

GLOBAL CORPORATE CAPITAL EXPENDITURE SURVEY 2014



**STANDARD & POOR'S
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GLOBAL CAPEX SURVEY 2014

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OVERVIEW

- A recovery in the global capex cycle still appears some way off. Intentions surveys have improved and corporates remain awash with cash (\$4.5 trillion for the top 2000 capex spenders), but these positives are likely to be overshadowed by a squeeze on energy and materials capex and a deterioration in emerging market spending. Global corporate capex fell by 1% in real terms in 2013 and current estimates suggest a 0.5% decline is likely in 2014.
- Aggressive cuts to capital expenditure are being implemented by metals and mining companies such as BHP Billiton, Vale and Rio Tinto and current estimates suggest a multi-year adjustment. Of greater concern for global capex growth prospects is growing evidence of stalling capital expenditure in the much larger global oil and gas sector from the likes of Petrobras, Chevron, Gazprom and Total. A decade-long boom that has seen spending more than double in real terms is running out of headroom, with capex now exceeding operating cash flow. This comes at a time when finding and extracting new reserves is getting harder and returns on capital are under pressure.
- The significance for the global capex outlook of this pressure on energy and materials spending cannot be overstated given that these industries together accounted for 42% of global corporate capex in 2013. Energy companies dominate the rankings of the biggest capex spenders globally, making up nine of the top ten.
- Emerging market capex is showing a case of serious indigestion. Spending fell by 4% in real terms in 2013 and looks set for a similar decline in 2014. The decline is broad-based and has affected corporates in Brazil, Russia, India and, surprisingly, China. This marks the first significant reversal in the long-term uptrend since the various emerging market crises of the 1990s and leaves global capex growth reliant for now on slow-growing developed markets.
- Some indicators support the case for an upturn in capex: plentiful cash, improving intentions, ageing capital stocks and an improving global economy. But even in terms of fundamentals there are some problems, including weak operating trends, declining profitability and uncertainty that large cash balances will translate to capex given industry-specific pressures and falling bank lending.
- With energy and materials capex under pressure, other sectors need to lead if we are to see capex recover. There is some good news here. Excluding energy and materials, capex is expected to grow by 2.6% in 2014, led by IT (Apple, Google, Microsoft), healthcare, and telecoms (Vodafone, America Movil). However, heavyweight capex sectors like utilities and industrials continue to reduce spending.
- Market analysts appear to systemically underestimate prospects for capex. Since 2007, there has been only one year – crisis-affected 2009 – when the final tally for capex was less than the initial forecasts for that year. In all other years, the outturn was at least 5% more than initially forecast and as much as 26% in the boom years. This suggests scope for forecasts to improve. However, as much of the historic error was due to underestimating the boom in energy and materials capex, upward revisions in 2014-15 may have less scope to increase.
- Despite a slight dip in 2013, R&D spend has been steadier than capex with consistent growth in recent years. R&D spending remains dominated by IT and healthcare spending in North American and Western Europe. In Asia-Pacific and emerging market countries, R&D spending has not gained global share in the way it has for capital expenditure.

S&P CORPORATE CAPITAL EXPENDITURE SURVEY

This is the second edition of our annual corporate capital expenditure survey, designed to track, assess and help form views on global capital expenditure (capex) trends.

The survey makes use of S&P Capital IQ data to inform our analysis, tracking a rolling universe of 2,000 global non-financial companies (rated and unrated, public and private) that spend the most on capex. For 2013, capex by companies in this universe ranged from \$253 million to \$69 billion.

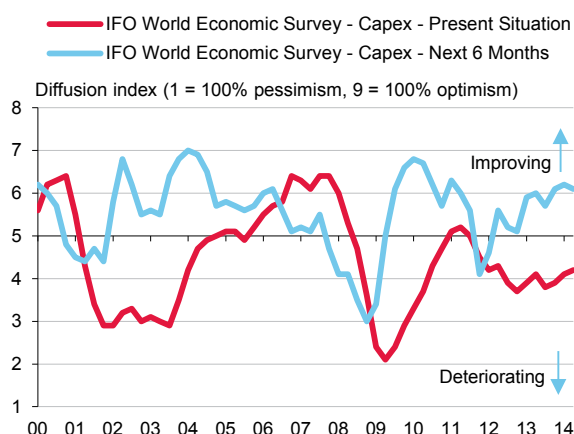
Key trends and forecasts are shown in U.S. Dollar terms based on historical exchange rates. The history is shown in real terms, using International Monetary Fund (IMF) inflation data to deflate financial line items based on the country of incorporation. In our view, this adjustment is essential to make meaningful comparisons through time and across countries.

We base our capex projections on a combination of recent company guidance, where available, and consensus estimates from S&P Capital IQ. For further details on methodology, please see the Appendix.

HOPE SPRINGS ETERNAL...

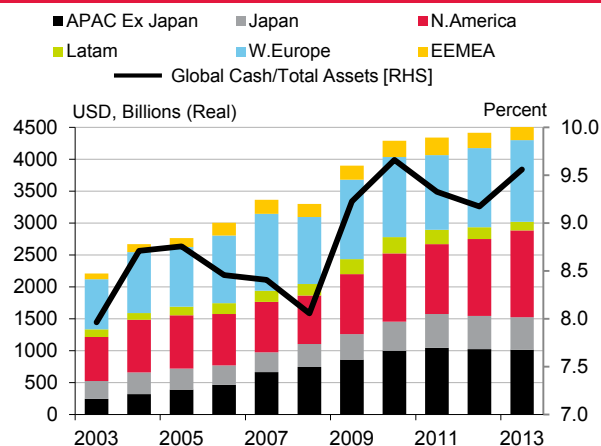
A recovery in corporate capital expenditure (capex) remains one of the most keenly anticipated trends in the global economy. It is seen as the missing link to a better established and self-sustaining economic recovery that would help end reliance on low nominal policy rates and extraordinary measures such as quantitative easing.

Our survey this time last year suggested that such hope was misplaced, with the near-term outlook for capital spending growth relatively poor. Since then, the clamor for greater investment spending has grown and, encouragingly, many investor and CEO surveys have shown a greater apparent appetite for capex (see chart 1).

CHART 1 | IFO WORLD ECONOMIC SURVEY - CAPITAL EXPENDITURE - ALL COUNTRIES (123)

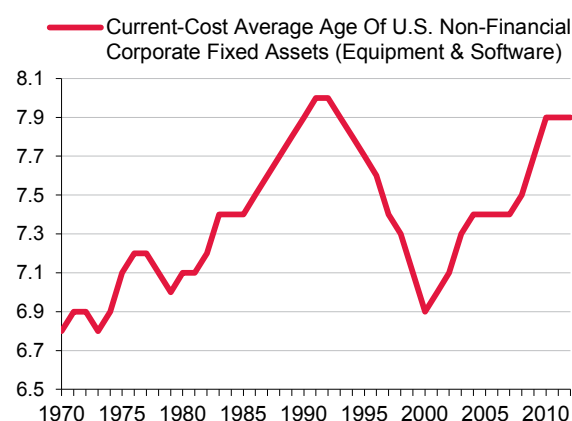
Source: Thomson Reuters Datastream, IFO World Economic Survey, ICC (Paris). Country results are weighted according to the individual country's exports and imports as a share of World trade.

Similarly, one of the most potent arguments in favor of a sharp recovery in capex is the extraordinary build up in cash held by the corporate sector. This cash continues to accumulate, with 2013 financial results showing that the 2000 largest capex spenders globally now hold \$4.5 trillion of cash on the balance sheet, equivalent to 9.6% of total assets (see chart 2).

CHART 2 | GLOBAL NON-FINANCIAL CORPORATE CASH HOLDINGS AND CASH / TOTAL ASSETS

Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

Another regularly cited argument for a strong recovery in capex is an ageing capital stock in need of renewal. Global data are hard to come by, but in the US average asset life remains close to the post-1970 high (see chart 3).

CHART 3 | U.S. NON-FINANCIAL CORPORATE CAPITAL STOCK - AVERAGE AGE

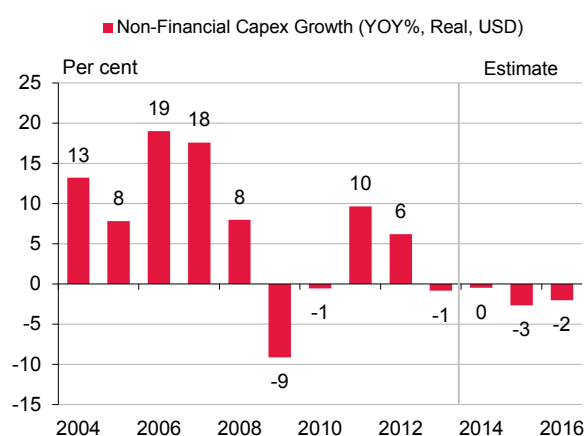
Source: U.S. Bureau Of Economic Analysis (Table 4.9)

...BUT THE PROGNOSIS REMAINS POOR

Disappointingly, our analysis suggests a recovery in capex remains some way off. The capex cycle remains stuck in neutral and many key drivers are likely to continue to constrain near-term prospects for recovery.

The outturn for real terms global capex growth in 2013 was -1% (see chart 4), compared with our projection of -1.5% at the time of last year's survey¹. For 2014, a mixture of corporate guidance and consensus estimates suggest a slightly smaller 0.5% decline and the figure for 2015 is for a contraction of 3%. The bounce-back seen in the early stages of the global economic recovery has fallen away.

CHART 4 | GLOBAL NON-FINANCIAL CORPORATE CAPEX GROWTH



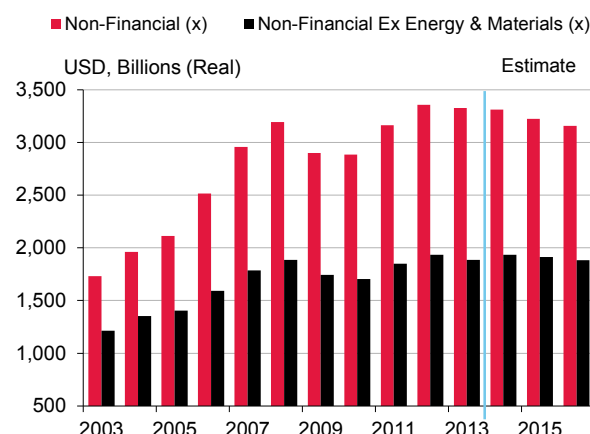
Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

Looking at the underlying values gives an even clearer sense of the levelling off apparent in capex (see chart 5). The powerful growth coming from energy and materials is starting to falter and global capex excluding those sectors is also flat-lining.

In 2013, our universe spent \$3,327 billion on capex, down from \$3,356 in 2012. For 2014, current estimates point to a tally of \$3,311 billion. Put simply, global capex looks to be stuck at the \$3.3 trillion mark for the third consecutive year, with no growth presently in sight.

The value of global ex energy and materials capex in 2013 dropped back to \$1,887 billion, the same amount that was spent in 2008. However, prospects here are better and this is expected to rise to \$1,935 in 2014. Note that all figures are inflation-adjusted to present value.

CHART 5 | GLOBAL NON-FINANCIAL CORPORATE CAPITAL EXPENDITURE VALUE



Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

WHY THE PESSIMISM?

Why is capex growth proving so weak and the outlook still so pessimistic, given the improving intentions suggested by surveys? We will go through the arguments in detail, but key issues include:

- The ongoing drag on capex from commodity-related spending, the sheer weight of which does not seem well understood
- A sharp deterioration in emerging market capex
- Surveys suggesting recovery over-emphasize developed market trends, and pay too little attention to the emerging market companies that are key drivers of global capex
- There is evidence that analysts systematically underestimate forward capex – it owes much to having missed the energy boom, but is an important finding that we investigate in detail

KEY THEMES

In the sections that follow we tackle these arguments and other important capex-related themes:

- Weakness in energy and materials capex
- Still difficult operating conditions and mixed messages from fundamental drivers of capex
- A hiatus in emerging market capex
- Areas of capex strength (IT and Telecoms)
- Whether R&D trends alter the big picture
- Evidence of systematic underestimation of capex by analysts and how we should reflect this in projections
- A detailed look at regional trends

¹ See 'Global Corporate Capital Expenditure Survey 2013', 10 July, 2013

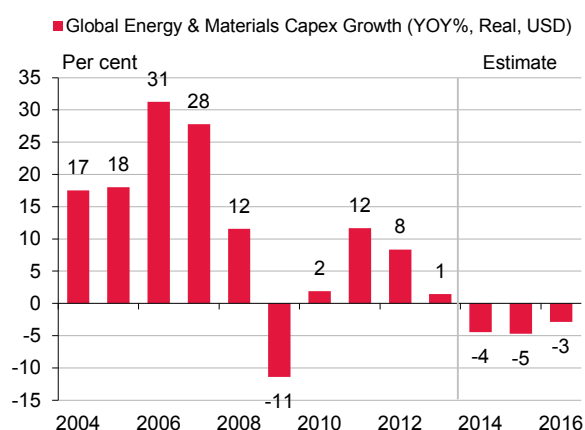
WEAKNESS IN ENERGY AND MATERIALS CAPEX

Aggressive cuts to capital expenditure are being implemented by metals and mining companies. Our analysis suggests that the downward pressure here will be sustained for the next few years and risks spreading to the oil and gas sector where a decade-long capex boom is running out of cashflow headroom. This has huge significance for the capex outlook given that these industries together accounted for 42% of global corporate capex in 2013.

DECLINING ENERGY AND MATERIAL CAPEX...

Current projections suggest that energy and materials capex face significant headwinds over the next few years. Spending here grew by only 1% last year and estimates point to a fall of 4% in real terms in 2014 (see chart 6). This would be only the second year of decline seen since our growth data began in 2004. Current estimates point to a continuing contraction through to 2016.

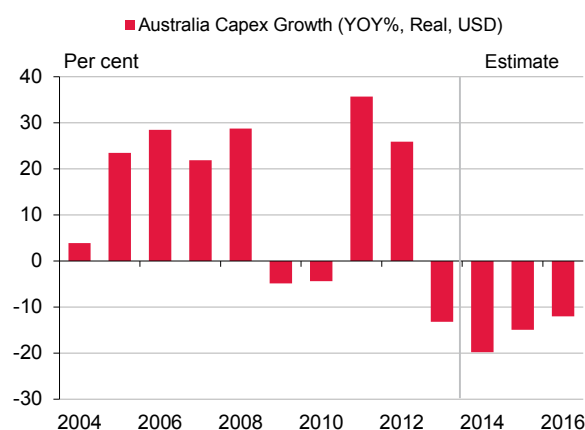
CHART 6 | GLOBAL ENERGY AND MATERIALS CAPEX GROWTH



Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

The materials part of this decline – essentially metals and mining – has been very visible, with aggressive reductions in capital spending by leading firms such as BHP Billiton and Rio Tinto. This is well illustrated in capex trends for Australia, where capex contracted 13% in real terms in 2013 (see chart 7) and looks set for a 20% decline in 2014. Cuts in energy capex are expected too, with the market consensus pointing to reduced 2014 capex from the likes of Petrobras, Chevron and Total.

