

UBS Investment Research

Asia Equity Strategy

Does Asia have an overcapacity problem?

■ A detailed look at corporate capacity utilisation in Asia

Rising capacity utilisation over the last 10 years has lifted asset turnover (A/T) ratios in Asia propping up ROE despite falling margins. More recently, fixed asset investment and capex have picked up, not least in China, giving rise to fears that Asia (particularly China) may be overinvesting leading to a glut of supply, falling capacity utilisation and asset turnover ratios in future, pressuring ROE.

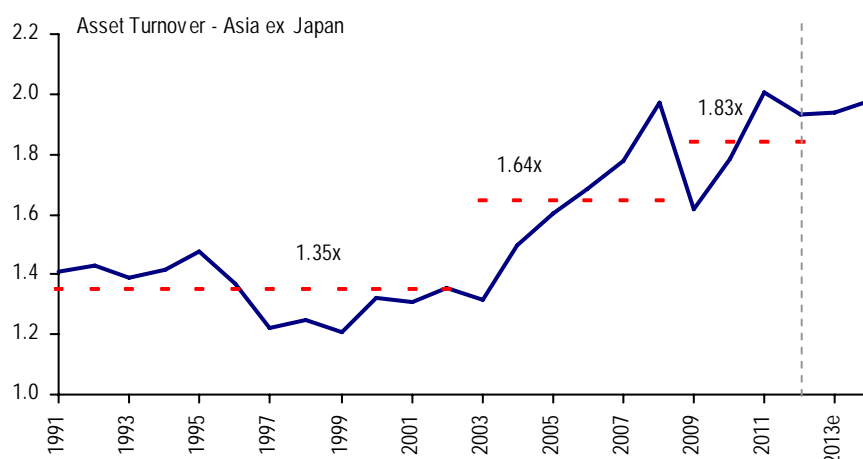
■ Little evidence of broad-based overcapacity - A/T looks well supported

Based on our analysis, it does not appear that Asia has a broad based overcapacity problem. Our forecasts suggest slower capex growth over the next 2 years: 6.7% real FAI growth and 7.3% nominal net asset growth versus 8.9% and 15.1% historically (2007-2011). On this basis A/T should remain well supported (chart below). Revenues would need to show zero growth over the next two years to take the A/T ratio back the mid 2000s average level and a 15-20% decline to go back to the 1990s level. Even in China, despite high FAI growth and as a share of GDP, Asset Turnover ratios have been rising in recent years suggesting broad based corporate capacity utilisation is rising not falling (specific problems do exist).

■ Detailed analysis of 10 industries – shipping, shipbuilding worst; Tech best

We are most wary of those industries with substantial oversupply and falling capacity utilization – shipbuilding and shipping look the worst culprits here. Surprisingly, Steel looks less bad than we feared, with rising capacity utilization in the coming years on our forecasts. Tech, Refining and Airlines all look positive in terms of capacity utilisation and better places to be focused for any cyclical improvement in demand.

Asset Turnover - Asia ex Japan (high asset turn - high capacity utilization)



Source: Datastream, Worldscope, UBS estimates (Worldscope from 1991-2003, UBS estimates 2003 onwards)

8 January 2013

www.ubs.com/investmentresearch
Niall MacLeod

Strategist
niall.macleod@ubs.com
+852-2971 6186

Aakash Rawat, CFA

Strategist
aakash.rawat@ubs.com
+852-2971 7089

Jessie He

Associate Analyst
jessie.he@ubs.com
+852-3712 4671

This report has been prepared by UBS Securities Asia Limited

ANALYST CERTIFICATION AND REQUIRED DISCLOSURES BEGIN ON PAGE 117.

UBS does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Contents	page
Executive Summary	3
1. Introduction	6
— A History of Excess.....	6
2. Capacity Forecasts	10
3. Revenue Forecasts	29
4. Does Asia Have an Overcapacity issue?	33
— Asset turnover for 'commodity' manufacturing and transportation industries.....	45
Autos	46
Refining	52
Airlines	57
Shipbuilding	63
Container Shipping	68
Steel	72
Cement	80
LCD	88
Semiconductors (Memory/Non-Memory)	92
A. Foundries (Non-memory)	92
B. Memory (DRAM/NAND)	96
5. Investment Implications	103
6. Appendix	104

Niall MacLeod

Strategist

niall.macleod@ubs.com

+852-2971 6186

Aakash Rawat, CFA

Strategist

aakash.rawat@ubs.com

+852-2971 7089

Jessie He

Associate Analyst

jessie.he@ubs.com

+852-3712 4671

Executive Summary

There has been a lot of chatter recently about overcapacity, especially in China. Indeed the IMF recently wrote a report on this subject¹. At its heart is a fear that rising fixed asset/GDP in the region, and especially China, is leaving the region awash with excess capacity.

Rising capacity utilisation and the corporate equivalent – asset turnover ratios – have been very important to the Asian equity story over the last ten years. Despite margins falling on a trend basis since 2003, ROE has remained high chiefly because asset/turnover ratios have been firm.

But if Asia or indeed China is overinvesting, is this sustainable? This report looks at whether the corporate sector in Asia is overinvested or overinvesting and the investment implications.

The methodology

To consider this, we have looked at macro data and micro forecasts to plot where we think capacity utilisation and especially asset turnover ratios will likely go over the next few years.

Separately for each country we have looked at where each country is in its own investment cycle, as well as what our economists are forecasting for asset growth. We have also looked at bottom-up forecast of net asset growth in PP&E. We compare these data to both macro growth and bottom-up forecasts of revenue growth to identify where we think asset turnover ratios are likely to go.

We also show sensitivity analysis for what sort of revenue declines would be required to take asset turn ratios back to the levels of the 2003-2008 period or worse, the 1990s when Asia had a clear overcapacity problem.

Finally, we have undertaken detailed analysis of 10 industries with the help of our research colleagues to identify where capacity utilisation is and might go in the coming years as well as looking at asset turnover ratios.

The Conclusions:

So is Asia overinvesting? Not in aggregate, according to our analysis. Yes, fixed asset investment has picked up and this has brought with it fears of overinvestment, especially in China after the boom there, but in aggregate, it does not appear that Asia is overinvested with a major surplus capacity problem.

Over the next few years both our top down and bottom up forecasts suggest more capital discipline with net asset growth averaging 7.3% over 2013 and 14, compared to average rates of 15.1% between 2007 and 2011. The same fixed asset investment growth numbers are for the region to see 6.7% growth on average between 2013-14 versus 8.9% on average between 2007 and 2011. We expect the largest slowdown in FAI and net asset growth in China and India with the largest increase in FAI in Thailand and The Philippines.

¹ "Is China Over-Investing and Does it Matter?", Il Hoon Lee, Murtaza Syed, Liu Xueyan, IMF Working Paper, November 2012

Asset turnover ratios remain high, and on both our top down and bottom up forecasts – both of which in terms of revenue growth look low relative to history – should remain close to current levels for the next couple of years. Assuming both UBS top down and bottom-up forecasts for capacity growth in the region are correct for the next two years (15% cumulatively), it would take a fall in revenues of 15-20% to take asset/turnover ratios back to the levels of the 1990s (1.35x versus 1.83 today) and no growth in revenues at all over the next two years to get to the average level of 2003-2008. To put this in context, the worst revenue decline in Asia in the last decade was -6% in 2009.

The long improvement in Asset/Turnover ratios that Asia has experienced since 2003 does not look under imminent threat of dramatic reversal. Implication number one is that ROE does not look as if is about to fall because of an overinvestment problem or a serious decline in asset turnover ratios. We should however expect to see weaker capex and fixed asset investment growth in aggregate over the next couple of years especially in China and India, which is already explicitly forecast in both our top down and bottom up numbers. On the other hand, The Philippines may see slightly faster fixed asset investment growth on a trend basis.

How do we square the evidence of high asset/turnover ratios in China with high fixed asset investment and expectations of overcapacity? It seems to us that the difference is partly explainable by definition – corporate capex in China has not been growing nearly as fast as fixed asset investment. The latter, a GDP concept includes residential investment and infrastructure spending as well as corporate capex. While these create their own demand which can evaporate, in aggregate we don't think that the asset/turnover or capex data suggests such a serious problem of corporate overinvestment and capacity. Clearly there are individual industries with capacity problems, but asset turnover ratios and corporate capex compared to FAI suggest that the problem is less of a corporate overcapacity problem in aggregate. Between the end of 2007 and 2011 (inclusive), fixed asset investment in real terms grew by approximately 63%. Net fixed assets (using H share data) grew by 50% over the same period (52% using A share data). For sure this is still a large increase for net assets, but it suggests that the fixed asset investment boom in China was not corporate capex led. There are areas of overcapacity in China, but the capex data and asset turnover data suggest this is much less severe than perhaps feared. Implication number two is that China's corporate sectors may not be as overinvested as some fear.

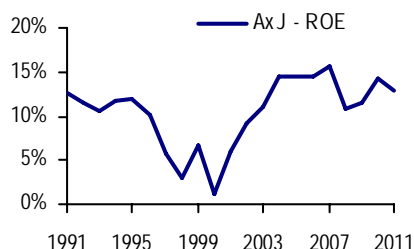
Extending our analysis to industry, we have looked at capacity utilisation and asset/turnovers for 10 industry groups in Asia where there is some form of commodity production region wide. Looking at the sector data, there are mixed fortunes. Some industries such as shipping and ship building look extremely oversupplied, with weak capacity utilization. Others which have seen rising capacity utilization in recent years such as autos may actually see lower capacity utilization ahead as companies bring on more production to meet demand. Tech, refining and airlines look to be okay, though in the case of refining, the global picture is not as healthy. Steel, considered by many the poster child of Chinese SOE overinvestment, ironically looks like it could see some modest capacity utilization increases, though this will require supply discipline in line with our current forecasts.

We would prefer to avoid those industries with substantial oversupply and falling capacity utilization – shipbuilding and shipping look the worst culprits here. On the other hand, surprisingly Steel looks less bad than we feared, with rising capacity utilization in the coming years on our forecasts. Tech, refining and airlines all look positive and better places to be focused for any cyclical improvement in demand.

1. Introduction

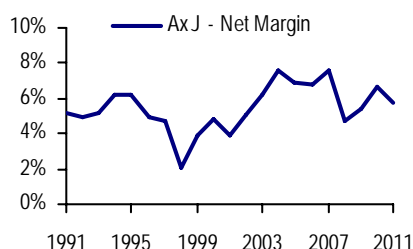
Over the last 10 years, despite falling margins, Asia ex Japan ROE has been on the rise due in large part to rising asset turnover ratios. Rising asset turnover ratios are another way of saying that capacity utilisation has increased.

Chart 1: AxJ - ROE



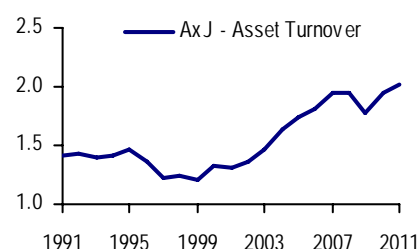
Source: Datastream, Worldscope

Chart 2: AxJ - Net Margin



Source: Datastream, Worldscope

Chart 3: AxJ - Asset Turnover



Source: Datastream, Worldscope

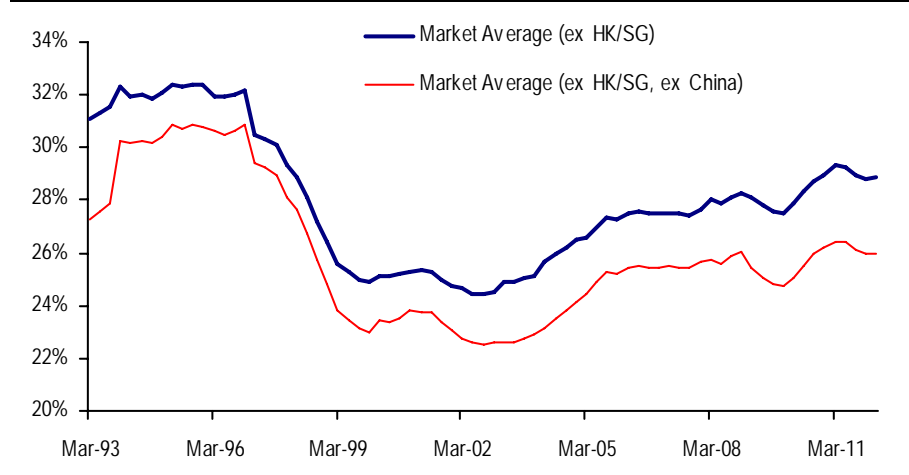
Over the last few years however, fixed investment has been rising, most notably in China, post that country's 2009 boom. A recent paper from the IMF raised the question as to whether China was overinvesting (see earlier footnote). Overinvestment for the corporate sector is clearly a problem, as excess capacity leads to weak pricing power and margins. If it happens against the backdrop of high leverage, there is the risk of financial distress.

So is asset turnover about to collapse due to overinvestment, destroying the leg that has propped up Asian ROE? Could Asia be heading back in to the graveyard of the excess capacity inherited during the mid 1990s boom (and subsequent bust)? Or is capacity generally under control, and broad based excess nothing to worry about for now?

A History of Excess

The early 90s were boom years for most Asian countries. A weak global economy caused capital to flee to Asia, and assisted by low global interest rates meant Asian corporates had little trouble raising capital to fund investment. This helped fuel the capex boom of the 90s and helped lay the foundation for the ensuing financial crisis. Average fixed asset investment was running as high as one-third of GDP in the mid-90s.

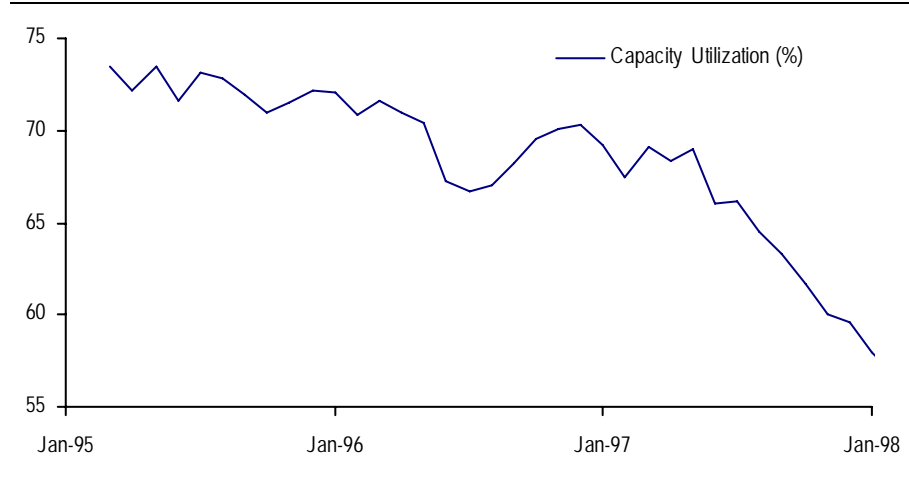
Chart 4: Fixed Asset Investment / GDP - AxJ



Source: CEIC, UBS

Arguably Asia was overinvesting in the early 1990s. Capacity utilisation was falling, and with it returns on capital. Charts 5 show the Capacity Utilisation rate for Thailand from 1995 - 1997 (one of the few countries for which we have data) and a micro economic measure of the same – the asset turn ratio for the period 1990-1997. Despite falling capacity utilisation and a falling asset turnover ratio, FAI/GDP remained at peak levels in Thailand through 1995 and 1996. This is a microcosm of the story in Asia overall – with falling asset turns and capacity utilisation, the need for Asia to maintain its investment boom was diminishing by the mid 1990s.

Chart 5: Capacity Utilization – Thailand (1995-1997)

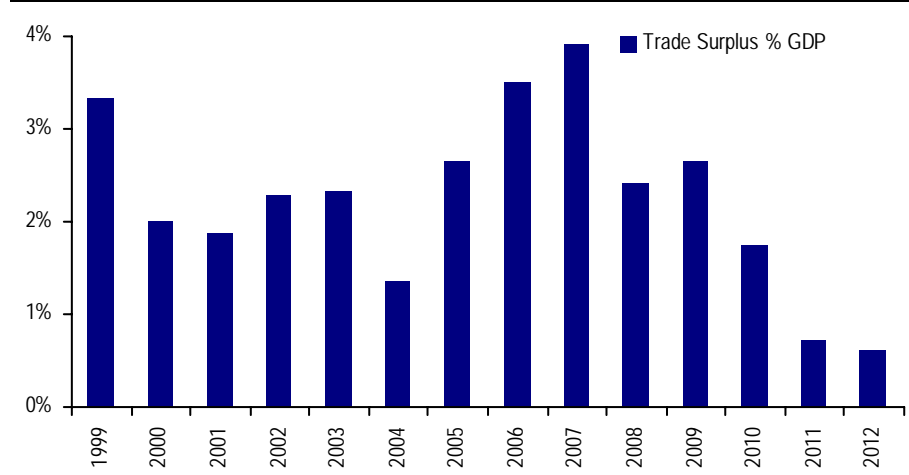


Source: CEIC

To compound this, Asia's investment was largely funded with leverage. Overcapacity, falling ROE, the rise in global real interest rates by the mid 1990s, along with less competitive Asian economies brought about the Asian financial crisis.

But despite the debt workout, Asia's capacity didn't go away. Instead, the sharp depreciation in Asian currencies helped Asia to take global market share – represented in rising trade surpluses (see chart 6).

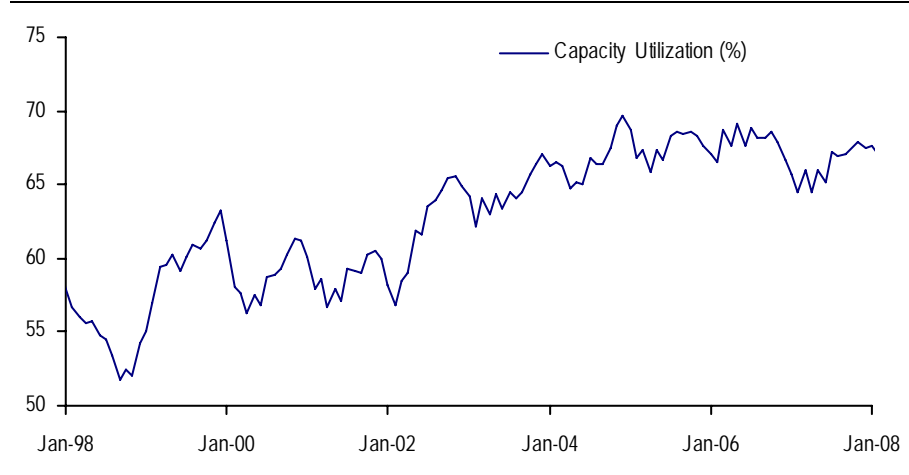
Chart 6: Trade Surplus as % of GDP - AxJ



Source: CEIC

Allied to this, a period of balance sheet repair and low capex spending, led to rising capacity utilisation and asset turnover ratios. Again, we use Thailand as the example of this.

Chart 7: Capacity Utilization – Thailand (1998-2007)

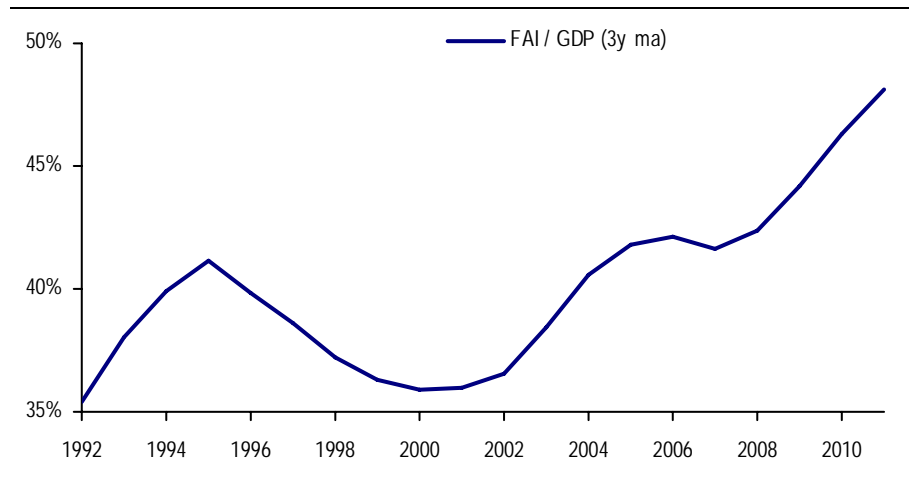


Source: CEIC

Indeed, rising Asset Turnover ratios have been a key driver of higher ROE in Asia, despite falling profit margins over the last 10 years.

In recent years however most of the region has been on period of fixed asset investment expansion. This is most notable in China, with official measures of fixed asset investment/GDP running at over 45%, well above the rates associated with the Asian financial crisis.

Chart 8: FAI / GDP - China

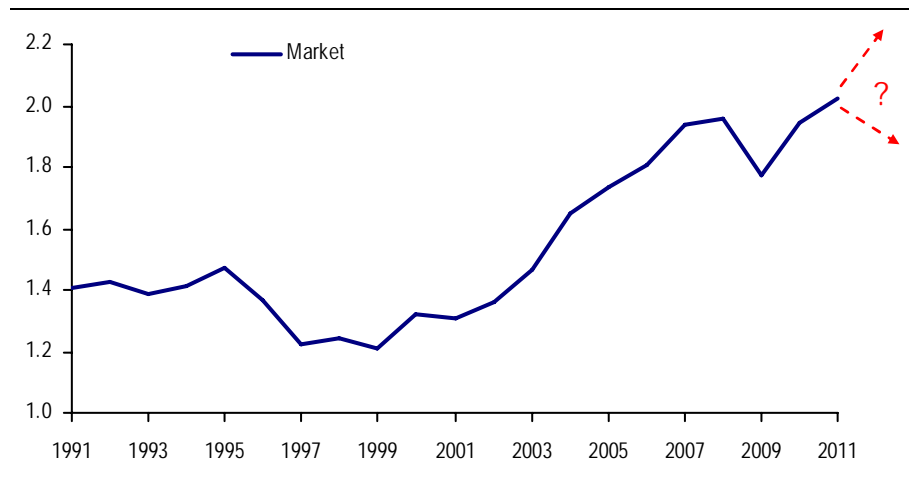


Source: CEIC

So does Asia (or countries in the region) have an overinvestment problem? Overinvestment crimps pricing power, reduces returns on capital. If Asia is overinvesting, one of the key pillars of support for ROE could deteriorate. With time, financial distress also becomes a more likely outcome.

This report considers whether Asia has an overinvestment problem. We look at top-down and bottom-up forecasts of capacity expansion as well as demand to identify where we think capacity utilisation and asset turnover might go over the next few years at the country and region level. We also look in detail at 10 sectors to identify specific areas where there may be overcapacity problems.

Chart 9: Asset Turnover - Sales / Fixed Assets (net PP&E)



Source: Datastream, Worldscope

To answer this question, we start by looking separately at the two underlying drivers – assets and turnover. While we realize that it is quite difficult to forecast fixed asset growth, we think it is even more difficult to come up with accurate forecasts for turnover. For the former, however, it is possible to form reasonable expectations based on what point of the capex cycle an economy is in. We also look at our economic top-down and analyst bottom-up forecasts for fixed investment growth and use these inputs to form our views for each market.

2. Capacity Forecasts

To look at the capacity side of the capacity utilisation issue we consider three things. Firstly, we start by looking at where each country is in its own **capex cycle** and what this implies for capex growth going forward, relative to recent history. Secondly, we look at our **UBS economic forecasts** for fixed asset investment as a proxy for capacity. Thirdly, we look at our **UBS bottom-up forecasts** of capex and net asset growth (the latter is simply fixed assets plus capex minus depreciation).

A. Where are we in the capex cycle?

Our focus while using this approach is to objectively study the implications (for investments) from an investment cycle perspective in each market in the region. We focus on two things – the need/willingness of each economy to undergo an investment expansion cycle, and the ability of the economy to source that expansion.

At the heart of this approach is the idea that in a market economy private investment generally lags the profit cycle. Around the bottom of a cycle, earnings need to pickup first and margins improve first to act as an incentive to attract new private investment. This is one of the thumb rules that we use in framing our conclusions. In addition to this, we also look at other measures to ascertain whether additional capacity expansion is likely to be undertaken or not. Broadly the factors we look at can be classified into two categories – *need* based and *ability* based.

Need based measures that we look at include the rate of growth of revenues (or GDP) and capex in recent years and how that compares with the 5 year trend. We also look at depreciation as a share of sales in each market – if the rate is high, there is probably an element of overinvestment relative to the amount of revenues being generated and new investment may not be a priority.

While these factors should largely determine the capex decisions as far as the willingness of the companies is concerned, another factor that obviously matters is the ability of the company and the economy as a whole to be able to finance this investment.

The factors that we look at in this category (ability based) include debt/equity, cash flow generation ability of corporates, debt servicing ability, depreciation as a share of cash flow, banking system's lending to deposit ratio, real short term interest rates and the current account deficit of the economy.

The first possibility is for the companies to use their own cash flows to add capacity which we measure through the cash flow generation ability of companies in each market. Secondly it is possible to raise equity or debt – typically investment is funded by equity in the early parts of the cycle (equities are still inexpensive at this stage) and debt plays a bigger role in the later stages. For this, we look at the debt / total borrowing ratio. LDR ratio of the banking system is another metric that helps indicates the ability of the banking system to fund corporate expansion plans if they choose to borrow. Current account deficit represents the ability of foreign capital to be used to fund the domestic investment needs. Short term real interest rates are used as another check to see

whether the investments undertaken at this stage of the interest rate cycle are likely to be profitable or not. Interest to EBITDA is an indicator of the cost of servicing debt and whether companies can comfortably service additional debt that may be needed for new investment. Depreciation to EBITDA is a measure of the incentive of the management to boost earnings by reducing depreciation charges by under investing, especially if depreciation is running high relative to earnings. Finally we show the current level of capacity utilisation (asset turnovers) to determine its potential direction based on our analysis above (albeit this is ultimately what we are seeking to look at in this note).

In line with this, we look at a series of historical data for each of the ten economies in the region (shown in Appendix 1). We have also tried to include at least two economic cycles for each market to draw as informed conclusions as possible.

Table 1: Measures used in the Investment Cycle analysis (charts in Appendix 1)

1. Profit cycle
2. Fixed Investment / GDP, Capex / Sales, Fixed Asset Growth (non-govt)
3. Debt / Equity ratio
4. LDR for the Banking system
5. Current Account Surplus/Deficit
6. Short term Interest rates
7. Corporate Cash Flow / Fixed Assets
8. Interest Expense / EBITDA
9. Depreciation / EBITDA
10. Asset Turnovers

Source: UBS estimates

Table 1 shows a summary of all the factors and our conclusions in each market on whether each of the factors that we have looked at points towards higher capex levels or lower.

Table 2: Conclusions from the Investment Cycle analysis

	China	India	Korea	Taiwan	Indonesia	Thailand	Malaysia	Philippines	Hong Kong	Singapore
Need for Assets										
Profit Margin - high enough to attract new investment?	N	N	Y	N	Y	Y	N	N	Y	N
FAI / GDP - low enough to attract new investment?	N	Y	Y	Y	N	N	N	N	N	N
Capex / Sales - capex growth slower than sales in recent years?	N	Y	Y	N	N	Y	Y	N	Y	N
Depn / Sales - low enough to NOT pose a challenge for new investment?	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Fixed Asset Growth - weaker than trend?	N	Y	Y	Y	N	Y	Y	Y	N	N
Ability to fund Asset expansion										
Debt / total borrowings - low?	N	N	N	N	Y	Y	Y	N	Y	N
LDR - low?	Y	N	N	Y	N	N	Y	N	N	N
Short term interest rates - low?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cash flow relative to assets - high?	Y	N	Y	N	Y	Y	Y	Y	Y	Y
Interest / EBITDA - low enough to NOT pose a challenge to new investment?	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Depn / EBITDA - low enough to NOT pose a challenge to new investment?	Y	N	N	N	Y	Y	Y	Y	Y	Y
Current Account Surplus - high enough to NOT pose a challenge to liquidity?	N	N	N	Y	N	N	Y	N	Y	Y
Historical Trend										
Asset Turnover - running at full capacity?	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
# of Y/N										
Y	6	4	9	8	8	10	11	7	10	7
N	7	9	4	5	5	3	2	6	3	6
Overall	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES

Source: UBS estimates

Our analysis suggests that the capex cycle is quite advanced in China and Singapore with less likelihood or need for a private sector acceleration in capex.

In China, our framework raises red flags because of the very high share of government spending on fixed assets - a very serious source of concern to us subjectively over the medium to long term, but not so much over a shorter horizon. Profit margins are below trend and closer to their cycle troughs and that explains why corporate spending on investment remains low, both on a trend basis as well as a share of corporate revenues. From the sourcing side however there is no apparent challenge – although corporate debt looks a bit on the higher side relative to total borrowing relative to its own trend, but most other factors in our framework look positive. Overall our framework suggests that the chance for capex to accelerate is low.

In India, while the lack of government and corporate spending builds a strong case for more investment, profits and sales indicate otherwise. At this point in this cycle, when profits are below trend it is difficult to expect corporates to ramp up on capex plans. At the same time high borrowing, high banking LDR and current account deficit do not lend support to the possibility of government spending either. Overall we think profits need to recover first. In our framework, India is in the workout phase of the last capex boom and needs to consolidate this first before entering another capex boom.

While in Korea, the ‘needs-based’ measures would suggest that capex can remain firm (as our bottom-up forecasts suggest which we get to later), most ‘ability-based’ measures paint a different picture, with gearing and the banking sector’s loan/deposit ratio raising red flags in our framework. This would suggest that if capex is to remain strong going forward, much of it needs to come from internal cash flow generation.

In Taiwan, the case for additional capex is not so clear. Private spending remains firm relative to revenues, which are obviously cyclically depressed, although it does look weak on a trend basis. Like most of the region, profits and cash flows remain below trend suggesting less incentive for capex spending by corporates. In addition a debt to equity ratio that is higher than trend looks like a challenge to the sourcing of additional private investment. Depreciation also looks high relative to EBITDA.

In Malaysia, like in most of the ASEAN markets, there are no real challenges from the sourcing side either for corporates or the government. Robust credit growth and a large surplus of aggregate income over expenditure (15% current account surplus) look more than enough to offset the slowdown in income growth from lower exports. What looks to be a hurdle however is the slowdown in profits, in line with the rest of the region, that discourages corporates to invest. Capex has been slightly slower than sales in recent years, presenting a modestly supportive case. On the other hand, government spending on fixed investment has been relatively higher than trend.

In the other ASEAN economies including Indonesia, Thailand and The Philippines, our analysis presents a positive case for additional investment. Profit margins look more resilient in Indonesia and Thailand, less so in The Philippines. Although in Indonesia this might be deceptive with a structural

slowdown facing the commodities related part of the economy. Funding does not appear to be a challenge in all the three. Except for the loan to deposit ratio and deteriorating current account surpluses, most other factors suggest supportive liquidity/credit conditions. For example, debt to equity remains low in Indonesia and Thailand, cash flow high relative to assets and interest and depreciation expense low relative to earnings.

To sum up – our analysis raises red flags for potential fixed asset investment in China and India. Korea - negative from the funding side. Not a very clear message in Taiwan. Positive picture in the ASEAN economies of Thailand, The Philippines and Malaysia, less so in Indonesia. Our framework also suggests positive prospects for capex in the city states of Hong Kong, less so in Singapore, although the concept is obviously less relevant in these markets. Table 3 summarises the key highlights for each country.

Table 3: Where are we in the capex cycle

	Where are we in capex cycle?	Implication for capex	Key Reasons/Challenges
China	Advanced	Capex should moderate	Weak profits, very high government spending as % of GDP
India	Advanced	Workout phase – consolidation before recovery capex should moderate	Weak profits, cash-strapped government finances and corporate sector
Korea	No strong message	Capex could increase but external funding looks a challenge	Diminishing current account surplus, very high credit to GDP ratio
Taiwan	No strong message	Neither a strong case nor otherwise	High corporate debt to equity ratio
Indonesia	Reasonably advanced	Moderate slowdown ahead in corporate capex	Weakening profits, potential tightening
Thailand	Early	Capex/FAI could remain strong	Strong profits, weak capex
Philippines	Early	Capex/FAI could increase	Strong profits, not so strong capex and abundant liquidity, low FAI/GDP
Malaysia	Early to middle	Capex could remain strong	Weak profits and high government spending but abundant liquidity
Hong Kong	No strong message	Capex could increase	Improving profits, Weak capex spending
Singapore	Advanced	Capex should moderate	Strong investment cycle in last few years

Source: UBS estimates

B. UBS Economic Forecasts.

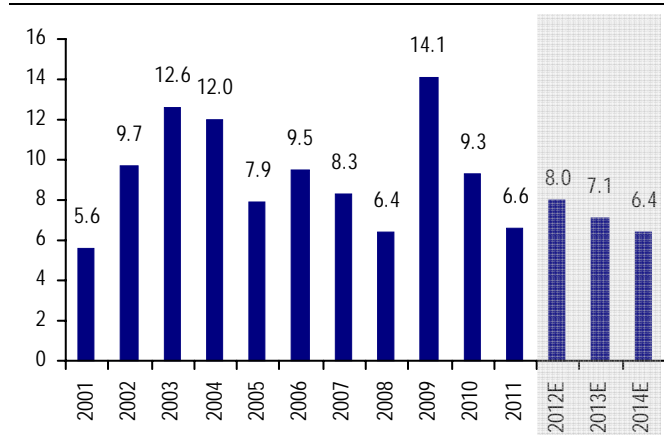
Having looked at where we are in the capex cycle in each economy, we now turn to what our economists are forecasting for each country.

Before continuing, it is worth noting that fixed asset investment is not the same as capex. Ultimately, this report is about identifying whether the *corporate sector* in Asia has an over investment problem. That is largely a function of corporate capacity. Within GDP accounts, fixed asset investment is the closest broadly available proxy for this. But fixed asset investment includes residential investment and infrastructure spending. While these ratios if too high can fall and impact demand for the corporate sector, increasing the housing stock does not by itself increase the capacity of the corporate sector. Building too many houses is not the same as building too many factories. For simplicity sake however, we have to use the fixed asset investment data top-down. Generally economists do not produce corporate capex forecasts separately for each country.

Our economists' aggregate forecasts for 2012 suggest that fixed asset growth should be faster than 2011 year and closer to 2010 levels. For 2013 and 14, our economists expect fixed asset investment growth to slow down to close to 7%, significantly below the average of the last 10 years.

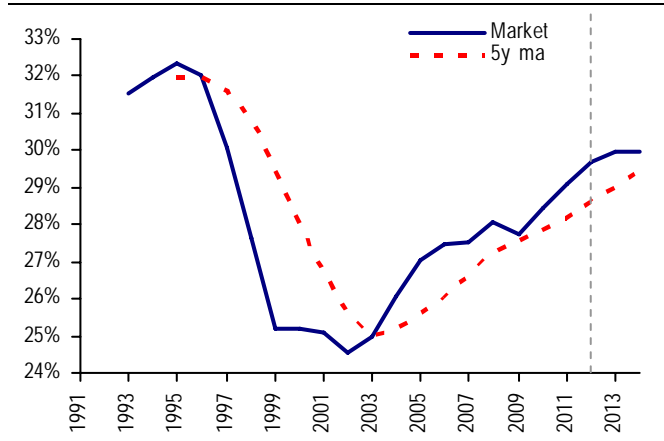
Overall the share of fixed investment to GDP, although significantly lower than pre – Asian Financial Crisis levels, is running just below a third (~30%). Looking out to 2014 our economists are expecting fixed asset investment as a share of GDP to flatten out at approximately 30%.

Chart 10: AxJ - Real Fixed Investment Growth (y/y, %)



Source: CEIC, UBS estimates

Chart 11: AxJ - FAI to GDP (%)

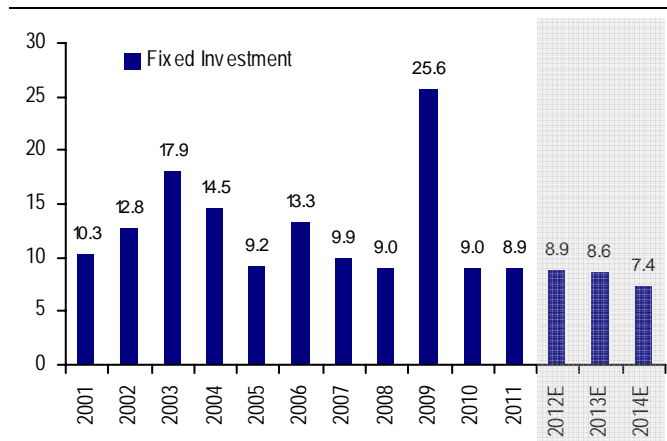


Source: CEIC, UBS estimates

In line with the overall region, fixed investment growth was strong and exceeded GDP growth until the mid-2000s in **China**, and has been broadly in line or slightly lower in most years after, with the exception of 2009.

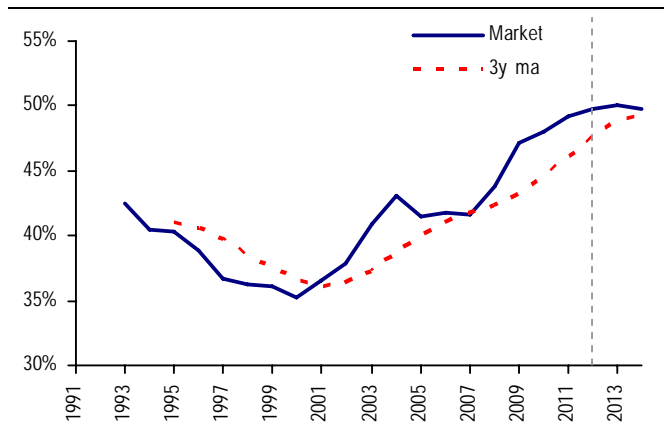
Looking forward our economic team's forecasts imply a pickup in fixed investments in China in 2012 leading to almost 400 bps higher growth in fixed assets relative to nominal GDP over 2012-13. At first sight this might look a bit alarming but the composition of this investment matters more. In recent years, investment in China has been, to a large extent, driven by real estate development and infrastructure has been on the decline. Tao Wang's forecast is for fixed investment to recover led by infrastructure investment (focusing on water works, irrigation, urban infrastructure etc.) as well as social housing and services. This view is largely in line with the expectation of the continuation of fiscal and credit easing in the coming quarters. Nevertheless, our economics team expect capital investment to remain strong and are not expecting the high level of fixed asset investment/GDP to come off all that much in the next few years.

Chart 12: China - Real FAI Growth (y/y)



Source: CEIC, UBS estimates

Chart 13: China – FAI to GDP (%)

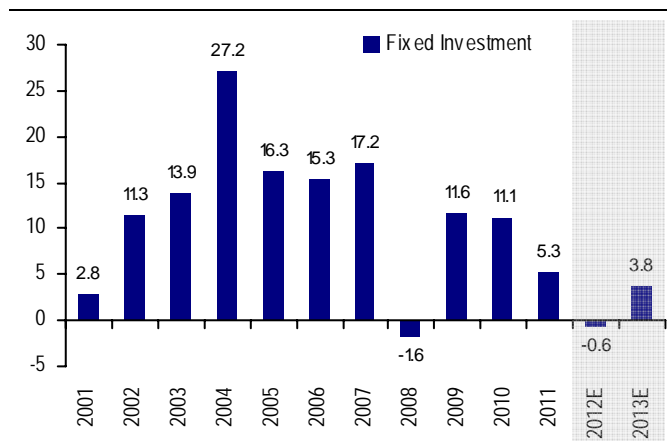


Source: CEIC, UBS estimates

Real investment growth has been very weak in **India** since last year almost suggesting a rerun of 2008-09. Beyond economic weakness other factors including political scandals and limited FDI have played a role in causing this.

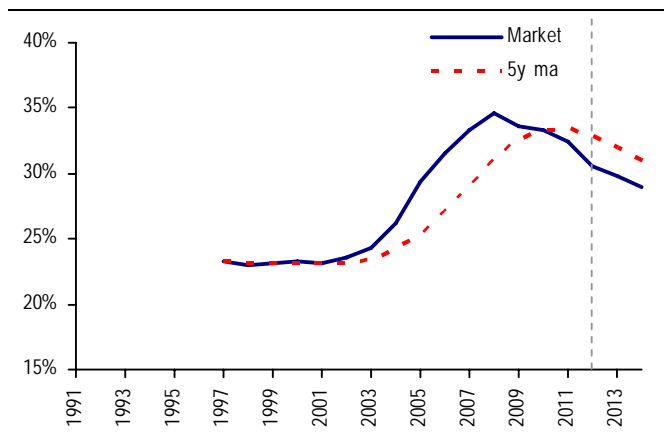
Fixed investment remains largely a private sector phenomenon in India given the constraints on the capacity of the government to provide much of a fiscal stimulus. For private capex recovery, earnings need to pick up first, as is generally the case around the bottom in profit cycles. Monetary policy easing should help speed up the profit recovery but that has been inhibited by higher-than-normal inflation so far. Our top-down economic forecasts for fixed investments this year reflect this and suggest negative growth of -0.6% for 2012. The only year fixed assets declined on an annual basis was at the peak of the Global Financial Crisis in 2008.

Chart 14: India - Real FAI Growth (y/y)



Source: CEIC, UBS estimates

Chart 15: India – FAI to GDP (%)



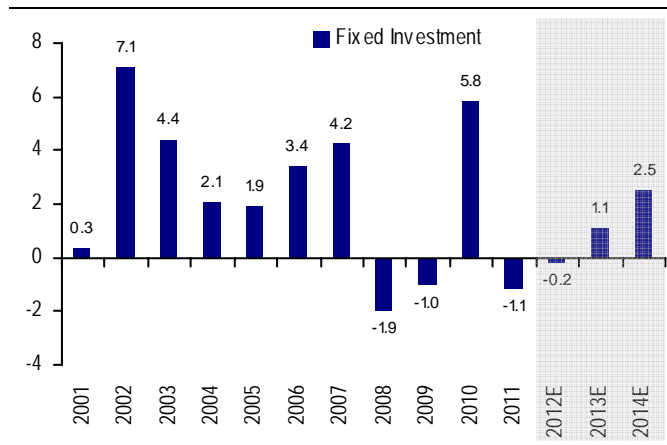
Source: CEIC, UBS estimates

Korea is not very different from the whole region and investment remains a key driver of growth and it makes up 30% of GDP. It generally has a large impact on GDP due to its volatility.

Monthly investment data suggests continued weakness and business indicators have fallen sharply in Korea. Inline with this our economists have been

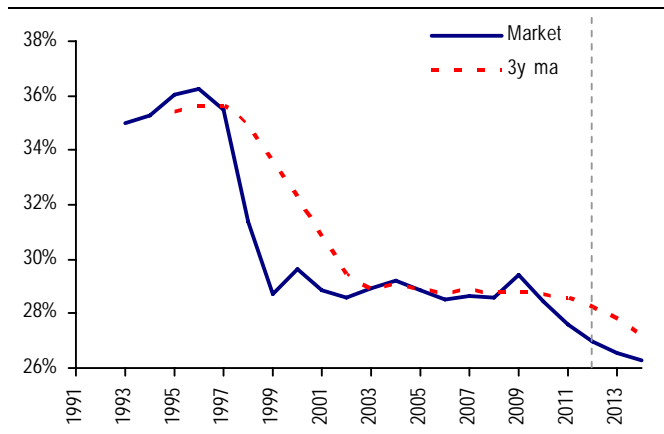
expecting investments to remain weak in the second half of this 2012 and pick up modestly in 2013. To see investments pickup more aggressively we need a more robust exports recovery. Both a demand surge globally or aggressive policy easing in Korea look unlikely - the latter because of the long term focus of the central authorities to bring leverage under control. Overall investments are expected to pickup modestly next year on a sequential basis.

Chart 16: Korea - Real FAI Growth (y/y)



Source: CEIC, UBS estimates

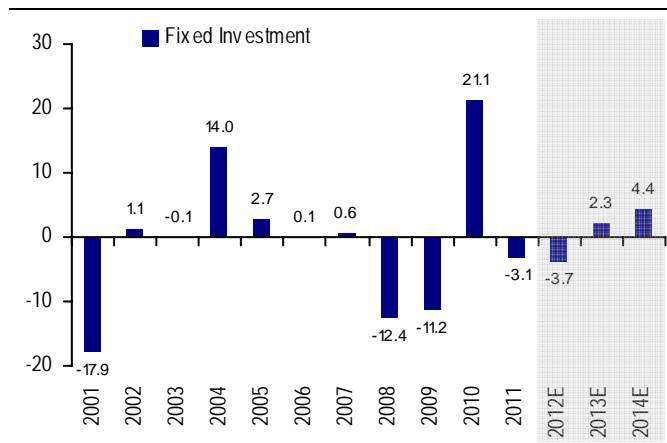
Chart 17: Korea – FAI to GDP (%)



Source: CEIC, UBS estimates

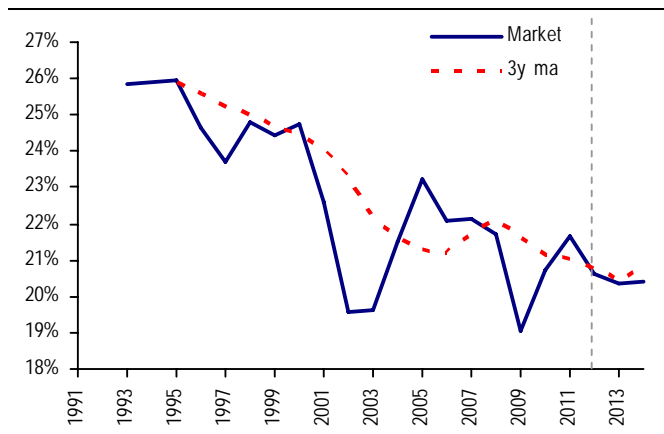
In **Taiwan**, which is a more vulnerable to the global macro given its higher dependence on exports, investments are even more heavily dependent on the global economy and the export cycle. The other negative in the case of Taiwan is the higher CPI which is close to exceeding the “comfort level” of 2% further delays the likelihood of any policy rate cuts. As a result, our economists expect investments to contract for the full year 2012 and only rebound modestly next year, when they are expected to be inline with GDP growth.

Chart 18: Taiwan - Real FAI Growth (y/y)



Source: CEIC, UBS estimates

Chart 19: Taiwan – FAI to GDP (%)

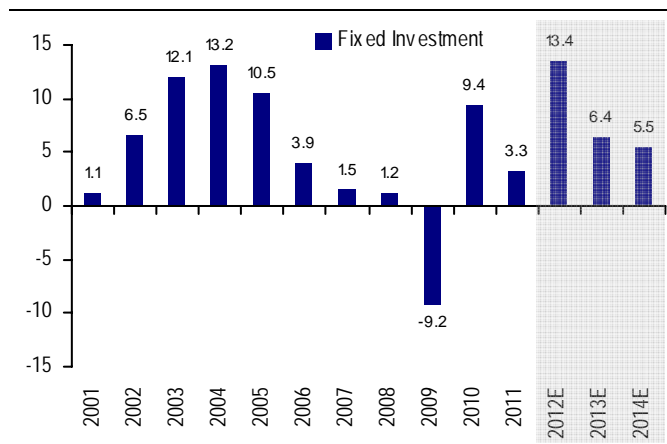


Source: CEIC, UBS estimates

Post flood recovery effort boosted investment spending in **Thailand** in 2012. Fixed investment as a share of GDP reached a peak of 28.8% (on a quarterly basis), its highest level since the peak of the Thaksin boom in 2005. We don't expect this burst of growth however to last and high frequency indicators are already suggesting some signs of the strength in capital expenditure rolling over.

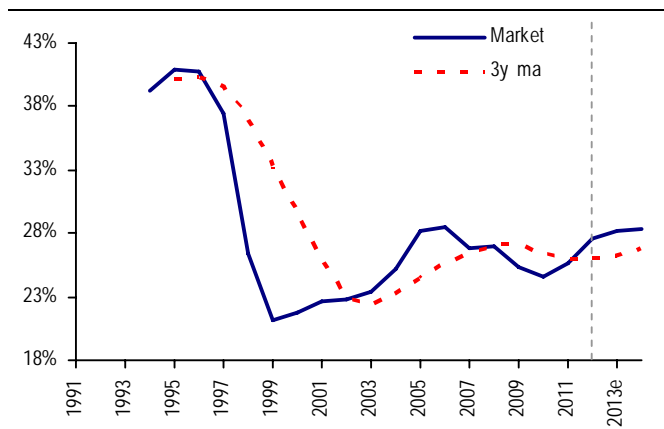
Based on these reasons, our ASEAN economist Ed Teather, expects investment to slow to a still healthy growth rate of 5.4% y/y.

Chart 20: Thailand - Real FAI Growth (y/y)



Source: CEIC, UBS estimates

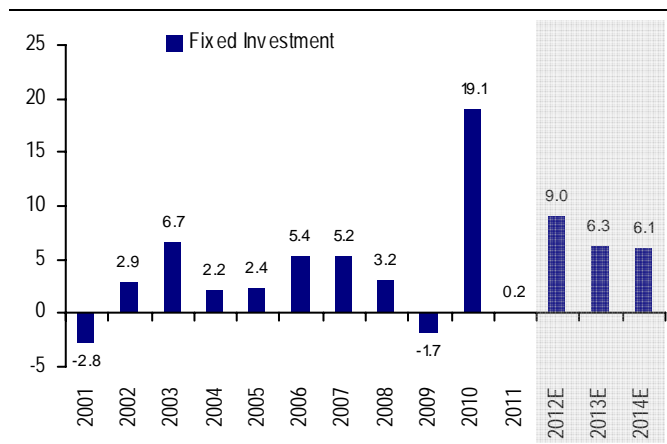
Chart 21: Thailand – FAI to GDP (%)



Source: CEIC, UBS estimates

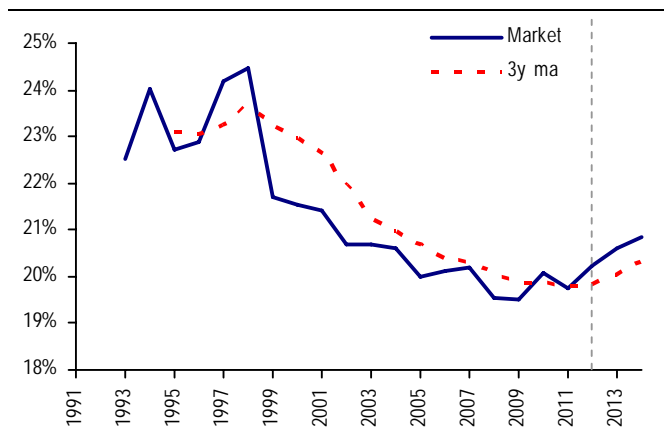
In the **Philippines**, Ed expects investment growth to be above trend over the next two years and the ratio of investment to GDP to trend higher. The key reasons for this are the expansionary credit cycle and relatively favourable politics implying improved reform prospects. The elevated business confidence and high capacity utilization further support this expectation.

Chart 22: The Philippines - Real FAI Growth (y/y)



Source: CEIC, UBS estimates

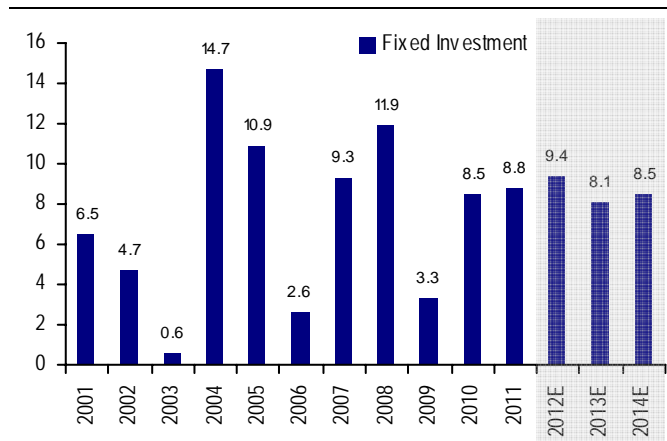
Chart 23: The Philippines – FAI to GDP (%)



Source: CEIC, UBS estimates

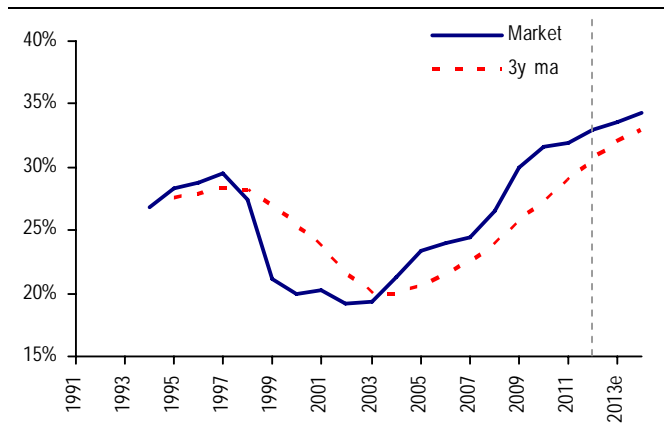
In **Indonesia**, easy policy settings have led to strong growth in investments – both in machinery and construction. As a result, real/nominal investment shares of GDP both rose to new highs in the last few quarters. However, going forward lower global commodity demand and prices could dampen the investment in machinery especially in the export oriented sectors. Construction, on the other hand, is likely to remain strong and be a dominant part of investment. Our economics team expects investment growth in Indonesia to remain firm at 9.4% y/y in 2012 and 8.1% next year.

