

The travelling economist

The overview – China at a tipping point

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Executive summary

In May 2010, I had the opportunity to visit China for three and a half weeks. The visit comprised 14 cities, in excess of 40 meetings with government and companies and the opportunity to visit housing developments, shopping malls, outdoor markets and the famed ‘ghost’ city of Ordos in Inner Mongolia. It also meant a comprehensive view of China’s transport including high-speed trains and delayed planes.

With the help of my colleague, Quanqiang Xian of the Global Emerging Markets team, the trip was aimed at exploring many of the macro issues impacting China. It was designed to address both the contemporary issues, such as the property market and infrastructure, and the medium to long-term issues such as political stability and domestic demand growth.

The meeting-by-meeting, day-to-day, observations were highlighted in a daily blog written while travelling. The blog was valuable for recording individual experiences but lacked context and would often end up highlighting conflicting observations. As a result, this paper has been written to address these issues in a broader perspective.

From the paper there are a number of points that I would wish to highlight:

- China’s political system has served the purpose of economic development well but is reliant on continued evolution to remain stable
- China is at a tipping point where domestic demand is the principle driver of growth
- China must, as a result, make substantial reform of macro policy-making to avoid a more volatile economic cycle
- China is building its own versions of Henry Ford; entrepreneurs and companies shaping the global economy
- China has, despite a closed capital account, a lower cost of capital than the rest of the world. As its capital account opens, its capital will play an even larger role in global markets.
- China’s commodity demand is shifting. The building of an industrialised economy has peaked and will now stabilise as will steel. But on this industrialised infrastructure, consumption will rise and, so, demand for more consumable commodities will rise strongly.

I would like to acknowledge the assistance of Research Works and Morgan Stanley in arranging this trip to China.





Introduction

During a three and a half week trip to China, two days stand out. The first in Chongqing and the second in Shenzhen, which highlighted two, seemingly contradictory, themes; China is becoming less dependent on exports, but China's exports are becoming more disruptive to the global economy.

Chongqing, in South/West China, is a story of rapid domestic demand growth as larger and larger portions of the population reach income levels that allow them to urbanise. The city is characterised by construction; with cranes as far as the eye can see. The building spree is sustained by the ability of Chongqing to act as a manufacturing hub for the wider region. In part, this change has been policy driven. The subsidies for whitegoods and cars announced in 2009 and the appreciation of the Yuan (stalled in 2008 and re-started in 2010) have effectively lowered the level of income at which many of these products become affordable. But it was inevitable that China would arrive at this stage. The process of infrastructure building and urbanisation is driving demand through productivity gains and enhanced market access for the 1.2 billion person economy. As a result, China is at a point where it is more reliant on domestic consumption for its growth.

What I saw as the inevitability of China's arrival at this point overshadowed another, perhaps equally obvious, corollary; the size of China's domestic market would create globally disruptive companies. In Shenzhen, I visited one of a number of Chinese companies that are re-shaping the global economy. ZTE, in combination with its competitor Huawei, played an important role in the bankruptcy of Nortel Networks when they cut the price of network equipment by about 50%. These companies, benefiting from large domestic markets, produce goods that are extraordinarily competitive through scale and manufacturing innovation.

So often China's development is compared to the development of the US; the history of railways, national highways and inland cities, but we neglect the idea that China is also creating its own Henry Fords'. These may not necessarily be investable companies, they may lack transparency or have opaque ownership structures where shareholder returns are not maximised, but they do have extraordinary power to shape the global economy in coming years. China's companies will continue to lower the cost of manufactured goods through productivity gains, despite rising labour and commodity costs. This will remain positive for global households but continue to prove disruptive for developed world firms.

This paper examines China's new, domestic oriented economy and its ability to make enormous productivity gains. It highlights the investment implications of this change, particularly around the outlook for inflation, the use of capital by Chinese firms and commodity demand. But first it looks at the Chinese political system, as I experienced it, and how this shapes China's economic growth.



The first skyscraper in Shenzhen.

The Chinese political system

I don't want to get too much into the perceived rights and wrongs of the Chinese political system; it is what it is. There are, however, two comments on which my broader economic analysis is based. First, the government has been successful in bringing large parts of society out of poverty quickly. Second, the government continues to evolve and change as the economy and society changes. Its success and evolution comes down, in large part, to the structure of government and the constraints on a return to more totalitarian rule.

Evolution is essential to the survival of China's government. It's very easy to find local people willing to criticise the government due to levels of corruption, pollution or its role in society and the economy. These problems are many and could overwhelm the government if change does not occur. But change is occurring. Change is the tool by which the government staves off revolution and when it comes down to it, angry people will always qualify their anger with acknowledgement of the change that has and is occurring.

The Chinese political system is made up of central and local government that operate at provincial, city, district and county level. It is, generally, staffed by members of the Chinese Communist Party. The effectiveness of this form of government comes down to three factors; competition, monitoring through greater transparency and patience.

The Central Government's most important role is in policy formulation and approval, with only a limited role in policy implementation. The primary areas of control for the Central Government are macro settings for monetary and fiscal policy in addition to some nationwide infrastructure projects such as the railways and water plus regulation.

Policy formulation begins with the five year plans. China is currently at the end of its 11th five-year plan that will end in 2010. The five-year plan is as close as China gets to being a command economy at a national level. The plans shape the direction of policy, and so shape society and the economy. Observers note a pattern to plan formulation and implementation. If a strategy or area for development is to become important it will be mentioned in a plan. This initiates a period of policy consultation and formulation before a second

plan promotes policy implementation. For instance, the development of Western China was highlighted in the 10th five-year plan but is only now being fully implemented.

Fiscal policy plays a central role in implementing the plans based on the Central Government's ability to collect tax from provinces and distribute them to particular projects and provinces; effectively taking from the richer Eastern provinces and giving to the poorer Western provinces. This is a reversal of earlier policy which was aimed at helping the Eastern provinces to open up. The Central Government's role as asset allocator enables it to play an important part in project approval at a provincial level. It is also able to control land sales by local government.

In addition to fiscal policy, regulation and regulatory bodies are important in putting the theory of five-year plans into practice. The regulatory areas of the Central Government tend to be weak because of their small budgets and limited ability to directly punish local governments, in the short term at least. The regulatory bodies, however, tend to be staffed with extremely competent young people keen to learn from global experience and implement best practice in their spheres. A meeting with a young policy maker at the China Banking Regulatory Commission highlighted a strong grasp of world and domestic conditions and the importance of market based solutions.

The system of five-year plans effectively creates two cycles in China; a long-term, fiscally driven cycle aimed at creating effective structural change, and a shorter-term monetary driven cycle responding to pressures in the economy, either domestic (tightening) or external (easing).

The Chinese political system

continued

The monetary cycle is the more volatile and needs to be lengthened if China is to enjoy more stable growth. Monetary policy settings are generally set between the People's Bank of China (PBOC), the Ministry of Finance and the Ministry of Commerce with the PBOC playing the role of policy hawk and the Ministry of Commerce, in support of domestic companies, the dove. In addition, senior leadership can play a role as was seen recently with the intervention of Premier Wen Jiabao who moved to ease policy in the wake of the Euro-zone crisis.

Generally, city infrastructure projects remain the domain of local government but there are national level projects, such as the railways, that are managed by Central Government ministries. These ministries, such as the Ministry of the Railways, are very powerful because of their large budgets.

Within this framework of Central Government regulation and broad resource allocation, local governments act in the role of policy implementation. There is a level of autonomy in this process. At its worst, it means corruption in the form of bribery and embezzlement by local officials, bureaucrats or police can become rampant. Or it may mean lying to the Central Government and planning a city 25km away from the old city rather than the 10km away you told the Central Government. At its best, and why it is maintained, it allows policies to match the stage of development of a province. For instance, de-regulation is needed in certain markets in Eastern Provinces as privately owned firms compete aggressively in markets once held by State Owned Enterprises (SOEs) but in Western Provinces greater regulation is required to improve sustainability and protect and raise living standards.

An important control on local government behaviour is fiscal policy. Local governments collect tax but have little control over spending it. Tax is returned to the Central Government and re-allocated. This is why, in part, the credit expansion that took place in 2009 saw substantial borrowing by local government. The increased access to capital for local governments created greater autonomy allowing the local governments to plan projects outside the direct remit of Central Government control.

There are natural conflicts within this political system, as there are in all political systems. The Chinese system again, manages these conflicts in three ways; competition, monitoring through greater transparency and patience.

The Chinese Communist Party (CCP) has one goal; survival. Achieving survival is dependent upon harmonious development, translated as fast and stable growth with few social problems. The CCP achieves this by promoting strong competition within its ranks. There are over 10 million members of the CCP and each one has ambition to move up the ladder of power. This is dependent, in turn, on individual members promoting harmonious development. It's not good enough to promote unsustainable growth or build resentment. An official responsible for a period of unsustainable growth or building popular resentment will ultimately pay a price with their card marked and future progression limited. Indeed, the process of advancement has been institutionalised in China. The Organisation Department of the CCP is a central bureau that manages all appointments in government including the top 5,000 officials.



Traffic in Xi'an.