CHART 7 | AUSTRALIA - NON-FINANCIAL CORPORATE CAPEX GROWTH

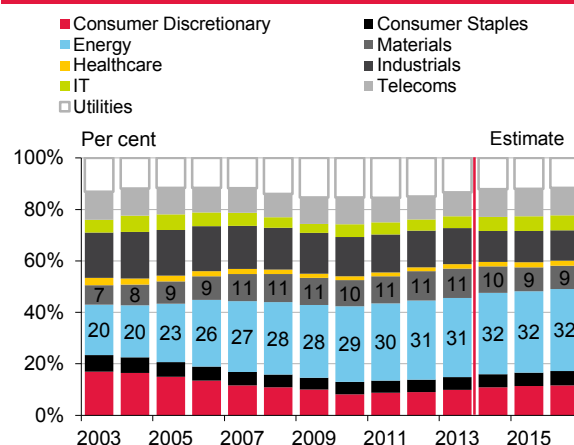


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

... WEIGHS HEAVILY ON GLOBAL CAPEX...

But this is not merely a regional or isolated industry trend. The importance of these commodity-related pressures cannot be overstated, with energy and materials accounting for 42% of global corporate capex in 2013 (see chart 8).

CHART 8 | SHARE OF GLOBAL NON-FINANCIAL CORPORATE CAPEX BY SECTOR

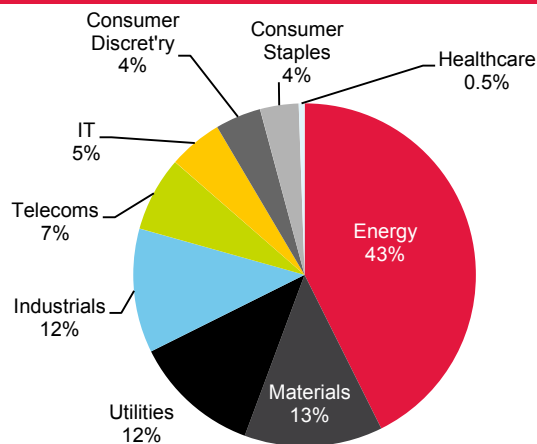


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

...AS KEY DRIVERS OF A DECADE OF CAPEX GROWTH

Moreover, the long-term growth in capital spending from these two areas has been the key driver of capex expansion over the last decade. Contribution analysis shows that energy and materials between then explain 56% of the rise in capex seen between 2003 and 2013 (see chart 9).

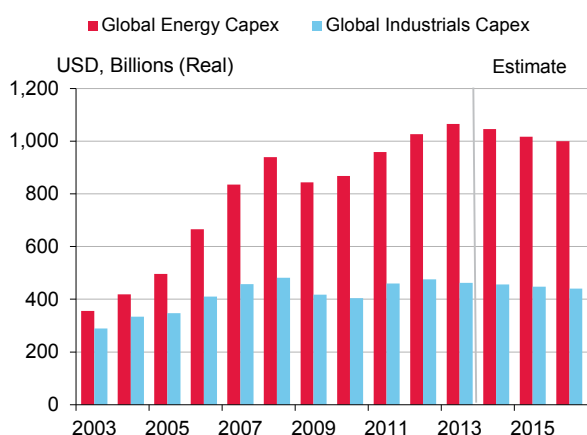
CHART 9 | SECTOR CONTRIBUTION TO GLOBAL NON-FINANCIAL CORPORATE CAPEX GROWTH 2003-13



Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

Another way of illustrating this dominance is to compare the relative trends of industrial and energy capex. In 2003, the level of energy capex was 23% higher than for industrials. By 2013, it was 130% higher (see chart 10). When people think about key sectors for understanding capital expenditure, industrial sectors are front of mind and, indeed, rank fourth in the contribution analysis, just behind utilities and ahead of telecoms. But, mathematically, what happens to energy capex now has far greater bearing on the global outcome.

CHART 10 | GLOBAL ENERGY AND INDUSTRIALS CAPEX



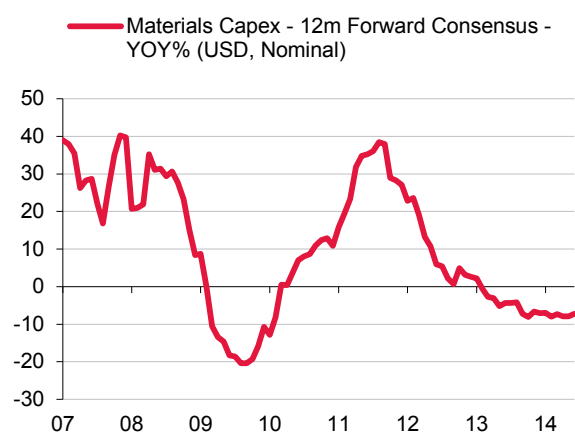
Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

The scale and persistence of the decline in materials capex can be seen in the revision to 12 month forward consensus capex forecasts (see chart 11). Note that these revisions do

not map directly onto our broader analysis as the forecasts are in nominal terms and only cover the subset of the universe for which consensus projections are available. They exclude the large, unlisted companies that are important parts of the overall global corporate capex 2000 universe.

While less sharp than the contraction seen in 2009, the downturn here has already exceeded the prior contraction in duration. More importantly, there seems less chance of a snapback in the near term. Current consensus estimates for Rio Tinto suggest the decline in capex will continue to 2018.

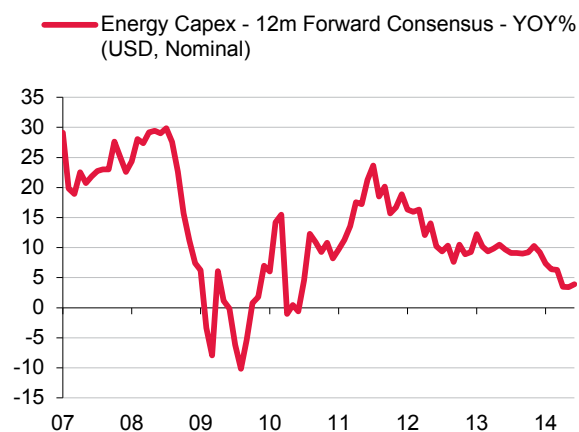
CHART 11 | GLOBAL MATERIALS CAPEX - YEAR ON YEAR CHANGE IN 12 MONTH FORWARD CONSENSUS



Source: S&P Capital IQ, S&P Ratings' calculations. Universe is current constituents of Global Capex 2000. Note: Data is nominal and available for public companies only, so not comparable to real growth rates shown elsewhere in this publication.

Even more worrying, given the relative weights, are signs of a slowdown in energy capex (see chart 12). Positive nominal forecast momentum has ebbed away over the last few months.

CHART 12 | GLOBAL ENERGY CAPEX - YEAR ON YEAR CHANGE IN 12 MONTH FORWARD CONSENSUS



Source: S&P Capital IQ, S&P Ratings' calculations. Universe is current constituents of Global Capex 2000. See notes to chart 11.

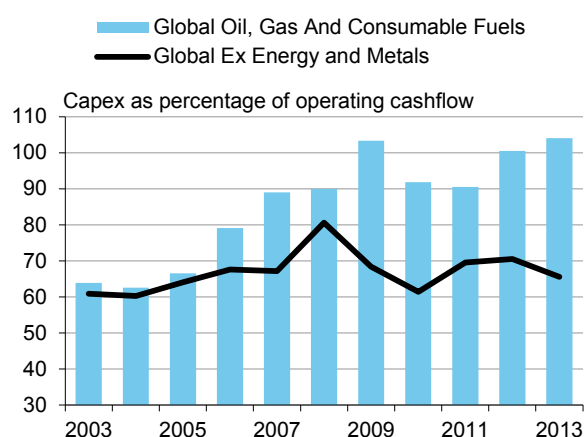
GROWING CASHFLOW CONSTRAINTS

The urgency with which capex is being restrained in the energy and materials sectors can be explained by a lack of operating cashflow headroom that has become apparent in recent years.

In 2003, the capex of the global oil, gas and consumable fuels industry absorbed only 64% of its operating cashflow, broadly in line with the figure for global industry excluding energy and metals (see chart 13). But, in a clear illustration of the greater costs and risks now facing the oil and gas industry, by 2013 this figure had risen to 104%.

Moreover, capex has absorbed 100% or more of the industry's operating cash flow in three out of the last five years. For global industries excluding energy and materials, there has been no such rise in cashflow consumption.

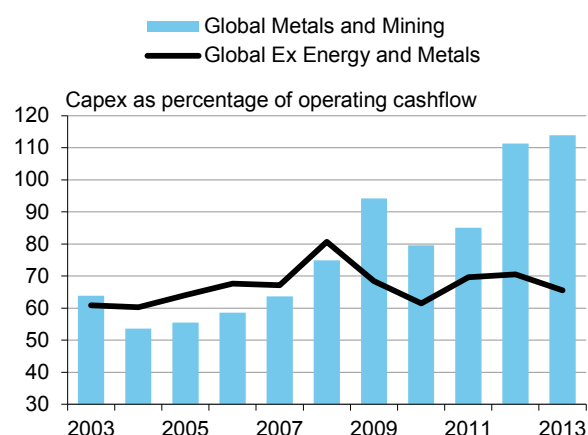
**CHART 13 | GLOBAL OIL, GAS AND CONSUMABLE FUELS
CAPEX AS PERCENTAGE OF OPERATING CASH FLOW**



Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

The loss of cashflow headroom in the metals and mining sector has been even more pronounced, with 2013 capex accounting for 114% of operating cashflow (see chart 14). Between 2003 and 2011, this figure averaged only 70%.

**CHART 14 | GLOBAL METALS AND MINING
CAPEX AS PERCENTAGE OF OPERATING CASH FLOW**



Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

We would certainly acknowledge that the long-term demand for energy investment is likely to remain substantial for a host of reasons: long-term emerging-market demand, the need to develop alternative energy sources and, crucially, being able to maintain production at current levels. The International Energy Agency (IEA) estimate that the world will need \$48 trillion in energy investment out to 2035 to meet these various needs (see 'World Energy Investment Outlook: Special Report', IEA, June 2014). More than half of this estimate relates to maintaining current production in the face of declining production, which speaks to the acute tension that has arisen between cashflow and capex.

CONCLUSIONS

Notwithstanding these long-term issues, there are a number of factors suggesting that energy investment faces a necessary period of hiatus and that the pessimistic outlook for energy and material investment in current projections is well founded. These include:

- The **slowing pace of growth in many emerging markets** (see pages 12-15)
- The fact that we have already seen a **decade-long oil and gas investment boom**
- The need for greater caution around incremental investments given that **returns on investment are under pressure** as it becomes harder to find and riskier to develop new reserves
- Rising credit and financing risks given that **capex is now exceeding operating cash flow**

All told, we think it likely that capex growth will remain weak in the crucial energy and materials industries. Simply by virtue of the proportion of global capital spending they account for, this will place a considerable restraint on the potential for a global capex recovery.

MIXED MESSAGES FROM CAPEX FUNDAMENTALS

There is a positive case to be made for an upturn in capex: plentiful cash, improving intentions, ageing capital stocks and an improving global economy. This ignores other critical issues that we highlight in this survey (energy, EM). But even in terms of fundamentals there are some problems: weak operating trends, declining profitability and uncertainty that large cash balances will translate to capex given industry-specific pressures and falling bank lending.

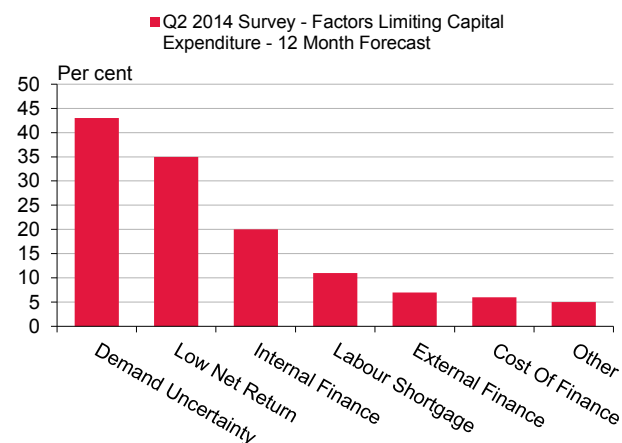
GOOD INTENTIONS

While much is made of the clear and undeniable improvement in survey data and the accumulation of corporate cash, there are other fundamental drivers – often with a clear link to capex trends – that warn against over-optimism with respect to the outlook.

WEAK DEMAND AND POOR RETURNS INHIBIT CAPEX

The survey data itself assesses the factors that companies say are restraining prospects for capex. In the UK Confederation for British Industry's latest quarterly industrial trend survey (Q2 2014), uncertain demand and concerns over poor returns rank as the most frequently cited concerns (see chart 15). Both factors substantially outweigh problems caused by limited access to finance or concern for its cost. This suggests that a turnaround in capex will require a clear and sustained improvement in perceptions with respect to the operating outlook.

CHART 15 | UK CBI INDUSTRIAL TRENDS SURVEY Q2 2014 – FACTORS LIMITING CAPEX



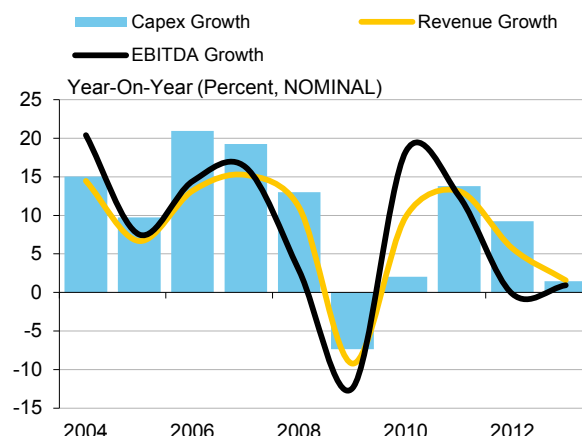
Source: Confederation of British Industry (CBI), Thomson Reuters Datastream

Our data show clear evidence of the link between operating performance and capital spending, with capex growth well correlated with revenue and EBITDA growth (see chart 16). Importantly, the coincident nature of the relationship in recent years makes it difficult to argue that corporate capital spending leads cyclical improvement. More likely it goes hand-in-hand with or even lags operating trends.

THE RECOVERY REMAINS FRAGILE

That the global economic recovery appears to be increasingly well entrenched is encouraging in this regard. Nevertheless, our economic forecasts suggest that 2015 is a more likely inflection point for a robust pickup in corporate confidence. In our view, 2014 is essentially a year of transition out of recession for many economies rather than one of strong recovery.

