago in early 2007. During that time we have been Overweight China in 68% of months, Equal-weight in 29% and Underweight in only 3%. Our recommendation history versus MSCI China's performance relative to EM is given in **Exhibit 158**.

On November 27, 2016 we raised our stance on MSCI China back to overweight and also increased our Hong Kong and China offshore target prices by between 4% (Hang Seng) and 9% (MSCI China and HSCEI) to take into account: a) the impact of the pick up in southbound flows into Hong Kong from the mainland, which has been driving the H-share rerating (particularly in Financials) closer to A-share multiples, and b) Morgan Stanley's China economics team's view that China's current cyclical economic growth improvement is likely to last longer than previously anticipated. We also expect that the onshore A share market can enter into a new bull market driven by asset class rotation away from property in the context of relatively easy monetary and fiscal policy in 1H 2017. This, as before, will help to re-rate the offshore equity universe particularly as the Shanghai / Hong Kong connect is already up and running and the Shenzhen / Hong Kong connect was launched in early December 2016.

Exhibit 157:

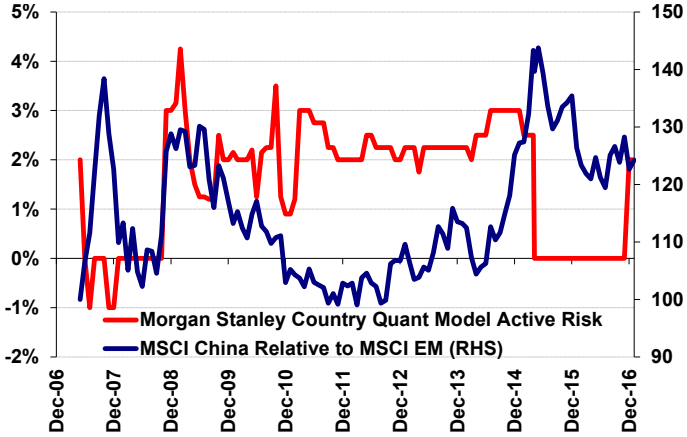
China's weight in GEMs funds - near record underweight



Source: EPFR, MSCI, Morgan Stanley Research. Monthly data as of December 2016.

Exhibit 158:

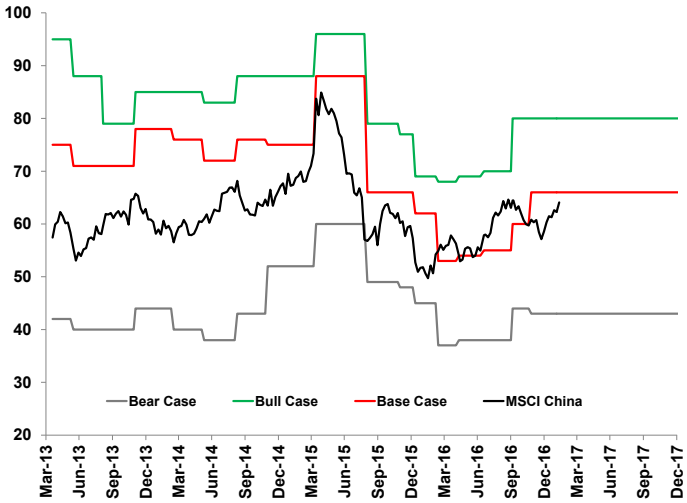
Morgan Stanley recommendation history for MSCI China versus market performance relative to EM



Past performance is no guarantee of future results. Results shown do not include transaction costs
Source: MSCI, FactSet, Morgan Stanley Research. Monthly data as of January 2017.

Exhibit159:

Morgan Stanley price target history since initiation for MSCI China



Past performance is no guarantee of future results. Results shown do not include transaction costs
Source: Rimes, MSCI, Morgan Stanley Research. Data as of February 9, 2017.

Exhibit160:

Offshore China indices price targets (Hang Seng, HSCEI, MSCI China): bull/bear/base case

	Index	Price Current	Price Target Dec-17	Price Target Previous	MS EPS Forecast / EPS Growth			Consensus EPS Forecast / EPS Growth			Target Fwd P/E Dec-2017	Consensus Fwd P/E Current	Consensus Fwd P/E 10-year Avg
					CY2016	CY2017	CY2018	CY2016	CY2017	CY2018			
Base Case	Hang Seng	23,525	24,000	23,000	1787	1843	1901	1804	1986	2174	12.6x	11.7x	11.7x
			2%		*-2.6%*	*3.1%*	*3.1%*	*-1.6%*	*10.1%*	*9.5%*			
	HSCEI	10,075	10,200	9,350	1110	1162	1198	1149	1240	1339	8.5x	8.1x	10.0x
			1%		*-9.9%*	*4.7%*	*3.0%*	*-6.8%*	*7.9%*	*8.0%*			
	MSCI China	64	66	60	4.5	4.9	5.2	4.5	5.2	5.9	12.7x	12.0x	11.3x
			2%		*0.3%*	*8.1%*	*6.2%*	*1.3%*	*15.3%*	*13.2%*			
Bull Case	Hang Seng	23,525	30,500	28,900	1787	1962	2259	1804	1986	2174	13.5x	11.7x	11.7x
			30%		*-2.6%*	*9.8%*	*15.1%*	*-1.6%*	*10.1%*	*9.5%*			
	HSCEI	10,075	13,000	13,150	1110	1211	1384	1149	1240	1339	9.4x	8.1x	10.0x
			29%		*-9.9%*	*9.1%*	*14.2%*	*-6.8%*	*7.9%*	*8.0%*			
	MSCI China	64	80	80	4.5	5.2	6.0	4.5	5.2	5.9	13.2x	12.0x	11.3x
			25%		*0.3%*	*15.1%*	*17.0%*	*1.3%*	*15.3%*	*13.2%*			
Bear Case	Hang Seng	23,525	16,000	15,960	1787	1625	1629	1804	1986	2174	9.8x	11.7x	11.7x
			-32%		*-2.6%*	*-9.1%*	*0.2%*	*-1.6%*	*10.1%*	*9.5%*			
	HSCEI	10,075	6,500	6,800	1110	1003	998	1149	1240	1339	6.5x	8.1x	10.0x
			-35%		*-9.9%*	*-9.6%*	*-0.5%*	*-6.8%*	*7.9%*	*8.0%*			
	MSCI China	64	43	44	4.5	4.3	4.4	4.5	5.2	5.9	9.7x	12.0x	11.3x
			-33%		*0.3%*	*-4.7%*	*3.9%*	*1.3%*	*15.3%*	*13.2%*			

Source: Morgan Stanley Research. Data as of February 9, 2017.