Chart 24: Indonesia - Real FAI Growth (y/y)



Source: CEIC, UBS estimates

Chart 25: Indonesia – FAI to GDP (%)

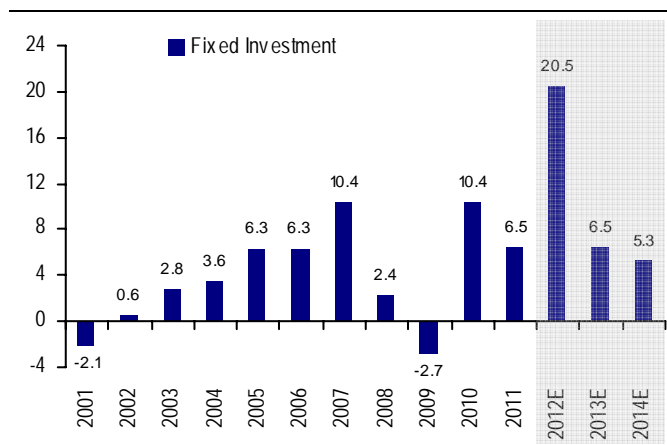


Source: CEIC, UBS estimates

Similar to most of the ASEAN region, **Malaysia** has seen strong growth in investment this year. Real growth in investment was up 26% year on year and as a share of GDP it is at the highest level since the Asian Financial Crisis. Both private and public spending growth contributed to this. A lot of this was also construction centric.

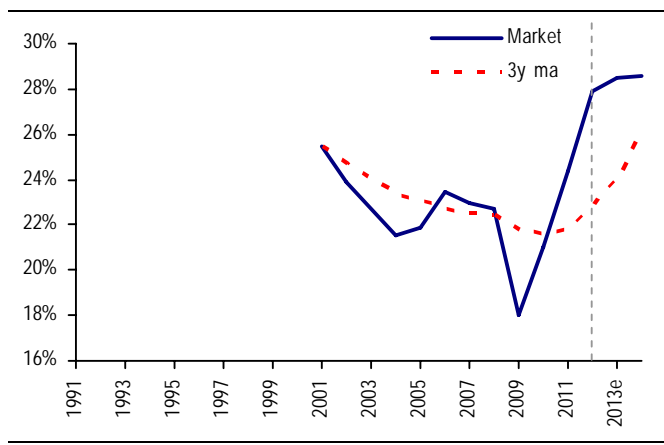
Ed has been expecting this to be the case given the credit friendly policy environment and the government's Economist Transformation Programme to encourage investment. But this is to some extent surprising given the global macro headwinds to sentiment. While the government points to several infrastructure projects underway, it is not obvious from the high frequency data that the pace of construction can sustain itself. At the same time, private sector growth can be expected to moderate given the slowdown in exports and general industrial activity. As a result, our economic forecast is for a more normal rate of investment, 6.4% y/y, next year after a very strong 2012.

Chart 26: Malaysia - Real FAI Growth (y/y)



Source: CEIC, UBS estimates

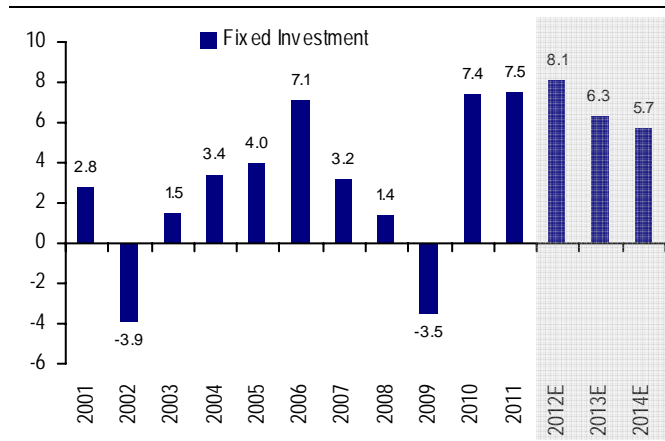
Chart 27: Malaysia – FAI to GDP (%)



Source: CEIC, UBS estimates

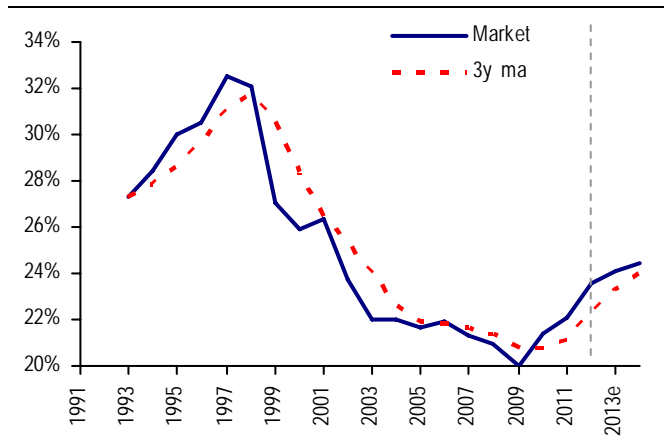
Charts 28 through 31 show data for Hong Kong and Singapore. The FAI growth in both economies largely reflects structures investment – property – rather than a surge in corporate capex in what are typically more asset light economies. Nevertheless, FAI growth in Hong Kong is forecast to remain robust, while experience a more pronounced slowdown in Singapore in 2013.

Chart 28: Hong Kong - Real FAI Growth (y/y)



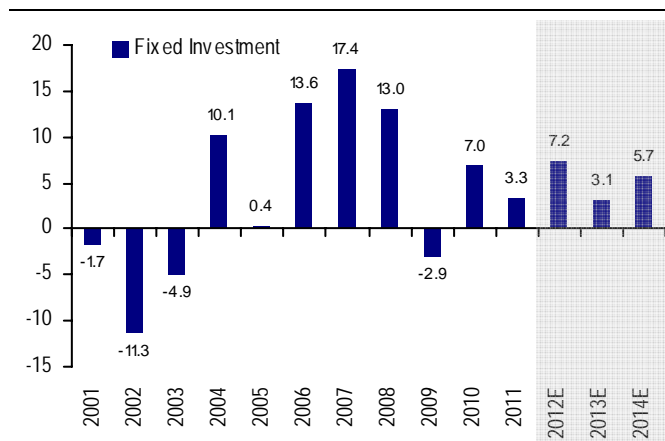
Source: CEIC, UBS estimates

Chart 29: Hong Kong – FAI to GDP (%)



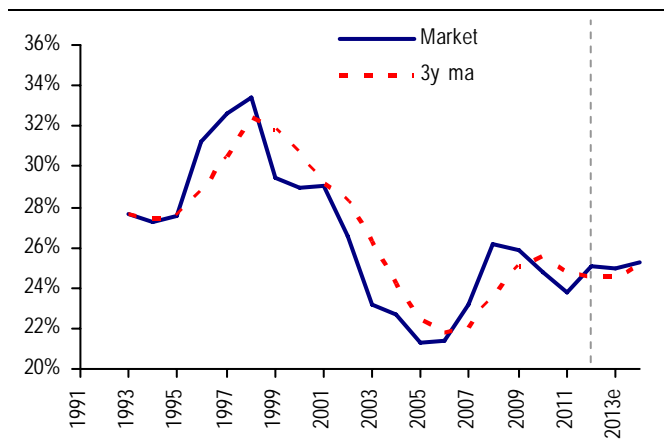
Source: CEIC, UBS estimates

Chart 30: Singapore - Real FAI Growth (y/y)



Source: CEIC, UBS estimates

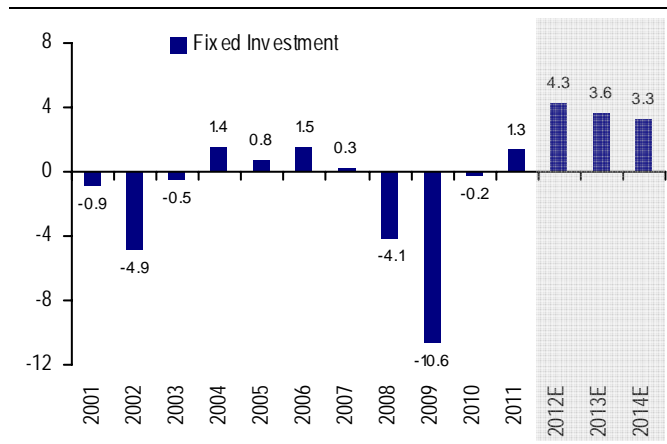
Chart 31: Singapore – FAI to GDP (%)



Source: CEIC, UBS estimates

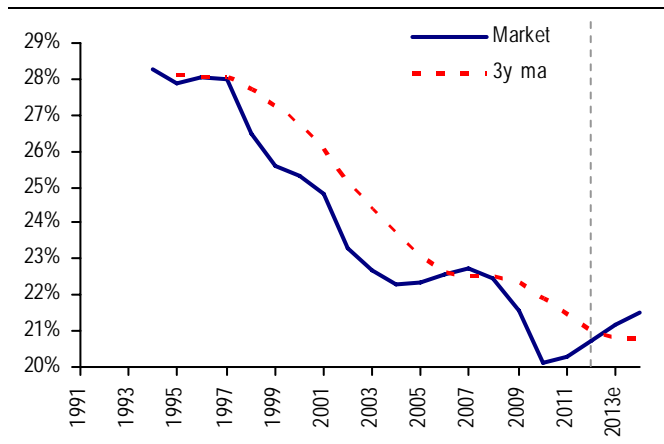
Most of our analysis in this report is centred on non-Japan Asia. However for the corporate sector, Japan is a major competitor. Japanese fixed investment has been anaemic for most of the last decade. Investment as a share of GDP has fallen from the high 20s% in the early 1990s to around 20% today (similar to Taiwan). Our official forecasts have a moderate pick up in investment, partly supported by government spending, in the coming three years.

Chart 32: Japan - Real FAI Growth (y/y)



Source: CEIC, UBS estimates

Chart 33: Japan – FAI to GDP (%)



Source: CEIC, UBS estimates

C. UBS Bottom-up capacity forecasts

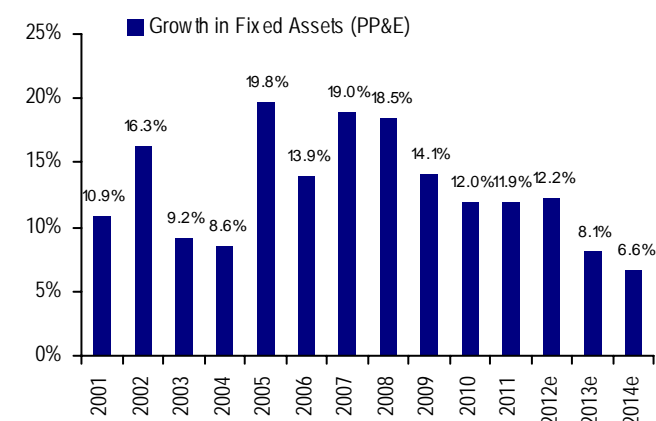
In the last two sections, we looked at the economic cycle implications for fixed investment in each market, and the UBS macro economic forecasts for fixed investment growth across the region. Next we take a look at the bottom up estimates in each market.

This should give us a fairer measure of actual corporate capacity, rather than have fixed investment data that is contaminated with data such as housing get in the way.

Chart 34 show the GDP-weighted asset growth across countries in the region (ex Japan) each year since the beginning of last decade. We have chosen to use local currencies to calculate these growth rates to avoid the impact of the volatility of Asian currencies, especially during global recessions and crisis. It is worth noting that these numbers are nominal, not real. In other words, inflation artificially enhances the numbers, versus the FAI numbers in the previous section which are 'real' numbers.

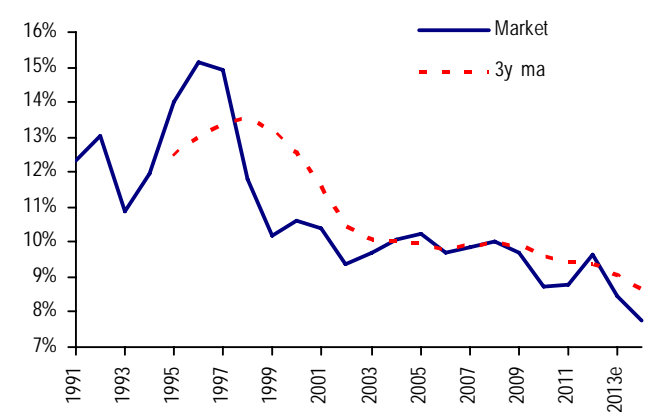
Between 2004 and 2009 capex growth accelerated across the region. However since then the rate of growth has slipped. Our analysts are expecting net growth in assets (capex minus depreciation) to grow at 6.6% in 2013 and 4.8% in 2014. This would mark the lowest growth in assets since 2004. Capex-to-sales which has averaged around 10% through most of last decade fell below 9% last year and our colleagues expect this to drop to lower levels by 2014.

Chart 34: AxJ – Net Asset Growth (y/y, local currency)



Source: UBS estimates

Chart 35: AxJ – Capex to Sales (%)



Source: UBS estimates

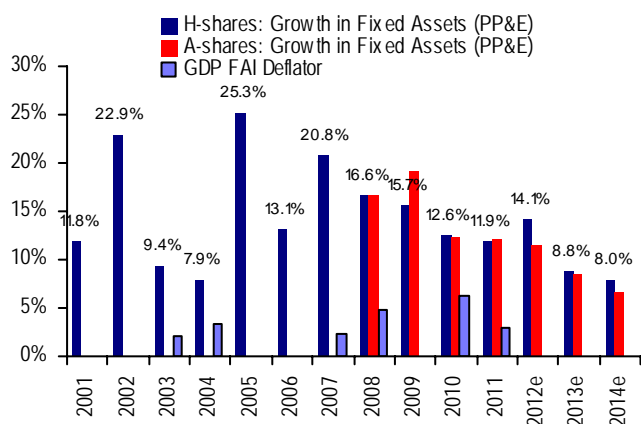
For all the following charts, we have used local currency data in nominal terms. For China and India we have also shown in the fixed assets growth chart, the growth in fixed assets adjusted for the local fixed asset investment deflator to give a better sense of ‘real net asset growth’. This is not an ideal but it should bring the data to some extent closer to the ‘real’ fixed investment data shown in the earlier section.

In China, capex growth was strong since the early part of this decade until about 2007. More recently, the rate of growth has been in decline. As a share of sales, capex has also been falling. Our colleagues in UBS research are forecasting net asset growth of around 8% in 2013 and 2014 (slightly less for A Shares).

In India, at first glance the capex cycle appears to be a little further advanced relative to the rest of the region – in marked contrast to the FAI numbers. This is partly due to the impact of inflation on capex.

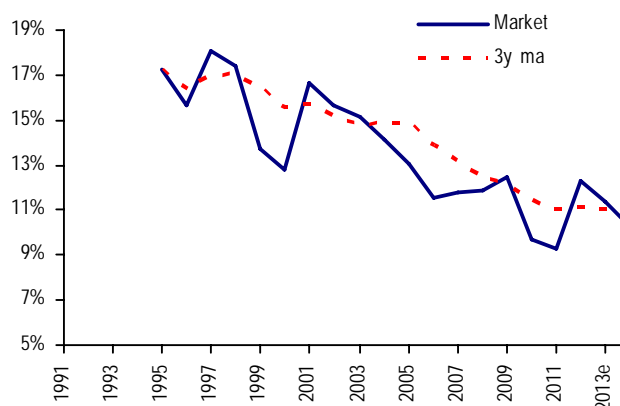
While broadly improving in line with other markets until 2007, it fell more sharply than others last year. This was obviously because of both the political stalemate and tighter domestic liquidity conditions. Moderate pickup is forecast by our analysts in 2012-13 but nothing compared to the average growth rates of the last decade.

Chart 36: China - Asset Growth (y/y, local currency)



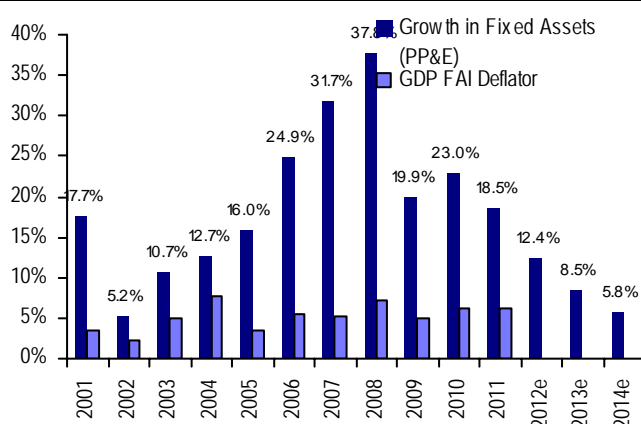
Source: UBS estimates

Chart 37: China – Capex to Sales (%)



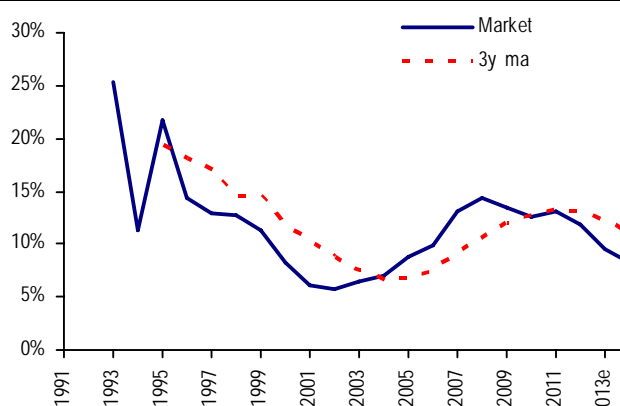
Source: UBS estimates

Chart 38: India - Asset Growth (y/y, local currency)



Source: UBS estimates

Chart 39: India – Capex to Sales (%)

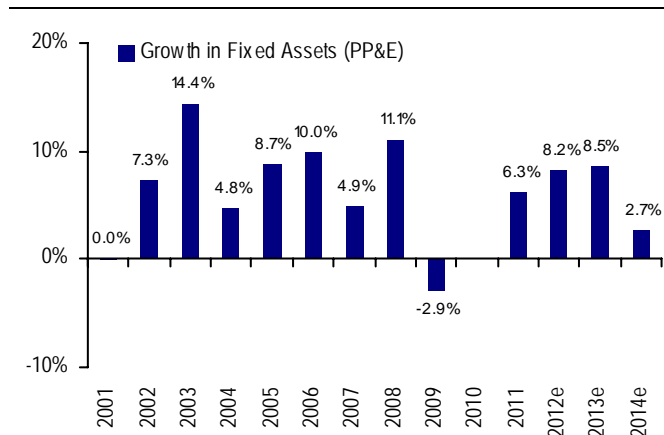


Source: UBS estimates

Korea and Taiwan have both seen more extreme swings in their capex trends. Given the globally exposed nature of both economies, private fixed investment spending relies heavily on exports in both the markets. While companies in both markets respond quickly to improving global growth by adding capacity very quickly, they also cut more aggressively than in other countries. However, after the strong capex growth years until around the middle of last decade, the overall trend appears to be suggesting declining growth in both markets. Not surprising in the broader regional context of a declining capex cycle.

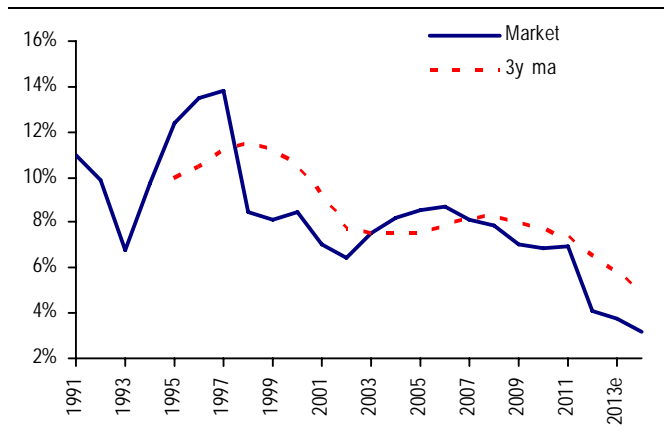
Capex as % of sales remains close to its historical low in Taiwan and closer to the bottom of its 10 year range in Korea. In both, it remains below the 5 year average trend. Our analysts are expecting net asset growth of 8.5% and 2.7% in Korea and 1.6% growth followed by a contraction in net assets in 2014 in Taiwan.

Chart 40: Korea - Asset Growth (y/y, local currency)



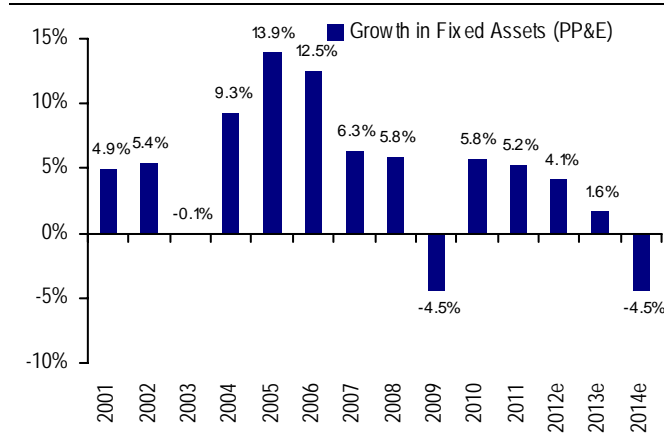
Source: UBS estimates

Chart 41: Korea – Capex to Sales (%)



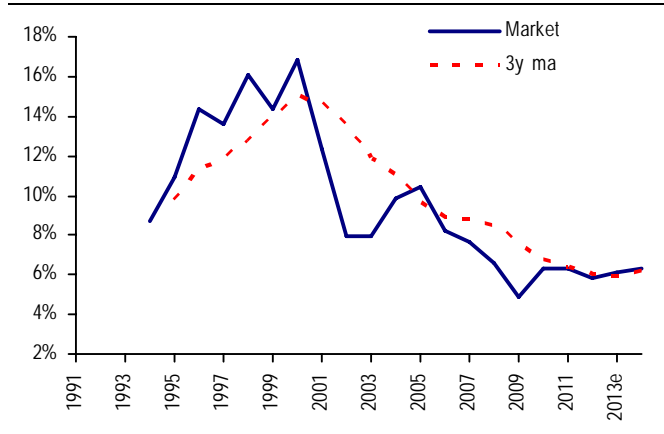
Source: UBS estimates

Chart 42: Taiwan - Asset Growth (y/y, local currency)



Source: UBS estimates

Chart 43: Taiwan – Capex to Sales (%)

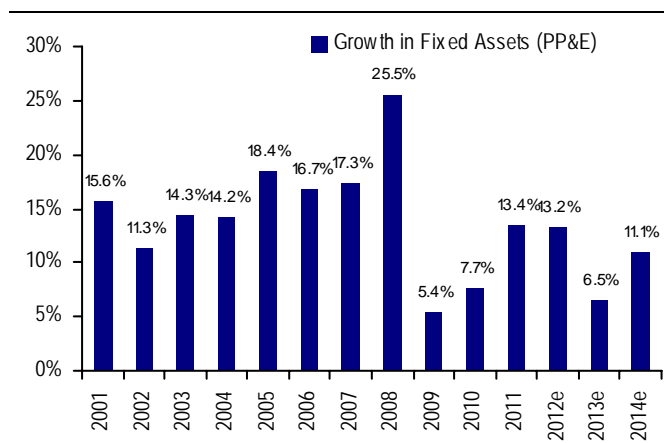


Source: UBS estimates

In the Asean economies we see scope for more limited net asset growth in Indonesia compared to the last few years (reflecting lower commodity capex spending), slower growth in Thailand than the fixed asset investment numbers suggest (again indicating that much of our fixed investment optimism is around either infrastructure or residential investment). In Malaysia, our analysts are expecting still robust net asset growth.

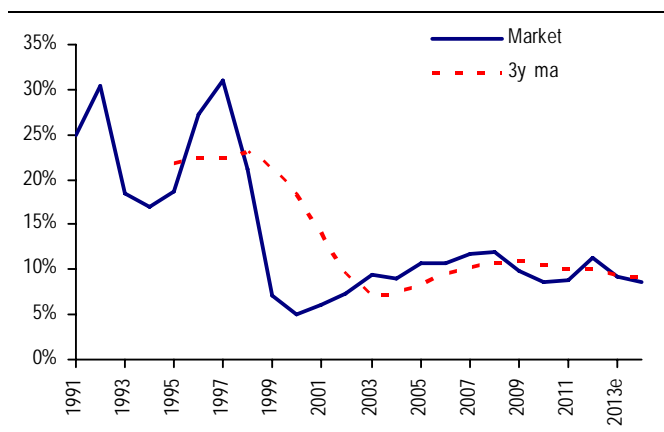
In both Hong Kong and Singapore, we are expecting much more moderate net asset growth, especially in the latter.

Chart 44: Indonesia - Asset Growth (y/y, local currency)



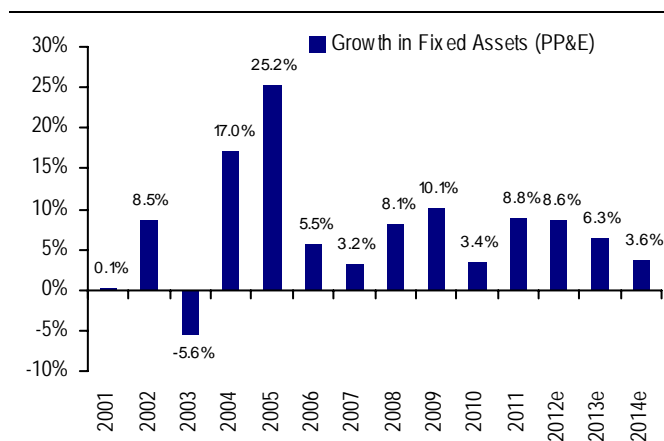
Source: UBS estimates

Chart 45: Indonesia – Capex to Sales (%)



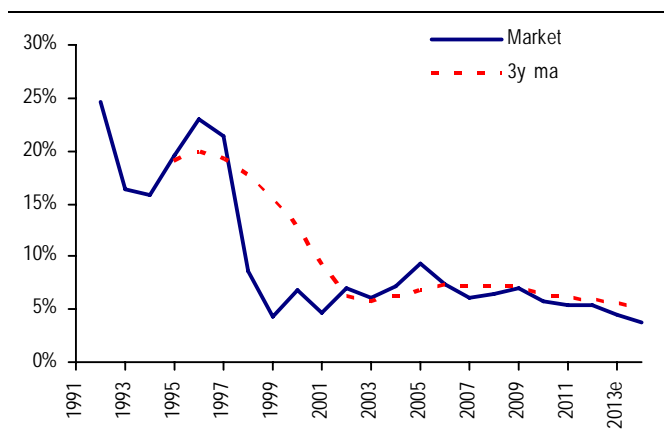
Source: UBS estimates

Chart 46: Thailand - Asset Growth (y/y, local currency)



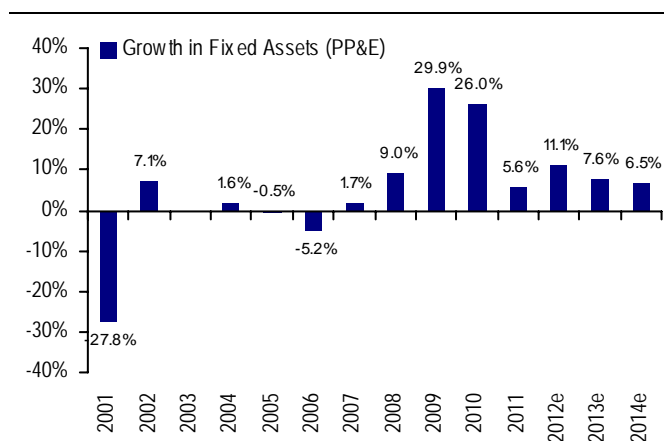
Source: UBS estimates

Chart 47: Thailand – Capex to Sales (%)



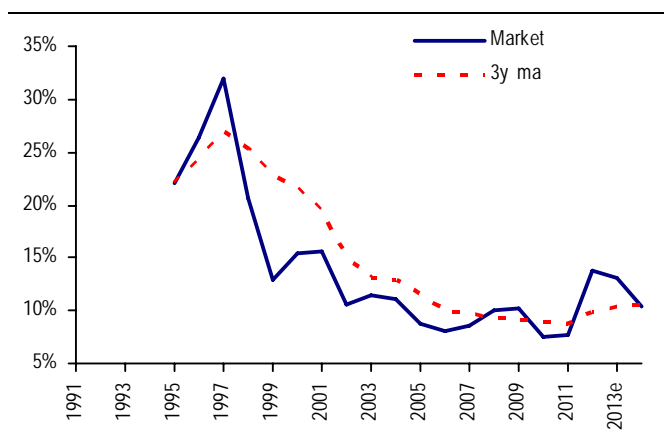
Source: UBS estimates

Chart 48: The Philippines - Asset Growth (y/y, local currency)



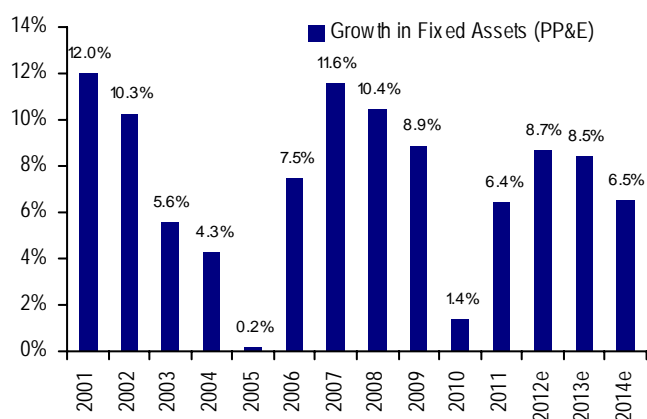
Source: UBS estimates

Chart 49: The Philippines – Capex to Sales (%)



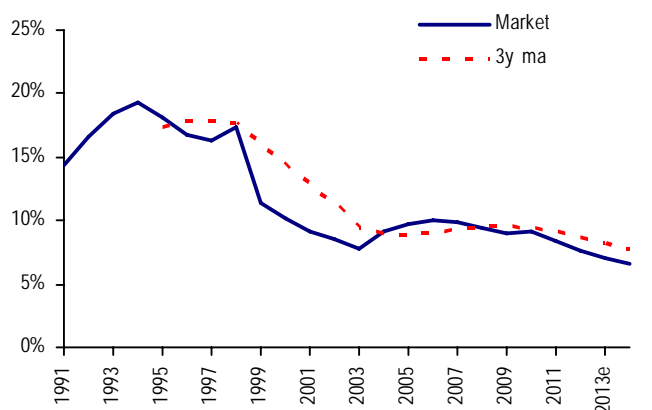
Source: UBS estimates

Chart 50: Malaysia - Asset Growth (y/y, local currency)



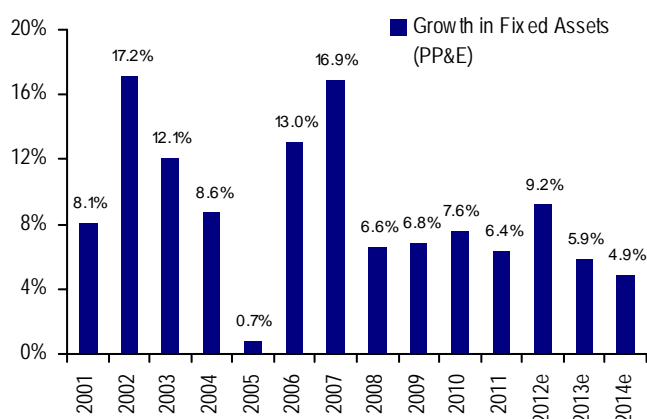
Source: UBS estimates

Chart 51: Malaysia – Capex to Sales (%)



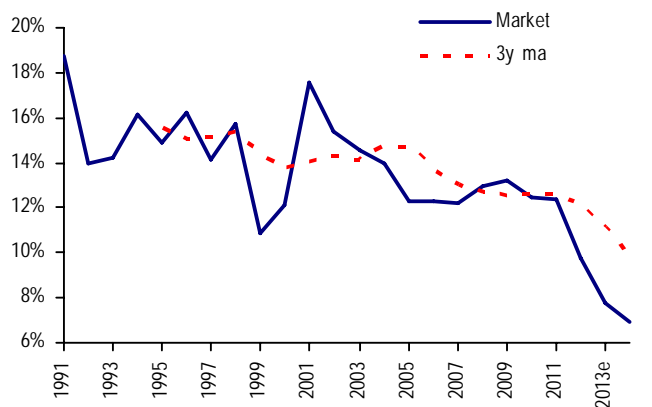
Source: UBS estimates

Chart 52: Hong Kong - Asset Growth (y/y, local currency)



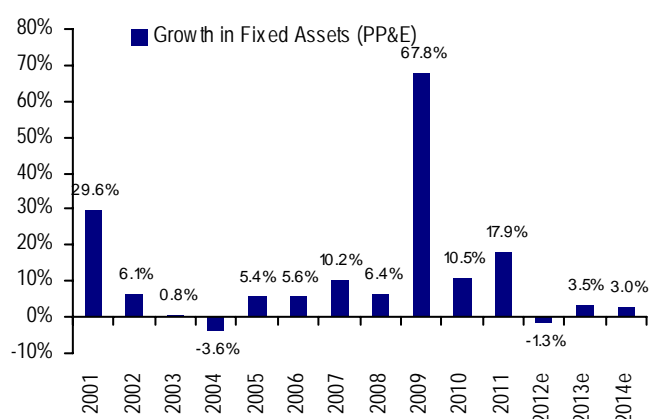
Source: UBS estimates

Chart 53: Hong Kong – Capex to Sales (%)



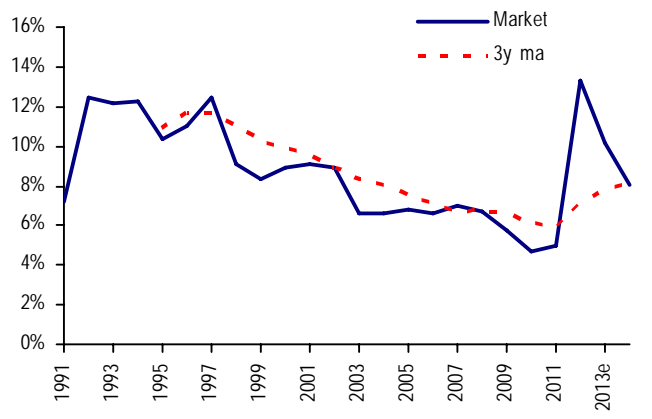
Source: UBS estimates

Chart 54: Singapore - Asset Growth (y/y, local currency)



Source: UBS estimates

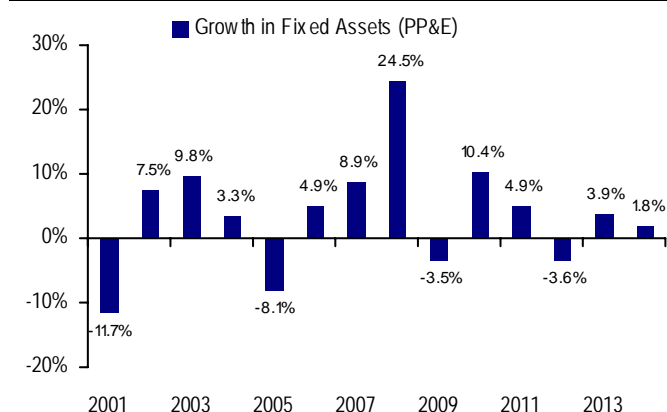
Chart 55: Singapore – Capex to Sales (%) check



Source: UBS estimates

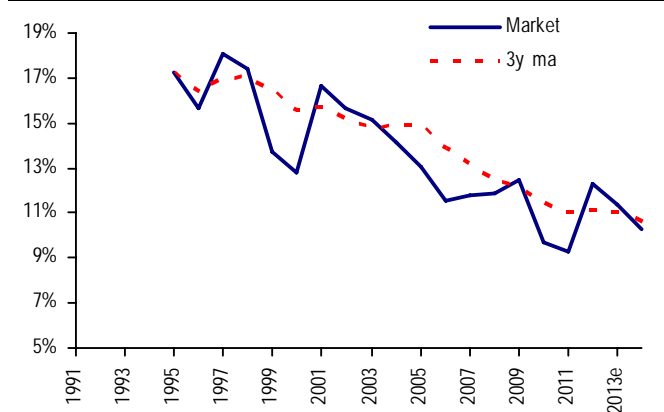
Finally, in Japan we expect a moderate increase in investments in net assets by the corporate sector, though this to lag fixed asset investment growth overall.

Chart 56: Japan - Asset Growth (y/y, local currency)



Source: UBS estimates

Chart 57: Japan – Capex to Sales (%)



Source: UBS estimates

It does not appear that net asset growth is forecast to be especially high in the coming years. Indeed, capex compared to sales is relatively low in most countries, compared to the last ten years, even if the nominal capex growth rates themselves have been high.

Summary – Asset Growth

In the last few pages, we looked at three approaches to study the prospects of capex growth around the region. The first was to look at where we are in the capex cycle in each country. The second and third approaches were more of a cross check with what our economists think top down and what UBS analysts are forecasting bottom up.

Table 4 shows a summary of our observations so far and also our overall conclusions for each market.

We would expect capex to slow down in China and remain soft for a period in India, while the last cycle's excesses are worked out, while in Thailand and The Philippines we would expect to see some pick up in FAI growth rates.

Table 4: Historical FAI and Capex Growth; Investment Cycle Implied Prospects; Actual FAI and Capex Growth forecasts

Market	Average FAI growth y/y (5y CAGR 2007-11)	Average Net Asset Growth y/y (5y CAGR 2007-11)	Investment Cycle implication	Fixed Investment Forecast Average 13-14e (Top-down, UBSe)	Net Asset Growth Forecast Average 13-14e (Bottom-up, UBSe)
China	12.3%	15.1%	Capex should moderate	8.0%	8.4%
India	8.5%	8.9%	Workout phase – consolidation before recovery capex should moderate	3.8%	5.4%
Korea	1.1%	8.0%	Capex could increase but external funding looks a challenge	1.8%	7.1%
Taiwan	-1.7%	6.1%	No strong message	3.4%	8.8%
Indonesia	8.3%	13.9%	Moderate slowdown ahead in corporate capex	8.3%	5.6%
Thailand	1.0%	10.9%	Capex/FAI could remain strong	5.9%	7.5%
Philippines	4.9%	30.3%	Capex/FAI could increase	6.2%	7.0%
Malaysia	5.3%	15.5%	Capex could remain strong	5.9%	3.3%
Hong Kong	3.1%	6.8%	Capex could increase moderately	6.0%	4.9%
Singapore	7.3%	17.0%	Capex should moderate	4.4%	-1.4%
AxJ	8.9%	15.1%	Slightly weaker capex growth	6.7%	7.3%

Source: CEIC, UBS estimates

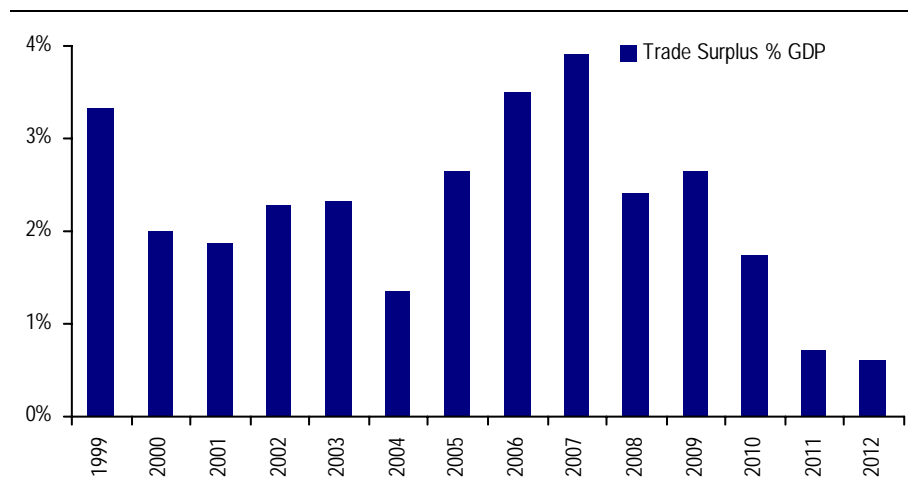
3. Revenue Forecasts

As with the capacity section, we look at revenue growth top-down and bottom-up using our UBS forecasts.

A. UBS Top-Down Growth forecasts

Over the last decade or so Asian economies have benefitted from the tailwind of an export boom. This was a function of two things – one, the benefit of inexpensive currencies and two, a strong consumption (read leverage) cycle in the rest of the world. As a result trade surpluses across the region soared, the aggregate for the region touching almost 6% at the end of 2007.

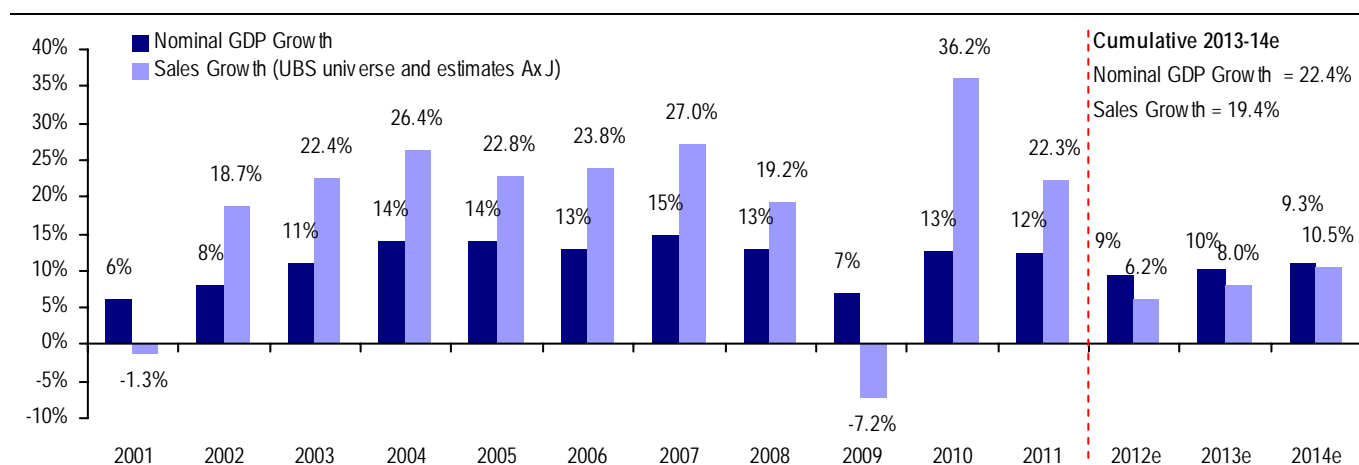
Chart 58: Trade Surplus as % of GDP



Source: CEIC, UBS estimates

This is one reason why we believe that revenue growth in Asia typically exceeded nominal GDP growth comfortably for most of the period up to 2008.

Chart 59: Asia ex Japan – Revenues vs Nominal GDP



Source: CEIC, UBS estimates

That was the story of the period up to 2007. Falling trade balances throughout the region (Chart 59) already suggest a change. India already runs a current and trade account deficit and Indonesia had a current account deficit last quarter.

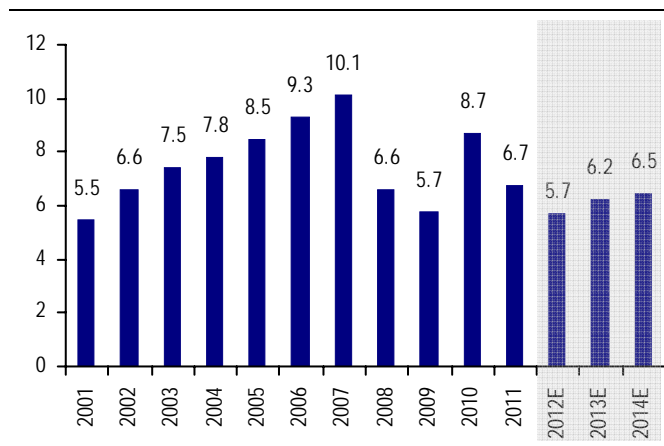
More generally trade balances appear to be fast evaporating throughout the region. This clearly reflects the impact of weaker demand from areas of the world going through household or government deleveraging. But in our view the structural trend of weaker Asian trade balances also has a lot to do with “global rebalancing” or the strength in Asian currencies. The annual average for a trade weighted basket of Asian currencies was more than 20% higher in 2011 than its level at the start of the last decade.

Offsetting this to some extent is the strength of domestic demand, in part credit fueled. This credit cycle theme is something that both we and our economists have been writing about since 2009.

The other thing that can drive growth higher in the region is of course investment itself, which we discussed in the last few sections of this report. Based on our analysis, this also does not appear to have a lot of potential to be an accelerating driver of growth going forward. We expect fixed investment to remain below trend in the region.

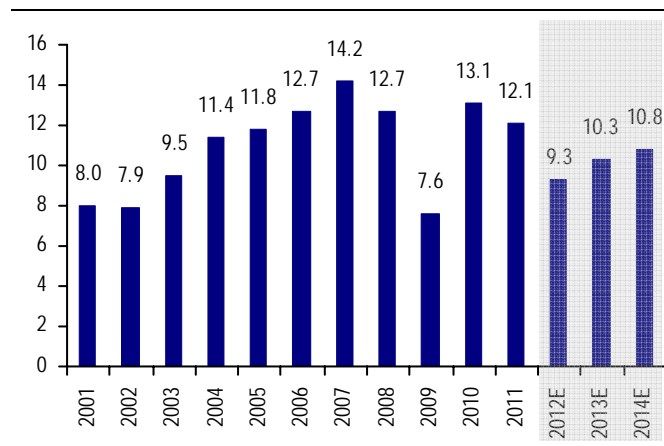
As it stands today, our economists expect real GDP growth for 2012 for the region to be around 100 basis points lower than 2011 and a moderate pickup in 2013 (chart 60). In nominal terms, this translates to around average growth in 2012 of 9.3% and a pickup to close to 10.3% in 2013.

Chart 60: Real GDP – Asia ex Japan aggregate (UBS forecasts for 2012-13e)



Source: CEIC, UBS estimates

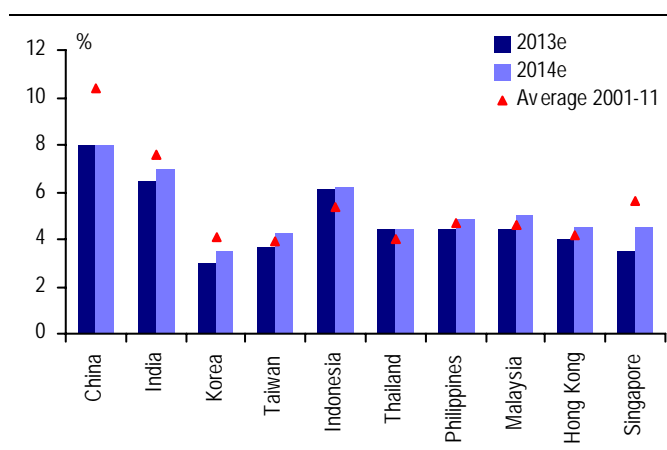
Chart 61: Nominal GDP – Asia ex Japan aggregate (UBS forecasts for 2012-13e)



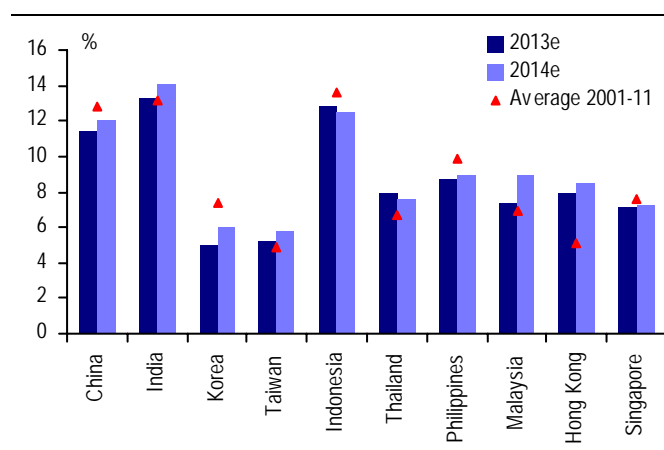
Source: CEIC, UBS estimates

Charts 62-63 show the top down expectations for real and nominal GDP in each market across the region based on UBS economics team’s forecasts.

China, India and Indonesia are expected to have the fastest nominal growth in the region over the next couple of years. While in Indonesia this is a function of lower than average inflation and higher than average real growth, in India it is the opposite. China is expected to grow about 200 bps slower than its average growth over the last decade or so. Other markets where real growth is expected to exceed their averages over the last 10 years or so are unsurprisingly all in ASEAN – Thailand, The Philippines and Malaysia.

Chart 62: Real GDP – Asia ex Japan (UBS forecasts for 2013-14e)

Source: CEIC, UBS estimates

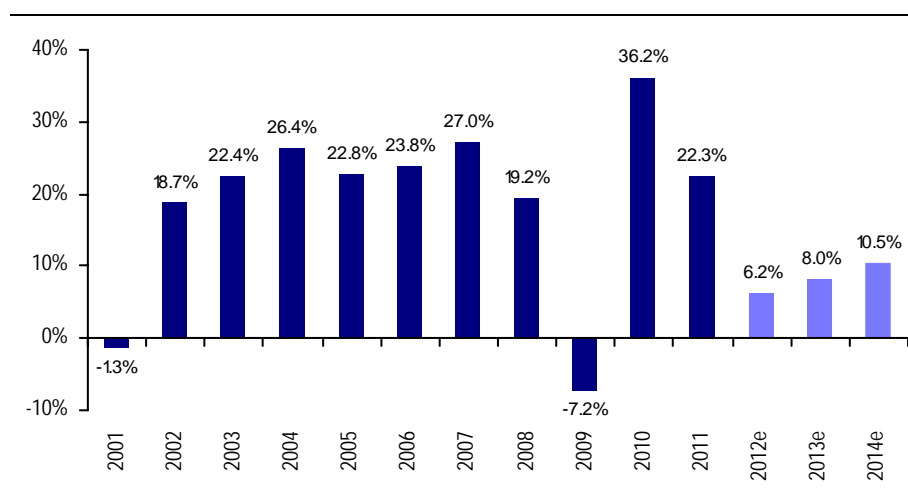
Chart 63: Nominal GDP – Asia ex Japan (UBS forecasts for 2013-14e)

Source: CEIC, UBS estimates

In the more developed parts of region, Korea, Taiwan, HK and Singapore, real growth is forecast to be much slower than the average in 2012 and catch up somewhat next year. This is to a large extent a reflection of the global economic growth expectations which is obviously expected to be firmer next year, both in Europe and the US.

2. Sales Growth – Bottom Up

Sales growth in Asia should be softer than the past decade simply because Asian currencies are not as cheap (i.e. less export competitiveness) today and global growth not as strong. The Asian model of export driven growth is not likely to reap the same rewards as it did through the last decade.

Chart 64: Asia ex Japan – Aggregate Sales Growth (UBS ex-fin universe and forecasts)

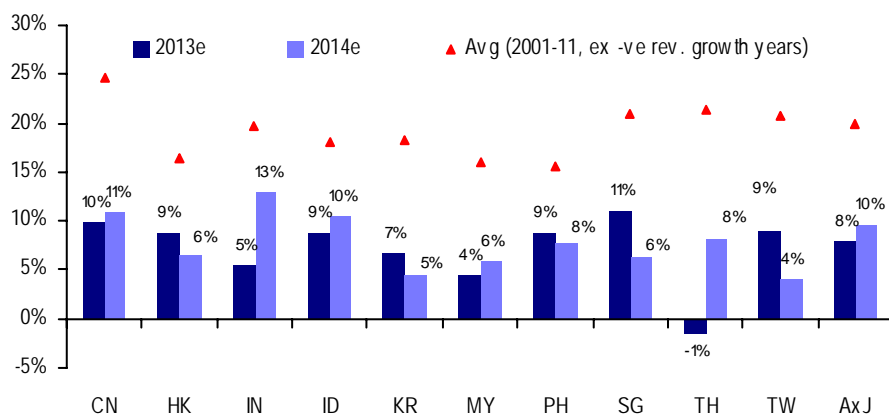
Source: CEIC, UBS estimates

Chart 65 shows the bottom up aggregation of sales forecasts by UBS analyst for the region as a whole. Clearly our analysts appear to be much more bearish on growth compared to our top down economic forecasts for GDP growth.

While there might be small element of the bottom up versus top down inconsistency that typically shows up at inflection points in economic cycles, we

think this is, to a larger extent, a reflection of the weakness in exports which impacts revenues more negatively than it affects overall GDP. In the same way as it supported revenue growth in excess of GDP growth over the last decade.

Chart 65: Revenue growth forecasts in Asia ex Japan (UBS ex-fin universe and est.)



Source: CEIC, UBS estimates

4. Does Asia Have an Overcapacity issue?

It is easy to reach the conclusion from charts such as the Fixed Asset Investment/GDP chart in China that China is overinvesting. For that matter, the growth in investment around the region could also point to a similar feature.

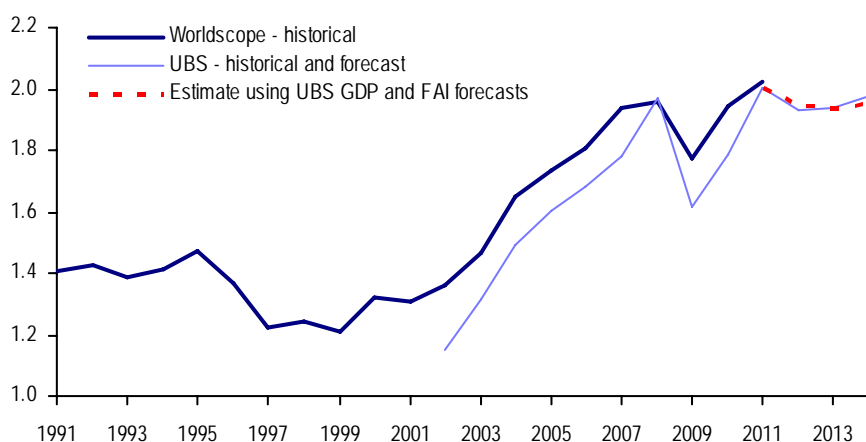
But is that actually true? While we think there is a case that Asia could start to over invest and some countries are more likely to be guilty of this than others, actually, pulling together our top down and bottom up data on asset growth, revenue growth and current capacity utilisation suggests a different picture.

It does not appear to us that the corporate sector is overinvested and likely to experience a dramatic drop in asset turnover ratios (the micro economic variant of capacity utilisation) in the immediate future – overall.

