China: Is the Commodity Super-Cycle Over?

The Great China Debate

The pace of Chinese economic growth has gradually slowed over the past year as the economic stimulus has faded and government has tightened policy to ward off a surge in inflation. Not surprisingly, as growth has moderated, views on the outlook for both GDP and basic material consumption have diverged. Given the significance to global commodity markets, the Credit Suisse Securities Research department has had a healthy debate about the outlook.

In this report, we share with you some of the contours of that internal debate. By focusing on the more difficult issues, we hope to provide clients with a useful resource to assist with their assessment of the various points of view.

Where We Agree

Across Securities Research, we agree that

1. A hard landing is unlikely.
2. Credit conditions have improved.
3. A 2009 style of stimulus later this year is unlikely.

Areas of Greater Uncertainty

China Economics Team’s Core Views

1. Liquidity has improved, but the demand rebound is likely to be muted.
2. China’s demand super-cycle for commodities is over.

China Basic Materials Team’s Core Views

1. The stagnant growth outlook for China’s infrastructure and property sectors, combined with construction-biased Chinese demand, marks the end of the Chinese commodity super-cycle. We expect China to soft land and commodities to feel most of the “pain.”
2. Cyclical factors – such as “normalization” of the high basis, correction of over-production/construction, and the rippling effects of the property slowdown on related sectors – should make 2012 a difficult year for Chinese commodity demand.

Global Commodities Research Team’s Core Views

1. Chinese basic material demand is likely to remain robust in 2012, with the weakest period already behind us
2. The key driver, fixed asset investment, remains strong, while industrial production and exports are set to rebound in Q2.
3. Chinese GDP growth is likely to remain in the 8%-9% range over the next year or two, with the contribution to the global total continuing to increase, given the much larger base. We do not think that it is possible to have 8% growth with weak investment given that investment accounts for half of GDP.
4. Although the intensity of commodity growth is likely to slow over time, we expect this to be a gradual process, not a step change, this year. Still, as a result of strong Chinese demand, coupled with a gradual recovery in the West, global commodity prices are likely to, on average, stay well above the levels seen in the 1980s and 1990s – we believe that the super-cycle has further to run.

Institutional Investor 2012 All-America Fixed Income Research Team

Institutional Investor has indicated that polling will begin late March/early April and will run for approximately 4-5 weeks.

If you are interested in obtaining a ballot when polls open, please use this link.*

Our Commodities team would appreciate your recognition.

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Background

On 29 February, Credit Suisse announced the creation of an integrated Securities Research & Analytics Department, aligning the bank’s expertise across Equity Research, Fixed Income and Economic Research, and HOLT® (Credit Suisse Creates the Securities Research & Analytics Department). One of the key objectives of the new department is to provide clients across the investment spectrum seamless access to Credit Suisse’s thought leaders and to draw on the rich experience of our analysts across the globe.

To highlight these capabilities, the China Economics team, the China Basic Materials team, and the Global Commodities team, who have well over a hundred years of combined experience analyzing the Chinese economy, have co-authored this report.

The Chinese economy has performed strongly over recent years, despite the “Great Recession” and the associated fall in global GDP in 2009 – the first time output at a global level has contracted in at least 60 years. Although the relative strength owed much to the fact that China did not have a financial crisis, in large part it was also due to a massive policy stimulus. The stimulus achieved its objective of boosting growth, but as it has begun to fade, it has exposed the Chinese economy to a new set of challenges, with many in Beijing now questioning whether its net legacy is positive or negative.

Given the historically unprecedented development path followed by China over the past 30 years, the outlook for the Chinese economy is almost, by definition, uncertain – with little historical experience to provide a reliable guide. Against this backdrop, not surprisingly, there are a range of views on the outlook for economic growth and in particular for basic material demand.

In this report, we highlight areas where we think that the outlook is relatively clear. We also shine light on the areas where we believe that there is less certainty, with the three teams each outlining their core views.

We hope that this report will provide a useful resource for assessing the probabilities of the various possible outcomes over coming years and that it will illuminate both areas where we are relatively confident but also, and perhaps more importantly, areas of greater uncertainty. We think that the latter should stimulate a debate that will enable clients to fine-tune their own views on both commodities and related markets.
Global Commodities Research View
Assessing the 2012 Outlook

When assessing the pace of growth in basic material demand in the near term, the best indicator we have, both in China and abroad, remains current momentum – we note that from a macro level the key indicators of demand are fixed asset investment and industrial production.