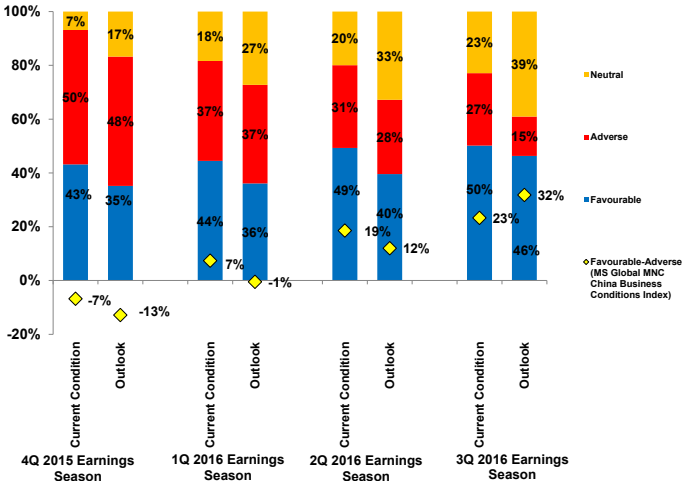
Earnings will turn the corner into 2017 and rise again in 2018

For 2017 we expect MSCI China EPS growth of 8.1% whilst on November 27 we also introduced for the first time a 2018 EPS forecast of 6.2%. Whilst China growth is still inflecting upwards for now, and hence the earnings cycle should inflex upwards after a poor 2016, our team does expect growth to moderate from 2H 2017 onwards.

Supporting the view that earnings can turn up from here, our proprietary Global Multinational Corporations' (MNCs) business conditions index for China has improved in the recent quarters. The Global MNCs' China "Current Conditions" Index has further improved to +23% in 3Q16 versus +19% in 2Q16 (Bloomberg: MSCZMNCC Index). This index shows the percentage of companies that have a favourable trend in revenue from China minus the percentage of companies that have an adverse trend. Global MNCs' China "Outlook" Index has also further improved to +32% in the 3Q16 earnings season versus +12% in 2Q16 (Bloomberg: MSCZMNCF Index). In terms of sectors, there were broad-based gains in China Outlooks across all sectors with the largest improvements in Staples, Industrials, Discretionary and Pharma MNCs.

Exhibit 161:

Morgan Stanley Global MNC China business conditions – getting more positive on current conditions and outlook



Source: Company data, Morgan Stanley Research. For more information, please refer to report "China Macro Meets Micro: Global MNCs' Outlook for China Improves; Largest Gains from Staples, Industrials, Discretionary and Pharma MNCs (December 21, 2016) "

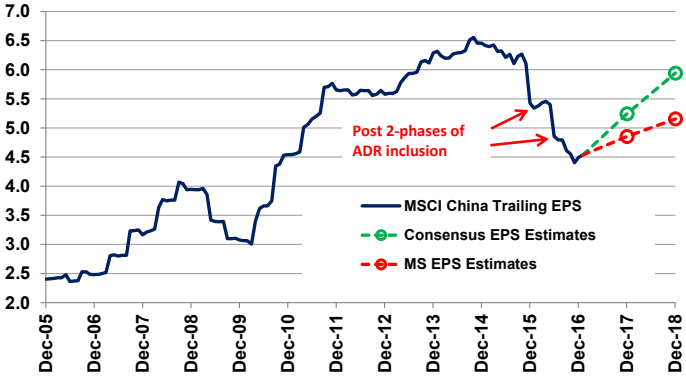
We expect a slower pace of CNY depreciation in 2017/18 than took place in 2016

A key swing factor in the earnings outlook is likely to be the CNY/USD exchange rate trend has a direct translation impact on off-shore China equity indices' earnings growth given the overwhelming majority (95%+) of the constituent companies' revenues and costs are calculated in CNY, while the indices themselves are calculated in HKD or USD. A weakening CNY against USD over the forecast horizon will thus negatively affect the indices' earnings growth forecast. CNY has been gradually weakening against USD and its trade basket currencies since late 2015.

Importantly, our China Economics team forecasts CNY/USD to weaken versus the US dollar at a slower pace going forward than it has done in the recent past: specifically to 7.30 by year-end 2017 and to 7.43 by year-end 2018. Our 2017 and 2018 earnings growth forecasts take this into account. Importantly, China's nominal effective exchange rate path has stabilised in recent months as the economy has picked up, domestic monetary policy has firmed somewhat and exchange controls have been tightened. We find this recent change in trend supportive of our call that US$ EPS growth for MSCI China can recover from here.

Exhibit162:

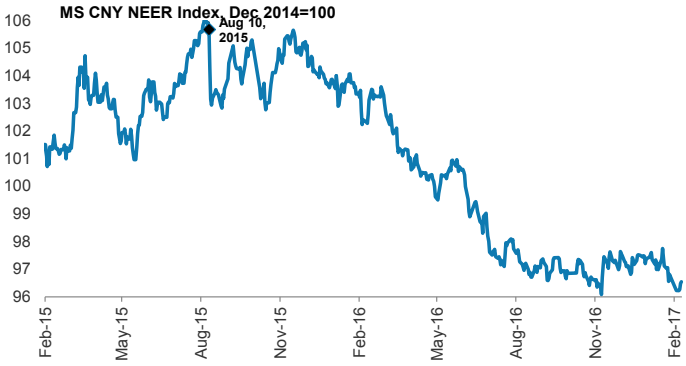
MSCI China trailing EPS trend and Morgan Stanley estimates - we think earnings will grow in 2017 and 2018 but by less than the double digit growth rates expected by consensus



Source: IBES,Datastream, Morgan Stanley Research. Monthly data as January 2017.

Exhibit163:

Morgan Stanley NEER Index – steady weakening of RMB NEER since late 2015



Source: Morgan Stanley Research. Data as of February 9, 2017.

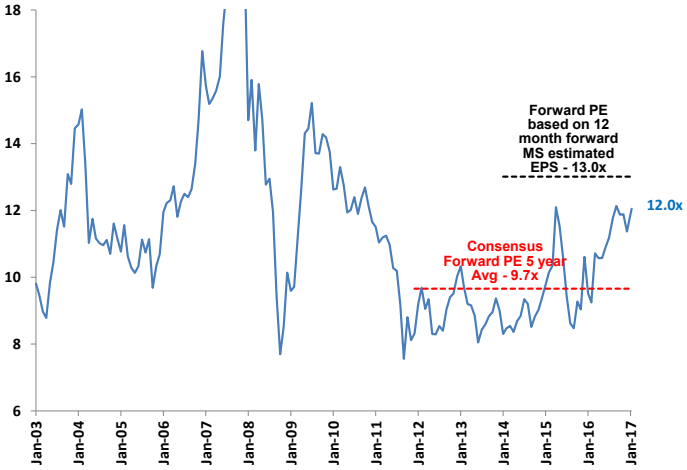
Higher P/E assumptions based on improved liquidity, sector composition changes and upweighting by Chinese institutional investors in equities

On November 27 we also increased our P/E multiple assumptions for the offshore China equity indices by around 1.0x P/E points. So for MSCI China, we now assume 12.7x (versus 11.7x previously, and current consensus 12-month forward P/E of 12.0x, see **Exhibit164**).

This re-rating will be driven in our view by: a) the sector shift to higher ROE new economy names post the recent inclusion of China internet ADRs (this was discussed in Chapter 5 above where we looked at the changing sector composition of MSCI China), b) reduced tail risks of a China hard landing and financial sector distress as enunciated by both by our economics team and our China banks team who recently upgraded their view on that industry to Attractive. See China Financials: How market misperceptions undervalue China's banks (11 Nov 2016) by Richard Xu; and c) the likelihood for a significant increase in Southbound flows from Chinese insurance companies and high net worth individuals to close out the A share valuation premium to H shares and MSCI China. **Exhibit 165** shows the recent increase in Southbound flows through the connect programme. **Exhibit166** show that the A H premium is still quite large at around 20% (albeit with a significant stock level skew).

