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GLOBAL INSIGHT

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Global Economics

Corporate Profits, Excess Savings and Superstar Companies

Over recent decades, corporate profits have grown faster than nominal GDP. Despite strong profit growth and falling capital costs, companies seemed reluctant to invest. Hence, corporates contributed materially to the global savings glut.

Global Economics

Corporate Profits, Excess Savings and Superstar Companies

The secular uptrend in DM corporate profits is likely to have run its course: Several factors could reinforce a secular downward shift in DM profit margins. These factors include rising wage pressures, stronger investment spending, increasing trade protectionism, an automation backlash and tougher anti-trust policies. The secular outlook for the EM profit cycle, by contrast, seems more optimistic.

Margin compression might loom large… If the profit share starts to drift lower globally, this would have implications for the macro outlook. Corporate profit growth might fall short of nominal GDP growth and profit margins could drift lower in the long term. Part of the secular rise in corporate profits has been driven by so-called 'superstar companies'.

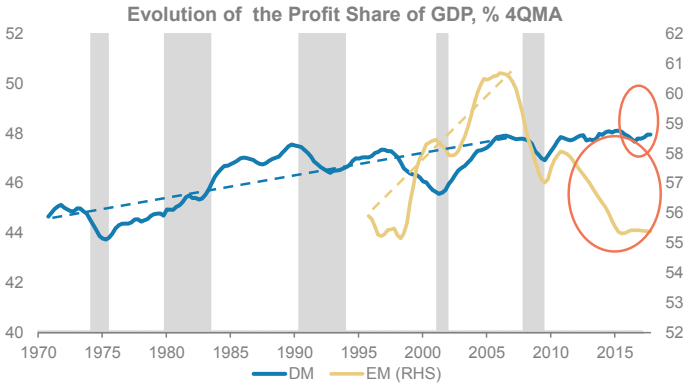
…unless superstar companies save the day: The role of superstar companies in driving productivity and profitability patterns underscores that industry leaders pull ahead of the competition, often due to foresight regarding technology, causing market concentration to rise. As technological laggards or start-ups are not catching up, the role of disruptors tends to often fall to existing industry leaders.

Highlighting different risk factors for corporate profits: The secular drivers of corporate profitability also point to potential long-term risks of margin compression investors should consider. In DM, these risks mainly regard potential technology and antitrust setbacks that seem to drive margins, while in EM they are mostly connected to globalisation.

Lower corporate savings would push equilibrium interest rates higher: A decline in the corporate saving glut on the back of a sustained pick-up in investment spending and faster productivity growth on the back of a new computing cycle should cause equilibrium interest rates to rise. However, higher market concentration and fatter margins might mitigate the effect.

Exhibit 1:

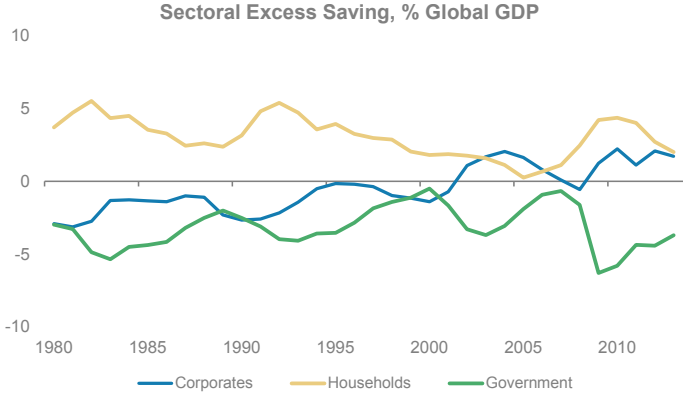
Secular rise in DM profit share likely behind us, EM set to rebound



Source: National sources, IMF, OECD, Morgan Stanley Research; DM and EM aggregates calculated as PPP-weighted averages. JP only included since 1980.

Exhibit 2:

Corporate under-investment drove most of the global savings glut



Source: Chen, P., L. Karabarbounis and B. Neiman (2017) "The Global Rise of Corporate Saving", forthcoming, Journal of Monetary Economics, Morgan Stanley Research

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Executive Summary

Over recent decades, corporate profits have grown consistently faster than nominal GDP growth: This resulted in a favourable backdrop for equity markets and a secular rise in the profit share globally. But despite strong profit growth and falling capital costs, companies have become more reluctant to invest at every stage of the business cycle. As a result, corporates have contributed materially to the global savings glut.