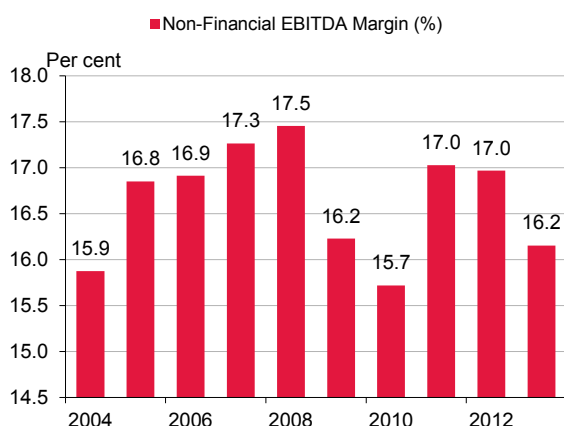
CHART 16 | GLOBAL NON-FINANCIAL SALES, EBITDA AND CAPEX GROWTH



Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

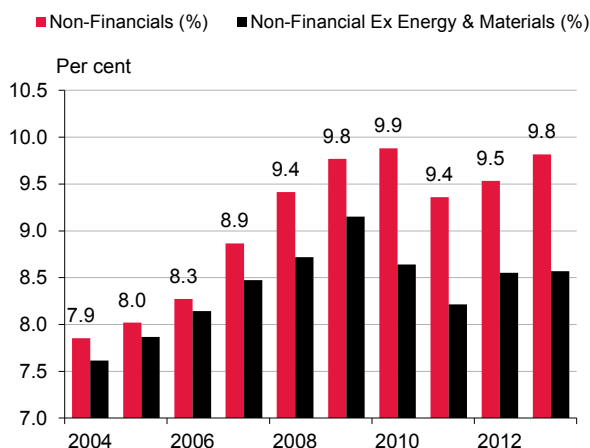
CORPORATE PROFITABILITY IS UNDER PRESSURE

Also, of concern is the downward pressure on global corporate profitability seen in 2013 results (see chart 17). This is not a uniform result – US profitability has held up better for example – but companies are less likely to commit to the increased costs associated with higher capex at a time when profitability is under pressure.

CHART 17 | GLOBAL NON-FINANCIAL CORPORATE EBITDA MARGIN

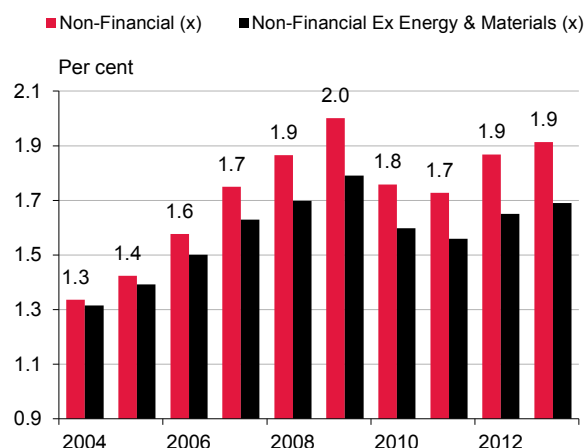
Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

Other fundamental drivers give mixed messages. Even excluding the energy and material sectors where capex has been strong, the global capex-to-sales ratio has shown an improvement from the 2011 low and now sits in the middle of the ten-year range (see chart 18).

CHART 18 | GLOBAL NON-FINANCIAL CORPORATE CAPEX-TO-SALES RATIO

Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

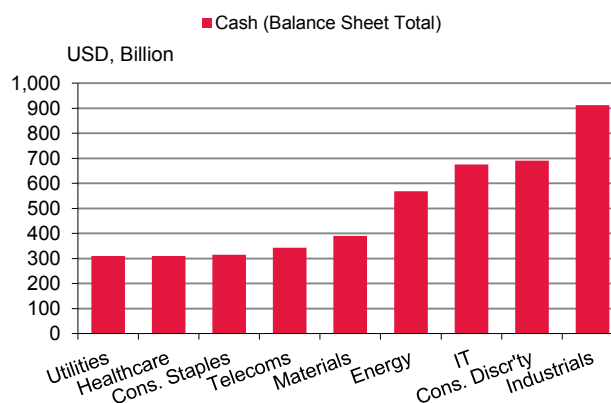
A similar pattern is apparent in capex-to-depreciation trends, although in this case the most recent readings are above the average of the last decade (see chart 19).

CHART 19 | GLOBAL NON-FINANCIAL CORPORATE CAPEX-TO-DEPRECIATION RATIO

Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

\$4.5 TRILLION OF CASH...

The value of cash held by the corporate sector on balance sheets is a big counterweight to these operational concerns and has the potential to give a capex recovery great heft. Chart 20 breaks down the aggregate \$4.5 trillion held by the top 2000 capex spenders on a sector-by-sector basis. Chart 21 gives some further context by showing the cash as a proportion of total assets and the 2003-13 average for this measure.

CHART 20 | GLOBAL NON-FINANCIAL CORPORATE SECTORS - BALANCE SHEET CASH

Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

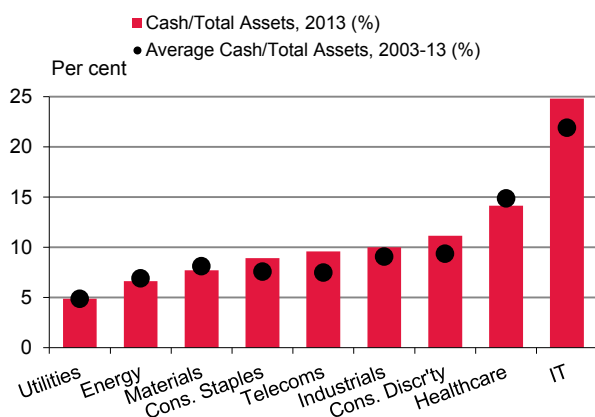
...BUT WILL IT BE USED FOR CAPEX?

There are a variety of factors in assessing whether this cash is likely to provide a boost to the capex outlook. On the positive side, three cyclical sectors hold the largest nominal amount of cash (industrials, consumer discretionary and IT), suggesting that there could be positive capex gearing to a convincing cyclical upswing.

Balancing this, however, are a number of issues:

- The ongoing deleveraging of the financial sector in developed markets is restricting access to traditional bank lending. Disintermediation is helping ease the funding problems this is causing, but **funding anxiety may explain why corporates are preserving cash** and remain reluctant to deploy it.
- **Overcapacity in the global auto industry**, which is the dominant component of the consumer discretionary sector.
- The IT sector needs to be considered in terms of its component parts, software, technology hardware and semiconductors. Capex is growing strongly in the software segment (+26% in 2013), but there was an 8% real terms contraction in technology hardware. Software spends more on R&D than capex in contrast to the other two (see pages 18-19 for more on the aggregate impact of R&D), so any boost to capex will be diluted.
- Issues around **U.S. tax liabilities**² may complicate the ability of the large U.S. tech companies to deploy their cash.
- **Assessing cash in relation to total assets is also important**, especially as it seems to have value in predicting capex potential. IT and Telecoms – the two sectors where this ratio is most above its post-2003 average – recorded the strongest sector capex growth in 2013. It is of concern, therefore, that **three of the most important contributors to global capex, utilities, energy and materials, rank lowest in terms of cash as a proportion of assets with lower-than-average holdings**. This is all the more so given the lack of cashflow headroom discussed earlier.

CHART 21 | GLOBAL NON-FINANCIAL CORPORATE SECTORS – CASH AS PERCENTAGE OF TOTAL ASSETS



Source: S&P Capital IQ, S&P Ratings' calculations. Universe is Global Capex 2000

² See '2014 Cash Update: Corporate America's richest 1% Keep Getting Richer', 11 June, 2014

CONCLUSIONS

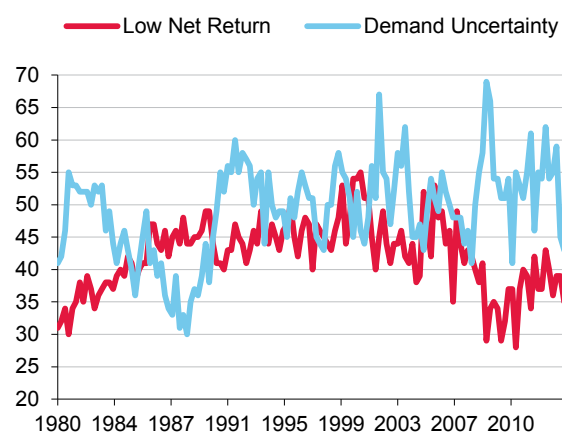
The fundamental drivers of capex present something of a mixed picture. The positives are substantive and include:

- Clear **evidence of improving intent in terms of capital spending surveys**.
- The ongoing **recovery** in the global economy.
- **Substantial aggregate cash available** in terms of the \$4.5 trillion held on the balance sheets of the companies in our survey.

However, there are some offsetting fundamental factors that give grounds for caution:

- Key **fundamental ratios** for capex, such as capex-to-sales and capex-to-depreciation ratios no longer point to capex being unusually depressed.
- The amount of **cash** held on balance sheets represents substantial firepower available to boost capex, but it is not clear that corporates are keen to reduce this 'safety net'. Aspects of the sector breakdown also suggest this may be less supportive than hoped.
- **Low and uncertain returns** on investments are cited by companies as major limiting factors affecting their capex plans. While economic recovery has begun to assuage those concerns, certainly in relatively stronger economies like the UK (see chart 22), recent results still point to **weak global revenue growth and declining profitability**. In our view, the relatively fragile nature of the global recovery suggests that a sharp improvement in operating fundamentals is unlikely this year.

CHART 22 | UK CBI INDUSTRIAL TRENDS SURVEY Q2 2014 – LONG-RUN TRENDS IN KEY FACTORS LIMITING CAPEX



Source: Confederation of British Industry (CBI), Thomson Reuters Datastream

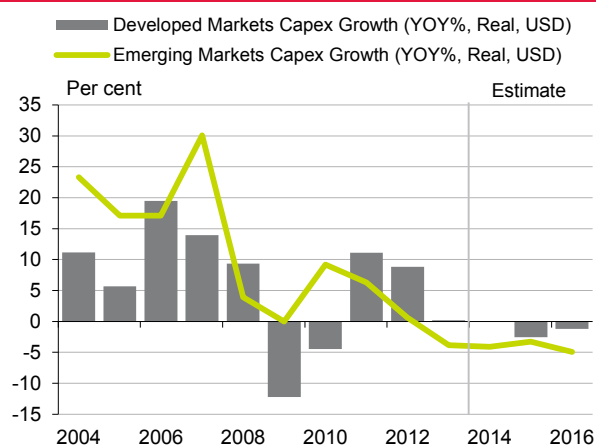
EMERGING MARKET CAPEX UNDER PRESSURE

Emerging market capex appears to be facing a case of serious indigestion. Capex spending fell by 4% in real terms in 2013 and looks set for a similar decline in 2014. The decline is broad-based and has affected corporates in Brazil, Russia, India and even China. This marks the first significant reversal in the long-term uptrend since the various emerging market crises of the 1990s. It has left global capex growth more reliant on slow-growing developed markets.

EMERGING MARKET CAPEX FATIGUE

For much of the last decade, capital expenditure in emerging markets has outpaced the growth seen in developed markets. Since 2011, this trend has been in reverse with emerging markets appearing to face a bout of capex indigestion. Current projections suggest this pattern is likely to persist for a few years yet (see chart 23). This reversal is a major concern given how important emerging markets have become both as drivers of capital spending and as more attractive destinations for corporate investment compared with relatively stagnant developed markets.

CHART 23 | DEVELOPED AND EMERGING MARKETS NON-FINANCIAL CORPORATE CAPEX GROWTH



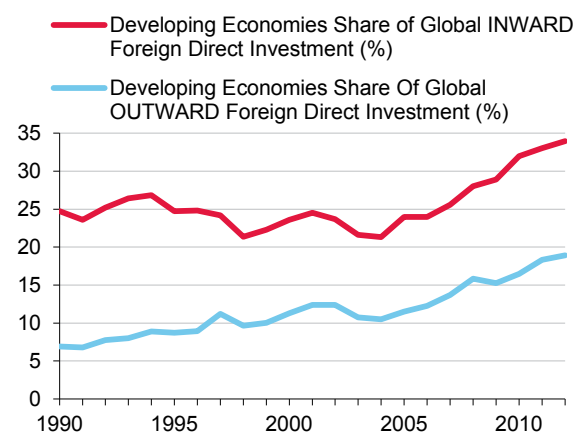
Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

It is important to note that our country and regional classifications are based on the country of incorporation for each country and make no distinction as to the ultimate destination of the capital spending.

We do have some ways of differentiating the relative balance of investment. Data from the United Nations shows that developing economies now receive close to 35% of global foreign direct investment (FDI), up from 25% in 1990 (see chart 24). They also provide nearly 20% of global outward FDI, up from only 7% in 1990.

Put simply, developing economies are increasingly important both as destinations for and sources of investment. They also receive far more FDI than they invest externally, with an inward stock of \$7.7 trillion versus an outward stock of \$4.6 trillion in 2012.

CHART 24 | DEVELOPING ECONOMIES' SHARE OF GLOBAL INWARD AND OUTWARD FOREIGN DIRECT INVESTMENT

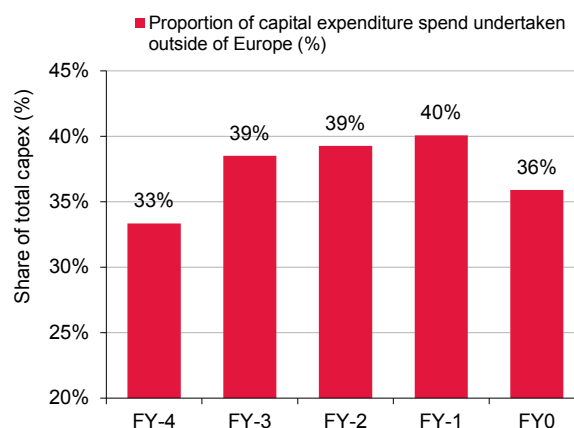


Source: UNCTAD STAT (United Nations Conference On Trade And Development)

KEY CAPEX DESTINATION FOR DM CORPORATES

Company level data is less widely available but we can illustrate the lure of overseas investing in the behavior of Europe's largest 1000 companies measured by debt. Chart 25 shows the proportion of capex going outside Europe for those companies who provide a geographical breakdown of their spending. It shows that well-over a third of Europe's corporate capex is being directed outside the region, even after a decline in the most recent fiscal year.

CHART 25 | PROPORTION OF CAPEX SPENT OUTSIDE OF EUROPE BY EUROPEAN COMPANIES



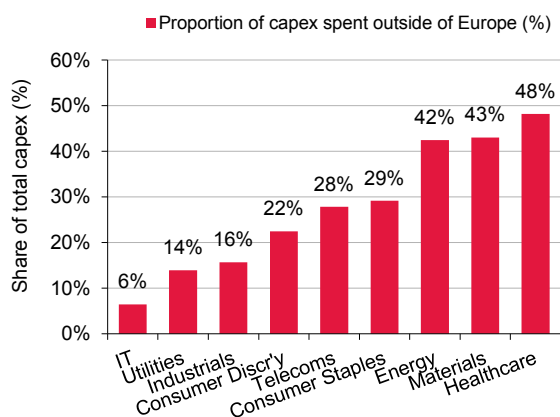
Source: S&P Capital IQ, S&P Ratings' calculations. Universe is largest 1000 companies measured by debt outstanding.

We are not able to get an accurate split of what proportion of this is going to emerging markets alone, but many of Europe's largest multinationals have come to rely on EM growth to offset the weakness of domestic economies.

There is a very important implication from this which is that, **even if developed markets like Europe and the U.S. enjoy a more substantial rebound in capex at some point, a significant proportion of the benefit will be felt elsewhere.**

In theory, this data and the FDI trends might mean that the capex outlook in emerging markets might be boosted by developed market companies investing more in the region. In reality this is unlikely to be the case. Weak capex growth was a global phenomenon in 2013 and looks to be so this year. Moreover, an industry breakdown of Europe's overseas corporate capex spending (see chart 26) shows how much of it comes from the energy and materials companies that are cutting back on capex globally.