A. Region and Country level analysis

In the absence of decent capacity utilisation data for the region overall, Chart 66 shows our forecasts of asset turnover ratios for Asia ex Japan for the next two years along with historic data back to 1991. The way to read this chart is that the higher the line, the higher revenue is as a share of fixed assets (i.e. high is good). Throughout this section we refer to asset/turnover ratios in lieu of capacity utilisation data at the country level.

Chart 66: Asia ex Japan – Asset Turnover (Sales / Assets)



Source: Datastream, Worldscope, UBS estimates

There are 3 lines on this chart - the asset turnovers for the last few years using UBS company level estimates for the covered companies in each market showing both historical data and the forecasts for the next two years (the light blue line). The second line is a longer history of the same extended further back using Worldscope numbers (the bold dark blue line). The different universes and possible accounting differences should explain why the two lines don't overlap exactly. As we are more interested in the direction and trends instead of the exact level of asset turnover, atleast as far as this analysis is concerned, we tend to look at both and not focus on only any one of them. The third line (red dotted) is the extrapolation for the next two years using UBS economic forecasts for GDP and FAI and using the 2011 asset turnover (UBS) as the starting point.

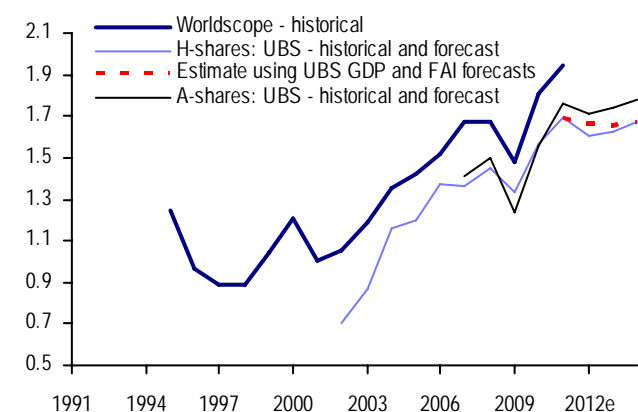
For sure, using our estimates bottom-up and top-down, we are expecting a moderate decline in asset turnover ratios. But these levels are still close to the peak levels of 2010, are above the averages of the last decade and well above the levels of the 1997 crisis.

It does not appear to us that for the region overall (Asia ex Japan) that the corporate sector has an excess capacity issue.

While at the market level, there appears a meeting of minds between what our economists and analysts are forecasting, there appear to be a few discrepancies at the country level. Charts 67 & 68 show these for China and India to start with.

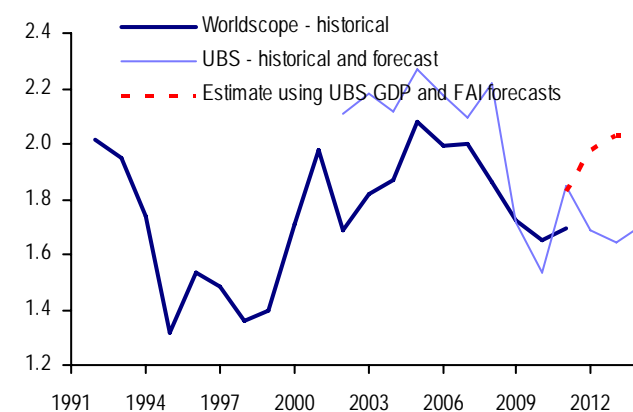
At the country level, despite a common belief that China has overinvested, the asset turnover ratios are not pointing to this. Yes, they are forecast to decline in the next couple of years moderately, but remain well above early decade levels. The data is consistent when using either our UBS fixed asset investment forecasts or bottom-up capex and depreciation estimates.

Chart 67: China – Asset Turnover (Sales/Assets)



Source: Datastream, Worldscope, UBS estimates

Chart 68: India – Asset Turnover (Sales/Assets)

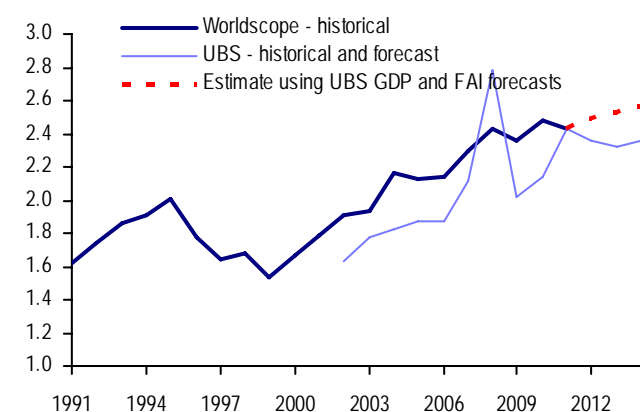


Source: Datastream, Worldscope, UBS estimates

In India there is a gap between what our analysts are projecting bottom-up and our top-down forecasts. Analysts are more pessimistic about any improvement in asset turnovers.

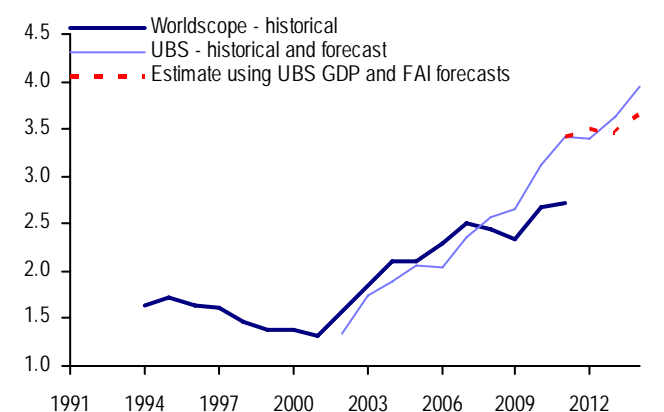
Top down we expect a cyclical recovery in India and GDP to gradually start improving from next year, with forecast growth of 5.5% for this year and a recovery in 2013-14 with 6.5% growth. On the other hand, analysts appear to be much more bearish and are forecasting revenue growth to be significantly below trend growth for this and next year. While analysts in aggregate are also bearish on asset expansion, and expect it to be below trend, they expect them to grow faster than revenues. On the other hand, our top down estimates suggest a delayed recovery in fixed investments helping to lift capacity utilisation/asset turnovers ratios.

Chart 69: Korea – Asset Turnover



Source: Datastream, Worldscope, UBS estimates

Chart 70: Taiwan – Asset Turnover



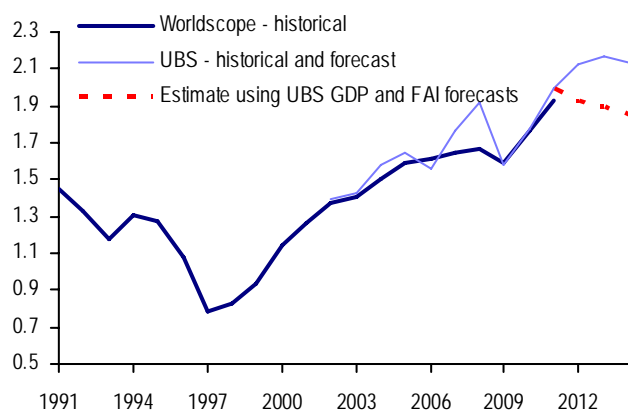
Source: Datastream, Worldscope, UBS estimates

In Korea, the top down and bottom up forecasts differ largely because of the different expectations of asset growth. Both our macro and micro forecasts suggest a similar level of nominal GDP/sales growth, around 5-7%, for the next two years inline with the whole region. UBS analysts are more optimistic on the capacity expansion plans of corporates while our macro forecasts suggest a sluggish expansion rate. Nevertheless, at the country level using either approach leads to the same broad conclusion which is that asset turnovers remain firm, in an historical context.

On the other hand, in Taiwan, UBS analysts expect sales growth to outpace asset growth over the next two years. Our macro forecasts suggest the same and even expect fixed investment growth to be negative in 2012. It does not appear that there is about to be a capex boom any time soon in Taiwan, so it would require a sales collapse to see capacity utilisation and asset turnovers deteriorate meaningfully.

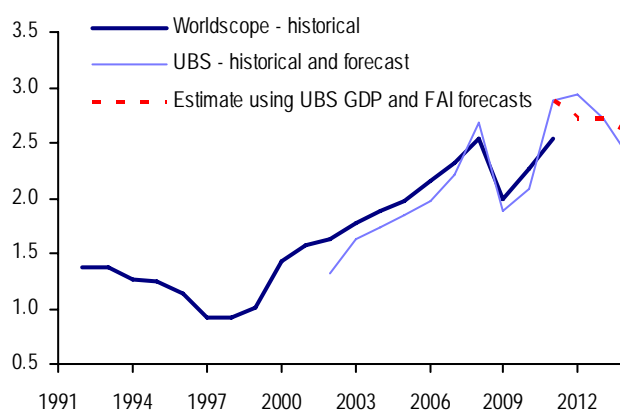
For the rest of the region we see a broadly similar picture – some moderation in asset turnover ratios suggesting that capacity utilisation may have peaked as asset growth picks up, but forecasts both top-down and bottom-up that suggest capacity utilisation will remain reasonably high in an historical context. What appears to be taking place is a moderation in asset turnover ratios from very high levels, than an out and out collapse.

Chart 71: Indonesia – Asset Turnover



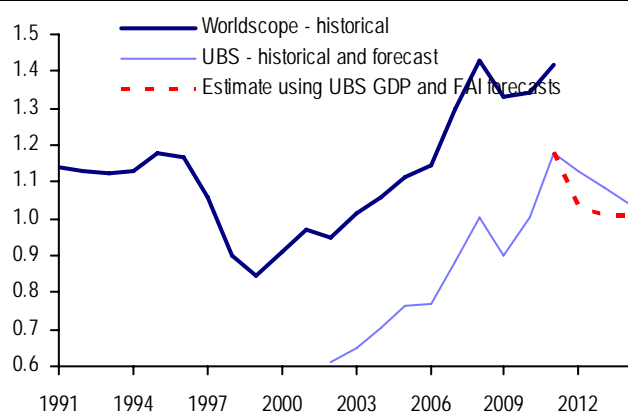
Source: Datastream, Worldscope, UBS estimates

Chart 72: Thailand – Asset Turnover



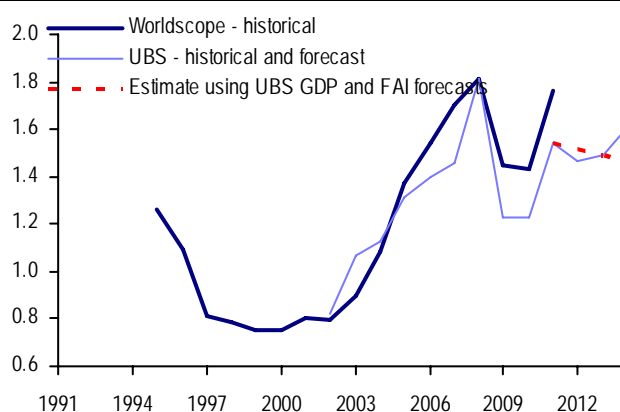
Source: Datastream, Worldscope, UBS estimates

Chart 73: Malaysia – Asset Turnover



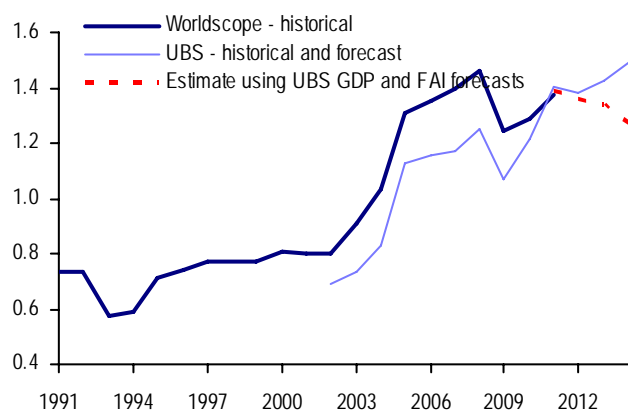
Source: Datastream, Worldscope, UBS estimates

Chart 74: The Philippines – Asset Turnover



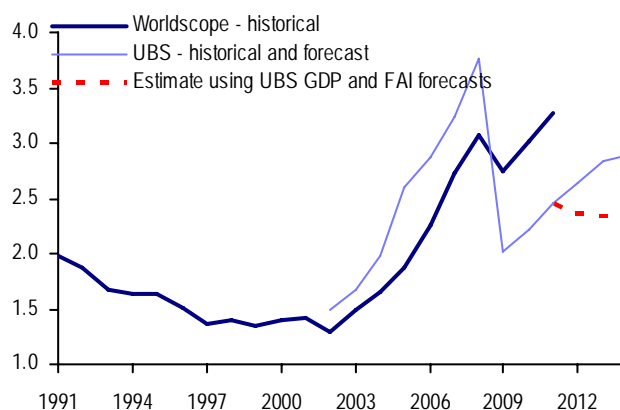
Source: Datastream, Worldscope, UBS estimates

Chart 75: Hong Kong – Asset Turnover



Source: Datastream, Worldscope, UBS estimates

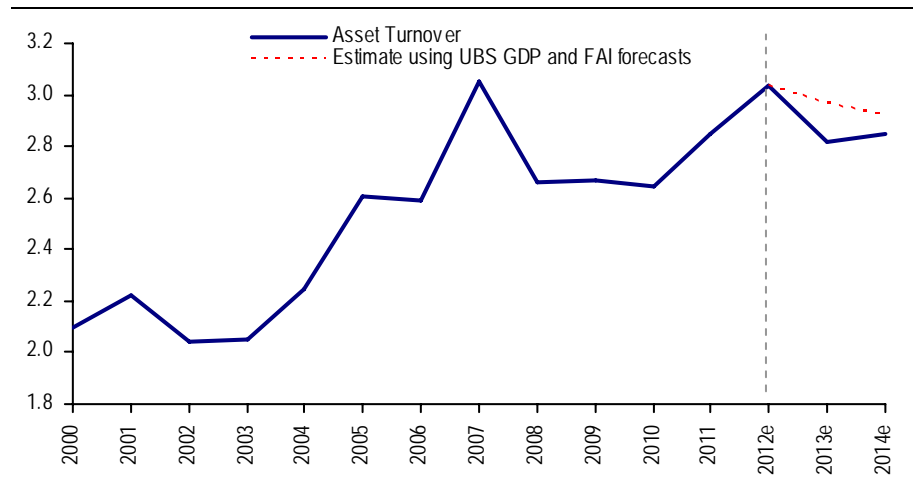
Chart 76: Singapore – Asset Turnover



Source: Datastream, Worldscope, UBS estimates

Finally, in Japan, our analysts are expecting asset turnover ratios also to remain reasonably high though unlike both Taiwan and Korea, remain below 2007 peaks.

Chart 77: Japan – Asset Turnover



Source: Datastream, UBS estimates

Sensitivity Analysis

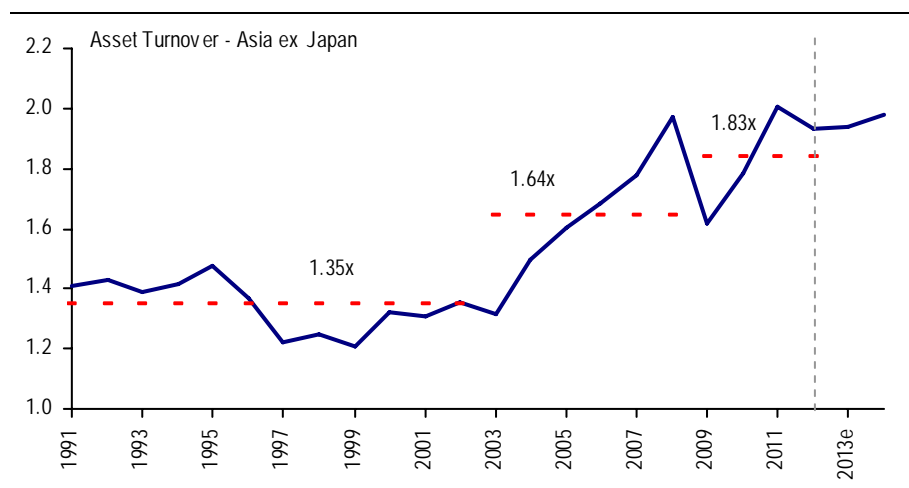
We also look at how revenue growth would behave under the potential ‘black swan’ scenarios and if asset turnovers were to go back to the mid 90s levels. Specifically, in this section we look at the following two scenarios –

1. Sensitivity of revenue and fixed asset growth rates if asset turnovers were to decline to the average levels in the 90s or later half of the last decade (2003-2008)
2. Required revenue growth given our top down and bottom up fixed asset investment forecasts and assuming stable asset turnovers

1. Sensitivity of revenue and fixed asset growth rates for different asset turnover levels

Table 5 shows the asset turnover trend for the region overall since 2000. Asset turnovers have almost doubled over this period, for all the reasons we have discussed earlier in the note. In the coming years, we expect them to remain at or around current levels - again something we have discussed in detail in the note so far.

Chart 78: Asset Turnover - Asia ex Japan



Source: Datastream, Worldscope, UBS estimates (Worldscope from 1991-2003, UBS estimates 2003 onwards)

Over and above our forecasts and expectations, table 5 lays down scenarios for asset turn ratios to decline to the levels of the mid 1990s or 2000s.

If fixed assets grow by 10-15% (slightly lower than the current forecast) it would take a fall of 20% in revenues to take the asset turnover back to 1.35 (the average of the mid 1990s). If the fixed asset growth turns out to be much stronger than is being currently forecast – around 25-30%, it would take a 10-20% fall in revenues to get to those levels. The brown-shaded areas in table 5 highlight these scenarios.

The blue-shaded cells in the table show the scenarios in which asset turnovers drop to 1.64x i.e. the average from 2003-08. Using the current forecasts for asset growth i.e. 16.5%, asset turnover could fall to 1.64x (from the current level of 1.93x) only if revenues show zero growth over the next two years.

The grey-shaded columns represent our bottom up forecasts for cumulative sales and fixed investment growth over the next two years, suggesting a slight rise in the asset turnover level to around 1.98x by the end of 2014.

Table 5: Sensitivity Analysis of Cumulative Sales and FAI growth rates around Asset Turnover levels

Net Asset Growth (13-14e)	Sales Growth (13-14e)									
	-30%	-20%	-10%	0%	10%	19.4%	20%	30%	40%	50%
-10%	1.50	1.72	1.93	2.15	2.36	2.56	2.58	2.79	3.00	3.22
-5%	1.42	1.63	1.83	2.03	2.24	2.43	2.44	2.64	2.85	3.05
0%	1.35	1.55	1.74	1.93	2.12	2.31	2.32	2.51	2.70	2.90
5%	1.29	1.47	1.66	1.84	2.02	2.20	2.21	2.39	2.58	2.76
10%	1.23	1.40	1.58	1.76	1.93	2.10	2.11	2.28	2.46	2.63
15.2%	1.17	1.34	1.51	1.68	1.84	2.00	2.01	2.18	2.35	2.52
20%	1.13	1.29	1.45	1.61	1.77	1.92	1.93	2.09	2.25	2.41
25%	1.08	1.24	1.39	1.55	1.70	1.84	1.85	2.01	2.16	2.32
30%	1.04	1.19	1.34	1.49	1.63	1.77	1.78	1.93	2.08	2.23

Source: UBS estimates

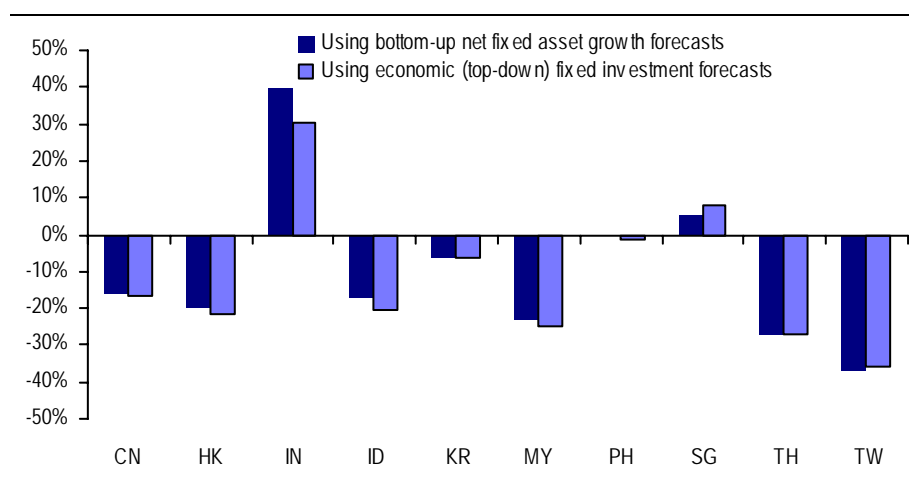
To put things in perspective, for the UBS coverage of companies (around 800 across Asia), sales growth for the whole region has been negative only once since 1999, -6% in 2009. Asset growth continued to be positive in both years.

2. Required revenue growth rates given our top down fixed asset investment forecasts and assuming stable asset turnovers

Chart 79 shows the revenue growth required to take asset turnover levels back to the averages during 2003-08, in each of the countries using both our micro and macro forecasts for fixed investment and asset growth.

In general, given the very high levels of asset turnover across the region, growth will need to collapse across most markets (given current capacity increase forecasts) if asset turnovers are to drop to those levels (2003-08 averages). The exception to this is India where a surge in revenue growth (30-40%) will be needed given the depressed asset turnovers levels today. Our data also suggests that asset turnover levels in Singapore remain below the average levels in the mid-2000s and a modest growth in revenues should also help them reach back to those levels.

Chart 79: Revenue growth required in 2013e to take asset turnovers back to the average levels of 2003-08 in each market (given current capacity growth forecasts)



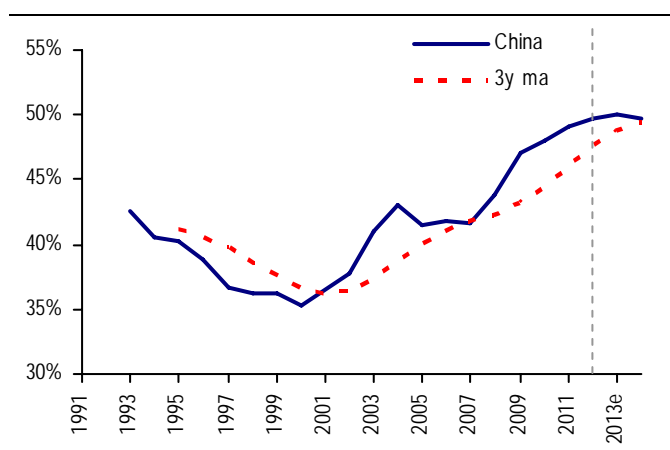
Source: UBS estimates

Squaring Chinese 'over-investment' with our data

All our data suggests that if we use asset turnover as our proxy for overcapacity, at the region and country level Asia does not appear to be headed straight into an overcapacity situation.

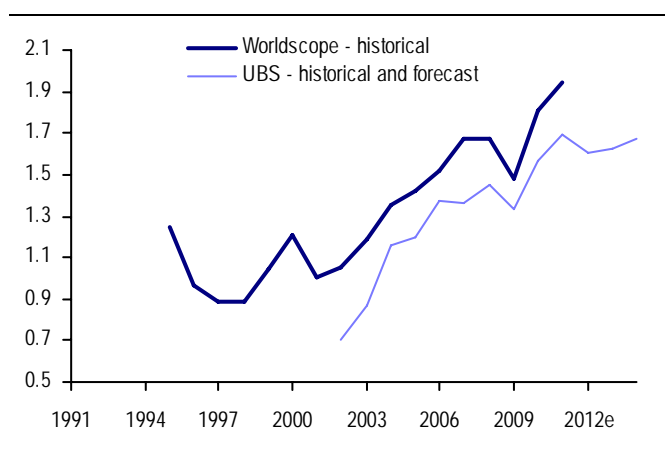
This sits very clearly at odds with some perceptions, specifically on China, where high fixed asset investment/GDP ratios have given rise to fears of overinvestment. Not only has the IMF highlighted this, as have many of our clients, but it was also the subject of an article from our colleague Duncan Wooldridge, UBS's chief economist in August – see “*UBS Macro Keys: Restraint Needed*” 30 August 2012.

Chart 80: China - FAI / GDP (UBS forecasts)



Source: Datastream, Worldscope, UBS estimates

Chart 81: China - Asset Turnover (Worldscope + UBS)



Source: Datastream, Worldscope, UBS estimates

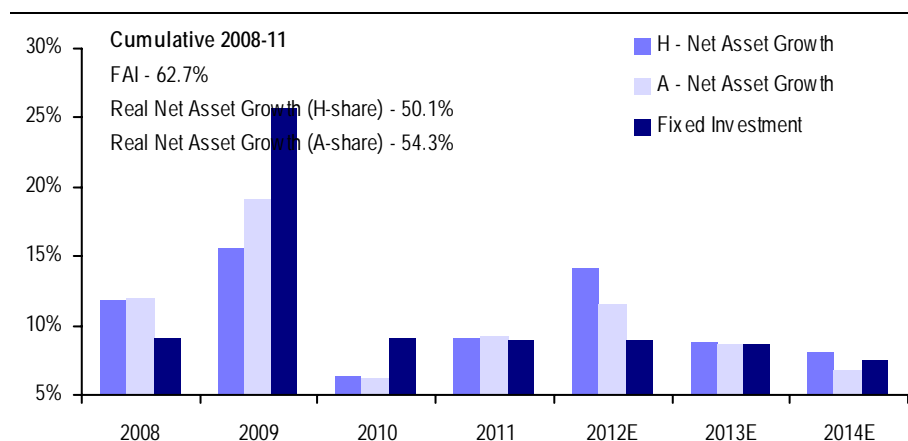
So is China overinvesting and heading for a repeat of the Asian Financial Crisis? Not yet, according to our corporate data. This might come as a shock. So how do we square all this data?

Firstly, as we have highlighted earlier there is a major gap between fixed asset investment and corporate capex. We are specifically interested in the latter as a

measure of corporate overinvestment. This does not mean that other sectors of the economy are overinvesting (or consuming). And while unsustainable overinvestment or consumption clearly has an implication for revenues for the corporate sector, it is a distinct problem from sustained excess capacity.

Capex data does not suggest that the surge in fixed asset investment/GDP was led by a corporate capex boom. Yes, asset growth was strong in China, but in nominal terms Chinese FAI has grown 63%% cumulatively since 2008 compared to the corporate sector's net property plant and equipment by 50%. This 50% growth is very high but it suggests to us that the 'overinvestment' at the macro level may well be being led by other components of spending in China, such as residential investment or government infrastructure spending – it does not look as if it has been led by broad based capex boom which on its own leads to a corporate capex bust. There are areas of overcapacity in China in the corporate sector, but the asset turnover data at large does not suggest a major broad based problem.

Chart 82: Fixed Investment Growth in China



Source: UBS estimates

This does not mean that Chinese growth is necessarily going to be great – just that perhaps the corporate sector is not sitting on a tonne of excess capacity overall. It may well be that the 'excess' capacity is not at the corporate sector overall, but in global industries that have been spending on the back of a residential investment boom in China.

A further comparison of where Chinese sits compared to say Korea heading into the financial crisis in the late 1990s is also interesting. Charts 83 through 100 show a variety of important indicators of corporate stress – at the macro level fixed asset investment, banking sector liquidity and real interest rates. At the micro level, capex/sales, depreciation/sales, profit margins, gearing, interest charges as a % of EBIDA, cash flow/assets, net asset growth and asset turnover ratios. We have reproduced these charts for all countries in the appendix.

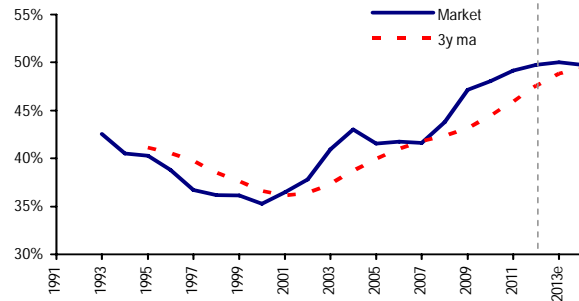
The comparison between Korea and China is notable. Heading into the Asian financial crisis Korea was running with very high levels of fixed asset investment/GDP (today China is much higher). Unlike China, most of Korea's investment was by the corporate sector. The corporate capex boom was

happening despite high real interest rates, high gearing and a relatively illiquid banking system at the time, poor cash flow, low margins and low and falling corporate capacity utilisation (asset turnovers). This contrasts sharply with China today.

Today in China asset turnovers are high relative to history (albeit we expect moderate deterioration), net asset growth has been high but lagged overall FAI growth, suggesting this is not a capex-led FAI boom. Gearing remains in line with historical norms. And margins, while cyclically weak (we expect a recovery in 2013) are not anywhere near the levels of the 1990s in Korea. Yes, if the corporate sector either chooses or is encouraged to ramp up investment to prop up weaker trend growth then it could have an overinvestment problem (the subject of Duncan's note that we highlighted earlier). But at the aggregate level this does not appear to be the case today.

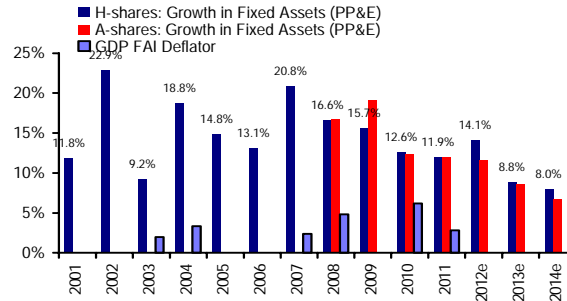
So how do we square the 'overinvestment' of high FAI/GDP and the data that we have showed above? The answer is in the infrastructure spending and residential investment boom (that is slowing sharply) which is captured in GDP statistics but does not necessarily mean there is excess capacity in aggregate in industry overall in China. As we mentioned this can still cause its own demand problems, but perhaps the place to be looking for real signs of excess capacity is in those industries supplying either an infrastructure or residential investment boom (i.e. commodities) rather than the corporate sector in China overall.

Chart 83: China - FAI / GDP



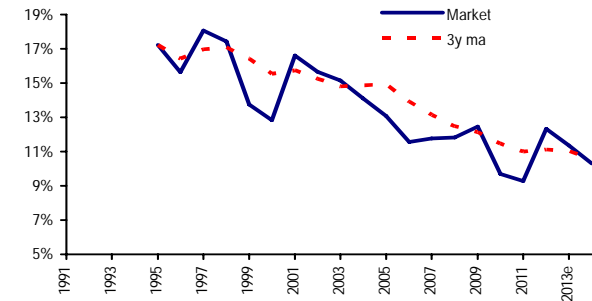
Source: Datastream, Worldscope, UBS Estimates

Chart 84: China - Growth in Fixed Assets



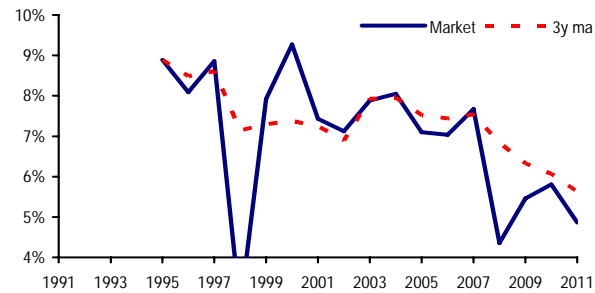
Source: Datastream, Worldscope, UBS Estimates

Chart 85: China - Capex / Sales



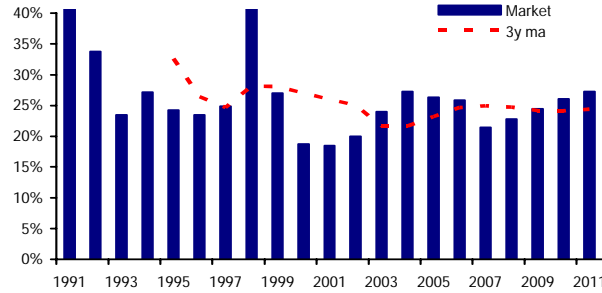
Source: Datastream, Worldscope, UBS Estimates

Chart 86: China - Profit Cycle



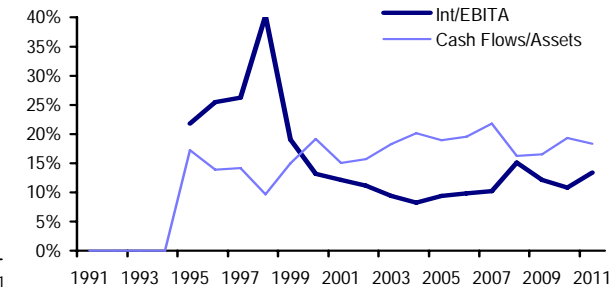
Source: Datastream, Worldscope, UBS Estimates

Chart 87: China - Debt/(Debt + Equity)



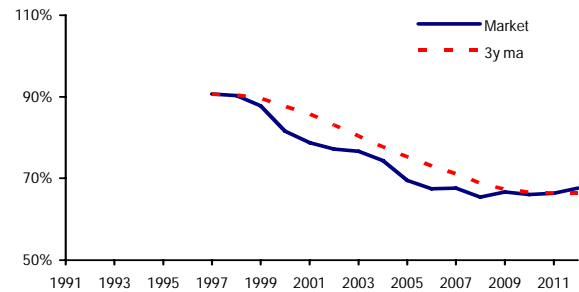
Source: Datastream, Worldscope, UBS Estimates

Chart 88: China - Int / EBITDA and Cash Flow/Assets



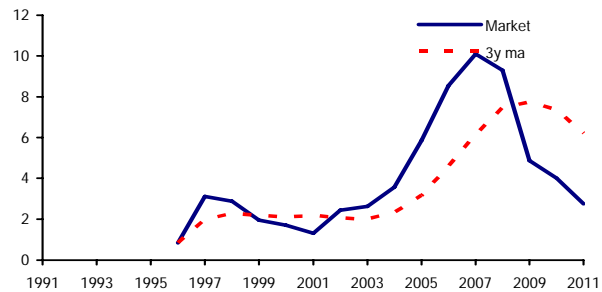
Source: Datastream, Worldscope, UBS Estimates

Chart 89: China - LDR Banking System



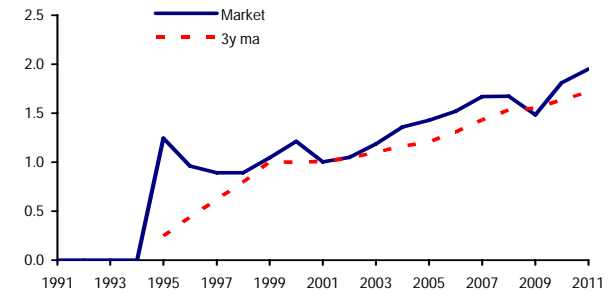
Source: Datastream, Worldscope, UBS Estimates

Chart 90: China - CA Deficit



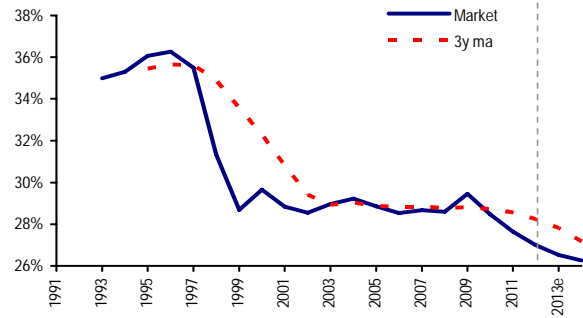
Source: Datastream, Worldscope, UBS Estimates

Chart 91: China - Asset Turnover



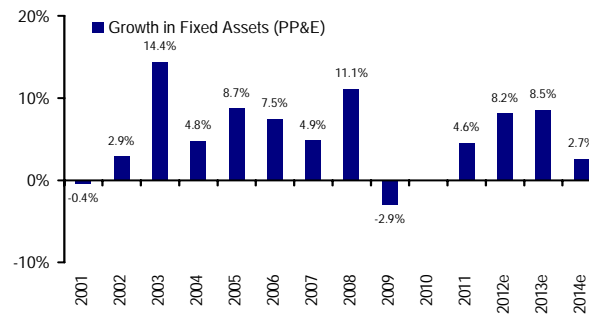
Source: Datastream, Worldscope, UBS Estimates

Chart 92: Korea - FAI / GDP



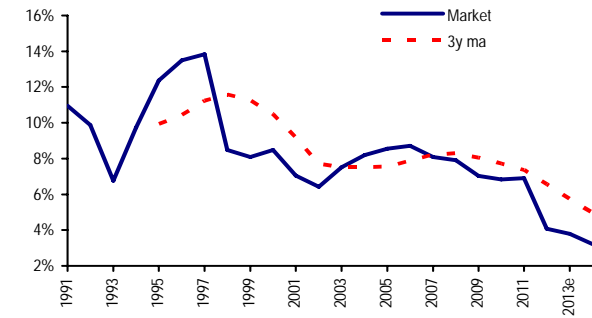
Source: Datastream, Worldscope, UBS Estimates

Chart 93: Korea - Growth in Fixed Assets



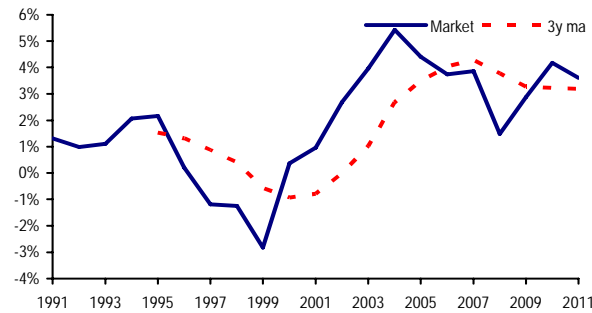
Source: Datastream, Worldscope, UBS Estimates

Chart 94: Korea - Capex / Sales



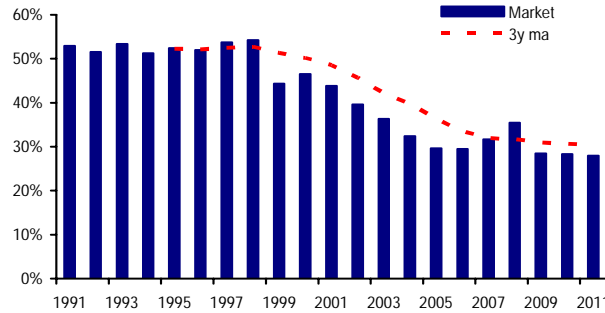
Source: Datastream, Worldscope, UBS Estimates

Chart 95: Korea - Profit Cycle



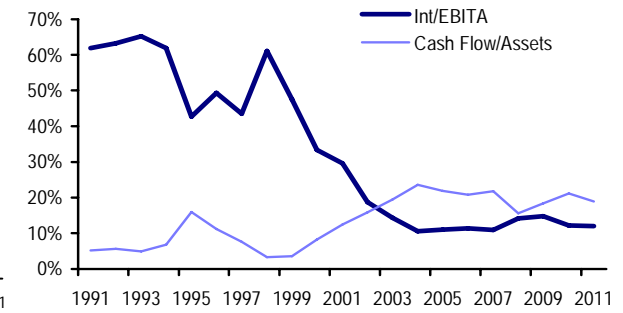
Source: Datastream, Worldscope, UBS Estimates

Chart 96: Korea - Debt/(Debt + Equity)



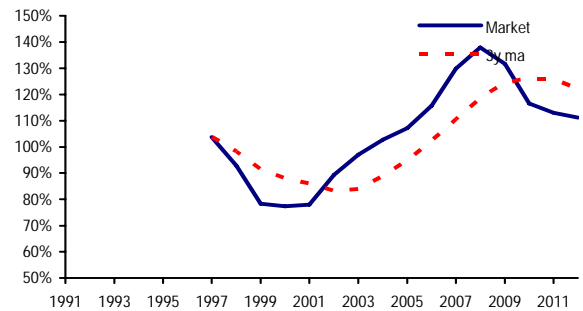
Source: Datastream, Worldscope, UBS Estimates

Chart 97: Korea - Int / EBITDA and Cash Flow/Assets



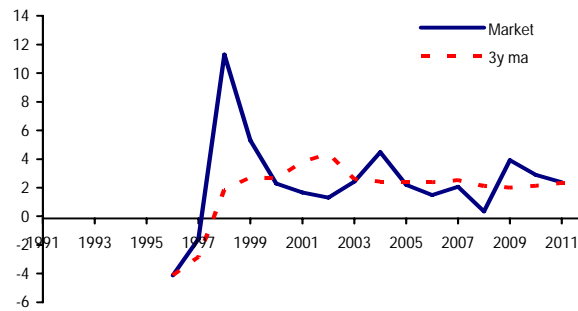
Source: Datastream, Worldscope, UBS Estimates

Chart 98: Korea - LDR Banking System



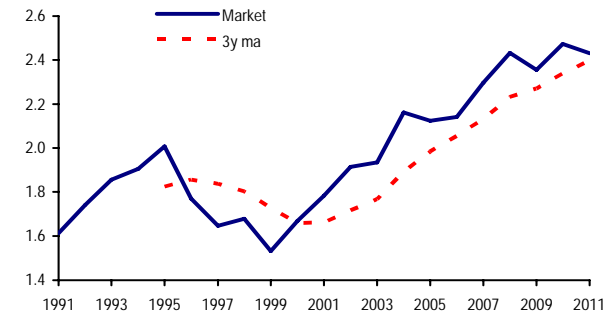
Source: Datastream, Worldscope, UBS Estimates

Chart 99: Korea - CA Deficit



Source: Datastream, Worldscope, UBS Estimates

Chart 100: Korea - Asset Turnover



Source: Datastream, Worldscope, UBS Estimates

B. Industries

Asset turnover for 'commodity' manufacturing and transportation industries

Having looked at the regional trends for asset and revenue growth and their implications for asset turnover overall, we now look in more detail at some of the more capacity intensive industries in the region which are “global” in nature. By “global” we mean industries where the supply/demand dynamics remain largely fungible across regions.

Specifically, we have identified 10 industry groups for our analysis - Airlines, Autos, Cement, Steel, Container Shipping, Refining, Semiconductor memory, LCD, Foundries and Shipbuilding. There are a few other sectors where this is applicable but unfortunately because of data constraints it is not possible to draw meaningful conclusions (for example CPO and Tires).

We start by looking at the capacity utilization for each industry followed by the top down forecasts for demand and supply. For example, for Airlines we look at the number of seats, TEU for container shipping etc. to analyze the demand and capacity growth trends. We then compare this with asset turnover trends created using an aggregation of the bottom up estimates for the companies under UBS coverage in each industry.

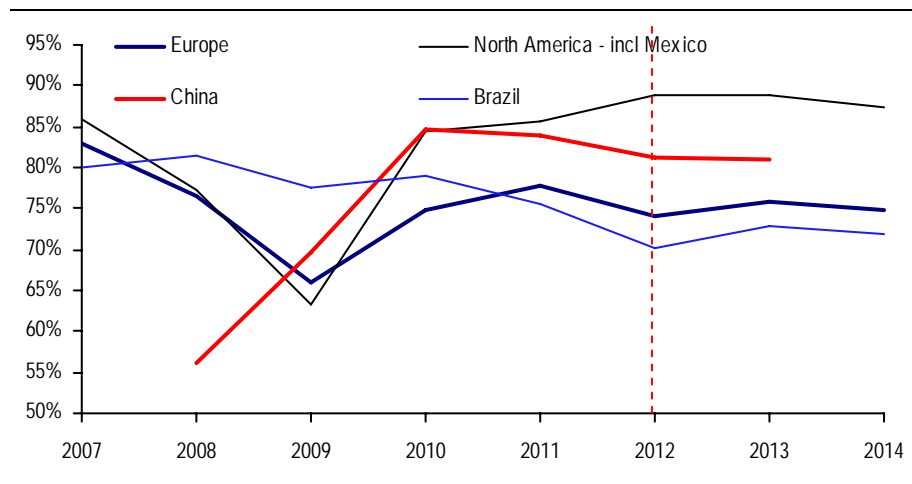
Comparing the bottom up and top down forecasts allows us to form more informed views about the direction of asset turns in these industries in 2013-14 and what role pricing power is likely to play in that.

Autos

Where is capacity utilization today?

Utilisation rates for Autos have remained fairly stable in China over the last few years. Utilization has improved in North America over the last couple of years while it has declined slightly in Europe and Brazil. Utilization rates are the highest in North America today - as has also generally been the case historically.

Chart 101: Capacity Utilization



Source: Global Insight

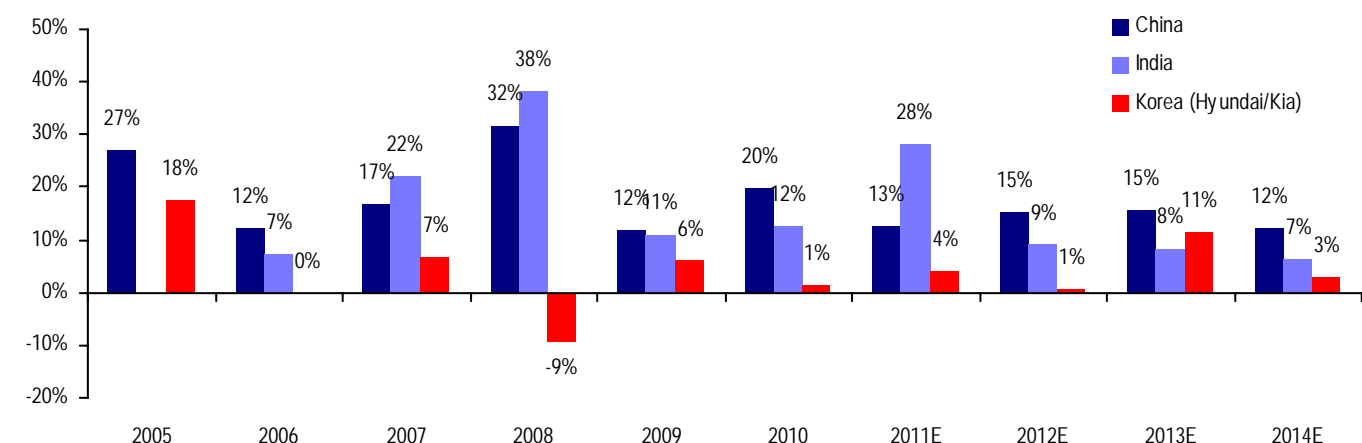
Capacity Growth (y/y)

Capacity additions are expected to be moderately strong in China and India in the next couple of years. Based on our top down forecasts, capacity is likely to grow at an average rate of 14% in China in the next two years, compared to an average of 18% since 2005 in the market. In India, the rate of growth is forecast to be 7.5% relative to an average of 18% since 2006 (of course base effects are also impacting the averages given the short time period encompassing the Global Financial Crisis). Compared to 2012, growth rate is likely to be slightly slower in 2013 in India and remain at about the same level in China.

Growth rates are expected to be faster only in Korea in Asia relative to last year (based on the ex-China/India expansion plans available for Hyundai and Kia) – 11% in 2013e versus 1% in 2012. Unlike China and India, these growth rates are higher than the historical average, and also higher than observed in any year since 2005.

Globally, excess capacity continues to be a concern in Europe, as it is in China among the Asian markets (*“Some dive, some survive, a few thrive”* dated 29th November 2012).

Chart 102: Capacity Growth (y/y, # of units)



Source: Global Insight

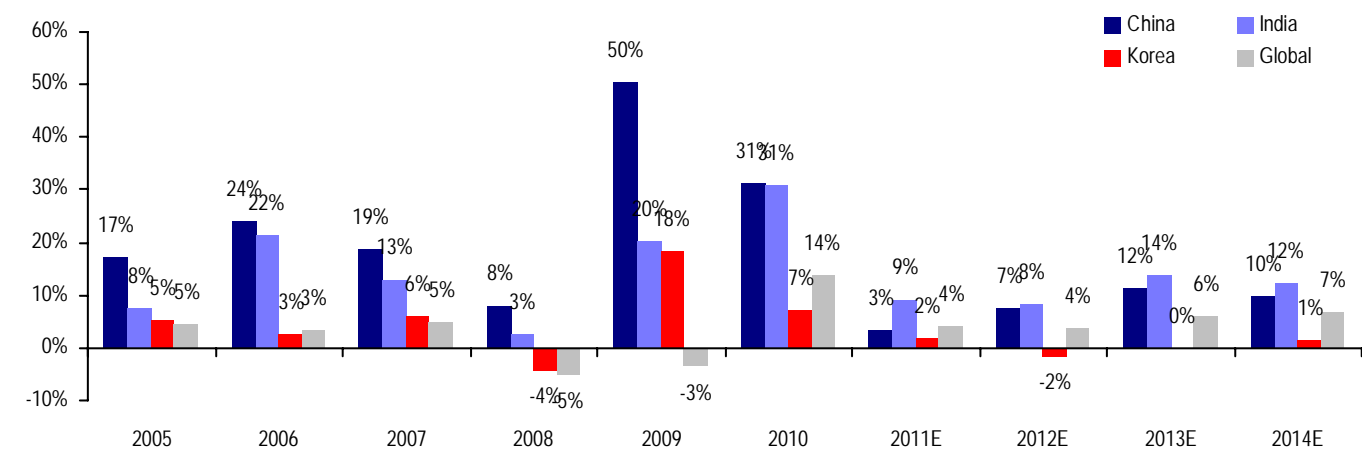
Demand Growth (y/y)

Local demand forecasts are the lowest in Korea among the three Asian markets that we have data for (China, India and Korea). According to Global Insight's estimates, no incremental growth in demand in 2013e and very marginal growth in 2014e is forecast in Korea. Demand on the other hand is likely to remain relatively stronger in both China and India in 2013-14e.

These numbers obviously do not include global demand and hence don't account for the increasing market share the Asian auto makers have been gaining globally, particularly the Koreans. For example, Hyundai and Kia Motors account for close to 10% of the overall US Auto sales in 2012 compared to only about 2% in 2000.

Global demand is expected to rise by 6% in 2012 and 7% the next year. Asian demand is forecast to grow faster averaging about 8% over the next two years (according to Global Insight forecasts), and accounts for a little less than half of the overall global demand.

Chart 103: Demand Growth (y/y, # of units)



Source: Global Insight

What does this mean for Capacity Utilization and Asset Turnover?

Capacity Utilization

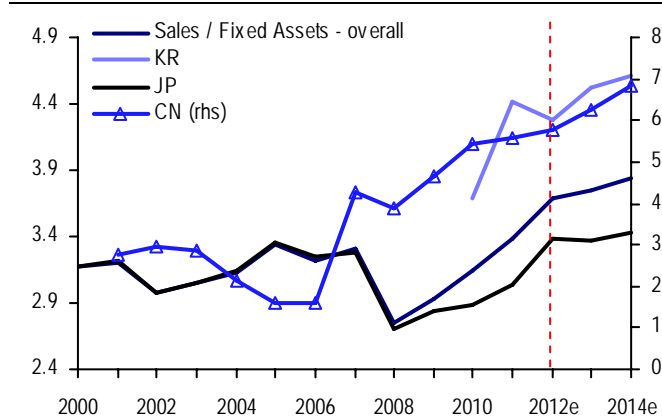
Capacity utilization for the Asian automakers is obviously not only a function of the local demand growth in their domestic markets but also the market share gains that they make beyond their borders. Our Korean Autos team remains positive on the prospects of the Korean automakers to continue to gain market share globally. Forecasts for capacity increases and assembly output (based on Global Insight estimates) suggest stable capacity utilization levels in China in 2013.

Asset Turnover

Bottom-up aggregate data based on UBS forecasts for companies however suggest improving asset turnovers across the region, including China. This difference in the top down (capacity utilization) and the bottom up (asset turnover) obviously looks a bit surprising and appears to be largely driven by a low cost base in China and higher selling prices for cars (almost 30% higher than the developed markets according to our estimates). This is also a function of the operating leverage that Chinese (and Korean) automakers have enjoyed over the last few years. With additional capacity this leverage is likely to get eroded, and coupled with higher costs should act as headwind for the high asset turnover levels in China.

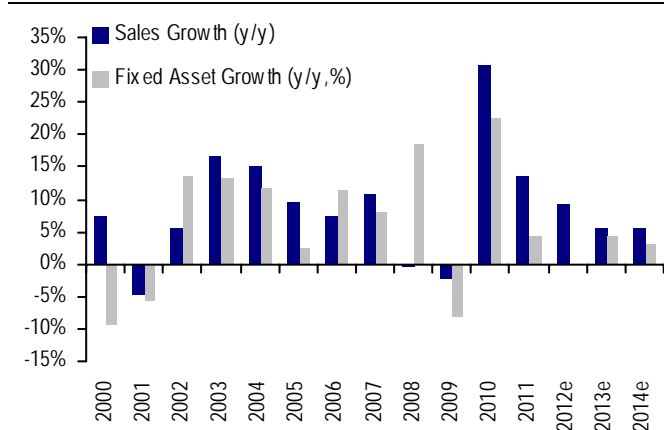
Revenues are forecast to grow at an average rate of 5.5% over the next two years. This is the slowest pace of growth in positive years since 2000 and in line with the growth rates last seen in 2002 in Asia. Fixed assets are forecast to grow at less than 4% on average in 2013-14e, again close to the slowest growth rates seen in the region since the beginning of last decade.