A failure is not forgotten in the way it might be in many democracies. An example of low popularity leading to the end of a career was Tung Chee Wha, the former Chief Executive of Hong Kong.

Competition is also strong between provinces. Dangerously, this has manifested itself in excessive provincial growth rates and most worryingly, trade protection. In the past ten years local courts have been accused of protecting local interests over the national interest in domestic industry. There have been instances where provincial governments have banned government procurement from companies in neighbouring provinces to ensure strong local growth outcomes. By rewarding provincial governors on the basis of more balanced indicators this competition between provinces and officials is more efficient.

China is becoming, selectively, more transparent. This allows both central and local government to monitor conditions. At a Central Government level, transparency is aided by the media and policy think-tanks. These two groups play a role right through the policy-making process by providing feedback and critical analysis as well as specific policy ideas. They will take inspiration from offshore experience and domestic observation. Certain newspapers such as the 21st Century Business Herald, though often critical, are read at the highest level of government.

At a local level newspapers have less of a role, particularly outside the rich south/east where there are two newspapers known for their more outspoken views. This, in part, can be put down to the harassment of individuals sanctioned by provincial officials. This will apply to journalists, both local and foreign, and also to people who may want to petition higher levels of government. For voices to be heard there are more likely to be protests or demonstrations; in 2009 there were 120,000 separate demonstrations of more than 25 people, up from 87,000 in 2007, 74,000 in 2004 and 10,000 in 1994.

The internet and other electronic media are also important in aiding monitoring through better transparency. China does regulate the internet and blocks sites that are deemed to damage the state and

political stability. Even so, it does allow the internet to be used as a tool in managing government, particularly where the actions of local government are not aligned with the broader aims of the Central Government.

One example of this improved transparency involves water. Ma Jun is a water activist whose website highlights water quality across China. The site spotlights those local government areas where water quality is lowest and promotes those areas where positive change is occurring. Ma Jun is, apparently very welcome in Beijing but not so welcome in the provinces. Another example is corruption. Recently, the son of a senior member of the government was identified in a corruption scandal. While the news was quickly taken from the internet, the light shone on the case forced the quick removal of the son from business life.

I believe there is also an enormous amount of patience, most especially amongst the poor, for the government in China.

To me, the most important group of people are rural Chinese. There is an acceptance amongst these people that change and rising wealth is a multi-generational process. Rural students receive no helping hand from the government in education; they pay the same fees and must attain the same grades as urban students to access the best universities. That there is no positive discrimination is accepted. The route out of rural areas into good education is dependent upon a young person becoming a migrant worker, starting a family and enabling their children to access good universities. This inter-generational perspective allows growth to be more sustainable, there's not a headlong rush to raise living standards now and so labour resources are allocated more efficiently. If rural Chinese become less patient they would begin to pose the greatest threat to political and social stability in China.

China's political system is far from what those of us in the West would ever accept but it has undoubtedly been effective in its principle aim of promoting stable development. Its continued survival remains dependent upon its ability to further the process of change with an increased reliance upon meritocratic advancement for officials and transparency.



Bridge over the Yangtze River.

The changing Chinese economy

On my last trip in 2009 the role of exports in China's development was obvious. I made the point

'The feeling I had of the stimulus was that it was a like-for-like replacement of the activity lost from exports; a combination of high savings and developing economy status had saved the economy from recession. The success of this strategy seems to incentivise a continued reliance on exports and high savings as the next cycle plays out and comes, in time, to adversely impact China's export markets'.

I came away convinced that domestic demand was a long way from being the driver of growth that the global economy needs it to be. This can be seen in the role manufacturing played in stimulating investment in the five years to 2009. The charts below show, despite strong infrastructure (tertiary) investment growth in 2009, investment from 2004 was focused in the manufacturing industry. China's domestic demand, both investment and household consumption, was dependent upon on the export sector.

But this trip may have changed that view; while high savings, relative to the developed world will remain a characteristic of Chinese development, the country is on the tipping point of being more reliant on domestic consumption for its growth. This is for two reasons; its foreign reserves withstood the global crisis well and domestic markets, for some goods, are as big as, or bigger than export markets.

The period of the crisis created a substantial year on year fall in Chinese exports. The charts below show exports fell 23% in the year to April 2009 before recovering sharply. Despite the fall in exports, however, the foreign reserve position never really suffered and growth accelerated quickly in the crisis' aftermath. Certainly, a more prolonged fall in global demand that impacts China's export sector will do more substantial damage to reserves, but the crisis has proved that the country's balance sheet can survive a large external shock.

The second part of this change in view comes from the realisation that export markets, in many areas, are shrinking relative to Chinese capacity meaning domestic demand must be a greater focus. While China only exports a small number of cars, the industry is valuable in highlighting the manner in which its domestic market will, quite quickly, dwarf the global market in size. In 2009 China became the largest producer of

Chart 1: China fixed asset investment share of annual total, 2004

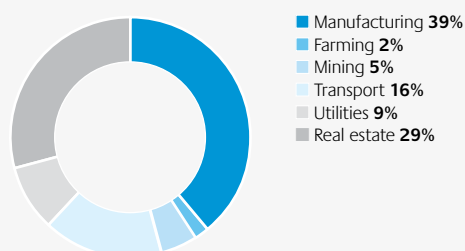
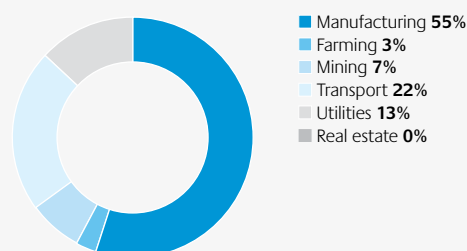


Chart 2: China fixed asset investment share of annual total, 2009



The changing Chinese economy

Chart 3: Chinese export growth annual and monthly, ending May 2010

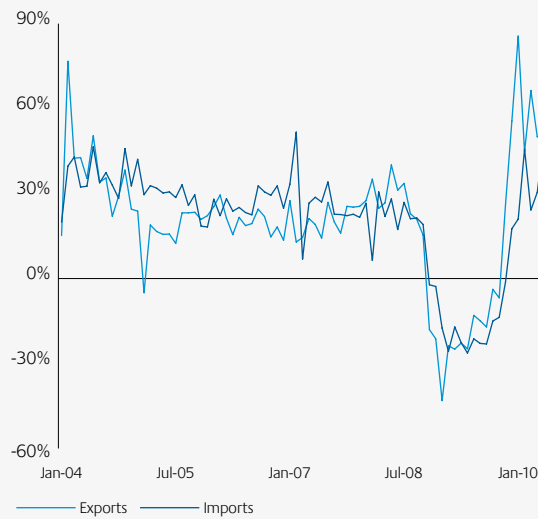
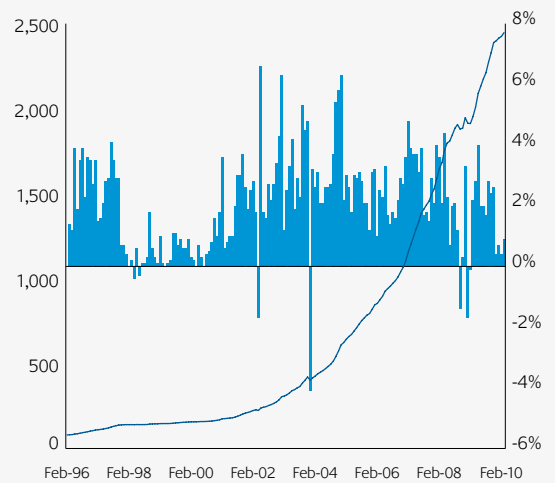


Chart 4: China foreign reserves total, ending April 2010



cars with the majority of its production for domestic consumption. The China State Information Centre believes that car demand in China in coming years can be well in excess of 40 million cars as household incomes continue to grow compared to around 30 million in good times, in European and US markets.

This transition, from exports to domestic demand, is an important and, potentially, hazardous phase in China's development. It is reliant on sustainably increasing living standards, particularly in rural areas and central and western provinces. The drivers of this shift up will likely be fourfold; improved infrastructure, urbanisation, product innovation and product availability.

Chart 5: China and US car sales average annualised total, ending December 2009



The building of infrastructure is often seen as false economic growth. Indeed, I am haunted by my own words from last year, 'China can afford to continue to buy growth'. Infrastructure spending by governments is often seen through the prism of Japan's bridges to nowhere, as an attempt to rob the future to buy growth in the current period.

But this is lazy thinking. Infrastructure in China and other emerging markets is creating enormous productivity efficiencies that will drive growth for decades. China is in a low level equilibrium sling-shot, where its willingness to change, reform and build, means it can power past developed country rivals by creating best in class infrastructure.

My favourite example is the railways. China's rail network is very important to its economy. There are 9 million passengers per km of track compared with around 2 million in Germany and Russia and 0.5 million in the US; or 28 billion tonnes of freight per km in China compared to 15 billion in Russia and 11 billion in the US. China's investment in its railway network has accelerated since 2008 as the country builds the largest and fastest high-speed train network in the world.