While risks remain, we believe that the growth slowdown in China has more or less run its course (see Commodities Advantage: Chinese Tide Begins to Turn).

In tracking momentum in China, it is important to assess high-frequency movements. Many focus on year-on-year (yoy) changes, but given the distortions seen in the level of activity as a result of stimulus measures, we think that the best approach is to assess the seasonally adjusted level and to then look at month-on-month (mom) or quarter-on-quarter (qoq) changes.

- We note that when assessing momentum in the US, we look at monthly changes in payrolls or quarterly changes in GDP, with little thought for movements over the year.
- In many advanced economies, statistics are released in seasonally adjusted terms, whereas in China much of the data has not been adjusted for seasonality. As a result, we use the PBoC’s x-12 program to do our own seasonal adjustment – see (Chinese Steel: We Have Seen the Bottom).

Fixed Asset Investment (FAI)

As is the case in many economies, fixed asset investment flows are highly volatile month to month and quarter to quarter, as by their nature, many large investments are relatively lumpy. Although many analysts have suggested that investment is slowing (some suggest sharply), an analysis of the level of real investment shows that investment growth through February remains very much on trend (no slowdown). Indeed, after dipping in December, as often happens toward year-end, investment rebounded very strongly in the first two months of 2012 (Exhibits 1 and 2). Importantly, commodity-intensive construction also rebounded in early 2012.

Much of the bear argument about FAI over the remainder of 2012 focuses on the housing sector. As noted in Chinese Housing and Commodity Demand: Healthy Growth Despite Private Dip, we do not expect a bust in Chinese housing this year. We expect total Chinese real estate construction to grow by 8% in 2012, despite a small fall in private
housing construction. More broadly, we expect Chinese steel production to grow by 7% (down from 9% in 2011) and copper consumption to grow by 8% (from 10% in 2011), as outlined in From Fear Flows Opportunity.

Although private housing sales have been weak, seasonal data suggest that they have stabilized and may have even begun to recover (Exhibit 4). Perhaps more significantly, the impact on construction is likely to be smaller than many have feared, with the relationship between the two variables weak at best (Exhibit 5). Our modeling suggests that despite a small fall in private housing sales, social housing and commercial construction will provide a substantial offset.

- The fall in house prices has been policy driven (the authorities are rightly worried about the social consequences of housing affordability), rather than a result of a deterioration in underlying demand. We note that the macro-prudential policy tightening appears to have come to an end and that broader monetary policy has already been eased (normalized), with M2 growth returning to around its average pace.

- Although it is possible that the government will allow the market to soften further, we believe that, in large part, its objective of stabilizing prices has already been achieved. We think that much of the anxiety about the Chinese property sector is due to misplaced fears that China is repeating US mistakes, rather than a reflection of actual developments in China.

Exhibit 3: Chinese Housing Sales – YOY Misleading

Exhibit 4: In Trend Monthly Terms, Getting Better...

Exhibit 5: Chinese Housing – Not Collapsing
Industrial Production (IP)

In contrast to the continued robust growth in fixed asset investment, the data for January and February, as well as the backward revisions, clearly show that industrial production growth has slowed gradually, with the pace of growth in Q1 so far this year well below the average of previous years. Looking forward, however, we note that the new orders component of the PMI has now bottomed. This factor – combined with the gradual recovery in the US, Europe, and Japan – suggests to us that IP growth is also likely to have found a bottom (Exhibit 6).

- However, although we expect a modest improvement over coming months, we do not expect a return to the growth rates seen in recent years, in large part because we expect exports to remain relatively weak and because the slowdown has been policy-driven: the government now prefers growth in the 8%-9% range rather than the historical 10%-plus.

- At the margin, the evidence is that IP growth is beginning to stabilize at a weak level, and we will be waiting with interest for the March data (released in early April) – which, in our view, will provide the first clean read on IP momentum for 2012.

Exhibit 6: Chinese IP Growth – Bottoming Out?

Exhibit 7: Air-Conditioner Production – Stabilized

Exhibit 8: Auto Production – Still on Trend

- In terms of the detail, it was notable that after falling heavily in Q4, air-conditioner production looks to have stabilized over the first two months of this year, while despite the negative headlines in the media, auto sales remain relatively firm, with the yoy weakness mainly reflecting negative base effects as the stimulus drops out of the base.
Although speaking to companies (channel checks) is a useful way of augmenting the data to get a feel for near-term momentum, such information needs to be treated with caution – particularly in a world where headline growth has slowed from 12% to 8%, thereby almost guaranteeing large changes in market share among companies.