In this note, we analyse the drivers of the secular rise in the profit share, the resulting corporate savings glut and the role of so-called 'superstar companies' in driving this key macroeconomic trend: In discussing the macroeconomic implications, we draw on recent academic studies that attracted a lively debate within think tank and central bank circles.

In our view, **investors need to be aware that the secular uptrend in corporate profits and excess savings might have largely run its course.** As a result, the considerable relief brought by the planned tax reform in the US in 2018 could potentially mark that last spurt in corporate profits. A number of factors could reinforce the recent downward shift in the profit share. These include rising wage pressures, stronger investment spending, increasing trade protectionism, an automation backlash and tougher anti-trust policies. The impact of these factors will likely differ between countries and sectors.

If the profit share moved onto a secular downtrend globally, **from a high-level macroeconomic point of view, this would have a number of implications for the long-term investment outlook:**

• From an equities perspective, **corporate profit growth might fall short of nominal GDP growth** over the long haul. Slower profit growth could also weigh on corporate pay-outs (notably dividends and buybacks). Hence, equity investors could not only be facing a near-term earnings downturn, but also a long-term secular downshift in margins. If, by contrast, the secular rise in corporate profits is all down to superstar companies that effectively leverage technological advantages in a globally integrated market, elevated margins might be here to stay.

• A decline in the corporate savings glut on the back of a pick-up in investment spending would likely cause the **natural rate of interest to rise.** An increase in wage inflation could cause the actual interest rate to rise further above the new higher equilibrium level, in nominal and in real terms.

• To the extent that shifts in **corporate excess savings are affecting current account balances,** secular shifts in the corporate savings glut would likely also impact foreign exchange dynamics. Contrary to fiscal balances which only show short-term cyclical swings, the prolonged build-up of external imbalances can be traced to corporates' excess savings.

• The **role of 'superstar companies'** in explaining observed patterns in productivity and profitability points to the fact that industry leaders tend to pull further ahead, while industry laggards or start-ups are not catching up. Identifying these superstar companies will likely be an important theme for sector stock-picking. The role of outside disruptors in overall productivity trends seems to be relatively limited.

• Drivers of corporate profitability potentially point to **additional risks of margin compression** investors need to consider – in DM mainly technology and antitrust, in EM mainly globalisation. Corporate tax cuts will likely boost the savings glut further. For EM, domestic market size could be very important if they wanted to create their own superstar companies.

• At the dawn of what, according to Katy Huberty, our technology hardware analyst, will likely be a new computing cycle, investors should consider **the macro implications of a shift in tech innovation from consumers to corporates.** Our sector experts believe that, after two decades of underinvestment in IT equipment, incremental IT investment will likely double compared to previous ten-year cycles (see Global Technology Insight: The Data Era Becomes Investable, April 9, 2018).

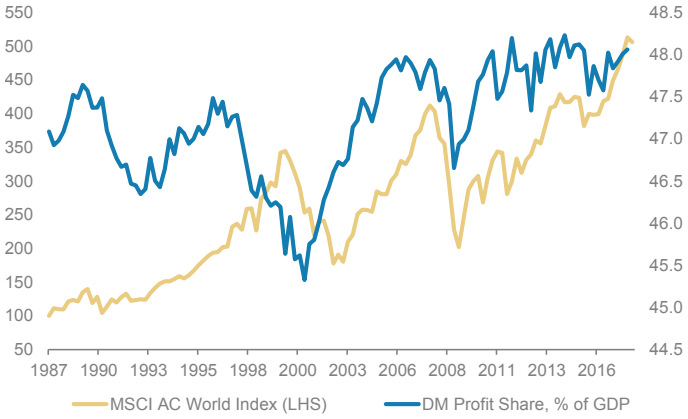
• In EM, where the secular outlook for corporate profits seems to be more optimistic, Jonathan Garner, our chief Asia and emerging market equity strategist, **identified a list of Asia and EM companies that are particularly well positioned to benefit from the secular trends** of global labour market integration and technological advancement and adoption (GLITAA) (see Asia/GEMs Strategy Insights: Stock Beneficiaries of the Profits Super Cycle, January 9, 2014).

Stylised facts in global profit trends

Over the last 25 years, corporate profits have outpaced nominal GDP growth globally: In aggregate, the global economy therefore witnessed a broad-based, long-term uptrend in the share of profits in gross domestic product (GDP). According to a recent IMF study, this uptrend was shared by most DM and, surprisingly also, EM economies, notably China (see Understanding the Downward Trend in Labour Income Shares, WEO, April 2017).