The focus on high-speed inter-city passenger trains will attempt to make rail competitive with air over distances of up to 1,000-1,500km. The Chinese are working on technology to create trains capable of travelling at up to 550km per hour with an average speed of 400km per hour. On this basis, train travel between Beijing in the north and Guangzhou in the south would take around four to five hours compared to 3.5 hours by air, making the two modes roughly comparable.

The high-speed network does two things. First, because the new network runs side-by-side with the existing network, the legacy network can be, largely, dedicated to freight. The new Wuhan to Guangzhou line demonstrates this with freight capacity increasing to 70% upon opening. The step change created by the line allowed the first movement of coal during the peak travel season around the Chinese New Year in decades.

Second, the train opens new markets by creating better physical connections between people in regional China and the big cities. For instance, it's likely that there will still be people for whom flying between Beijing and Shanghai is more convenient when the high speed line opens in 2011. But for people in the 20 cities with

stations along the line, it enhances their access to China's political and commercial capitals. By making administration of a business in a regional area easier and increasing freight capacity the train line will bring businesses and jobs to areas with previously limited opportunities. This will also ease pressure on big cities as regional cities can expand faster.

The high-speed railway also underscores the vision in infrastructure planning. When the Japanese were building their high speed rail, the Shinkansen, they could not envisage trains travelling at greater than 320km per hour. As a result the energy infrastructure was capped at a level commensurate with this speed. While Chinese technology is currently capped at around 350km per hour, the energy infrastructure is commensurate with a speed of up to 600km per hour. The Chinese seem to understand the need to build in capacity to ensure that further growth can be accommodated. This may be because of the problems in urban infrastructure and aviation.

Chinese cities, particularly in the East, are reaching capacity and expansion is becoming more difficult. I was reminded of this in Qingdao. Apart from the airport highway, the city's roads were in terrible condition, old and crowded. The driver would swing out of traffic to overtake, only to pull in to avoid killing a road gang filling potholes. Single lane roads in residential areas carried trucks bearing steel product one way and iron ore the other. One solution is a metro system with two lines opening in 2011. The remaining eight lines will not be completed until at least 2020. Shanghai's 12 lines are 420km long compared to London's tube with 13 lines that are 470km long but will be 870km by 2020. But a metro doesn't address the issue of heavy trucks in residential areas which require more substantial solutions, including relocation for industry or residents.

The other issue in Qingdao was the sewerage. Like most emerging markets, cities in China have a certain smell and, generally, China's is better than most I've been to.



Chinese high-speed rail.

But in a county town near Qingdao the smell was much worse. In combination with my observations on roads, China's infrastructure build out, particularly in provincial areas, has a long way to go.

Water, broadly, is China's most pressing problem and highlights both the technical advances and the socio-political inertia.

There are two aspects to China's water problem; there's not enough and what exists is heavily polluted. The water problem is most acute in the heavily populated and industrial North East. As an example, the Yellow River in Northern China stops flowing during summer some 150km from its mouth and the flow prior to that point is not far better than sewage. Elsewhere, artesian wells are beginning to come up dry.

The chart below highlights how bad Chinese water is and it's getting worse. Some ten years ago 15% of China's water was not potable, today it's closer to 25%. Most water would be non-gradable by Western standards. The reservoir behind the Three Gorges Dam runs the risk of turning into a black sump. Industrial pollution is such that individuals are likely to carry substantial levels of heavy metals in their blood due to polluted food.

Water quality in China*	
Category 1	4%
Category 2	20%
Category 3	17%
Category 4	25%
Category 5	7%
Category sub 5	27%

* Above Category 3 is drinkable.

Source: China Sustainable Development Strategy Report, 2007.

China is, therefore, focused heavily on technical solutions to overcome these shortages and pollution problems. Many of the solutions are familiar to Australians, particularly recycling of grey water for use in industrial and landscaping usage. It seems probable that China's technical solution will be Australia's. China is also

considering massive infrastructure projects such as three north/south canals to transport water from the wet South to the dry North.

The solution, however, can't be entirely technical but also socio-political. There is now a greater imperative to promote land reform and urbanise. There are two reasons for this. First, agriculture uses around 70% of China's water, so more efficient water use through larger farms would be important. Second, urban areas can, with the right infrastructure, use water more efficiently and probably make it cleaner, too. Without some sort of technical breakthrough and social change, a lack of water will endanger China's industrialisation.

As for aviation, it's amazing how many flights are delayed due to air traffic congestion. The level of congestion is such that even on a one hour flight I would come to expect to see two or three planes per flight from my window. This in part explains the importance put on high speed rail in China's infrastructure plans. Airlines are being forced to focus on longer haul routes rather than shuttle services of between one and two hours. In the case of the Wuhan to Guangzhou route, airlines have already had to aggressively cut routes and fares to maintain profitability while the high speed rail has meant all flights between Zhengzhou and Xi'an have been cancelled.

Aviation will, however, play a very important role in China's growth because of the difficulties in linking Western China with East and North. The mountain ranges dividing the East from the West mean cities such as Chongqing will focus production on domestic demand and export sectors, such as IT, where goods can be flown to external markets. Infrastructure's contribution to creating domestic demand is threefold. In the first instance, its construction creates jobs. Second, it lowers the cost of transport which in turn improves the purchasing power of households and firms, so increasing their ability to spend. Third, it promotes and enhances urbanisation enabling more people to live in cities, a process that also enhances domestic demand.

The process of urbanisation is at the core of increasing domestic consumption in China and it has very little to do with building apartments. There are three broad reasons why urbanisation is such a powerful force for domestic demand in China; urban residents anywhere have greater purchasing power, urban residents in China benefit from greater welfare provision and finally, China seems to be learning how to do urbanisation better.

The shift by rural-dwellers to densely populated urban areas represents a large leap in economic efficiency. Rural-dwellers moving to urban centres, though far from the rural idyll, gain from better access to transport, utilities, lower food prices, better education and job opportunities.

These advantages from urbanisation are common to all emerging economies, but China reform of the hukou system presents an even larger opportunity to spur stronger domestic demand. The hukou system was established in ancient China. It is a system designed to monitor and control the movement of people between locations; most broadly between rural and urban areas. This system became most important during the period when China was more obviously a generally planned economy as it restricted movement to urban areas and allowed, then, labour intensive rural production to be maintained. The hukou system has been called China's apartheid. During the Cultural Revolution between 1967 and 1977 the system was strictly policed with regular checks and effective border control in cities with the effect that very large numbers of rural residents were denied food that urban-dwellers received. Today, the differences remain in place; urban hukou holders benefit from subsidised health, education and housing in urban areas. Receiving an urban hukou represents an immediate and substantial increase in disposable income as recognised migrants to urban areas lower their precautionary spending. In the 12th five-year plan China aims to further liberalise the availability of hukou in third, fourth and fifth tier cities.

China has learnt a lot about how to urbanise both from economic, social and physical perspectives. These lessons are being applied to the urbanisation of Western China. The urbanisation and development of China's West centres around three cities; Chongqing, the regional hub, Xi'an the north/western hub and Chengdu, the south/western hub. In these cities urbanisation

is being approached in a more disciplined manner with a focus on raising domestic demand, addressing social issues such as corruption and integrating rural residents and a recognition of the capacity constraints felt by Eastern cities. Urbanisation cannot exist without increasing economic activity. For Western China this means domestic demand because of the region's poor links to external markets aside from South East Asia and markets serviced by aviation. Part of the solution is the mineral and energy wealth of the region. The north/west is rich in both coal and natural gas and these commodities have provided a substantial boost to economic activity in the form of jobs and higher spending. Combined with a broadening of the urban population, in part through the subsidies for household appliances for rural residents, the domestic market in Western China has reached a critical size. This enables more productive capacity to be located domestically and so in turn raises further demand.

There are substantial social issues associated with urbanisation, particularly corruption and the integration of rural residents into urban areas. When money is flooding into cities on the back of urbanisation corruption can easily follow. Chongqing is an example of where the Chinese recognise this occurs. Chongqing's development accelerated in 1997 when it was granted municipality status and split from its former province of Sichuan. Development is set to accelerate further as it grows into its role as the West's regional capital. As an example, there are plans to create a new 3,000 sqkm urban area in the mould of Shanghai's Pudong, just three times larger. By 2020 another 10 million people will live in Chongqing's urban areas. But to avoid high levels of corruption the government has launched a strong crackdown against local mafia. Police arrested over 1,500 people including police officers accused of bribery and corruption. The chief of police has been sentenced to death. This highlights the recognition of better managing government spending and the now severe consequences.

The process of rapid urbanisation creates substantial social change. One comment I heard early in the trip highlighted the age old concerns of urban Chinese – it's too difficult to urbanise uneducated, rural Chinese. In the eastern cities this makes sense. Eastern China has always been more heavily urbanised meaning rural migrants stand out. In Western China, however, a large share of the urban population was not urban 20 years ago meaning urbanisation has less of a social impact. The lower social impact allows faster urbanisation which is encouraged through programmes such as vocational training aimed specifically at rural migrants.