Chart 104: Sales / Fixed Asset (US\$ and local currency, UBSe)



Source: UBS estimates

Chart 105: Sales & Fixed Asset Growth (y/y, UBSe)



Source: UBS estimates

Table 6: Sales Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Hyundai Motor	KR	Buy	51.0%	Young Chang											21.2	6.6	13.1	6.8
Kia Motors	KR	Buy	34.5%	Young Chang											25.8	10.9	10.1	4.0
Brilliance China Automotive	CN	Buy	18.4%	Yankun Hou	-1.4	17.7	38.1	-35.3	-15.5	97.0	41.5	-13.4	-44.1	46.9	-24.6	-13.9	4.2	8.1
Geely Automobile	CN	Buy	14.4%	Yankun Hou							13.3	3321.5	233.6	44.2	9.2	13.2	38.4	16.3
Mahindra & Mahindra	IN	Buy	13.7%	Sonal Gupta	18.0	14.0	33.0	37.1	35.2	37.3	51.3	9.7	4.0	23.1	48.9	12.2	12.1	11.5
SAIC Motor	CN	Buy	7.7%	Tianlong Zou				8.7	-13.8	214.1	458.9	10.8	34.0	127.1	45.2	14.7	11.3	7.9
Jianghuai Automobile	CN	Buy	7.6%	Tianlong Zou								12.9	38.8	49.2	7.4	-0.5	23.3	9.0
Toyota Motor	JP	Buy	7.4%	Kunihiro Matsumoto	-2.1	4.8	15.9	14.9	9.9	7.7	9.4	-2.6	-2.7	4.6	8.2	9.6	0.8	4.1
Honda Motor	JP	Buy	4.9%	Kunihiro Matsumoto	-0.7	6.6	12.0	12.5	10.5	6.5	7.8	1.8	-6.1	5.6	1.7	15.5	6.3	6.9
Great Wall Motor	CN	Neutral	6.3%	Yankun Hou	6.3	101.2	41.9	-13.7	20.9	32.7	61.6	18.6	53.5	87.1	37.1	35.4	15.4	9.0
Maruti Suzuki India	IN	Neutral	-1.1%	Sonal Gupta	-1.9	-1.7	27.3	25.6	15.7	15.7	34.9	9.7	22.0	34.2	1.0	-3.5	13.1	15.1
Nissan Motor	JP	Neutral	-1.4%	Kunihiro Matsumoto	-9.7	5.2	17.8	21.8	9.2	4.8	3.9	-4.1	-5.2	16.6	20.1	2.0	-0.1	6.7
Fuji Heavy Industries	JP	Neutral	-11.7%	Kunihiro Matsumoto	-9.1	-1.4	12.2	8.7	0.0	-4.1	3.0	8.5	7.1	14.9	9.1	15.6	-1.0	2.2
Suzuki Motor	JP	Neutral	-15.3%	Kunihiro Matsumoto	-7.4	13.8	20.3	15.5	12.0	9.3	10.4	4.4	-8.1	5.5	8.3	4.5	-2.9	4.8
Daihatsu Motor	JP	Neutral	-18.2%	Kunihiro Matsumoto	-14.6	-2.3	10.7	22.5	13.4	13.6	6.5	11.6	6.3	4.9	13.5	7.6	-3.3	2.4
Guangzhou Automobile	CN	Sell	-24.3%	Yankun Hou											30.2	25.0	15.7	9.2
FAW Car Company	CN	Sell	-26.4%	Tianlong Zou	9.5	42.0	92.0	1.9	7.5	12.1	35.2	62.7	39.4	35.7	-8.3	-23.2	10.8	10.1
Mazda Motor	JP	Sell	-54.0%	Kunihiro Matsumoto	-10.4	7.7	30.6	5.9	2.3	4.6	6.8	-7.7	-10.0	8.0	1.2	2.5	-6.3	3.9
BYD Company Limited	CN	Sell	-57.0%	Yankun Hou	49.6	75.5	77.4	58.1	2.2	104.6	71.9	38.2	49.8	19.4	3.9	0.4	8.0	15.0

Source: UBS estimates

Table 7: Fixed Asset Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Hyundai Motor	KR	Buy	51.0%	Young Chang											2.0	14.6	4.9	4.6
Kia Motors	KR	Buy	34.5%	Young Chang											3.6	11.2	2.0	2.0
Brilliance China Automotive	CN	Buy	18.4%	Yankun Hou	267.3	30.6	8.1	6.6	12.0	-3.9	-2.5	25.6	-67.5	12.9	6.0	14.5	11.5	10.0
Geely Automobile	CN	Buy	14.4%	Yankun Hou							180.6	10819.8	31.5	38.7	22.7	16.9	16.3	10.4
Mahindra & Mahindra	IN	Buy	13.7%	Sonal Gupta	30.4	3.1	-0.2	11.4	20.2	75.9	83.1	2.8	13.3	106.5	9.4	8.3	10.5	8.4
SAIC Motor	CN	Buy	7.7%	Tianlong Zou				7.3	11.8	477.1	14.9	-14.1	4.5	101.5	34.8	-6.7	-9.7	-12.3
Jianghuai Automobile	CN	Buy	7.6%	Tianlong Zou								52.0	12.4	12.4	4.2	4.4	2.6	1.4
Toyota Motor	JP	Buy	7.4%	Kunihiro Matsumoto	-3.6	14.1	10.2	8.6	5.0	11.1	7.9	20.6	-10.1	5.3	2.4	-9.2	1.5	1.3
Honda Motor	JP	Buy	4.9%	Kunihiro Matsumoto	-2.9	12.4	14.7	11.8	0.4	13.2	13.2	24.8	-4.6	6.3	4.4	-0.5	11.3	9.3
Great Wall Motor	CN	Neutral	6.3%	Yankun Hou	36.5	13.0	29.5	56.4	111.3	23.3	18.5	106.6	42.5	29.1	50.3	30.7	21.3	3.1
Maruti Suzuki India	IN	Neutral	-1.1%	Sonal Gupta	-4.5	-7.6	-8.5	1.1	0.3	36.9	57.8	2.8	17.3	20.2	5.8	19.2	7.7	0.4
Nissan Motor	JP	Neutral	-1.4%	Kunihiro Matsumoto	-10.7	13.5	19.3	19.3	3.7	10.1	3.3	13.3	-9.3	6.5	5.4	-6.5	3.4	1.6
Fuji Heavy Industries	JP	Neutral	-11.7%	Kunihiro Matsumoto	-6.8	13.4	15.3	8.8	-8.7	-1.3	-0.8	15.2	-7.0	8.4	3.0	-7.8	1.4	1.5
Suzuki Motor	JP	Neutral	-15.3%	Kunihiro Matsumoto	-10.8	30.2	13.8	9.1	0.7	8.8	8.9	24.1	-5.3	5.7	0.4	5.6	12.3	6.6
Daihatsu Motor	JP	Neutral	-18.2%	Kunihiro Matsumoto	-3.0	16.5	13.6	8.2	1.5	5.6	11.6	23.3	-7.1	5.5	3.6	2.8	8.1	7.6
Guangzhou Automobile	CN	Sell	-24.3%	Yankun Hou											49.0	22.7	19.9	17.5
FAW Car Company	CN	Sell	-26.4%	Tianlong Zou								9.1	20.2	42.0	22.1	22.4	24.5	15.6
Mazda Motor	JP	Sell	-54.0%	Kunihiro Matsumoto	-6.6	7.1	10.5	6.5	-10.0	1.4	9.6	24.6	-6.8	7.3	3.5	-6.2	6.3	3.6
BYD Company Limited	CN	Sell	-57.0%	Yankun Hou	99.0	42.6	241.1	72.2	36.6	45.3	64.1	54.6	32.1	53.8	22.9	6.7	2.3	1.7

Source: UBS estimates

Table 8: Asset Turnover

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Hyundai Motor	KR	Buy	51.0%	Young Chang										3.51	4.17	3.88	4.18	4.27
Kia Motors	KR	Buy	34.5%	Young Chang										4.06	4.92	4.91	5.30	5.41
Brilliance China Automotive	CN	Buy	18.4%	Yankun Hou	2.62	2.36	3.01	1.83	1.38	2.83	4.11	2.83	4.87	6.33	4.50	3.39	3.16	3.11
Geely Automobile	CN	Buy	14.4%	Yankun Hou						10.13	4.09	1.28	3.25	3.38	3.00	2.91	3.46	3.65
Mahindra & Mahindra	IN	Buy	13.7%	Sonal Gupta	2.33	2.57	3.43	4.22	4.75	3.71	3.06	3.27	3.00	1.79	2.43	2.52	2.56	2.63
SAIC Motor	CN	Buy	7.7%	Tianlong Zou			2.77	2.81	2.16	1.18	5.73	7.39	9.47	10.68	11.50	14.13	17.42	21.43
Jianghuai Automobile	CN	Buy	7.6%	Tianlong Zou							4.13	3.07	3.79	5.03	5.19	4.95	5.94	6.38
Toyota Motor	JP	Buy	7.4%	Kunihiro Matsumoto	3.01	2.77	2.91	3.08	3.23	3.13	3.17	2.56	2.77	2.75	2.91	3.51	3.48	3.58
Honda Motor	JP	Buy	4.9%	Kunihiro Matsumoto	5.69	5.39	5.26	5.30	5.82	5.48	5.22	4.26	4.19	4.16	4.06	4.71	4.50	4.40
Great Wall Motor	CN	Neutral	6.3%	Yankun Hou	4.29	7.63	8.36	4.61	2.64	2.84	3.87	2.22	2.39	3.47	3.16	3.28	3.12	3.30
Maruti Suzuki India	IN	Neutral	-1.1%	Sonal Gupta	2.89	3.08	4.28	5.32	6.14	5.19	4.43	4.73	4.92	5.49	5.24	4.25	4.46	5.11
Nissan Motor	JP	Neutral	-1.4%	Kunihiro Matsumoto	2.34	2.16	2.14	2.18	2.30	2.19	2.20	1.86	1.95	2.13	2.43	2.65	2.56	2.69
Fuji Heavy Industries	JP	Neutral	-11.7%	Kunihiro Matsumoto	3.07	2.67	2.60	2.59	2.84	2.76	2.87	2.70	3.11	3.30	3.49	4.38	4.28	4.31
Suzuki Motor	JP	Neutral	-15.3%	Kunihiro Matsumoto	4.97	4.34	4.59	4.86	5.40	5.43	5.50	4.63	4.49	4.48	4.83	4.78	4.14	4.07
Daihatsu Motor	JP	Neutral	-18.2%	Kunihiro Matsumoto	3.20	2.69	2.62	2.97	3.31	3.56	3.40	3.08	3.52	3.50	3.84	4.02	3.60	3.42
Guangzhou Automobile	CN	Sell	-24.3%	Yankun Hou										2.80	2.44	2.49	2.40	2.23
FAW Car Company	CN	Sell	-26.4%	Tianlong Zou							7.67	11.45	13.27	12.68	9.52	5.97	5.31	5.06
Mazda Motor	JP	Sell	-54.0%	Kunihiro Matsumoto	2.75	2.76	3.26	3.24	3.69	3.80	3.70	2.75	2.65	2.67	2.61	2.85	2.52	2.52
BYD Company Limited	CN	Sell	-57.0%	Yankun Hou	2.67	3.28	1.71	1.57	1.17	1.65	1.73	1.54	1.75	1.36	1.15	1.08	1.14	1.29

Source: UBS estimates

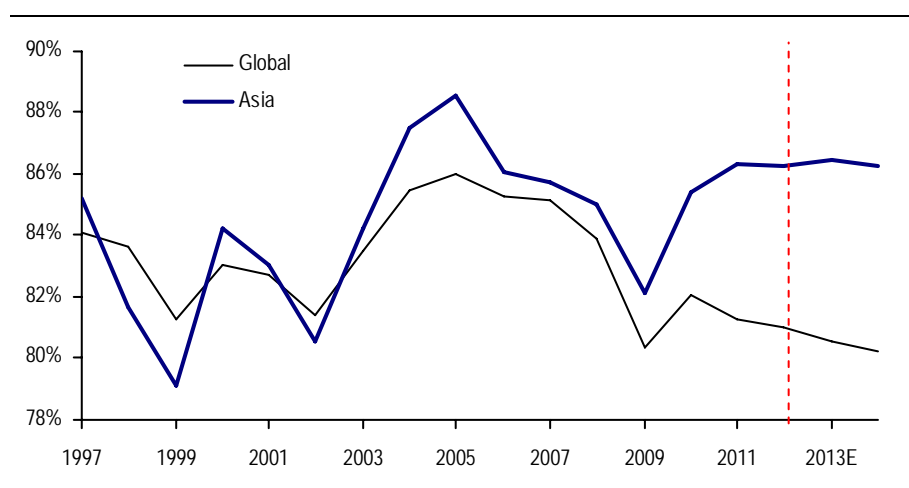
Refining

Where is capacity utilization today?

Capacity utilization remains high today in Asia but at 25 year lows globally. In the last few years, given the fungible nature of the products of the industry and freight rates under check by a well supplied tanker market, utilization rates for Asian and non-Asian refiners have moved very closely. In recent years oversupply in the industry has led to lower utilization rates. In Asia however buoyant demand and relatively more supply restraint have helped utilization remain more stable.

Since utilization rates (both in Asia and globally) peaked in 2005, global capacity has increased by 9% compared to less than 3% growth in overall throughput. In Asia, the balance has been relatively more stable, with capacity growing 25% versus a 22% increase in throughput.

Chart 106: Asian and Global Capacity Utilization (throughput/capacity)

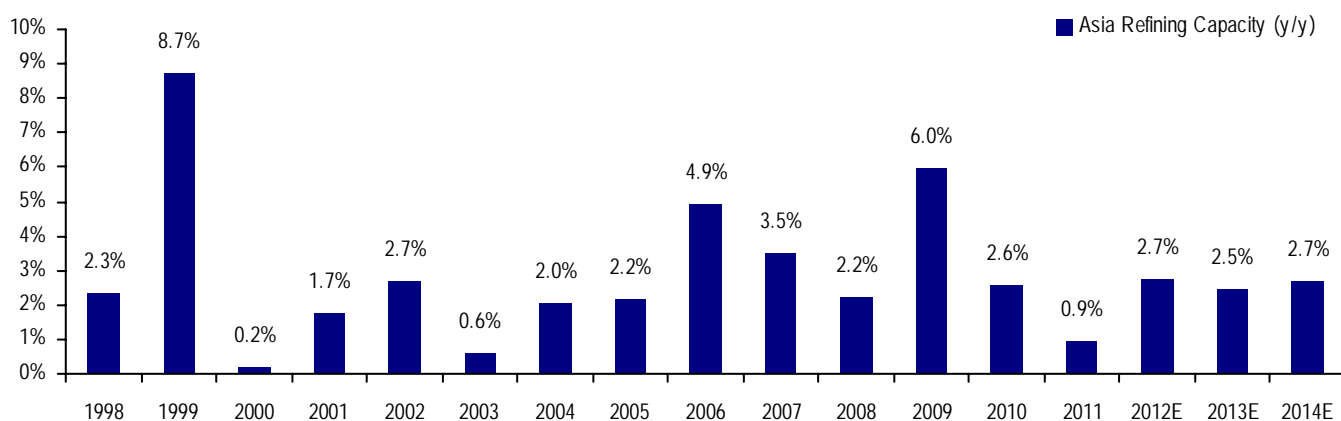


Source: UBS estimates

Capacity Growth (y/y)

Recent shutdowns, particularly in Australia and Japan, are likely to keep the refining capacity in the region fairly tight in the short term. Several projects that were scheduled to start in 2013 have been delayed, like in China and India, and should now be operational in 2014. As a result our team expects refining capacity to grow by 2.5% in 2013, slower than 2012, and at a slightly faster pace in 2014, at 2.7%. The average growth since 1998 has been slightly higher at 2.9%.

Chart 107: Asian capacity growth (refining capacity, y/y)

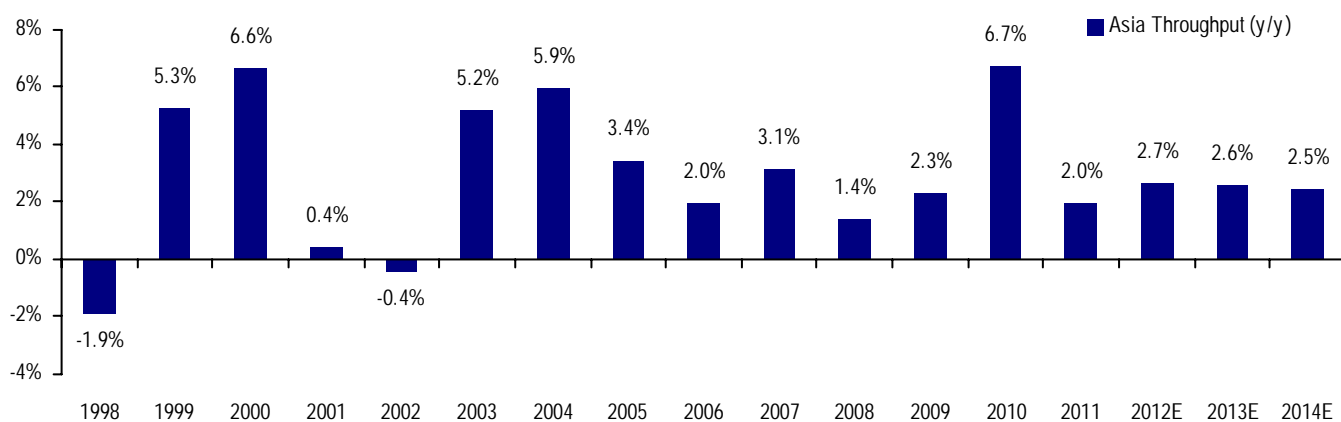


Source: UBS estimates

Demand Growth (y/y)

Our team's forecasts suggest a moderate growth environment for demand in the coming years. They expect throughput to grow at 2.6% in 2013e and 2.5% the next year. This is broadly in line with the UBS outlook for oil demand growth reflecting a below trend growth macro outlook. The average growth since 1998 has been around 3%.

Chart 108: Asian demand growth (throughput, y/y)



Source: UBS estimates

What does this mean for Capacity Utilization and Asset Turnover?

Capacity Utilization

Refining utilisation rate in Asia should remain fairly stable at 86.3% on average in 2012-14 with relatively balanced supply/demand in the market. Most refining companies in the region expect incremental demand and potential capacity closures to offset supply additions in 2013 (*"Highlights from visits to Korea and Taiwan"* by John Chung dated 4th December 2012). This should also support

refining margin at an average level of US\$7.7/bbl. Global utilization rates are, on the other hand, expected to decline over the next two years.

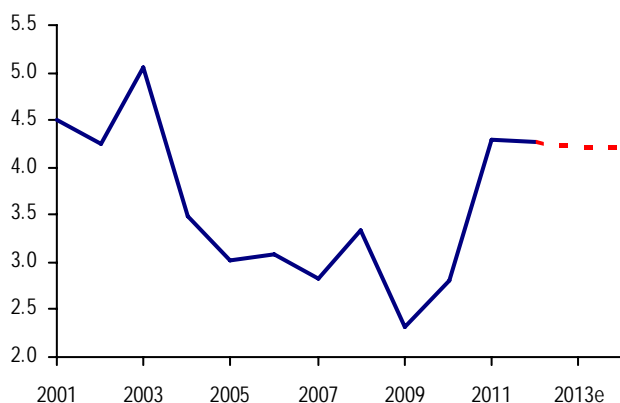
The average utilization rate in Asia since 1997 has been close to 84%, not very far from the levels being forecast for the next couple of years. In order to take utilization levels back to the lows of 2009, given current capacity forecasts, throughput should decline by 2.5% (instead of the growth of 2.7% being forecast). The only years (in the last 15) throughput fell year on year in Asia was in 2002, albeit marginally by 0.4%, and before that in 1998 by close to 2%.

In order to see peak levels on capacity utilization, throughput will need to grow by 5.1% in 2013, compared to an average of 3% since 2005.

Asset Turnover

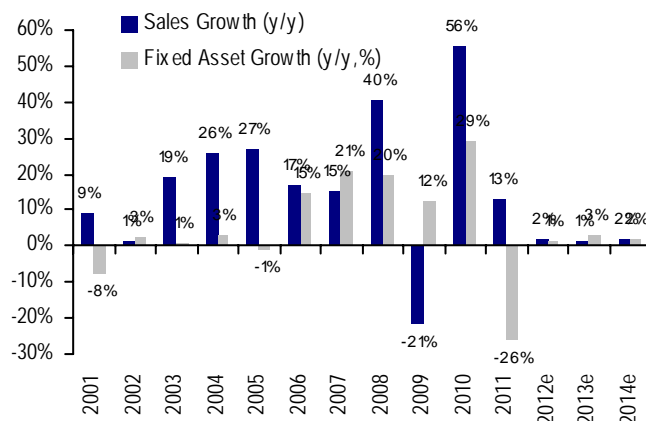
Inline with the top down forecasts for utilization, our bottom up estimates for the Asian refiners are implying flat asset turnovers for next couple of years. This also partly reflects our view of a marginal increase in oil prices next year.

Chart 109: Asian Asset Turnover (Sales/Fixed Assets)



Source: UBS estimates

Chart 110: Sales and Fixed Asset growth (y/y, %)



Source: UBS estimates

Table 9: Sales Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Petron	PH	Buy	81.6%	Vinchi Gamboa	-13.1%	3.1%	14.2%	28.7%	32.3%	18.8%	10.9%	32.0%	-38.6%	36.9%	24.4%	60.4%	9.5%	-1.7%
Reliance Industries	IN	Buy	20.7%	Ashish Jagnani	53.5%	15.3%	17.0%	26.8%	30.4%	29.8%	33.0%	10.7%	18.7%	37.6%	30.1%	-7.1%	-0.6%	-0.5%
Thai Oil	TH	Buy	6.7%	Piyanan Panichkul		37.3%	46.6%	35.0%	30.3%	19.0%	9.8%	48.4%	-31.1%	21.5%	45.7%	-4.4%	-8.9%	-0.8%
SK Innovation	KR	Buy	3.4%	John Chung								121.2%	-29.1%	34.4%	32.9%	12.5%	3.8%	6.7%
TonenGeneral Sekiyu	JP	Neutral	-3.5%	John Chung		-9.1%	19.5%	17.5%	19.9%	1.9%	-2.1%	22.5%	-28.8%	21.1%	22.7%	1.3%	-4.9%	0.7%
GS Holdings	KR	Neutral	-5.6%	John Chung					73.1%	-0.6%	9.8%	-71.5%	225.8%	8598.7%	-79.0%	3.2%	15.7%	5.9%
S-Oil	KR	Neutral	-5.8%	John Chung	-17.3%	0.6%	11.6%	42.7%	28.2%	27.8%	5.6%	30.8%	-35.4%	29.3%	61.2%	4.8%	4.8%	-1.4%
Formosa Petrochemical Corporation	TW	Sell	-20.9%	John Chung					32.4%	18.0%	30.7%	30.6%	-30.9%	23.5%	14.5%	0.5%	9.9%	-0.6%

Table 10: Fixed Asset Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Petron	PH	Buy	81.6%	Vinchi Gamboa	-8.2%	-8.9%	-3.5%	3.3%	6.5%	20.6%	61.2%	-7.3%	-2.5%	7.1%	43.7%	97.3%	48.6%	8.8%
Reliance Industries	IN	Buy	20.7%	Ashish Jagnani						26.3%	32.4%	56.3%	18.5%	7.9%	-22.5%	-6.8%	1.0%	-0.7%
Thai Oil	TH	Buy	6.7%	Piyanan Panichkul		-3.6%	1.6%	7.3%	-6.7%	-5.7%	46.0%	-13.1%	-2.3%	9.6%	-11.9%	8.0%	-0.7%	-2.7%
SK Innovation	KR	Buy	3.4%	John Chung								-17.3%	6.6%	32.8%	-7.2%	24.9%	12.7%	11.3%
TonenGeneral Sekiyu	JP	Neutral	-3.5%	John Chung		3.8%	8.3%	-3.1%	-13.5%	4.5%	3.2%	13.4%	-5.4%	-1.2%	-3.5%	-16.9%	-15.6%	-18.5%
GS Holdings	KR	Neutral	-5.6%	John Chung					-72.8%	43.1%	24.1%	75.1%	17.1%	3127.1%	-80.7%	9.0%	0.0%	0.0%
S-Oil	KR	Neutral	-5.8%	John Chung	-7.4%	11.3%	-8.7%	8.2%	-3.2%	4.2%	-0.7%	-17.8%	81.2%	31.3%	2.9%	15.4%	3.8%	3.9%
Formosa Petrochemical Corporation	TW	Sell	-20.9%	John Chung					8.2%	5.9%	1.3%	-9.3%	-8.3%	-1.5%	-14.0%	7.4%	2.8%	0.0%

Source: UBS estimates

Table 11: Asset Turnover

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Petron	PH	Buy	81.6%	Vinchi Gamboa	4.17	3.95	4.46	5.28	6.58	8.17	8.05	5.54	7.88	4.96	6.35	5.50	4.47	3.29
Reliance Industries	IN	Buy	20.7%	Ashish Jagnani						1.44	1.48	1.49	1.06	1.06	1.35	2.27	2.26	2.22
Thai Oil	TH	Buy	6.7%	Piyanan Panichkul		0.99	1.40	2.02	2.55	3.56	4.49	3.38	5.76	4.07	4.51	7.45	6.60	6.06
SK Innovation	KR	Buy	3.4%	John Chung								2.44	6.53	4.34	4.39	6.29	5.67	5.22
TonenGeneral Sekiyu	JP	Neutral	-3.5%	John Chung		7.92	6.93	7.66	9.28	12.87	12.56	11.91	12.86	9.68	11.87	15.09	18.41	20.75
GS Holdings	KR	Neutral	-5.6%	John Chung					0.64	4.07	2.83	2.50	0.41	1.14	3.06	3.32	3.15	3.64
S-Oil	KR	Neutral	-5.8%	John Chung	4.38	3.91	3.54	4.32	5.70	7.54	9.25	9.84	15.66	5.58	5.50	8.61	7.82	7.90
Formosa Petrochemical Corporation	TW	Sell	-20.9%	John Chung					1.39	1.70	1.90	2.45	3.53	2.66	3.34	4.44	4.15	4.44

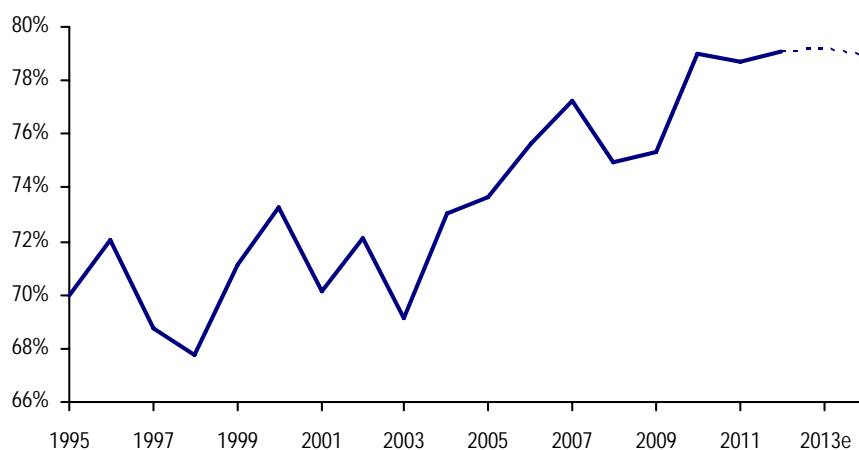
Source: UBS estimates

Airlines

Where is capacity utilization today?

Unlike the steel and shipping industries that we discussed earlier in this report, capacity utilization in the Airlines industry appears to be close to its highs today. Although some of the orders placed in 2005, after a strong demand surge in China and India, were even delivering in 2012, in general there is a less serious problem of overcapacity in the Airlines industry. This is also because the airlines industry was less affected by the commodities boom in the first place that was the primary cause of overcapacity in the shipping, steel and cement industries. There also appears to be relatively better capacity discipline, as was the case in 2012.

Chart 111: Asian Demand / Supply in Revenue passenger km (RPK) / Available seat km (ASK) (*Passenger Load Factor*)

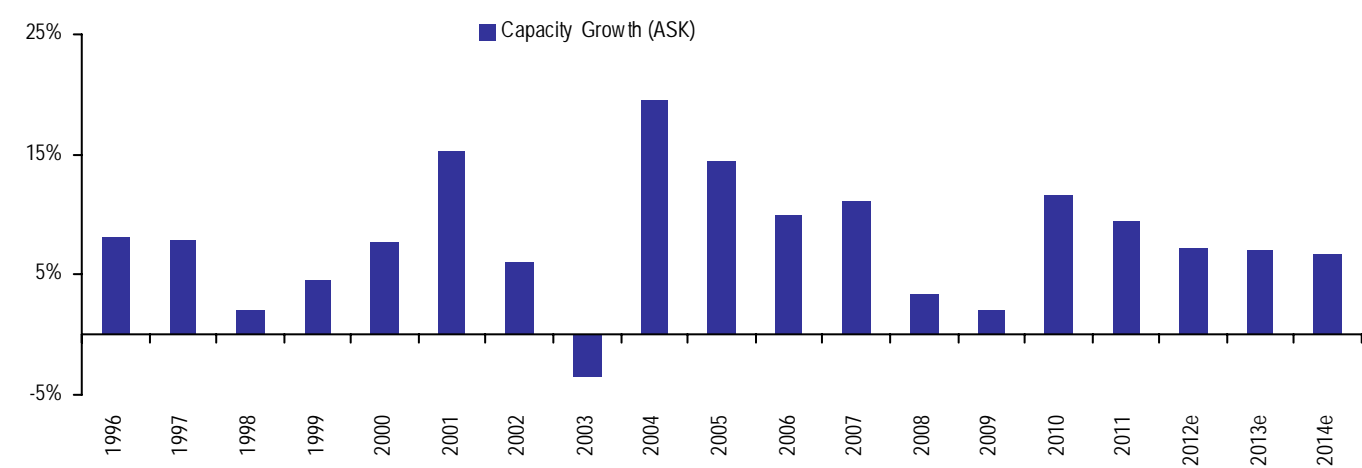


Source: UBS estimates

Capacity Growth (y/y)

Capacity is expected to grow at an average of 6.9% in Asia in the next two years, slightly lower than the average of 8% since 1995. Although not a sharp decline, our top down forecasts suggest slowing capacity growth each year over the next two – down from 7.2% this year, to 7% in 2013e and 6.7% in 2014e.

Chart 112: Asia capacity growth (Available Seat Kms, y/y)

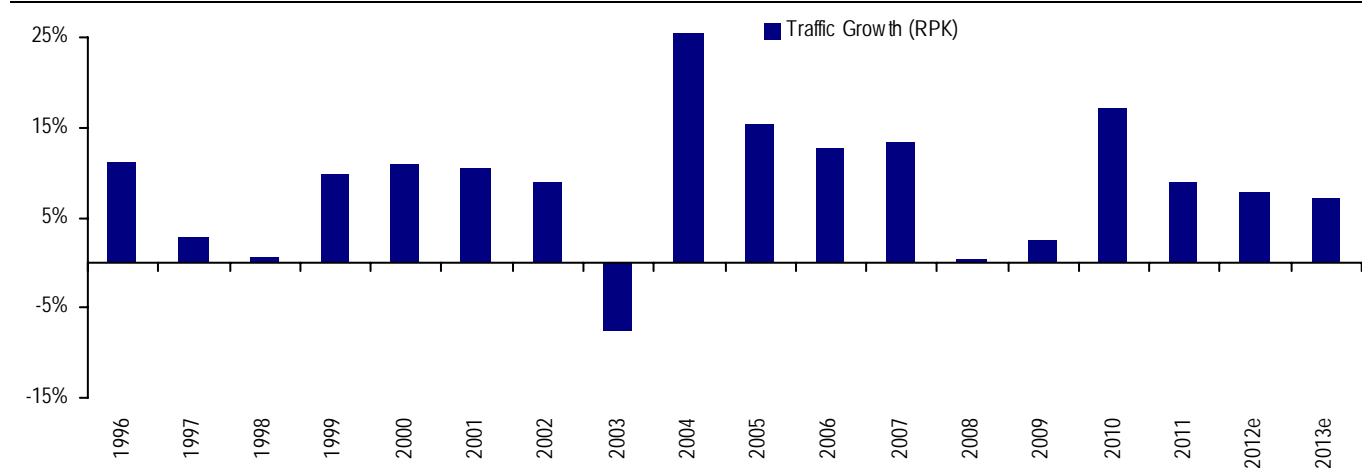


Source: UBS estimates

Demand Growth (y/y)

Traffic is expected to grow at an average of 6.8% in Asia in the next two years, 7.2% in 2013 and 6.4% the year after. These rates are lower than the average of 9% since 1995. There is generally a strong correlation between real GDP and airlines traffic growth. Compared with our economists' real GDP forecasts (6.2%) for Asia in 2013, these traffic growth forecasts imply a conservative traffic/GDP ratio for the region.

Chart 113: Asia traffic Growth (Revenue Passenger Kms, y/y)



Source: UBS estimates

What does this mean for Capacity Utilization and Asset Turnover?

Capacity Utilization

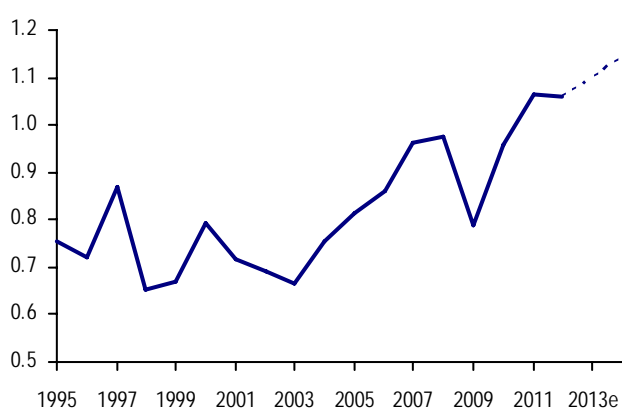
If our top down forecasts are correct, capacity utilizations should marginally improve in 2013 and show a small decline the year after. Broadly capacity is expected to be in line with traffic growth. This has also been the case over the last two years reflecting some capacity discipline.

In order to take the utilization rates today back to the 2008 lows, capacity will need to increase by more than 20% from current levels in the next two years, given the current traffic growth forecasts. Current forecasts suggest a growth of 14%.

Asset Turnover

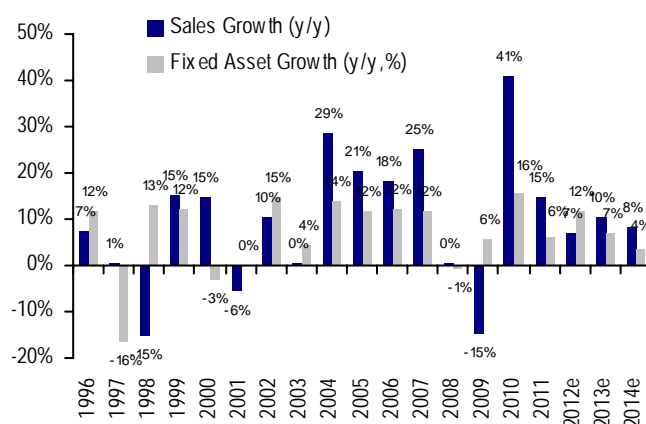
Bottom up our analysts are expecting asset turnovers to improve more visibly. Their forecasts appear to be based off a higher share of premium travel among the full service carriers in the next couple of years as growth rebounds. In order to keep the asset turns at the same level as today and not improve, based on the current growth forecasts, fixed assets will need to grow almost twice as fast as being forecast today, unlikely given the long timeline of delivery schedules.

Chart 114: Sales to Fixed Assets (UBS est.)



Source: UBS estimates

Chart 115: Airlines – Sales and FAI growth (y/y)



Source: UBS estimates

Table 12: Sales Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Korean Air	KR	Buy	32.5%	Eric Lin	-10.6%	14.2%	3.2%	21.5%	17.5%	14.3%	12.0%	-0.2%	-21.8%	31.8%	9.2%	4.3%	16.4%	5.1%
AirAsia	MY	Buy	31.4%	Eric Lin		42.1%	31.7%	46.6%	65.0%	59.1%	118.7%	-0.6%	13.7%	36.0%	19.2%	10.6%	13.2%	12.0%
Cebu Air	PH	Buy	27.7%	Eric Lin					6.2%	28.2%	73.9%	36.1%	10.2%	31.7%	21.4%	13.9%	19.1%	15.9%
Tiger Airways	SG	Buy	22.2%	Eric Lin								41.2%	24.6%	36.6%	13.9%	26.1%	-5.6%	0.6%
China Eastern Airlines	CN	Buy	19.7%	Richard Wei, CFA	8.3%	7.6%	9.2%	49.8%	29.7%	40.9%	18.5%	5.7%	-3.5%	91.0%	16.9%	11.8%	11.2%	9.4%
Cathay Pacific	HK	Buy	19.5%	Eric Lin	-11.9%	8.7%	-10.5%	44.5%	19.2%	19.5%	23.5%	15.1%	-22.3%	33.4%	9.7%	-0.5%	4.4%	9.1%
China Southern Airlines	CN	Buy	8.7%	Richard Wei, CFA	11.2%	6.7%	-3.0%	37.2%	61.4%	24.0%	23.4%	11.2%	0.8%	40.9%	23.8%	14.1%	12.6%	10.8%
Thai Airways	TH	Buy	8.6%	Eric Lin	-0.1%	4.4%	10.6%	14.9%	7.3%	16.2%	123.1%	-43.4%	-22.5%	21.0%	9.9%	5.5%	6.6%	5.8%
Asiana Airlines	KR	Neutral	26.0%	Eric Lin	-7.3%	20.3%	1.7%	25.0%	13.9%	20.7%	8.6%	0.6%	-22.4%	43.3%	9.7%	4.3%	11.8%	7.0%
Garuda Indonesia	ID	Neutral	23.5%	Eric Lin												22.0%	15.6%	15.5%
EVA Air	TW	Neutral	8.8%	Eric Lin	-11.1%	20.5%	1.6%	30.4%	16.0%	5.9%	-1.2%	2.8%	-20.2%	46.7%	6.8%	3.6%	7.7%	5.8%
Singapore Airlines	SG	Neutral	5.1%	Eric Lin	-4.5%	7.9%	-0.2%	18.7%	15.3%	14.5%	15.8%	9.2%	-17.9%	11.3%	13.7%	2.3%	5.9%	4.8%
China Airlines	TW	Neutral	0.0%	Eric Lin	-10.0%	10.6%	-3.6%	30.7%	27.7%	8.9%	1.1%	2.7%	-23.7%	47.4%	3.3%			

Source: UBS estimates

Table 13: Fixed Asset Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Korean Air	KR	Buy	32.5%	Eric Lin	-11.6%	61.2%	2.6%	16.8%	2.2%	10.3%	0.5%	-22.8%	7.7%	13.4%	9.1%	8.9%	2.3%	-5.7%
AirAsia	MY	Buy	31.4%	Eric Lin		227.6%	567.3%	118.5%	285.1%	202.7%	120.1%	45.1%	21.4%	30.3%	-10.4%	29.4%	14.1%	5.5%
Cebu Air	PH	Buy	27.7%	Eric Lin					521.8%	126.1%	52.6%	9.2%	7.5%	24.2%	4.2%	10.2%	4.7%	3.8%
Tiger Airways	SG	Buy	22.2%	Eric Lin								49.1%	142.7%	155.6%	25.9%	10.9%	11.5%	13.2%
China Eastern Airlines	CN	Buy	19.7%	Richard Wei, CFA	1.3%	1.2%	31.2%	10.8%	32.8%	7.5%	26.9%	18.6%	7.6%	25.7%	12.2%	19.2%	12.0%	9.4%
Cathay Pacific	HK	Buy	19.5%	Eric Lin	6.4%	-3.1%	3.1%	-2.3%	0.0%	14.5%	8.0%	6.5%	-0.9%	0.7%	11.3%	19.3%	5.2%	4.5%
China Southern Airlines	CN	Buy	8.7%	Richard Wei, CFA	-5.4%	25.9%	-0.1%	64.2%	18.8%	7.3%	10.9%	-2.5%	19.5%	30.5%	14.5%	13.0%	10.4%	4.8%
Thai Airways	TH	Buy	8.6%	Eric Lin	1.1%	0.4%	17.9%	17.7%	20.3%	21.7%	26.7%	-14.1%	7.3%	7.1%	-5.6%	18.4%	12.4%	2.1%
Asiana Airlines	KR	Neutral	26.0%	Eric Lin	-14.3%	32.1%	-6.4%	14.6%	3.0%	16.5%	7.0%	-25.1%	10.6%	11.4%	-10.1%	19.1%	8.6%	8.1%
Garuda Indonesia	ID	Neutral	23.5%	Eric Lin												-7.6%	-4.7%	-1.3%
EVA Air	TW	Neutral	8.8%	Eric Lin	-8.1%	0.8%	-2.7%	9.3%	22.9%	15.5%	18.8%	1.4%	6.4%	2.8%	-11.9%	-3.8%	-4.9%	0.8%
Singapore Airlines	SG	Neutral	5.1%	Eric Lin	4.6%	14.9%	2.9%	3.4%	-0.2%	13.3%	8.8%	-2.2%	-2.4%	1.3%	-11.7%	2.0%	2.3%	6.2%
China Airlines	TW	Neutral	0.0%	Eric Lin	17.6%	13.2%	4.5%	31.4%	33.8%	-6.0%	-5.5%	-6.9%	-1.9%	2.2%	-4.7%			

Source: UBS estimates

Table 14: Asset Turnover

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Korean Air	KR	Buy	32.5%	Eric Lin	0.83	0.59	0.59	0.61	0.71	0.73	0.82	1.06	0.77	0.89	0.89	0.86		1.09
AirAsia	MY	Buy	31.4%	Eric Lin	47.16	20.46	4.04	2.71	1.16	0.61	0.61	0.42	0.39	0.41	0.54	0.46	0.46	0.49
Cebu Air	PH	Buy	27.7%	Eric Lin				5.54	0.95	0.54	0.61	0.76	0.78	0.83	0.97	1.00	1.13	1.27
Tiger Airways	SG	Buy	22.2%	Eric Lin							3.36	3.19	1.64	0.87	0.79	0.90	0.76	0.68
China Eastern Airlines	CN	Buy	19.7%	Richard Wei, CFA	0.60	0.64	0.53	0.72	0.70	0.92	0.86	0.77	0.69	1.04	1.09	1.02	1.01	1.01
Cathay Pacific	HK	Buy	19.5%	Eric Lin	0.59	0.66	0.57	0.85	1.01	1.06	1.21	1.30	1.02	1.35	1.34	1.11	1.11	1.15
China Southern Airlines	CN	Buy	8.7%	Richard Wei, CFA	0.74	0.63	0.61	0.51	0.70	0.80	0.89	1.02	0.86	0.93	1.00	1.01	1.03	1.09
Thai Airways	TH	Buy	8.6%	Eric Lin	1.08	1.12	1.05	1.03	0.92	0.88	1.54	1.02	0.74	0.83	0.97	0.86	0.82	0.85
Asiana Airlines	KR	Neutral	26.0%	Eric Lin	1.05	0.96	1.04	1.14	1.26	1.30	1.32	1.77	1.24	1.60	1.95	1.71	1.76	1.74
Garuda Indonesia	ID	Neutral	23.5%	Eric Lin											5.38	7.11	8.63	10.10
EVA Air	TW	Neutral	8.8%	Eric Lin	0.87	1.05	1.09	1.30	1.23	1.13	0.94	0.95	0.71	1.02	1.23	1.33	1.51	1.58
Singapore Airlines	SG	Neutral	5.1%	Eric Lin	0.70	0.65	0.64	0.73	0.84	0.85	0.91	1.01	0.85	0.94	1.21	1.21	1.25	1.23
China Airlines	TW	Neutral	0.0%	Eric Lin	0.68	0.66	0.61	0.61	0.58	0.67	0.72	0.80	0.62	0.89	0.97			

Source: UBS estimates

Shipbuilding

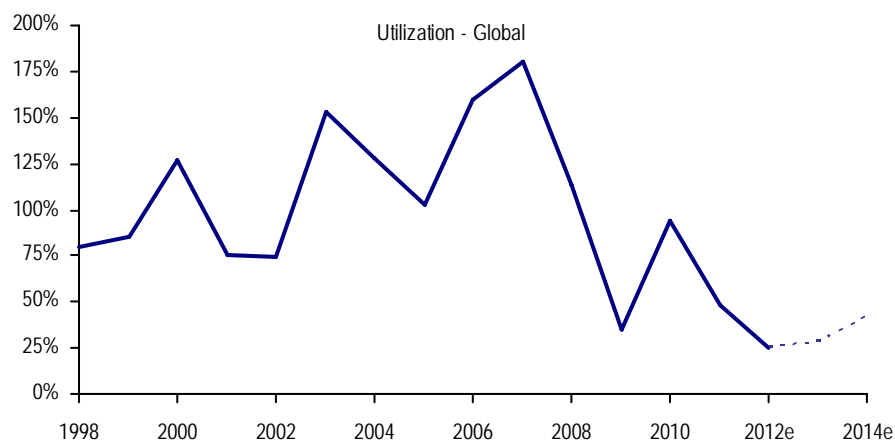
Where is capacity utilization today?

Utilization rates (new orders/capacity) hovered around 100% in the early 2000s, then shot up to 180% in 2007 with the strong global demand. They have been on a sharp decline since and are at their lowest in the last 15 years. As of 2012 utilization rates globally were around 25%. Growth slowdown, over capacity and financing difficulties are some of the challenges facing the shipyard industry today.

Given high utilization rates and strong growth in the mid-2000s, capacity was added very rapidly and faced by a significant slowdown in new orders since 2009 has resulted in very low utilization. Order books are also shrinking fast and according to Clarkson Research estimates (a ship registry and research institute), roughly 60% of the global shipyards are likely to have no work by next year end. The smaller shipbuilders being much more impacted compared to the incumbent and large shipbuilders.

Out of the two broad segments of the industry – commercial (shipbuilding) and offshore (rig/platform construction), the latter remains in a better position as demand for offshore production platforms remains robust. The former however suffers from oversupply in most vessel categories except LNG carriers.

Chart 116: New Orders / Capacity – Global (m dwt)



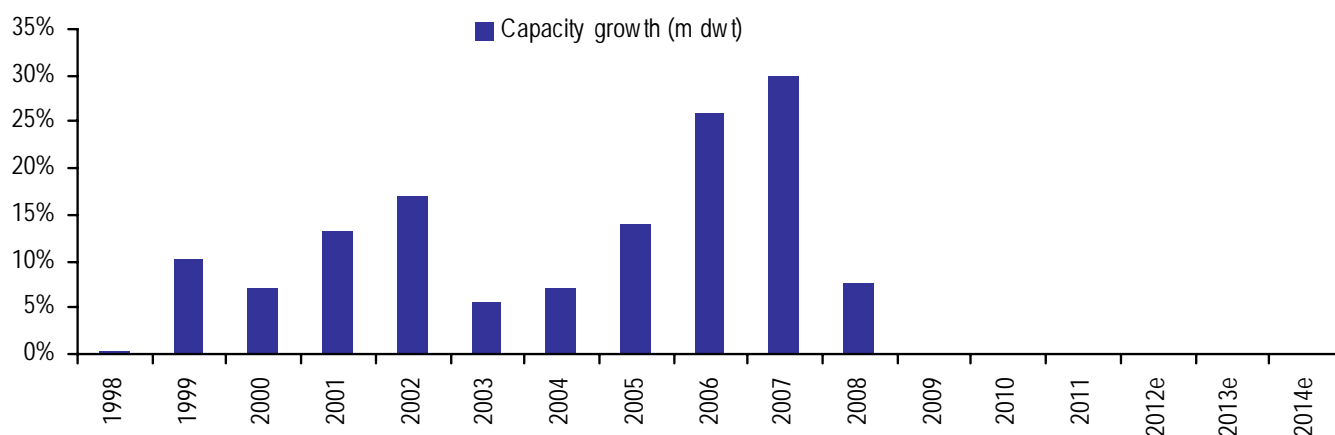
Source: UBS estimates

Capacity Growth (y/y)

Chart 117 shows the forecast for supply growth globally. Growth rates of capacity have dropped significantly since peaking out in 2007 and our team expects no growth in the next few years, compared to an average of around 12% historically. Rather the risk of consolidation and shutdowns are high in the coming years due to lack of new orders.

As our analysts have pointed out the additional capacity is appearing mainly in China where the state backed shipyards are ready to bear the learning curve costs today (for more details please see “*Comparing shipyards in China, Singapore and South Korea*” dated 6th September 2012 authored by Cheryl Lee and Yong-Suk Son).

Chart 117: Supply growth (y/y, m dwt)

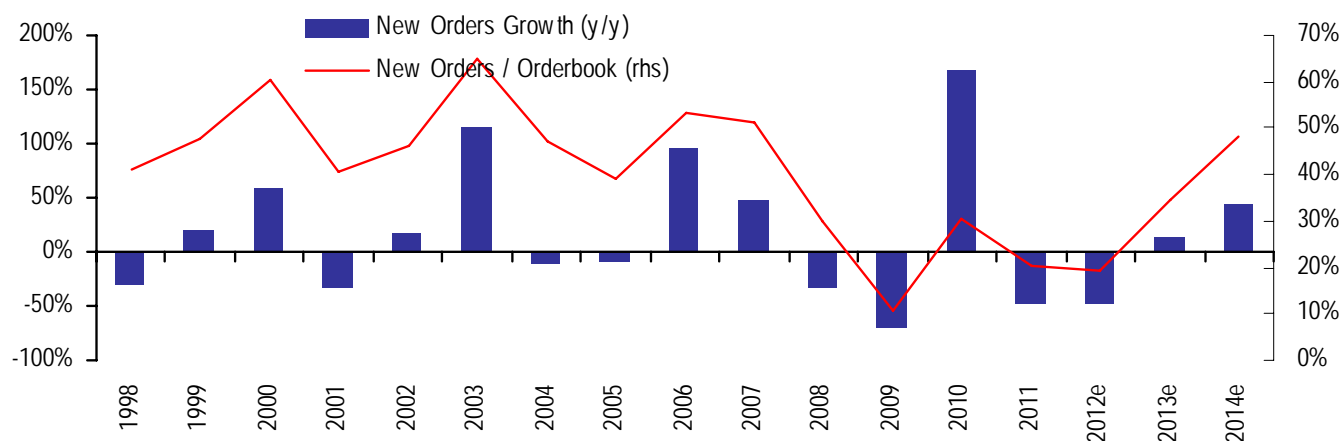


Source: UBS estimates

Demand Growth (y/y)

Demand is expected to remain weak. Our forecasts suggest a modest growth of 12% in new orders in 2013 globally. This is the lowest in positive growth years since 1998. On top of the weak new demand for ships in the next two years, order books have contracted rapidly and new orders are expected to amount for half the existing orders by 2014e – levels last seen when new orders were very strong in the early 2000s. This is likely to speed up consolidation in the industry's capacity.

Chart 118: Demand growth (y/y, m dwt)



Source: UBS estimates

What does this mean for Capacity Utilization and Asset Turnover?

Capacity Utilization

Top down, given the faster (than demand) albeit weak growth in new orders being forecast globally in 2013, utilization is likely to bottom out in 2012. To take back utilization from the current level to the averages seen during late 90s-early 2000s i.e. 88%, it would take a three fold increase in demand from current

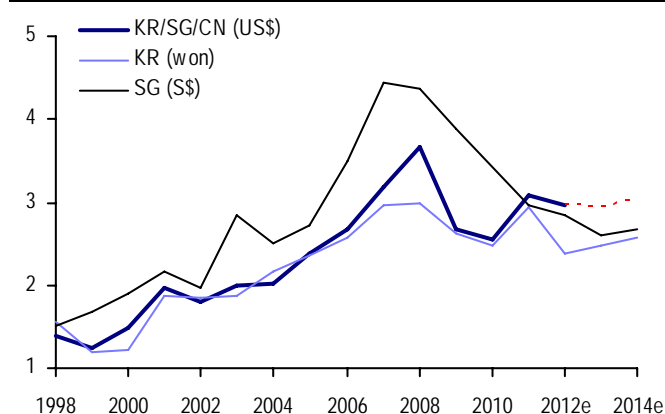
levels. Our cumulative growth forecasts for the next two years suggest 50% instead.

Asset Turnover

Bottom up, our analysts are also expecting slightly higher fixed asset growth in the region next year compared to revenues and so the asset turns should decline very marginally. They are forecast to improve in 2014 when sales growth is forecast to be higher than fixed asset growth for the UBS universe.

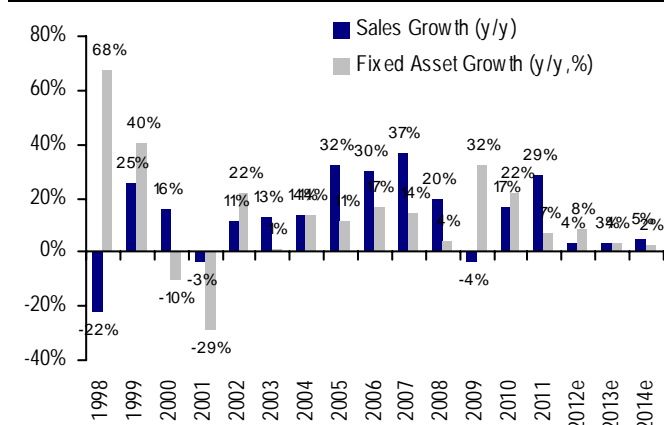
Chart 119 also shows the asset turnovers for Korea and Singapore separately. While it is largely expected to remain stable in Singapore given their main business – offshore building still remains healthy. In Korea, asset turns are expected to improve because the shift from commercial ship to offshore focused businesses has allowed major Korean yards to increase orders and backlog, and offshore revenue is likely to become larger from 2014. In China, on the other hand, falling backlog of commercial ships is hurting the operations of the shipyards.