CHART 26 | PROPORTION OF CAPEX SPENT OUTSIDE OF EUROPE BY EUROPEAN SECTORS

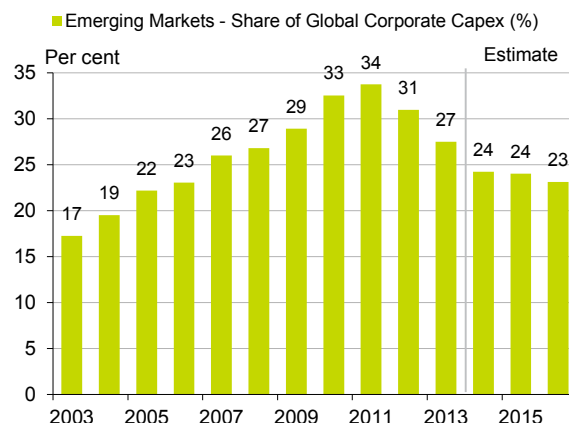


Source: S&P Capital IQ, S&P Ratings' calculations. Universe is largest 1000 companies measured by debt outstanding.

FORECASTS DECLINING, GLOBAL SHARE IN REVERSE

So something is clearly going awry for emerging market capex. This is shown clearly in the abrupt decline in its share of the global total since its 2011 peak (see chart 27). From 2003 to 2011 the share rose inexorably from 17% to 34%. By 2014, the scale of the turnaround will be such that EM will only account for 24% of the global tally.

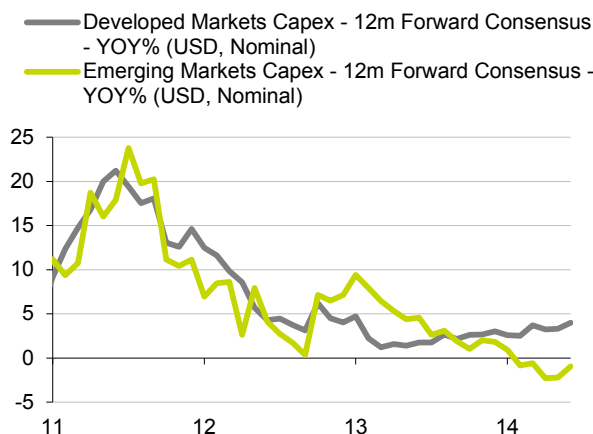
CHART 27 | EMERGING MARKET SHARE OF GLOBAL NON-FINANCIAL CORPORATE CAPEX



Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000. Countries allocated individually.

Consensus forecast trends echo the point. While developed market forecasts have stabilized, revision trends for emerging markets have been negative since early in 2014 (see chart 28).

CHART 28 | DEVELOPED AND EMERGING MARKET CAPEX - YEAR ON YEAR CHANGE IN 12 MONTH FORWARD CONSENSUS

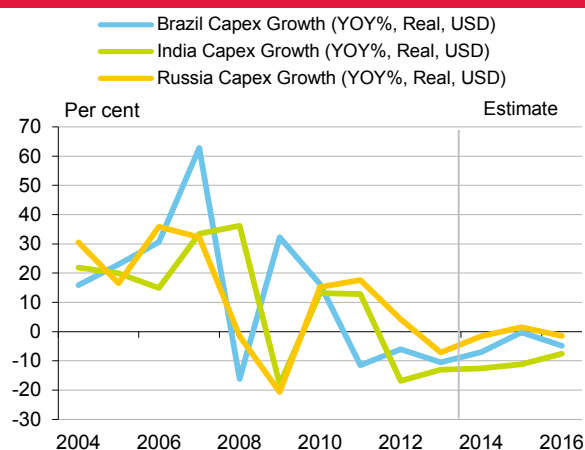


Source: S&P Capital IQ, S&P Ratings' calculations. Universe is current constituents of Global Capex 2000.

Note: Data is nominal and available for public companies only, so not comparable to real growth rates shown elsewhere in this publication.

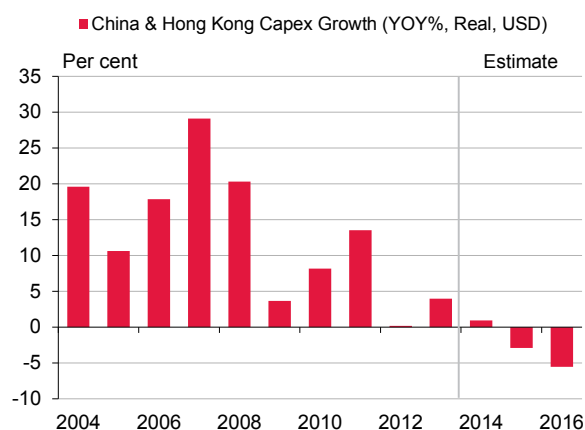
THE BRICS CAPEX BOOM FALTERS

Looking at individual projections for key emerging market countries gives a further indication of the broad nature of the contraction. Real corporate capex growth is currently negative for Brazil, India and Russia (see chart 29), with little sign of improvement visible in forecasts for the next couple of years. At the company level, consensus expectations of reductions in 2014 from the likes of Gazprom, Petrobras, Vale and PetroChina play a key role. The energy and materials theme is affecting emerging markets too.

**CHART 29 | BRAZIL, RUSSIA AND INDIA
NON-FINANCIAL CORPORATE CAPEX GROWTH**

Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

Even in China, a behemoth in terms of global investment-to-GDP, a slowdown appears in train in the corporate sector, with just under 4% real growth seen in 2013 and a current projection of less than 1% growth for 2014 (see chart 30). The modest growth in 2013 was a little better than last year's survey suggested. Even so, and allowing for some upward drift to forecasts, there appears to be a clear sea change affecting the Chinese corporate sector with a transition from the double-digit growth of the 2000s to low single-digit capex growth from 2011 onwards.

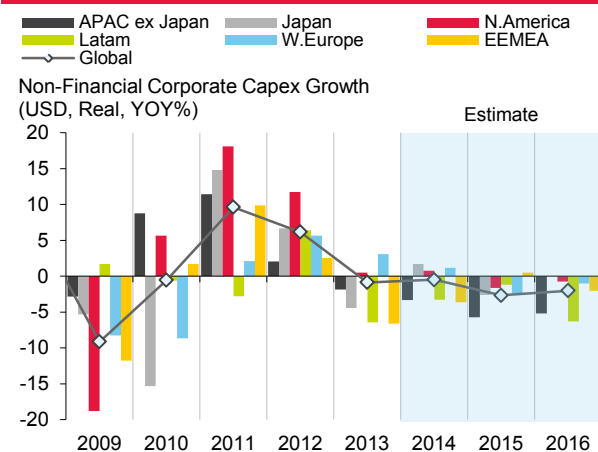
**CHART 30 | CHINA AND HONG KONG
NON-FINANCIAL CORPORATE CAPEX GROWTH**

Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

DEVELOPED MARKETS LEAD THE WAY

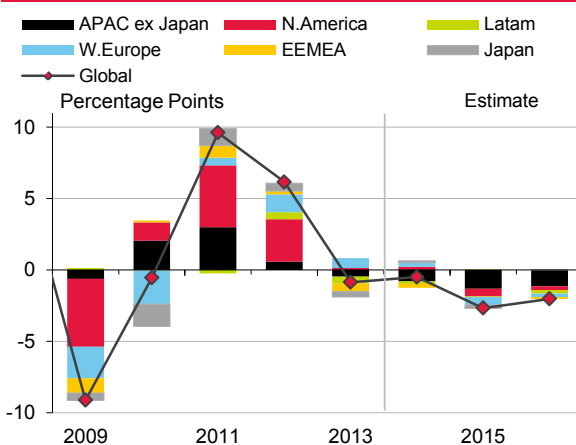
So where does this leave us in terms of regional trends and the outlook for capex? In 2013, we were in the relatively unusual position where only two regions, both developed markets – Western Europe and North America – recorded positive real terms capex growth (see chart 31). Current estimates for 2014 suggest the pattern will repeat, albeit with Japan also growing. Although North American capex saw a

big upswing in 2011-12, driven by the surge in shale-related investment, it is an unusual position for global capex to be led by generally slow-growing developed markets. This may well have a bearing on why sentiment surveys appear more positive than the global data suggests, given their inevitable tendency to capture the intentions of largely western-based multinationals.

**CHART 31 REGIONAL NON-FINANCIAL CORPORATE CAPEX
GROWTH**

Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

Chart 32 shows the percentage-point contributions to global corporate capex growth on a region by region basis. It illustrated a number of themes: the significant drop off in North American capex after its 2010-12 surge, the importance of the positive contribution from Western Europe in 2013 and the significant negative drag expected from Asia-Pacific in 2014 and beyond.

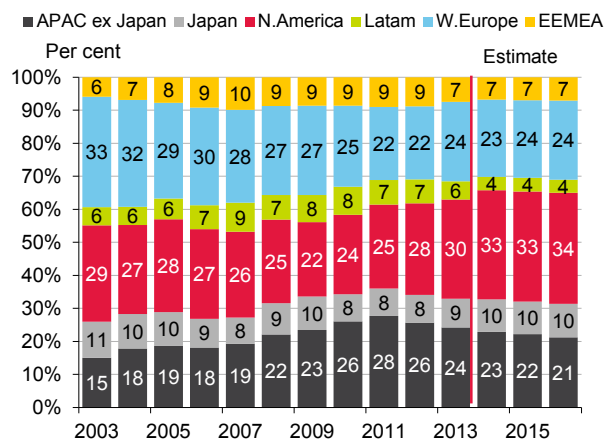
**CHART 32 | CONTRIBUTION TO GLOBAL NON-FINANCIAL
CORPORATE CAPEX GROWTH BY REGION**

Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000.
Contribution analysis shows the percentage point impact of the various components of growth. Regional growth rates in year x are multiplied by their weight in global capex in year $x-1$ to derive this.

The net result of these growth rates has been to shift the regional composition of capex growth (see chart 33),

echoing the tailing off of the emerging market global share highlighted earlier. Western Europe's share has stabilized at around a quarter of global capex and North America has risen to as much as one-third. Meanwhile, key emerging and newly-industrialized regions have slipped back, Asia Pacific ex Japan most obviously but the decline in Latin America's share has been stark too.

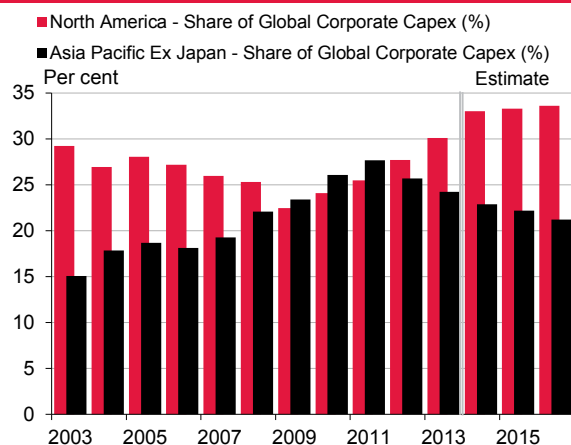
CHART 33 | SHARE OF GLOBAL NON-FINANCIAL CORPORATE CAPEX GROWTH BY REGION



Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

These relative trends are bringing something of a reversal of the patterns seen for much of the last ten years. In 2011, Asia Pacific ex Japan's share of global capex exceeded that of North America for the first time (see chart 34). Since then this reversed and estimates for 2014 suggest this gap widening back out to a 10% point differential, akin to mid-2000 shares.

CHART 34 | SHARE OF GLOBAL NON-FINANCIAL CORPORATE CAPEX GROWTH – NORTH AMERICA V APAC EX JAPAN



Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CONCLUSIONS

- The relentless rise of emerging market capex has been a given for much of the last decade. Our analysis suggests that **a marked reversal is taking place** currently and seems likely to persist for the next couple of years.
- It is **apparent in historical growth rates, projected growth rates and forecast revision trends**.
- This evidence of emerging market capex fatigue appears **broadly based**. It is apparent in multiple regions – Latin America, EEMEA and Asia-Pacific – and leading countries such as Brazil, India and Russia.
- Looking at the company level detail reveals that cuts to energy and materials capex play a big part here, echoing the global trend.
- Even in China**, the global investment powerhouse, **key corporates** – who rank highly in the global capex league table – **appear to be transitioning to slower rates of investment**. To the extent that this is indicative of a wider move away from investment-led growth in that country, it is **potentially of huge significance for the global economy**.
- For the time being, **global capex is more reliant on growth coming from relatively slow-growing developed regions** such as North America, Japan and Western Europe. While this persists this seems likely to imply that overall global capex growth rates will be weaker.
- The slowdown **may also have an impact on revenue growth for developed market multinationals** who invested heavily in emerging markets in recent years. That EM corporates are cutting back indicates concern about returns and growth prospects which may well imply lower growth for the multinational subsidiaries operating in the region.
- Nevertheless, it seems likely that this reversal in EM capex prospects marks a **hiccup in the long run trend rather than a genuine structural break**. Long-term investment needs remain substantial given population size and continued differentials between per capita incomes between developed and emerging markets.

CAPEX LEADERSHIP SHIFTS TO IT AND TELECOMS

With energy and materials capex under pressure, other sectors will need to lead if we are to see capex recover. Encouragingly we have seen the overall ex energy trend improve with healthy capex growth expected from IT, healthcare and telecoms in 2014. But this growth is still outweighed by cuts in heavyweight sectors like utilities and industrials. Detailed industry trends show some encouraging signs in the consumer cyclical space.

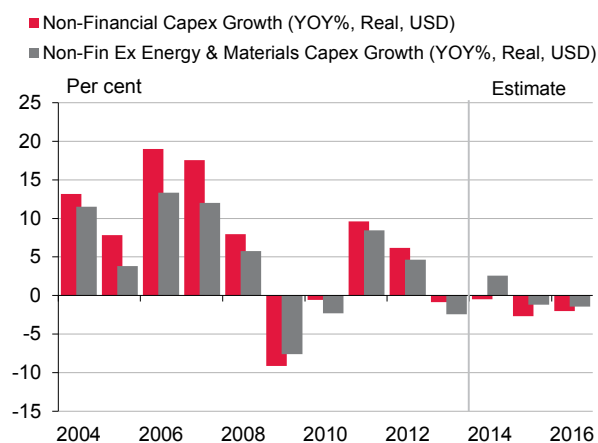
CAPEX EX ENERGY AND MATERIALS IMPROVING...

Amidst the gloom apparent in some of the headline numbers, it is important to note some areas of positive change. For example, we have highlighted the difference in growth rates with and without energy and materials and the reliance on the latter in driving growth in the last ten years.

In that context, it is a source of optimism that the projections for 2014 suggest that capex ex energy and materials will both grow in that year by +2.6% but, more importantly, exceed the overall figure (-0.5%) for the first time in the data we have (see chart 35).

If we are to see a rebound in the global capex cycle, we will need to see other industries start to take the running in driving spending. This is a first sign of that.