- We think that the official surveys, which have a sample size of over 800 and which have a time series long enough to allow seasonal adjustment, provide a far cleaner snapshot than the anecdotes.

Looking beyond the near-term data, we see that part of the China equation remains the pace of inflation. The authorities remain cautious about underlying inflationary pressures, but it is notable that the “inflation scare” last year has essentially washed through the system as global food prices have stabilized.

- Importantly, both the headline CPI and the non-food CPI have actually fallen a little over recent months for the first time since 2009 (Exhibit 9).

Although we continue to believe that the slowdown is tracking the path desired by the policymakers, the quite dramatic fall in inflationary pressures clearly provides considerable scope for a significant policy easing if required.

- The trajectory of inflation over the past year suggests to us that potential GDP growth remains comfortably above 8%.

Exhibit 9: Chinese Prices Falling – So Plenty of Scope to Ease Policy If Needed

CPI inflation 3m/3m annualized, seasonally adjusted

<table>
<thead>
<tr>
<th>Year</th>
<th>Overall</th>
<th>Food</th>
<th>Non-Food</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
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<td>2008</td>
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<td>2010</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: CEIC, Credit Suisse

2013 and Beyond

Much of the discussion about changes in the structural pace of commodity consumption in China has been driven by the now-clear objective of the policymakers (as embodied in the 12th 5-Year Plan) to rebalance the Chinese economy away from exports and investment, toward consumption and efficient, value-adding industry and services.

We agree that this transformation is likely to occur over time, but we do not expect a step change this year. Indeed, we suspect that such a significant economic transformation may take far longer than most expect – see Have We Reached “Peak Steel” Demand in China? We Think Not.

We believe that the significance of the statement by Premier Wen that the Chinese authorities will target 7½% GDP growth in 2012, down from the 8% target of recent years, has been vastly overstated. Indeed, we do not think that this announcement will have any lasting impact on market psychology or that the outlook for Chinese growth has changed materially as a result.
We note that the official GDP target for the 10th 5-Year Plan (2001-2005) was 7% and that GDP growth came in at 9.8%, while growth between 2006 and 2010 averaged 11.2% despite the 11th 5-Year Plan targeting 7.5%.

**Exhibit 10: Chinese Growth Target Has No Bearing on the Outlook**

![Chinese Growth Target Graph]

Source: Credit Suisse, World Bank

Although the rate of investment has been very strong (the flow), the level of the capital stock in China remains very low compared to that of most industrial economies and, more importantly, compared to the needs (recognized in Beijing) of the country’s large and crowded urban and rural populations – suggesting that much remains to be built.

**Exhibit 11: China’s Stock of Capital Is Still Very Low**

![Capital Stock Graph]

Source: Credit Suisse, US Bureau of Economic Analysis, Gavcal

It is notable that even one of the key advocates of the structural change, the IMF, has its doubts about the likely pace of this growth rate. These concerns have been echoed by government officials.

- In its recent sustainability report, the fund noted that both the authorities and the IMF expect the investment surge associated with the stimulus to fade, as construction returns to a “more normal pace.”
• Based on its latest forecast, the fund expects investment growth of 9.4% in 2012 and 8.9% in 2013, only modestly slower than that in 2011 – suggesting very little rebalancing in the near term.

• We also note that, despite expecting a faster rebalancing than we do, our China Economics team still expects investment to grow by a robust 8% in 2012 and 8.1% in 2013, with the investment share of GDP remaining close to 46%.

The IMF also noted that it does not think that the policies currently embodied in the 12th 5-Year Plan will be sufficient to result in a substantial increase in the savings share of GDP (through increased consumption).

• The authorities will be faced with the choice of either substantially weaker GDP growth or the necessity to continue supporting rapid investment growth. The latter course seems more likely to us.

Although the pace of basic material consumption growth is likely to slow gradually over time, this is part of an already-established pattern. We do not expect a sharp inflection point this year, albeit cycles often act as catalysts of faster change.

We also note that growth is likely to evolve. However, the substantial increase in the base should ensure that China continues to make a large contribution to global growth. For example, 10% growth off a base of 100 is the same in terms of absolute increment as only 5% growth off a base of 200. This argument is well illustrated by looking at the contribution of Chinese GDP growth to the global total:

• In the 1980s, China’s GDP growth averaged 10%, with China contributing less than 10% of global growth.