Chart 119: Sales to Fixed Assets (US\$ and local currency)



Source: UBS estimates

Chart 120: Sales & Fixed Asset Growth (% y/y)



Source: UBS estimates

Table 15: Sales Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Keppel Corporation	SG	Buy	18.2%	Cheryl Lee, CFA	-9.0%	-6.0%	10.5%	-31.3%	45.7%	40.0%	44.7%	20.6%	0.9%	-20.4%	19.5%	25.5%	1.9%	6.4%
Samsung Heavy Ind.	KR	Buy	14.1%	Yong-Suk Son, CFA	0.6%	7.5%	1.6%	16.8%	33.1%	22.8%	37.8%	8.1%	4.6%	9.8%	6.3%	6.5%	9.9%	4.6%
Daewoo Shipbuilding & Marine Engineering	KR	Buy	10.5%	Yong-Suk Son, CFA	242.7%	15.7%	33.3%	15.6%	12.6%	22.9%	41.1%	34.2%	-7.9%	7.7%	11.7%	-1.5%	9.4%	0.7%
Sembcorp Marine	SG	Neutral	6.5%	Cheryl Lee, CFA	7.8%	18.5%	8.5%	31.6%	57.8%	75.3%	34.3%	19.6%	10.0%	-15.1%	-5.8%	18.1%	31.3%	-1.9%
Yangzijiang Shipbuilding (Holdings) Ltd.	CN	Neutral	2.1%	Cheryl Lee, CFA					56.6%	55.9%	73.9%	108.9%	46.8%	22.8%	18.4%	-5.0%	-3.6%	82.5%
COSCO Corporation (Singapore) Ltd	SG	Sell	-35.2%	Cheryl Lee, CFA		-32.6%	-7.8%	30.5%	661.9%	45.9%	96.2%	63.8%	-18.9%	42.1%	16.8%	1.1%	-22.4%	38.5%

Table 16: Fixed Asset Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Keppel Corporation	SG	Buy	18.2%	Cheryl Lee, CFA	-30.7%	13.3%	-32.4%	-14.5%	15.8%	14.2%	4.1%	9.9%	18.4%	13.6%	19.6%	29.3%	8.4%	7.6%
Samsung Heavy Ind.	KR	Buy	14.1%	Yong-Suk Son, CFA	-3.6%	11.5%	7.5%	23.9%	13.6%	15.5%	20.6%	1.5%	24.9%	6.4%	-3.8%	9.1%	0.1%	0.1%
Daewoo Shipbuilding & Marine Engineering	KR	Buy	10.5%	Yong-Suk Son, CFA	-1.3%	19.3%	4.0%	19.0%	11.1%	24.8%	10.1%	-0.8%	61.0%	10.9%	17.2%	11.3%	2.1%	2.1%
Sembcorp Marine	SG	Neutral	6.5%	Cheryl Lee, CFA	-1.9%	10.9%	3.3%	5.7%	23.7%	27.1%	6.2%	3.0%	0.0%	9.9%	49.8%	87.0%	27.2%	6.8%
Yangzijiang Shipbuilding (Holdings) Ltd.	CN	Neutral	2.1%	Cheryl Lee, CFA					30.3%	326.2%	99.4%	70.7%	-14.6%	62.6%	52.2%	23.0%	45.5%	25.2%
COSCO Corporation (Singapore) Ltd	SG	Sell	-35.2%	Cheryl Lee, CFA		13.2%	2.7%	-5.3%	190.1%	28.2%	41.8%	40.1%	24.6%	-4.9%	7.9%	7.2%	0.8%	0.8%

Source: UBS estimates

Table 17: Asset Turnover

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Keppel Corporation	SG	Buy	18.2%	Cheryl Lee, CFA	1.91	2.51	2.08	3.40	2.73	3.44	4.22	5.86	6.43	5.48	3.84	3.83	3.72	3.50
Samsung Heavy Ind.	KR	Buy	14.1%	Yong-Suk Son, CFA	2.00	2.09	2.01	1.90	1.79	2.10	2.23	2.55	2.72	2.28	2.35	2.59	2.53	2.78
Daewoo Shipbuilding & Marine Engineering	KR	Buy	10.5%	Yong-Suk Son, CFA	0.58	2.02	1.96	2.51	2.44	2.47	2.44	3.12	4.23	2.42	2.35	2.24	1.98	2.12
Sembcorp Marine	SG	Neutral	6.5%	Cheryl Lee, CFA	1.86	2.05	2.19	2.30	2.86	3.65	5.04	6.37	7.40	8.14	6.29	3.96	2.50	2.58
Yangzijiang Shipbuilding (Holdings) Ltd.	CN	Neutral	2.1%	Cheryl Lee, CFA					7.86	9.44	3.45	3.01	3.68	6.34	4.78	3.72	2.88	1.91
COSCO Corporation (Singapore) Ltd	SG	Sell	-35.2%	Cheryl Lee, CFA		0.48	0.28	0.25	0.35	0.92	1.05	1.45	1.69	1.10	1.65	1.78	1.68	1.30

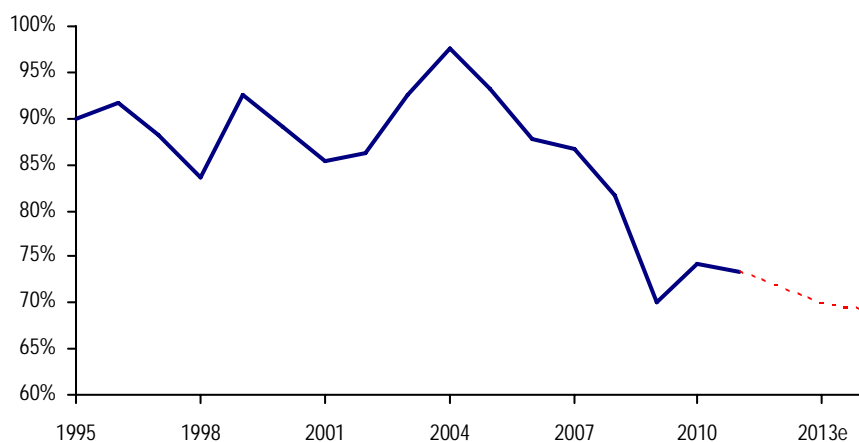
Source: UBS estimates

Container Shipping

Where is capacity utilization today?

The utilization rates in the shipping industry have not only suffered because of lower levels of activity after the global financial crisis but also the large number of orders for new vessels that were placed in 2007-08. Together these have brought down utilization rates in the industry from above 90% to below 75% as of last year (chart 121).

Chart 121: Global Fleet Utilisation – Demand / Supply (twenty equivalent units - TEU)

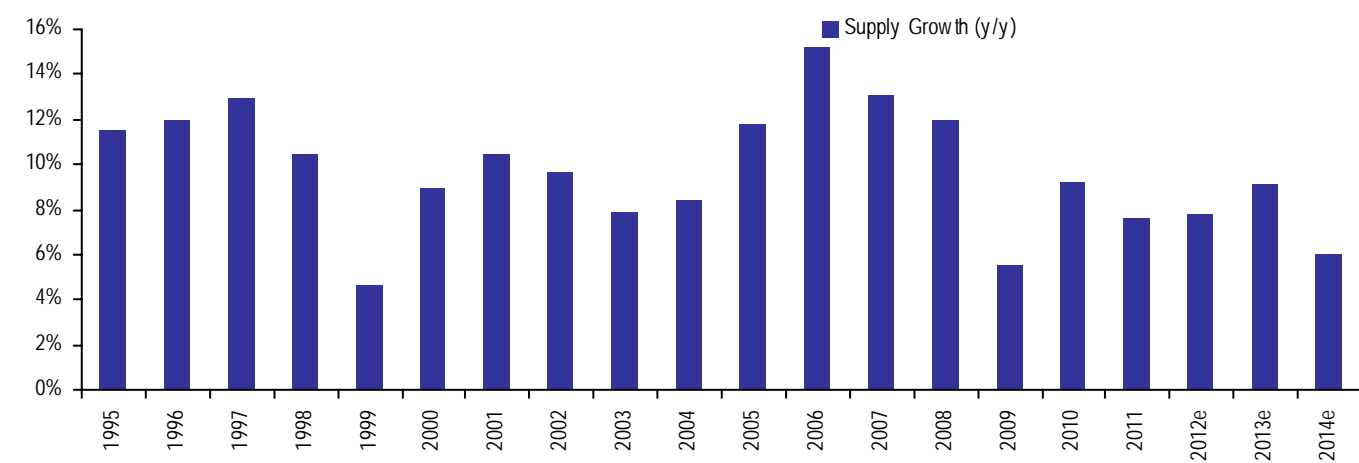


Source: UBS estimates

Capacity Growth (y/y)

Supply is expected to keep coming in despite low utilization rates and the growth outlook. This is obviously not because shipping companies are still investing in increasing capacity but because of the delivery schedule of shipping orders. As a result capacity is forecast to grow at 9.1% in 2013 and 6% the year after. These are not much lower than the average growth rates in the previous 15 of about 10%, and obviously look on the higher side given the industry dynamics. This raises a risk that scrap orders increase in the next few years adding to the strain of the shipbuilders but positive for the utilization rates in the container shipping industry.

Chart 122: Supply growth (y/y, '000 TEU)

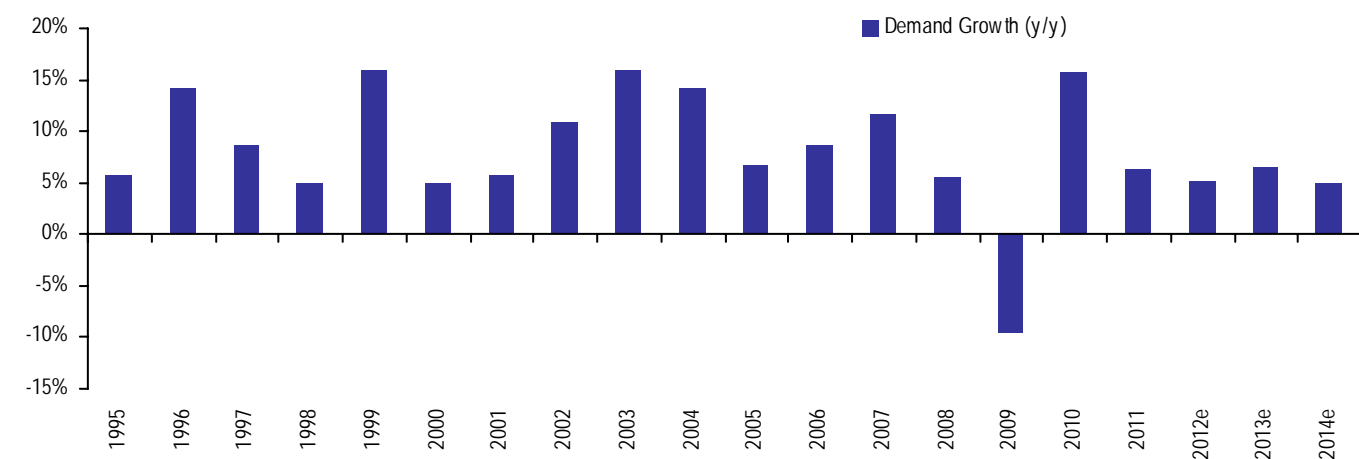


Source: UBS estimates

Demand Growth (y/y)

Demand is forecast to grow at a moderate pace and not much faster than the last couple of years, 6.6% and 5% respectively in 2013-14e. The average over the last 15 years has been 8.6%. These forecasts do not look over optimistic to us given the UBS expectation of moderate but below trend growth environment next year, and container shipping demand is generally positively correlated with global trade growth.

Chart 123: Demand growth (y/y, '000 TEU)



Source: UBS estimates

What does this mean for Capacity Utilization and Asset Turnover?

Capacity Utilization

Top down, capacity growth is forecast to be higher than demand growth and as a result utilization rates are expected to decline. For utilization to remain at the same level as today and not decline will need to see demand growth to improve from 12% over the next two years to around 16%. For utilization to go back to

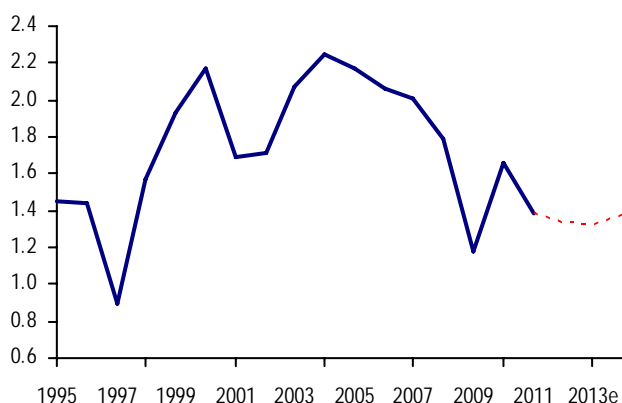
the average levels seen during 2002-08 would require demand to grow by approximately 44% from current levels in the next two years.

Asset Turnover

Bottom up our fixed asset growth forecasts are higher than sales for 2013 and the resulting decline in asset turnover agrees with our top down utilization forecast. In 2014 however, our bottom up data suggests an improving asset turnover.

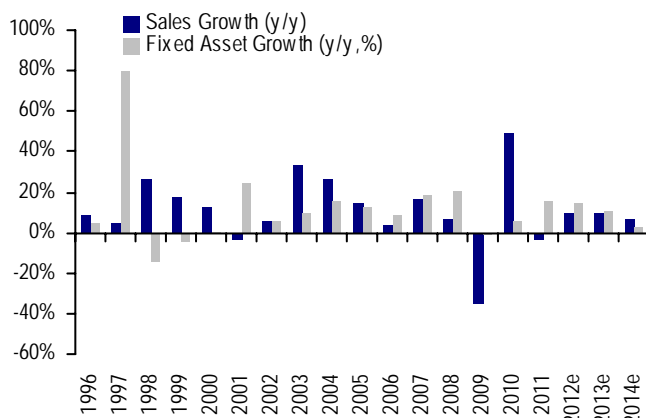
Risks to these forecasts include faster scrapping of orders, more aggressive consolidation among the shipyards and faster growth pickup.

Chart 124: Sales to Fixed Assets (UBS est.)



Source: UBS estimates

Chart 125: Container Shipping – Sales vs Fixed Asset growth



Source: UBS estimates

Table 18: Sales Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Evergreen Marine	TW	Buy	32.6%	Eric Lin	-16.9%	23.1%	56.7%	25.8%	11.9%	5.3%	-4.4%	-7.2%	-39.4%	39.9%	6.0%	12.4%	9.9%	4.1%
Orient Overseas (International) Limited	HK	Buy	7.6%	Richard Wei, CFA	-0.7%	3.3%	31.9%	27.7%	13.4%	-1.8%	22.6%	15.6%	-33.4%	38.7%	-0.4%	10.0%	7.9%	7.5%
Neptune Orient Lines	SG	Neutral	4.8%	Eric Lin	1.4%	-2.0%	19.0%	18.5%	11.1%	-0.1%	12.3%	13.8%	-29.8%	44.6%	-2.2%	2.0%	10.8%	8.5%
China Shipping Container Lines	CN	Neutral	-5.8%	Richard Wei, CFA		35.0%	45.2%	46.4%	28.2%	10.5%	33.5%	-2.0%	-42.2%	78.0%	-15.0%	22.2%	10.3%	7.5%
Yang Ming Marine	TW	Neutral	-10.1%	Eric Lin	-5.8%	-1.5%	36.1%	25.7%	14.7%	8.3%	23.5%	7.4%	-38.5%	54.0%	-2.7%	9.6%	11.2%	4.5%

Table 19: Fixed Asset Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Evergreen Marine	TW	Buy	32.6%	Eric Lin	4.8%	22.4%	120.1%	-6.8%	3.5%	1.4%	6.7%	-6.4%	-5.7%	14.0%	18.2%	34.0%	25.1%	12.0%
Orient Overseas (International) Limited	HK	Buy	7.6%	Richard Wei, CFA						7.1%	20.7%	12.8%	0.5%	1.6%	8.9%	10.1%	21.9%	0.8%
Neptune Orient Lines	SG	Neutral	4.8%	Eric Lin	24.7%	1.7%	-27.4%	0.8%	-2.5%	-3.0%	28.3%	29.5%	-3.7%	5.2%	29.7%	13.5%	13.1%	2.1%
China Shipping Container Lines	CN	Neutral	-5.8%	Richard Wei, CFA		35.0%	68.3%	67.2%	40.2%	16.8%	18.2%	38.0%	-0.7%	5.1%	15.1%	8.6%	-0.9%	-3.2%
Yang Ming Marine	TW	Neutral	-10.1%	Eric Lin	40.7%	-6.3%	3.5%	33.1%	11.2%	25.9%	17.5%	11.9%	0.5%	5.6%	6.5%	21.6%	-0.7%	5.2%

Source: UBS estimates

Table 20: Asset Turnover

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Evergreen Marine	TW	Buy	32.6%	Eric Lin	3.18	2.52	2.54	1.81	2.44	2.64	2.74	2.46	2.43	1.56	1.92	1.72	1.44	1.27
Orient Overseas (International) Limited	HK	Buy	7.6%	Richard Wei, CFA						1.81	1.66	1.69	1.73	1.15	1.56	1.43	1.43	1.26
Neptune Orient Lines	SG	Neutral	4.8%	Eric Lin	1.87	1.52	1.46	2.40	2.82	3.22	3.31	2.90	2.55	1.86	2.55	1.92	1.73	1.69
China Shipping Container Lines	CN	Neutral	-5.8%	Richard Wei, CFA		1.95	1.95	1.68	1.47	1.35	1.27	1.44	1.02	0.59	1.01	0.74	0.84	0.93
Yang Ming Marine	TW	Neutral	-10.1%	Eric Lin	2.38	1.59	1.67	2.20	2.08	2.14	1.84	1.94	1.86	1.14	1.66	1.52	1.37	1.53

Source: UBS estimates

Steel

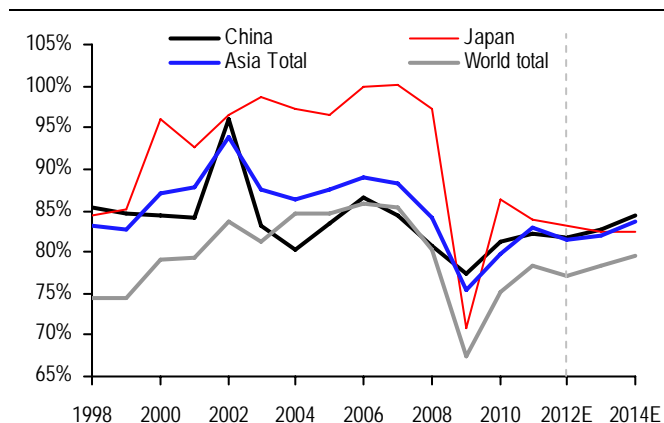
Where is capacity utilization today?

Utilization rates remain low today in the Steel industry globally. They have fallen from an average of 84% in 2002-07 to around 74% in 2009-12. In China, they have come down from 86% to 81% over the same period.

Capacity utilization is low today despite the fact that capacity has largely risen in line with production over the last decade or so. For example, in China, capacity has risen a little over 6x since 1998 which is also how much production has increased by. It is the slowdown in demand, something that is likely to persist in near future, which is the main driver for the low utilization rates today.

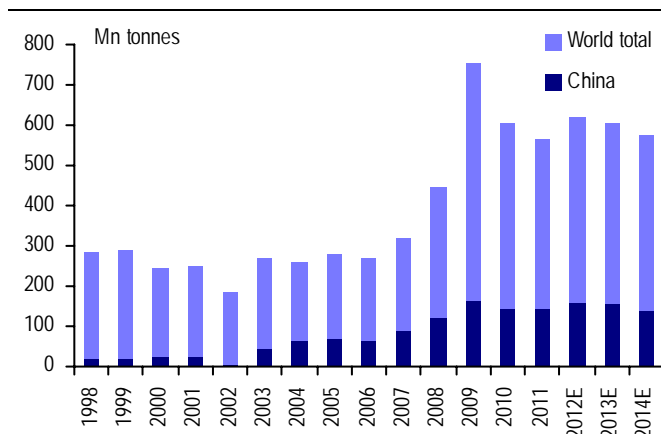
Turning to volumes, global crude steel capacity came to a little over 1bn tonnes in 2000, expanding to more than 2bn tonnes by 2012. Of this additional capacity, around 750m is from China. That makes china account for more than half of global capacity today. Current production is around 1.5bn tonnes leading to an output gap of about 500m tonnes (i.e. production lower than the global capacity). Around a third of this output gap is in China and about half in Asia overall (chart 127).

Chart 126: Utilization rates – Production/ Capacity (Mn Tonnes)



Source: UBS estimates

Chart 127: Supply-demand gap (Capacity less Production, Mn tonnes)



Source: UBS estimates

Implied Supply Growth (Capacity Growth)

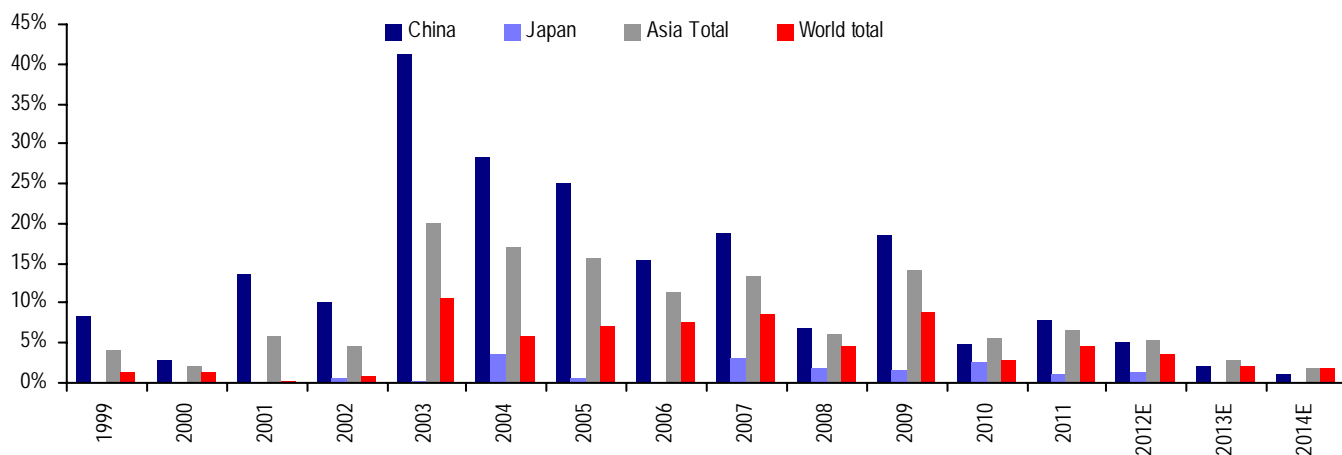
There are some moves to permanently idle production facilities, including in Europe, but production facilities continue to expand, mainly in China and India. In China, the idling of smaller companies in accordance with government policy is accompanied by the construction of larger ones, so in many cases capacity is expanding, although not very fast.

Capacity growth rates in the next two years in China are forecast to be 1.9% and 1% respectively. These growth rates are the lowest since our data starts in 1999, and significantly lower than the average (~15%). However, capacity is expected to come through at faster rates in the rest of Asia - 7.2% and 5.4% respectively in 2013/14. Overall growth rates are expected to remain low globally, at 2.1%

and 1.7% for the next two years, compared to an average of around 5% over the last 14 years.

Our team expects the new flat steel capacities in Korea, Indonesia, Taiwan and India in CY2013 will raise exports (India to swing to net exports) and weaken Asia flat market in 2014. They also see gradual improvement from 2015 as limited capacity additions raise global utilization rate to mid-80% where mills' pricing power tends to improve (*"Outlook: Unexciting 2013, worrying 2014"* dated 10th December 2014).

Chart 128: Implied supply growth (y/y)

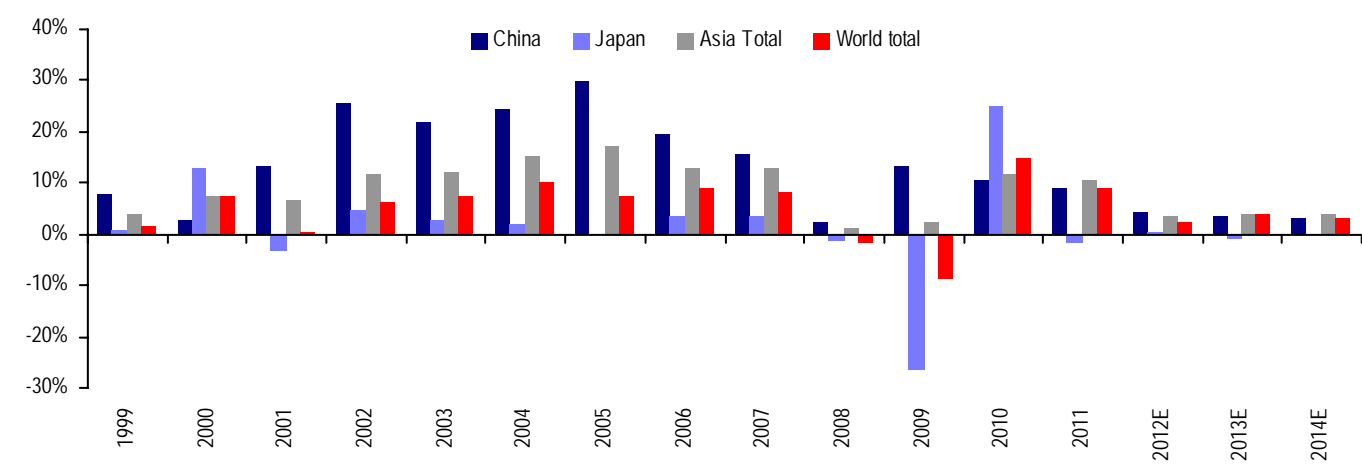


Source: UBS estimates

Implied Demand Growth

Production (or implied demand) is forecast to grow on average at 3.1% in the next two years in China, slightly lower than the global average of 3.3%. In China, this growth rate is only a little higher than what was seen during the Global Financial crisis in 2008 - 2.3%. Globally it is not uncommon to see negative growth rates, as was the case in both of 08 & 09. The average growth rate in China has been around 15% historically. In Japan demand is forecast to decline while it is expected to grow by 7% in the rest of Asia on average in the next two years. Compared to our economic global GDP growth forecasts of 3% for next year, these growth rates do not look over-optimistic to us, more so given the reduced steel-intensity of the projected Chinese growth in future.

Chart 129: Implied demand growth (y/y)



Source: UBS estimates

What does this mean for Capacity Utilization and Asset Turnover?

Capacity Utilization

Top down utilization rates in China (chart 126) are forecast to improve in the next couple of years, given demand is forecast to grow slightly faster than capacity (3.1% vs 1.5% on average). This is expected to take the utilization levels back to 84% by the end of 2014, the average since 2002. On the other hand, to touch the lowest utilization levels over the last decade (77%), demand will need to fall by 2.5% each of the next two years.

For Japan, even with the current forecasts of no capacity additions over the next few years, it will take 18% growth in production (i.e. demand) to take capacity utilization back to a level of 98%, the Japanese average in the early part of last decade, from the current level of 83%. On the flip side, to take utilization back to 71%, the low during the Global Financial Crisis, production will need to drop by 15% in the next two years.

For Asia, our top down forecasts suggest a slight improvement in utilization in the next couple of years (81% to 83%). However to take it back to a level of 88% (average 2002-08), production needs to grow a total of 14% over the next two years given the current capacity forecasts. This is almost double the level of growth current production forecasts suggest. To take utilization back to 75%, the low during the Global Financial Crisis, production will need to fall by 3% over the next two years.

Overall, it appears, and quite counter-intuitively so, that the overcapacity problem in the Chinese steel industry is probably not going to be as severe as in the rest of the region. With some serious capacity discipline (which is being implied by the forecasts today) and modestly strong demand growth, utilization levels should reach close to the normal average levels in China. It would take at least doubling the level of demand growth in the rest of the region to achieve that.

A major caveat to our conclusions is the unpredictability of the supply discipline, particularly in China given its share in the market. This is what makes us (and our Steel analysts) a bit nervous in relying too heavily on the forecasts for Chinese output and supply for the coming years.

Asset Turnover

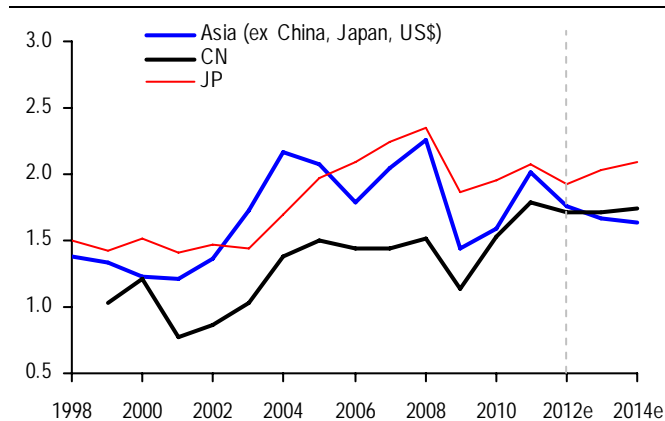
While asset turnovers are to a very large part driven by the capacity utilization, they are obviously also affected by pricing. In turn pricing is generally positively correlated with capacity utilization, thus further exaggerating the impact of utilization on asset turns.

Bottom up, in China, our analysts are forecasting negative year-on-year growth in fixed assets (for the companies under UBS coverage) and about 1.5% growth in revenues from 2012-14e. This suggests marginally improving asset turns (bottom up). For the overall region, we expect a slight deterioration given the heavy capacity expected to come in East Asia (please see *“Prices likely to oscillate in their low range near term; our key concern is 2014”* dated 4th December 2012).

The asset turn improvement in China could be a reflection of moderate improvement in utilizations which we discussed earlier but could also be based on higher steel prices. Our analysts see upside to steel prices in the first half of 2013 though that they also think that this could be short lived.

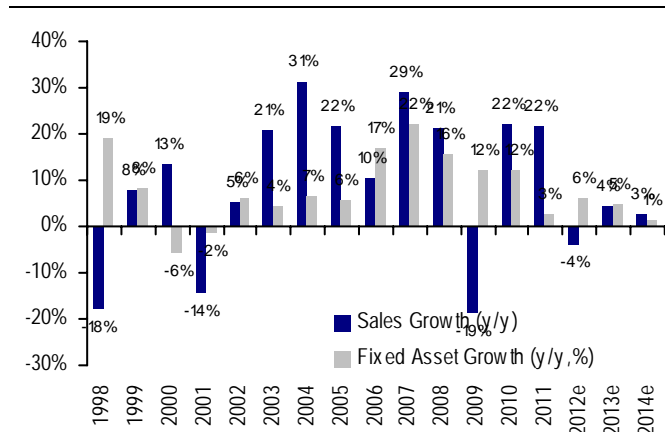
Given that our asset turn forecasts are largely being driven by our capacity forecasts rather than aggressive assumptions for pricing or demand, we find them quite reasonable and sensible – because capacity forecasts are more likely to be accurate than demand which can be quite volatile.

Chart 130: Asset Turnover (sales/fixed assets, US\$ and local currency)



Source: UBS estimates

Chart 131: Sales and Fixed Asset Growth (y/y, Asia ex Japan, US\$)



Source: UBS estimates

Table 21: Sales Growth (% y/y)

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Pangang Group Steel Vanadium & Titanium	CN	Buy	113.6%	Janet Sun									38.7%	13.3%	27.5%	-62.7%	39.7%	11.0%
Baosteel	CN	Buy	67.7%	Hubert Tang, CFA	-5.7%	16.1%	30.2%	32.0%	118.5%	31.9%	23.4%	14.7%	-24.5%	37.7%	15.4%	-4.9%	-4.0%	-0.5%
Xinjiang Ba Yi Iron & Steel	CN	Buy	34.9%	Janet Sun							50.6%	71.6%	-16.4%	45.1%	23.7%	9.0%	3.7%	2.4%
POSCO	KR	Buy	27.5%	Yong-Suk Son, CFA	-16.5%	13.4%	29.4%	40.3%	22.6%	5.4%	25.6%	13.8%	-24.9%	42.7%	50.3%	-5.8%	8.4%	3.6%
Nippon Steel&Sumitomo Metal	JP	Buy	9.5%	Atsushi Yamaguchi	-14.8%	0.3%	14.9%	21.6%	13.3%	5.4%	10.5%	16.2%	-12.2%	10.9%	13.7%	15.2%	-0.2%	-0.1%
JSW Steel	IN	Buy	8.3%	Sandip Bansal				93.9%	11.6%	22.5%	59.4%	23.8%	8.6%	31.4%	36.4%	-1.1%	27.1%	10.2%
Hyundai Steel	KR	Buy	8.2%	Yong-Suk Son, CFA	8.8%	17.5%	17.6%	44.1%	10.5%	16.6%	37.6%	17.7%	-35.1%	30.8%	55.6%	-9.2%	6.3%	7.0%
Tata Steel Ltd.	IN	Buy	2.7%	Sandip Bansal	-16.5%	16.3%	32.9%	39.5%	15.7%	52.6%	420.9%	27.8%	-29.2%	7.0%	10.7%	-11.1%	1.5%	1.5%
Aichi Steel	JP	Buy	-10.7%	Katsuya Takeuchi	-15.6%	0.6%	16.6%	19.2%	17.6%	2.8%	5.7%	5.3%	-10.6%	17.7%	20.1%	-4.1%	-6.6%	4.7%
Wuhan Steel	CN	Neutral	-2.5%	Hubert Tang, CFA	-8.6%	6.4%	0.7%	254.3%	70.6%	8.1%	32.3%	48.4%	-25.3%	63.4%	21.8%	-8.1%	-0.5%	-1.9%
Maanshan Iron & Steel	CN	Neutral	-14.9%	Hubert Tang, CFA	16.7%	14.7%	43.7%	70.1%	21.1%	9.9%	49.8%	56.2%	-26.8%	29.6%	40.2%	-6.1%	3.3%	4.3%
Sanyo Special Steel	JP	Neutral	-15.3%	Katsuya Takeuchi	-24.5%	-0.5%	16.3%	28.1%	21.8%	4.1%	14.1%	15.6%	-24.5%	36.7%	28.8%	-8.8%	-10.3%	3.0%
JFE Holdings	JP	Neutral	-17.6%	Atsushi Yamaguchi				18.3%	9.2%	0.8%	6.5%	25.6%	-10.1%	6.6%	12.2%	-0.2%	8.2%	4.0%
Lingyuan Iron & Steel	CN	Neutral	-17.9%	Janet Sun							23.5%	38.4%	5.7%	36.6%	16.5%	-7.3%	9.9%	0.1%
Daido Steel	JP	Neutral	-24.0%	Katsuya Takeuchi	-18.8%	-2.9%	14.9%	22.3%	11.1%	3.6%	10.9%	8.7%	-18.3%	17.3%	19.7%	-7.1%	-3.8%	8.3%
Kobe Steel	JP	Neutral	-26.6%	Atsushi Yamaguchi	-17.9%	-6.0%	9.1%	22.2%	14.0%	8.7%	11.0%	19.0%	-8.4%	7.6%	13.0%	-4.1%	-8.5%	1.1%
Tokyo Steel	JP	Neutral	-37.6%	Katsuya Takeuchi	-24.0%	19.8%	31.0%	54.7%	-0.1%	-8.3%	11.8%	30.7%	-39.2%	-0.8%	29.0%	-7.3%	14.1%	11.9%
Angang Steel	CN	Neutral (CBE)	-18.7%	Hubert Tang, CFA	-3.1%	13.5%	34.8%	60.1%	15.1%	109.9%	25.5%	32.4%	-8.9%	32.8%	2.6%	-2.3%	1.2%	-1.5%
China Steel	TW	Sell	-13.0%	Yong-Suk Son, CFA	-14.9%	23.0%	26.0%	35.3%	53.7%	-3.2%	17.6%	21.5%	-37.8%	46.2%	22.7%	-9.0%	3.7%	1.2%
Steel Authority of India	IN	Sell	-13.6%	Sandip Bansal			30.5%	36.6%	4.4%	10.2%	28.7%	5.2%	-13.4%	7.9%	5.1%	-10.9%	9.7%	17.0%
Dongkuk Steel Mill	KR	Sell	-23.4%	Yong-Suk Son, CFA	-15.3%	3.5%	29.0%	40.1%	17.6%	4.6%	16.8%	28.7%	-29.3%	27.4%	13.2%	-11.5%	1.8%	-8.3%

Table 22: Fixed Asset Growth (y/y)

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Pangang Group Steel Vanadium & Titanium	CN	Buy	113.6%	Janet Sun									106.7	16.0	-64.6	9.0	5.1	2.8
Baosteel	CN	Buy	67.7%	Hubert Tang, CFA	85.4	-1.0	-1.0	-2.4	90.8	2.3	35.0	20.4	2.9	2.2	8.8	-17.5	1.0	0.2
Xinjiang Ba Yi Iron & Steel	CN	Buy	34.9%	Janet Sun							5.7	36.9	9.8	3.0	14.5	8.5	4.2	3.6
POSCO	KR	Buy	27.5%	Yong-Suk Son, CFA	-2.0	7.4	-5.2	22.2	21.2	28.8	5.7	-13.8	33.6	18.5	8.1	19.2	7.8	7.2
Nippon Steel&Sumitomo Metal	JP	Buy	9.5%	Atsushi Yamaguchi	-12.3	7.9	7.1	2.0	-12.3	4.1	8.9	25.9	0.3	11.2	4.0	22.3	7.5	-1.3
JSW Steel	IN	Buy	8.3%	Sandip Bansal				20.2	24.3	26.0	109.1	16.8	13.0	13.7	-6.0	5.2	21.9	4.8
Hyundai Steel	KR	Buy	8.2%	Yong-Suk Son, CFA	-3.8	0.2	-7.6	40.8	7.1	25.5	15.7	8.8	78.7	22.8	5.8	21.5	6.7	0.6
Tata Steel Ltd.	IN	Buy	2.7%	Sandip Bansal	-2.8	0.6	8.5	18.6	6.2	38.4	199.5	3.0	7.2	11.4	1.7	11.6	14.0	12.0
Aichi Steel	JP	Buy	-10.7%	Katsuya Takeuchi	-17.6	4.7	10.1	1.5	0.9	18.2	6.9	20.1	-7.9	18.0	3.3	-11.0	0.9	2.0
Wuhan Steel	CN	Neutral	-2.5%	Hubert Tang, CFA	13.8	-1.1	23.0	405.6	29.8	54.8	43.7	22.6	3.5	6.7	18.2	-0.1	-3.6	-4.8
Maanshan Iron & Steel	CN	Neutral	-14.9%	Hubert Tang, CFA	-0.6	11.1	38.7	17.9	31.6	58.0	21.3	3.5	-7.2	-10.8	8.1	0.9	-1.4	-3.3
Sanyo Special Steel	JP	Neutral	-15.3%	Katsuya Takeuchi	-12.8	8.5	8.0	-1.1	-8.3	1.7	5.4	23.2	1.3	16.4	15.0	-4.3	1.1	0.0
JFE Holdings	JP	Neutral	-17.6%	Atsushi Yamaguchi				-4.2	-14.2	-1.9	6.0	25.8	-3.7	8.3	0.6	-10.8	1.5	0.6
Lingyuan Iron & Steel	CN	Neutral	-17.9%	Janet Sun							24.1	161.7	9.6	17.0	23.1	6.3	-0.2	1.6
Daido Steel	JP	Neutral	-24.0%	Katsuya Takeuchi	-12.6	10.7	10.7	-1.0	-11.9	2.6	13.9	25.7	-6.3	7.6	4.4	-7.7	5.4	2.4
Kobe Steel	JP	Neutral	-26.6%	Atsushi Yamaguchi	-9.1	5.7	11.1	0.5	-12.7	2.0	7.9	20.8	-3.5	9.9	1.6	-10.2	-1.8	-2.3
Tokyo Steel	JP	Neutral	-37.6%	Katsuya Takeuchi	-21.1	-1.0	3.0	0.0	-2.5	50.1	22.4	51.4	45.6	24.7	0.8	-15.4	-6.8	-7.3
Angang Steel	CN	Neutral (CBE)	-18.7%	Hubert Tang, CFA	15.7	24.2	15.5	-0.8	26.2	354.4	30.8	33.4	7.5	9.5	3.4	0.0	-2.0	-2.4
China Steel	TW	Sell	-13.0%	Yong-Suk Son, CFA	-3.6	7.0	-4.7	3.7	30.5	7.5	14.7	36.7	22.7	28.5	5.2	12.3	2.7	0.4
Steel Authority of India	IN	Sell	-13.6%	Sandip Bansal			-0.2	-0.2	-5.3	3.1	23.0	4.0	51.6	37.0	3.1	18.6	15.7	-0.5
Dongkuk Steel Mill	KR	Sell	-23.4%	Yong-Suk Son, CFA	-2.4	8.0	1.0	15.6	4.9	11.8	-1.8	-10.4	46.8	8.5	-0.7	11.2	2.0	2.0

Table 23: Asset Turnover

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Pangang Group Steel Vanadium & Titanium	CN	Buy	113.6%	Janet Sun									1.67	1.12	1.09	3.94	1.35	1.79
Baosteel	CN	Buy	67.7%	Hubert Tang, CFA	1.14	0.58	0.68	0.90	1.21	1.39	1.79	1.64	1.56	1.14	1.54	1.64	1.88	1.79
Xinjiang Ba Yi Iron & Steel	CN	Buy	34.9%	Janet Sun							1.61	2.29	2.87	2.18	3.08	3.32	3.34	3.32
POSCO	KR	Buy	27.5%	Yong-Suk Son, CFA	1.47	1.26	1.33	1.81	2.08	2.10	1.72	2.04	2.70	1.52	1.82	2.54	2.01	2.02
Nippon Steel & Sumitomo Metal	JP	Buy	9.5%	Atsushi Yamaguchi	1.63	1.58	1.47	1.58	1.88	2.43	2.46	2.49	2.30	2.01	2.01	2.20	2.07	1.92
JSW Steel	IN	Buy	8.3%	Sandip Bansal				0.57	0.91	0.82	0.80	0.61	0.64	0.62	0.72	1.04	0.98	1.02
Hyundai Steel	KR	Buy	8.2%	Yong-Suk Son, CFA	1.04	1.17	1.38	1.75	1.79	1.85	1.72	2.04	2.21	0.80	0.86	1.26	0.94	0.94
Tata Steel Ltd.	IN	Buy	2.7%	Sandip Bansal	0.97	0.84	0.97	1.18	1.39	1.52	1.67	2.91	3.61	2.38	2.29	2.49	1.99	1.77
Aichi Steel	JP	Buy	-10.7%	Katsuya Takeuchi	2.08	2.13	2.05	2.17	2.55	2.97	2.58	2.55	2.24	2.18	2.17	2.53	2.72	2.52
Wuhan Steel	CN	Neutral	-2.5%	Hubert Tang, CFA	2.54	2.04	2.19	1.79	1.26	1.65	1.15	1.06	1.29	0.93	1.42	1.46	1.34	1.39
Maanshan Iron & Steel	CN	Neutral	-14.9%	Hubert Tang, CFA	0.70	0.82	0.85	0.88	1.27	1.17	0.81	1.01	1.52	1.20	1.74	2.26	2.10	2.20
Sanyo Special Steel	JP	Neutral	-15.3%	Katsuya Takeuchi	1.71	1.48	1.36	1.46	1.90	2.52	2.57	2.79	2.61	1.95	2.29	2.57	2.44	2.17
JFE Holdings	JP	Neutral	-17.6%	Atsushi Yamaguchi				1.12	1.38	1.76	1.81	1.82	1.81	1.69	1.67	1.86	2.08	2.22
Lingyuan Iron & Steel	CN	Neutral	-17.9%	Janet Sun							5.81	5.78	3.06	2.95	3.44	3.25	2.84	3.13
Daido Steel	JP	Neutral	-24.0%	Katsuya Takeuchi	2.48	2.30	2.02	2.10	2.59	3.27	3.30	3.21	2.78	2.42	2.64	3.03	3.05	2.78
Kobe Steel	JP	Neutral	-26.6%	Atsushi Yamaguchi	1.42	1.29	1.14	1.12	1.37	1.78	1.90	1.96	1.93	1.83	1.79	1.99	2.13	1.98
Tokyo Steel	JP	Neutral	-37.6%	Katsuya Takeuchi	1.57	1.51	1.82	2.32	3.58	3.67	2.24	2.05	1.77	0.74	0.59	0.75	0.82	1.01
Angang Steel	CN	Neutral (CBE)	-18.7%	Hubert Tang, CFA	2.14	1.79	1.64	1.91	3.08	2.81	1.30	1.25	1.24	1.05	1.27	1.26	1.23	1.27
China Steel	TW	Sell	-13.0%	Yong-Suk Son, CFA	0.90	0.80	0.92	1.21	1.58	1.86	1.67	1.72	1.53	0.77	0.88	1.03	0.83	0.84
Steel Authority of India	IN	Sell	-13.6%	Sandip Bansal			1.13	1.48	2.02	2.23	2.38	2.50	2.52	1.44	1.13	1.16	0.87	0.82
Dongkuk Steel Mill	KR	Sell	-23.4%	Yong-Suk Son, CFA	1.38	1.20	1.15	1.47	1.78	1.99	1.87	2.22	3.19	1.53	1.80	2.05	1.64	1.63

Source:

Cement

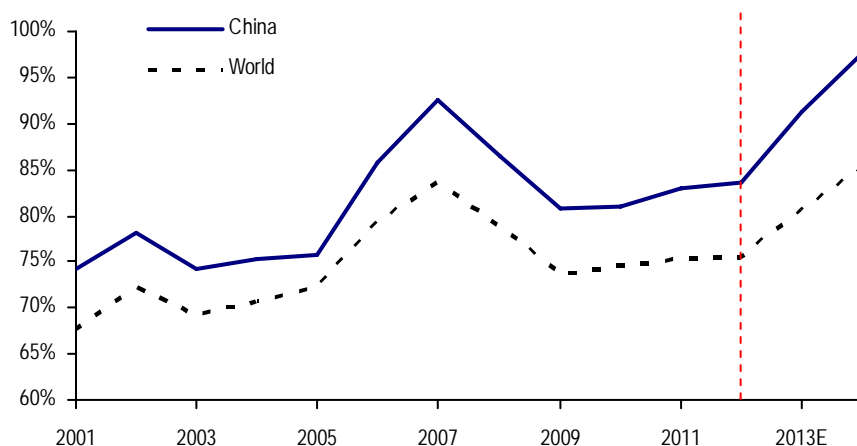
Where is capacity utilization today?

Although cement is not an easily transportable and therefore exportable item, and so regional analysis is not as valid as in the other sectors we have looked at which we consider tradable, we have included the sector here as like steel, it is a sector where there are considerable fears that there is overcapacity (especially in China).

Capacity utilisation in the cement industry has been steadily rising over the last decade or so. This is understandable given production growth has outpaced capacity addition over the same period both in China and globally. For example, in China, while capacity has tripled since 2001, production rose 3.5x.

In recent years however utilization rates have come down from their peak levels before the Global Financial Crisis. This is both due to the slowdown in demand but also to a large extent because of the massive increase in capacity after the Chinese stimulus package in 2009. As a result, utilization rates are down from close to 93% in 2007 to around 84% in China today.

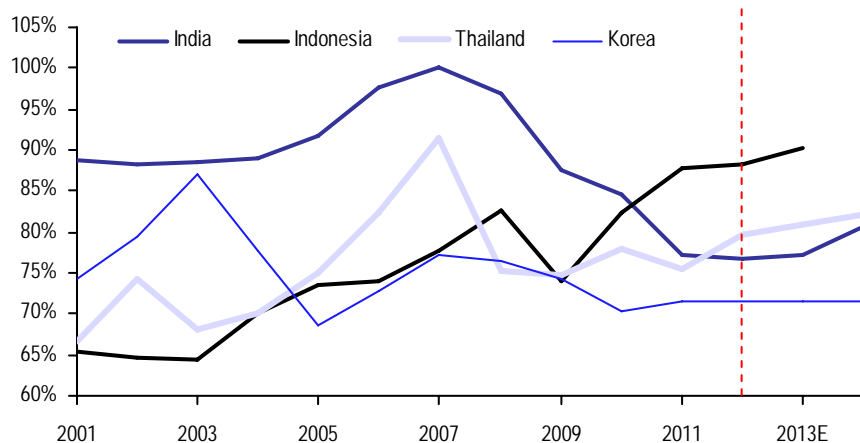
Chart 132: China and Global - Capacity Utilization (Production / Capacity, million metric tonnes)



Source: UBS estimates

Elsewhere in the region utilisation rates remain below the peak levels except in Indonesia.

Chart 133: Asia - Capacity Utilization (Production / Capacity, million metric tonnes)



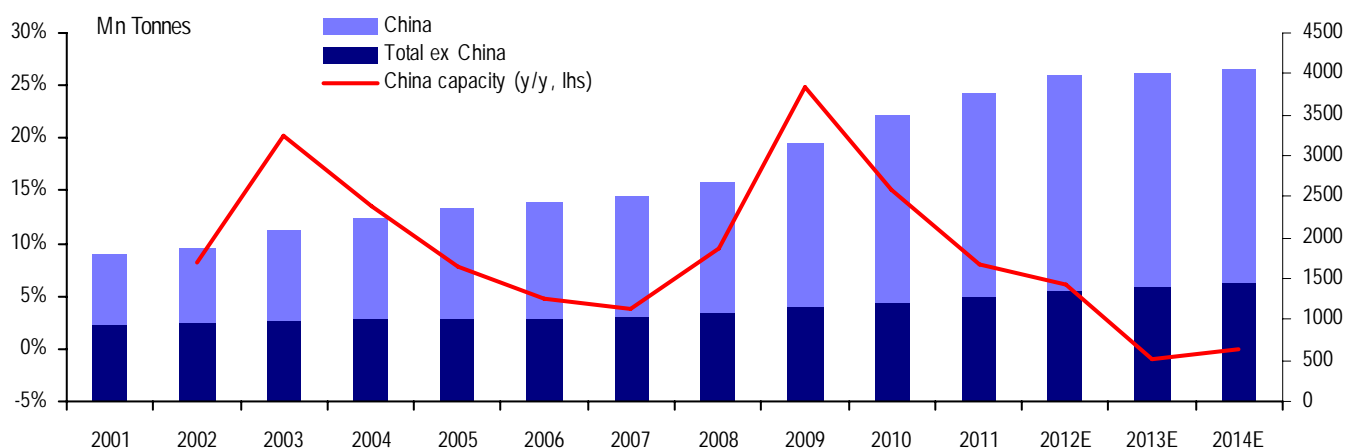
Source: UBS estimates

Capacity Growth (y/y, million metric tonnes)

Global cement capacity has more than doubled since 2001. In China, it has more than tripled over the same period. Of all the capacity added in the industry since 2001, China accounts for more than 80%. In overall capacity terms, China accounts for about two-thirds of the overall. As of 2011, China had more than 2bn tonnes of cement production capacity installed.

Growth rates in China have however dropped significantly from much higher levels in 2007-08 when almost a quarter of the existing capacity was being added in a year at the peak. Capacity reduction is likely to be more aggressive in the coming years. Our team expects a reduction in the overall capacity in 2013 and no addition the year after. Capacity is however expected to keep coming in the rest of the world albeit at a slower pace.

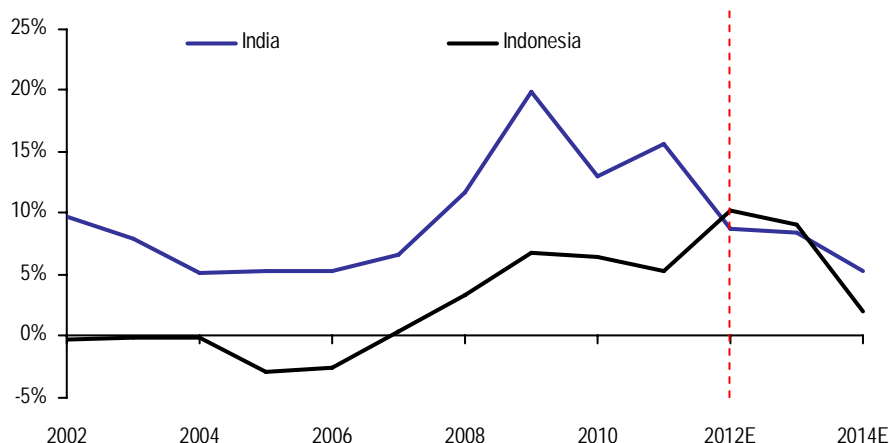
Chart 134: Global and China - Capacity Growth (y/y, %)



Source: UBS estimates

Similar to China, capacity growth is expected to be restrained in other major cement producing countries in the region – India and Indonesia (chart 135). There haven't been any significant additions to capacity in Thailand and Korea for the last few years and our analysts expect that to continue in the near future.

Chart 135: Asia - Capacity Growth (y/y, %)

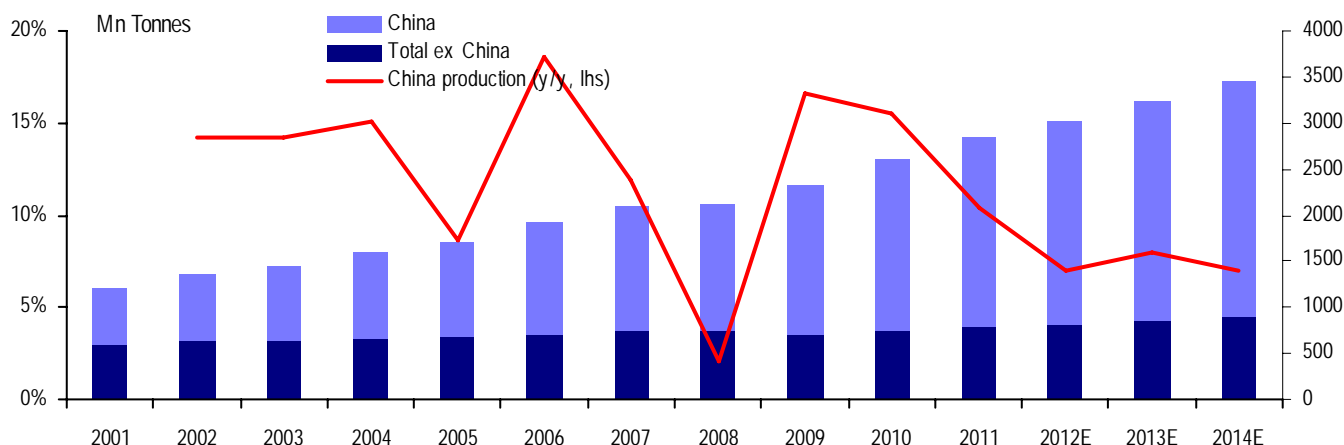


Source: UBS estimates

Demand Growth (*Production, y/y, million metric tonnes*)

A contributing factor to the improvement in the utilization rates around the middle of last decade was the strong surge in cement production, especially in China because of the demand from the strength in construction activity. After a drop during the Global Financial Crisis, production surged again after the Chinese stimulus package in 2009 but has since moderated. Based on our team's estimates, cement production is likely to grow by 7% in 2012 and slightly higher on average in the next two years. This compares to an average growth rate of around 12% over the last 10 years or so.

