# **Fitch**Ratings

# The Impact of a China Slowdown on Global Credit Quality

Macro Credit Research 30 November 2010

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#### Related Fitch Research

- China: Stimulus Hangover? 14 October 2010
- Chinese Banks: Informal Securitisation Increasingly Distorting Credit Data 14 July 2010
- Global Economic Outlook 1 October 2010

#### Analytical Approach

- Collaboration with Oxford Economics including use of their macroeconomic model.
- Survey of 40 of Fitch's senior analysts.
- Analysis of recent trend macroeconomic data.

#### **Summary**

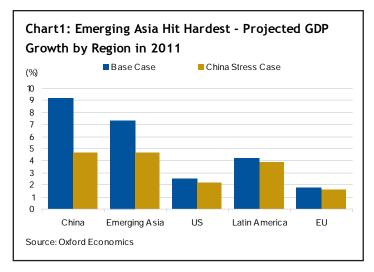
An important question facing the global economy is whether continued robust growth in the major emerging economies can offset the potentially anaemic performance of the major developed economies (MDEs). At the heart of this debate sits China, whose share of world GDP has increased from 2% (purchasing power parity basis) in 1980 to nearly 12% in 2008 and contribution to global trade from a negligible 1% to more than 8% over that same period. Recently, concern has been expressed as to China's ability to sustain such growth at its current level.

In view of the importance of continuing strong growth in the Chinese economy to drive the global recovery, **Fitch Ratings has undertaken a hypothetical analysis** designed to assess the potential impact of a material slowdown in Chinese GDP growth to less than 5% in 2011. While Fitch has no reason to believe that a slowdown of this magnitude is likely in the near term, the agency views a 5% growth scenario as appropriately stressful to analyse credit linkages between China and the global economy.

This analysis has been undertaken in collaboration with Oxford Economics (Oxford), whose macroeconomic model has been used to produce forecasts of the impact on global growth and trade volumes of an economic shock originating in China. Given the hypothetical nature of the analysis, it is important to emphasise that no rating changes are currently envisaged within Fitch's rated universe and that the results of the scenario analysis differ from Fitch's own internal projections, which assume Chinese GDP growth of 9.7% in 2010 and 8.6% in 2011.

The key implications of a material Chinese slowdown for the world economy and, consequently, for global credit quality, can be summarised as follows:

- Varying degrees of negative impact for the sovereign and corporate credit risk of key trading partners in the Asia-Pacific (APAC) region, particularly Hong Kong SAR, Taiwan, Singapore, Korea, Malaysia and Australia. Other regions, including the MDEs (the US, EU), would be less directly affected through the trade route (see Chart 1), although the negative sentiment generated by a China slowdown would impact investment and consumption in the MDEs, creating a negative feedback loop for Asian exports.
- The commodities, steel, energy, heavy manufacturing, automotive and chemicals sectors would be most affected by a China slowdown via the cross-border trade route. Conversely, overseas power generation, consumer products and retail sectors could benefit from lower input (e.g. fuel) and labour costs.
- Oxford Economics' analysis and macroeconomic forecasting model supports Fitch's broad conclusions regarding the likely implications of this stress case scenario, specifically highlighting the potential for the growth rate of exports in Emerging Asia to be 5% lower and for Emerging Asia GDP growth to fall by 2.6% in 2011, compared with base case forecasts. Oxford's analysis also envisages the potential for a 20% fall in global commodity prices (see Chart 2) and a 100bp widening in emerging market sovereign credit spreads as risk aversion rises sharply.

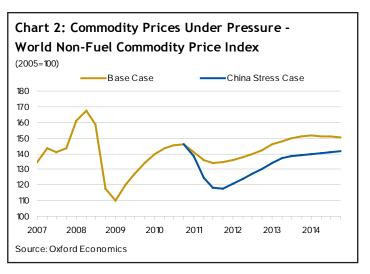


- Significantly increased risk aversion and potential contagion in global financial markets as the implications of a reduced contribution from a key pillar of the global recovery induce a 'risk-off' stance by trading desks. While foreign banks and international structured finance markets would be less directly impacted reflecting China's capital account restrictions and the relative insularity of its domestic financial system financial contagion and market dislocation would likely exert a material negative impact on banks in APAC and beyond.
- Chinese subsidiary operations of global multinational companies in certain sectors, such as restaurants and consumer products, would generate lower profits and cash flows, reflecting weaker domestic demand in the Chinese market.

#### Timing of Stress Case Modelling

For the purposes of modelling this scenario, it is assumed that the shock occurs at the end of 2010, thereby resulting in Chinese GDP growth falling to 4.7% in 2011. The timing of this is for illustrative purposes only and is not intended to reflect Fitch's expectations. Fitch's current GDP growth forecasts for the Chinese economy remain at 9.7% for 2010 and 8.6% for 2011.

In Fitch's view, continued robust growth in China is integral to support the fragile and uneven recovery of the world economy, given the continuing anaemic recovery profile of the MDEs. China's role as the key growth driver of the world economy is clear, having increased its share of global



trade and world GDP significantly in recent decades (see table below).

# China's Contribution as a % of Total GDP and Trade

	1980	2008
GDP Global (Purchasing Power Parity Basis)	2	12
World Trade	1	8
Source IME Working Paper, China's Economic Crouth, In	tornational Cni	Hovers

Source: IMF Working Paper: China's Economic Growth: International Spillovers, published July 2010.

This report is focused primarily on the trade, economic and financial linkages between China and the rest of the world, and seeks to address the implications of those linkages in the event of a China slowdown. As noted later in the report (see 'Secondary Impacts'), Fitch anticipates that important secondary effects of such a slowdown could be seen in areas such as weakened investor confidence and increased risk aversion, a continuation of global imbalances and an increase in trade protectionism. However, a detailed analysis of the potential implications of such financial turbulence, including the impact of ongoing currency tensions, is not considered a useful exercise within the context of this report, given the necessarily speculative nature of such an undertaking.

One of the key challenges of this analysis has been to source reliable information and data on areas such as the distribution of China's foreign exchange reserves and the breakdown of sales/profits of multinational companies operating in China. Fitch has used its own approximations wherever reliable data is unavailable.

#### **Analytical Approach**

Fitch adopted the following three-pronged approach to this analysis:

- Use of Oxford's macroeconomic forecasting model to analyse and quantify the potential impact on global growth rates, commodity prices and trade relationships.
- Survey of 40 of Fitch's senior analysts to collate their views on the likely implications from both a macroeconomic and an individual industry sector perspective.
- Analysis of recent trend macroeconomic data to identify the key vulnerabilities to a China slowdown in terms of geography, industry and types of financial market.