• In the 1990s, Chinese GDP growth was also 10%, but its contribution stepped up to nearly 20%

• In the 2000s, GDP growth again averaged approximately 10%, but the contribution grew to over 25%.

Even if Chinese GDP growth slows to 8% per annum in 2012-2014 (substantially slower than in the past decade), its contribution to global growth should continue to increase, to more than a third in the first half of this decade.

Exhibit 12: Despite Slower Growth, China’s Contribution to Global Growth Is Still Rising

Exhibit 13: The Consensus Consistently Underestimates Chinese Growth

Finally, we should remember that the consensus almost always underestimates the pace of Chinese growth. Although we don’t expect a substantial growth rebound, we think that the history of the past decade well demonstrates the likelihood that the risks are far more symmetrical than many appreciate.
China Economics View

Four Incorrect Perceptions in the Market

We consider the following four widely held perceptions in the market incorrect:

1. **If growth slows, Beijing needs to stimulate.** We believe that Beijing is comfortable about the economy growing at a pace of 7.5%-8.5% when the economy enters a period of economic transformation. Premier Wen’s setting the growth target for 2012 at 7.5% is the best illustration of the government’s attitude toward slower growth. Growth could exceed 7.5% in 2012 eventually, but the target has revealed Beijing’s tolerance.

2. **If inflation slips below 5%, the central bank will ease.** We believe that having CPI inflation in the range of 3%-4% is good inflation. The PBoC is not in a hurry to ease, as long as social stability is not a problem. Leaders in Beijing are much more relaxed about their ability to manage the economy now than they were in Q4 2008. The required reserves ratio has room to be cut, but that does not mean that monetary policy is getting easier, according to Zhou Xiaochuan, governor of the PBoC.

3. **A growth slowdown justifies large-scale stimulus.** We believe that growth per se matters little and that social stability is more of a concern. Currently, despite softened growth and demand, the labor market remains solid and wage growth continues. Heavy industry is having trouble, but it is not a labor-intensive industry. Beijing instead is taking this opportunity to push for structural changes.

4. **If stimulus comes, China’s demand for commodities will surge – just like in 2009.** We believe that if any stimulus is launched (on a much smaller scale than in 2009), it will be focused on boosting consumption instead of infrastructure investments. The propensity for usage of commodities should be very different from that in 2009.

An Assessment of the State of the Economy

China’s liquidity situation has improved markedly since the beginning of the year, reducing significantly the risk of a hard landing, in our view. In the first two months of 2012, banks lent out RMB1.45 trillion, lower than the average for same period in the previous three years but still a remarkable improvement in lending compared to the final four months last year. Not only do SOEs have access to credit, but local government financial vehicles and SMEs have also regained access. In addition, banks are more active in making mortgage loans to first-time home buyers. The improvement in liquidity is the biggest change in the economy relative to three months ago.

However, demand remains muted, and growth may surprise on the downside. Despite banks’ willingness to lend, organic demand for loans outside of the property sector seems to have weakened. Banks are now chasing quality borrowers, in sharp contrast to last year. We think that there is a sea change, as the constraint to lending has shifted from policy restrictions to demand limitation. Anecdotally, heavy industries are in pain, more so than in 2008-2009. Retail sales, especially for automobiles and white goods, are also unimpressive. In our judgment, Q1 2012 growth and corporate earnings may well surprise on the downside, despite an easier lending environment. We project 7.5% GDP growth for Q1 on an annualized qoq basis.

### Exhibit 14: What Has Improved and What Has Not?

<table>
<thead>
<tr>
<th>Liquidity</th>
<th>Improved</th>
<th>Not Improved</th>
<th>Demand</th>
<th>Improved</th>
<th>Not Improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank lending</td>
<td>✓</td>
<td></td>
<td>Capital goods</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>SME liquidity</td>
<td>✓</td>
<td></td>
<td>Commodities</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Developers cash flow</td>
<td>✓</td>
<td></td>
<td>Retail sales</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Bank liquidity</td>
<td>✓</td>
<td></td>
<td>Export orders</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>SHIBOR</td>
<td>✓</td>
<td></td>
<td>Property transaction</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Infrastructure project</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Source: Credit Suisse
Industrial production grew 11.4% yoy during the first two months this year, compared to 12.8% yoy last December and 13.7% average growth in 2011. This is the weakest production growth since July 2009, underscoring the lack of growth momentum. Inventory correction is occurring everywhere, in the machinery and raw material sectors in particular. Fixed asset investment grew at 21.5% in same period, which was slightly better than expected. Apparently, local governments have resumed some stalled infrastructure projects following easier bank lending, but this effort is expected to be weak and may not even last, as we expect local governments to repair their balance sheets. Industrial investment has been muted as production costs have surged, fuelled by rising salaries.