Exhibit 3:

Trend rise in corporate profit share has driven a secular equity bull market

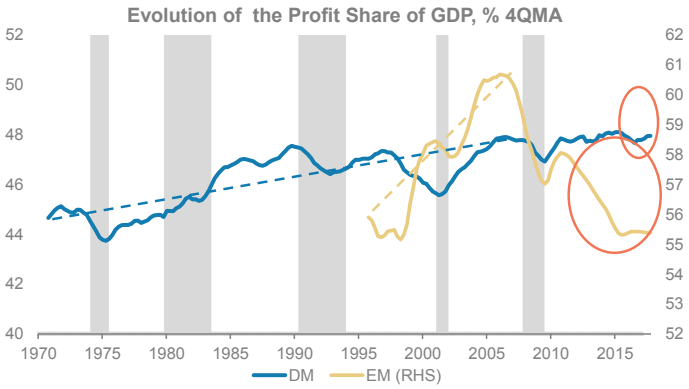


Source: MSCI,, IMF, OECD, Morgan Stanley Research

This secular shift in the income distribution from labour income to corporate profits **likely reflects global integration and technological change.** In this note, we will use the more familiar term profit share to describe what strictly speaking is a capital income share – i.e., all income accruing to owners of physical and intangible capital. Since 1990, the global economy has been transformed by China, India and former Warsaw Pact countries accessing global markets. Over the same period, technological change caused communication costs to plunge, computing capability to explode and transport costs to fall.

Exhibit 4:

Corporate profit share, % of GDP



Source: National sources, IMF, OECD, Morgan Stanley Research; DM and EM aggregates calculated as a PPP-weighted averages. JP only included since 1980

The secular uptrend in the profit share was observed for an extended period of several decades: However, the most recent dynamics suggest that the uptrend might have run its course and that it has started to reverse (**Exhibit 4**). In EM, a sharp reversal seems to have already set in with the Global Financial Crisis (GFC). Except for a short rebound in 2010-11, the EM profit share has fallen sharply in the past ten years. But the most recent data points suggest that it might be turning around now. In DM, by contrast, where a modest uptrend persisted for almost four decades, we have also started to witness a modest correction in the profit share over the last few quarters.

In DM, the profit income share started to increase since the mid-1970s according to our calculations. Barring short-term fluctuations, the uptrend in the DM profit share continued until the GFC, when it took a material hit. By 2015, however, the DM profit share had rebounded to a new historical high. Since then it seem to have moderated again.

In EM, where historical data don't go back as far, the profit share increased steeply in the second half of the 1990s: The GFC seems to mark a peak in the EM profit share. Since then, EM countries have seen a sharp decline in the profit share. However, given that more recent profit share data could still be subject to material revisions in the official statistics, we are wary of drawing firm conclusions at this stage.

Already in 2014, our equity strategists identified a group of Asia/EM stocks that should benefit from secular changes in the global economy since the mid-1990s. These trends comprise of **G**lobal **L**abour market **I**ntegration and a simultaneous wave of **T**echnological **A**dvancement and **A**doption (together 'GLITAA') (see Asia/GEMs Strategy Insights: Stock Beneficiaries of the Profits Super Cycle, January 9, 2014).

According to Jonathan Garner, our chief Asia and emerging market equity strategist, **these secular drivers help to explain persistently high ROE and profit margins in the non-financial sectors globally,** with statistical evidence of a structural increase versus historical levels. They also allow to reconcile the convergence in ROE between different regions of the world despite higher dispersion in stock level ROE. Lastly, they provide a reason why fewer firms are capturing a bigger proportion of industry profits.

Economic dynamics behind the rise in the global profit share

Because of data limitations, academic studies often use the labour income share as a proxy for the profit share, using the fact that the two shares should sum up to 100%. The labour income share, which has experienced a trend decline as the profit share climbed, is calculated as a share of labour income to nominal GDP. But it can also be calculated as **the ratio of real wages to labour productivity.** Hence, shifts in the labour share (and consequently the profit share) can be explained by changes in real wages and changes in labour productivity. Or, if you like equations:

$$\text{Compensation of employees/nominal GDP} = (W*L) / (Y*P) = (W/P) / (Y/L)$$

Hence, if real wages expand more slowly than labour productivity, a trend rise in the profit share results as it allows companies to increase mark-ups steadily over time. It does not take an advanced degree in econometrics to see that the corporate profit share and the labour income share are closely connected. Using this relationship, we can also draw conclusions from empirical studies focusing on the labour income share dynamics. [1]