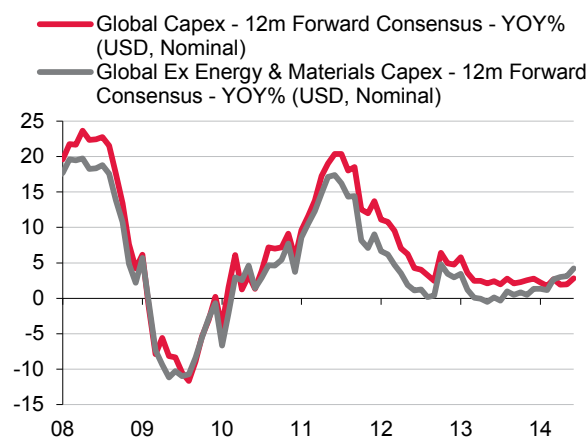
CHART 35 | GLOBAL NON-FINANCIAL CORPORATE CAPEX GROWTH TOTAL AND EX ENERGY AND MATERIALS



Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

It is also apparent in revisions to 12 month forward capex consensus figures, which show a clear crossover in the year-on-year rate (see chart 36).

CHART 36 | GLOBAL NON-FINANCIAL CORPORATE CAPEX GROWTH



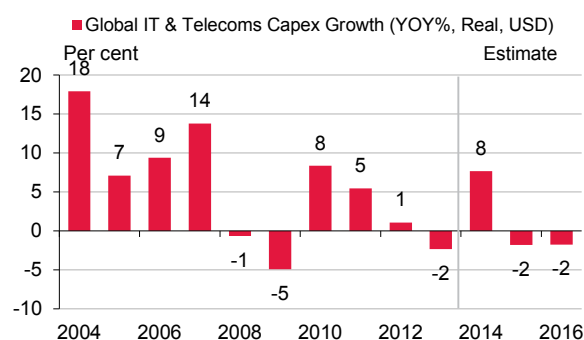
Source: S&P Capital IQ, S&P Ratings' calculations. Universe is current constituents of Global Capex 2000.

Note: Data is nominal and available for public companies only, so not comparable to real growth rates shown elsewhere in this publication.

LED BY I.T. AND TELECOMS

Examining the sector data to see where the improvement comes from shows a strong rebound in capex coming from the IT and Telecoms sectors (see chart 37). These are expected to deliver real terms capex growth of +8% in 2014, buoyed by a continued uptick in investments in 4g wireless networks and surging capital investment from major technology companies like Apple, Google and Microsoft.

CHART 37 | GLOBAL INFORMATION TECHNOLOGY AND TELECOMS CAPEX GROWTH

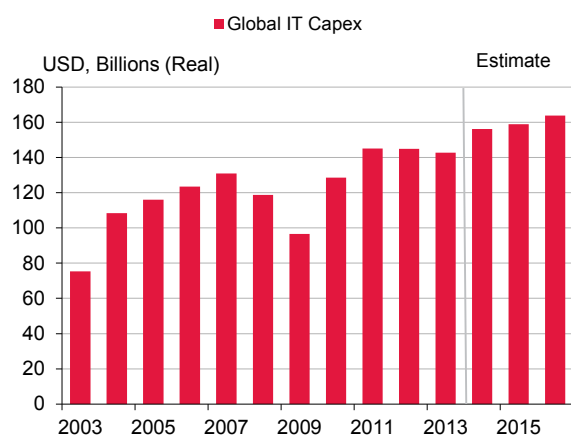


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

And given that both sectors rank well in terms of the amount of cash held as a proportion of total assets in relation to

average industry levels, we would suggest that the fall back in spending currently assumed for 2015 – which is in any event driven by telecoms rather than IT (see chart 38) – may prove unfounded.

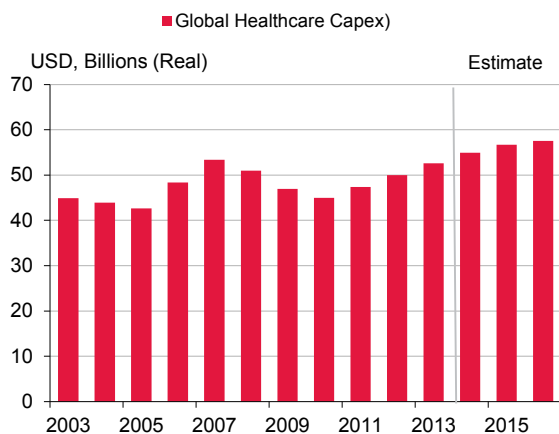
CHART 38 | GLOBAL INFORMATION TECHNOLOGY CAPEX BY VALUE



Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

IT and healthcare are the two sectors where, even with the caveats about market analysts underestimating future capex, there are strong uptrends in capital spending already penciled in (see charts 38 and 39).

CHART 39 | GLOBAL HEALTHCARE CAPEX BY VALUE

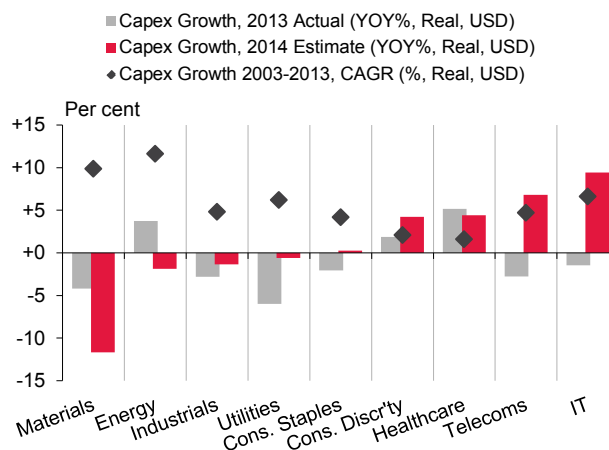


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

POSITIVE GROWTH LIMITED TO A FEW SECTORS

Projected sector capex growth rates for 2014 show a fairly even split (see chart 40). Gains are expected from the IT and telecoms (reversals from declines in 2013), healthcare and consumer discretionary sectors. The difficulty for the overall picture is that the sectors which spend most on capex are still expected to be cutting capex, most notably materials but also energy, industrials and utilities.

CHART 40 | GLOBAL CAPEX GROWTH BY SECTOR 2013-14 AND LONG-TERM COMPOUND GROWTH

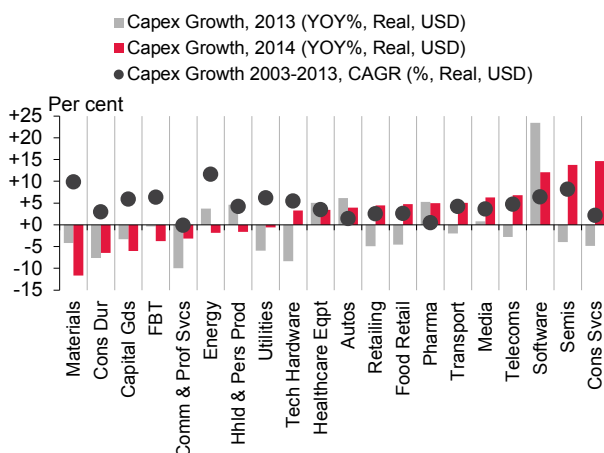


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

EARLY-CYCLE FLAVOR TO INDUSTRY TRENDS

Chart 41 provides a more detailed industry ranking. It reveals some other areas of turnaround, including consumer services (principally hotels, restaurants and leisure), media, transport and the two retail sectors. Once could argue that is a classic 'early cycle' pattern of capital spending, focusing on consumer spending and cyclical areas that respond quickly to an improving economy (transport).

CHART 41 | GLOBAL CAPEX GROWTH BY INDUSTRY 2013-14 AND LONG-TERM COMPOUND GROWTH



Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CONCLUSIONS

For global capex to escape the doldrums, the fading of the energy boom means other sectors must lead. There are positive signs of this in IT and Telecoms and some early cycle sectors (retail, transport). Nevertheless, this improvement is more than offset by weakness in big spending sectors like industrials, energy and utilities.

RESEARCH, DEVELOPMENT AND ACQUISITIONS

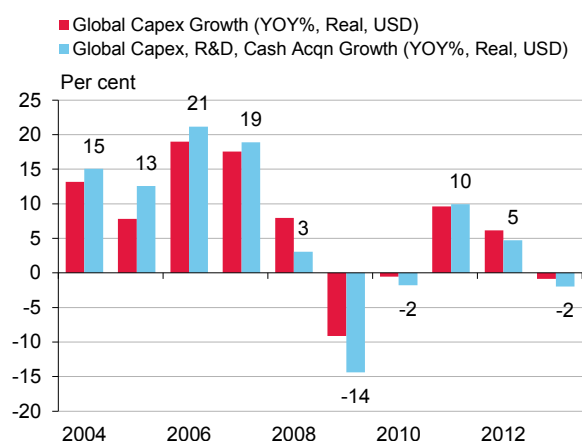
Looking at all forms of investing for growth – R&D and acquisitions as well as capex – does not alter the broad picture of weak growth in corporate investment. Total combined spending has yet to exceed the 2008 peak of \$4.3 trillion. The equivalent figure was \$3.9 trillion last year. R&D spend has been steadier and positive in recent years, but saw its growth rate drop in 2013. It remains dominated by IT and Healthcare spending in North American and Western Europe.

OTHER FORMS OF INVESTING FOR GROWTH

One question that received in feedback to our last edition was whether or not considering the full spectrum of investment undertaken to secure future growth would yield a different picture to simply considering capex alone. Specifically, would taking account of expenditure on Research and Development (R&D) and on acquisitions – a form of 'bought-in' investment – show a less gloomy trend in terms of how the corporate sector is investing for the future?

Based on the data we have the answer is no. Chart 42 shows the real-terms year-on-year growth rate in capex alone set against growth in the combined spend on capex, R&D and cash acquisitions. The combined 'investing for growth' shows a mildly greater volatility than the capex figure alone, reflecting the greater discretionary element to acquisition spending versus capex which has a less flexible maintenance element and which, by its nature, is not as easy to increase or decrease.

CHART 42 | GLOBAL NON-FINANCIAL CAPEX GROWTH AND COMBINED CAPEX, R&D AND ACQUISITION GROWTH

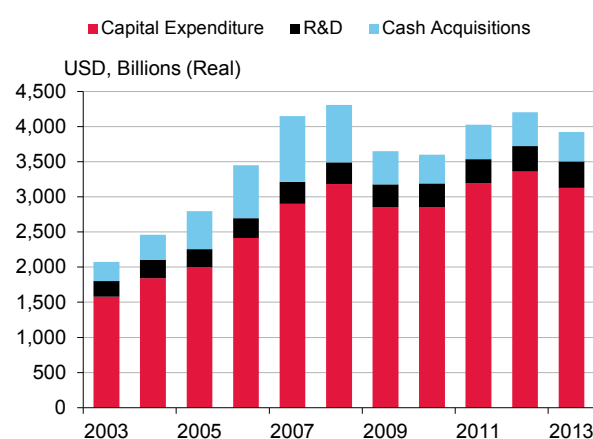


Source: S&P Capital IQ, S&P Ratings calculations, IMF. Universe is Global Capex 2000

Looking at the figures in level terms (see chart 43) shows how capex is by far the dominant form of spending on future growth. The totals are somewhat biased as the figures refer to the universe of the 2000 companies spending the most on capex globally. There are also some issues of data completeness as not all companies break down R&D spending as readily as capex. Nevertheless, we doubt the magnitudes would alter materially even if this was based on an R&D universe, such are the relative proportions. In terms

of the overall total, the chart shows how combined investment of this form is yet to return to the real terms peak seen in 2008 of \$4.3 trillion. In 2013, this figure had fallen to \$3.9 trillion.

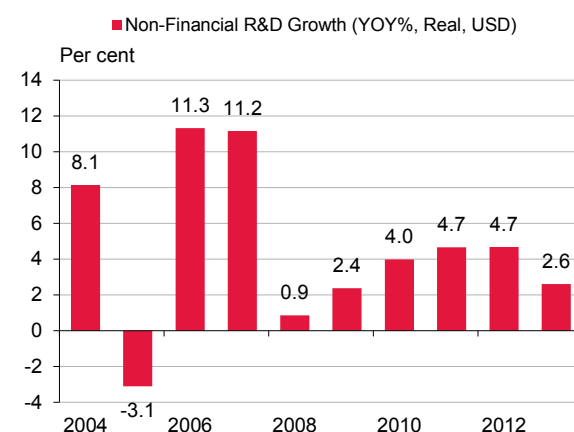
CHART 43 | GLOBAL NON-FINANCIAL CORPORATE EXPENDITURE ON INVESTMENTS FOR GROWTH



Source: S&P Capital IQ, S&P Ratings calculations, IMF. Universe is Global Capex 2000

Looking at the growth in R&D spending alone shows a cyclical pattern similar to capex (see chart 44), although R&D appears less likely to fall, with positive growth maintained throughout the financial crisis. The dip in 2005 reflects volatility around the merged Daimler-Chrysler at that time. Even so, there was notable slowdown in 2013.

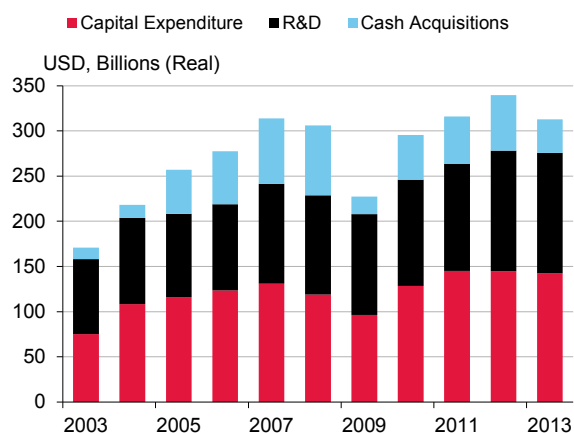
CHART 44 | GLOBAL NON-FIN'L CORPORATE R&D GROWTH



Source: S&P Capital IQ, S&P Ratings calculations, IMF. Universe is Global Capex 2000

For some sectors though, R&D plays a much larger role, notably IT (see chart 45) and healthcare (see chart 46). R&D spending broadly matches that for capex in IT, although it has a larger share in software, a smaller share for semiconductors and is roughly equal in tech hardware.

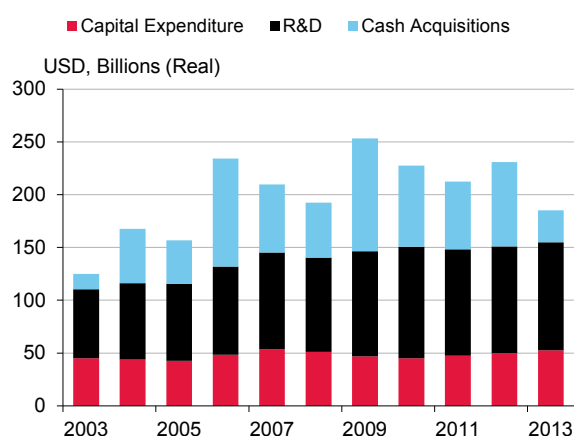
CHART 45 | GLOBAL INFORMATION TECHNOLOGY SECTOR EXPENDITURE ON INVESTMENTS FOR GROWTH



Source: S&P Capital IQ, S&P Ratings calculations, IMF. Universe is Global Capex 2000

In healthcare, R&D represents the lion's share of growth investment, exceeding capex. Cyclical variation appears to be driven by acquisition trends.