Retail sales were soft during the Chinese New Year holiday. The dip in housing transactions has reduced the need for electronics products and interior decoration. Restrictions on car sales in an attempt to curb traffic jams in some cities have also hurt auto sales. Although retail sales have softened, they are still more robust than in the manufacturing sector. Manufacturing PMI has been struggling at around 50, and the sector appears to be in a recession. But non-manufacturing PMI remains brisk at around 58 – the reason being China’s consumption story, which is fuelled by urbanization and wage hikes. Strong non-manufacturing PMI is the pillar supporting our confidence that the economy is unlikely to slip into a hard landing (growth below 6%), assuming that housing prices do not collapse.

We do not expect large-scale stimulus in the coming months, although more required reserves ratio cuts are likely. To the PBoC’s governor and to us, cutting the RRR is a technical adjustment. Regulators are asking banks to bring their off-balance sheet activities back to book, and that increases the base that is subject to reserve charges. Maintaining the status quo in RRR means that banks must hand over more liquidity to the central bank’s reserves account. We expect two more cuts in RRR. However, the economy is growing at a pace of 7.5%-8.5%, with about 4% inflation. This is a good result, and the economy is not slipping into deflation. The fact that Premier Wen Jiabao set this year’s growth target at 7.5%, instead of the usual 8%, has sent a strong message that Beijing does not mind a slower growth pace during the period of economic transformation, provided that social stability is not threatened.
We sense strong confidence from senior official regarding their ability to manage the economy, in contrast to the lack of such confidence in Q4 2008 before a huge stimulus program was launched. There is consensus among key decision makers that the RMB4 trillion stimulus at that time did more harm than good to the long-term sustainability of growth. Unless the economy shows signs of a hard landing and social stability appears to be in danger, we do not expect large-scale stimulus to be launched. China’s labor market has moved from very tight to tight. The most troubled heavy industries are not labor-intensive. The export sector is laying off workers, but these workers have been absorbed by the services sector. Further, as more jobs become available in the inland provinces, fewer migrant workers are willing to come to the coastal areas. A solid labor market makes Beijing more relaxed about the growth slowdown. Indeed, we think that growth at 7% or 5% would make a difference to the labor market and hence could lead to a different policy response from the government.

For more details, please see China: Assessing the state of the economy – Hard landing risk is gone, but rebound is weak, published on 29 February 2012 and China: Improved liquidity, but not demand, published on 15 March 2012.

Is the Super-Cycle Behind Us?

Now, a long-term question: will China’s mighty demand for commodities return in the medium term? We will leave it to the analysts to debate about the demand and supply of commodities. Here are four reasons from an economic perspective that we think that the super-cycle may not return, despite some cyclical ups and downs. In our view,

- The golden age of infrastructure investment is behind us now.
- The golden age of the housing boom is behind us now.
- The golden age of exports is behind us now.
- The golden age of policy stimulus is behind us now.

But,

- We expect one more leg of urbanization.
- Further acceleration in policy housing is likely.
Still,

- We project trend growth in the next decade of 7%-8% versus 10.7% in the past decade.
- Growth engines are likely to shift from exports and infrastructure to consumption.

This means that

- It should take less commodity consumption for each unit of GDP.

Exhibit 19: China Is a Mega-Weight in the World’s Commodity Markets ...

Exhibit 20: … But Its Demand for Commodities for Each Unit of Growth Should Be Peaking

For more details, please see China: Is the commodity supercycle behind us?, published on 5 March 2012
China Basic Materials View

The Bears’ Argument

We believe that a stagnant outlook for China’s infrastructure and property sectors, combined with construction-biased Chinese commodity demand, will lead to disappointment in growth expectations for Chinese demand. The determination of the central government to address the local government debt issue and normalize the property sector suggests that policy is likely to remain consistent in 2012 and beyond. Although we think that powerful consumption-driven growth is likely to emerge, the risk of mismatched timing of the two offsetting factors could lead to medium-term disappointment in demand.

In the near term, cyclical factors – such as “normalization” of the high basis demand from the 2009-2010 stimulus period, correction of over-production, over-construction, and the rippling effect on related sectors from the property slowdown – will make 2012 a difficult year for Chinese commodity demand. We believe that China will manage to soft land and that commodity demand will feel most of the “pain.”