Finally, the urbanisation of Western China seems to have learnt lessons from the capacity problems in Eastern China. Rather than build extensions to current cities, new cities will emerge that are better capable of coping with a sustained period of growth. In Chongqing, the city will be re-modelled with a lower inner city population density and higher density on the urban fringe where land for expansion still exists. Elsewhere, entirely new cities will be built.

Ordos, in Inner Mongolia, is an example of this new city strategy. The old city in Ordos holds 500,000 locals and 1,000,000 migrant workers that have come to the

region in search of high paid work as the city's wealth has expanded exponentially on a coal boom. This has created the need for more urban capacity. The local government has built a new city to cope with expansion. To get people to move to the new city the local government has created a number of solutions. Part of the solution will be the relatively simple process of re-locating the nearby county town, located just across the manmade lake, and still relatively undeveloped. There's also a carrot; allowing migrant workers to gain an urban hukou (license to live in an urban area) if they relocate to the new city with a car factory for employment. Finally, there's the stick. There has been a forced relocation of government and other state departments, universities and some schools to the new city meaning employees need to follow, even if only on weekdays.

This government-controlled urbanisation has advantages in China. The city is planned and expansion is easy. The tough tasks of upgrading the present city and integrating a very large migrant worker population are avoided or made easier. It should also be said that Canberra, Ottawa and the new towns of Scotland and England such as Livingston and Milton Keynes have in time been successful, though this process took time.



New city of Ordos.

One of the key insights, for me, from this trip is the way economic activity is constrained as much by supply as by demand. While urbanisation and infrastructure unlock demand by lowering costs and raising purchasing power; for many Chinese it is the simple inability to buy a good, because the product is not available in most cities and rural areas, which constrains spending.

This is an emerging market issue – Nestlé has built a supermarket on a barge that will sail up and down tributaries of the Amazon, serving communities that are otherwise unreachable. Part of the solution is infrastructure and also moving production closer to markets but there is also an organisational skill that many companies both domestic and foreign have yet to achieve.

A good example of a company profiting from its distribution network is Wahaha, a private company. Its domestic profit is bigger than that of Coke, Pepsi and local rival Tingyi combined. Its profit margins are 20%. It sells a variety of products including bottled water, a cola drink, tea, yoghurt and sports drinks. Its edge is its distribution network. Wahaha has successfully penetrated rural areas while its rivals, particularly the foreign competitors, struggle beyond second tier cities. Its success and private structure allow it to reward employees well. Employees, depending on rank and function, are able to purchase non-transferable shares that are handed back on leaving the company. The value is in the dividend. Last year the yield was 70%.

Another company to succeed in this area is Haier, a household appliance maker that used the government stimulus programme in its market as a foundation for creating an efficient distribution chain. Haier's success rests on its ability to build both the physical and social infrastructure associated with distribution.

In Australia there are probably three layers of distribution. There is a national layer then a state level and maybe a city level. In China, there are five layers; minimum, national, provincial, city, county and district. The last level is often done by a man in a truck or even on a bike. The man on the bike is employed because he's cheap, not because he's efficient. Improving efficiency requires spending capital that in many cases won't make sense in the short term. Effective management also means building relationships and it is here that Haier has succeeded.

Haier has a strong brand name in China. As a result, Sunning and Gome, which are two stores I visited, have

to stock a lot of its product. It also has its own retail network Ririsun. Haier's approach to these stores is different. They are run as a franchise by selected local business people who must own the physical building and are well-rewarded; they take around 90% of gross margin and are able to stock all brands.

Haier then takes it to the next level by using its Ririsun manager to oversee a network of town and village agents. There are 34,000 Ririsun stores in China and each of these managers picks agents in surrounding villages to be Haier agents. These agents are likely to run local stores or be electricians. The Ririsun owner, once or twice a month, will bring products to villages and in the meantime the agents will create sales. It struck me that this is, in a way, how travelling salesmen worked in the US in the post war period.

The success of its network is demonstrated by the foreign companies, such as GE, that want access to it. Such is the success that Haier are considering plans to focus solely on this and, perhaps, sell off what looks to be its core business, making household appliances.

One way of getting around the lack of a physical distribution chain is to create a virtual one. Alibaba.com, the B2B website and its partner taobao.com, China's e-bay, have successfully done this. Alibaba.com has linked 650,000 Chinese SMEs to western and domestic wholesale markets while taobao.com has 190 million users, selling 5% of the nation's retail sales. Sales are doubling annually. But the growth of these virtual networks requires physical infrastructure. The development of alibaba.com is reliant upon establishing a larger sales-force to attract customers in the west, particularly older business owners not familiar with the internet. For taobao.com its success is spurring the development of a better retail national logistics network by businesses such as China Post, whose parcel deliveries are seeing well above GDP growth, and retail chains themselves who are solving third tier city distribution through the internet.

Finally, product innovation is an overlooked aspect of what Chinese companies are doing to increase domestic demand. There are two elements to this product innovation; increasing affordability and utility.

Increasing the affordability of goods is obviously essential to building demand. Good examples include the \$100 washing machine or the \$5,000 car. Products at these price points raise the purchasing power of households in provincial cities and rural areas. There is an element of the innovation that is low tech. Many car manufacturers tend to avoid expensive robotics, use lower quality inputs and accept a lower level of finish. One car maker got around the low quality finish by developing a product that fills the space in the vehicle's chassis meaning that when the door is shut the car sounds less tinny. But more broadly, China is moving up the value chain, producing higher value add products as its domestic markets expand. The scale on which these products are now being produced is, in turn, lowering production costs and so selling prices.

The other side of innovation is creating products that better meet the needs of the users. There's little value in selling the Miele washing machines to rural Chinese. For inhabitants of provincial cities and rural areas the requirements for many products are going to be different than they will be for those in developed economies or even tier one and two cities. An important

reason for this is the poor quality of infrastructure which might mean that supplies of water and electricity are intermittent. Haier, the company mentioned previously, has developed products to meet these challenges. Products in their range include washing machines capable of washing potatoes, with pipes small enough to keep rats out and a washing machine that can operate under zero water pressure. They also have an energy efficient fridge that runs on battery for up to three days.

A company that has been successful in developing heavy equipment for domestic industry by adapting to local conditions is Sany. The company builds mining equipment with technology that is competitive with international players and designed for the coal seams of China. Part of their advantage is their knowledge of Chinese coal mining. Their chief engineer goes down 50 mines a year, they performance measure every machine they produce and employ professional miners to provide feedback on equipment. Its partner, Sany, is seen on every building site in China, producing the world's highest concrete pourers

China needs to continue to raise the level of domestic demand because the economy has reached the point where the ability of exports to raise support economic growth is diminishing.

In so many markets Chinese domestic demand is above, at, or close to the level of external demand for the same good. China will continue to grow its exports in line with global economic growth and probably higher as it takes further market share and moves up the value chain. But this growth will be a smaller and smaller proportion of the total for China.

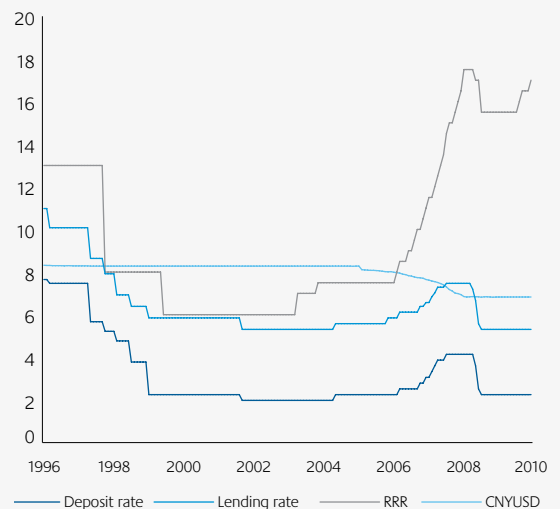
This reflects a relatively unique stage in emerging markets. Japan, too, arguably reached this stage where the domestic market is larger than export markets but this is largely explained by demographics. For countries like Korea and Taiwan external markets have generally protected these economies from downturns despite difficult domestic situations. Both countries suffered credit crunches as a result of negligent credit card lending; Korea in 2003 and Taiwan in 2005, but GDP growth remained positive because of strong export growth. Only in times of a synchronised global slowdown has economic activity fallen. China too has benefited from the protection of strong exports, but in coming years, the export sectors ability to protect the broader economy from a domestically induced slowdown will diminish.

This change will have profound consequences for the Chinese and global economies. In particular, China needs to allocate resources better. In an export dependent economy inefficient resource allocation gets hidden under external growth, but in a domestically driven economy resource efficiency needs to be higher. There are three principle areas for reform; monetary policy, prices and the role of the state sector.

The favourite means of slowing the Chinese economy is to use an administrative measure. In the past year authorities have slowed growth via regulation; first in the equity market, then the bank bill market and now property. These moves, in isolation, have been effective in slowing fund flows to these investment markets, but in total are unlikely to avoid asset price inflation in other areas. In all likelihood, as the property market tightens, conditions in other markets including the equity market, begin to look more attractive on a relative basis. Instead, China needs to move to a floating exchange

rate and using interest rates as the principle policy tools. The recent shift in Yuan policy is a step further, though there is significant progress to be made.