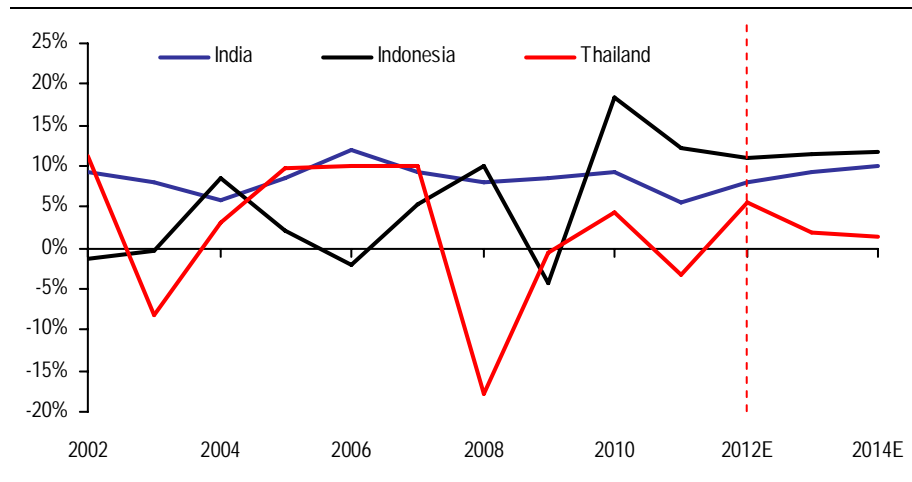
Chart 136: Global and China - Production growth (y/y, %)



Source: UBS estimates

In other parts of Asia, production growth is forecast to remain strong, particularly in India and Indonesia, but below trend in Thailand.

Chart 137: Asia - Production growth (y/y, %)



Source: UBS estimates

What does this mean for Capacity Utilization and Asset Turnover?

Capacity Utilization

Based on our team's forecasts, production should continue to grow at a moderate pace in the next two years and capacity will either be reduced or not grow. This should lead to higher utilization levels. We expect them to improve from 84% in 2012 to about 91% next year and 98% in 2014 in China. Broadly with supply discipline over the next couple of years and demand not collapsing, the Chinese cement industry appears to be in a position to cope with the over capacity problem plaguing the industry's prospects today.

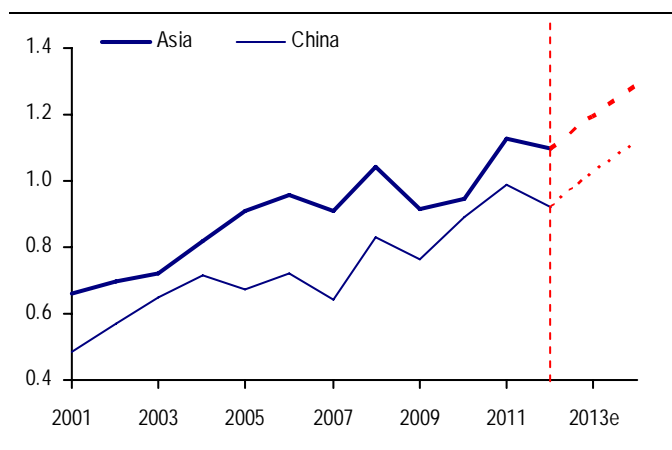
Our top down forecasts also suggest moderately improving trends in Thailand, Indonesia and India, and no improvement in Korea.

Asset Turnover

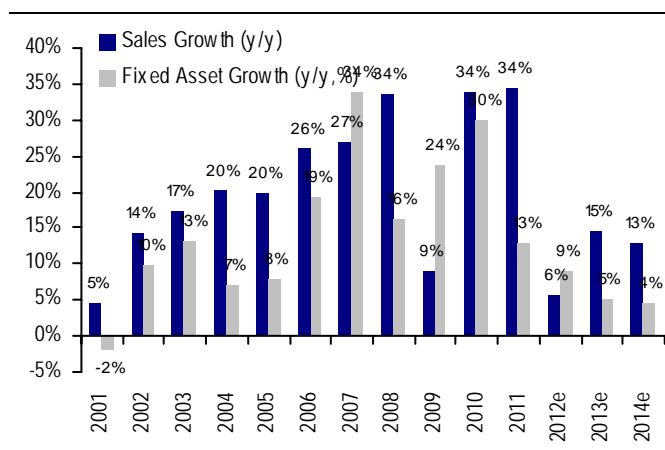
Asset turnovers are similarly expected to pickup in the next couple of years even in the absence of a strong support from pricing. Prices are expected to be stable in the near term (2-3 months) and potentially rise in 2013. Continuing supply discipline and progress in industry consolidation should help in this (*"Maturing market, maturing companies"* dated 7th December 2012).

Both our top down and bottom up forecasts suggest a strong improvement in utilisation and asset turnovers in China respectively, and given its share, also in the overall Asian and Global trends. These trends might look a bit over-optimistic but nevertheless suggest a better chance of improvement than deterioration in 2013 if supply discipline continues.

If our bottom-up capacity forecasts are correct, that is 5% fixed assets growth in 2013e, for asset turns to not improve next year, revenue growth will have to equal that as opposed to our current forecasts of 14.6%. This will imply no improvement in the growth rate from 2012. From a top down perspective production will have to decline by 1% in 2013 (as opposed to our forecasts of a rise of 8%) for the utilization rate to stay the same as 2012.

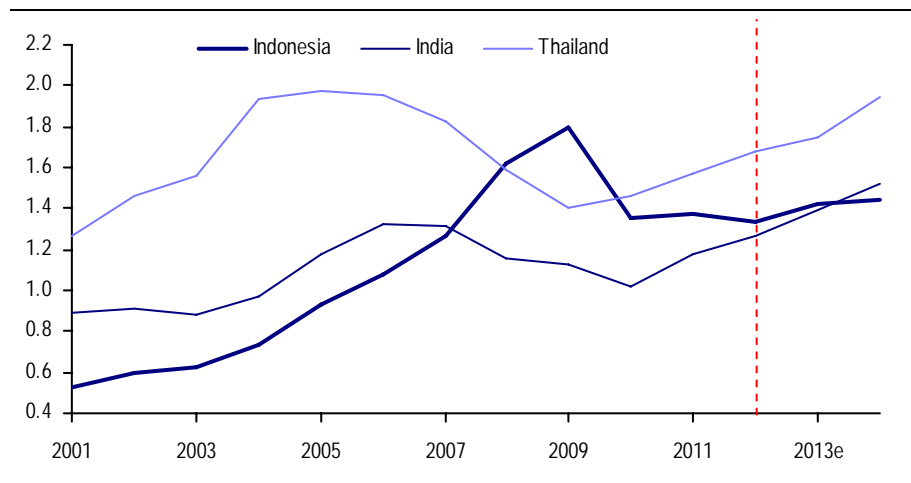
Chart 138: Asia overall & China - Asset Turnover - Sales to Fixed Assets (UBS est.)

Source: UBS estimates

Chart 139: Sales and FAI growth (y/y)

Source: UBS estimates

Our bottom-up forecasts suggest a similar improvement in asset turnovers in the rest of Asia, for example, in India and Thailand, and to a lesser degree in Indonesia.

Chart 140: Asia - Asset Turnover - Sales to Fixed Assets (UBS est.)

Source: UBS estimates

Table 24: Sales Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Jiangxi Wannianqing Cement	CN	Buy	23.9%	Mick Mi			48.6%	14.2%	-1.3%	28.8%	62.7%	66.6%	51.9%	35.5%	53.8%	-7.5%	9.1%	8.3%
Indocement	ID	Buy	23.4%	Felicia Tandiyono	15.3%	25.4%	14.2%	6.6%	11.5%	19.7%	16.1%	27.1%	0.4%	19.8%	28.9%	19.7%	14.0%	16.9%
Tangshan Jidong Cement	CN	Buy	23.2%	Mick Mi			28.1%	28.8%	27.2%	29.6%	24.7%	44.4%	55.6%	59.8%	48.9%	13.0%	10.5%	8.8%
Semen Gresik	ID	Buy	14.2%	Felicia Tandiyono	5.9%	21.8%	14.2%	6.9%	14.2%	22.6%	10.3%	21.0%	9.4%	13.4%	18.0%	9.6%	18.2%	17.6%
Anhui Conch Cement	CN	Buy	9.2%	Mick Mi	54.4%	46.8%	89.8%	49.0%	28.9%	52.8%	22.3%	41.2%	4.9%	39.3%	47.7%	2.1%	21.8%	15.9%
Taiwan Cement	TW	Buy	8.0%	Ally Chen	4.1%	18.9%	-0.4%	2.2%	8.2%	2.0%	-6.7%	2.9%	-17.8%	10.8%	16.6%	2.3%	4.5%	4.3%
Huaxin Cement - A	CN	Buy	4.8%	Mick Mi			48.4%	84.1%	21.9%	38.6%	40.5%	45.7%	10.6%	23.8%	56.3%	3.1%	13.1%	5.9%
Holcim Indonesia	ID	Neutral	15.5%	Felicia Tandiyono	-1.1%	20.3%	22.7%	1.5%	17.2%	5.0%	25.8%	21.8%	14.9%	14.1%	30.5%	10.3%	10.4%	17.1%
Lafarge Malayan Cement	MY	Neutral	6.0%	Khairul Rifaie	5.1%	1.0%	4.4%	0.8%	6.3%	15.0%	11.6%	20.3%	-7.3%	2.5%	15.5%	10.2%	9.5%	6.2%
Asia Cement	TW	Neutral	-3.6%	Ally Chen	-15.6%	9.4%	-13.7%	12.1%	7.2%	-0.7%	-1.6%	2.1%	-6.3%	-0.9%	19.4%	10.2%	7.3%	1.2%
India Cements	IN	Sell	-11.9%	Varun Ahuja, CFA	-17.1%	-19.5%	14.1%	18.6%	31.9%	39.8%	51.3%	9.2%	-1.4%	3.8%	16.7%	3.7%	15.7%	8.1%
ACC Limited	IN	Sell	-22.4%	Varun Ahuja, CFA	4.3%	4.2%	19.7%	24.4%	10.6%	27.5%	32.3%	3.9%	-0.9%	2.5%	19.4%	1.3%	9.8%	10.0%
Ambuja Cements Limited	IN	Sell	-28.1%	Varun Ahuja, CFA	19.6%	26.8%	22.9%	22.8%	36.5%	13.0%	47.3%	5.0%	1.2%	10.4%	13.4%	7.9%	15.4%	17.0%
UltraTech Cement	IN	Sell	-43.6%	Varun Ahuja, CFA					27.0%	38.6%	31.7%	9.9%	-0.5%	81.6%	44.1%	4.0%	14.9%	14.3%
Siam City Cement	TH	Suspended		Piyanan Panichkul	0.6%	9.4%	7.5%	22.7%	7.7%	12.2%	13.2%	-8.5%	-10.0%	13.8%	14.7%	6.5%	7.1%	11.8%

Source: UBS estimates

Table 25: Fixed Asset Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Jiangxi Wannianqing Cement	CN	Buy	23.9%	Mick Mi			83.0%	16.1%	-3.7%	52.5%	2.4%	44.5%	54.0%	32.6%	10.0%	3.9%	2.0%	1.2%
Indocement	ID	Buy	23.4%	Felicia Tandiyono	-6.5%	13.7%	1.3%	-13.5%	-5.0%	7.6%	-5.5%	-13.6%	18.3%	3.4%	-0.8%	28.7%	-2.5%	65.1%
Tangshan Jidong Cement	CN	Buy	23.2%	Mick Mi			37.0%	30.8%	27.4%	5.5%	6.6%	14.9%	109.7%	52.8%	43.3%	12.5%	4.7%	1.7%
Semen Gresik	ID	Buy	14.2%	Felicia Tandiyono	-11.4%	-26.3%	44.4%	-16.3%	-11.8%	1.1%	-6.1%	-8.1%	40.3%	99.1%	51.9%	25.6%	10.9%	-2.0%
Anhui Conch Cement	CN	Buy	9.2%	Mick Mi	33.2%	69.8%	37.6%	21.1%	32.1%	21.7%	33.5%	25.9%	24.7%	28.8%	24.6%	10.0%	4.8%	4.2%
Taiwan Cement	TW	Buy	8.0%	Ally Chen	-3.9%	-2.8%	-1.0%	2.3%	-9.0%	-3.3%	-3.9%	-4.8%	-2.2%	3.1%	-7.1%	-1.1%	-4.0%	-4.3%
Huaxin Cement - A	CN	Buy	4.8%	Mick Mi			22.0%	73.9%	30.6%	20.6%	28.2%	10.4%	26.9%	52.6%	19.4%	6.9%	4.5%	2.0%
Holcim Indonesia	ID	Neutral	15.5%	Felicia Tandiyono	-13.0%	52.6%	1.1%	-12.9%	-10.2%	6.2%	-8.1%	-14.9%	12.8%	50.8%	4.4%	-11.8%	35.3%	-4.5%
Lafarge Malayan Cement	MY	Neutral	6.0%	Khairul Rifaie	-0.7%	-5.1%	-6.7%	-5.6%	-5.1%	2.8%	2.2%	-4.9%	-4.4%	6.2%	-7.7%	-2.1%	-6.6%	-6.4%
Asia Cement	TW	Neutral	-3.6%	Ally Chen	-18.0%	-8.8%	-10.3%	-14.3%	-5.3%	-3.9%	1.2%	24.2%	217.5%	7.7%	66.9%	0.8%	-2.7%	-2.0%
India Cements	IN	Sell	-11.9%	Varun Ahuja, CFA	-6.2%	-3.5%	60.3%	14.4%	-7.0%	26.7%	53.4%	-2.0%	19.2%	15.3%	-11.2%	-2.6%	-1.7%	-3.0%
ACC Limited	IN	Sell	-22.4%	Varun Ahuja, CFA	0.2%	11.7%	15.7%	17.9%	-2.9%	12.9%	28.3%	5.9%	29.4%	9.1%	-16.0%	-3.0%	5.6%	9.3%
Ambuja Cements Limited	IN	Sell	-28.1%	Varun Ahuja, CFA	22.5%	9.9%	13.9%	6.3%	-2.3%	19.8%	31.4%	13.6%	24.9%	10.6%	-12.0%	0.3%	7.1%	2.1%
UltraTech Cement	IN	Sell	-43.6%	Varun Ahuja, CFA					-4.7%	17.1%	59.7%	-4.3%	5.3%	126.1%	6.3%	19.3%	10.5%	4.5%
Siam City Cement	TH	Suspended		Piyanan Panichkul	-11.1%	-6.3%	5.5%	-2.4%	0.2%	21.1%	25.5%	-7.8%	10.4%	11.5%	-2.0%	4.8%	1.2%	0.6%

Source: UBS estimates

Table 26: Asset Turnover

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Jiangxi Cement	Wannianqing CN	Buy	23.9%	Mick Mi			0.81	0.66	0.64	0.66	0.56	0.89	1.02	1.01	1.03	1.44	1.28	1.37
Indocement	ID	Buy	23.4%	Felicia Tandiyono	0.33	0.40	0.45	0.50	0.62	0.73	0.81	0.99	1.46	1.24	1.44	1.87	1.74	2.03
Tangshan Jidong Cement	CN	Buy	23.2%	Mick Mi			0.62	0.58	0.57	0.57	0.70	0.82	1.03	0.76	0.80	0.83	0.83	0.88
Semen Gresik	ID	Buy	14.2%	Felicia Tandiyono	0.86	1.03	1.71	1.35	1.72	2.23	2.71	3.18	4.19	3.27	1.86	1.45	1.26	1.34
Anhui Conch Cement	CN	Buy	9.2%	Mick Mi	0.42	0.49	0.42	0.58	0.72	0.70	0.88	0.80	0.90	0.76	0.82	0.97	0.90	1.05
Taiwan Cement	TW	Buy	8.0%	Ally Chen	0.39	0.42	0.51	0.52	0.52	0.61	0.65	0.63	0.68	0.57	0.61	0.77	0.80	0.87
Huaxin Cement - A	CN	Buy	4.8%	Mick Mi			0.54	0.65	0.69	0.64	0.74	0.81	1.07	0.93	0.76	0.99	0.96	1.03
Holcim Indonesia	ID	Neutral	15.5%	Felicia Tandiyono	0.30	0.35	0.27	0.33	0.39	0.50	0.50	0.68	0.97	0.99	0.75	0.94	1.17	0.96
Lafarge Malayan Cement	MY	Neutral	6.0%	Khairul Rifaie	0.54	0.57	0.61	0.68	0.73	0.82	0.91	1.00	1.26	1.22	1.18	1.47	1.66	1.94
Asia Cement	TW	Neutral	-3.6%	Ally Chen	3.05	3.14	3.77	3.62	4.74	5.37	5.56	5.40	4.44	1.31	1.20	0.86	0.94	1.04
India Cements	IN	Sell	-11.9%	Varun Ahuja, CFA	0.86	0.76	0.63	0.45	0.47	0.66	0.73	0.72	0.80	0.66	0.60	0.79	0.84	0.99
ACC Limited	IN	Sell	-22.4%	Varun Ahuja, CFA	1.17	1.22	1.14	1.17	1.24	1.41	1.59	1.64	1.61	1.23	1.16	1.65	1.72	1.79
Ambuja Cements Limited	IN	Sell	-28.1%	Varun Ahuja, CFA	0.71	0.69	0.80	0.86	1.00	1.39	1.32	1.48	1.36	1.10	1.10	1.42	1.53	1.65
UltraTech Cement	IN	Sell	-43.6%	Varun Ahuja, CFA					0.91	1.22	1.44	1.19	1.36	1.29	1.03	1.40	1.22	1.27
Siam City Cement	TH	Suspended		Piyanan Panichkul	1.11	1.25	1.46	1.49	1.87	2.01	1.87	1.68	1.67	1.36	1.39	1.63	1.65	1.75

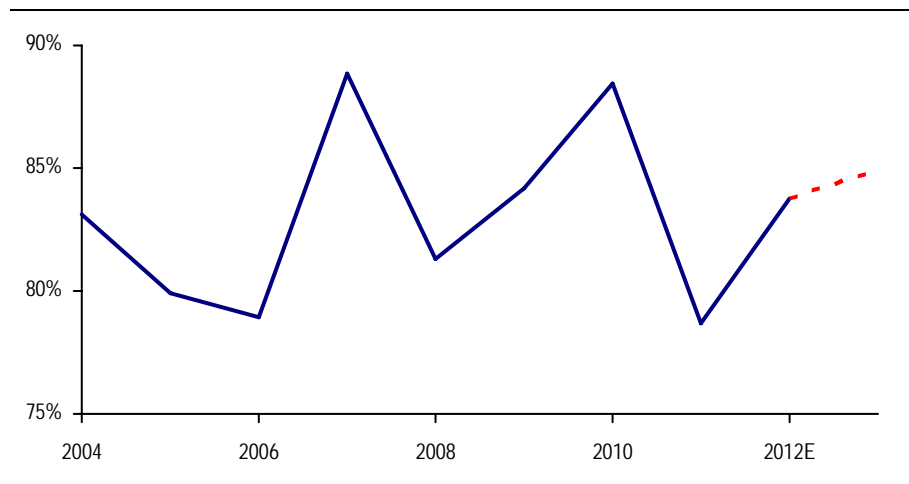
Source: UBS estimates

LCD

Where is capacity utilization today?

Similar to semis, utilization in the LCD industry is very cyclical in nature – touching close to 90% levels at peaks and falling below 80% at troughs. Today they remain at levels in the middle of the range, at around 85%.

Chart 141: Shipments / Capacity (Large Area Panel, '000 sq. m)

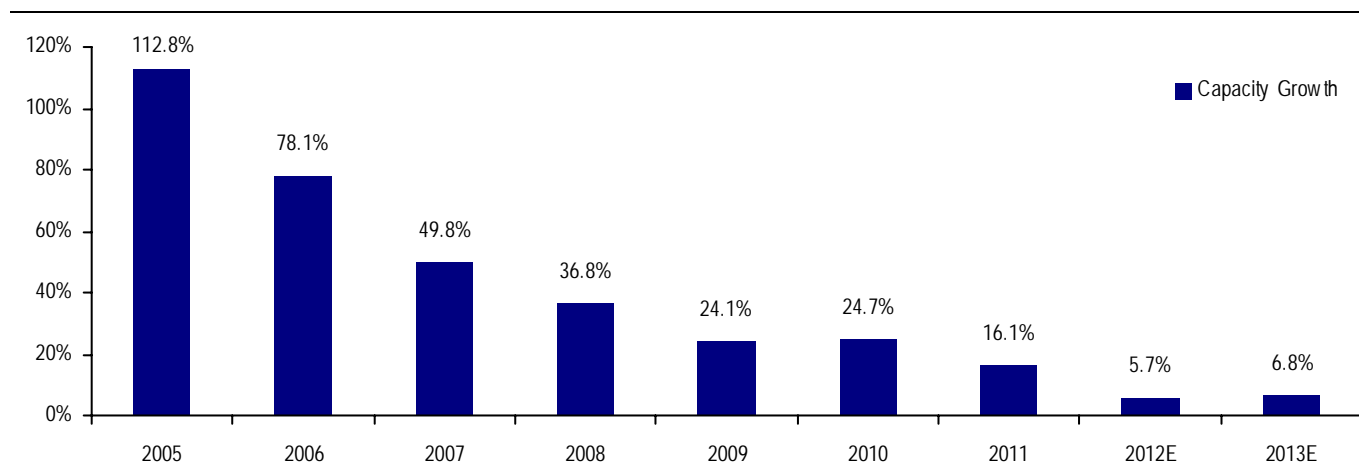


Source: UBS estimates

Capacity Growth (y/y) (large panel area capacity, '000 sq. m.)

Historically there has been an oversupply of LCD panels causing the prices of products like TVs (which are by far the largest end-application of LCD panels ~65%) to keep declining each year. According to the BLS data, prices of televisions have dropped by more than 90% in real terms since the early 80s in the US. Growth rate in capacity has however come down in recent years and is expected to remain low in 2013e, around 7%. Supply has largely been restrained in recent years leading to fairly balanced supply demand dynamics.

Chart 142: Large panel area capacity (y/y, '000 sq. m.)

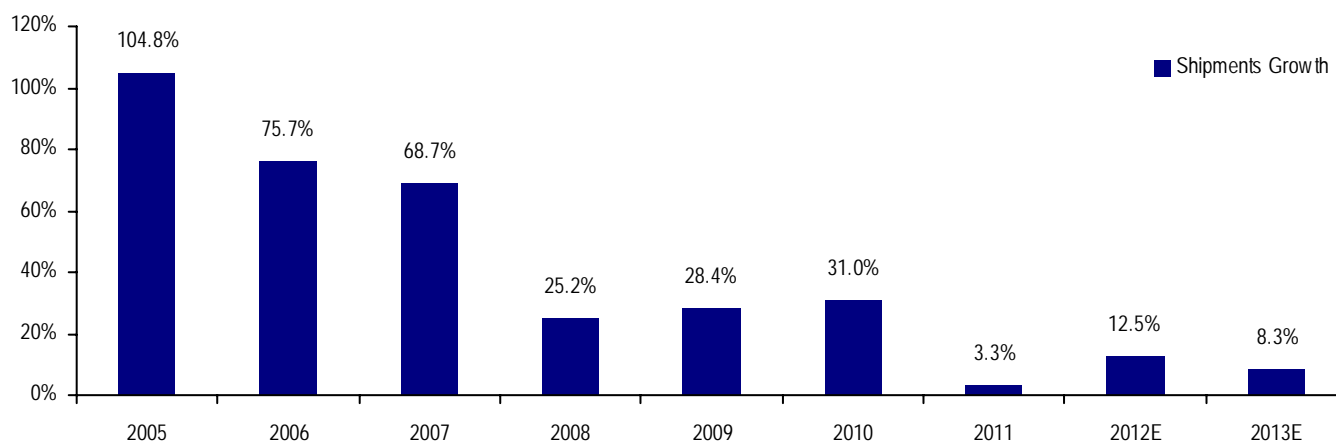


Source: UBS estimates

Demand Growth (y/y) (large panel area shipments, '000 sq. m.)

Growth rates in demand for LCD panels has been on the decline over the last few years and is expected to remain soft in 2013, just above 8% according to our team's estimates. On a positive note, the migration to larger TV panels has been faster than anticipated recently. This appears to be a key driver of growth in the industry. While our team expects the shipment in unit terms to remain soft, the growth in area demand should be higher as a result.

Chart 143: Large panel area shipments (y/y, '000 sq. m.)



Source: UBS estimates

What does this mean for Capacity Utilization and Asset Turnover?

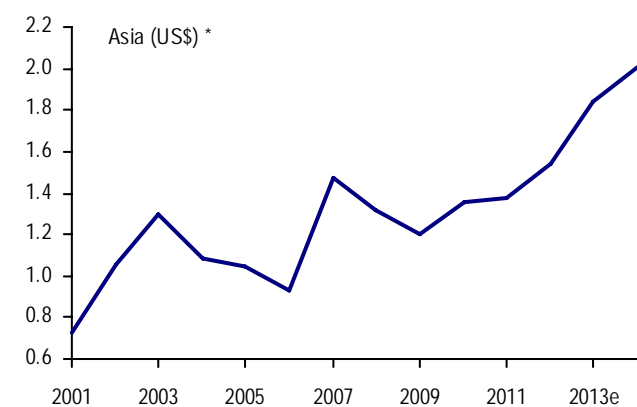
Capacity Utilisation

Given slightly higher growth expected in shipments relative to capacity, utilization rates should improve but only marginally in 2013 (in unit terms). However, given the strong demand for large TV panels, growth in area terms is likely to be higher and that explains why our team is expecting better improvement in asset turns. In order to see the capacity utilization fall back to the lows seen during 2011, shipments will need to remain flat in 2013 given current capacity addition forecasts, something that did not happen even during the Global Financial Crisis when shipments grew by 27% on average. For capacity utilization to rise back to the peak levels seen in the last two cycles, shipment will need to grow by 13% in 2013 (given current capacity forecasts), not aggressive and slightly higher than the growth rate achieved in 2012.

Asset Turnover

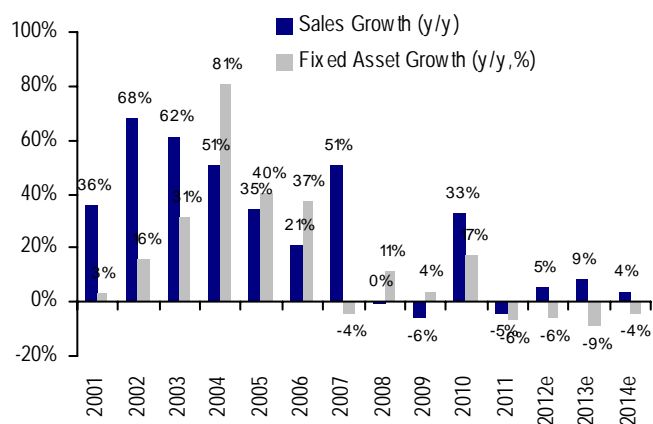
Based on our bottom up estimates, revenues are forecast to grow by 13% over the next two years, while fixed assets are expected to decline 13%, taking asset turnover levels almost 25% higher by the end of 2014 (from 1.5x today to 2x). LCD prices next year are not expected to improve significantly.

Chart 144: Asset Turnover



Source: UBS estimates; based on the aggregate trend for LGD, AUO, Chimei Inn.

Chart 145: Sales & Fixed Assets growth (y/y, %)



Source: UBS estimates

Table 27: Sales Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
AU Optronics	TW	Buy	30.8%	Samson Hung	35.8%	96.6%	39.4%	65.3%	34.2%	33.2%	62.2%	-7.9%	-19.2%	36.3%	-12.9%	-0.4%	11.8%	6.4%
LG Display	KR	Neutral	6.3%	Nicolas Gaudois		51.2%	78.5%	42.2%	35.2%	13.1%	38.7%	-2.4%	4.8%	39.8%	-0.6%	16.0%	10.2%	-2.1%
INNOLUX Corporation	TW	Neutral	-24.4%	Samson Hung							54.4%	9.5%	-3.9%	22.3%	-2.9%	-4.3%	5.0%	3.1%

Source: UBS estimates

Table 28: Fixed Asset Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
AU Optronics	TW	Buy	30.8%	Samson Hung	2.9%	9.1%	44.5%	69.6%	34.0%	73.9%	-4.2%	5.8%	2.7%	8.1%	-10.1%	-7.1%	-8.9%	-4.7%
LG Display	KR	Neutral	6.3%	Nicolas Gaudois		21.5%	21.4%	90.5%	45.3%	10.6%	-20.7%	-8.7%	12.2%	39.0%	10.8%	7.7%	-2.9%	2.3%
INNOLUX Corporation	TW	Neutral	-24.4%	Samson Hung							12.6%	31.7%	-0.2%	12.6%	-15.3%	-15.0%	-18.6%	-18.4%

Source: UBS estimates

Table 29: Asset Turnover

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
AU Optronics	TW	Buy	30.8%	Samson Hung	0.45	0.59	1.07	1.03	1.00	1.01	0.77	1.30	1.13	0.89	1.13	1.09	1.17	1.44
LG Display	KR	Neutral	6.3%	Nicolas Gaudois		0.85	1.05	1.55	1.15	1.07	1.10	1.92	2.05	1.92	1.93	1.73	1.87	2.12
INNOLUX Corporation	TW	Neutral	-24.4%	Samson Hung							0.95	1.30	1.09	1.04	1.13	1.30	1.47	1.89

Source: UBS estimates

Semiconductors (Memory/Non-Memory)

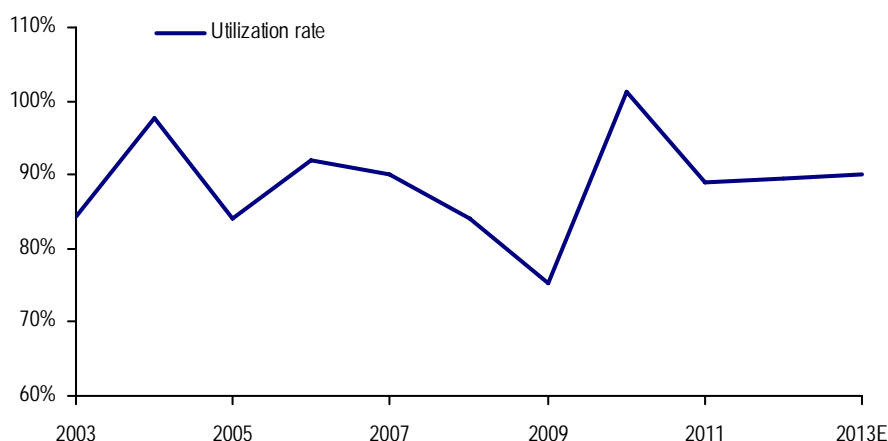
Note: For data reasons, we've looked at Foundries separately here. Nicholas Gaudois and our Tech team points out that this is not necessarily a full picture, as integrated device manufacturers are excluded from this and can have a meaningful impact on demand. Our tech team expects an improvement in utilisation rates in the 2H of 2013.

A. Foundries (Non-memory)

Where is capacity utilization today?

Given the highly cyclical nature of the business, foundries in the region have seen wide swings in their utilization rates – from close to 100% at the peak to 75% at the trough. Today the aggregate utilization rate is about 89% (12e), slightly higher than the average of 87% since 2002. This is about the same as last year and down by about 10 percentage points from the most recent peak of 101% in 2010.

Chart 146: Utilization rate (shipment / capacity in 8" inch eq., k units)



Source: UBS estimates

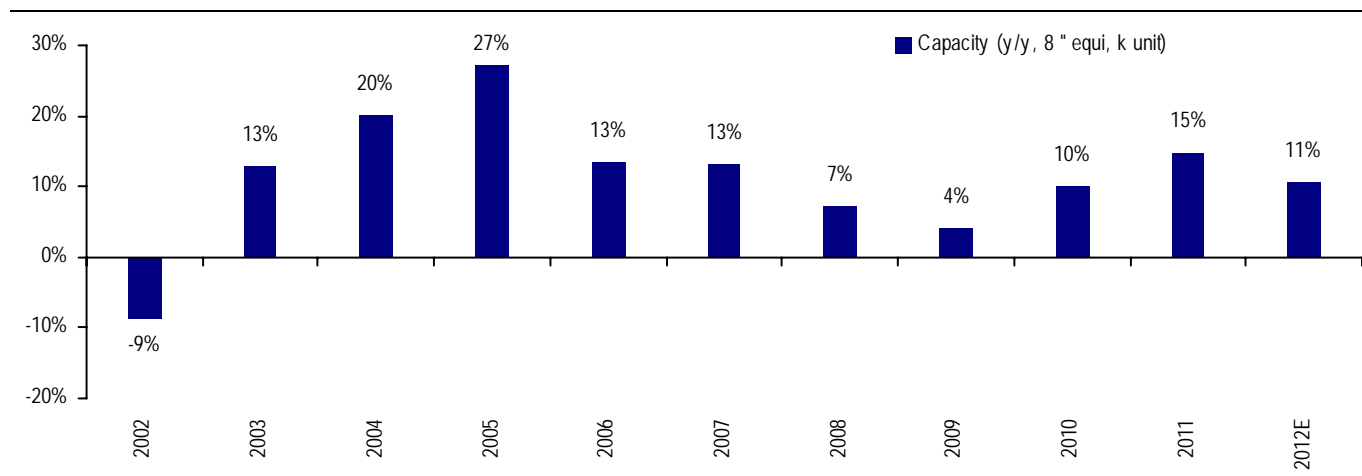
Capacity Growth (y/y)

After aggressive capex investment in the past two years, leading semi players such as Samsung and Intel have indicated more conservative capex plans in 2013. Our team expects global foundry capacity to grow 9%/6% YoY in 2012/13, down from 12% in 2010 and 14% in 2011.

TSMC, Samsung, and GlobalFoundries were the major companies to invest aggressively in the past years. Under a potential Apple order win by TSMC (to be a second source, at least), the plans from Samsung are not that aggressive now. Also, under the weak momentum of AMD, it looks unlikely that global foundries can continue to invest aggressively.

UBS forecasts for the region suggest an average growth rate of 11% both in 2012 & 2013, a slowdown from 15% in 2011. This is broadly inline with the average since 2002.

Chart 147: Capacity Growth (y/y, %)



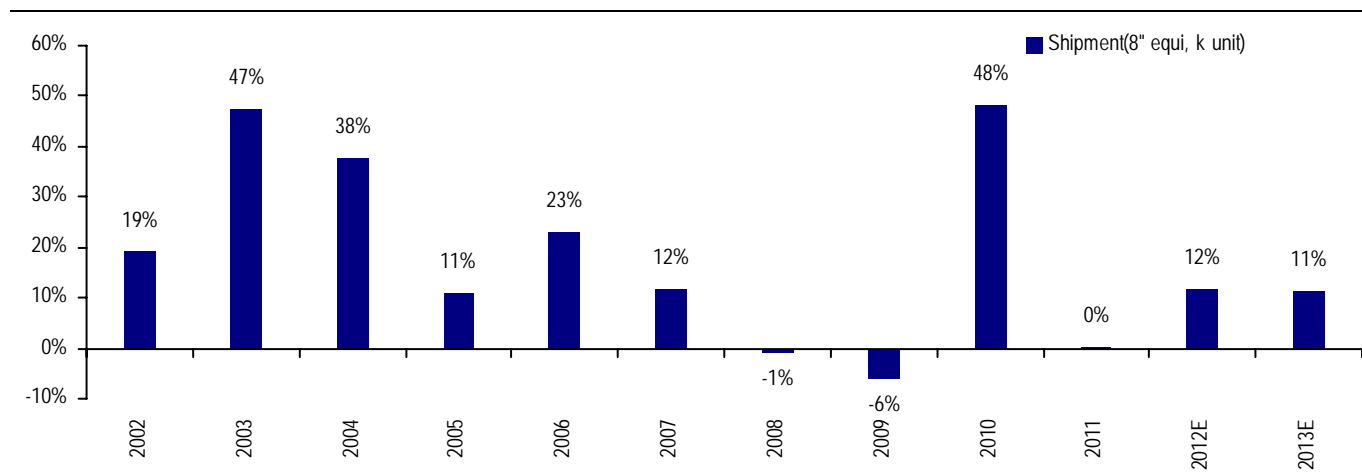
Source: UBS estimates

Demand Growth (y/y)

UBS shipment forecasts for 2013 suggest a growth rate very similar to 2012, around 11%. This is lower than the average growth rate of 18% for foundry shipments in the region since 2002.

Our team also expects to see stable demand growth from smart phone / tablet related chips. According to them, the migration from feature phone to smart phone should not only help 12" fabs but also contribute to demand for the 8" wafers.

Chart 148: Shipment Growth (y/y, %)



Source: UBS estimates

What does this mean for Capacity Utilization and Asset Turnover?

Capacity Utilization

Our top down forecasts suggest a similar growth in both shipments and capacity addition and as a result there is no visible change being forecast in the utilization

rates from this year to next. The forecast utilization level is perfectly in line with the average since 2003 (89%). In order to see utilization levels falling back to the lows in 2009 i.e. 75%, shipments will need to fall by 7% from 2012 levels – slightly more drastic compared to what happened in 2009. On the other hand, for utilization levels to improve to the high in the last cycle i.e. 101%, shipments will need to grow by approximately 25%, levels rarely seen since early 2000s except when it was a rebound from recessionary levels the previous year (e.g. in 2010).

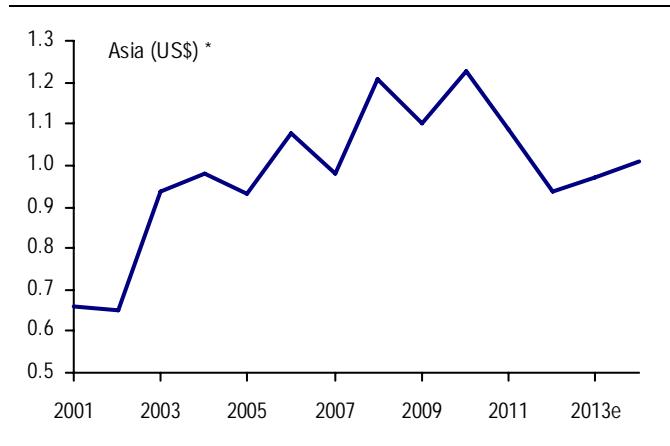
Asset Turnover

Bottom up however our analysts are expecting the asset turnovers to improve. They expect sales to grow much faster than fixed asset growth in the next two years and the asset turnover to improve from 0.94 in 2012 to 1.01 in 2014. Digging further into the data, this is largely a function of our analyst forecasts for SMIC. The other two companies in the UBS semis universe – TSMC and UMC, no improvement in asset turns is expected.

The flat asset turnovers being expected for the industry (ex-SMIC which is only 2% of this group by market cap) is in line with the top down trend being forecast for utilization.

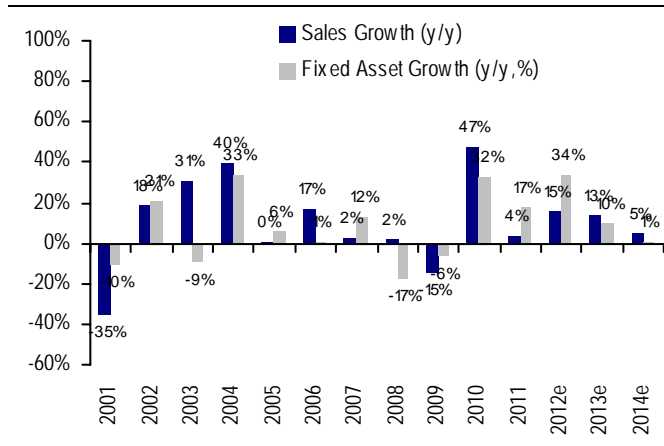
This is also because our team expects pricing power to not improve much next year. Although capacity conditions are likely to be tight and inventories fairly low, the absence of strong demand should keep prices relatively stable, in their view.

Chart 149: Sales to Fixed Assets (UBS est.)



Source: UBS estimates

Chart 150: Asian Foundries* – Sales and FAI growth (y/y)



Source: UBS estimates ; * - includes SMIC, TSMC, UMC

Table 30: Sales Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
UMC	TW	Buy	46.2%	Jonah Cheng	-43.3%	2.3%	26.3%	42.6%	-19.7%	13.2%	1.5%	-9.6%	-8.7%	42.5%	-5.8%	0.2%	11.4%	-1.8%
Taiwan Semiconductor Manufacturing	TW	Buy	8.2%	Jonah Cheng	-30.0%	25.2%	25.9%	30.8%	7.3%	17.2%	1.8%	7.7%	-15.3%	48.7%	9.1%	17.7%	14.2%	7.4%
Semiconductor Manufacturing Intl Corp	CN	Neutral	6.5%	Jonah Cheng			641.8%	166.4%	20.2%	25.1%	5.8%	-12.7%	-20.9%	45.3%	-15.1%	27.4%	12.2%	-4.9%

Source: UBS estimates

Table 31: Fixed Asset Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
UMC	TW	Buy	46.2%	Jonah Cheng	-9.9%	2.2%	-13.2%	13.1%	12.3%	-9.9%	-0.4%	-21.8%	-26.6%	38.9%	24.2%	13.1%	10.9%	-4.2%
Taiwan Semiconductor Manufacturing	TW	Buy	8.2%	Jonah Cheng	-9.8%	19.6%	-13.1%	19.8%	5.9%	9.2%	26.1%	-19.5%	8.8%	40.1%	19.4%	48.6%	11.6%	2.4%
Semiconductor Manufacturing Intl Corp	CN	Neutral	6.5%	Jonah Cheng		154.6%	16.8%	114.1%	-0.9%	-1.1%	-0.7%	-6.8%	-19.9%	4.3%	2.1%	-4.9%	-6.0%	-5.2%

Source: UBS estimates

Table 32: Asset Turnover

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
UMC	TW	Buy	46.2%	Jonah Cheng	0.85	0.54	0.54	0.78	0.98	0.70	0.88	0.90	1.04	1.30	1.33	1.01	0.89	0.90
TSMC	TW	Buy	8.2%	Jonah Cheng	1.09	0.84	0.88	1.28	1.40	1.41	1.52	1.22	1.64	1.28	1.35	1.24	0.98	1.00
SMIC	CN	Neutral	6.5%	Jonah Cheng		-	0.04	0.23	0.29	0.35	0.45	0.48	0.45	0.44	0.61	0.51	0.68	0.81

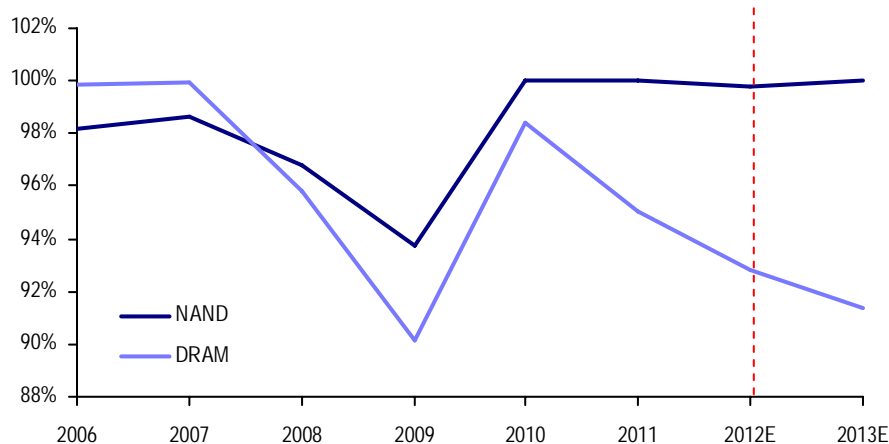
Source: UBS estimates

B. Memory (DRAM/NAND)

Where is capacity utilization today?

Utilization rates remain at their peak levels in the NAND segment and close to their lowest levels since 2006 in the DRAM segment.

Chart 151: Utilization – wafer starts / wafer capacity (annual average)



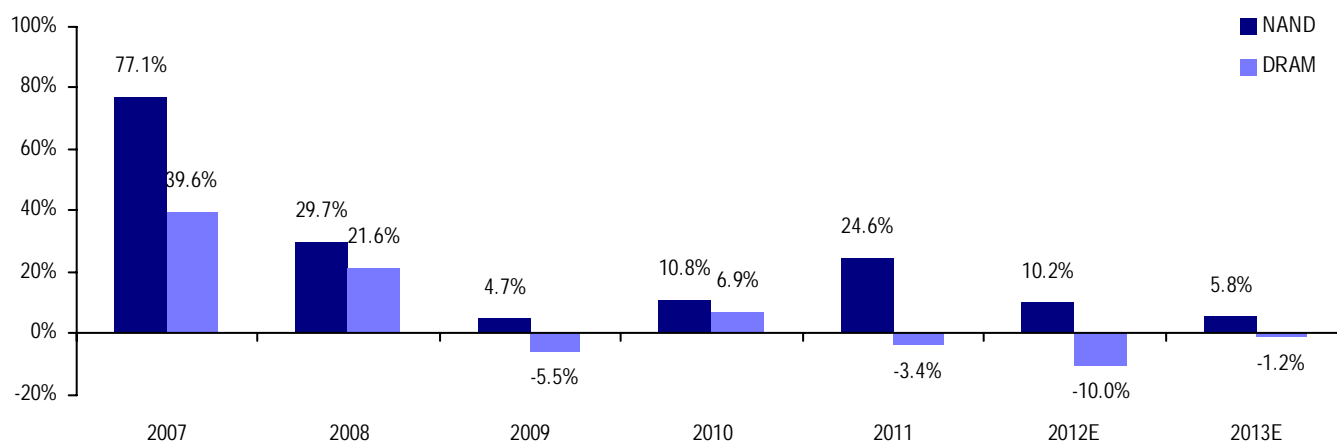
Source: UBS estimates

Capacity Growth (y/y)

Our Semis team expects to see some undersupply in both DRAM and NAND flash in 2013. They are forecasting some capacity increases and think this will likely be back-end loaded and focused primarily on Samsung and Toshiba/SanDisk.

Based on wafer capacity, next year's increase in capacity in the NAND segment is expected to be around 6%, only slightly higher than the lowest growth rate last seen in 2009. In the DRAM segment, capacity is expected to be reduced by close to 1%. DRAM capacity declined both in 2011 and 2012.

Chart 152: Supply Growth (wafer capacity, y/y, %)



Source: UBS estimates

In terms of bit capacity, our team's forecasts suggest a growth of 53.4% y/y bit growth after 60% in 2012 for NAND. For DRAM, they are forecasting 23.5% y/y bit growth versus 21.6% in 2012 for DRAM.

Demand Growth (y/y)

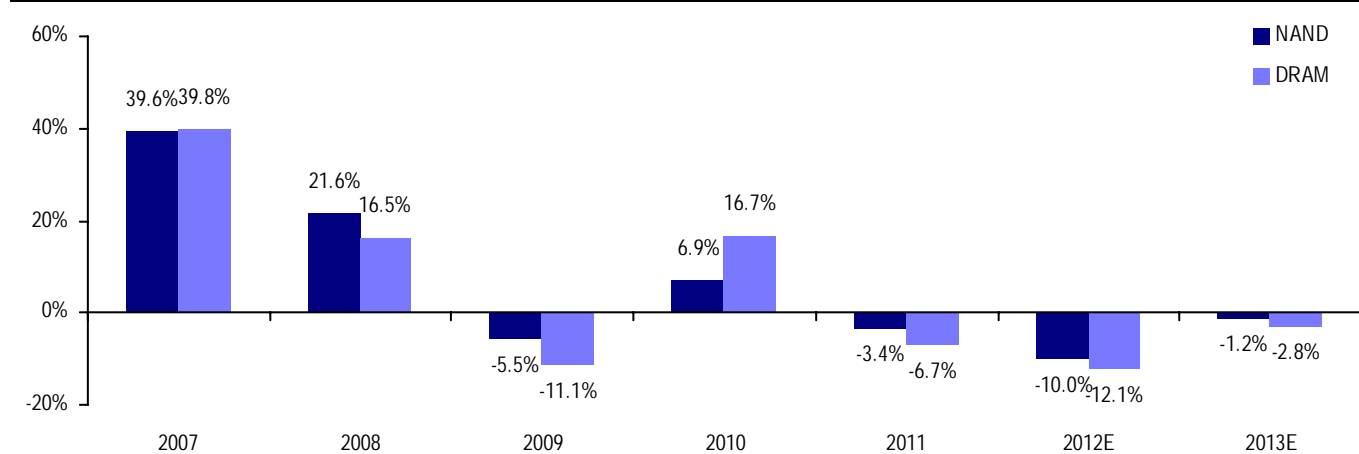
Demand growth (in terms of wafer starts) is forecast to decline for both DRAM and NAND in 2013, albeit at a slightly slower pace relative to 2011-12.

In terms of bit demand however, our Semis team's forecasts suggest modest re-acceleration of bit demand in DRAM and a growth of 25.1% in 2013 from 23.6% in 2012. This forecast assumes no growth in the PC unit segment. They also expect mobile phones and tablets to account for about 25% of bit demand, and over 40% of revenues in 2013. In short our Semis team remains cautious on PC end-demand, but expect lower end tablet PCs and smart phones to provide support to demand.

In the NAND segment, UBS forecast suggests a demand growth of 56.8% in 2013 after 65.0% the previous year. This, according to our team, is at the higher end of recent comments from companies of a range of 40-60%. Broadly this forecast assumes two positives - smart phones and tablets, and one negative - slower-than-expected solid state drives adoption in notebook PCs.

(Please see "*The tide is turning*" dated 7th November 2012 for more details on our Semis team's demand/supply forecasts)

Chart 153: Demand Growth (wafer starts, y/y, %)



Source: UBS estimates

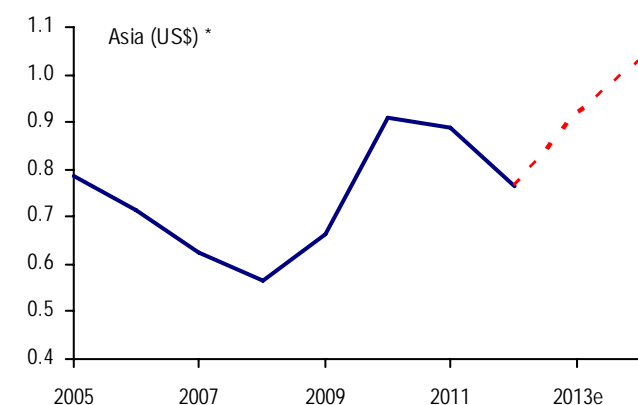
What does this mean for Capacity Utilization and Asset Turnover?

Given the slightly positive view of our Semis team on the modest acceleration of bit demand in 2013 for both DRAM and NAND, and an undersupply on the capacity side, capacity utilization is expected to improve in both segments over 2013-14.

Our bottom up asset turnover forecast for the memory companies (SK Hynix, Magnachip, Inotera, Powerchip) also suggests an improvement in Asset Turnover from 0.76x in 2012e to 0.92x next year and 1.03 in 2014e.

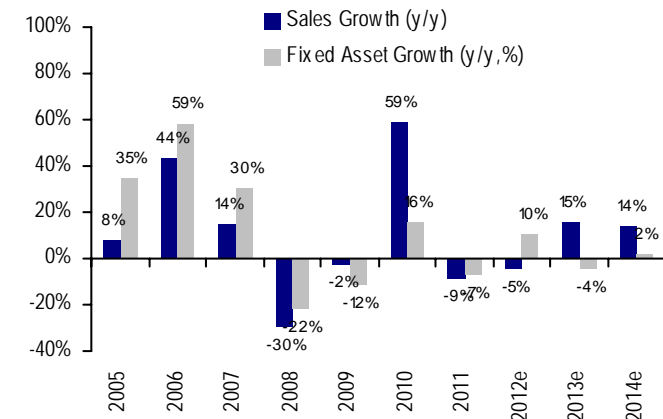
On pricing, our team's view is that the normalization in inventories should help pricing power in the near term and this is likely to further help asset turnover improve.

Chart 154: Asset Turnover (US\$)



Source: UBS estimates

Chart 155: Memory (DRAM/NAND) – Sales and FAI growth (y/y)



Source: UBS estimates

Table 33: Sales Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Magnachip Semiconductor	KR	Buy	31.9%	Nicolas Gaudois										37.5%	0.3%	6.4%	7.8%	6.2%
SK Hynix	KR	Buy	16.5%	Nicolas Gaudois					8.3%	39.7%	14.9%	-31.7%	-1.4%	68.1%	-10.4%	-5.1%	19.6%	16.0%
Inotera Memories	TW	Sell	-48.3%	Nicolas Gaudois						74.9%	11.3%	-14.6%	-8.3%	20.4%	-3.4%	-8.8%	1.4%	8.7%

Source: UBS estimates

Table 34: Fixed Asset Growth

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Magnachip Semiconductor	KR	Buy	31.9%	Nicolas Gaudois										14.5%	2.0%	24.5%	9.9%	10.1%
SK Hynix	KR	Buy	16.5%	Nicolas Gaudois					35.2%	60.5%	32.4%	-25.7%	-11.4%	8.7%	-0.6%	24.3%	-0.9%	5.0%
Inotera Memories	TW	Sell	-48.3%	Nicolas Gaudois						53.0%	23.9%	-8.9%	-12.4%	36.6%	-20.5%	-22.6%	-25.0%	-19.9%

Source: UBS estimates

Table 35: Asset Turnover

Company	Country	Rating	PT upside	Analyst	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012e	2013e	2014e
Magnachip Semiconductor	KR	Buy	31.9%	Nicolas Gaudois										3.58	4.30	4.23	3.62	3.55
SK Hynix	KR	Buy	16.5%	Nicolas Gaudois					1.16	0.93	0.81	0.70	0.64	0.72	1.11	1.00	0.76	0.92
Inotera Memories	TW	Sell	-48.3%	Nicolas Gaudois						0.36	0.41	0.37	0.34	0.36	0.32	0.38	0.45	0.61

Source: UBS estimates

Industry Analysis Summary

Looking at the sector data, there are mixed fortunes. Some industries such as shipping and ship building look extremely oversupplied, with weak capacity utilization. Others which have seen rising capacity utilization in recent years such as autos may actually see lower capacity utilization ahead as companies bring on more production to meet demand. Tech, refining and airlines look to be okay, though in the case of refining, the global picture is not as healthy. Steel, considered by many the poster child of Chinese SOE overinvestment, ironically looks like it could see some modest capacity utilization increases, though this will require supply discipline in line with our current forecasts.