#### What Type of Slowdown?

- Material slowdown in Chinese economy considered unlikely in the near term.
- 'What if' analysis reflects potential impact on global economy and credit quality.
- Most likely to stem from combination of property crash and banking crisis.

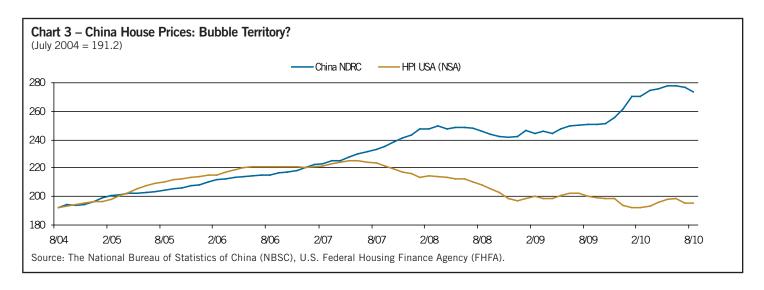
A key factor to highlight is that the catalyst for the slowdown in this hypothetical scenario is a shock that originates in the Chinese economy and ripples outward, as opposed to a global shock whose epicentre is in another part of the world, which then results in a secondary shock to China. That said, Fitch anticipates that the outward ripples from the assumed China shock would have a negative impact in terms of economic and business confidence in global markets, leading to lower levels of economic activity globally and thereby creating a negative feedback loop that subsequently suppresses export volumes from China and the rest of the Asian region.

Fitch and Oxford Economics both hold the view that a plausible China slowdown scenario could reflect the crystallisation of some or all of the following key risks:

Property Sector Correction – A material property market correction could be the catalyst for more widespread asset market volatility in China. This reflects our assessment that a material percentage of the huge increase in stimulus-driven Chinese domestic bank lending has found its way into the commercial and residential property sectors, leading to overvaluations in some segments. Chart 3 highlights the diverging trajectories of house prices in the US and China since early 2007, albeit with the differing profiles reflecting a number of variables including supply and demand, secular urbanisation trends and relative financial leverage in the respective systems.

- Poor Quality Lending to LGICs/SOEs Fitch has already highlighted in its published research concerns about the quality of the government-directed lending by state-owned Chinese banks to local government investment companies (LGICs) and state-owned entities (SOEs), much of which has been used to drive investment in order to support GDP growth during the financial crisis. This risk issue is correlated with the property sector risks outlined above, given that much of the LGIC investment has been directed at the property and infrastructure sectors. Fitch forecasts a probable rise in China's private credit/GDP ratio to 148% by end-2010, compared with a median ratio of 41% for all emerging market economies, highlighting that banking sector risks remain relevant for China's sovereign creditworthiness and its economic stability. This follows earlier research by Fitch's Financial Institutions group ('Chinese Banks: Informal Securitisation Increasingly Distorting Credit Data', dated 14 July 2010), which highlighted the way in which the repackaging and removal of loans from bank balance sheets was effectively understating the level of credit growth in the banking system.
- Banking System Asset Quality Both Fitch and Oxford believe that problems resulting from a property sector correction would feed through into asset quality issues for the stateowned banks, and in an extreme case could lead to a need for the Chinese authorities to recapitalise the banking system.

The occurrence of such a scenario unsurprisingly would have negative implications for the credit quality of the Chinese sovereign, Chinese banks and Chinese corporates, with those exposed to the property sector likely to experience the greatest stress. However, this report focuses more on the potential implications for the global economy and credit markets resulting from a China slowdown rather than the internal impact on the Chinese economy itself.



# Oxford Economics – Macroeconomic Model Stress Case Projections and Assumptions: Emerging Asia Hit Most Severely

#### Oxford Economics – Macroeconomic Model Output from Stress Case Scenario

- Chinese GDP growth falls to 4.7% from current base case projection of 9.2%.
- Global GDP growth would decline by 0.5% in 2011, from 3.2% to 2.7%.
- Emerging Asia GDP growth hit severely, reducing to 4.7% in 2011 compared with base case forecast of 7.3%.

For the avoidance of doubt, all references in this report to the base case refer to Oxford's base case, as opposed to the projections within Fitch's quarterly 'Global Economic Outlook' (GEO) publication, the most recent of which was published on 1 October 2010. That said, a comparison between Oxford's base case and Fitch's GEO reveal that base case projections for global, Chinese and US GDP growth do not differ materially, as reflected in the table below:

# Fitch Versus Oxford Forecasts – Comparison

		2010	2011	2012
World GDP Growth (%)	Fitch GEO	3.2	2.9	3.0
	Oxford Base Case	3.6	3.2	3.9
China GDP Growth (%)	Fitch GEO	9.7	8.6	8.7
	Oxford Base Case	10.1	9.2	9.1
US GDP Growth (%)	Fitch GEO	2.7	2.5	2.6
	Oxford Base Case	2.7	2.5	3.6

#### **Stress Case Projections**

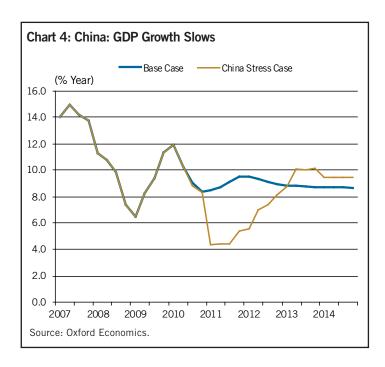
Projections by Oxford, based on a set of assumptions agreed between Fitch and Oxford for the purposes of this scenario analysis (see below), reveal the following:

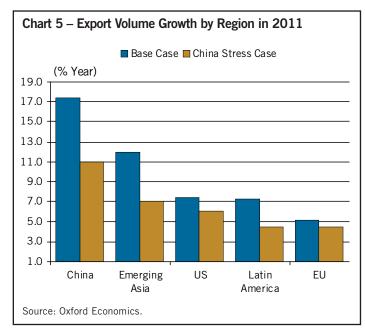
#### **Output Projections**

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	2011		20	2012		2013	
	Base	Stress	Base	Stress	Base	Stress	
Global GDP	3.2	2.7	3.9	3.8	4.1	4.4	
China GDP	9.2	4.7	9.1	7.2	8.8	9.8	
Emerging Asia GDP	7.3	4.7	7.8	6.8	7.5	8.1	
Emerging Asia Exports	12.0	7.0	9.1	8.2	8.2	9.6	
US GDP	2.5	2.1	3.6	3.4	3.8	4.2	
EU GDP	1.8	1.6	2.1	2.2	2.4	2.5	
LatAm GDP	4.2	3.9	4.8	5	4.4	4.3	

- and 7.2% in 2012, reflecting the combined impact of the assumptions outlined below, and other impacts such as lower investment in the commercial and residential property sectors, higher unemployment and lower consumption. GDP growth to recover to above the government's minimum long-term target of 8% by the end of 2012 (see Chart 4).
- > Global GDP growth would decline to 2.7% in 2011, a reduction of 0.5 percentage points from Oxford's existing base case projection of 3.2%, before recovering to 3.8% in 2012.
- GDP growth in Emerging Asia would be hit severely, reducing to 4.7% in 2011, compared with Oxford's existing base case forecast of 7.3%, before rebounding to 6.8% in 2012.
- This decline would reflect a reduction in growth through the trade route, with Emerging Asia's export growth reducing by 5.0% in 2011 as a consequence of lower trade volumes with China. China's own export growth would slow to 11.0% in 2011, compared with Oxford's current base case forecast of 17.4%, reflecting weaker demand from its own export markets following the loss of confidence stemming from the initial demand shock (see Chart 5).