Chart 6: China monetary policy tools levels, ending May 2010



This is not simple. A floating exchange rate is dependent upon greater transparency that is in turn dependent upon improved domestic financial markets. China, however, seems very unwilling to make these changes rapidly. My earlier comments, regarding the internal politics surrounding monetary policy, highlight how far China is from liberalising these markets. Without meaningful liberalisation in these areas a floating exchange rate is not possible.

A number of prices remain regulated in the Chinese economy, particularly energy prices. The Chinese Government needs to implement better energy pricing because too many power companies are currently unprofitable. In 2010 a local agency said the Big Five Chinese energy producers made losses due to high coal prices and low regulated electricity prices. The National

Development and Reform Commission plans to adjust prices higher with a tiered system to support rising household consumption.

The other area for reform is a lower level of participation for the state owned sector. The principal problem with State Owned Enterprises (SOEs) is their unrivalled access to capital. SOEs get favourable treatment at banks though this has changed as decision making within banks improves. Ten years ago bank lending was done at a local level and was based on relationships; provincial governments would act as a go between amongst SOEs and local branches of the policy banks. Today, decision chains are much longer and, generally, extend beyond province level meaning the decision is not dependent upon local relationships. This process did breakdown last year as banks competed with SOEs to prove how well they were delivering the government's stimulus. Furthermore, SOEs continue to be perceived as lower risk than private enterprises, even in the same industries, and so end up with the lion's share of capital.

There is, however, momentum in China behind a push to constrain the role of SOEs in the economy. This will be a long process restricted by SOEs continued importance to the economy and government, and the difficulties of consolidation and ownership change.

A policy bank in Beijing described three reasons why SOEs exist in China. First, China has a centralised political system requiring the government to play a role in particular industries to ensure development. Second, the government is more comfortable owning certain strategic assets. Third, SOEs can play an important role in policy implementation.

The role of SOEs in policy implementation is important. A good example of this is the mechanisation of coal mines in Shanxi province. Shanxi's coal mines are infamous. They are Dickensian in their working conditions; men with picks and shovels are sent down mines at enormous risk of mine collapse and explosion. The combination of mine accidents and environmental degradation have forced the provincial government to act by closing mines, consolidating them and forcing investment in mechanisation. The policy tool for this process has been the SOEs. The capital base of the SOEs and their experience make them the ideal tool to transform the industry because for private enterprise

mechanisation seems to make little financial sense. These private owners are more interested in cash generation and the rewards this generates rather than longer term wealth creation.

SOEs may also play a role in China's urbanisation. Their ability to access capital and lower return profile means they can deliver in areas such as commodity housing where private developers see only limited returns.

Not all SOEs play an essential role in delivering policy in China with many existing in industries with over capacity and operating inefficiently. Winding these SOEs up, however, is a difficult task, mainly because of their political importance as job providers for certain provinces. It's also difficult when merging assets means a manager loses their job with little financial recompense.

In 2005 the state asset management company aimed to consolidate 180 SOEs into 100. It failed. It has now lowered its sights to target the consolidation of non-core assets into new businesses. Good examples of non-core assets include hotels and hospitals. At one meeting with a coal and electricity company the offices were in its hotel building and we ate lunch at the company's commercial restaurant.

In all likelihood SOEs will continue to play a large role in the Chinese economy for some time. Consolidation is difficult politically. Privatisation will occur slowly, often only amongst the very small service sector SOEs where revenues are dependent upon people rather than assets. China needs to avoid at all cost the creation of oligarchs that has dominated Russia's transition from command to market economy. In some cases SOEs might just become redundant and unsustainable as more flexible private companies compete successfully with the large and inefficient state sector. This is a process occurring fastest in the Eastern provinces.

The shift to better economic management and resource allocation in China will lead, in time, to a return to lower volatility economic growth. This process, however, will take some time; with the consequence that growth is likely to be more volatile. I take this to mean that growth will average 8% to 9% within a range between 5% and 11%. This compares to an average of 10% with a range between 9% and 13% in the last global expansion between 2002 and 2008.



Financial centre shopping centre, Hong Kong.

The retail shopping experience in China

As domestic demand increases in China the way goods are sold will change.

Supermarkets

Traditionally, the Chinese retail market is fragmented. Food is perhaps the most fragmented market, with around 60% of food sold in wet markets. Wet markets sell fresh fruit and vegetables, meat and fish. While butchers in wet markets may have a permanent presence, the majority of store keepers will come and go depending on the availability of pitches and produce. The lack of permanency is a substantial concern to authorities worried that food safety standards are compromised. As a result, the Chinese are actively supporting the development of supermarkets in an attempt to better regulate food sales.

The basic pattern of the larger supermarkets in China is towards hypermarkets, similar to the Wal-mart model. Hypermarkets will sell food as well as clothes and household goods from air-conditioners to televisions and MP3 players.

Generally, the hypermarkets will compete on price rather than product with the household goods retailers. Brand names, broadly, have limited value, particularly in the area of staples and goods. There are exceptions however. The most important exceptions are in health and beauty with products from the large fast moving consumer goods companies, such as Unilever and Procter & Gamble, able to command a substantial premium and local brands unable to break into the market. Chinese consumers place a great deal of faith in these brands.

Food is sold in the style of wet markets with the aim of making shoppers, transitioning from genuine wet markets, comfortable. Fish and meat are laid out on benches or in trays unpackaged with customers able to pick it up and feel. In some supermarkets there are even assistants shouting prices. Just as in developed economies there is also a shift towards organic food and pre-prepared food for young people and families.

Dairy is an area of very strong growth particularly in yoghurt and packaged UHT milk. Yoghurt is increasingly popular as a breakfast food for its health properties while packaged UHT milk is often offered as a gift to families with new-born or young children.

Department stores

Department stores can be divided into two broad groups, mid-range and high-end.

The high-end is dominated by the large, international brands such as Gucci, Louis Vuitton, Burberry and Chanel. The shops I visited were in second tier cities such as Shenyang, Taiyuan and Ordos where wealth is generated from mining. Taiyuan is an interesting example of demand for high-end products in China. It's a city built on the wealth of coal mines with private coal mine owners enjoying enormous riches. While consolidation and mechanisation is forced upon the private miners they remain very wealthy and there is a noticeable, though not extreme, wealth gap in the city. The big European brands are an obvious means by which the rich can assert their status. The department store we went to was relatively empty in the mid-market and local brand areas but very busy in the brand names. The Gucci store had just opened and had ten to twelve shoppers that had arrived in Porsche and BMW SUVs. The BMW showroom in Taiyuan sold around 700 cars a year and on a mid-week afternoon there were five or six groups of people seriously considering purchases. The Mercedes showroom was similarly busy. The growing demand for luxury goods in Taiyuan comes despite the imposition of high taxes on these products in China with prices of bags and jewellery up to 60% higher than in Hong Kong.

The mid-range department stores are a mix of local brands and some of the high-end luxury brands. The department stores are run along the Japanese model with companies buying concessions from the stores on a partnership basis. Retailers will staff the concessions themselves. The biggest sellers tend to be jewellery and cosmetics. As in the supermarkets Chinese shoppers are very conscious of buying branded cosmetics making the counters the most profitable in the business. A counter in Xi'an would turnover around RMB20million annually allowing sales people to earn up to RMB10,000 per month compared to a store average of RMB2,000 and RMB1,000 in a Beijing supermarket.



Shoppers in Shanghai.

Investment implications

There are three broad implications from this trip from my perspective. First, the economy is slowing down. Second, commodities demand is stabilising and prices are going to be more supply dependent. Third, capital is, undoubtedly, used inefficiently in China but the rewards for companies that use it properly should be high.

The slowing economy

The key near-term finding from the tour was a slowing economy in China for the next six months. The slowdown will be relatively broad-based with growth in activity falling across the manufacturing and property sectors with, perhaps, only infrastructure spending remaining robust. The fall in activity is partly due to a natural fade in growth after a strong 2009, some over-production in certain domestic sectors and a tighter policy stance by government in some areas.

Many of the key China data series spiked in 2009 and early 2010; exports peaked at 45%, fixed asset investment at 33% and industrial production at 19%, as the stimulus and a broader global economic recovery took hold after the depths of 2008 and early 2009. It is only natural that growth from these levels begins to slow. But the slowdown in China is more than just a natural fade from high levels.