1. **Autos** - Forecasts for capacity increases and assembly output (based on Global Insight estimates) suggest stable capacity utilization levels in China in 2013. Bottom-up aggregate data based on UBS forecasts for companies however suggest improving asset turnovers across the region, including China.

2. **Refining** - Refining utilization rate in Asia should remain fairly stable at 86.3% on average in 2012-14 with relatively balanced supply/demand in the market. Inline with the top down forecasts for utilization, our bottom up estimates for the Asian refiners are implying flat asset turnovers for next couple of years.

3. **Airlines** – Broadly capacity is expected to be in line with traffic growth. If our top-down forecasts are correct, capacity utilizations should marginally improve in 2013 and show a small decline the year after. Bottom-up our analysts are expecting asset turnovers to improve. Their forecasts appear to be based off a higher share of premium travel among the full service carriers in the next couple of years as growth rebounds.

4. **Shipbuilding** - Top down, given the faster (than demand) growth forecast in capacity coming through globally, utilization is likely to keep declining in the next couple of years. Better pricing power can however lead to improving asset turns in 2014 in Asia.

5. **Container Shipping** - Top down, capacity growth is forecast to be higher than demand growth and as a result utilization rates are expected to decline. However bottom up our forecasts suggest that asset turns might improve in 2014.

6. **Steel** - It appears that the overcapacity problem in the Chinese steel industry is probably not as severe as in the rest of the region. With capacity discipline and modestly strong demand growth, utilization should reach close to the normal average levels in China. It would take at least doubling the level of the forecast demand growth in the rest of the region to achieve that in the next two years.

7. **Cement** - Both our top down and bottom up forecasts suggest an improvement in utilization and asset turnovers in China respectively, and given its share (~80% of total capacity), also in the overall Asian and Global trends. These trends might appear to be a bit overoptimistic but nevertheless suggest a better chance of improvement than deterioration in 2013 *if* supply discipline continues.

8. **LCD** - Given slightly higher growth expected in shipments relative to capacity, utilization rates should improve but only marginally in 2013 (in unit terms). However, given the strong demand for large TV panels, growth in area terms is likely to be higher and that explains why our team is expecting better improvement in asset turns.

Semiconductors (Memory/Non-memory) –

9. Foundries - Our top down forecasts suggest a similar growth in both shipments and capacity addition and as a result there is no visible change being forecast in the utilization rates from this year to next. Bottom up however our analysts are expecting the asset turnovers to improve (UBS universe, largely a function of SMIC).

10. Memory - Given the slightly positive view of our Semis team on the modest acceleration of bit demand in 2013 for both DRAM and NAND, and an undersupply on the capacity side, capacity utilization is expected to improve in both segments over 2013-14.

Table 36: Sensitivity of Capacity Utilization to Demand

Sector	Change Capacity Utilisation 14e)?	in (12- 13e (y/y)	Demand growth 13e (y/y)	Historical average demand growth (y/y)	Supply Growth 13e (y/y)	Historical average supply growth (y/y)	Demand growth (13e) needed to take CU (given capacity forecasts)			Improvement Asset Turnovers (13- 14e)?	in Turnovers (13- 14e)	Is overcapacity a problem? (our view)
							To Lows	to Average Levels	to Peak levels			
Autos												
China	81.2% -> 81.0%		11.5%	20.1%	15.5%	18.8%				3.69 -> 3.84		No
Refining												
Asia	86.3% -> 86.3%		2.6%	3.0%	2.5%	2.9%	-2.5%		5.1%	4.28 -> 4.20		No
Airlines												
Asia	79.1% -> 79.0%		7.2%	8.9%	7.0%	8%	1.4%			1.06 -> 1.14		No
Shipbuilding												
Global	25.6% -> 41%		12.3%	20.6%	0.0%	12.5%		345%	704%	2.96 -> 3.03 (Asia)		Yes
Container Shipping												
Global	71.6% -> 69.2%		6.6%	8.4%	9.1%	10%		36.0%	49.0%	1.33 -> 1.38 (Asia)		Yes
Steel												
Asia	81% -> 83%		3.6%	9.7%	2.8%	9.8%	-4.7%	11.2%				Mixed
China	82% -> 84%		3.3%	15.0%	1.9%	15.5%	-3.5%	6.0%		1.71 -> 1.75		No
Cement												
China	84% -> 98%		8.0%	12.2%	-1.0%	11.1%				0.92 -> 1.12		No
LCD												
LCD	83.7% -> 84.9%		8.3%	43.7%	6.8%	43.5%	0.4%		12.8%	1.54 -> 2.00		No
Foundries												
Foundries	89% -> 90%		11.2%	18.40%	10.5%	11.40%				0.94 -> 1.01		No
Memory (DRAM)												
Memory (DRAM)	92.8% -> 91.3%		-2.8%	7.2%	-1.2%	8.20%				0.76 -> 1.03		No

Source: UBS estimates

5. Investment Implications

So is Asia overinvesting? Not in aggregate, according to our analysis. Yes, fixed asset investment has picked up and this has brought with it fears of overinvestment, especially in China after the boom there, but in aggregate, it does not appear that Asia is overinvested with a major surplus capacity problem.

Over the next few years both our top down and bottom up forecasts suggest more capital discipline with net asset growth averaging 7.1% over 2013 and 14, compared to average rates of 15.1% between 2007 and 2011. The same fixed asset investment growth numbers are for the region to see 6.7% growth on average between 2013-14 versus 8.9% on average between 2007 and 2011. We expect the largest slowdown in FAI and net asset growth in China and India with the largest increase in FAI growth in The Philippines and Thailand.

Asset turnover ratios remain high, and on both our top down and bottom up forecasts – both of which in terms of revenue growth look low relative to history – should remain close to current levels for the next couple of years. Assuming both UBS top down and bottom-up forecasts for capacity growth in the region are correct for the next two years (15% cumulatively), it would take a fall in revenues of 15-20% to take asset/turnover ratios back to the levels of the 1990s (1.35x versus 1.83 today) and no growth in revenues at all over the next two years to get to the average level of 2003-2008. To put this in context, the worst revenue decline in Asia in the last decade was -6% in 2009.

The long improvement in Asset/Turnover ratios that Asia has experienced since 2003 does not look under imminent threat of dramatic reversal. Implication number one is that ROE does not look as if it under pressure from an overinvestment problem or a serious decline in asset turnover ratios. We should however expect to see weaker capex and fixed asset investment growth in aggregate over the next couple of years especially in China and India, which is already explicitly forecast in both our top down and bottom up numbers. On the other hand, The Philippines may see slightly faster fixed asset investment growth on a trend basis.

How do we square the evidence of high asset/turnover ratios in China with high fixed asset investment and expectations of overcapacity? It seems to us that the difference is partly explainable by definition – corporate capex in China has not been growing nearly as fast as fixed asset investment. The latter, a GDP concept includes residential investment and infrastructure spending as well as corporate capex. While these create their own demand which can evaporate, in aggregate we don't think that the asset/turnover or capex data suggests such a serious problem of corporate overinvestment and capacity. Clearly there are individual industries with capacity problems, but asset turnover ratios and corporate capex compared to FAI suggest that the problem is less of a corporate overcapacity problem in aggregate. There are areas of overcapacity in China, but the capex data and asset turnover data suggest this is much less severe than perhaps feared. Implication number two is that China's corporate sectors may not be as overinvested as some fear.

Extending our analysis to industry, we have looked at capacity utilisation and asset/turnovers for 10 industry groups in Asia where there is some form of

commodity production region wide. Looking at the sector data, there are mixed fortunes. Some industries such as shipping and ship building look extremely oversupplied, with weak capacity utilization. Others which have seen rising capacity utilization in recent years such as autos may actually see lower capacity utilization ahead as companies bring on more production to meet demand. Tech, refining and airlines look to be okay, though in the case of refining, the global picture is not as healthy. Steel, considered by many the poster child of Chinese SOE overinvestment, ironically looks like it could see some modest capacity utilization increases, though this will require supply discipline in line with our current forecasts.

We would prefer to avoid those industries with substantial oversupply and falling capacity utilization – shipbuilding and shipping look the worst culprits here. On the other hand, surprisingly Steel looks less bad than we feared, with rising capacity utilization in the coming years on our forecasts. Tech, refining and airlines all look positive and better places to be focused for any cyclical improvement in demand.

6. Appendix

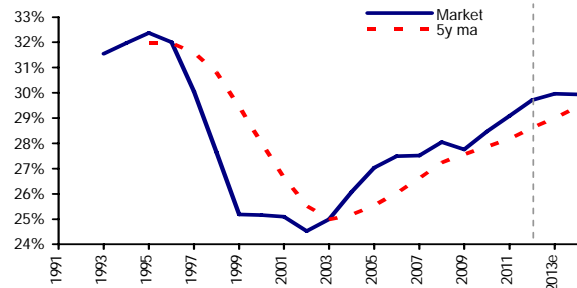
Charts for the measures used in the investment cycle analysis in Section 2 of this report.

Measures used in the Investment Cycle analysis (charts in Appendix 1)

1. Profit cycle
 2. Fixed Investment / GDP, Capex / Sales, Fixed Asset Growth (non-govt)
 3. Debt / Equity ratio
 4. LDR for the Banking system
 5. Current Account Surplus/Deficit
 6. Short term Interest rates
 7. Corporate Cash Flow / Fixed Assets
 8. Interest Expense / EBITDA
 9. Depreciation / EBITDA
 10. Asset Turnovers
-

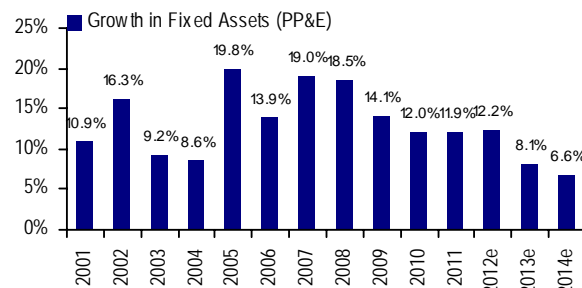
Source: UBS estimates

Chart 156: AxJ - FAI / GDP



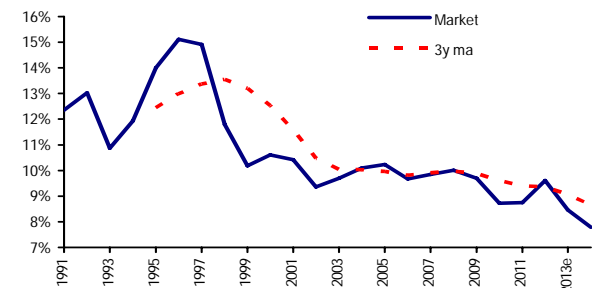
Source: Datastream, Worldscope, UBS Estimates

Chart 157: AxJ - Growth in Fixed Assets



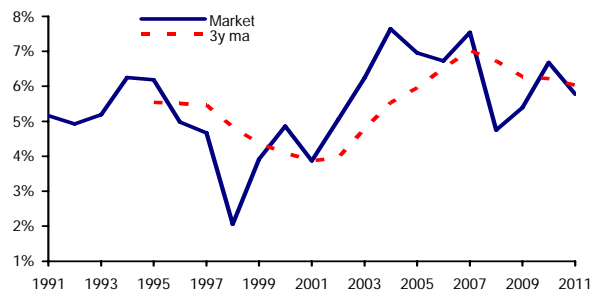
Source: Datastream, Worldscope, UBS Estimates

Chart 158: AxJ - Capex / Sales



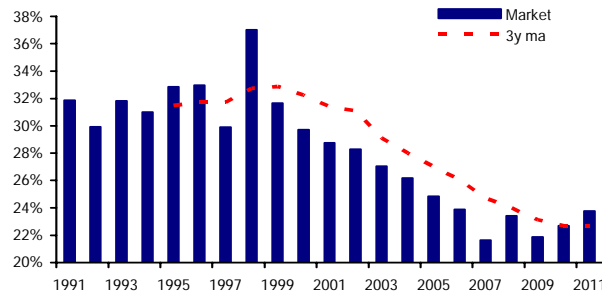
Source: Datastream, Worldscope, UBS Estimates

Chart 159: AxJ - Profit Cycle



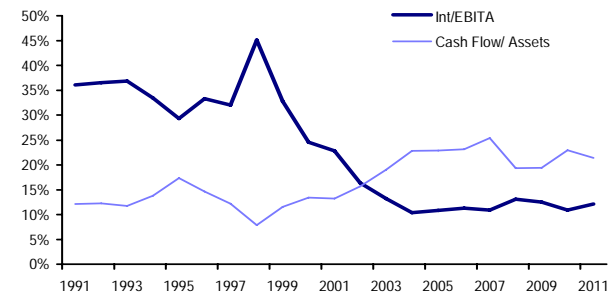
Source: Datastream, Worldscope, UBS Estimates

Chart 160: AxJ - Debt/(Debt + Equity)



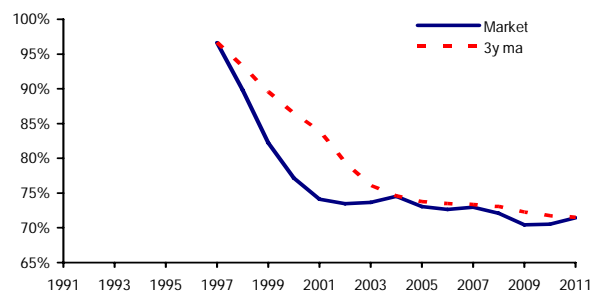
Source: Datastream, Worldscope, UBS Estimates

Chart 161: AxJ - Int / EBITDA and Cash Flow/Assets



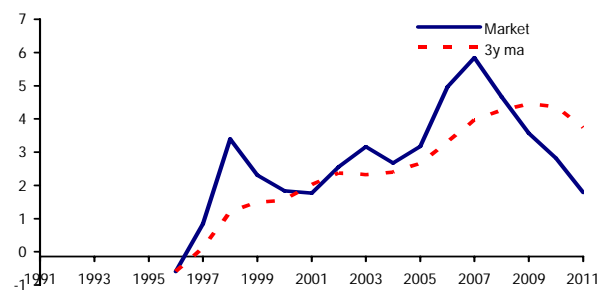
Source: Datastream, Worldscope, UBS Estimates

Chart 162: AxJ - LDR Banking System



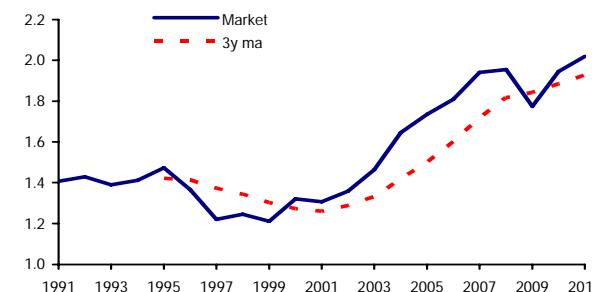
Source: Datastream, Worldscope, UBS Estimates

Chart 163: AxJ - CA Deficit



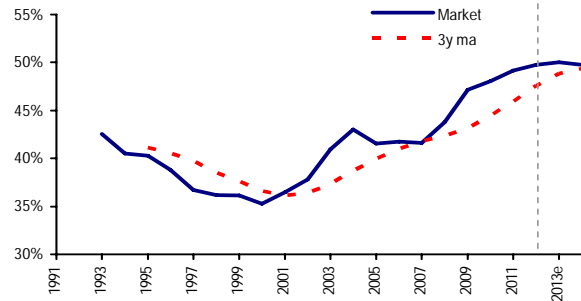
Source: Datastream, Worldscope, UBS Estimates

Chart 164: AxJ - Asset Turnover



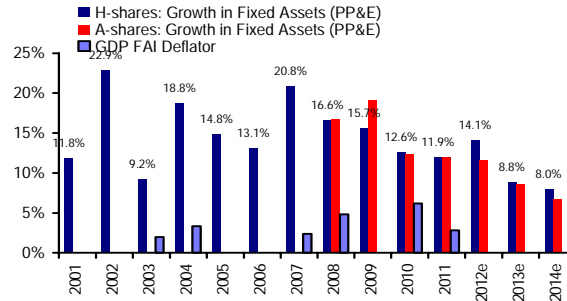
Source: Datastream, Worldscope, UBS Estimates

Chart 165: China - FAI / GDP



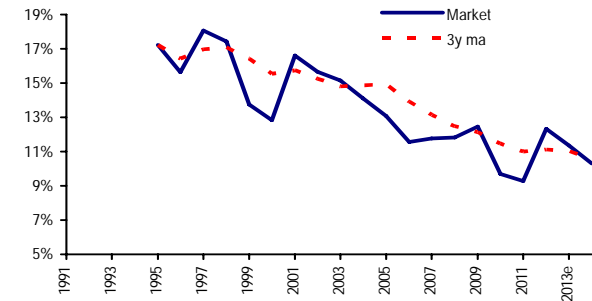
Source: Datastream, Worldscope, UBS Estimates

Chart 166: China - Growth in Fixed Assets



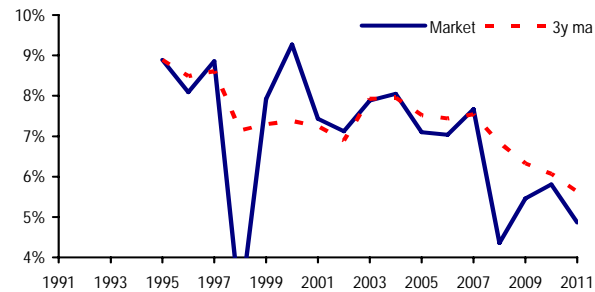
Source: Datastream, Worldscope, UBS Estimates

Chart 167: China - Capex / Sales



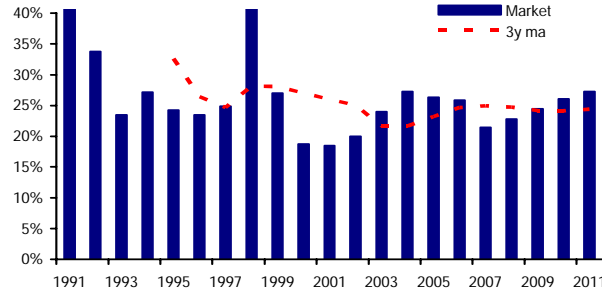
Source: Datastream, Worldscope, UBS Estimates

Chart 168: China - Profit Cycle



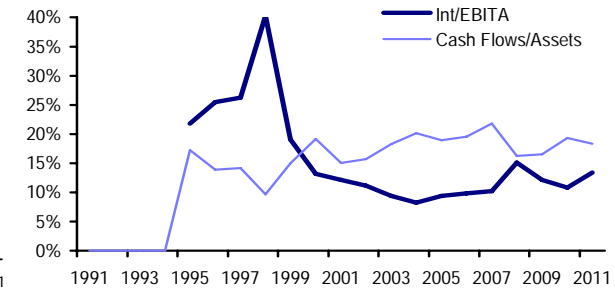
Source: Datastream, Worldscope, UBS Estimates

Chart 169: China - Debt/(Debt + Equity)



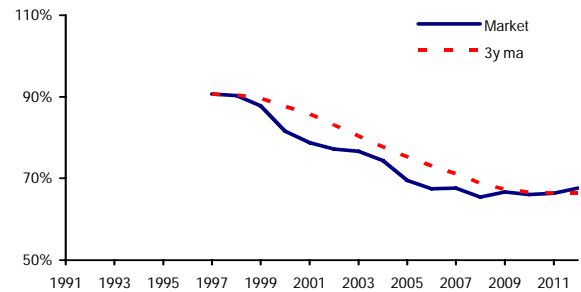
Source: Datastream, Worldscope, UBS Estimates

Chart 170: China - Int / EBITDA and Cash Flow/Assets



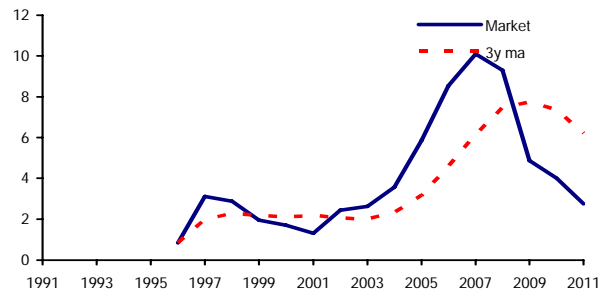
Source: Datastream, Worldscope, UBS Estimates

Chart 171: China - LDR Banking System



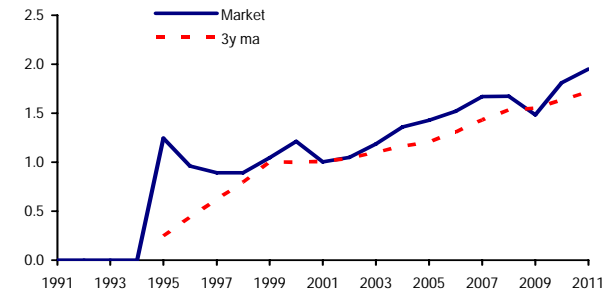
Source: Datastream, Worldscope, UBS Estimates

Chart 172: China - CA Deficit



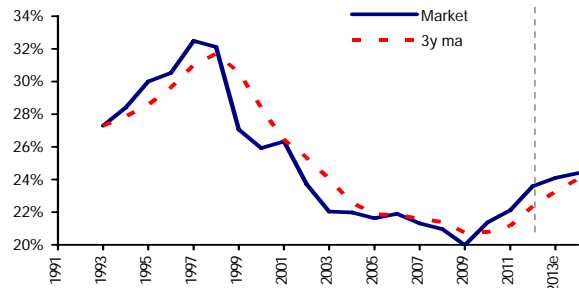
Source: Datastream, Worldscope, UBS Estimates

Chart 173: China - Asset Turnover



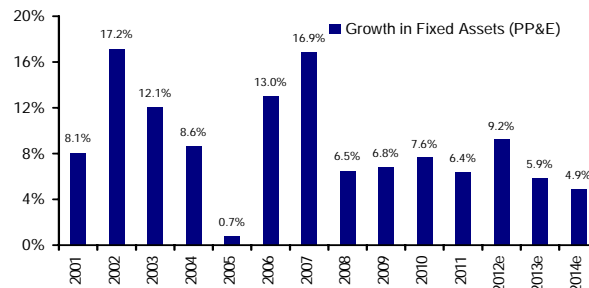
Source: Datastream, Worldscope, UBS Estimates

Chart 174: HK - FAI / GDP



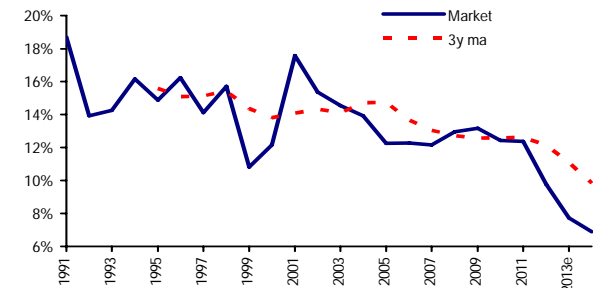
Source: Datastream, Worldscope, UBS Estimates

Chart 175: HK - Growth in Fixed Assets



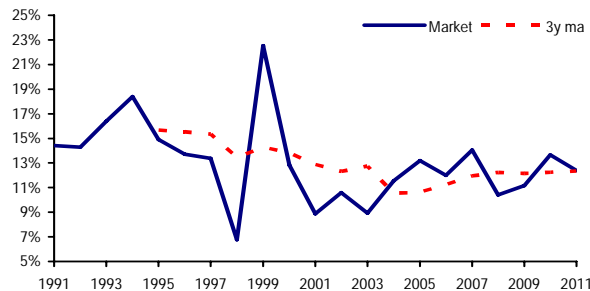
Source: Datastream, Worldscope, UBS Estimates

Chart 176: HK - Capex / Sales



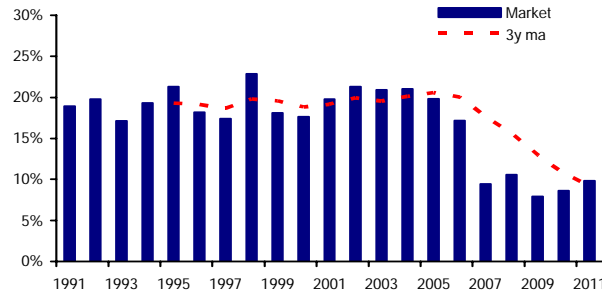
Source: Datastream, Worldscope, UBS Estimates

Chart 177: HK - Profit Cycle



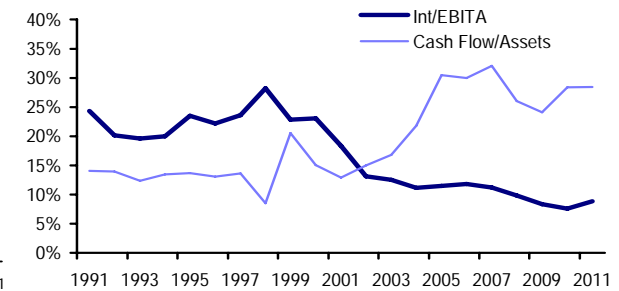
Source: Datastream, Worldscope, UBS Estimates

Chart 178: HK - Debt/(Debt + Equity)



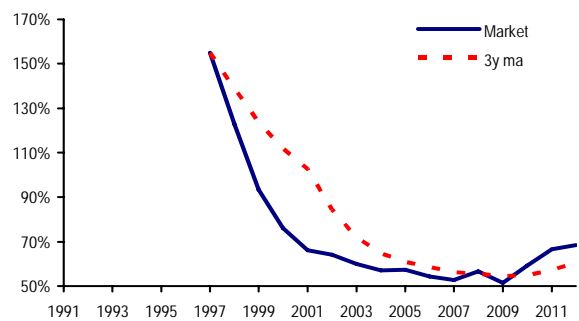
Source: Datastream, Worldscope, UBS Estimates

Chart 179: HK - Int / EBITDA and Cash Flow/Assets



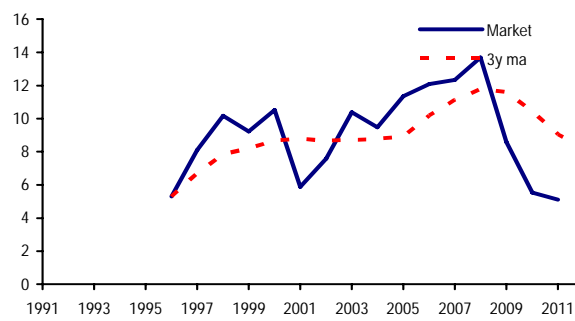
Source: Datastream, Worldscope, UBS Estimates

Chart 180: HK - LDR Banking System



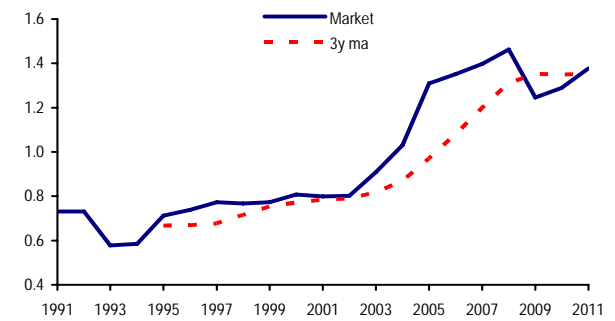
Source: Datastream, Worldscope, UBS Estimates

Chart 181: HK - CA Deficit



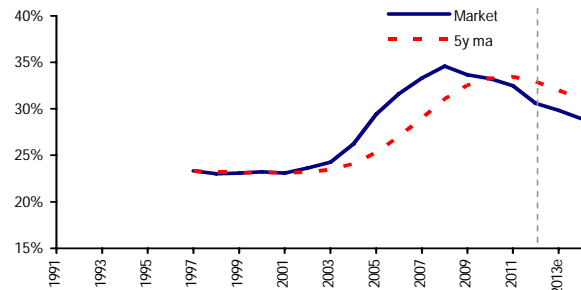
Source: Datastream, Worldscope, UBS Estimates

Chart 182: HK - Asset Turnover



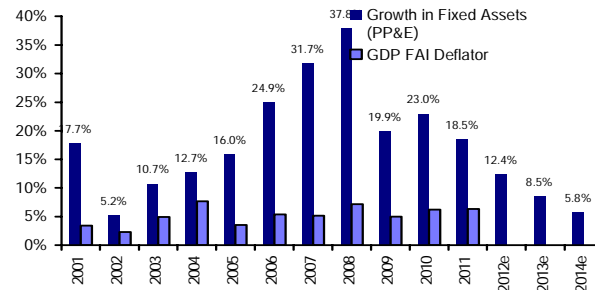
Source: Datastream, Worldscope, UBS Estimates

Chart 183: India - FAI / GDP



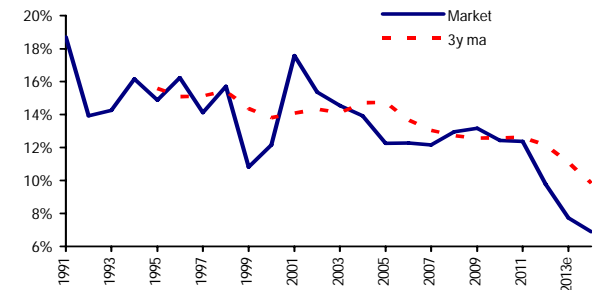
Source: Datastream, Worldscope, UBS Estimates

Chart 184: India - Growth in Fixed Assets



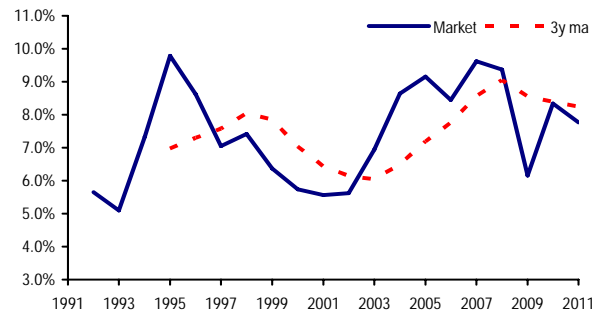
Source: Datastream, Worldscope, UBS Estimates

Chart 185: India - Capex / Sales



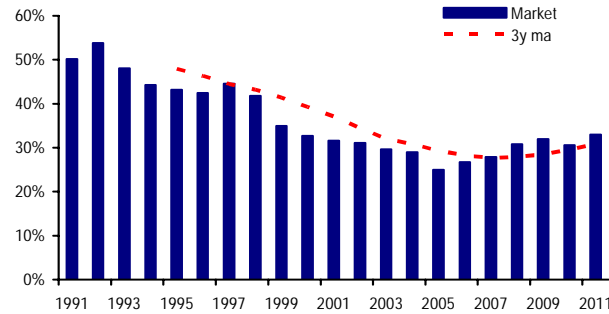
Source: Datastream, Worldscope, UBS Estimates

Chart 186: India - Profit Cycle



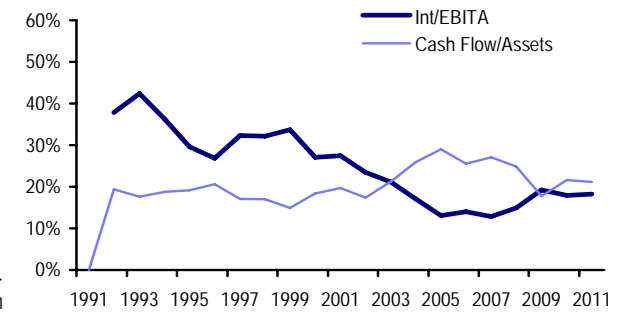
Source: Datastream, Worldscope, UBS Estimates

Chart 187: India - Debt/(Debt + Equity)



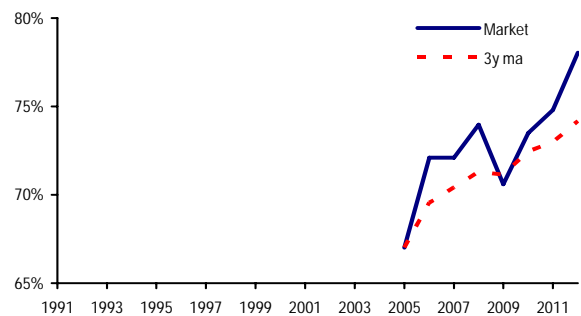
Source: Datastream, Worldscope, UBS Estimates

Chart 188: India - Int / EBITDA and Cash Flow/Assets



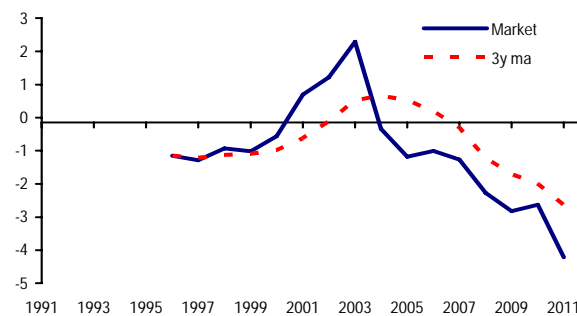
Source: Datastream, Worldscope, UBS Estimates

Chart 189: India - LDR Banking System



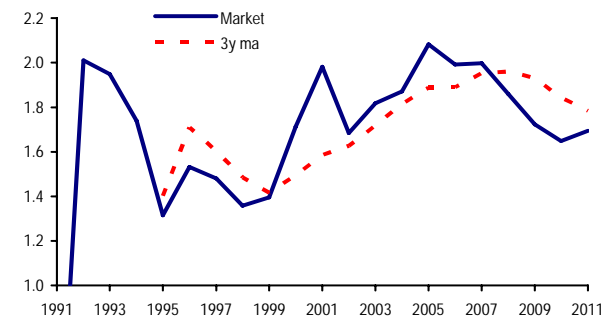
Source: Datastream, Worldscope, UBS Estimates

Chart 190: India - CA Deficit



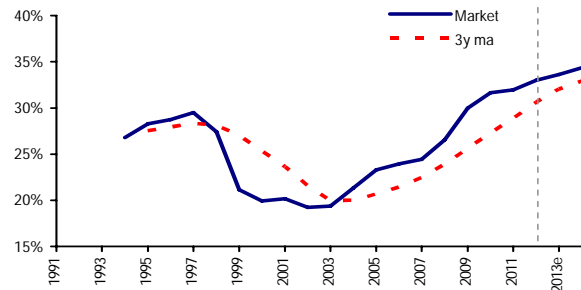
Source: Datastream, Worldscope, UBS Estimates

Chart 191: India - Asset Turnover



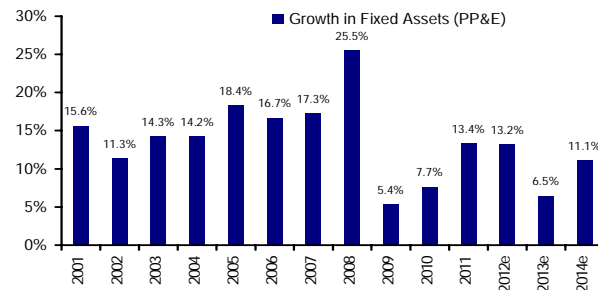
Source: Datastream, Worldscope, UBS Estimates

Chart 192: Indonesia - FAI / GDP



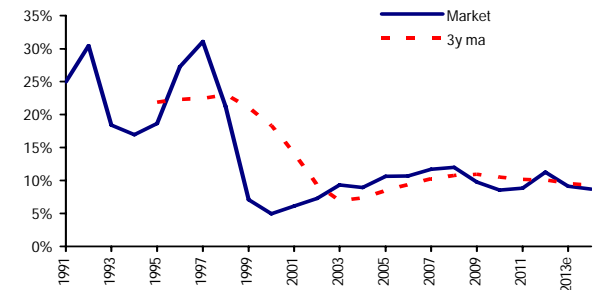
Source: Datastream, Worldscope, UBS Estimates

Chart 193: Indonesia - Growth in Fixed Assets



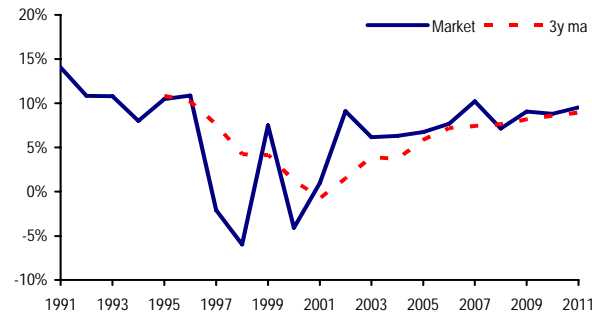
Source: Datastream, Worldscope, UBS Estimates

Chart 194: Indonesia - Capex / Sales



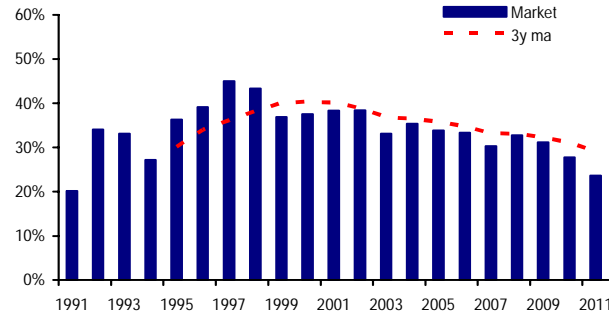
Source: Datastream, Worldscope, UBS Estimates

Chart 195: Indonesia - Profit Cycle



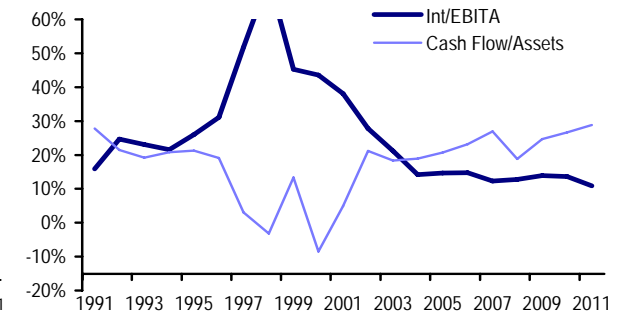
Source: Datastream, Worldscope, UBS Estimates

Chart 196: Indonesia - Debt/(Debt + Equity)



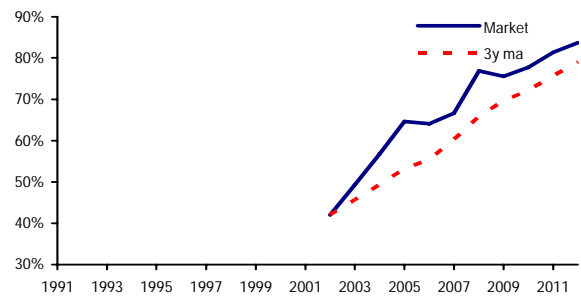
Source: Datastream, Worldscope, UBS Estimates

Chart 197: Indonesia - Int / EBITDA and Cash Flow/Assets



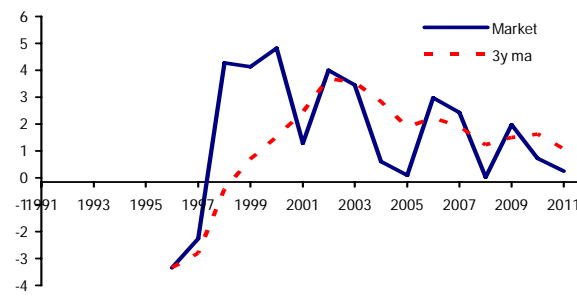
Source: Datastream, Worldscope, UBS Estimates

Chart 198: Indonesia - LDR Banking System



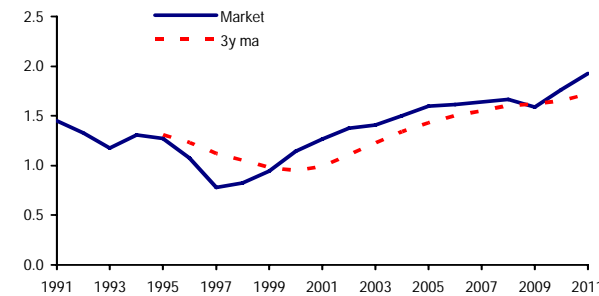
Source: Datastream, Worldscope, UBS Estimates

Chart 199: Indonesia - CA Deficit



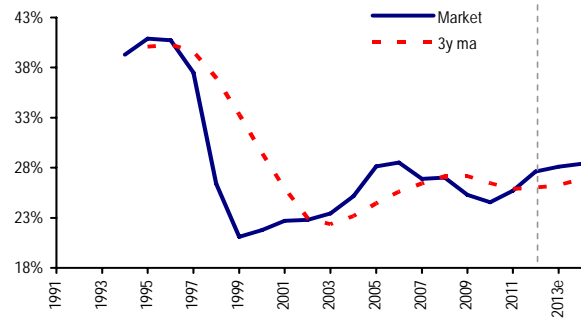
Source: Datastream, Worldscope, UBS Estimates

Chart 200: Indonesia - Asset Turnover



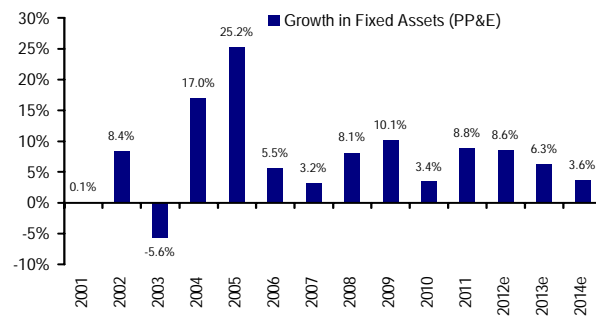
Source: Datastream, Worldscope, UBS Estimates

Chart 201: Thailand - FAI / GDP



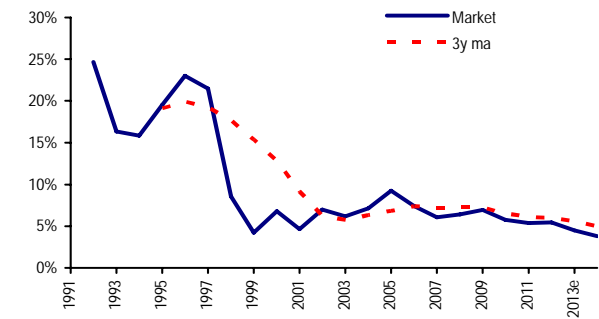
Source: Datastream, Worldscope, UBS Estimates

Chart 202: Thailand - Growth in Fixed Assets



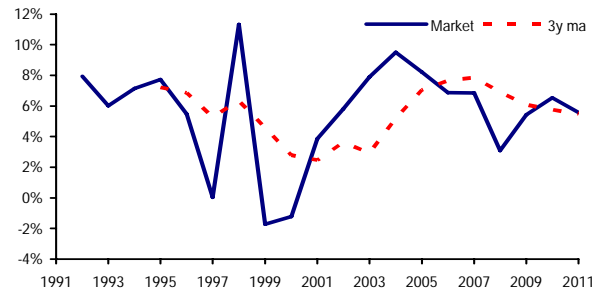
Source: Datastream, Worldscope, UBS Estimates

Chart 203: Thailand - Capex / Sales



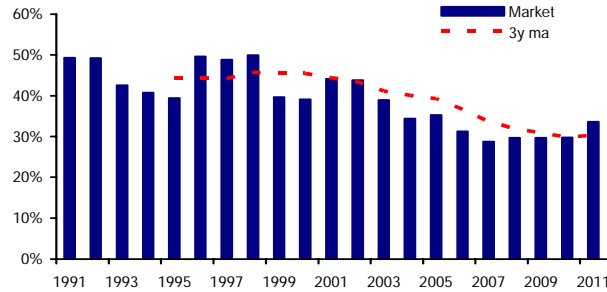
Source: Datastream, Worldscope, UBS Estimates

Chart 204: Thailand - Profit Cycle



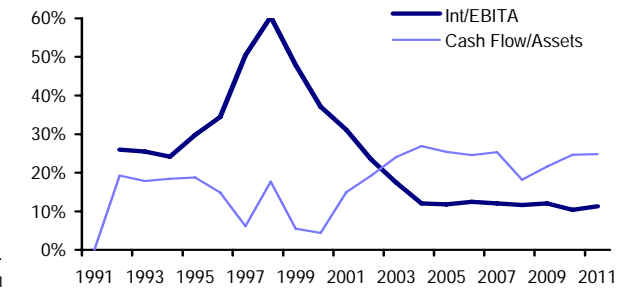
Source: Datastream, Worldscope, UBS Estimates

Chart 205: Thailand - Debt/(Debt + Equity)



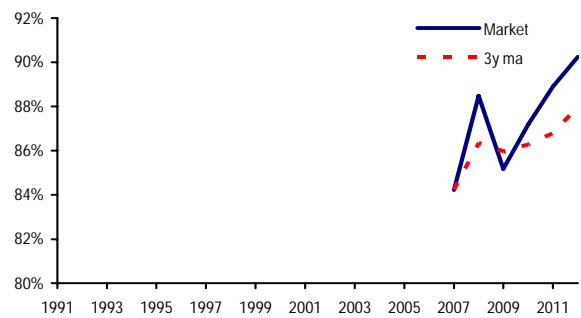
Source: Datastream, Worldscope, UBS Estimates

Chart 206: Thailand - Int / EBITDA and Cash Flow/Assets



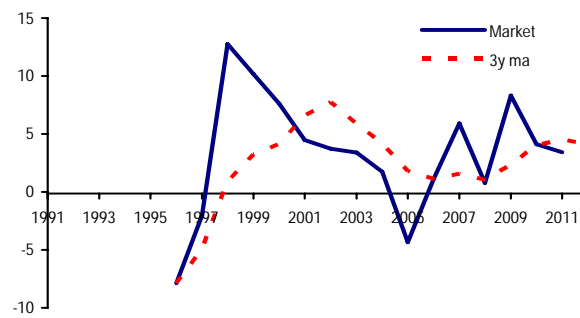
Source: Datastream, Worldscope, UBS Estimates

Chart 207: Thailand - LDR Banking System



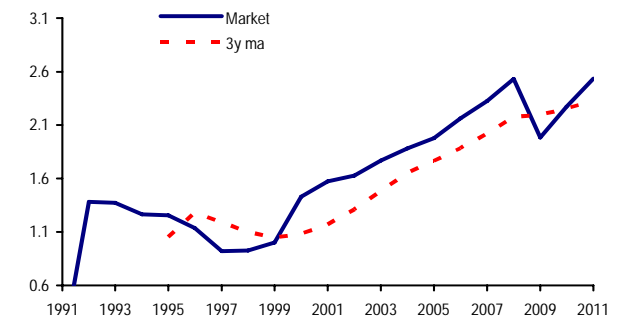
Source: Datastream, Worldscope, UBS Estimates

Chart 208: Thailand - CA Deficit



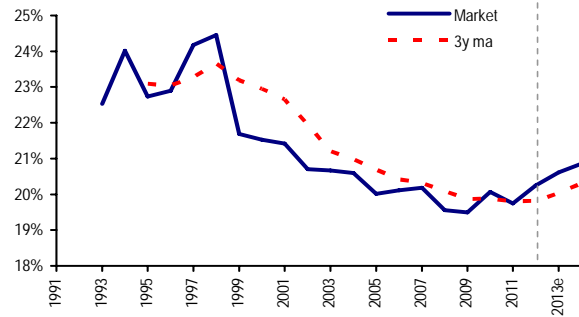
Source: Datastream, Worldscope, UBS Estimates

Chart 209: Thailand - Asset Turnover



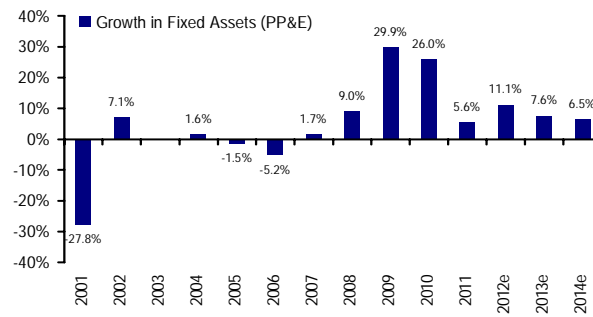
Source: Datastream, Worldscope, UBS Estimates

Chart 210: Philippines - FAI / GDP



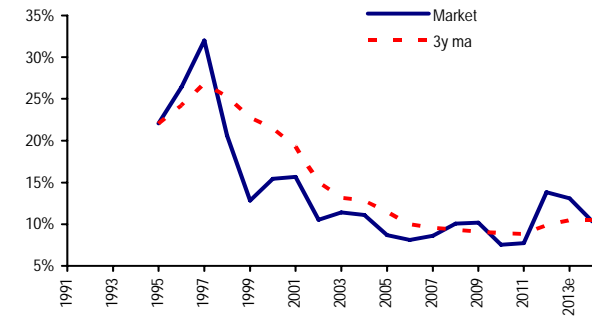
Source: Datastream, Worldscope, UBS Estimates

Chart 211: Philippines - Growth in Fixed Assets



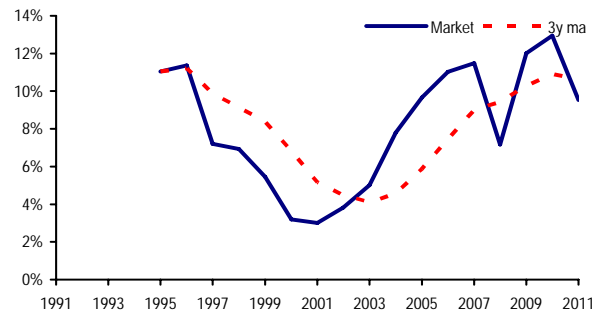
Source: Datastream, Worldscope, UBS Estimates

Chart 212: Philippines - Capex / Sales



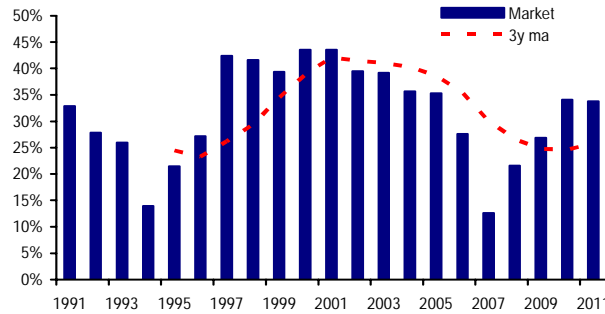
Source: Datastream, Worldscope, UBS Estimates

Chart 213: Philippines - Profit Cycle



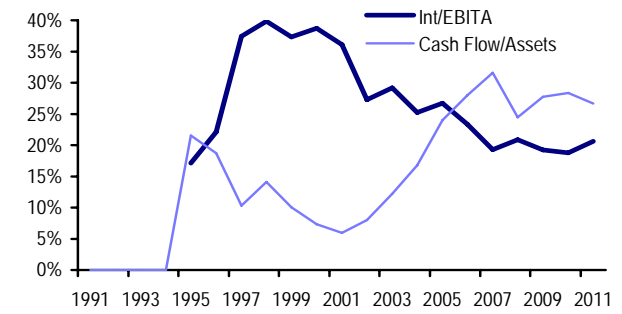
Source: Datastream, Worldscope, UBS Estimates

Chart 214: Philippines - Debt/(Debt + Equity)



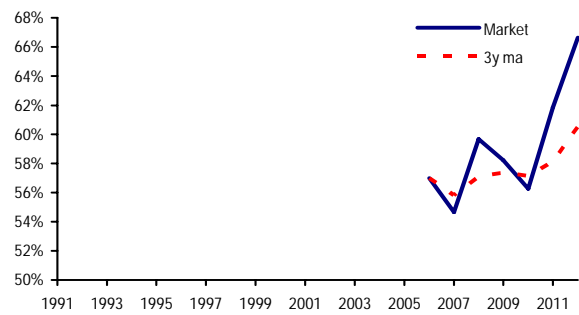
Source: Datastream, Worldscope, UBS Estimates

Chart 215: Philippines - Int / EBITDA and Cash Flow/Assets



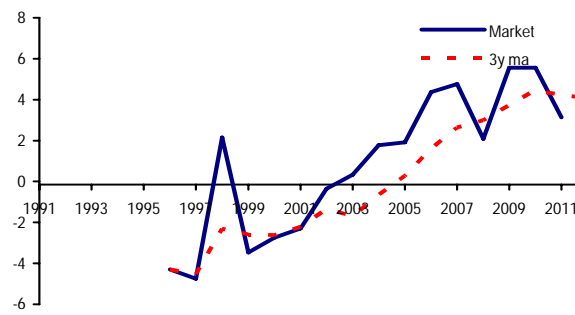
Source: Datastream, Worldscope, UBS Estimates

Chart 216: Philippines - LDR Banking System



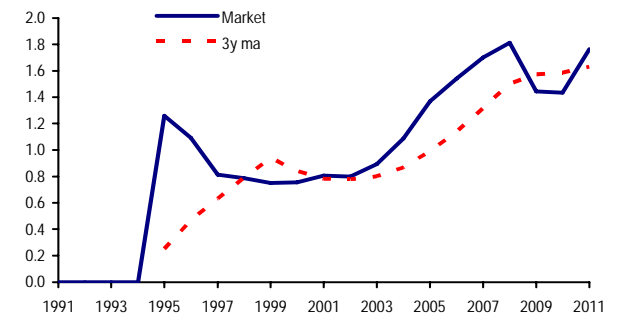
Source: Datastream, Worldscope, UBS Estimates