Projected GDP growth for 2011 in other regions would be impacted more moderately, with US GDP growth reducing to 2.1% from 2.5%, Latin America (LatAm) to 3.9% from 4.2% and the EU to 1.6% from 1.8%, reflecting a lower level of dependence on China as an export destination for the ex-Asia economies.

#### **Stress Case Assumptions**

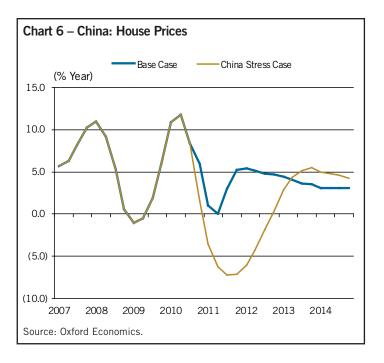
- China property prices to fall by 15% from the recent peak.
- Asset quality in Chinese banking system weakens materially, requiring Chinese government to recapitalise the banks.
- Chinese stock market falls by 50% in H1 2011.
- Oil and commodities prices could fall by 20%; Asian equity markets by 25%; emerging market sovereign credit spreads to widen by 100 bps.

#### **Stress Case Assumptions**

The above projections reflect the following assumptions, which have been adopted following discussions between Fitch and Oxford:

Commercial and residential property prices in China (based on building selling price indices in 70 midsize-to-large cities) fall by a total of 15% in 2011. Prices start to recover toward the end of 2012 (see Chart 6). To provide context, this assumption is similar to the downturn in the US property market following the onset of the financial crisis, when prices fell by approximately 5% in 2008 and 5% in 2009.

The Chinese government utilises its reserves to recapitalise the banking sector, which is one potential scenario that may play out in the event of weakening asset quality. Credit growth could then become restricted from 2011 until late 2012.



- The Chinese stock market falls by 50% in H1 2011 (similar to the fall in H1 2008 in China), reflecting damaged investor confidence and a perceived rise in the riskiness of Chinese assets.
- Prices of oil and other commodities could adjust downwards by approximately 20% from current levels, with oil prices falling by approximately USD15 per barrel in 2011.
- Asian stock markets could fall by 25% through Q1 2011, reflecting financial contagion, while share prices in other regions fall more modestly. A rise in risk premia for risky assets could lead to an increase in emerging market sovereign credit spreads of approximately 100 bps.

The full details of Oxford's analysis can be found in the Appendix to this report.

It is worth highlighting that this scenario does not explore in depth the consequences of possible reactions from major policymakers both in China and globally, beyond making the assumption that the Chinese authorities would act to recapitalise the Chinese banking system (in line with the precedent of the late 1990s and early 2000s). While policymakers' reactions would be highly important in determining the shape of the global adjustment to a Chinese demand shock, a detailed analysis of the alternative policy-reaction scenarios is beyond the scope of this report.

#### Fitch Corporate Analyst Survey

#### APAC Vulnerability Highlighted

- · Fitch analyst survey indicates APAC region's vulnerability.
- EU and LatAm considered next most exposed.
- Commodities, steel and heavy manufacturing sectors considered most at risk globally.

Fitch's survey of 40 senior industry sector specialists within its Corporate Ratings Group revealed that, from a credit quality perspective, APAC is the geographic region most at risk from a China slowdown, with the commodities, technology, steel, automotive, heavy manufacturing, chemicals and shipping sectors in that region considered most vulnerable. The EU and LatAm regions are considered the next most exposed, followed by the US, Central and Eastern Europe (CEE) and the Middle East and Africa (MEA).

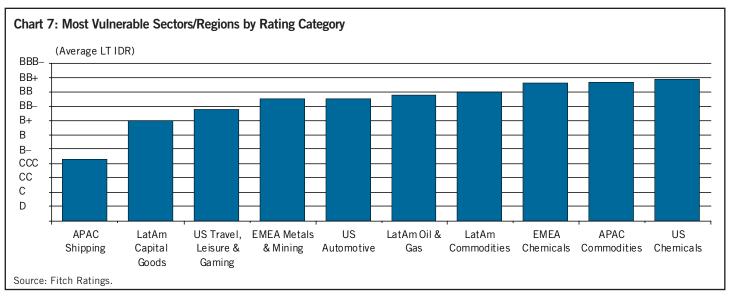
The table below provides a summary of the responses to a question asking Fitch's analysts in different geographic regions to rank the industries they cover on a scale of 1-5, with 1 representing those least exposed to the Chinese economy and 5 representing those most exposed.

# Industry Sector Vulnerability Exacerbated by Lower Average Ratings

Of the various industry sectors identified as likely to be most severely impacted by a China slowdown, Chart 7 highlights the regional sectors within Fitch's rated universe that appear most vulnerable as a consequence of their relatively low average rating levels. With average long-term issuer default ratings (IDRs) below investment-grade level, a weaker growth environment in a key market such as China could clearly have negative implications for the credit quality of these corporate sectors.