Retail sales are in the process of weakening, cyclically, for two reasons; again the comparable periods from last year are getting stronger and, particularly in auto, there are many stories of rising inventories, suggesting slowing sales and likely cuts to production in the short term. BYD, the car maker, reported inventories rising towards six weeks, compared to one week in December 2009. Its dealers have reportedly begun rejecting new car deliveries to show-rooms because of weaker sales. The weaker sales/over-production dynamic is due largely to the success of subsidies in 2009. Strong demand growth, as subsidies lowered prices, brought forward consumption. This level surprised local manufacturers and required higher production, however, as the initial demand has weakened, production, too, has had to be curtailed. In some factories there is talk of 10-20% cuts in production in the short term before demand resumes its structural uptrend. In recent months, the Chinese authorities have stepped up policy tightening, though

Chart 7: Chinese retail sales nominal sales, annual growth, ending May 2009

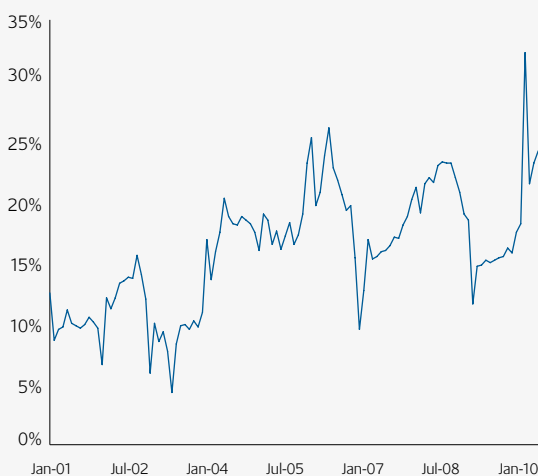
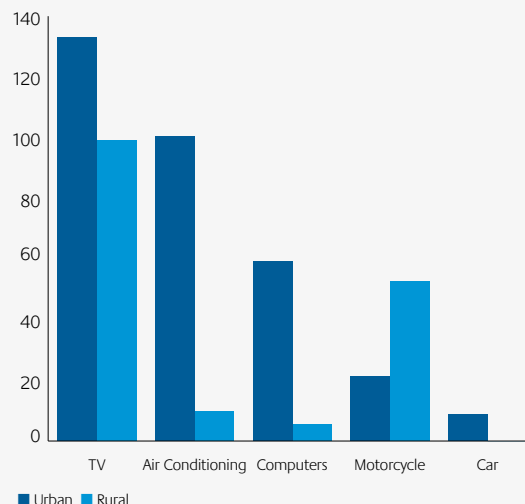


Chart 8: Items consumed per 100 households



it slowed as the sovereign crisis in Europe took hold, through administrative measures in the housing market and tighter liquidity conditions. The unwillingness of authorities to pursue broader tightening policies such as higher interest rates or RMB appreciation, however, means these measures are shifting pressure to other parts of the economy rather than subsiding.

The curbs in the property market should lead to a sharp fall in purchasing activity and prices, particularly in the larger cities. The measures are aimed at limiting price increases, improving risk management and increasing the supply of properties to owner-occupiers. For first-time buyers, the minimum down payment for homes greater than 90 square meters is raised to 30% (from 20%), to 50% (from 40%) for second home buyers, and mortgage rates are raised to 1.1 times benchmark rate. In areas where prices have risen rapidly or supply is tight, commercial banks have the discretion to suspend mortgages on third homes and to non-residents.

Authorities are also acting to reduce liquidity. This reflects concerns about the quantity of credit in the system and is not aimed at constraining real business activity. The first area to have liquidity drained was the Stock Market. The Shanghai Index rose 103% from November 2008 to August 2009 but then fell 23% in a month, as authorities acted to curb speculation with cheap credit. A similar impact is likely to have been felt in some commodity markets where financial investment by Chinese buyers occurred in the first half of 2009. Recently, authorities have clamped down on speculation in other markets, including the interbank market where speculators have taken advantage of the arbitrage between US\$ and RMB interest rates.

There are two aspects to this policy change. First, banks can only lend working capital up to a limit based on firm revenue. Previously, banks lent against forward orders, some of which may have been fabricated to take advantage of interest rate differentials. Second, banks must now pay draw downs of loans directly to the supplier or contractor rather than to the borrower's bank account. This is an important policy step. It ends long term loans for no particular purpose but is also valuable in ensuring a soft landing. In previous tightening phases Chinese banks stopped all lending meaning half built projects were denied funding and became non-performing loans. If a project is underway or has a strong business plan, lending will continue to occur.

The problem for policy makers in China is that, broadly, a tightening in money supply is not occurring. The volume of money is still growing, because of rising foreign reserves and the stable RMB policy. As a result, current policy stances are akin to squeezing a balloon rather than shrinking the balloon (bubble if you like) forcing

money to turn up in other sectors that may now be relatively more attractive.

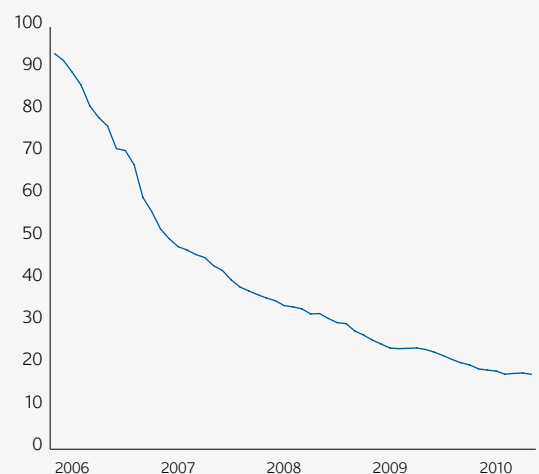
The consequence of these policy moves, combined with a period of softer demand growth, will be to slow activity in China through 2010 and into 2011. Though I would add that, given targeted monetary policy, this outlook does not preclude asset price inflation as the property market is squeezed.

Inflation

As this paper is being written there are two Chinese stories in global markets, higher wages and Yuan appreciation, suggesting increasing inflationary pressures from China in coming years. On the basis of this trip I would conclude differently; changes to production inputs are marginal relative to the market and technology driven innovation that is lowering costs in China.

At the margin, rising wages and a stronger Yuan should mean higher prices for Chinese manufactured goods in coming years but this ignores the broader productivity efficiencies Chinese firms and firms manufacturing in China are capable of achieving. The best way of highlighting this is in the price of LCD televisions. Between 2005 and 2010 the price of one inch of an LCD screen fell from US\$100 to US\$17. This occurred in a period when Chinese wages rose and the Yuan appreciated over 30%. The fall in LCD prices is much more about the productivity improvements through scale, innovation and infrastructure than the cost of inputs.

Chart 9: US LCD TV Price – price per inch, monthly



The emerging dominance of Chinese domestic markets will have a marked impact on the global economy. While global markets are now less capable of protecting China from swings in domestic demand, global economies will benefit from the scale of China's domestic markets. The economies of scale achieved by firms domestically are greater than ever previously achieved and suggest rising innovation and falling real prices for some time to come across a variety of products.

There are three particular areas of innovation worth highlighting; the scale of Chinese market solutions, better use of labour and export distribution.

A good example of where the Chinese market has the scale to develop solutions faster and cheaper than other markets is in mobile technology. There are 641 million mobile phone users in China. This scale drives innovation that is globally competitive and lowers the price people in developing economies pay.

Mobile phone technology is particularly important for emerging economies where fixed line infrastructure is too expensive. As mobile technology shifts to a fourth generation it is two Chinese companies, Huawei and ZTE that are at the forefront of development. Already, Huawei and ZTE have created enormous disruption in global telecommunications markets. They cut prices in network technology by up to 50%, a move that contributed, in part, to the collapse of Canadian company Nortel Networks. By successfully accessing markets in emerging economies, including China, these companies have the scale to develop solutions that can become competitive in developed economies. As a result both companies have been able to sell in Western European markets to companies such as Vodafone and T-Mobile through cheaper technology. The emergence of cheaper Chinese network technology allows Western telecommunications companies to focus innovation in retail products that are designed to better meet the demands of developed world consumers.

China has long been a low labour cost market. The recent shift towards higher wages, including a 100% increase by Japanese car manufacturer Honda, suggests a changing market. Digging a bit deeper, however, suggests a more complicated picture where foreign companies using cheap labour are becoming less competitive against companies that recognise more productive labour. Car-making is a good example. When the Shanghai Automotive Company tendered for foreign joint venture partners there were two bidders; Toyota and General Motors. GM was successful because it was

prepared to automate factories. Toyota's reticence to automate highlighted concerns over intellectual property rights but also a perception of China as solely a low-cost labour market. Presumably, Honda felt similarly. Prior to the salary shift, workers at its plant in Guangzhou were earning around 50% less than workers in locally owned plants such as BYD. The shift to automation allows more efficient production at the same time as higher wages for operators who must have better skills. Combined with scale more productive Chinese based companies act to lower prices globally. Honda in Guangzhou, therefore, has been forced into capital investment. The high wages it now needs to pay can only be justified by investing in more capital to make labour more efficient.

There are two aspects to improved export distribution from China that are likely to continue to lower prices; continued domestic infrastructure improvement and further development of global supply chains.

The largest part of the freight costs for Chinese goods exported to international markets are often internal to China. The build out of transport infrastructure has been driven, in part, by a need to lower these costs. As this build-out continues internal transport costs will continue to fall. The importance of the continued build-out was highlighted by the American Chamber of Commerce in Shanghai who noted that its export manufacturing members were re-locating production back towards the coast because of insufficient inland infrastructure. The lack of infrastructure elsewhere in Asia means that China is losing very little business to markets such as Vietnam and India suggesting that costs may rise at the very low value end.