Chart 217: Philippines - CA Deficit



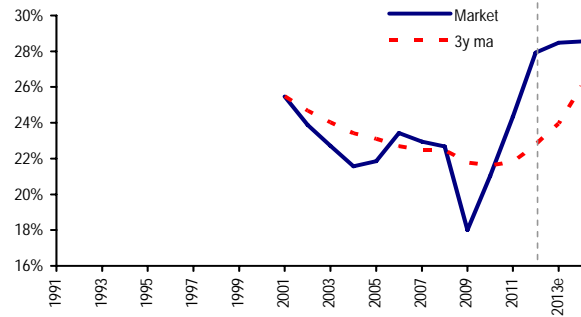
Source: Datastream, Worldscope, UBS Estimates

Chart 218: Philippines - Asset Turnover



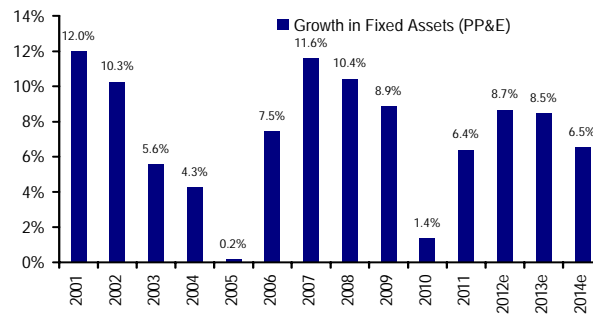
Source: Datastream, Worldscope, UBS Estimates

Chart 219: Malaysia - FAI / GDP



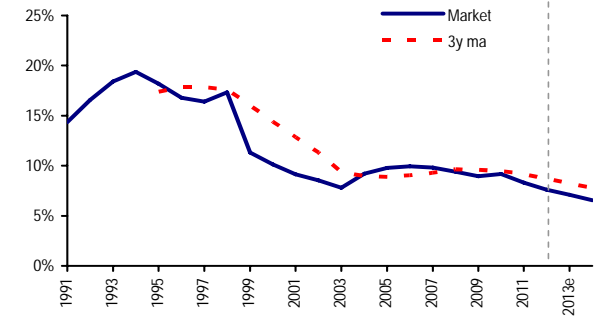
Source: Datastream, Worldscope, UBS Estimates

Chart 220: Malaysia - Growth in Fixed Assets



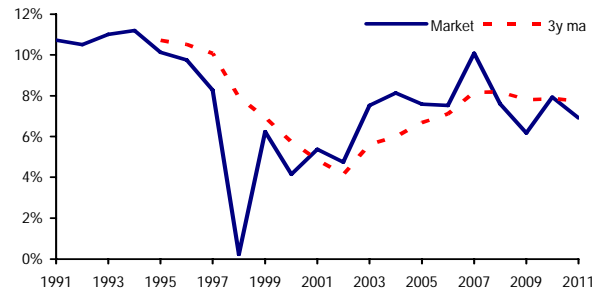
Source: Datastream, Worldscope, UBS Estimates

Chart 221: Malaysia - Capex / Sales



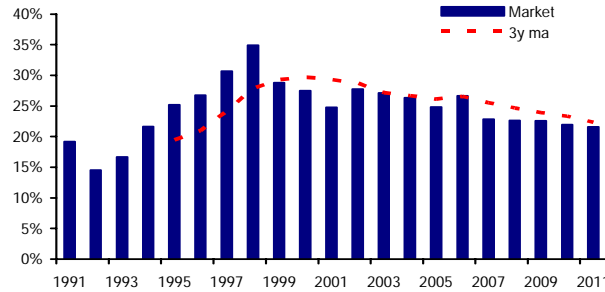
Source: Datastream, Worldscope, UBS Estimates

Chart 222: Malaysia - Profit Cycle



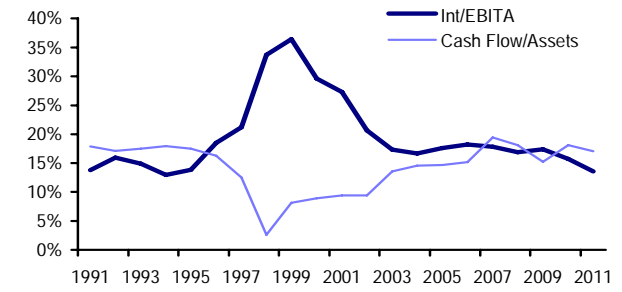
Source: Datastream, Worldscope, UBS Estimates

Chart 223: Malaysia - Debt/(Debt + Equity)



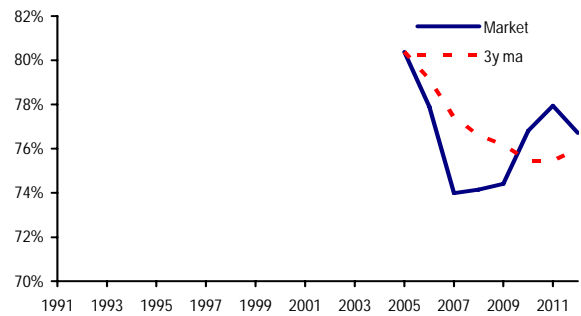
Source: Datastream, Worldscope, UBS Estimates

Chart 224: Malaysia - Int / EBITDA and Cash Flow/Assets



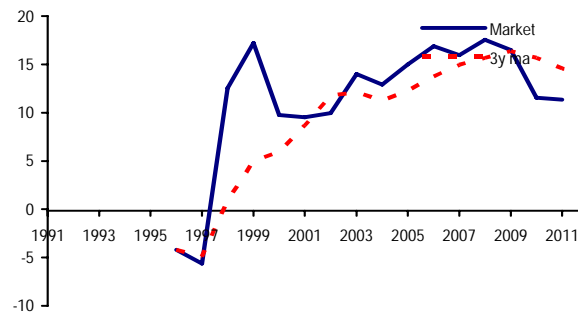
Source: Datastream, Worldscope, UBS Estimates

Chart 225: Malaysia - LDR Banking System



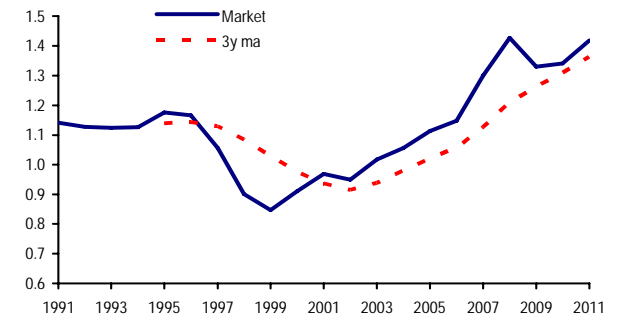
Source: Datastream, Worldscope, UBS Estimates

Chart 226: Malaysia - CA Deficit



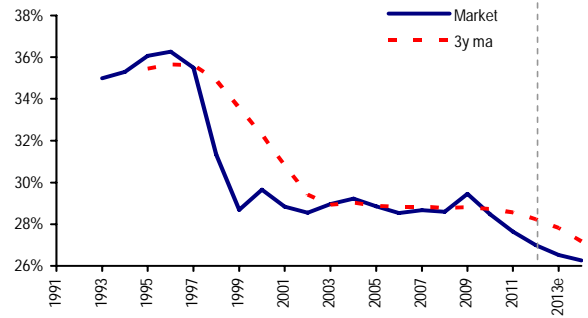
Source: Datastream, Worldscope, UBS Estimates

Chart 227: Malaysia - Asset Turnover



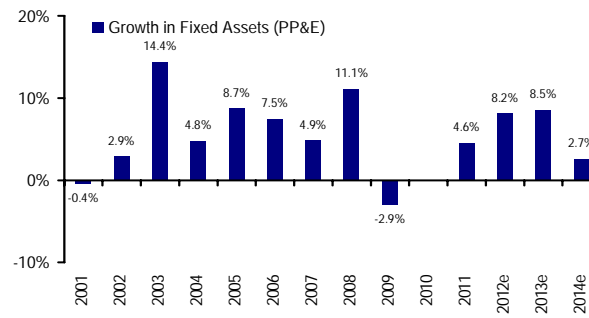
Source: Datastream, Worldscope, UBS Estimates

Chart 228: Korea - FAI / GDP



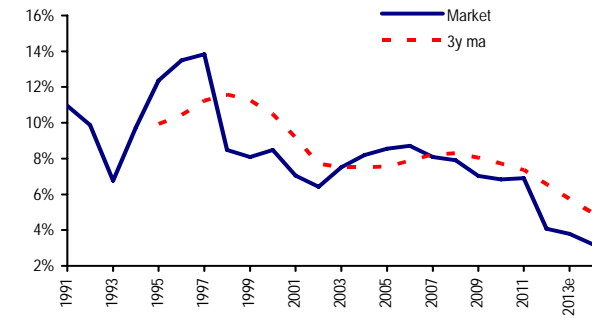
Source: Datastream, Worldscope, UBS Estimates

Chart 229: Korea - Growth in Fixed Assets



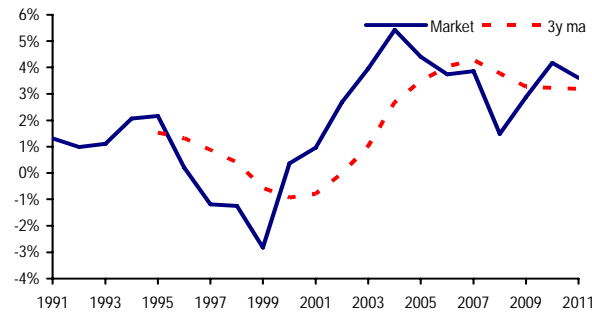
Source: Datastream, Worldscope, UBS Estimates

Chart 230: Korea - Capex / Sales



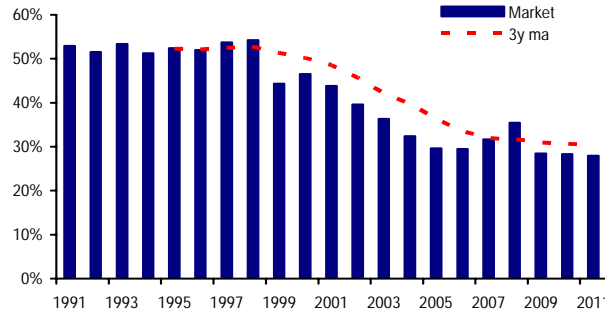
Source: Datastream, Worldscope, UBS Estimates

Chart 231: Korea - Profit Cycle



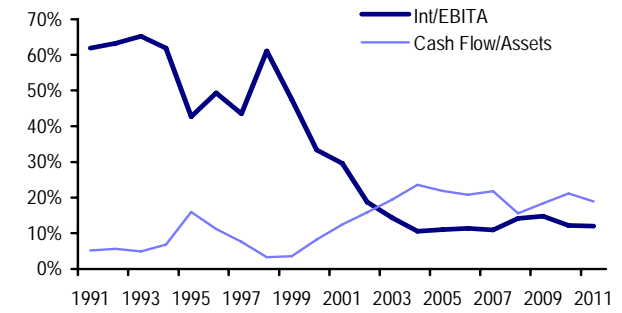
Source: Datastream, Worldscope, UBS Estimates

Chart 232: Korea - Debt/(Debt + Equity)



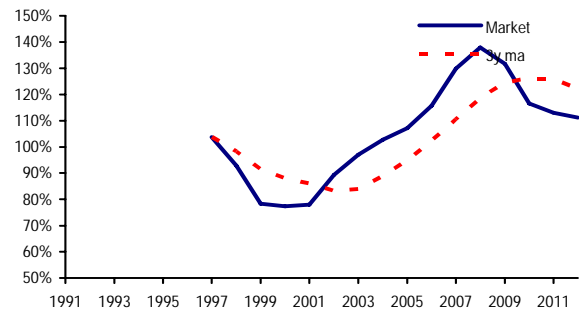
Source: Datastream, Worldscope, UBS Estimates

Chart 233: Korea - Int / EBITDA and Cash Flow/Assets



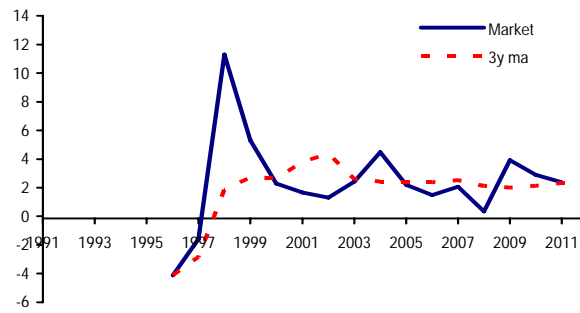
Source: Datastream, Worldscope, UBS Estimates

Chart 234: Korea - LDR Banking System



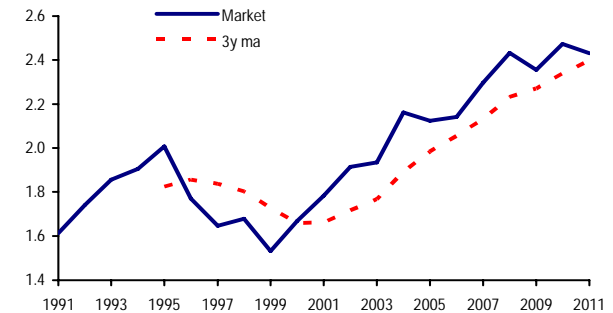
Source: Datastream, Worldscope, UBS Estimates

Chart 235: Korea - CA Deficit



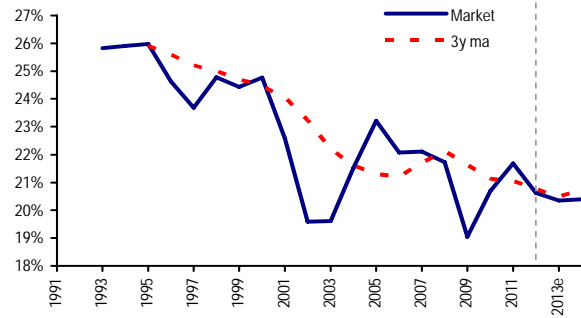
Source: Datastream, Worldscope, UBS Estimates

Chart 236: Korea - Asset Turnover



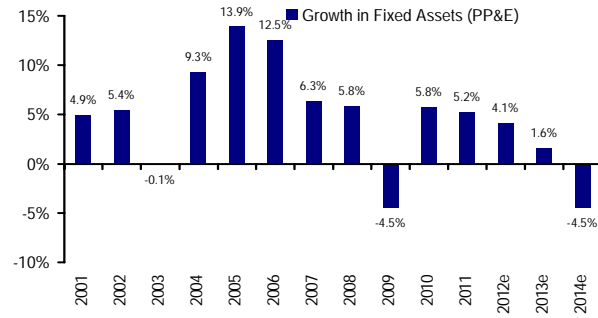
Source: Datastream, Worldscope, UBS Estimates

Chart 237: Taiwan - FAI / GDP



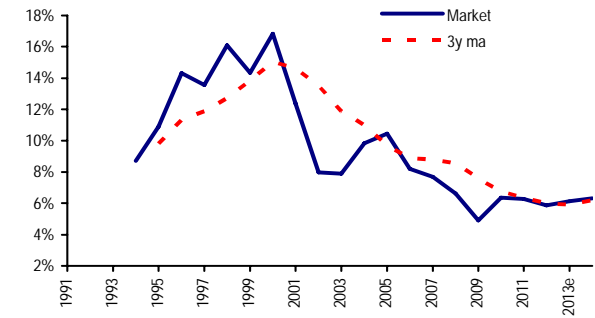
Source: Datastream, Worldscope, UBS Estimates

Chart 238: Taiwan - Growth in Fixed Assets



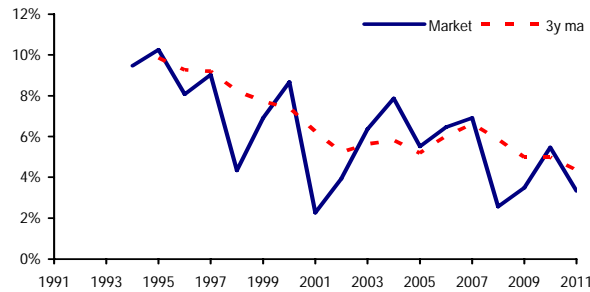
Source: Datastream, Worldscope, UBS Estimates

Chart 239: Taiwan - Capex / Sales



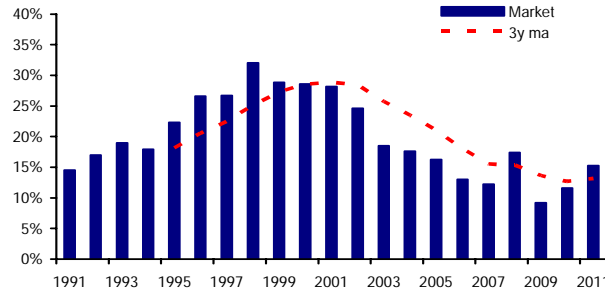
Source: Datastream, Worldscope, UBS Estimates

Chart 240: Taiwan - Profit Cycle



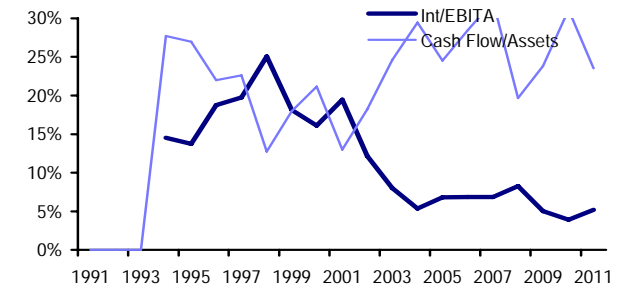
Source: Datastream, Worldscope, UBS Estimates

Chart 241: Taiwan - Debt/(Debt + Equity)



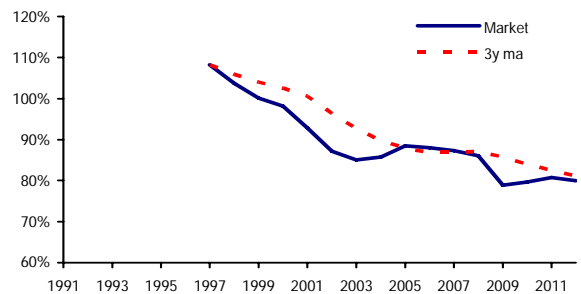
Source: Datastream, Worldscope, UBS Estimates

Chart 242: Taiwan - Int / EBITDA and Cash Flow/Assets



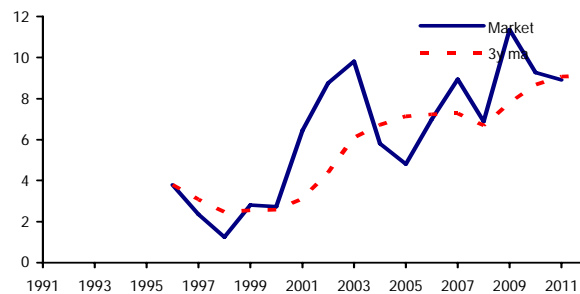
Source: Datastream, Worldscope, UBS Estimates

Chart 243: Taiwan - LDR Banking System



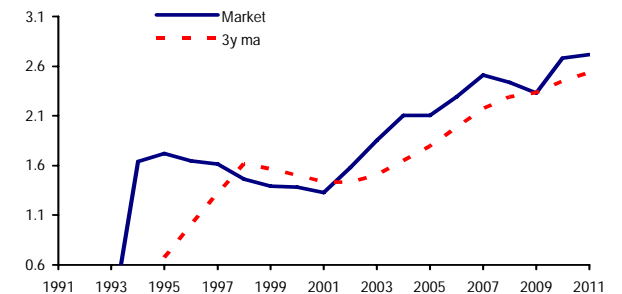
Source: Datastream, Worldscope, UBS Estimates

Chart 244: Taiwan - CA Deficit



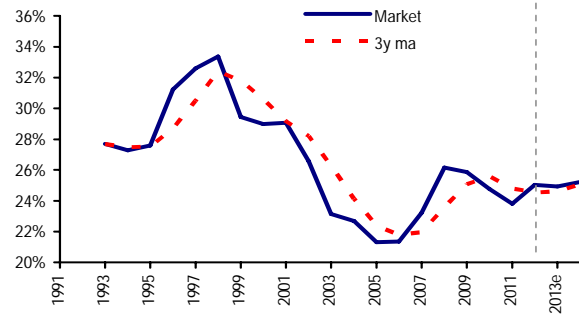
Source: Datastream, Worldscope, UBS Estimates

Chart 245: Taiwan - Asset Turnover



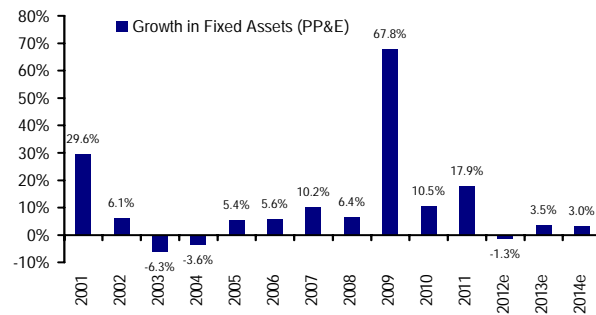
Source: Datastream, Worldscope, UBS Estimates

Chart 246: Singapore - FAI / GDP



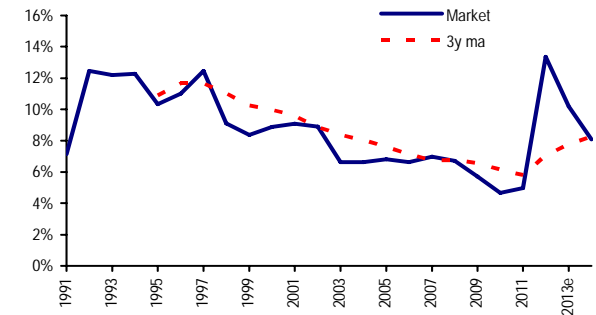
Source: Datastream, Worldscope, UBS Estimates

Chart 247: Singapore - Growth in Fixed Assets



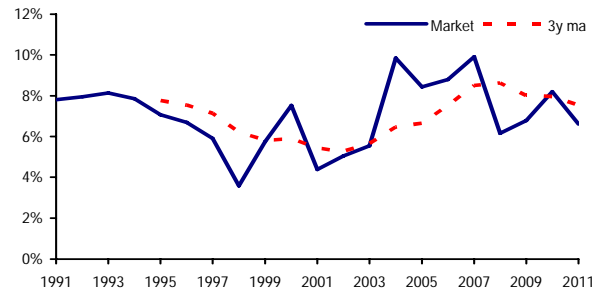
Source: Datastream, Worldscope, UBS Estimates

Chart 248: Singapore - Capex / Sales



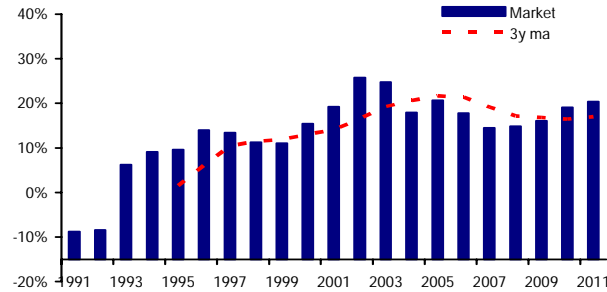
Source: Datastream, Worldscope, UBS Estimates

Chart 249: Singapore - Profit Cycle



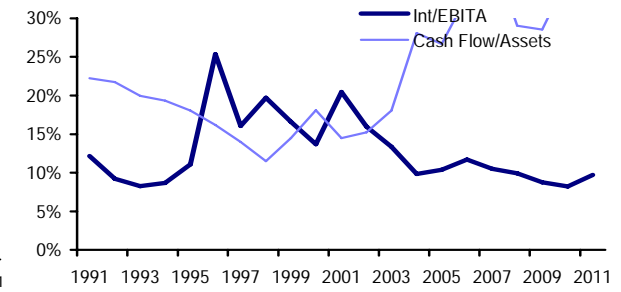
Source: Datastream, Worldscope, UBS Estimates

Chart 250: Singapore - Debt/(Debt + Equity)



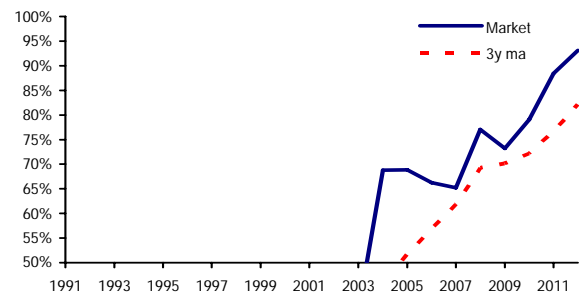
Source: Datastream, Worldscope, UBS Estimates

Chart 251: Singapore - Int / EBITDA and Cash Flow/Assets



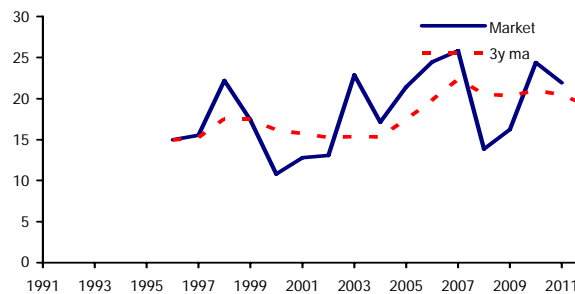
Source: Datastream, Worldscope, UBS Estimates

Chart 252: Singapore - LDR Banking System



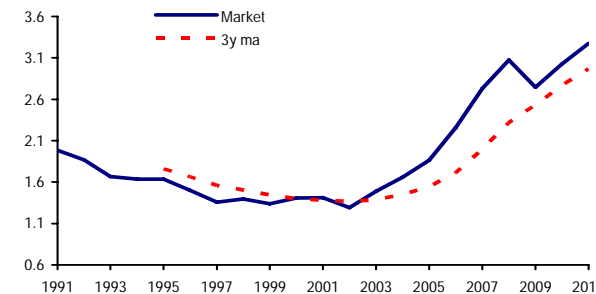
Source: Datastream, Worldscope, UBS Estimates

Chart 253: Singapore - CA Deficit



Source: Datastream, Worldscope, UBS Estimates

Chart 254: Singapore - Asset Turnover



Source: Datastream, Worldscope, UBS Estimates

■ Statement of Risk

Although there are many uncertainties with equity investing, generally economic and policy surprises pose the most consistent and continuous risks. Economic growth can be volatile, leading to earnings uncertainty. Inflation volatility can likewise lead to interest rate uncertainty. The direction and level of policy rates has a substantial impact upon equity valuations.

■ Analyst Certification

Each research analyst primarily responsible for the content of this research report, in whole or in part, certifies that with respect to each security or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about those securities or issuers and were prepared in an independent manner, including with respect to UBS, and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report.

Required Disclosures

This report has been prepared by UBS Securities Asia Limited, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

For information on the ways in which UBS manages conflicts and maintains independence of its research product; historical performance information; and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures. The figures contained in performance charts refer to the past; past performance is not a reliable indicator of future results. Additional information will be made available upon request. UBS Securities Co. Limited is licensed to conduct securities investment consultancy businesses by the China Securities Regulatory Commission.

UBS Investment Research: Global Equity Rating Allocations

UBS 12-Month Rating	Rating Category	Coverage ¹	IB Services ²
Buy	Buy	48%	34%
Neutral	Hold/Neutral	42%	35%
Sell	Sell	9%	18%
UBS Short-Term Rating	Rating Category	Coverage ³	IB Services ⁴
Buy	Buy	less than 1%	33%
Sell	Sell	less than 1%	0%

1:Percentage of companies under coverage globally within the 12-month rating category.

2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.

3:Percentage of companies under coverage globally within the Short-Term rating category.

4:Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

Source: UBS. Rating allocations are as of 31 December 2012.

UBS Investment Research: Global Equity Rating Definitions

UBS 12-Month Rating	Definition
Buy	FSR is > 6% above the MRA.
Neutral	FSR is between -6% and 6% of the MRA.
Sell	FSR is > 6% below the MRA.
UBS Short-Term Rating	Definition
Buy	Buy: Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.
Sell	Sell: Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.

KEY DEFINITIONS

Forecast Stock Return (FSR) is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months.

Market Return Assumption (MRA) is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium).

Under Review (UR) Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation.

Short-Term Ratings reflect the expected near-term (up to three months) performance of the stock and do not reflect any change in the fundamental view or investment case.

Equity Price Targets have an investment horizon of 12 months.

EXCEPTIONS AND SPECIAL CASES

UK and European Investment Fund ratings and definitions are: Buy: Positive on factors such as structure, management, performance record, discount; Neutral: Neutral on factors such as structure, management, performance record, discount; Sell: Negative on factors such as structure, management, performance record, discount.

Core Banding Exceptions (CBE): Exceptions to the standard +/-6% bands may be granted by the Investment Review Committee (IRC). Factors considered by the IRC include the stock's volatility and the credit spread of the respective company's debt. As a result, stocks deemed to be very high or low risk may be subject to higher or lower bands as they relate to the rating. When such exceptions apply, they will be identified in the Company Disclosures table in the relevant research piece.

Research analysts contributing to this report who are employed by any non-US affiliate of UBS Securities LLC are not registered/qualified as research analysts with the NASD and NYSE and therefore are not subject to the restrictions contained in the NASD and NYSE rules on communications with a subject company, public appearances, and trading securities held by a research analyst account. The name of each affiliate and analyst employed by that affiliate contributing to this report, if any, follows.

UBS Securities Asia Limited: Niall MacLeod; Aakash Rawat, CFA; Jessie He.

Company Disclosures

Company Name	Reuters	12-mo rating	Short-term rating	Price	Price date
ACC Limited	ACC.BO	Sell	N/A	Rs1,433.25	04 Jan 2013
Aichi Steel	5482.T	Buy	N/A	¥419	04 Jan 2013
AirAsia	AIRA.KL	Buy	N/A	RM2.93	04 Jan 2013
Ambuja Cements Limited	ABUJ.BO	Sell	N/A	Rs205.90	04 Jan 2013
Angang Steel ^{16b, 20}	0347.HK	Neutral (CBE)	N/A	HK\$6.55	04 Jan 2013
Anhui Conch Cement ^{16a, 16b}	0914.HK	Buy	N/A	HK\$29.00	04 Jan 2013
Asia Cement	1102.TW	Neutral	N/A	NT\$37.20	04 Jan 2013
Asiana Airlines	020560.KS	Neutral	N/A	Won6,530	04 Jan 2013
AU Optronics ^{16b}	2409.TW	Buy	N/A	NT\$13.75	04 Jan 2013
Baosteel	600019.SS	Buy	N/A	Rmb4.95	04 Jan 2013
Brilliance China Automotive ^{2, 4, 16b}	1114.HK	Buy	N/A	HK\$10.58	04 Jan 2013
BYD Company Limited ^{2, 4, 5, 16a, 16b}	1211.HK	Sell	N/A	HK\$22.85	04 Jan 2013
Cathay Pacific ^{16b}	0293.HK	Buy	N/A	HK\$14.50	04 Jan 2013
Cebu Air	CEB.PS	Buy	N/A	P62.00	04 Jan 2013
China Airlines	2610.TW	Neutral	N/A	NT\$12.10	04 Jan 2013
China Eastern Airlines ^{16b}	0670.HK	Buy	N/A	HK\$3.19	04 Jan 2013
China Shipping Container Lines ^{16b}	2866.HK	Neutral	N/A	HK\$2.44	04 Jan 2013
China Southern Airlines ^{16b}	1055.HK	Buy	N/A	HK\$3.89	04 Jan 2013
China Steel	2002.TW	Sell	N/A	NT\$28.00	04 Jan 2013
COSCO Corporation (Singapore) Ltd ^{16b}	COSC.SI	Sell	N/A	S\$0.95	04 Jan 2013
Daewoo Shipbuilding & Marine Engineering	042660.KS	Buy	N/A	Won28,000	04 Jan 2013
Daido Steel	5471.T	Neutral	N/A	¥454	04 Jan 2013
Daihatsu Motor ^{16b}	7262.T	Neutral	N/A	¥1,746	04 Jan 2013
Dongkuk Steel Mill	001230.KS	Sell	N/A	Won14,450	04 Jan 2013
EVA Air	2618.TW	Neutral	N/A	NT\$17.65	04 Jan 2013
Evergreen Marine	2603.TW	Buy	N/A	NT\$18.80	04 Jan 2013
FAW Car Company	000800.SZ	Sell	N/A	Rmb7.90	04 Jan 2013
Formosa Petrochemical Corporation	6505.TW	Sell	N/A	NT\$88.00	04 Jan 2013
Fuji Heavy Industries ^{16b}	7270.T	Neutral	N/A	¥1,158	04 Jan 2013
Garuda Indonesia	GIAA.JK	Neutral	N/A	Rp650	04 Jan 2013
Geely Automobile ^{16b}	0175.HK	Buy	N/A	HK\$4.08	04 Jan 2013
Great Wall Motor	2333.HK	Neutral	N/A	HK\$25.35	04 Jan 2013
GS Holdings	078930.KS	Neutral	N/A	Won74,800	04 Jan 2013
Guangzhou Automobile	2238.HK	Sell	N/A	HK\$7.14	04 Jan 2013
Holcim Indonesia ²²	SMCB.JK	Neutral	N/A	Rp2,950	04 Jan 2013
Honda Motor ^{16b}	7267.T	Buy	N/A	¥3,270	04 Jan 2013
Huaxin Cement - A	600801.SS	Buy	N/A	Rmb14.75	04 Jan 2013
Hyundai Motor ^{3b, 14}	005380.KS	Buy	N/A	Won206,000	04 Jan 2013
Hyundai Steel	004020.KS	Buy	N/A	Won89,000	04 Jan 2013
India Cements	ICMN.BO	Sell	N/A	Rs91.50	04 Jan 2013
Indocement	INTP.JK	Buy	N/A	Rp22,050	04 Jan 2013
INNOLUX Corporation	3481.TW	Neutral	N/A	NT\$16.80	04 Jan 2013
Inotera Memories	3474.TW	Sell	N/A	NT\$3.86	04 Jan 2013
JFE Holdings ⁵	5411.T	Neutral	N/A	¥1,650	04 Jan 2013
Jianghuai Automobile	600418.SS	Buy	N/A	Rmb6.76	04 Jan 2013
Jiangxi Wannianqing Cement	000789.SZ	Buy	N/A	Rmb12.14	04 Jan 2013
JSW Steel ¹³	JSTL.BO	Buy	N/A	Rs826.60	04 Jan 2013
Keppel Corporation ^{5, 16b}	KPLM.SI	Buy	N/A	S\$11.09	04 Jan 2013
Kia Motors	000270.KS	Buy	N/A	Won53,600	04 Jan 2013
Kobe Steel ^{16b}	5406.T	Neutral	N/A	¥112	04 Jan 2013
Korean Air	003490.KS	Buy	N/A	Won48,400	04 Jan 2013

Company Name	Reuters	12-mo rating	Short-term rating	Price	Price date
Lafarge Malayan Cement	LMCE.KL	Neutral	N/A	RM9.55	04 Jan 2013
LG Display ^{5, 16b}	034220.KS	Neutral	N/A	Won30,850	04 Jan 2013
Lingyuan Iron & Steel	600231.SS	Neutral	N/A	Rmb4.83	04 Jan 2013
Maanshan Iron & Steel	0323.HK	Neutral	N/A	HK\$2.68	04 Jan 2013
Magnachip Semiconductor ^{2, 4, 5, 6, 16b}	MX.N	Buy	N/A	US\$16.44	04 Jan 2013
Mahindra & Mahindra	MAHM.BO	Buy	N/A	Rs940.05	04 Jan 2013
Maruti Suzuki India	MRTI.BO	Neutral	N/A	Rs1,544.00	04 Jan 2013
Mazda Motor ^{16b}	7261.T	Sell	N/A	¥185	04 Jan 2013
Neptune Orient Lines ^{16b}	NEPS.SI	Neutral	N/A	S\$1.20	04 Jan 2013
Nippon Steel&Sumitomo Metal ^{16b, 22}	5401.T	Buy	N/A	¥218	04 Jan 2013
Nissan Motor ^{16b}	7201.T	Neutral	N/A	¥854	04 Jan 2013
Orient Overseas (International) Limited	0316.HK	Buy	N/A	HK\$51.60	04 Jan 2013
Pangang Group Steel Vanadium & Titanium	000629.SZ	Buy	N/A	Rmb4.20	04 Jan 2013
Petron ^{2, 4, 5}	PCOR.PS	Buy	N/A	P10.40	04 Jan 2013
POSCO ^{3a, 4, 5, 16b}	005490.KS	Buy	N/A	Won367,000	04 Jan 2013
Reliance Industries ^{2, 4, 5}	RELI.BO	Buy	N/A	Rs860.75	04 Jan 2013
SAIC Motor	600104.SS	Buy	N/A	Rmb17.59	04 Jan 2013
Samsung Heavy Ind.	010140.KS	Buy	N/A	Won38,300	04 Jan 2013
Sanyo Special Steel	5481.T	Neutral	N/A	¥317	04 Jan 2013
Sembcorp Marine ²	SCMN.SI	Neutral	N/A	S\$4.71	04 Jan 2013
Semen Gresik ^{16b}	SMGR.JK	Buy	N/A	Rp15,750	04 Jan 2013
Semiconductor Manufacturing Intl Corp ^{16b}	0981.HK	Neutral	N/A	HK\$0.43	04 Jan 2013
Siam City Cement	SCCC.BK	Suspended	N/A	Bt434.00	04 Jan 2013
Singapore Airlines ^{16b}	SIAL.SI	Neutral	N/A	S\$11.00	04 Jan 2013
SK Hynix ^{16b}	000660.KS	Buy	N/A	Won26,350	04 Jan 2013
SK Innovation	096770.KS	Buy	N/A	Won182,000	04 Jan 2013
S-Oil	010950.KS	Neutral	N/A	Won105,000	04 Jan 2013
Steel Authority of India	SAIL.BO	Sell	N/A	Rs95.20	04 Jan 2013
Suzuki Motor ^{16b}	7269.T	Neutral	N/A	¥2,420	04 Jan 2013
Taiwan Cement	1101.TW	Buy	N/A	NT\$39.00	04 Jan 2013
Taiwan Semiconductor Manufacturing ^{16b, 22}	2330.TW	Buy	N/A	NT\$101.50	04 Jan 2013
Tangshan Jidong Cement	000401.SZ	Buy	N/A	Rmb13.59	04 Jan 2013
Tata Steel Ltd.	TISC.BO	Buy	N/A	Rs433.40	04 Jan 2013
Thai Airways	THAI.BK	Buy	N/A	Bt22.70	04 Jan 2013
Thai Oil	TOP.BK	Buy	N/A	Bt69.25	04 Jan 2013
Tiger Airways	TAHL.SI	Buy	N/A	S\$0.73	04 Jan 2013
Tokyo Steel ⁸	5423.T	Neutral	N/A	¥443	04 Jan 2013
TonenGeneral Sekiyu	5012.T	Neutral	N/A	¥758	04 Jan 2013
Toyota Motor ^{2, 4, 5, 6, 16b}	7203.T	Buy	N/A	¥4,260	04 Jan 2013
UltraTech Cement	ULTC.BO	Sell	N/A	Rs2,036.10	04 Jan 2013
UMC ^{16b}	2303.TW	Buy	N/A	NT\$12.40	04 Jan 2013
Wuhan Steel	600005.SS	Neutral	N/A	Rmb2.83	04 Jan 2013
Xinjiang Ba Yi Iron & Steel	600581.SS	Buy	N/A	Rmb6.04	04 Jan 2013
Yang Ming Marine	2609.TW	Neutral	N/A	NT\$14.60	04 Jan 2013
Yangzijiang Shipbuilding (Holdings) Ltd.	YAZG.SI	Neutral	N/A	S\$1.01	04 Jan 2013

Source: UBS. All prices as of local market close.

Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date

2. UBS AG, its affiliates or subsidiaries has acted as manager/co-manager in the underwriting or placement of securities of this company/entity or one of its affiliates within the past 12 months.
- 3a. UBS AG, Australia Branch is acting as financial adviser to Arrium Limited in relation to a proposal from a consortium of Noble Group Limited, POSCO Australia Pty Ltd, National Pension Service of Korea, Korea Investment Corporation and Korea Finance Corporation to acquire Arrium Limited and will receive a fee for acting in this capacity.
- 3b. UBS Securities Pte Ltd, Seoul Branch is acting as financial advisor to Hyundai Heavy Industries for its potential acquisition of Korea Aerospace Industries from Korea Finance Corp, Samsung Techwin, Hyundai Motor, DIP Holdings and Odin Holdings.
4. Within the past 12 months, UBS AG, its affiliates or subsidiaries has received compensation for investment banking services from this company/entity.
5. UBS AG, its affiliates or subsidiaries expect to receive or intend to seek compensation for investment banking services from this company/entity within the next three months.
6. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and investment banking services are being, or have been, provided.
8. The equity analyst covering this company, a member of his or her team, or one of their household members has a long common stock position in this company.
13. UBS AG, its affiliates or subsidiaries beneficially owned 1% or more of a class of this company's common equity securities as of last month's end (or the prior month's end if this report is dated less than 10 days after the most recent month's end).
14. UBS Limited acts as broker to this company.
- 16a. UBS Securities (Hong Kong) Limited is a market maker in the HK-listed securities of this company.
- 16b. UBS Securities LLC makes a market in the securities and/or ADRs of this company.
20. Because this security exhibits higher-than-average volatility, the FSR has been set at 15% above the MRA for a Buy rating, and at -15% below the MRA for a Sell rating (compared with 6/-6% under the normal rating system).
22. UBS AG, its affiliates or subsidiaries held other significant financial interests in this company/entity as of last month's end (or the prior month's end if this report is dated less than 10 working days after the most recent month's end).

Unless otherwise indicated, please refer to the Valuation and Risk sections within the body of this report.

For a complete set of disclosure statements associated with the companies discussed in this report, including information on valuation and risk, please contact UBS Securities LLC, 1285 Avenue of Americas, New York, NY 10019, USA, Attention: Publishing Administration.

Additional Prices: Air China, HK\$6.59 (04 Jan 2013); Apollo Tyres, Rs89.55 (04 Jan 2013); Astra Agro Lestari, Rp20,600 (04 Jan 2013); Bridgestone, ¥2,390 (04 Jan 2013); Cheng Shin Rubber Ind, NT\$75.50 (04 Jan 2013); China National Building Materials, HK\$12.14 (04 Jan 2013); Feng Hsin Iron & Steel, NT\$54.00 (04 Jan 2013); First Resources, S\$2.07 (04 Jan 2013); GCL Poly Energy, HK\$1.84 (04 Jan 2013); Golden Agri-Resources, S\$0.67 (04 Jan 2013); Hankook Tire Co Ltd, Won44,500 (04 Jan 2013); Hyundai Heavy Industries, Won243,500 (04 Jan 2013); Indofood Agri Resources, S\$1.37 (04 Jan 2013); IOI Corporation, RM5.17 (04 Jan 2013); Jiu Steel Group Hongxing Iron & Steel, Rmb3.41 (04 Jan 2013); KL Kepong, RM22.82 (04 Jan 2013); LDK Solar Co Ltd, US\$2.14 (04 Jan 2013); London Sumatra Indonesia, Rp2,400 (04 Jan 2013); Motech Industries, NT\$31.10 (04 Jan 2013); Powerchip Technology, NT\$0.29 (04 Jan 2013); Showa Shell Sekiyu, ¥497 (04 Jan 2013); Sumitomo Rubber Industries, ¥1,085 (04 Jan 2013); Suntech Power Holdings, US\$1.87 (04 Jan 2013); Toyo Tire & Rubber, ¥275 (04 Jan 2013); Tung Ho Steel Enterprise, NT\$29.65 (04 Jan 2013); Wan Hai Lines, NT\$16.70 (04 Jan 2013); Yingli Green Energy Holding Company, US\$2.80 (04 Jan 2013); Yokohama Rubber, ¥633 (04 Jan 2013); Source: UBS. All prices as of local market close.

Global Disclaimer

This document has been prepared by UBS Securities Asia Limited, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

This document is for distribution only as may be permitted by law. It is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or would subject UBS to any registration or licensing requirement within such jurisdiction. It is published solely for information purposes; it is not an advertisement nor is it a solicitation or an offer to buy or sell any financial instruments or to participate in any particular trading strategy. No representation or warranty, either express or implied, is provided in relation to the accuracy, completeness or reliability of the information contained in this document ('the Information'), except with respect to Information concerning UBS. The Information is not intended to be a complete statement or summary of the securities, markets or developments referred to in the document. UBS does not undertake to update or keep current the Information. Any opinions expressed in this document may change without notice and may differ or be contrary to opinions expressed by other business areas or groups of UBS.

Nothing in this document constitutes a representation that any investment strategy or recommendation is suitable or appropriate to an investor's individual circumstances or otherwise constitutes a personal recommendation. Investments involve risks, and investors should exercise prudence and their own judgement in making their investment decisions. The financial instruments described in the document may not be eligible for sale in all jurisdictions or to certain categories of investors. Options, derivative products and futures are not suitable for all investors, and trading in these instruments is considered risky. Mortgage and asset-backed securities may involve a high degree of risk and may be highly volatile in response to fluctuations in interest rates or other market conditions. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related instrument referred to in the document. For investment advice, trade execution or other enquiries, clients should contact their local sales representative.

The value of any investment or income may go down as well as up, and investors may not get back the full amount invested. Past performance is not necessarily a guide to future performance. Neither UBS nor any of its directors, employees or agents accepts any liability for any loss (including investment loss) or damage arising out of the use of all or any of the Information.

Any prices stated in this document are for information purposes only and do not represent valuations for individual securities or other financial instruments. There is no representation that any transaction can or could have been effected at those prices, and any prices do not necessarily reflect UBS's internal books and records or theoretical model-based valuations and may be based on certain assumptions. Different assumptions by UBS or any other source may yield substantially different results.

Research will initiate, update and cease coverage solely at the discretion of UBS Investment Bank Research Management. The analysis contained in this document is based on numerous assumptions. Different assumptions could result in materially different results. The analyst(s) responsible for the preparation of this document may interact with trading desk personnel, sales personnel and other parties for the purpose of gathering, applying and interpreting market information. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS into other areas, units, groups or affiliates of UBS. The compensation of the analyst who prepared this document is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues; however, compensation may relate to the revenues of UBS Investment Bank as a whole, of which investment banking, sales and trading are a part.

For financial instruments admitted to trading on an EU regulated market: UBS AG, its affiliates or subsidiaries (excluding UBS Securities LLC) acts as a market maker or liquidity provider (in accordance with the interpretation of these terms in the UK) in the financial instruments of the issuer save that where the activity of liquidity provider is carried out in accordance with the definition given to it by the laws and regulations of any other EU jurisdictions, such information is separately disclosed in this document. For financial instruments admitted to trading on a non-EU regulated market: UBS may act as a market maker save that where this activity is carried out in the US in accordance with the definition given to it by the relevant laws and regulations, such activity will be specifically disclosed in this document. UBS may have issued a warrant the value of which is based on one or more of the financial instruments referred to in the document. UBS and its affiliates and employees may have long or short positions, trade as principal and buy and sell in instruments or derivatives identified herein; such transactions or positions may be inconsistent with the opinions expressed in this document.

United Kingdom and the rest of Europe: Except as otherwise specified herein, this material is distributed by UBS Limited to persons who are eligible counterparties or professional clients. UBS Limited is authorised and regulated by the Financial Services Authority (FSA). **France:** Prepared by UBS Limited and distributed by UBS Limited and UBS Securities France S.A. UBS Securities France S.A. is regulated by the Autorité des Marchés Financiers (AMF). Where an analyst of UBS Securities France S.A. has contributed to this document, the document is also deemed to have been prepared by UBS Securities France S.A. **Germany:** Prepared by UBS Limited and distributed by UBS Limited and UBS Deutschland AG. UBS Deutschland AG is regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin). **Spain:** Prepared by UBS Limited and distributed by UBS Limited and UBS Securities España SV, SA. UBS Securities España SV, SA is regulated by the Comisión Nacional del Mercado de Valores (CNMV). **Turkey:** Prepared by UBS Menkul Değerler AS on behalf of and distributed by UBS Limited. No information in this document is provided for the purpose of offering, marketing and sale by any means of any capital market instruments and services in the Republic of Turkey. Therefore, this document may not be considered as an offer made or to be made to residents of the Republic of Turkey. UBS AG is not licensed by the Turkish Capital Market Board under the provisions of the Capital Market Law (Law No. 2499). Accordingly, neither this document nor any other offering material related to the instruments/services may be utilized in connection with providing any capital market services to persons within the Republic of Turkey without the prior approval of the Capital Market Board. However, according to article 15 (d) (ii) of the Decree No. 32, there is no restriction on the purchase or sale of the securities abroad by residents of the Republic of Turkey. **Poland:** Distributed by UBS Limited (spółka z ograniczoną odpowiedzialnością) Oddział w Polsce. **Russia:** Prepared and distributed by UBS Securities CJSC. **Switzerland:** Distributed by UBS AG to persons who are institutional investors only. **Italy:** Prepared by UBS Limited and distributed by UBS Limited and UBS Italia Sim S.p.A. UBS Italia Sim S.p.A. is regulated by the Bank of Italy and by the Commissione Nazionale per le Società e la Borsa (CONSOB). Where an analyst of UBS Italia Sim S.p.A. has contributed to this document, the document is also deemed to have been prepared by UBS Italia Sim S.p.A. **South Africa:** Distributed by UBS South Africa (Pty) Limited, an authorised user of the JSE and an authorised Financial Services Provider. **Israel:** UBS Limited and its affiliates incorporated outside Israel are not licensed under the Investment Advice Law. This material is being issued only to and/or is directed only at persons who are Sophisticated Investors within the meaning of the Israeli Securities Law, and this material must not be relied or acted upon by any other persons. Whilst UBS Limited holds insurance for its activities, it does not hold the same insurance that would be required for an investment advisor or investment marketer under the relevant Investment Advice Law Regulations. **Saudi Arabia:** This document has been issued by UBS AG (and/or any of its subsidiaries, branches or affiliates), a public company limited by shares, incorporated in Switzerland with its registered offices at Aeschenvorstadt 1, CH-4051 Basel and Bahnhofstrasse 45, CH-8001 Zurich. This publication has been approved by UBS Saudi Arabia (a subsidiary of UBS AG), a foreign closed joint stock company incorporated in the Kingdom of Saudi Arabia under commercial register number 1010257812 having its registered office at Tatweer Towers, P.O. Box 75724, Riyadh 11588, Kingdom of Saudi Arabia. UBS Saudi Arabia is authorized and regulated by the Capital Market Authority to conduct securities business under license number 08113-37. **United States:** Distributed to US persons by either UBS Securities LLC or by UBS Financial Services Inc., subsidiaries of UBS AG; or by a group, subsidiary or affiliate of UBS AG that is not registered as a US broker-dealer (a 'non-US affiliate') to major US institutional investors only. UBS Securities LLC or UBS Financial Services Inc. accepts responsibility for the content of a document prepared by another non-US affiliate when distributed to US persons by UBS Securities LLC or UBS Financial Services Inc. All transactions by a US person in the securities mentioned in this document must be effected through UBS Securities LLC or UBS Financial Services Inc., and not through a non-US affiliate. **Canada:** Distributed by UBS Securities Canada Inc., a registered investment dealer in Canada and a Member-Canadian Investor Protection Fund, or by another affiliate of UBS AG that is registered to conduct business in Canada or is otherwise exempt from registration. **Hong Kong:** Distributed by UBS Securities Asia Limited. **Singapore:** Distributed by UBS Securities Pte. Ltd. [mica (p) 016/11/2011 and Co. Reg. No.: 198500648C] or UBS AG, Singapore Branch. Please contact UBS Securities Pte. Ltd., an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110); or UBS AG, Singapore Branch, an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110) and a wholesale bank licensed under the Singapore Banking Act (Cap. 19) regulated by the Monetary Authority of Singapore, in respect of any matters arising from, or in connection with, the analysis or document. The recipients of this document represent and warrant that they are accredited and institutional investors as defined in the Securities and Futures Act (Cap. 289). **Japan:** Distributed by UBS Securities Japan Co., Ltd. to institutional investors only. Where this document has been prepared by UBS Securities Japan Co., Ltd., UBS Securities Japan Co., Ltd. is the author, publisher and distributor of the document. **Australia:** Distributed by UBS AG (Holder of Australian Financial Services License No. 231087) and/or UBS Securities Australia Ltd (Holder of Australian Financial Services License No. 231098). The Information in this document has been prepared without taking into account any investor's objectives, financial situation or needs, and investors should, before acting on the Information, consider the appropriateness of the Information, having regard to their objectives, financial situation and needs. If the Information contained in this publication relates to the acquisition, or potential acquisition of a particular financial product by a 'Retail' client as defined by section 761G of the Corporations Act 2001 where a Product Disclosure Statement would be required, the retail client should obtain and consider the Product Disclosure Statement relating to the product before making any decision about whether to acquire the product. **New Zealand:** Distributed by UBS New Zealand Ltd. The information and recommendations in this publication are provided for general information purposes only. To the extent that any such information or recommendations constitute financial advice, they do not take into account any person's particular financial situation or goals. We recommend that recipients seek advice specific to their circumstances from their financial advisor. **Dubai:** The research prepared and distributed by UBS AG Dubai Branch is intended for Professional Clients only and is not for further distribution within the United Arab Emirates. **Korea:** Distributed in Korea by UBS Securities Pte. Ltd., Seoul Branch. This document may have been edited or contributed to from time to time by affiliates of UBS Securities Pte. Ltd., Seoul Branch. **Malaysia:** This material is authorized to be distributed in Malaysia by UBS Securities Malaysia Sdn. Bhd (253825-x). **India:** Prepared by UBS Securities India Private Ltd. 2/F, 2 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra (East), Mumbai (India) 400051. Phone: +912261556000 SEBI Registration Numbers: NSE (Capital Market Segment): INB230951431, NSE (F&O Segment) INF230951431, BSE (Capital Market Segment) INB010951437.

The disclosures contained in research documents produced by UBS Limited shall be governed by and construed in accordance with English law.

UBS specifically prohibits the redistribution of this document in whole or in part without the written permission of UBS and UBS accepts no liability whatsoever for the actions of third parties in this respect. Images may depict objects or elements which are protected by third party copyright, trademarks and other intellectual property rights. © UBS 2013. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.