Exposure to China (scale 1-5)	APAC	EU	LatAm	US	CEE	MEA	Industry Average
Commodities	4.0	4.5	4.5	4.0	4.0	4.5	4.3
Steel	5.0	3.5	3.9	3.0	4.0	3.5	3.8
Heavy Manufacturing	4.0	4.0	3.4	3.0	4.0	3.5	3.7
Oil & Gas	3.0	2.0	4.0	5.0	4.0	3.0	3.5
Automotive	4.0	4.0	2.9	3.0	3.0	2.5	3.2
Chemicals	5.0	2.5	2.8	3.0	3.0	2.5	3.1
Technology	4.0	3.0	1.8	2.0	3.0	2.5	2.7
Shipping	4.0	3.0	2.0	2.0	2.0	2.0	2.5
Retail & Consumer Products	3.0	2.5	1.8	1.0	1.0	1.0	1.7
Travel, Leisure & Gaming	2.0	1.0	2.3	3.0	1.0	1.0	1.7
Telecom	1.0	2.0	1.3	1.0	2.0	1.5	1.5
Pharmaceuticals	2.0	1.0	1.3	2.0	1.0	1.0	1.4
Power Generation	1.0	1.0	2.4	1.0	1.0	1.0	1.2
Regional Average	3.2	2.6	2.6	2.5	2.5	2.3	_

 $Note: Scores\ highlighted\ in\ bold\ reflect\ those\ industries/geographies\ with\ highest\ sensitivity\ to\ a\ China\ slowdown\ (i.e.\ a\ score\ of\ 3.5\ or\ higher)$ 



Conversely, the table below provides a summary of those sectors that could benefit from a demand shock originating in China.

# Potential Beneficiaries from a China Slowdown

Industry Sector	Potential Benefit
Power generation	Lower fuel input costs (coal) underpin profit margins, albeit volumes and prices could suffer
Steel companies with no upstream integration	Lower raw material input costs (iron ore, coking coal) help to protect margins, albeit volumes could suffer from demand shock
Consumer products	Lower manufacturing costs reflecting lower average labour costs in China
Retail	Lower wholesale prices reflecting lower manufacturing/labour costs in China

#### **APAC**

- APAC exports to China dominated by telecom equipment, heavy machinery, energy, commodities and chemicals.
- Korean and Taiwanese technology companies, Australian commodities producers and bulk shipping sector likely to suffer from any slowdown.
- Knock-on effect likely on bank asset quality in Hong Kong SAR, Taiwan, Japan, Korea and Australia.

#### Commodities, Technology, Steel, Automotive, Heavy Manufacturing, Chemicals and Shipping Sectors Most Affected

In the APAC region, Fitch's analysts assess that the commodities, technology, steel, automotive, heavy manufacturing, chemicals and shipping sectors are those that are most vulnerable to reduced demand from China; these sectors all scored 3.5 or higher in the

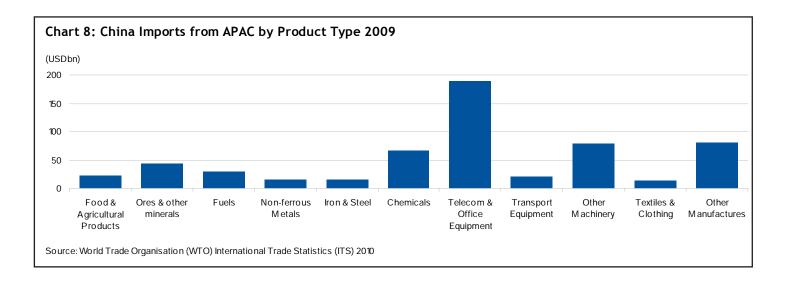
survey. This analysis is corroborated by official statistics from The World Trade Organisation (International Trade Statistics 2010), which show that the key contributors to China's imports from other APAC countries in 2009 were the telecom and office equipment sector (33%) – which includes integrated circuits, transport equipment and other machinery – fuels, metals and mining products (including iron ore) (19%) and chemicals (12%) (see Chart 8).

# Negative for APAC Energy, Commodities and Shipping Sectors

- APAC energy and commodity prices and volumes would be negatively affected by a China slowdown, leading to a reduction in both upstream and downstream oil and gas margins for APAC companies that supply to China.
- Iron ore used as a key raw material in the steel industry – would be the commodity most affected by a slowdown, with Australian commodity producers in particular being impacted, and APAC bulk shipping companies inevitably suffering from lower volumes and margins.
- Indeed, the shipping industry would likely be one of the most severely affected, as witnessed during the financial crisis when the Baltic Dry Index fell by 95% between May and December 2008, with little recovery since. This, in turn, would almost certainly have a negative impact on the shipbuilding sector, affecting the Korean and Japanese shipbuilders in particular.

#### Korean and Taiwanese Technology Companies Exposed

Those companies supplying equipment or finished goods to the heavy manufacturing and transportation sectors, together with manufacturers that supply components – such as integrated circuits – to China's large and growing technology industry, would suffer materially.



- In particular, the Korean and Taiwanese technology companies that supply finished products or components to China for assembly in the consumer electronics and enterprise IT segments would be hit by weaker demand, leading to sharp reductions in margins, as was seen when demand from the MDEs fell sharply at the start of the financial crisis. Examples of such companies include Samsung Electronics (17% of 2009 revenues from China), LG Electronics (20%), Hon Hai Precision, ASUSTeK Computer Inc and Quanta Computer Inc. To provide additional context, the average exposure of Asian technology companies to the Chinese domestic market is estimated to be approximately 20% of revenues.
- In contrast, beneficiaries of a China slowdown could include the power generation sector, particularly in fast growing Asian economies. Lower fuel input (i.e. coal) costs would likely help to support profit margins, and a deferral of heavy capex burdens reflecting weaker demand for power would protect balance sheets and keep leverage ratios at manageable levels.
- Similarly, margins of Asian steel producers would be supported by lower raw material input costs – specifically iron ore and coking coal – albeit this would act only as a mitigant to lower prices and sales volumes of finished steel products.

# APAC Sovereigns and Banks Also Likely to Be Affected by Corporates' Exposure

- In Fitch's view, the expected negative impact of a Chinese slowdown on key APAC exporters to China would have a knock-on effect in a number of areas beyond the corporate sector. Firstly, the growth trajectory of those sovereigns most exposed to China notably Hong Kong SAR, Taiwan, Singapore, Korea and Malaysia would be impacted.
- However, it is worth noting that the impact will be mitigated to the extent that APAC countries are providing China with components for assembly and re-export to consumers in other markets, albeit consumer demand in those markets could be impacted negatively by weaker confidence following the demand shock.
- It is also worth noting that the domestic banks in those overseas countries that provide financing to corporate exporters to China could face potential deterioration in the credit quality of their loan books in the event that demand for their customers' products declined. This could affect banks in countries such as Hong Kong SAR, Taiwan, Japan, Korea and Australia, given the percentage of total exports that flow to China from those jurisdictions and the strength of the relationships between domestic banks and the corporates in those countries.

#### **EMEA**

EU-Based Mining, Automotive, Capital Goods and Steel Sectors Would Suffer; CEE Oil and Gas Would Be Hit

- EU-based mining, automotive, capital goods and steel sectors most exposed.
- Oil and gas sector in CEE vulnerable to any slowdown via trade account and impact on global prices.
- In the EU, Corporate exporters in the mining, automotive, capital goods and steel sectors are those most exposed to a China slowdown.
- In Central and Eastern Europe (CEE), the oil and gas sector is reliant on China as a key export market, so would be heavily affected by any material slowdown, both in terms of its direct trade relationship and as a consequence of a likely downward adjustment in global oil prices.
- Certain industry sectors in the EU (e.g. apparel retail) could benefit from lower Chinese labour costs.