Exhibit164:

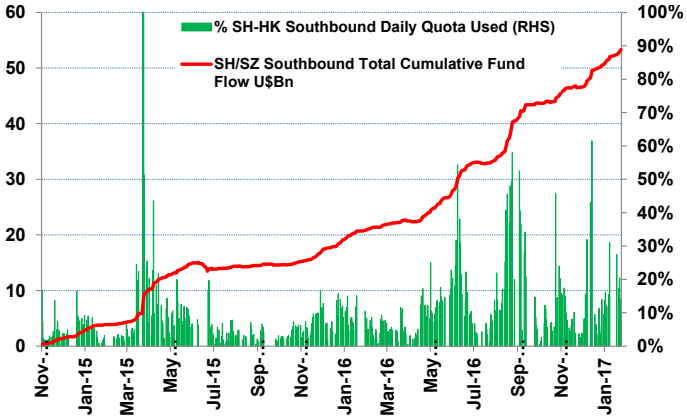
MSCI China consensus forward P/E versus our own top-down earnings estimates - we think recent re-rating is sustainable due to the ADR index inclusion shifting sector weightings



Source: IBES, MSCI, Morgan Stanley Research. Data as of February 9, 2017.

Exhibit 165:

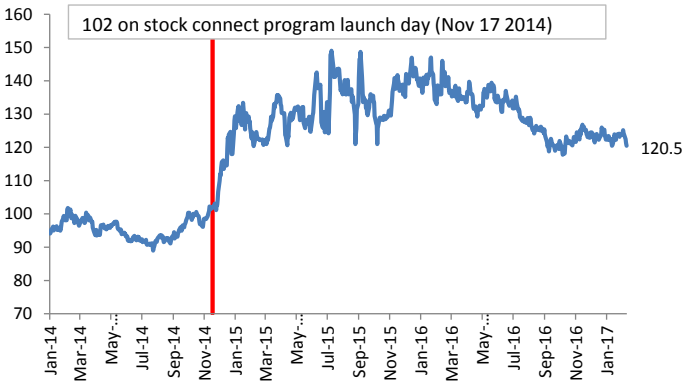
Shanghai/Shenzhen-Hong Kong Stock Connect southbound cumulative funds flow – accelerating net purchases in recent months



Source: CEIC, Morgan Stanley Research. Data as of February 9, 2017.

Exhibit166:

Hang Seng AH Premium Index – China A shares are still trading in aggregate at over 20% premium versus their H share equivalents



Source: Datastream, Morgan Stanley Research. Data as of February 9, 2017

Southbound inflows from China into Hong Kong are likely to continue

We are confident that the recent southbound funds flow trend will continue and we expect around US$19-30bn of funds inflow into the Hong Kong equity market within a 12-months' time frame, conservatively speaking. For more detailed analysis on the funds flow catalyst and scale analysis please refer to China/HK Equity Strategy: Chinese Insurers Cleared for Shanghai-HK Stock Connect: Positive for Hang Seng Index and HSCEI; Recommend Stocks with High Dividend Yield (08 Sep 2016).

Exhibit167:

Southbound funds flow impact analysis – US$19-30bn of southbound flow possible within the next 12 months

US$	Next 12 months	12-24 months	24 - 36 months
High net worth investors and other MMA investors	12-20bn	12-20bn	12-20bn
Insurance companies	7-10bn	8-12bn	9-14bn
Total	19-30bn	20-32bn	21-36bn

Source: CEIC, CIRC, Morgan Stanley analysis

Sector picks for offshore China in 2017

Our strategists' sector preferences for 2017 within the offshore China universe are:

OW: IT, Healthcare, Consumer Discretionary, Banks, Materials

EW: Utilities, Telecom, Insurance, Real Estate, Capital Goods

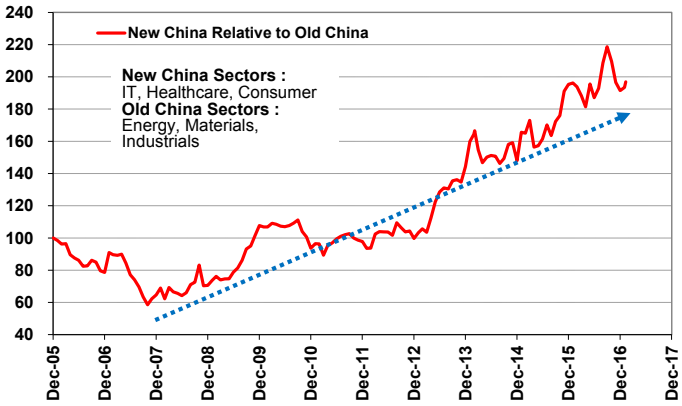
UW: Energy, Consumer Staples, Transportation

We discuss our focus list changes in the final section of this report.

Quick recap of our sector preference changes YTD: We have preferred New Economy China (IT, Healthcare, Consumer) to Old Economy China (Energy, Materials, Industrials) in general since the GFC (**Exhibit168**). In our Mid-year Outlook which we published in late July (Asia/GEMs Equity Strategy: Summer Outlook – Prefer EM to Japan (17 Jul 2016)), we turned more constructive on the Materials sector and less constructive on the Consumer Staples sector. Since September, New China's outperformance relative to Old China has reversed – mainly driven by Materials' outperformance (up by 8.8% since September) and IT's underperformance (down by 9.2% since September). Our general observation remains that the business models of the new economy sectors continue to perform well and we

Exhibit168:

MSCI China New China sectors' relative performance versus Old China sectors – New China outperformed Old China until September when Materials started to outperform while IT fell



Source: MSCI, FactSet, Morgan Stanley Research. Data as of February 9, 2017.

would use near term weakness to add to weighting rather than reduce given our thesis of secular outperformance.

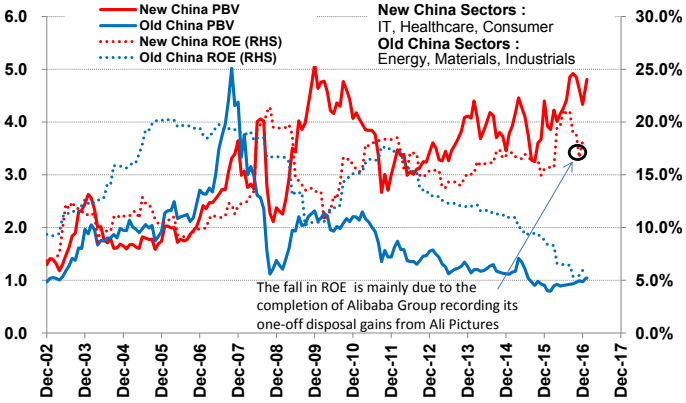
We also continue to like New China overall given these sectors' high ROE and low leverage gearing and their alignment with China's transition into a more consumption and services driven economy. If we look at the P/B and ROE trends for New and Old China (see **Exhibit 169**), New China's ROE has stabilized while Old China's continued to deteriorate (the recent fall in New China's ROE is mainly due to Alibaba Group's lack of disposal gains of investments and businesses in the 2Q quarter earnings versus one year ago, which causes its trailing ROE to fall from 33% to 21%). However, New China's valuation in terms of P/B is still quite high versus its own history. Therefore within the New Economy, we want to focus on the categories where there continues to be positive EPS growth while their valuations have become relatively more attractive (quadrant 2 in **Exhibit170**) – IT, Healthcare (excluding Pharma), and Consumer Discretionary.