Foreign companies are still coming to terms with China as part of the global supply chain. I visited an Australian retail company that sources goods from China. In the past four years it has spent heavily on infrastructure in China to improve the efficiency of its supply chain. This process includes the establishment of more processing infrastructure such as manufacturing audits and quicker customs clearance. It also includes undertaking the majority of distribution activities in China rather than Australia. Goods are received from manufacturers at a China based distribution centre. They are then labelled and packed in boxes marked directly for the store they are to be sold in. The process removes labour costs in Australia, replacing them with lower cost Chinese labour. While this process has been around for some time there are still large Australian retailers yet to make the change, meaning further ability to lower costs.



Heavy traffic in Guangzhou.

Investment in private sector Chinese companies seems to make little sense to a Western investor. To again refer to my previous visit I made the following comments in 2009

'It also seemed the case that Chinese firms have a principal aim of churning off as much cash as possible rather than creating long-term wealth. Poor capital allocation seems to be a function of a focus on production and revenue growth rather than on -other financial return metrics.'

Discussions with companies again highlighted this focus on cash over return on equity. It got to the point where I stopped asking every company because of the blank stares or lectures I was likely to receive. I think there are three broad reasons for this behaviour; low cost of capital, capital access and capital ownership.

The cost of capital is low in China. It's lowest for SOEs with privileged access to banks based on relationships. But even broadly, in an economy with fixed asset investment spending at between 40% and 45% of GDP, capital is plentiful and cheap. This is particularly the case when offshore investment is broadly government led and the range of asset classes and investment products available to households is limited to listed equity, property, unlisted equity and deposits.

Of course private sector companies do not get the access to capital that SOEs get. This means that they must, generally, generate operating cashflow to remain in business and expand. Without access to bank finance many private sector companies rely on informal networks in the beginning. These informal networks are actually quite strong. McKinsey estimates that in 2006 this sector was \$100bn. They are filled with household investors who have made wealth elsewhere seeking better investment opportunities. In many cities there are moves to formalise these private equity channels. Poor access also leads to capital hoarding, which, in a way, is what capital owners want from their capital managers. One company with whom we spoke said its dividends were rejected by shareholders because the scarcity of alternative investment opportunities means re-investment risk is high. Capital owners prefer equity to remain inside successful enterprises. While sources of capital are not conventional relative to developed economies, the relative abundance of capital, even outside the state sector, makes it cheap.

The result of this perceived poor capital discipline is a focus on cash flow rather than return on equity. It often manifests in conglomerates, where businesses use the retained earnings from one industry, to expand into another, often altogether different, industry.

This pattern would seem to make investment in Chinese companies an unattractive proposition. Again, this was my position before travelling to China. But on reflection, this perception has probably changed.

There is a spectrum of private sector capital use in China; from the very attractive to the very unattractive. Even amongst the unattractive users there are likely to be better and worse companies.

The unattractive capital users in China are the firms that operate in competitive markets offering commodity or marginally differentiated products. They deploy capital into firms operating in competitive industries until the returns match the current low, cost of capital. As such these companies fulfil an important role in creating perfect competitive markets as they bid down prices. As perfectly competitive markets bid down prices this can drive innovation, particularly in improving the way goods are made. The scale of capital and labour in the Chinese market allows these companies to exist in a way that they could not elsewhere.

This process is reliant upon a large pool of hyper-mobile capital looking for opportunities to compete away economic surpluses. Business people from Wenzhou, on China's East coast, are particularly known for their ability to spot and exploit market opportunities across the economy. Good recent examples of their participation include coal mines, wind turbines and solar turbines with late arrivals in the market achieving minimal to negative returns. Future areas where capital can exploit economic surpluses in China include the urbanisation of Western

China and markets in Eastern China where SOEs have large market shares.

The attractive capital users in China are those businesses attempting to establish barriers to entry. These are companies that see capital costs rising in the future and want medium to long-term returns that reflect that higher level. The problem with these attractive capital users is that access for investors through listed markets remains limited and transparency can be very low.

It's not easy to build barriers to entry in China. It is nearly impossible for a company in consumer goods, for instance, to develop a barrier to entry even through product innovation. An innovative and successful product will soon be copied with a perfectly competitive market soon established. Maybe it's not intentional, but an outcome of allowing copying is a lower producer surplus, that in turn benefits consumers by increasing purchasing power and raising living standards (translation: competition lowers the return capital owners receive and the price consumers pay).

But, over the course of the trip, there were three areas which seemed to offer the best investment opportunities for sustainable excess returns through the creation of barriers to entry. These three areas are distribution, technology and sustainability. More broadly, though, the best opportunities are most likely to exist in areas without a substantial SOE presence because all participants are equally capital constrained.

I have previously talked about distribution and its ability to create excess returns in China. Companies that are prepared to engage in the establishment of these networks will be rewarded; those that do not will struggle. Foreign companies, in particular, are least likely to recognise and invest in distribution networks. The ability of foreign companies, such as Coca Cola and Nike, to enter Chinese markets is threatened by domestic competitors prepared to spend more money and time developing these networks. For clothing retailers, such as Nike, a big problem is securing appropriate real estate with a lack of institutional ownership of retail space, making leasing difficult. I would suggest department store and supermarket operators is one sector where companies will emerge as leaders because they have most effectively created supply chains and distribution networks that create sustainable barriers to entry.

Technology is a difficult area in which to create competitive advantage because, broadly, it's difficult for an innovation to not be copied in some way. But opportunities do exist. Indeed, China is becoming a technology powerhouse through a combination of leadership support, enormous numbers of engineering and science graduates, access to abundant resources

of capital and land; and competitive markets where continuous innovation or improvement is rewarded, in the short term.

From the trip, I came across a number of stories and statistics that highlight China's growing focus on research and development. China supports science at a senior level, promoting non-party scientists to ministerial levels. The Minister of Science and Technology came from Audi and produced a seminal paper on clean fuel technology. The Minister of Health has a 25 year background in US cancer research. China graduated 4.5 million university students in 2007 compared with 950,000 in 2000.

The next largest graduating class was in the US with 2.7 million. 36% of Chinese graduates were in engineering, compared to 7% in the US and 18% in Japan. 30% of US PhD students come from China and if Tsinghua University was a country it would have the most students at the Massachusetts Institute of Technology (MIT). Huawei, a telecommunications company, is looking to hire 5,000 R&D graduates each year for the next five years.

This focus on innovation is leading to results, largely in areas where China has problems that need solving. The best example of this is concrete pouring. Two Chinese companies compete with each other for the title of world's highest concrete pour, largely because China's building more tall buildings than any other country on earth. Similarly, in areas such as water and energy efficiency there are numerous Chinese companies developing solutions. For instance, it seems as if a Chinese firm has made a breakthrough in dramatically lowering the environmental cost of solar cell production. Warren Buffet has invested in BYD, the car maker, because of its potential as a developer of affordable electric car technology.

Finally, the Chinese government is focused on creating a more sustainable economy. This is, largely, a function of the imperative to continue to increase living standards. Companies that operate sustainably are those that recognise the true value of natural resource assets, the importance of a motivated workforce and act as stewards of their environment and will benefit as China moves to better regulate the environment.

One company that highlighted this was a coal and electricity producer in Shanxi province. The board secretary explained that the company has a 100-year coal resource and as such it needs to manage the resource to reflect this time period. This means, in part, managing resources such as water better and controlling pollution so that the local workforce remains healthy. This is very important in an area like Shanxi with very serious water problems. The local river, Feng He, a tributary of the Yellow River, runs dry in summer

but was once a raging torrent. While coal exploration meant artesian water levels were dropping quickly. One man said artesian water had been plentiful, locals could dig half a metre down to find water but today, due to rampant exploration, water is now found around 10m down. Coal will remain an important part of the Chinese energy mix, but those companies that use it more sustainably will be the ones that exist profitably in coming years.

The way capital is used in China highlights the implications for developed economies from a macro and micro level.

At a macro level there are now two significant and different costs of capital in the world. There is a developed world cost of capital and a China cost of capital. The Chinese cost is lower and the developed world cost is higher and has risen in line with the credit crisis. Chinese firms have abundant capital availability and global firms are relatively constrained. If China continues to maintain a broadly closed capital account these differences will remain. As China opens its capital account the two costs will converge; rising for China and falling for the developed world. This would occur as Chinese capital flows out into global markets to buy foreign firms. To an extent, this is already happening through Chinese investment in US Treasuries; and SOE and sovereign fund investment in international equities and projects. Ignoring issues of ownership, the move to offshore investment by Chinese firms has been a driver of investment in projects, particularly mining, around the world with positive knock-on effects in recipient economies.

At a micro level this capital cost differential means Western firms must compete differently. For firms producing goods that can be described as commodities with only marginal product differentiation, competition from Chinese firms with access to cheap capital and

large domestic markets will make survival increasingly difficult. These companies are more likely to survive by using Chinese manufacturers as a platform for production and focusing resources on home country niches through design and marketing. This is an example of how globalisation enhances localisation; local companies create better products and services for local customers because global companies make the base products cheaper.