#### Latin America

- LatAm commodities and energy sectors most likely to be impacted.
- Growth economies such as Brazil, Chile and Colombia could be impacted by slower exports to China.

#### Commodities and Energy Sectors Are Most Exposed

- The commodities and energy sectors in LatAm are likely to be those most heavily affected by a China slowdown.
- Corporate exporters in Argentina (agricultural commodities, especially soybeans), Brazil (iron ore, soybeans, pulp and paper), Colombia (oil and coal), Chile (pulp and paper, copper, fertilizer), Mexico (oil and gas, steel, chemicals), Peru (copper and iron ore) and Venezuela (oil and steel) would all be impacted by weakened demand and adverse pricing dynamics stemming from a China slowdown.
- LatAm growth rates would be impacted, given that exports to China have been growing at significant rates in a number of Latin American countries (e.g. Brazil, Chile, Peru). In 2009, China accounted for 13.2% of Brazil's, 22.9% of Chile's and 15.3% of Peru's total exports.

#### US

- US heavy manufacturing/ capital goods sectors likely to be affected by lower demand from China.
- Slowdown in IT enterprise spending for new investment.
- Lower energy and commodity prices to benefit some sectors
- Supply chain disruption is a concern.

### Heavy Manufacturing/Capital Goods and Proteins Sectors to Suffer

- As with other regions, volumes and prices would be impacted negatively in the energy and commodities sectors, affecting upstream players disproportionately.
- The heavy manufacturing/capital goods sectors would be heavily affected in terms of reduced demand from China, although this impact could be mitigated by lower energy/ commodity prices.
- The technology/IT sector could witness a slowdown in enterprise spending, given that much investment in incremental capacity is geared towards Chinese growth.
- The proteins sector would be affected, given the proportion of US exports to China (18% of US pork exports in 2009), with the resulting impact on the demand/supply balance feeding through to global pricing.
- A range of sectors could benefit from the lower energy and raw material (commodities) prices that would be a natural result of weaker Chinese/global demand, as well as sectors such as consumer products and retail benefiting from more modest wage inflation.
- Some concerns exist regarding potential disruptions to supply chains for a range of manufacturing sectors in the event of a material Chinese slowdown.

# Implications for Global Multinational Companies (MNCs)

- Chinese subsidiary operations of MNCs from all regions likely to be impacted in automotive, heavy machinery, chemicals and commodities sectors.
- US capital goods, technology, restaurants, proteins, agribusiness, and gaming companies exposed via subsidiary/JV operations.

#### Lower Profits and Cash Flows for Chinese Subsidiaries of MNCs

Chinese subsidiaries of Multinational Companies in global industry sectors including automotive, heavy machinery, chemicals and commodities would suffer from reduced earnings and cash flows in the event of a material slowdown in the Chinese economy. Many global companies in these sectors have entered the Chinese market through joint ventures (JVs) with local players (often a legal requirement) and/or investments in local associates and subsidiaries. Similarly, US multinational companies in the capital goods, technology, proteins, restaurants, agribusiness and gaming sectors would be hit be weaker contributions from their Chinese operations.

# JV Structures Often Restrict Upstreaming of Cash Flow Dividends

With so many global multinational companies looking to their China operations to drive growth, it is clear that a material slowdown in China would have a negative impact on earnings and cash flows generated by the multinational companies from those operations. While the nature and structure of the foreign corporate presence in numerous sectors is such that profits are usually easier to establish than cash flows (often reflecting the JV ownership structures that restrict the ability to upstream cash to the foreign partner), it would nonetheless be detrimental to the multinational company's consolidated financial profile if the growth relied upon from Chinese operations were no longer assured.

# US Capital Goods, Technology, Proteins, Agribusiness and Gaming Exposed to China

- In other sectors, Fitch notes the potential impact on the profits and cash flows of US manufacturers in the capital goods, technology, proteins, and agribusiness sectors, given the previous expansion of their Chinese operations in these sectors. Additionally, US gaming companies would be impacted by a material China slowdown, given their focus on the growth market of Macau SAR which now generates more gaming revenues than Las Vegas where major US gaming companies such as Wynn, Las Vegas Sands and MGM generate significant proportions of their earnings and are heavily reliant on the continued patronage of Chinese customers.
- Obtaining an accurate picture of the exposure of multinational companies to the Chinese market can be challenging, given that detailed disclosure regarding the size of their Chinese

operations is often not provided in published accounts. Many large US industrial companies generate 10%–20% of their revenues in Asia, and while detailed breakdowns are not usually available, a large proportion of Asian revenues will often originate in China.

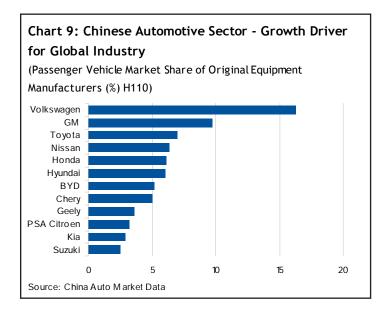
# US International Restaurant Chain Sector Dependent on Chinese Growth

In the restaurant sector, certain large US companies have significant exposure to China (e.g. the Chinese subsidiary of YUM! Brands – which owns KFC, Pizza Hut and Taco Bell, among others – contributed 34% of total revenues and 35% of the group's operating profits in 2009). Clearly, a slowdown resulting in weaker domestic consumption would have a negative impact on revenues, earnings and cash flows for such businesses.

### Global Automotive Sector Recovery Dependent on Chinese Growth

All major players in the global automotive industry have some exposure to China, with manufacturers such as Volkswagen, GM, Toyota, Nissan, Honda, Hyundai Motor and KIA Motors enjoying leading market shares in conjunction with their local JV partners (see Chart 9). Clearly, the gradual recovery currently underway in the automotive sector could be impacted by any marked deterioration in the industry's key growth

market, which has now overtaken the US as the world's largest passenger vehicle market, with a total of approximately 10.3 million domestic unit sales in 2009.



#### Macroeconomic Data Analysis

### APAC Trade Vulnerability Verified by Official Data

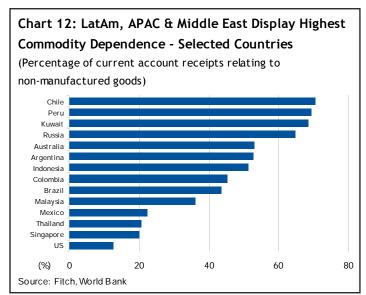
- APAC region likely to be affected most heavily through trade account.
- Hong Kong SAR, Taiwan, Singapore, Korea and Malaysia most vulnerable in terms of exports to China.
- Commodity dependence of LatAm, Middle East and APAC countries is high.