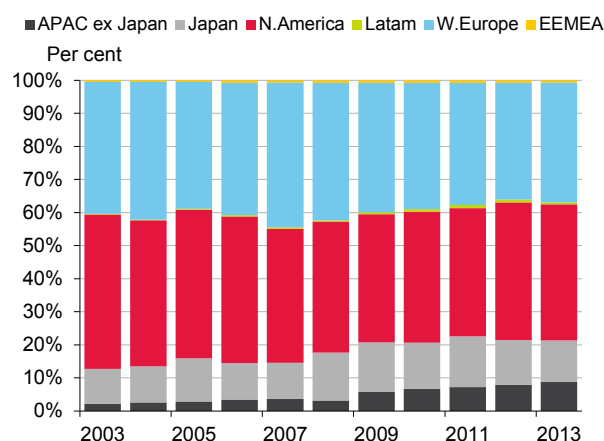
CHART 46 | GLOBAL HEALTHCARE SECTOR EXPENDITURE ON INVESTMENTS FOR GROWTH



Source: S&P Capital IQ, S&P Ratings calculations, IMF. Universe is Global Capex 2000.

Looking at R&D in terms of its regional share shows a dominant share for North America and, to a slightly lesser degree, Western Europe (see chart 47). Asia Pacific's share has been rising and Japan is a big individual spender but it spends far less on R&D than the Western corporate sector. Some of this may reflect a lack of disclosure in report and accounts, but there does not seem to be the same run up in Asia-Pacific R&D as we have seen in capex.

CHART 47 | GLOBAL NON-FINANCIAL CORPORATE R&D EXPENDITURE BY REGION (WITHIN CAPEX UNIVERSE)



Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

Table 1 shows the top 30 global companies in terms of R&D spent in 2013 by constituents of our capex universe. IT and healthcare dominate as expected, with a smattering of industrials and one automaker.

TABLE 1 | TOP 30 GLOBAL R&D EXPENDITURE WITHIN CAPEX 2000 UNIVERSE IN 2013 (USD, BILLIONS)

Company	Country	Sector	2013	Company	Country	Sector	2013
Samsung	S.Korea	I.T.	13.6	GSK	U.K.	Healthcare	5.9
Intel	U.S.	I.T.	10.6	Siemens	Germany	Industrials	5.8
Microsoft	U.S.	I.T.	10.4	Daimler	Germany	Cons Disc	5.6
Roche	Switz	Healthcare	10.2	Eli Lilly	U.S.	Healthcare	5.5
Novartis	Switz	Healthcare	9.7	Panasonic	Japan	Cons Disc	5.3
Johnson & Johnson	U.S.	Healthcare	8.2	Qualcomm	U.S.	I.T.	5.0
Google	U.S.	I.T.	7.9	Ericsson	Sweden	I.T.	4.9
Merck	U.S.	Healthcare	7.1	Oracle	U.S.	I.T.	4.9
Sanofi	France	Healthcare	6.6	Apple	U.S.	I.T.	4.5
Amazon.com	U.S.	Cons Dis	6.6	Bayer	Germany	Healthcare	4.4
Pfizer	U.S.	Healthcare	6.6	Airbus	France	Industrials	4.4
Robert Bosch	Germany	Cons Disc	6.3	AstraZeneca	U.K.	Healthcare	4.3
IBM	U.S.	I.T.	6.2	Amgen	U.S.	Healthcare	4.1
Honda Motor	Japan	Cons Disc	5.9	Bristol-Myers Sq.	U.S.	Healthcare	3.7
Cisco Systems	U.S.	I.T.	5.9	Nokia	Finland	I.T.	3.6

Source: S&P Capital IQ, S&P Ratings calculations. Universe is Global Capex 2000

CONCLUSIONS

Looking at R&D and acquisitions in addition to capex does not alter the overall picture but adds some nuances:

- R&D has been steadier than capex in recent years, delivering low, positive real-terms growth. Even so, it has echoed the slowdown in capex in 2013, suggesting a broader lack of confidence in growth prospects.
- R&D and acquisition spending is dwarfed by capex. R&D spending is largely led by IT and healthcare.
- Global R&D spending remains dominated by North America and Western Europe. Asia-Pacific's share is rising but by nothing like the degree seen in capex.

CONSENSUS FORECASTS UNDERESTIMATE CAPEX

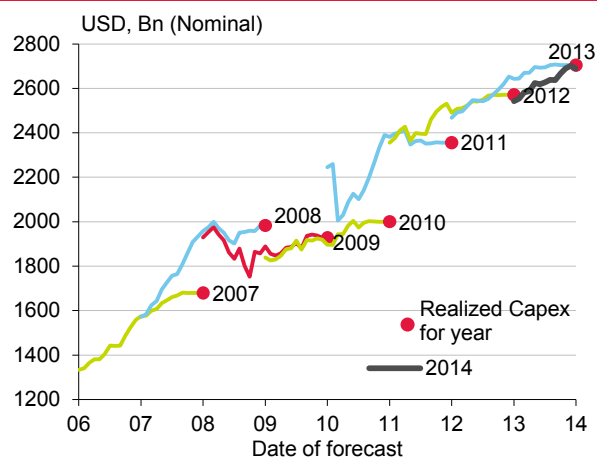
The market consensus systemically underestimates what companies spend on capex. Since 2007, there has been only one year – crisis-affected 2009 – when the final tally for capex was less than the initial forecasts for that year. In all other years, the outturn was at least 5% more than initially forecast and as much as 26% in the boom years. The evolution of 2014 forecasts to date matches the pattern but does not appear to be on a trajectory of large-scale upgrades.

SUSPICIONS OF BIAS

For the second year running, our analysis of consensus and guidance forecasts for capital expenditure has pointed to substantial declines in the second and subsequent years out. This begs the question as to whether market analysts who provide these forecasts are, by default, assuming that capex will decline in future years and, as a result, systemically understating the outlook for capex.

Chart 48 shows the evolution of aggregate consensus forecasts for the fiscal years 2007-14 for the current constituents of our Global Capex 2000 index. Each line shows the initial forecast made in the June prior to the year in question and its evolution to the settled, final figure taken six months after the end of the year in question (illustrated by the red dot). It is important to keep in mind that these figures will not map directly onto our broader analysis as these are nominal figures (not inflation-adjusted) and only apply to the companies for which a market consensus forecast is available.

CHART 48 | EVOLUTION OF GLOBAL CONSENSUS FORECASTS FOR CAPEX BY FISCAL YEAR



Source: S&P Capital IQ, S&P Ratings calculations. Universe is current constituents of Global Capex 2000.

Note: Data is nominal, so not comparable to real growth rates shown elsewhere in this publication. It only includes companies for which CIQ consensus available, so a subset of the full index which also includes private and public companies for which no consensus is available.

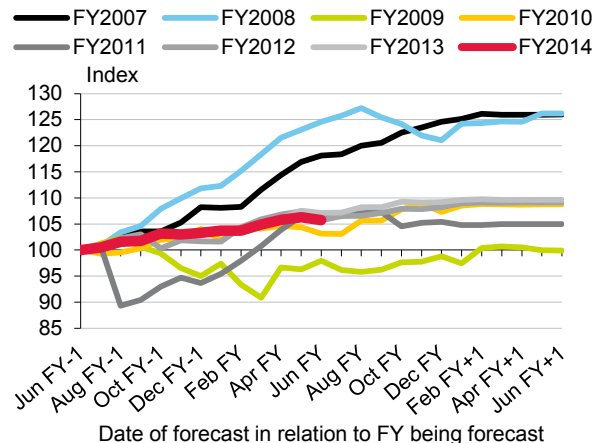
What the figures reveal is that in the seven years for which we have a full evaluation available, **there has been only been one year – financial-crisis affected 2009 – when the eventual outturn was less than the initial forecast.** In all other years, forecasts moved higher – often

substantially so – prior to being finalized. 2011 saw a big dip in forecasts, reflecting the impact of the gathering euro crisis at the time – but these cuts were soon reversed. This is something of a mirror image to the long-run trends seen in consensus EPS forecasts, which almost invariably see expectations reduced from their initial values. Indeed, it may well offer part of the explanation for that regular process of earnings ‘disappointment’.

CONSISTENTLY UNDERESTIMATING CAPEX

Chart 49 presents the same data in indexed fashion, with the consensus forecast in June prior to the year in question being 100 and the June after being the end level. It gives a clear sense of the consistency of this pattern. It also shows that even for 2009, the end result was essentially unchanged from the initial forecast

CHART 49 | EVOLUTION OF GLOBAL CONSENSUS FORECASTS FOR CAPEX BY FISCAL YEAR – INDEXED



Source: S&P Capital IQ, S&P Ratings calculations. Universe is current constituents of Global Capex 2000.

Note: Data is nominal, so not comparable to real growth rates shown elsewhere in this publication. It only includes companies for which CIQ consensus available, so a subset of the full index which also includes private and public companies for which no consensus is available.

BIG AND REALLY BIG ERRORS

In terms of the magnitude of the error, the indexed figures for 2007-13 suggest two broad patterns (see Chart 50):

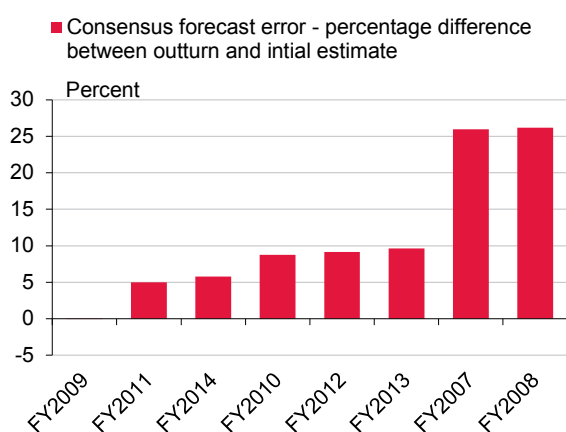
- In 2007 and 2008, the tail end of a period of economic boom, there were very large positive revisions to capex forecasts with the outturn exceeding initial projections by over 25%.

- For all of the other years (with the exception of 2009) the magnitude of the underestimation was between 5 and 10%.

While far too small a sample of years to draw definitive conclusions from, it does **suggest that analysts systematically underestimate capex by 5-10%.**

The evolution of 2014 forecasts to date (already having moved up by just under 6% since June 2013) seems to be in line with the second group of errors – the 5-10% band. The large upgrades seen in 2007-08 were already manifest at this point in their evolution, so this suggests hopes for a similar magnitude of upward revision are unlikely to be realized.

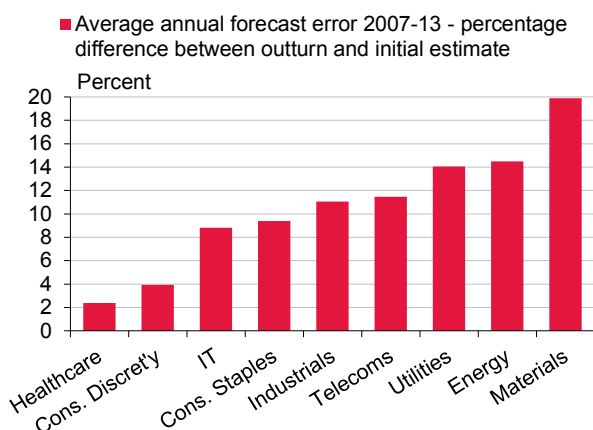
CHART 50 | GLOBAL CONSENSUS FORECASTS FOR CAPEX BY FISCAL YEAR – OUTTURN VERSUS INITIAL ESTIMATE



Source: S&P Capital IQ, S&P Ratings calculations. Universe is current constituents of Global Capex 2000. See notes to prior chart.

We have also looked at the average consensus forecast error on a sector basis (see Chart 51).

CHART 51 | GLOBAL CONSENSUS SECTOR CAPEX FORECASTS – AVERAGE OUTTURN VERSUS INITIAL ESTIMATE 2007-13



Source: S&P Capital IQ, S&P Ratings calculations. Universe is current constituents of Global Capex 2000. See notes to prior chart.

As one would expect given their importance in driving capex growth in the last decade, materials and energy have seen the biggest average increase between initial estimate and

outturn. The greater cyclicity of materials capex means it tops the ranking. Utilities and telecoms come next, which is not surprising in terms of their capex intensity but perhaps is unexpected given that the lead times for investment are long and, as a result, would seem likely to be more predictable as a result.

CONCLUSIONS

So what implications does this have for forecasting capex?

- Our findings suggest a clear and repeated **negative bias** in market -consensus capex-forecasts.
- This would seem to offer **hope that the outlook for medium term capex may be better than current numbers suggest**. However, there may also be some concerns for **credit risk**, as it means that analysts are failing to accurately assess one of the main uses of operating cash flow.
- In trying to understand what causes the systematic pessimism towards capex, it might be that analysts assume some degree of **reversion** to a lower average level of capex that is simply not warranted.
- It might also be that the relative balance between what is considered **maintenance** (necessary) and **discretionary** (optional) capex is misunderstood.
- Cost-inflation** might also have bearing. With inflation not generally accounted for in forecasts, simple cost-price inflation for investment projects may push capex above early estimates.
- The fact that materials and energy are the biggest sources of error suggests that much of error might simply be **an under estimation of the scale of the commodity boom** that resulted from strong growth in emerging markets in the last decade. Given the fading of this boom, the pessimistic bias may be less pronounced over coming years.
- Finally, **we considered whether** this clear bias – which will affect our second-year out estimate – means that **we should upwardly adjust our global capex projection** accordingly. We have decided not to do this as it would mean a relatively arbitrary forecast change which would be hard to justify systematically, particularly given the sector effects described above which may not persist.
- We have, however, shifted to using the **nominal estimates for forward growth** as it seems likely that analysts are not reflecting any likely inflation in their figures and that this might well be an element that explains some of the forecast drift.

THE TOP 60 GLOBAL SPENDERS

The table below shows the top 60 global non-financial capex spenders in our universe ranked by their nominal U.S. Dollar spending in 2013. The pivotal importance of energy is made clear, both dominating the overall list with 26 members and making up nine of the top ten spenders. It also highlights the importance of emerging markets with China, Russia and Brazil top of the list. The combined capex of this list was worth just under \$1 trillion in 2013.