Think about the demand drivers ...

The super-cycle of Chinese commodity demand was driven by China’s extraordinary growth in infrastructure construction, export, and urbanization. However, a change is already taking place. In the coming years, we believe that Chinese commodity demand growth will be significantly below market expectations as a result of the following:

- The infrastructure boom is over.
- The golden age of exports is over.
- Property-driven growth is over.
- Urbanization continues, but it is not new.

However, we expect a powerful consumption story to emerge in the coming years. Most economies have undergone a similar transition. What’s different about China is its heavy investment/construction-biased growth model; it has made the commodity cycle a lot more powerful on the way up and now can work the other way. If this is not challenge enough, we highlight that in 2012, we expect cyclical factors – such as the high basis and pre-consumed demand from “stimulus policies,” the correction of over-production and destocking in the heavy manufacturing sectors, and more recently, the start of the correction in over-construction activity in the property sector and all the rippling effects it creates – also to have an unfavorable impact on Chinese demand.

18 tonnes of cement

Given the nature of construction-biased Chinese commodity demand, 18 tonnes of cement is the reason that we are structurally bearish on the growth outlook of Chinese construction demand.

This is a “magic” number, representing the stocks of cement consumed (or cumulated consumption) in Asian countries and the well-developed coastal provinces in China, when annual construction demand peaks/plateaus. The reason it has worked well is that construction demand tends to be one-off in nature, non-recurring at least for a long time, unlike milk consumption, washing machines, and cars. When enough bridges, railways, highways, and basic urban infrastructure have been built around each person, it will be difficult to keep finding more things to build.

Given that this is a “stock” concept, one can get to this peak level slowly if annual demand is low, or very quickly if one builds a lot more each year. With all the stimulus polices,
Chinese cement demand is now racing to the top at 1.5 tonnes/person each year (from 1 tonne/person in 2008). The cumulated cement consumed in China was 12 tonnes per person in 2010 and is expected to be 18 tonnes in 2012. Western China, China's very last big construction site, is expected to consume 14 tonnes in 2012 – only two to three years away from the 18 tonnes threshold.

However, this does not mean that we will necessarily see demand collapse. In fact, the continued replacement demand as a result of ongoing urbanization and perhaps poor building quality is likely to be enough (as we have seen in more developed provinces in coastal China) to support demand at the current level.

The impact of a stagnant construction market on Chinese commodity demand could be greater than perceived, given the sector's significant impact on demand. For example, 67% of the steel consumed in China is construction related, compared to 36% for aluminum and 20% for copper.

**Exhibit 21: Unit Cement Consumption Per Capita by Countries**

![Unit Cement Consumption Per Capita by Countries](image)

Source: China Cement Association, Company data, Credit Suisse estimates

**Exhibit 22: Cumulated Cement Consumed Per Capita Before Peak Annual Demand**

![Cumulated Cement Consumed Per Capita Before Peak Annual Demand](image)

Source: China Cement Association, Company data, Credit Suisse estimates
Policy’s Goal: No More Increase in Local Government Debt and No Repeat of Japan/US Property Bubble

Many have argued that the stagnant demand in property and infrastructure could change overnight with “policy easing.” We disagree. In the past few months, in particular from the recent NPC, there have been clear indications of unprecedented long-term determination by central government to address local government debt issues and normalize the property sector. We expect policy to remain consistent in 2012; if anything, moderate easing of 1%-2% in M2 supply could have a marginal impact on commodity demand (1%-2%), by our estimates.

We believe that the Chinese government is taking the lessons from the property crisis in Japan and the US seriously and is fully determined to “proactively” address the issues in the sector before a crisis emerges. This is consistent with the goal of its property tightening policy – not to kill the sector but to discourage speculative demand and ensure a stable market, with stable and normalized pricing for real demand in the long run. As a result, we think that expectations of “policy easing” will continue to be disappointed in 2012. Instead, the removal of the “sales restriction” is likely to be accompanied by the imposition of a long-term mechanism, such as property tax, to ensure the stability of pricing in the sector. It is a challenging task, but perhaps, there is no choice.

We are not bearish on the demand from property. In the past decade since Chinese housing reform, the cumulated units sold totaled about 64 million, one-third to one-half of the addressable market (depending on the bottom 20%-30% that will be in the social housing market). The inherent demand should be sustained for another ten years, yet growth from the current level is highly questionable, given that the market is halfway developed, in our estimation.