We continue to stay constructive on Materials given their further improved earnings growth outlook while their forward valuation forecast turns relatively more attractive. Our China Economics team expects macro stabilization measures through infrastructure projects to continue into 2017, which should provide some support to the demand side for materials. Our industry analyst, Rachel Zhang, views the industry as Attractive, citing additional catalysts of supply side controls and margin improvement on enhanced pricing power and so on.

Exhibit170 shows MSCI China industry group 12-month forward P/E change versus consensus forecast EPS changes since January 2016. The attractive quadrant is on the bottom right, which includes the Software and IT sector. The less attractive quadrant is the upper left.

Exhibit 169:

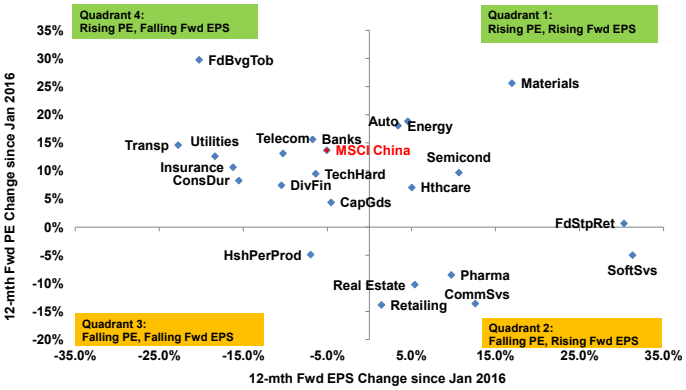
New China sectors versus Old China sectors: P/B versus ROE - New China's ROE largely stabilizes while Old China's deteriorates further



Source: MSCI, FactSet, Morgan Stanley Research. ROE monthly data as January 2017; PBV data as of February 9, 2017.

Exhibit170:

MSCI China industry group 12-month forward P/E change since January 2016 versus 12-month forward EPS change since January 2016 - we generally prefer industry categories with rising EPS forecast and falling valuation



Source: MSCI, IBES, Morgan Stanley Research. Data as of February 9, 2017.

A share markets also represent a major new opportunity set for global investors with exposure to the themes of this report

With a combined market capitalization of around US$7.5trn – secondly only to the US – and more than 2,900 companies listed, **the onshore A share markets are a universe that has been largely closed off to global investors.** Despite the opening up of greater access via rounds of Qualified Foreign Institutional Investor (QFII) quota liberalization, foreigners still account for less than 2% of market turnover. However, with the launch of Shanghai / HK connect in late 2014 and Shenzhen / HK Stock Connect in late 2016, and MSCI index inclusion in 2017 now more likely, this is likely to rise over time.

The A-share markets are not only large, they are also volatile and typically show low or even negative correlations with the performance of other global equity indices, including other emerging markets. This suggests that adding A-share exposure can be a useful risk diversifier to a global portfolio. However, for many investors, 2015's market boom and correction, driven in the main by a rapid expansion and contraction in margin trading on cash and equity futures, proved a reminder that the domestic retail investor remains in the driving seat. It enhanced the market's reputation for unpredictability at the index and stock level.

However, in research launched last year, China Equity Strategy: Asia Insight: Time to Look for Bottom-up ideas in China A-shares (17 Feb 2016), **we began to apply the quantitative analytical tools and fundamental stock analysis procedures which we use in other global equity markets to the A-share markets.** What we have found challenges the view that the A-share markets ignore factors such as valuations, returns on capital and earnings revisions, which are of relevance in other geographies. Similar work has also begun to appear in academic journals, including a recent paper by Professor Robert Whitelaw from NYU Stern School of Business: "The real value of China's stock market".

In particular, we have found that value factors, including the trailing price to book multiple and dividend yield, have worked well as a tool for forecasting future returns at the stock level over the last 10 years. In fact, A shares rank similarly to Japan and above other markets in relation to the effectiveness of deep value. This is perhaps related to the fact that China's stock market regulators place heavy emphasis on the accurate calculation of book value as part of the process for approving additional equity issuance, whilst the dividend payment is a clear signal of alignment between management and shareholders, in a context where fundamental information on the business may be of limited availability and / or quality. We also found that the size effect (i.e., the outperformance of smaller cap names) works to an even more significant extent than it does in the rest of global equities. Moreover, since the Q3 2015 market decline, stock-picking based on fundamental factors, such as earnings revisions, ROE, sales growth, and R&D-spend-to-sales ratio, has consistently delivered positive returns. This may be related to a gradual increase in the share of domestic institutional investors in share trading. Finally, and contrary to most investors' prior assumptions of how a retail-investor-driven market should behave, the A-share markets do not exhibit a high degree of price momentum at the stock level. In fact, the only back-tested momentum strategy which did deliver excess returns was one month reversal (i.e., sell last month's outperformers and buy last month's underperformers).

Clearly, there are many aspects of price formation and market regulation in China's equity markets which continue to look unfamiliar to the global investor, including the IPO process and stock suspension procedures. However, our work suggests that the A-share equity markets are already more mature and less a universe apart than is widely perceived. Over time, they will likely take a significant weight in global investor portfolios.

Through our past research, we have identified five major fundamental sectors/spaces in China A shares which we believe will have top-line growth environments that exceed nominal GDP growth rates. They are: 1) Healthcare; 2) Mass-market Consumer; 3) Environment and Clean Energy; 4) Technology (Hardware, Internet, Ecommerce, Telecom)/High-end Manufacturing, and 5) Defense/Aerospace. These are all sectors which should benefit from China's ongoing growth model transition and government policy support and which are also linked to the themes of this report. Often these sectors tend to be less leveraged (with the exception of Defense) and tend to have business models with structurally higher ROE than the more Old Economy focused SOE companies (for more analysis on sector/space growth, please refer to China Equity Strategy: Asia Insight: Time to Look for Bottom-up ideas in China A-shares (17 Feb 2016)) and China Marco Meets Micro: Launch Morgan Stanley China A-Share Thematic Stock List Version 2 (25 July 2016). Except for Defense/Aerospace, which for obvious reasons are likely to stay SOE dominant, all the other four sectors are already private companies dominant and we expect that weight to rise even further.

Onshore China: Shanghai and Shenzhen A-shares to reenter bull markets

We also revised up our Shanghai Composite index target price to 4,400 on November 28, 2016 (from 3,000 previously), which implies a CNY return of +38% versus current spot level. This is derived by marking our earnings growth for 2017 at +6% (previously +4%) and the exit trailing P/E multiple at 22x (versus a current trailing P/E of 18x and a peak multiple of 25x in mid 2015). We think that China domestic portfolio flows will move back into equities from property as property control measures bite harder. We assume that as a base case there is no significant trade friction between China and the US new administration. However, the mere possibility of such friction and the still relatively early stage of the Chinese recovery keep overall domestic monetary conditions easy in 1H17. Meanwhile, tightening measures specific to the property sector, specifically on second and third home purchases, prompt wealthy individuals to reallocate towards the equity market: this in an environment where the near term outlook to corporate earnings is reasonably buoyant.