TABLE 2 | TOP 60 NON-FINANCIAL CAPEX SPENDERS – GLOBAL

Company	Country	Sector	Capex FY 2013 (USD Billion)	Company	Country	Sector	Capex FY 2013 (USD Billion)
PetroChina	China	Energy	50.2	Nissan Motor	Japan	Consumer Discr'y	13.1
Gazprom	Russia	Energy	44.5	China Utd Network Comms	China	Telecoms	13.0
Petrobras	Brazil	Energy	41.5	Rio Tinto	Australia	Materials	13.0
Royal Dutch Shell	Netherlands	Energy	40.1	Wal-Mart Stores	United States	Consumer Staples	12.9
Chevron	United States	Energy	38.0	China Unicom (Hong Kong)	Hong Kong	Telecoms	12.0
Exxon Mobil	United States	Energy	33.7	Vale	Brazil	Materials	11.9
Total	France	Energy	30.8	Deutsche Bahn	Germany	Industrials	11.9
China Petroleum & Chemical	China	Energy	25.6	China Telecom	China	Telecoms	11.7
BP	United Kingdom	Energy	24.5	Apache	United States	Energy	11.2
BHP Billiton	Australia	Materials	23.6	Saudi Electricity	Saudi Arabia	Utilities	10.9
China Mobile	Hong Kong	Telecoms	23.0	Intel	United States	I.T.	10.7
Samsung Electronics	South Korea	I.T.	21.9	BG	United Kingdom	Energy	10.6
AT&T	United States	Telecoms	21.2	GDF SUEZ	France	Utilities	10.4
Toyota Motor Corporation	Japan	Consumer Discr'y	21.0	Fiat	Italy	Consumer Discr'y	10.2
Petroleos Mexicanos	Mexico	Energy	18.9	General Motors	United States	Consumer Discr'y	9.8
Statoil	Norway	Energy	18.8	Occidental Petroleum	United States	Energy	9.7
Electricite de France	France	Utilities	18.4	Taiwan Semiconductor	Taiwan	I.T.	9.6
Petrolia Nasional Berhad	Malaysia	Energy	17.3	BMW	Germany	Consumer Discr'y	9.2
Rosneft	Russia	Energy	17.0	America Movil	Mexico	Telecoms	9.0
Verizon Communications	United States	Telecoms	16.6	Deutsche Telekom	Germany	Telecoms	9.0
NTT	Japan	Telecoms	16.3	China Shenhua Energy	China	Energy	8.4
Volkswagen	Germany	Consumer Discr'y	15.7	Glencore	Switzerland	Materials	8.4
ConocoPhillips	United States	Energy	15.5	Oil and Natural Gas	India	Energy	8.3
Honda Motor	Japan	Consumer Discr'y	15.1	Russian Grids	Russia	Utilities	8.2
Eni	Italy	Energy	15.0	Apple	United States	I.T.	8.2
Lukoil	Russia	Energy	15.0	Enbridge	Canada	Energy	7.8
CNOOC	Hong Kong	Energy	14.3	Anadarko Petroleum	United States	Energy	7.7
Korea Electric Power	South Korea	Utilities	13.5	Hitachi	Japan	I.T.	7.6
General Electric Company	United States	Industrials	13.5	Chesapeake Energy	United States	Energy	7.6
Telefónica	Spain	Telecoms	13.3	Ecopetrol	Colombia	Energy	7.4

Source: S&P Capital IQ, S&P Ratings calculations. Universe is Global Capex 2000

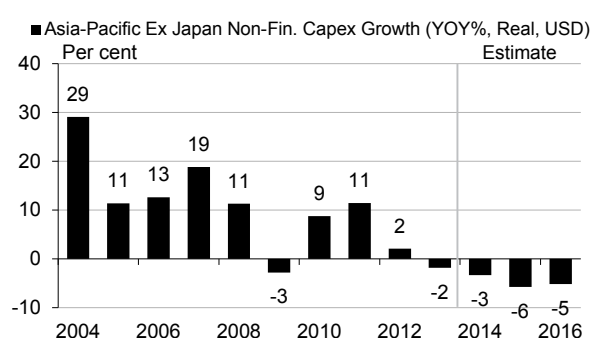
ASIA-PACIFIC EX JAPAN

A contraction in energy and materials capex is likely to be a major drag on regional capex growth, offsetting the positive impact of a bounce back in IT and Telecoms spending. Forecast revision growth rates have fallen back close-to-zero, the weakest trend seen since the onset of the financial crisis. Estimates point to a 3% real decline in regional capex in 2014 after a 2% drop last year. For now the rising trend in the region's share of global capex has peaked.

TABLE 3 | TOP 20 NON-FINANCIAL CAPEX SPENDERS – ASIA PACIFIC EX JAPAN

Company	Country	Sector	Capex FY 2013 (USD Billion)	Company	Country	Sector	Capex FY 2013 (USD Billion)
PetroChina	China	Energy	50.2	China Unicom	Hong Kong	Telecoms	12.0
China Petroleum & Chemical	China	Energy	25.6	China Telecom	China	Telecoms	11.7
BHP Billiton	Australia	Materials	23.6	Taiwan Semiconductor	Taiwan	I.T.	9.6
China Mobile	Hong Kong	Telecoms	23.0	China Shenhua Energy	China	Energy	8.4
Samsung Electronics	South Korea	I.T.	21.9	Oil and Natural Gas	India	Energy	8.3
Petroleum Nasional Berhad	Malaysia	Energy	17.3	SK Holdings	South Korea	Industrials	6.5
CNOOC	Hong Kong	Energy	14.3	Fortescue Metals	Australia	Materials	6.4
Korea Electric Power	South Korea	Utilities	13.5	POSCO	South Korea	Materials	6.2
China Utd Network Comms	China	Telecoms	13.0	Reliance Industries	India	Energy	5.7
Rio Tinto	Australia	Materials	13.0	Datang Intl Power Gen	China	Utilities	5.4

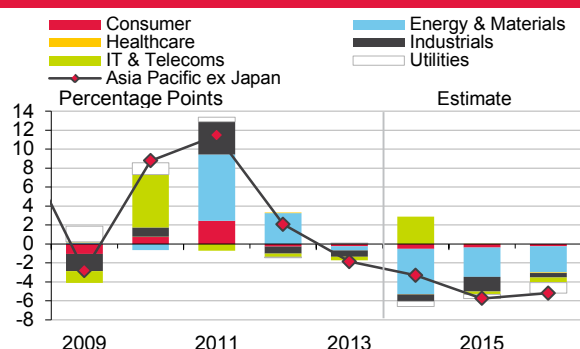
Source: S&P Capital IQ, S&P Ratings calculations. Universe is Global Capex 2000

CHART 52 | ASIA PACIFIC EX JAPAN – NON-FINANCIAL CORPORATE CAPEX GROWTH


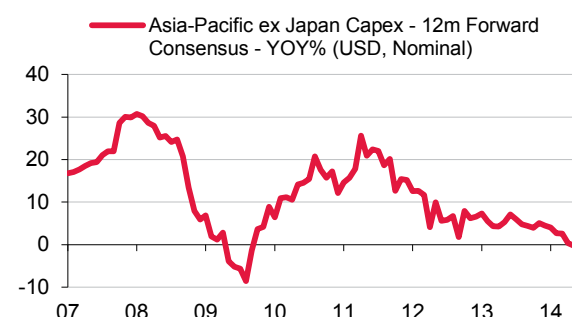
Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 54 | ASIA PACIFIC EX JAPAN – SHARE OF GLOBAL CORPORATE CAPITAL EXPENDITURE


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 53 | APAC EX JAPAN NON-FINANCIAL CORPORATE CAPEX GROWTH – SECTOR CONTRIBUTION ANALYSIS


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 55 | APAC EX JAPAN – YEAR ON YEAR CHANGE IN 12 MONTH FORWARD CONSENSUS CAPEX FORECAST


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

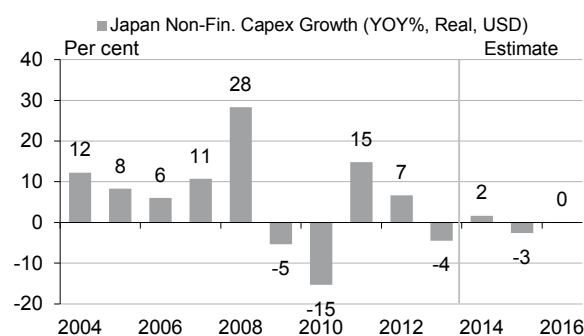
JAPAN

Japan's corporate capex is expected to see something of a bounce-back, rising by 2% in real terms in 2014 after a 4% fall last year. Forecast revision trends have also returned to positive territory. Wireless telecom capex plays a big part in the recovery, notably SoftBank and KDDI. Expectations of a steady rise in spending by Toyota also have a big impact. Japan's share of global corporate capex has been gradually recovering since 2010.

TABLE 4 | TOP 20 NON-FINANCIAL CAPEX SPENDERS - JAPAN

Company	Country	Sector	Capex FY 2013 (USD Billion)	Company	Country	Sector	Capex FY 2013 (USD Billion)
Toyota	Japan	Consumer Disc.	21.0	Mitsui	Japan	Industrials	4.4
NTT	Japan	Telecoms	16.3	Nippon Steel & Sumitomo Metal	Japan	Materials	3.7
Honda	Japan	Consumer Disc.	15.1	Aeon	Japan	Consumer Staples	3.6
Nissan	Japan	Consumer Disc.	13.1	Chubu Electric Power	Japan	Utilities	3.5
Hitachi	Japan	I.T.	7.6	Sony	Japan	Consumer Disc.	3.5
Tokyo Electric Power	Japan	Utilities	7.0	KDDI	Japan	Telecoms	3.4
Mitsubishi	Japan	Industrials	6.1	Panasonic	Japan	Consumer Disc.	3.4
SoftBank	Japan	Telecoms	5.8	JX Holdings	Japan	Energy	3.3
East Japan Railway	Japan	Industrials	5.3	Nippon Yusen Kabushiki Kaisha	Japan	Industrials	3.3
Kansai Electric Power	Japan	Utilities	4.6	Seven & I	Japan	Consumer Staples	3.0

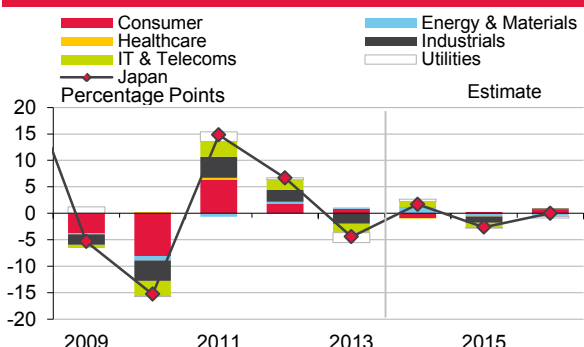
Source: S&P Capital IQ, S&P Ratings calculations. Universe is Global Capex 2000

CHART 56 | JAPAN - NON-FINANCIAL CORPORATE CAPEX GROWTH


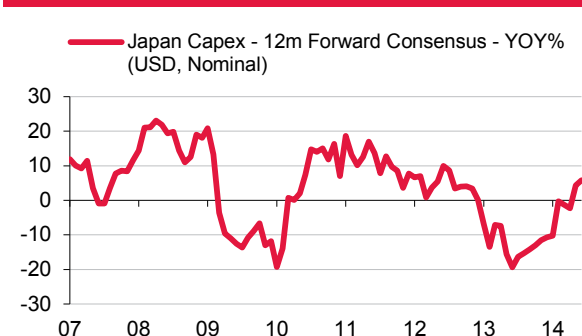
Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 58 | JAPAN - SHARE OF GLOBAL CORPORATE CAPITAL EXPENDITURE


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 57 | JAPAN NON-FINANCIAL CORPORATE CAPEX GROWTH - SECTOR CONTRIBUTION ANALYSIS


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 59 | JAPAN - YEAR ON YEAR CHANGE IN 12 MONTH FORWARD CONSENSUS CAPEX FORECAST


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

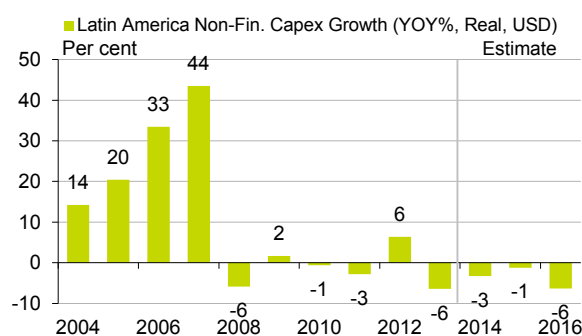
LATIN AMERICA

The region's capital expenditure has not recovered its former vigor since the financial broke in 2008. Inflationary pressures have eroded real terms growth and currency weakness has shrunk the US Dollar value of spending. The slowdown in commodities weighs heavily on the 2014 outlook, with key companies like Petrobras and Vale expected to reduce capex. Better news comes from telecoms where America Movil is forecast to substantially increase spending.

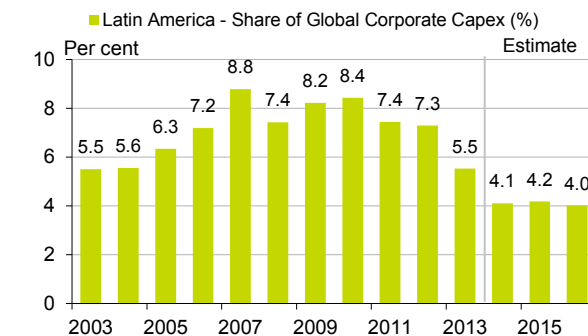
TABLE 5 | TOP 20 NON-FINANCIAL CAPEX SPENDERS – LATIN AMERICA

Company	Country	Sector	Capex FY 2013 (USD Billion)	Company	Country	Sector	Capex FY 2013 (USD Billion)
Petrobras	Brazil	Energy	41.5	Comisión Federal De Electricidad	Mexico	Utilities	2.9
Petroleos Mexicanos	Mexico	Energy	18.9	Oi	Brazil	Telecoms	2.5
Vale	Brazil	Materials	11.9	Telemar Participacoes	Brazil	Telecoms	2.5
America Movil	Mexico	Telecoms	9.0	Telefonica Brasil	Brazil	Telecoms	2.5
Ecopetrol	Colombia	Energy	7.4	Braskem	Brazil	Materials	2.4
CODELCO	Chile	Materials	4.4	Empresas Públicas de Medellín	Colombia	Utilities	1.5
YPF	Argentina	Energy	4.2	Panama Canal Authority	Panama	Industrials	1.4
Telmex Internacional	Mexico	Telecoms	3.2	LATAM Airlines	Chile	Industrials	1.4
Embratel	Brazil	Telecoms	3.0	Fomento Económico Mexicano	Mexico	Consumer Staples	1.3
Grupo México	Mexico	Materials	2.9	Raizen Energia	Brazil	Utilities	1.2

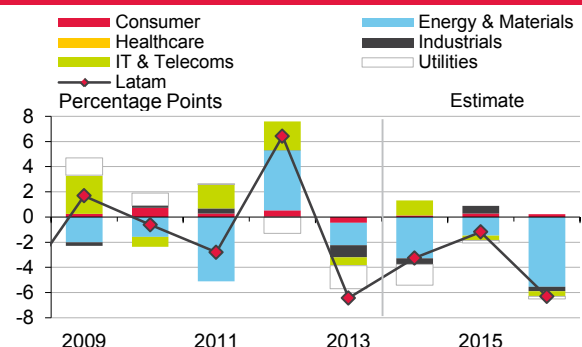
Source: S&P Capital IQ, S&P Ratings calculations. Universe is Global Capex 2000

CHART 60 | LATIN AMERICA – NON-FINANCIAL CORPORATE CAPEX GROWTH


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 62 | LATIN AMERICA – SHARE OF GLOBAL CORPORATE CAPITAL EXPENDITURE


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 61 | LATIN AMERICA NON-FINANCIAL CORPORATE CAPEX GROWTH – SECTOR CONTRIBUTION ANALYSIS


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 63 | LATIN AMERICA – YEAR ON YEAR CHANGE IN 12 MONTH FORWARD CONSENSUS CAPEX FORECAST


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

NORTH AMERICA

Capex growth has faltered since the heady, energy-led growth of 2011-12, although it is still expected to hold up better than in other regions leading to a continued rise in North America's share of global capex. Declining energy capex has a significant negative contribution with majors like Chevron and Exxon Mobil expected to cut back spending in 2014. North American capex is expected to grow a meagre 1% in real terms the same rate seen last year.