Exhibit 24: Potential Addressable Market Breakdown

<table>
<thead>
<tr>
<th>Household (2010)</th>
<th>million</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>402</td>
<td>100%</td>
</tr>
<tr>
<td>Rural</td>
<td>205</td>
<td>51%</td>
</tr>
<tr>
<td>Urban</td>
<td>197</td>
<td>49%</td>
</tr>
<tr>
<td>Urban-stocks of units sold (2000-2011)</td>
<td>64</td>
<td>16%</td>
</tr>
<tr>
<td>Urban-low end</td>
<td>66</td>
<td>16%</td>
</tr>
<tr>
<td>Urban-to be addressed</td>
<td>67</td>
<td>17%</td>
</tr>
</tbody>
</table>

Rate of urbanization/year 4 1%

Source: Company data, Credit Suisse estimates
On the infrastructure side, we do not see a lack of projects from the local government, just a marginal deterioration. Nevertheless, the concern about local government debt by the central government is serious. The premier’s NPC speech suggested that China will “strictly control any incremental addition of local government debt.” As a result, local banks are guided to provide support to ongoing projects, yet new project approvals continue to be strictly controlled. Historically, China’s M2 supply growth correlates well with new projects starts, and the M2 target is set at 14% for 2012, versus the past year’s average of 17%-18% and 28% in 2009. This number could remain at the current level, as China is ready to transition its economy while keeping local government debt under control.
Debate About Elasticity – “Hard Land” versus “Soft Land”

The Chinese government has revised its GDP target to 7.5% (from 9%-10% in the previous five years), the implication being that China will manage to soft land. In our view, however, commodity demand will feel like a “hard landing.”

The structural change in Chinese growth drivers makes elasticity analysis of commodity demand more tricky, likely overestimating commodity demand when growth slows. If we look at the past 30 years, it is not very difficult to see that elasticity (of, say, steel demand growth/ GDP growth) contracts when GDP growth decelerates, and steel demand declined in the 1994-1995 tightening. The reason is clear: investment, a commodity-intensive sector, has been the main contributor to every round of tightening or slowdown. We also highlight that we expect construction-related materials (e.g., steel and cement) also to take more of a “hit,” as a slowdown in construction activity should contribute to most of the slowdown in 2012 FAI.

As a result, we estimate that steel demand will see no growth in 2012 and structurally grow at <0.5x of the GDP sensitivity, reflecting the sharp deceleration in investment growth and a continued slowdown in construction-related sectors.

Exhibit 27: Contribution to Growth of FAI by Major Sectors

![Contribution to Growth of FAI by Major Sectors](image)

Source: Company data, Credit Suisse estimates

Exhibit 28: Contribution to GDP Growth by Major Sectors

![Contribution to GDP Growth by Major Sectors](image)

Source: CEIC, Credit Suisse estimates
Urbanization

“Urbanization” has become a buzz word for Chinese commodity demand. It is an exciting thing for commodity demand, as we watch farmers move from small farm houses that use a few tonnes of cement to big houses that can consume three times the cement and even more steel and eventually move to mid-rise residential buildings, where the population is more concentrated. And farmers then equip their new homes with appliances and other modern conveniences. In the process, demand grows for cement and steel and then base metals and energy.

Nevertheless, we highlight that urbanization is not new for China but rather an ongoing process since the mid-1990s, occurring at a rate of 1.2%-1.4%, or 10 million to 20 million people, per annum. The process continues, as China aims to achieve an urbanization ratio of 52% by 2015 and 65% by 2030. Unless the process accelerates meaningfully, however, we can only argue that it will provide sustained demand rather than an acceleration.

The demand generated from the urbanization process can be difficult to isolate from other demand drivers over the past ten years, as Chinese demand has also benefited from extraordinary export growth (which is now stabilizing). In other words, we question whether urbanization is the answer to everything, especially in terms of its impact on incremental commodity demand.

Urbanization is not new for China but rather an ongoing process
We took a close look at US history between 1900 and 1930, when the US’s urbanization rate rose from 30% to 51%, and at Japan from 1955 to 1975, and we found striking differences in per capita incremental steel demand generated for each person urbanized versus China. The average per capita incremental steel demand for China over 1990-2010 was 1,650 kg, including >2,000 kg during 2001-2005, and >3,800 kg in 2006-2010, versus the US and Japan average of 1,000-1,200 kg in the similar period of urbanization – in other words, China used two to three times more steel to urbanize each person than the US and Japan did. It is worth noting that Chinese exports rose from 20% of GDP to 30% of GDP in 2001-2010. Indeed, steel demand per capita tends to be higher in countries with higher exports, such 1,060 kg in Korea, where exports account for 40% of GDP. Yet export growth is coming to the end.