Overall we expect a more extended and subdued A shares bull market than last time as lessons have learned by the regulator in relation to margin trading and futures trading and policing IPO activity. Risks to our view would centre on an earlier downturn in China's macro-economic cycle and whether the overhang of government holdings of stock from last year's intervention (current estimated holding is about US$150bn) is released into the market too aggressively.

Exhibit172 shows that the multiples for Shanghai and Shenzhen fell back in the last cycle to their long-run averages but did not break below them. **This is a major difference in comparison with the prolonged bear market of the 2010 to 2014 period.** More recently the multiples in both cases have started to advance once more.

Exhibit172:

Shanghai and Shenzhen trailing PE trend - both markets are trading at ~30% premium to their five-year average

Source: Bloomberg, Morgan Stanley Research. Data as of February 9, 2017.

Exhibit173:

Shanghai Composite Index versus 70 City Property Price Index

Source: CEIC, Datastream, Morgan Stanley Research. Shanghai Composite Index as of January 2017 and Property Price Index as of December 2016.

Exhibit171:

Shanghai Composite price target for December 2017

Shanghai Composite	Price Current	Price Target Dec-17	Price Target Previous	MS EPS Forecast / EPS Growth			Consensus EPS Forecast / EPS Growth			Target Trailing P/E Dec-2017	Trailing P/E Current
				CY2016	CY2017	CY2018	CY2016	CY2017	CY2018		
Base Case	3,183	4,400	3,000	189	200	223	206	233	265	22.0x	18.4x
		38%		-9%	6%	12%	0%	13%	14%		

Source: Morgan Stanley Research. Data as of February 9, 2017.

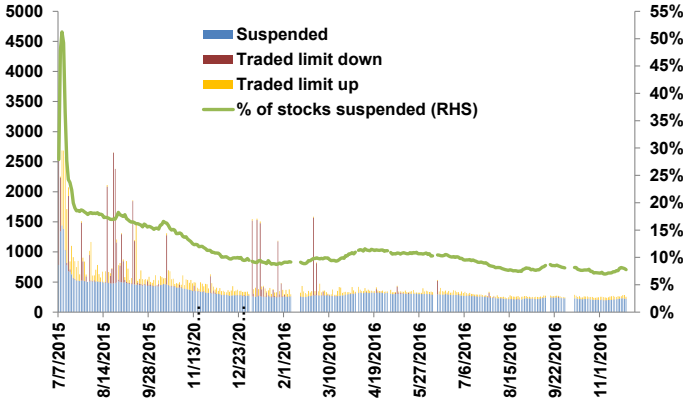
We expect a further increase in volumes as retail investor risk capital is drawn out of property – given the recent government control measures – back into equities. This rotation process in the past and what we expect for 2017 is illustrated in (Exhibit173). It is also likely in our view that as 2017 unfolds money will be rotated from commodity futures back towards equities.

The likelihood of a new bull market starting now is increased by the fact that stock suspensions have return to normal levels in recent months and are currently running at around 8% of total names listed (see Exhibit174). Meanwhile, new investor account openings are running well above those seen in the 2010 to 2014 period and similar to what was seen at the beginning of the last bull market. However, futures trading is unlikely to play the same role in driving a rapid bull market as was the case in 2015, due to the much higher initial margin requirements which remain in place today versus those in place at the end of 2014.

The major uncertainty in relation to the prospective bull market onshore is over the size of the "national team" holdings of China equities and their strategy for these holdings going forward. Our base case is that they hold around US$150bn currently versus a total market capitalisation of US$7.5trn (i.e. with an estimated free float slightly below 40%, this is significant but not overwhelming) and will not seek to rapidly reduce these holdings but do so only gradually and on a placement basis into a rallying market. We estimate that the index levels at which the "national team" bought the majority of its stock are between 3,500 and 4,100 for Shanghai A. The lower end of that range is around 8% above the current market level and the upper end about 26% above.

Exhibit174:

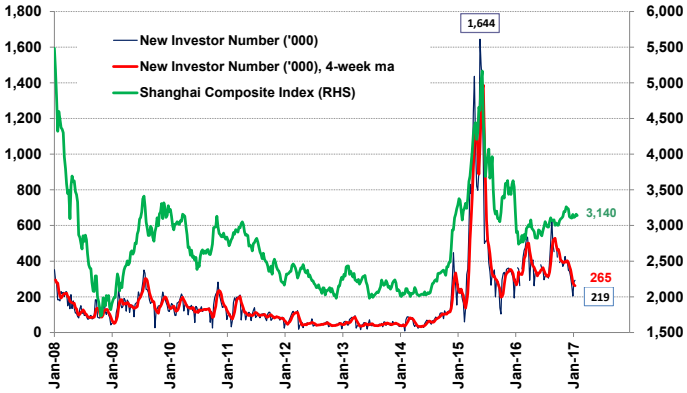
China A Shares suspended, traded limit down and limit up – number of stocks suspended as a percentage of total listed stocks stabilized below 10% under tighter regulations



Source: Wind, Morgan Stanley Research. Data as of November 23, 2016.

Exhibit175:

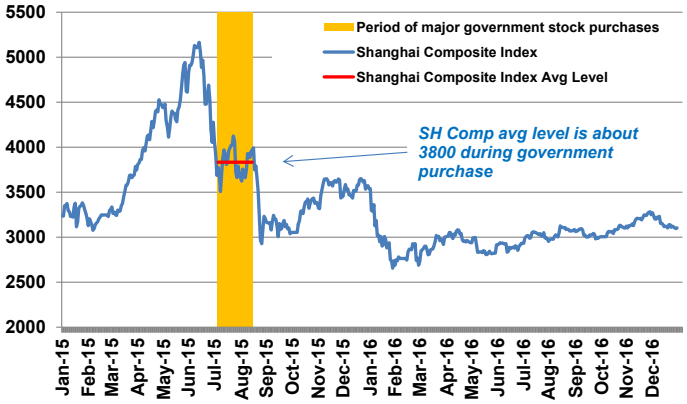
China new investor number trend - running well above numbers in 2010-2014 and similar to those at the beginning of the last bull market



Source: CEIC, FactSet, Morgan Stanley Research. Weekly data as of February 3, 2017.

Exhibit176:

China "National Team" major purchase period versus Shanghai A index level



Source: Datastream, Morgan Stanley Research.

How to play key investment themes identified in this report

Our strategist and analysts have used the themes of this report to drive our selection of stock ideas - both positive and negative - from both the onshore and offshore China listed equities universe which are leveraged to the major themes of this report: from manufacturing to services; higher value-added manufacturing; dealing with excess capacity; public to private; and clean energy. These are illustrated in Exhibit 177 and Exhibit 178.

Our core methodology on the positive side was to screen for names which are Overweight rated within their coverage universe by Morgan Stanley analysts with upside to the price target and have either a) high forecast ROE and low leverage and / or b) a positive analyst thesis for ROE improvement due to the changing economic and industry dynamics and themes for the medium to long term for China discussed in the previous sections.