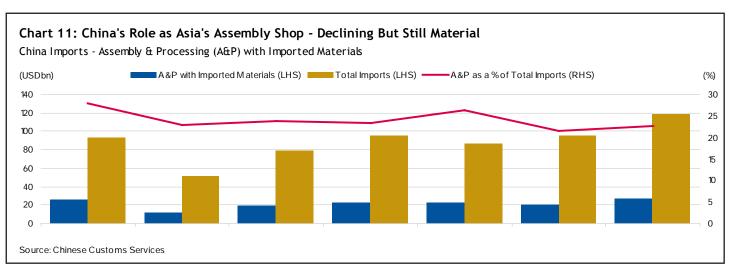
From a trade perspective, official data supports Fitch's expectation that the most significant impact of a China slowdown would be felt by its key trading partners in the APAC region (see Chart 10). Many of these trading partners rely on China as an export destination for commodities and the final assembly point for components that form part of the 'Asian Supply Chain', feeding into finished products that are either exported to the MDEs and other regions or distributed to domestic Chinese consumers.

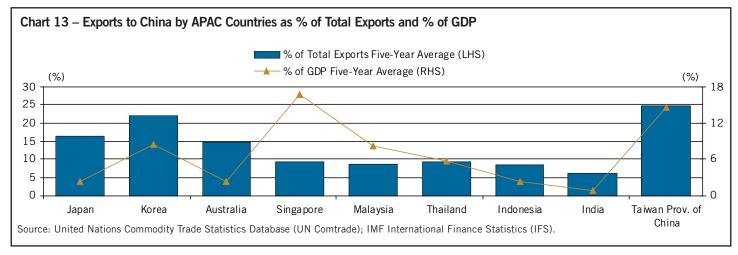
Chart 10: China: Imports by Region 2009 North America South & 9% Central America 6% Europe 14% Asia CIS 58% 3% Africa 4% Middle East 6% Source: World Trade Organisation (WTO) International Trade Statistics (ITS) 2010 Expanding on this theme, it should be noted that a material proportion of Chinese imports (20%–25% during 2009–2010; see Chart 11) are components used in the assembly and processing of manufactured products for re-export to overseas markets, principally the MDEs. Consequently, while continuing robust overseas demand for Chinese exports could theoretically act as a mitigant to the vulnerability of APAC exporters to China, the negative feedback loop generated by a China shock in terms of lower economic and business confidence in western markets would likely result in lower demand for Chinese and other Asian exports.

#### **Commodity Dependence Across Regions**

Another relevant measure of China's influence on global trade patterns and specific countries can be derived from the Commodity Dependence Indicators shown in Chart 12. This measures the proportion of the current account receipts for each country that relate to non-manufactured goods (i.e. commodities), estimated by Fitch primarily from World Bank data. This highlights that a material proportion of trade from a number of LatAm, Middle East and Asian countries is highly dependent on the commodities sector. This is







particularly relevant to this analysis, given that China's consumption of key commodities currently comprises 38% of global copper (source: Brook Hunt) and approximately 56% of global traded iron ore.

#### Net Trade Unlikely to Maintain Growth by Itself

With Western consumers still retrenching and deleveraging following the financial crisis, it is unlikely that China's net trade surplus alone will be sufficient to maintain double-digit trend growth levels in the near future, reflecting an increasing reliance on domestic consumption and fixed asset investment to bridge the gap. Investment contributed an estimated 90% to China's 8.7% GDP growth in 2009.

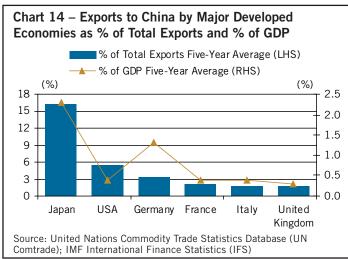
Chart 13 highlights the relative dependence by APAC trading partners on China, both in terms of the percentage of their total exports and as a percentage of total GDP generation, calculated as a five-year average in each case. Excluding Hong Kong SAR, which is unsurprisingly by far the most integrated with the Chinese economy by both measures, the data illustrate that Taiwan, Korea, Japan and Australia are clearly reliant on China as an export destination in terms of the percentage of their total exports (15%–25%). The relative dependence in terms of GDP generation paints a slightly different picture, with Singapore (16.7%), Taiwan (14.5%), Korea (8.5%) and Malaysia (8.2%) the next most exposed countries.

#### MDEs Less Exposed Through the Trade Route

- MDEs less exposed in terms of trade account.
- Impact likely to be felt via indirect routes.

A slowdown in Chinese demand – whether for domestic consumption of finished goods or for components or commodities – is unlikely to severely impact the MDEs directly through the trade route purely in terms of exports from those countries.

The MDEs do not rely on China as a key export destination to drive their GDP growth, relative to the dependence exhibited by APAC



trading partners. While Japan, Germany and the US do rely on China as a purchaser of meaningful percentages of their exports (16.3%, 3.4% and 5.5%, respectively), the maximum contribution to GDP from exports to China is the 2.3% accruing to Japan, with Germany at 1.3% and the others at negligible levels (Chart 14). That said, Germany's strong recovery is currently being underpinned by export growth, much of which reflects Chinese demand. While a complete shutdown of exports to China would be a material factor for the growth prospects of the MDEs, a more modest slowdown resulting in a decline of less than 0.3% of GDP would likely be manageable.

However, as we saw from the Fitch Corporate Analyst Survey, the trade impact on corporate exporters in the MDEs would be felt in certain specific industry sectors and geographies, and the overall impact would likely be felt via less obvious and more indirect

- Potential recapitalisation of domestic banking system could result in reduced appetite for US Treasurys/Eurozone sovereign debt.
- Potential negative impact on the US dollar and upward pressure on interest rates.

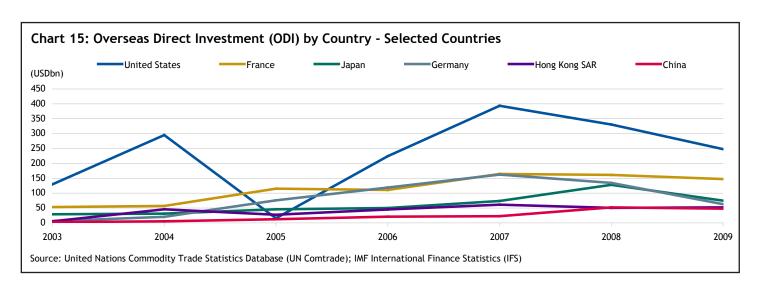
routes, most notably in the context of a weaker global growth environment.