This is another reason that we do not think the trend of the past ten years can be used to forecast Chinese future demand. Assuming 3 tonnes/person or 1.0 tonnes/person elasticity can lead to a very different outlook for Chinese steel demand in five years – a difference of 700 million tonnes of steel versus 900 million tonnes of steel.

**Exhibit 30: What the Right Steel Demand Generated from Urbanization**

![Steel demand per capita for urbanization](image)

Source: Company data, Credit Suisse estimates

**Exhibit 31: Steel Demand Per Capita – China versus Peers**

![Steel demand per capita comparison](image)

Source: Company data, Credit Suisse estimates

China: Is the Commodity Super-Cycle Over?
The bright spot – consumption

There are bright spots for long-term demand – the emerging consumption story can become more powerful. It is not only driven by government support but also by China’s demographic shift – that is, China’s aging population, resulting from the retirement of Chinese “baby boomers” (people between 30 and 50 years old now), who account for nearly one-third of China’s population. We think that this is part of the reason that the economy has to shift away from a labor-intensive and investment-focused model and part of the reason that unemployment remains manageable in the context of the 2012 slowdown. It also is the reason that we can be hopeful about powerful consumption-driven demand in the long run.

Nevertheless, commodity still needs to go through “pain” from the medium-term structural slowdown in investment and near-term cyclical downturn. And when it adjusts to a more normalized base, demand growth should return, benefiting non-construction-related commodity, base metals, and energy, in our view.

Exhibit 32: China’s Demographic Changes

Exhibit 33: Percentage of Working-Age Population Declined for the First Time in 2011

Exhibit 34: Where Is China in Terms of Commodity Demand Per Capita?

Unit consumption per capita (China vs US and Japan)
2012 – cyclical downturn

In the past week, we visited over 20 firms (including home appliance and machinery producers, copper fabricators, dealers, traders, local government advisors, NDRCs, and local and central banks). The locations we visited ranged from western to central-north China, as well as the more developed regions in the coastal area. Feedback from these visits confirms that demand has deteriorated more than perceived, particularly in sectors relevant to materials demand. The policy outlook remains in a “fine-tuning” mode for the year, and the expected policy easing may disappoint the market in the end.

Demand in most material sectors was lower than our expectation, with the cement and copper sectors worse than others. The iron ore market’s surplus is not as serious as expected, at least for now.

Specifically, heavy manufacturers’ order books as of end-February, and also likely in 1Q 2012, contracted 20%-40% yoy, as a result of a lack of projects and shorter order lead times. Inventories of finished products – e.g., air conditioners and power cables – remain high.

For the construction market, although existing infrastructure projects will get renewed financing support, the approval of new ones continues to be strictly controlled. New floor space starts in 2012 for the developers we visited are expected to decline (-12% to -70%).

Our March order book survey suggests that 100% of downstream producers expect some sequential pick-up in demand. Yet most of the respondents are seeing a weaker-than-normal post-Chinese New Year pick-up, and two-thirds of them estimate that the March order book will decline yoy. In addition, steel mills are seeing flat March order books, while the cement pricing trend remains soft – all consistent with the recent feedback from our China trip at the end of February. We cannot attribute the slowdown to Chinese New Year anymore – China is having a soft landing, but commodity is feeling most of the pain.

We believe that 2012 will be another challenging year for Chinese basic materials demand, as most downstream demand drivers continue to struggle with the abnormally high base and/or overproduction, while the property sector imposes another, deeper slowdown on top of everything. We believe that property construction will be the weakest component of demand, followed by home appliance production. We expect a moderate rebound in infrastructure demand, depending on the magnitude of the property slowdown. After the first year of adjustment in 2010, the auto sector might start picking up moderately as well.
## Exhibit 35: Key Assumptions and Demand Estimates for China Basic Materials

### Key demand assumptions

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<td></td>
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<td>51%</td>
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<td>5%</td>
<td>7%</td>
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<td>301</td>
<td>328</td>
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### Demand for basic materials

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Sources: Credit Suisse estimates

Source: Company data, Credit Suisse estimates
Disclosure Appendix

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