The resulting list of 37 names has a skew to the New Economy sectors of IT, Consumer and Healthcare (23 of the total names). These firms are in the main private sector. The list is headed by the internet giants Alibaba and Tencent, key service providers to the Chinese middle class. Their changing lifestyle requirements towards services consumption are also represented via Spring Airlines (domestic travel), ANTA sports, TAL Education, and onshore healthcare names such as Sinopharm, Jiangsu Hengrui and Beijing Tongrengtang. Meanwhile, the move towards higher value-added manufacturing is exemplified with HIKVision Digital Tech.

Exhibit 177:

Stocks positively leveraged to the themes of this report (sorted by market cap)

Reuters Code	Company name	GICS industry group	SOE	Market Cap U$Mn	Stock rating	Price	% to Target	PE 2016E	PBV 2016E	ROE 2016E	Net Debt to Equity 2015	Net Debt to Ebitda 2015	Comment
BABA.N	Alibaba Group Holding	SoftSvs	No	264,757	OW	103.3	35.5%	49.1	6.76	15.3%	-63.9%	NM	From manufacturing to services
0700.HK	Tencent Holdings Ltd.	SoftSvs	No	247,174	OW	202.6	13.5%	41.7	10.15	28.3%	-129.5%	NM	From manufacturing to services
600900.SS	China Yangtze Power Co.	Utilities	Yes	42,039	OW	13.1	18.5%	12.8	1.70	17.3%	21.6%	0.9	Clean energy
600104.SS	SAIC Motor Corp. Ltd.	Auto	Yes	40,419	OW	25.2	27.1%	8.4	1.44	17.9%	-63.9%	NM	Moving towards higher value-added manufacturing
002415.SZ	HIKVision Digital Technology	TechHard	Yes	23,298	OW	26.2	14.5%	20.6	6.47	35.2%	-44.4%	NM	Moving towards higher value-added manufacturing
2238.HK	Guangzhou Automobile Group	Auto	Yes	18,427	OW	12.6	59.2%	11.1	1.65	15.8%	-15.3%	NM	From high investment to high consumption
002304.SZ	Yanghe Brewery	FdBvgTob	Yes	16,463	OW	75.0	9.3%	20.2	4.33	22.8%	-20.5%	NM	From high investment to high consumption
600276.SS	Jiangsu Hengrui	Pharma	No	16,373	OW	47.8	12.9%	43.3	9.11	23.3%	-52.5%	NM	Moving towards higher value-added manufacturing
600019.SS	Baoshan Iron & Steel	Materials	Yes	16,309	OW	6.8	10.3%	16.1	0.96	6.1%	27.9%	2.1	Dealing with excess capacity
1099.HK	Sinopharm Group	Hthcare	Yes	13,465	OW	37.8	24.5%	20.3	2.86	14.9%	7.9%	0.2	From manufacturing to services
200625.SZ	Chongqing Changan Automobile	Auto	Yes	9,843	OW	10.6	42.2%	3.9	1.04	29.4%	-47.2%	NM	From high investment to high consumption
ZTO.N	ZTO Express	Transp	No	8,967	OW	12.3	63.1%	29.7	3.19	15.1%	-3.0%	NM	From manufacturing to services
2020.HK	ANTA Sports Products	ConsDur	No	7,770	OW	24.1	12.9%	22.3	5.80	27.1%	-62.5%	NM	From manufacturing to services
3799.HK	Dali Foods	FdBvgTob	No	7,661	OW	4.3	31.3%	16.7	3.95	25.1%	-69.7%	NM	From high investment to high consumption
TAL.N	TAL Education Group	ConsSvs	No	7,080	OW	85.3	7.9%	67.6	15.03	22.4%	-119.2%	NM	From manufacturing to services
002475.SZ	Luxshare Precision Industry Co., Ltd.	CapGds	No	6,655	OW	21.6	25.3%	37.9	4.00	14.0%	14.6%	0.7	Dealing with excess capacity
600066.SS	Zhengzhou Yutong Bus Co	CapGds	Yes	6,449	OW	20.0	40.0%	10.9	3.14	30.2%	-65.2%	NM	Clean energy
2382.HK	Sunny Optical	TechHard	No	6,412	OW	46.3	-9.3%	37.7	9.32	27.5%	12.9%	0.4	Moving towards higher value-added manufacturing
0347.HK	Angang Steel Company Limited	Materials	Yes	6,052	OW	5.7	18.0%	25.4	0.82	3.3%	34.1%	5.0	Dealing with excess capacity
002236.SZ	Dahua Technology Co. Ltd.	TechHard	No	5,963	OW	14.1	20.4%	22.6	4.99	24.5%	-19.2%	NM	Moving towards higher value-added manufacturing
2689.HK	Nine Dragons Paper	Materials	No	5,371	OW	8.9	3.0%	31.8	1.37	4.4%	97.8%	4.8	Dealing with excess capacity
2688.HK	ENN Energy Holdings Ltd	Utilities	No	5,263	OW	37.7	27.3%	12.5	2.56	21.8%	61.8%	1.4	Clean energy
MOMO.O	Momo Inc.	SoftSvs	No	5,095	OW	24.9	36.7%	47.4	18.11	21.1%	-101.2%	NM	From manufacturing to services
002466.SZ	Tianqi Lithium Industries Inc.	Materials	No	4,974	OW	34.6	56.9%	21.0	7.42	42.4%	54.6%	2.0	Clean energy
300124.SZ	Shenzhen Inovance Technology	CapGds	No	4,883	OW	21.1	27.6%	35.1	7.47	22.3%	-34.4%	NM	Moving towards higher value-added manufacturing
601021.SS	Spring Airlines	Transp	No	4,326	OW	37.1	40.0%	20.1	3.77	20.5%	62.2%	1.7	From manufacturing to services
600699.SS	Ningbo Joyson Electronic Corp	Auto	No	4,311	OW	31.2	31.5%	48.1	2.26	7.3%	-28.4%	NM	Moving towards higher value-added manufacturing
0867.HK	China Medical System	Pharma	Yes	4,152	OW	13.3	12.4%	22.5	4.64	22.6%	-0.8%	NM	Moving towards higher value-added manufacturing
601012.SS	Xian LONGi Silicon	Semicond	No	3,863	OW	14.4	53.7%	18.6	2.95	18.6%	-36.7%	NM	Moving towards higher value-added manufacturing
002470.SZ	Kingenta Ecological Engineering Group	Materials	No	3,429	OW	7.5	33.3%	19.5	2.59	14.1%	-19.6%	NM	Moving towards higher value-added manufacturing
0323.HK	Maanshan Iron & Steel	Materials	Yes	3,398	OW	2.9	0.3%	15.2	1.01	6.9%	82.0%	NM	Dealing with excess capacity
CBPO.O	China Biologic Products	Pharma	No	2,846	OW	114.7	22.0%	30.7	5.94	22.4%	-47.9%	NM	Moving towards higher value-added manufacturing
CTRP.O	Ctrip.com	Retailing	No	2,455	OW	43.4	26.8%	NM	3.44	-4.3%	-28.2%	NM	From manufacturing to services
1458.HK	Zhou Hei Ya International Holdings	FdBvgTob	No	2,138	OW	7.0	19.3%	17.4	4.22	35.9%	-47.4%	NM	From high investment to high consumption
1970.HK	IMAX China	Media	No	1,631	OW	35.6	26.4%	43.5	8.33	21.2%	-57.5%	NM	From manufacturing to services
8138.HK	Beijing Tongrentang Chinese Medicine	Pharma	Yes	1,149	OW	10.7	19.2%	20.1	4.22	22.7%	-70.5%	NM	Moving towards higher value-added manufacturing
0963.HK	Bloomage Biotechnology	Materials	No	528	OW	12.2	39.8%	14.2	2.98	22.6%	-5.6%	NM	Moving towards higher value-added manufacturing

Source: Modelware, Morgan Stanley Research. Data as of February 10, 2017 except for US listed stocks which are as of February 9, 2017. Please note that all important disclosures including personal holding disclosures and Morgan Stanley disclosures for stocks under coverage appear on the Morgan Stanley public website at www.morganstanley.com/researchdisclosures.