For companies that want to build barriers to entry and, so, are dependent upon large capital expenditure survival is even more difficult. These firms are capital constrained relative to their Chinese competitors and so are extremely threatened. A good example of this came from an international chemical company I visited in Shanghai. We asked its management about its greatest threat and it highlighted, not external competition, but an internal unwillingness to allocate the necessary capital. Without sufficient capital the company's Asian operations, based largely in China, run the real risk of being out-flanked, particularly in research and development, by Chinese firms who spend big and are more ambitious. Furthermore, the technology solutions being developed in China around water and energy efficiency, have value across the world. Success for Chinese firms in these areas would drive their global expansion.

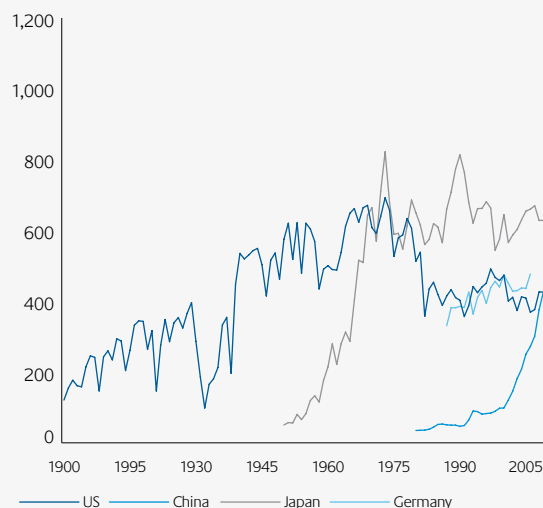
The abundance of cheap, Chinese capital is increasingly important. This is positive for the global economy because it is expanding productive capacity and lowering the cost of goods. However, it is also extraordinarily disruptive. If the cost of capital in the developed world remains relatively high, developed world firms will have to compete more intelligently and will, probably, cede large market share to Chinese rivals. The emergence of China as an even more competitive manufacturer means the evolution to service economies by the developed world will only accelerate in coming years.

The final area for investment implications focuses on commodity markets. Commodity markets have been substantial winners from the emergence of China in the last decade. The trip was not specifically designed to focus on resources but I did reach some conclusions. These two conclusions are broadly that the outlook for demand is commodity dependent; and that China is moving on the supply side with consequences for the broader global industry.

China has rapidly raised its per capita consumption of commodities and as a result, in some resources such as iron ore, consumption is close to likely long-term levels while in other areas, such as copper, consumption is just beginning.

China's steel consumption has risen remarkably since 1980. From a starting point of 35kgs per annum, per person, China's steel consumption has risen to an estimated 480kgs per person in 2010. As the chart below shows, this level is higher than the most recent levels in the US and Germany but substantially below consumption in South Korea and Japan.

Chart 10: Global steel production per capita annual production, ending 2010

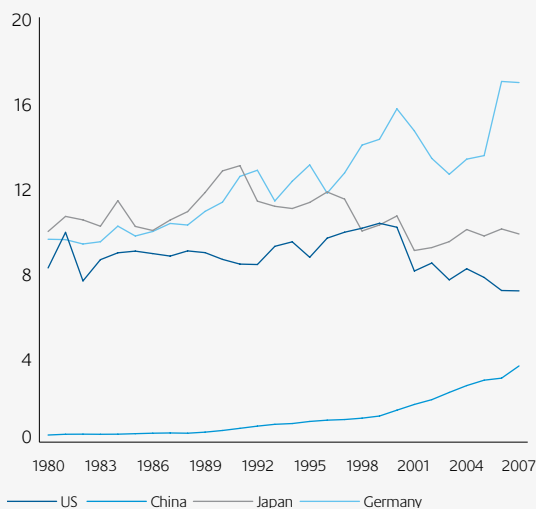


The comparison with Korea and Japan is slightly misleading because it is unlikely that China could ever export as much steel as these two countries currently do. More likely China's current steel consumption, at developed world peaks, is unlikely to show further strong growth. If steel production follows an S-curve, production is reaching the top of the curve which is associated with stabilising long term levels. Steel consumption may jump further in the midst of strong cycles but structurally, growth will be much slower.

In part this is simply an observation about the limits on how fast China can grow its steel consumption. Since 2002 steel consumption has grown at an unsustainable 21% per annum. But it also reflects the clear observation I gained from the tour; infrastructure construction will peak in coming years. While western urbanisation maintains consumption at current levels, or perhaps slightly higher, slower eastern urbanisation and the passing of the peak of the railway programme in 2012 should mean steel consumption stabilises at current levels or slightly higher. At this level there may be cyclical peaks driven by policy, and the global demand cycle, but broadly steel consumption in China is at or near, peak levels.

Elsewhere, however, China's consumption of metals will continue to rise, especially in base metals associated with consumer goods. This is for two reasons; higher per capita consumer goods consumption and faster replacement cycles. The chart overleaf shows copper consumption globally. As with steel, the comparison with other Asian industrialising economies is limited because of their reliance on exports. But in comparison to developed markets China's consumption lags substantially. This reflects the limited penetration to date of consumer goods in China.

Chart 11: Global copper consumption per capita consumption, ending 2007



This rising demand for copper reflects the broader shift in China's economy. Steel has built the platform from which a more balanced, domestic demand oriented economy can grow. As domestic demand grows, copper will play a more important role. This may be despite a short-term slowdown due to slower activity levels.

This mixed demand picture must be balanced against the supply response. It seems, from our meetings, that China has generally responded proactively to higher commodity prices, though in many areas it remains constrained. There are three areas where the focus on supply is impacting the outlook for prices; in iron ore, steel companies are internalising supply, and coal poor infrastructure makes imports competitive.

Steel makers have been the most proactive firms in resolving supply issues, largely through supply internalisation. Of the top three steel makers in China, two have moved substantially towards internalising iron ore. Wuhan Iron and Steel will be around 100% and An Steel 70% self-sufficient in iron ore in 2010. This shift to internalising supply has meant diversifying resource bases away from traditional geographies, such as Australia, and towards frontier markets such as Africa and Central Asia. Iron ore is a relatively common mineral, it makes up around 5% of the earth's crust. As such, the challenge for iron ore production is about managing political risk and creating the infrastructure to get it from mine to mill. Both these constraints are areas the Chinese seem increasingly comfortable dealing with.

Coal, and energy more broadly, is one of China's bigger commodity access problems. Demand is a long way from peaking. It will likely continue to rise in line with urbanisation. But while China does have abundant coal reserves, it remains a long way from key markets. Domestic production in China needs to be transported by truck or train from the North/West of China to coastal ports, before being shipped to the industrial markets of the south-east. Such is the congestion on north/western roads that trucks are limited by number plate, to running on alternate days only. Such are the difficulties of removing supply bottlenecks through the mountain north/west that in Shanxi province I was surprised to hear local officials talk of transmitting electricity rather than transporting coal. These constraints make imported energy, particularly coal and Liquefied Natural Gas (LNG) from Australia, the cheapest option for coastal markets.



Industrial crane on the Yangtze River, Shanghai.

Conclusion

This has been a rather long treatise on China as I saw it in May 2010. As the paper has shown my next visit may lead to further large revisions regarding the way I see China. But there are a number of areas I would like to highlight.

Politically, the key to China is change. When China stops its political evolution it runs the risk of slower structural economic growth and, of course, increasing political instability. The evolution of China's politics has been important for its economy. By supporting market based competition the government has allowed resources to be more efficiently allocated despite the pain this has meant for some of its SOEs. This process cannot stop. Similarly, the crackdown on corruption must continue. Not only does corruption lead to inefficient resource allocation but by more aggressively responding to corruption Chinese authorities raise transparency in the economy and society.

Economically, China's importance to the global economy will only rise further. Its importance will continue to be disruptive, positively lowering the price the world pays for finished goods and negatively forcing further structural change, particularly within developed markets. Chinese companies will make step changes, in many product markets, that leave developed world competitors redundant. China will also continue to have a lower cost of capital, relative to the global level. This will continue to promote aggressive investment, both domestically and internationally. In coming years there will be two drivers of an equalisation in capital costs; continued export of capital from China to developed markets and a realisation by developed world companies and investors that to remain competitive they must accept a more Chinese like cost of capital. Both of these drivers are likely to be very disruptive.

Domestically, China must shift to greater de-regulation in financial markets. The economy can no longer shift resources to export markets in periods of tighter domestic policy. This means policy must be more stable and transparent. Monetary policy, in particular, must be the key driver of resource allocation and administrative measures, aimed to cool particular sectors, and take a back seat. This process, however, will take some time; with the consequence that growth in China is likely to be more volatile. I take this to mean that growth will average 8% to 9% within a range between 5% and 11%. This compares to an average of 10% with a range between 9% and 13% in the last global expansion between 2002 and 2008. Greater volatility in economic growth will drive financial market volatility.

For Australia, China will continue to be a positive driver of economic activity. Australia's natural resources will remain in high demand, though some resources will become relatively more attractive from a demand perspective. In particular, energy and base metals where demand is more dependent on household consumption will see strong growth. But even in areas like iron ore, where demand growth will moderate substantially in the next decade, the relatively low cost structure, a function of better market access, higher investment and good assets, mean Australian resources will remain competitive.

Further information

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