#### **Cross-Border Capital Flows**

As outlined earlier in the report, in Fitch's view, any material slowdown in the Chinese economy – while currently considered unlikely – would probably reflect the occurrence of a number of inter-related events including a severe property market correction and a domestic banking crisis as property-related lending to LGICs/SOEs turns sour. Potential implications of such a scenario for cross-border capital flows could include some or all of the following:

- Recapitalisation of the banking system Given the measures taken by the Chinese authorities to address the problems caused by the previous domestic banking crisis in the 1990s, Fitch believes that severe non-performing loan problems created by a property sector crash could ultimately lead to a need to recapitalise the domestic state-owned banks.
- Reduced appetite for purchase of US Treasurys/Eurozone sovereign debt In the event that the recapitalisation scenario were to occur, it could result in the Chinese authorities having a reduced appetite for ongoing purchases of US Treasurys as they utilise reserves to underpin the domestic banking sector. China's direct share of total US Treasurys (excluding any acquired through Hong Kong SAR) in issuance stood at 20.8% in July 2010, reflecting a steady downward trend from the 26.8% it represented in July 2009, albeit China's overall exposure to US Treasurys may not be reducing at this rate.

- Following China's recent moves into the Greek and Spanish sovereign debt markets, any similar reduction in appetite by the Chinese authorities for other G3 currency sovereign debt assets potentially creates some downside risk for spreads on the government debt of peripheral EU countries, particularly those with significant funding challenges.
- Weaker Overseas Direct Investment (ODI) While the total of China's ODI remains relatively small compared with that of some MDEs, it has been on an upward trend in recent years, as large Chinese national champions have sought to secure overseas assets in three broad sectors: (i) energy and raw materials (resources); (ii) manufacturing; and (iii) IT. While media headlines have focused on the increasing levels of investment by Chinese corporates in resources assets in Africa, official data shows that the bulk of it actually ends up in the APAC region, with Australia and Singapore being notable recipients. The ability to measure the magnitude and distribution of Chinese ODI is complicated by the use of SPV entities in offshore locations such as the Cayman Islands and the British Virgin Islands as conduits for Chinese investment. A slowdown in the Chinese economy would potentially reduce investment flows to the regions identified above, but the relatively small size of existing Chinese ODI means that this is unlikely to have a material direct impact on global crossborder investment (see Chart 15 below).



#### **Secondary Impacts**

#### **Undermining Confidence**

- Big potential increase in risk aversion, particularly for China-correlated assets.
- Constrained credit availability and lower investment likely to contribute to weaker global growth environment.

Aside from the trade and investment linkages outlined above, it is important to recognise the more general impact that a material slowdown in the Chinese economy would likely have on confidence levels in global financial markets and the world economy. The negative implications of such a scenario would likely include the following:

- Risk Aversion Investor risk appetite would likely reduce, increasing volatility in financial markets and resulting in capital flight from perceived riskier assets. Asset classes impacted by this would include but not be limited to equities (particularly emerging markets), some asset-backed structured finance assets, commodities and high yield bonds. Certain types of asset with high levels of correlation to the China growth story could be particularly badly hit, given investors' ongoing initiatives to gain exposure to China through indirect routes such as commodities (especially copper), correlated currencies (the Australian dollar) and equities of multinational companies with global brands and a China presence such as Nike, Yum! Brands and Unilever.
- Weaker availability of credit Fitch anticipates that a material slowdown in the Chinese economy would have a negative effect on the willingness of global banking systems to continue providing credit. While constraints on credit availability have been much more evident in the MDEs than in the emerging economies both during and after the financial crisis, in Fitch's view credit availability in all regions would be impacted materially by a China slowdown. Those countries with the heaviest reliance on China as a destination for exports (Hong Kong SAR, Taiwan, Japan, Korea, Singapore, Malaysia, Australia, Brazil, Chile, Peru and Russia) could potentially see a retrenchment of their banking systems, with credit availability reducing in line with an anticipated downturn in corporate growth prospects and performance. This impact could be exacerbated by negative developments in the real estate markets of those countries with strong trade links to China, particularly those where property prices have risen

- strongly over the past 12–18 months, such as Singapore, Hong Kong, Taiwan and Australia.
- **Reduction in Investment** With the growth potential of the Chinese market considered integral to many global businesses, plans for investment in new manufacturing capacity and other fixed assets would be adversely affected by a Chinese slowdown, exacerbating a general weakening in the level of global economic activity and increasing the potential for a double-dip recession.

#### **Preventing Global Rebalancing**

- Existing global trade and capital imbalances likely to be exacerbated.
- Delay in migration towards higher private domestic consumption in China to drive growth.
- Trade protectionism likely to increase.

Over the medium term, beyond the potential recapitalisation of the banking system and consequent reduced demand for US/EU sovereign debt, a weaker growth scenario in China would likely result in a resumption of policies that reinforce a reliance on fixed asset investment and exports for growth and hold back the move towards a greater contribution from domestic consumption. This in turn would exacerbate existing global trade and capital imbalances, sustaining China's reliance on the west to maintain export growth, while at the same time extending the funding of western government deficits by Chinese savings.

Increasing public spending in China would be one of the only viable options to maintain growth. This could contribute to future over-capacity issues and misallocation of resources, exacerbating the difficulty of achieving the Chinese government's objective of rebalancing the economy towards higher levels of private consumption in future.

Increased levels of trade protectionism would be a probable additional consequence of such a scenario, hurting global recovery prospects as cross-border trade becomes more constrained. With global political tensions over currency valuations already high, this could conceivably manifest itself in increased intervention in the FX markets to prevent RMB appreciation, a move that would likely be criticised by its trading partners.

#### Appendix - Oxford Economics' Analysis

#### **Base Case Forecast**

Given the strength of domestic demand in China and the robust outlook in Emerging Asia, Oxford's base case forecast is for China's economy to expand by 10.1% in 2010 with a modest slowing in growth to 9.2% in 2011. However, there are major risks to this forecast, one of which relates to the housing market. While the increase in household incomes and urbanisation should underpin a strong medium-term outlook for the housing sector in China, in the short term the market is vulnerable to over-supply in some segments.

Oxford anticipates a relatively modest slowdown in house price inflation over the coming quarters to reach 3.2% by Q3 2011 followed by a gradual recovery in prices in 2012. However, the balance of the risks to this forecast remains on the downside. Rising inflationary pressures, including from the housing sector, contributed to the People's Bank of China's decision to raise the one-year lending rate by 25 bps to 5.56% on 20 October 2010 for the first time since the financial crisis.