Importantly, we also include a number of names from the more SOE dominated Old economy sectors of Energy, Materials and Industrials where our analysts have conviction on management and profitability trends. This includes Baosteel, Angang Steel and Nine Dragons Paper.

On the negative side we screened for names which are Equal-weight or Underweight rated within their coverage universe by Morgan Stanley analysts, typically with downside to the price target and which have either a) low or negative forecast ROE and higher than average leverage and / or b) a negative analyst thesis for ROE trends going forward. This is a smaller list of 16 names and has an industry skew to the Old economy sectors, and in particular the traditional Energy sectors - China Coal Energy and Shaanxi Coal Industry. However, Lenovo is also included from the IT space.

Exhibit 178:

Stocks negatively leveraged to the themes of this report (sorted by market cap)

Reuters Code	Company name	GICS industry group	SOE	Market Cap U$Mn	Stock rating	Price	% to Target	PE 2016E	PBV 2016E	ROE 2016E	Net Debt to Equity 2015	Net Debt to Ebitda 2015	Comment
601898.SS	China Coal Energy Co., Ltd.	Energy	Yes	10,129	UW	6.1	3.4%	55.4	0.94	2.0%	96.6%	13.3	Traditional energy
601225.SS	Shaanxi Coal Industry	Energy	Yes	7,996	UW	5.5	-36.8%	126.8	1.74	1.4%	35.7%	5.3	Traditional energy
0992.HK	Lenovo	TechHard	Yes	7,446	UW	5.2	-19.2%	12.8	2.19	18.1%	42.9%	1.5	Structural/competitive challenges in core business
600871.SS	Sinopec Oilfield Service Corp	Energy	Yes	7,152	UW	3.9	-56.5%	NM	3.75	-51.9%	43.1%	2.3	Traditional energy
000792.SZ	Qinghai Salt Lake	Materials	Yes	5,094	UW	18.8	-51.4%	281.5	1.52	0.5%	118.3%	10.7	Dealing with excess capacity
000157.SZ	Zoomlion Heavy Industry	CapGds	Yes	5,004	EW	4.8	3.5%	NM	0.95	-1.9%	59.3%	11.7	Dealing with excess capacity
1157.HK	Zoomlion Heavy Industry	CapGds	Yes	5,004	EW	4.3	-7.0%	NM	0.73	-1.9%	59.3%	11.7	Dealing with excess capacity
2777.HK	Guangzhou R&F Properties	Real Estate	No	4,436	UW	10.7	-26.0%	4.3	0.68	16.5%	169.8%	5.5	Dealing with excess capacity
601118.SS	Hainan Rubber	Materials	Yes	4,397	UW	7.7	-59.6%	NM	4.04	-6.6%	17.7%	(3.9)	Dealing with excess capacity
600256.SS	Guanghui Energy	Energy	No	3,650	EW	4.8	-18.5%	598.9	2.30	0.4%	115.6%	7.5	Traditional energy
0606.HK	China Agri-Industries	FdBvgTob	Yes	2,680	EW	4.0	-47.0%	36.2	0.78	2.2%	84.8%	9.6	Dealing with excess capacity
601001.SS	Datong Coal Industry	Energy	Yes	1,563	UW	6.4	-71.5%	NM	2.57	-15.2%	49.5%	2.1	Traditional energy
600432.SS	Jilin Jien Nickel Industry	Materials	Yes	1,411	UW	6.0	-8.9%	NM	2.18	-16.2%	131.6%	(4.8)	Dealing with excess capacity
0853.HK	MicroPort Scientific Corp.	Hthcare	No	1,047	EW	5.7	4.5%	84.6	3.42	4.0%	56.6%	4.2	Structural/competitive challenges in core business
0196.HK	Honghua Group Ltd.	Energy	No	334	UW	0.8	-35.4%	NM	0.60	-16.3%	78.7%	11.4	Traditional energy
1251.HK	SPT Energy Group Inc	Energy	Yes	146	EW	0.7	-6.8%	NM	0.95	-9.1%	2.6%	(0.1)	Traditional energy

Source: Modelware, Morgan Stanley Research. Data as of February 10, 2017. Please note that all important disclosures including personal holding disclosures and Morgan Stanley disclosures for stocks under coverage appear on the Morgan Stanley public website at www.morganstanley.com/researchdisclosures.

Thematic China A share stock ideas

We also highlight two screens to play the China A share rally: 1) We continue to stick with stocks that are most levered to the five long-term thematic high-growth categories: a) Mass-market consumer, b) Healthcare, c) Technology/High-end manufacturing; d) Defense/Aerospace; e) Clean Energy/Environmental protection. 2) Stocks with high beta to Shanghai Composite Index (based on last two years weekly frequency returns) and rated OW by Morgan Stanley analysts.

Exhibit 179:

Chinese A-shares thematic stock screen

Company Name	Ticker	Rec	GICS IndGrp	Mkt Cap U$bn	Date Added	Total US$ Returns Since Added	12M Total Return Perf.	Last Price	Upside to Target Price	MS P/E		MS P/Book		MS Div. Yld	
										2016E	2017E	2016E	2017E	2016E	2017E
Zhengzhou Yutong Bus Co	600066.SS	OW	CapGds	6.5	18-Feb-16	5.0%	7.2%	20.0	39.8%	10.9x	9.8x	3.1x	2.9x	6.0%	5.8%
Shenzhen Inovance Technolo	300124.SZ	OW	CapGds	4.8	18-Feb-16	4.8%	9.2%	20.6	30.9%	34.2x	27.3x	7.3x	6.5x	1.4%	1.7%
Anhui Heli Co., Ltd.	600761.SS	OW	CapGds	1.2	25-Jul-16	15.5%	39.0%	13.5	7.8%	20.6x	17.2x	1.9x	1.8x	1.5%	1.7%
Yanghe Brewery	002304.SZ	OW	FdBvgTob	15.7	25-Jul-16	-2.1%	17.3%	71.8	14.2%	18.4x	16.0x	4.1x	3.7x	2.6%	3.0%
Tianqi Lithium Industries Inc.	002466.SZ	OW	Materials	4.9	18-Feb-16	-18.0%	-10.6%	34.4	57.7%	20.9x	20.6x	7.4x	5.9x	1.5%	1.5%
Kingenta Ecological Engineeri	002470.SZ	OW	Materials	3.4	25-Jul-16	-14.2%	-11.8%	7.5	34.0%	19.4x	13.8x	2.6x	2.2x	0.8%	1.0%
Jiangsu Hengrui	600276.SS	OW	Pharma	16.5	18-Feb-16	22.4%	22.4%	48.2	12.1%	43.6x	35.4x	9.2x	7.4x	0.2%	0.3%
Shenzhen O-film Tech	002456.SZ	EW	TechHard	5.1	18-Feb-16	30.8%	40.2%	34.2	2.5%	45.8x	30.8x	4.5x	4.0x	0.4%	0.6%
Haige Communication	002465.SZ	OW	TechHard	3.7	18-Feb-16	-20.5%	-18.8%	11.9	76.7%	30.9x	22.8x	3.6x	3.2x	0.9%	1.2%
AVIC Jonhon Optronic Tech	002179.SZ	OW	TechHard	3.5	18-Feb-16	11.3%	17.3%	39.9	28.9%	31.4x	24.1x	5.9x	4.8x	0.5%	0.7%
Spring Airlines	601021.SS	OW	Transp	4.3	18-Feb-16	-32.6%	-31.7%	37.1	40.1%	20.1x	17.1x	3.8x	3.1x	0.7%	1.0%
China Yangtze Power Co.	600900.SS	OW	Utilities	41.8	25-Jul-16	-1.0%	5.2%	13.1	19.1%	12.7x	14.2x	1.7x	1.6x	4.7%	4.6%