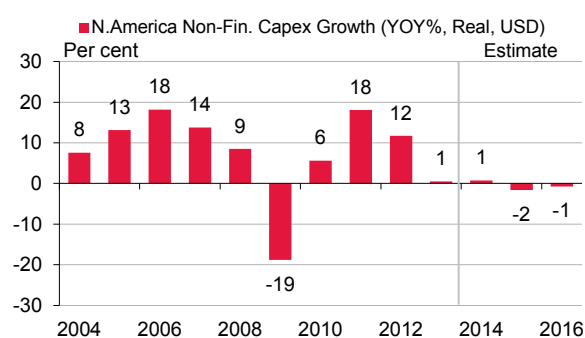
TABLE 6 | TOP 20 NON-FINANCIAL CAPEX SPENDERS – NORTH AMERICA

Company	Country	Sector	Capex FY 2013 (USD Billion)	Company	Country	Sector	Capex FY 2013 (USD Billion)
Chevron	U.S.	Energy	38.0	Occidental Petroleum	U.S.	Energy	9.7
Exxon Mobil	U.S.	Energy	33.7	Apple	U.S.	I.T.	8.2
AT&T	U.S.	Telecoms	21.2	Enbridge	Canada	Energy	7.8
Verizon Communications	U.S.	Telecoms	16.6	Anadarko Petroleum	U.S.	Energy	7.7
ConocoPhillips	U.S.	Energy	15.5	Chesapeake Energy	U.S.	Energy	7.6
General Electric Company	U.S.	Industrials	13.5	Google	U.S.	I.T.	7.4
Wal-Mart Stores	U.S.	Consumer Staples	12.9	EOG Resources	U.S.	Energy	7.1
Apache	U.S.	Energy	11.2	Canadian Natural Resources	Canada	Energy	6.9
Intel	U.S.	I.T.	10.7	Devon Energy	U.S.	Energy	6.8
General Motors	U.S.	Consumer Disc.	9.8	NextEra Energy	U.S.	Utilities	6.7

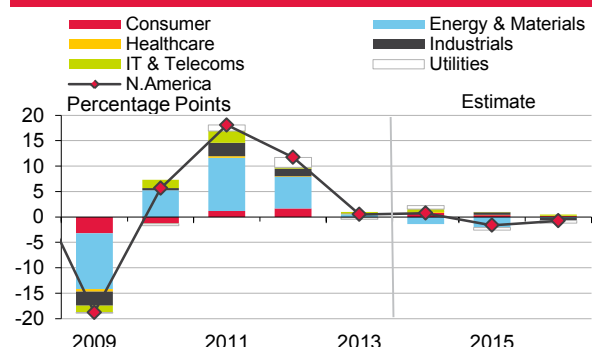
Source: S&P Capital IQ, S&P Ratings calculations. Universe is Global Capex 2000

CHART 64 | NORTH AMERICA – NON-FINANCIAL CORPORATE CAPEX GROWTH

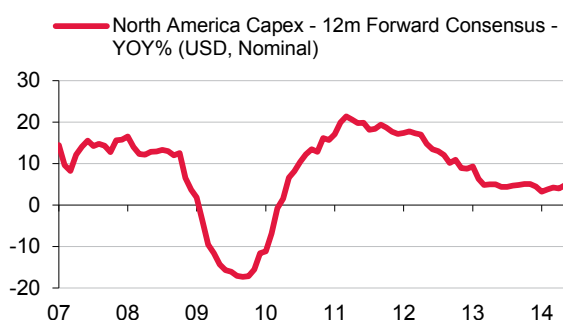

Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 66 | NORTH AMERICA – SHARE OF GLOBAL CORPORATE CAPITAL EXPENDITURE


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 65 | NORTH AMERICA NON-FINANCIAL CORPORATE CAPEX GROWTH – SECTOR CONTRIBUTION ANALYSIS


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 67 | NORTH AMERICA – YEAR ON YEAR CHANGE IN 12 MONTH FORWARD CONSENSUS CAPEX FORECAST


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

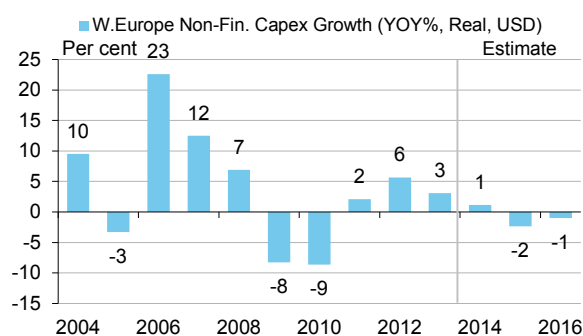
WESTERN EUROPE

European capex growth has been modest but surprisingly resilient versus other regions over the last year, stabilizing the decline in the region's share of global capex. Expected cutbacks in spending from key companies like Royal Dutch Shell and Total imply a negative contribution from energy in 2014. Better news comes from autos and telecoms, including Volkswagen, Daimler and Vodafone. Even so, overall growth is likely to be a mere 1% in real terms in 2014.

TABLE 7 | TOP 20 NON-FINANCIAL CAPEX SPENDERS – WESTERN EUROPE

Company	Country	Sector	Capex FY 2013 (USD Billion)	Company	Country	Sector	Capex FY 2013 (USD Billion)
Royal Dutch Shell	Netherlands	Energy	40.1	GDF Suez	France	Utilities	10.4
Total	France	Energy	30.8	Fiat	Italy	Consumer Disc.	10.2
BP	U.K.	Energy	24.5	BMW	Germany	Consumer Disc.	9.2
Statoil	Norway	Energy	18.8	Deutsche Telekom	Germany	Telecoms	9.0
Electricité de France	France	Utilities	18.4	Glencore	Switz	Materials	8.4
Volkswagen	Germany	Consumer Disc.	15.7	Enel	Italy	Utilities	7.4
Eni	Italy	Energy	15.0	Network Rail	U.K.	Industrials	7.1
Telefónica	Spain	Telecoms	13.3	Vodafone	U.K.	Telecoms	7.1
Deutsche Bahn	Germany	Industrials	11.9	Réseau Ferré de France	France	Industrials	7.0
BG	U.K.	Energy	10.6	Daimler	Germany	Consumer Disc.	6.9

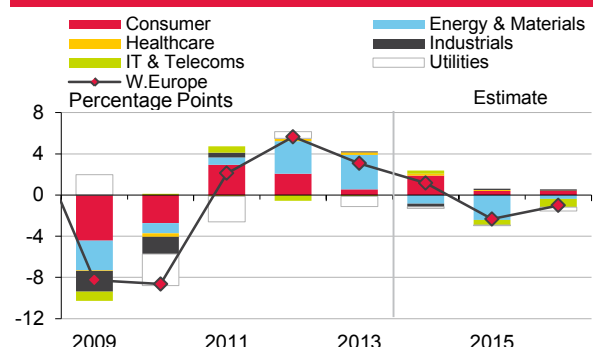
Source: S&P Capital IQ, S&P Ratings calculations. Universe is Global Capex 2000

CHART 68 | WESTERN EUROPE – NON-FINANCIAL CORPORATE CAPEX GROWTH


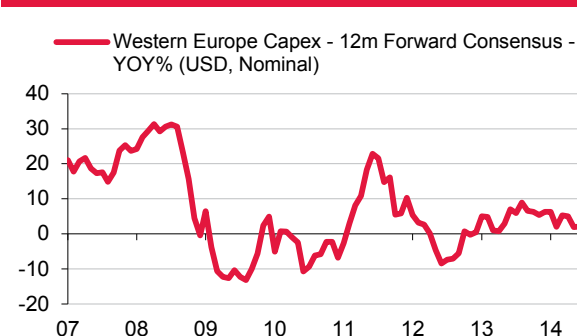
Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 70 | WESTERN EUROPE – SHARE OF GLOBAL CORPORATE CAPITAL EXPENDITURE


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 69 | WESTERN EUROPE NON-FINANCIAL CORPORATE CAPEX GROWTH – SECTOR CONTRIBUTION ANALYSIS


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

CHART 71 | WESTERN EUROPE – YEAR ON YEAR CHANGE IN 12 MONTH FORWARD CONSENSUS CAPEX FORECAST


Source: S&P Capital IQ, S&P Ratings' calculations, IMF. Universe is Global Capex 2000

APPENDIX: METHODOLOGY

Our survey assesses capital expenditure trends for a rolling universe of the 2,000 companies that spend the most globally. It covers public and private companies, rated and unrated and extends the analysis into the subsidiaries that often account for most spending in some regions. All financial data is sourced from S&P Capital IQ and is adjusted into real terms to allow for meaningful long-term and cross-country analysis.

DATA SOURCES

Financial data

All financial data used in this report has been derived from S&P Capital IQ. This includes financial statement line items, country and sector identifiers, ratings data and currency adjustments. Growth rates, ratios and real-terms adjustment have then been calculated by S&P Ratings Services.

Economic data

Inflation data comes from the IMF World Economic Outlook database via Thomson Reuters Datastream.

UNIVERSE SELECTION

RANKING

The selected universe represents – for each fiscal year – the top 2000 ranking companies globally in terms of US dollar-denominated capital expenditure. Currency conversion is performed on a historical basis (i.e. using the exchange rate applicable at the date of the financial statement).

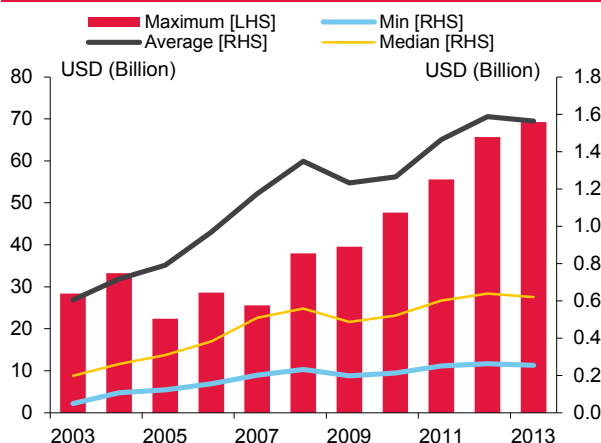
Item definition

Capital expenditure is defined as Capital IQ standardized capital expenditure taken from the cash flow statement.

Size of the universe

We have chosen a constant universe of 2000 with a view to ensuring breadth of geographic coverage and a deep enough coverage to capture meaningful global, country and industry trends. Chart 72 shows the maximum, minimum and median capital expenditure undertaken by universe constituents between 2003 and 2013.

**CHART 72 | GLOBAL CAPEX 2000
MAXIMUM, MINIMUM AND MEDIAN CAPEX BY YEAR**

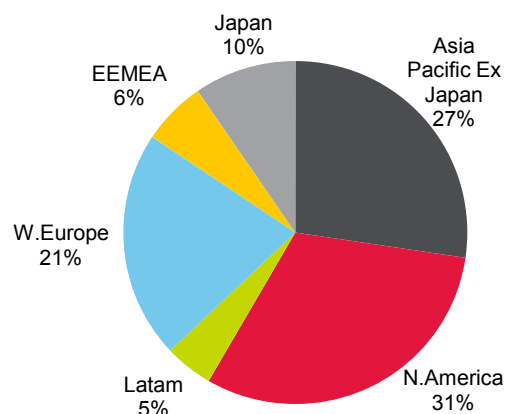


Source: S&P Capital IQ, S&P Ratings calculations, IMF. Universe is Global Capex 2000 * Calculated as of June 18, 2014

Global coverage

A universe of this size also ensures broad and representative geographic coverage. Chart 73 shows the proportion of companies headquartered in each region for the index in 2012. North America and Asia are the dominant regions by numbers of companies, followed by Europe. But there are also meaningful numbers of Latin American and Emerging Europe, Middle East and African companies represented too.

**CHART 73 | GLOBAL CAPEX 2000
SHARE OF CONSTITUENTS BY REGION, 2013**

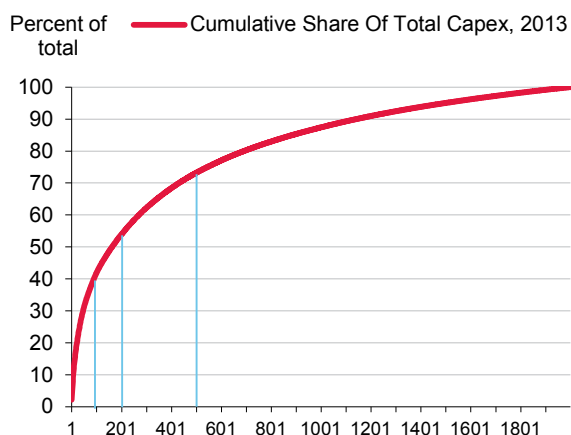


Source: S&P Capital IQ, S&P Ratings calculations, IMF. Universe is Global Capex 2000

Weighting

All figures are aggregated on a summed basis (rather than being equally-weighted or averages). The biggest capex spenders will have the most bearing on overall growth rates. Chart 74 gives an illustration of the cumulative value of capital expenditure from the biggest spenders to the smallest in our universe. For example, the top 100 companies account for 40% of total capital expenditure and the top 500 account for over 70%.

**CHART 74 | GLOBAL CAPEX 2000
CUMULATIVE SHARE OF TOTAL GLOBAL CAPEX**



Source: S&P Capital IQ, S&P Ratings calculations, IMF. Universe is Global Capex 2000 * Calculated as of June 18, 2014

Type of company

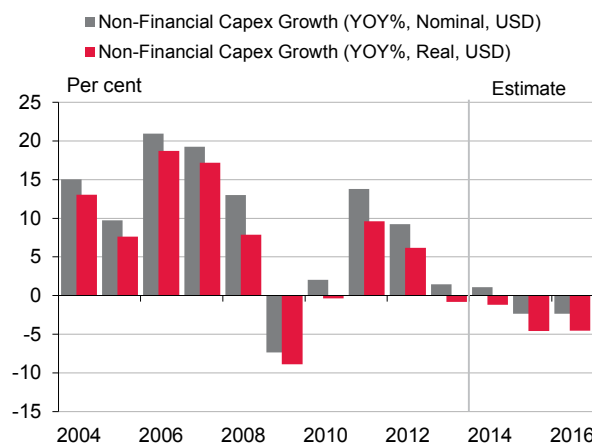
The selection universe includes both publically listed and private non-financial companies. It also covers both operating companies and subsidiaries. Including subsidiaries raises the risk of double-counting, as dual listings often refer to the same financial data. However, there are a significant number of large companies where the overall operating or holding company provides no financial information, with the capital expenditure recorded at the subsidiary level. There are many examples of this in China. Consequently we have included both types of company and have taken care to exclude duplicating operations on a case-by-case basis.

CALCULATIONS

Real-terms adjustment

When looking at longer-term trends, particularly including economies where relatively high inflation rates are prevalent, it is important to express values in real terms. We have done this by restating all individual corporate financial items in present-value terms using the IMF's annual inflation series for the country of incorporation. For forecast capex data we have utilized the IMF's own inflation projections. The difference this makes to annual growth rates is illustrated in chart 75.

CHART 75 | GLOBAL NON-FINANCIAL CORPORATE CAPEX GROWTH - REAL AND NOMINAL



Source: S&P Capital IQ, S&P Ratings calculations, IMF. Universe is Global Capex 2000 * Calculated as of June 18, 2014

Forecasts

Forward-looking estimates have been constructed from a combination of company guidance and the CIQ consensus. If company guidance for capital expenditure has been issued or re-iterated since May we have used that in the projection; otherwise we have used the CIQ consensus if available.

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