More recently, following the rise in CPI inflation to 4.4% in October, the People's Bank of China announced that it would raise the deposit reserve requirement ratio (RRR) by 50 bps from 16 November 2010. The RRR for the four big state-owned banks – the Industrial and Commercial Bank of China, China Construction Bank, Bank of China and Agricultural Bank of China – now stands at 18%. This move increases the RRR for other large financial institutions to 17.5% and that for small-and medium-sized financial institutions to 15.5%. The

adjustment is the fourth RRR increase the central bank has ordered for Chinese banks this year.

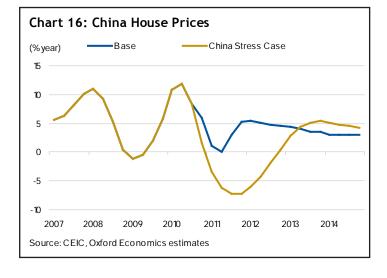
#### **Stress Case Scenario**

# **Excessive Monetary Tightening and Housing Correction Act as Catalysts**

Oxford considered a risk scenario for China where, in an attempt to address overheating within some areas of the housing sector and curb rising inflationary pressures, the People's Bank of China sharply increases reserve requirements, tightens regulation and rapidly brings forward increases in interest rates. The unexpected monetary tightening destabilises speculative elements in the housing and commercial property sectors sparking a correction in the housing market similar to that seen in the US following the revelations on the subprime sector in late 2007.

House prices in China are assumed to fall sharply in Q1 2011 and in subsequent quarters so that the level is 15% below its recent peak by the end of 2011. The slump in housing persists, with prices starting to recover toward the end of 2012 (see Charts 16 and 17). The scale of the housing slowdown is similar in magnitude to the correction seen in the housing sector in the US in the recent financial crisis.

Any sharp correction in house prices in China would have a material direct impact on investment in the property sector, which would feed through to lower employment and growth. Investment in





commercial and residential property has risen strongly in 2010 as the growth rate in infrastructure investment has eased. A significant correction in the sector would take away an important contributor to overall investment growth (see Chart 18).

#### Banking Sector Crisis Requires Recapitalisation by Chinese Government

However, the problems in the property sector could also lead to an increase in non-performing loans in the banking sector. While these remain low according to official figures, there are concerns about the soundness of lending to companies and infrastructure projects, in the wake of the large credit boom in China, particularly to local government investment companies. A significant rise in non-performing loans would hamper the government's ability and willingness to increase credit growth to offset the downside implications of weaker growth in the housing market. In this scenario, Oxford assumes that the correction in the property market reveals a significant degree of under-capitalisation of Chinese banks and a large contingent liability for the central government. As a result, the government uses its reserves to recapitalise the banking sector and severely restricts credit growth through the banking sector. This leads to much slower growth in investment by private enterprises and state-owned enterprises funded by bank loans (see Chart 18).

In addition, a decline in confidence and an increase in the perceived riskiness of Chinese assets is assumed to precipitate a material fall in the Chinese stock market. Share prices in China fall by 50% in H1 2011, similar to the falls in the first half of 2008 in China. The slowdown in investment and lower financial wealth feeds through to lower consumption and lower employment. Home ownership remains low in China relative to other countries

Chart 18 - China: Investment Growth China Stress Case Base Case (% Year) 25.0 20.0 15.0 10.0 5.0 0.0 (5.0)2007 2008 2009 2010 2011 2012 2013 2014 Source: Oxford Economics.

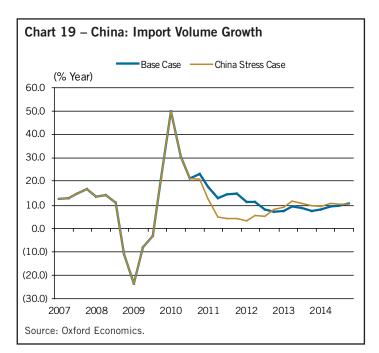
and housing cannot be used as collateral for obtaining credit for consumption to the same extent. Consequently, the impact on consumption through the financial wealth channel is smaller than it would be in developed countries. Overall, GDP growth in China falls to 4.7% in 2011 before recovering to 7.2% in 2012. Initially, the government is focused on recapitalising the banking sector and growth falls below its 'notional target' of 8%. But as the banking sector is recapitalised and the government begins to increase its spending and encourage investment, growth recovers above 8% by the end of 2012.

# Impact on Asia and Rest of World: Weaker Exports, Financial Contagion and Flight from Risky Assets

Lower domestic demand in China feeds through to lower import growth (see Chart 19). In turn, this reduces the demand for exports in the rest of Asia and amongst China's other trading partners.

The impact through financial contagion is also important. A rise in risk premia is assumed to lead to falls in share prices in the rest of Asia. Share prices in Japan and other major Asian equity markets fall by around 25% in 2011 before recovering. Share prices in the US and Europe fall more modestly. A rise in perceived risk in emerging markets is assumed to lead to an increase in sovereign spreads of around 100 basis points, with more of an impact in East Asian countries that are reliant on China as a key destination for exports. FDI inflows to emerging markets are also affected with a reduction in flows similar to the impact of the recent financial crisis.

Overall, the impact of the scenario is to reduce growth in trade flows in Emerging Asia by 5% in 2011, with smaller but significant impacts on trade flows in LatAm and the US. In Emerging Asia as a whole GDP growth in 2011 is nearly 3 percentage points lower at 4.7% compared with 7.3% in Oxford's base case.

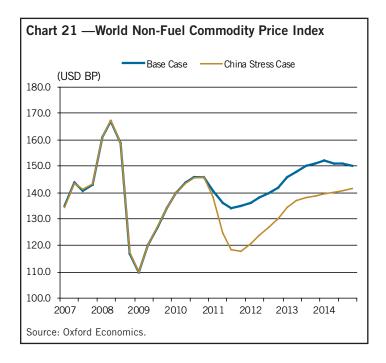


#### Global Commodity Prices to Fall by 20% in 2011

Slower growth in China and the rest of the world, and lower financial flows, leads to lower demand for oil and other commodities. This is reflected in lower prices for these commodities which in turn

Chart 20 - World Oil Prices: Brent Spot Base Case -China Stress Case (USD BP) 140.0 120.0 100.0 80.0 60.0 40.0 20.0 0.0 2008 2009 2010 2011 2012 2013 2014 Source: Oxford Economics.

provides a small boost to growth in oil-consuming countries. World oil prices are expected to fall approximately 20%, or \$15 per barrel in 2011, with a similar impact on other commodity prices (see Charts 20 and 21).



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