Source: Rimes, ModelWare, Morgan Stanley Research (E) estimates. Data as of February 9, 2017. Please note that all important disclosures including personal holding disclosures and Morgan Stanley disclosures for stocks under coverage appear on the Morgan Stanley public website at www.morganstanley.com/researchdisclosures.

Exhibit 180:

Morgan Stanley China A Share coverage with high beta and Overweight rating (beta based on last two-year weekly frequency returns - stocks sorted by beta, descending)

Ticker	Company Name	GICS IndGrp	Mkt Cap U$Mn	Price	% to Target	Price to Earnings		Return on Equity		EPS Growth		Beta
						2016E	2017E	2016E	2017E	2016E	2017E	
601186.SS	China Railway Const	Cap.Goods	24,075	12.6	11.0%	11.9	9.6	12.2%	13.1%	14%	20%	**1.6**
000758.SZ	China NF Metal Ind	Materials	2,356	8.2	27.1%	31.9	22.9	10.3%	13.0%	35%	40%	**1.5**
600270.SS	Sinotrans Air	Transp	2,224	16.9	30.4%	15.2	13.6	13.1%	13.2%	-1%	12%	**1.5**
002531.SZ	Titan Wind Energy	Cap.Goods	1,225	6.8	37.2%	18.9	18.6	13.0%	13.6%	-2%	2%	**1.4**
601012.SS	Xian LONGi Silicon	SemiCond	3,855	14.4	53.9%	18.6	15.3	18.6%	17.3%	149%	21%	**1.4**
601231.SS	Universal Scientific	Tech HW	3,250	10.3	17.0%	25.2	20.2	12.4%	14.0%	28%	25%	**1.4**
000528.SZ	Guangxi Liugong Mach	Cap.Goods	1,391	8.5	13.1%	218.6	20.8	0.5%	5.1%	105%	953%	**1.3**
600176.SS	China Jushi	Materials	3,639	10.3	36.2%	15.9	11.6	15.4%	18.6%	23%	37%	**1.3**
000400.SZ	XJ Electric	Cap.Goods	2,640	18.0	25.8%	20.9	11.9	13.0%	19.8%	21%	75%	**1.3**
002179.SZ	AVIC Jonhon Optronic	Tech HW	3,502	39.9	28.9%	31.4	24.1	20.5%	22.1%	35%	30%	**1.3**
600031.SS	Sany Heavy Ind	Cap.Goods	8,027	7.2	28.5%	112.9	21.0	2.1%	11.0%	253%	437%	**1.3**
601668.SS	China State Const	Cap.Goods	38,575	8.9	47.7%	8.5	7.2	19.1%	19.3%	25%	18%	**1.3**
002466.SZ	Tianqi Lithium Ind	Materials	4,945	34.4	57.7%	20.9	20.6	42.4%	31.8%	555%	1%	**1.2**
600170.SS	Shanghai Const	Cap.Goods	5,396	5.0	17.8%	16.7	14.6	9.5%	10.0%	-6%	15%	**1.2**
600761.SS	Anhui Heli	Cap.Goods	1,216	13.5	7.8%	20.6	17.2	9.7%	10.8%	2%	19%	**1.2**
600372.SS	AVIC Avionics	Cap.Goods	5,188	20.3	9.5%	55.2	48.1	10.9%	11.5%	18%	15%	**1.2**
002081.SZ	Gold Mantis Const	Cap.Goods	4,105	10.7	82.8%	15.1	11.6	19.8%	21.3%	17%	30%	**1.1**
300124.SZ	Shenzhen Inovance	Cap.Goods	4,758	20.6	30.9%	34.2	27.3	22.3%	25.2%	18%	25%	**1.1**
600048.SS	Poly Real Estate	Real Est	14,822	9.5	18.0%	8.8	6.8	16.9%	19.1%	-5%	28%	**1.1**

Source: FactSet, Modelware, Morgan Stanley Research (E) estimates. Data as of February 9, 2017. Please note that all important disclosures including personal holding disclosures and Morgan Stanley disclosures for stocks under coverage appear on the Morgan Stanley public website at www.morganstanley.com/researchdisclosures.

Endnotes

1 The trilemma refers to the situation in open economies that it is impossible to have a fixed foreign exchange rate, free international capital mobility, and an independent monetary policy (ability to set interest rates) all at the same time. Consequently, only two out of the three objectives can be mutually consistent

2 Classification of income status as defined by the World Bank. As of 1 July 2016, high-income economies are defined as those with a GNI per capita of $12,476 or more.

3 Total factor productivity (TFP) is a measure of long-run technical change in the economy and is calculated as the residual share of output not accounted for by the standard measured inputs of labour and capital used in production.

4 Our teams have published a series of in-depth reports on China's supply-side reforms. Please see (1) Turnaround in Steel Outlook, 16 January 2016 (2) Easing Overcapacity Drives Positive Outlook for Machinery Stocks, 16 February 2016 (3) 2016 Outlook for Cement Improving, but Challenges Remain in Near Term, 26 February 2016 (4) China Coal – Joining the dots, 30 August 2016 (5) Supply-Side Reform + Rising Costs Will Lead to Higher Price, 29 September 2016 and (6) What China's Reforms Mean for Global Steel, 12 December 2016 (7) Greater China Materials: 2017 Outlook: Brighter Future Ahead, 12 December 2016 (8) China Coal: Be Selective - Prefer Coking Coal, 10 February 2017

5 Total number of vehicles in a country or region

6 Refers to miles travels via shared-used mobility, including but not limited to public transit, taxis and limos, and carsharing

7 The secondary industry refers to manufacturing/processing industries such as machine engineering, textile, and electronics manufacturing.

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Not-Rated/Hold	**62**	**2%**	**8**	**1%**	**13%**	**8**	**1%**
Underweight/Sell	**656**	**20%**	**76**	**11%**	**12%**	**279**	**18%**
TOTAL	**3,309**		**664**			**1559**	

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