Hence, one explanation for the rise in the profit share is that **labour productivity growth has outpaced real wage growth.** Back-of-the-envelope calculations suggest that this wedge would account for about half of the increase in the profit share (see also Global Macro Briefing: Whither Wages, March 21, 2018). For much of the post financial crisis era though, productivity growth has been disappointing and slowing, depressing wage dynamics further and fuelling voter discontent. Especially in the US, but also in other DM countries, the shortfall of wage growth behind measly productivity growth thus is a reason for concern.

This secular slowdown is likely also **reflecting a misallocation of resources in the course of the pre-crisis credit boom.** According to new BIS estimates, the shift of resources into low-productivity sectors (notably real estate) during a credit boom lowers productivity growth by about 0.4pp in the aftermath of a financial crisis across a broad set of DM countries (see Borio, 2018). The growing incidence of non-viable 'zombie' firms, i.e., companies that have not been able to earn their interest costs in recent years, seems to slow the reallocation of resources materially.

Productivity dynamics are driven by technological changes: These changes can be captured by the decline in the relative price of investment (i.e., the price of capital goods relative to the overall price level). A decline in the relative price of investment incentivises corporates to substitute capital for labour, especially in those tasks that can be easily automated.

While the discussion on dynamics in the profit share and the labour share also have **crucial implications for dynamics in income inequality** and, hence, the risks of rising political discontent, falling education incentives and even declining life expectancy, we will not discuss these issues and their ramifications for potential output growth in this note.

A closer look at the trend in profit shares

While there are clearly some common global driving forces behind the rise in the profit share, the **dynamics vary between countries and between sectors.** In addition to the common global trend over time, these cross-country and cross-sector variations allow us to study the potential reasons for the secular rise in corporate profits empirically. Here is what these trends show:

1. Note: This should only be seen an approximation as strictly speaking the two shares only add up to one when expressed as a % of GNI at factor prices. When looking at the shares as a % of GDP, changes in net foreign incomes and in net indirect taxes and subsidies could cause discrepancies.

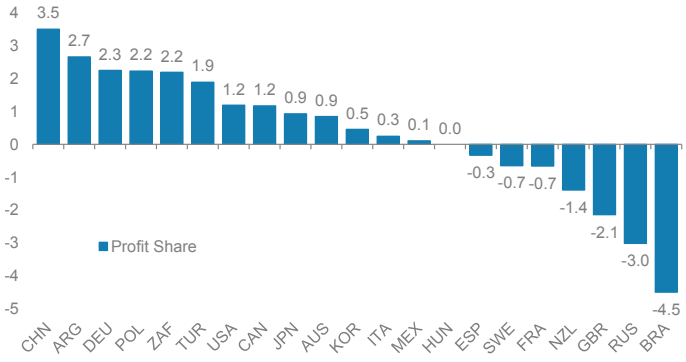
Countries

Using IMF estimates of the trend change in the labour income share (see Why Is Labor Receiving a Smaller Share of Global Income? Theory and Empirical Evidence, IMF WP 17/169), we find that the **rise in the global profit share reflects, first and foremost, a rise in DM and, to a lesser extent, in EM.** More specifically, as **Exhibit 5** shows, the profit share has increased in four out of the largest five economies globally, including China. Among the G7 countries, only the UK and France have seen a decline in profit margins. However, the declines in the UK and France have been much more muted than in commodity-exporting EM economies, such as Brazil and Russia.

A recent IMF paper analyses the long-term change in the profit share in 35 DM and 54 EM economies. Among the 35 DM countries the IMF considered (not all shown in **Exhibit 5**), 19 countries, accounting for almost 80% of today's DM economy, saw a rise in the profit share. The **average increase across DM was only a modest 0.3pp, with a sizeable standard deviation of 1.5.** In EM, the cross-country dispersion is considerably bigger. Of the 54 EM countries the IMF considered, 32 witnessed a rise in the profit share. Given that China was one of them, the share of countries seeing a rise in the profit share comes to around 70% of EM GDP. **The average EM increase in the profit share was a similar 0.2pp, with a much higher standard deviation of 2.8.**

Exhibit 5:

Estimated change in profit share since 1991



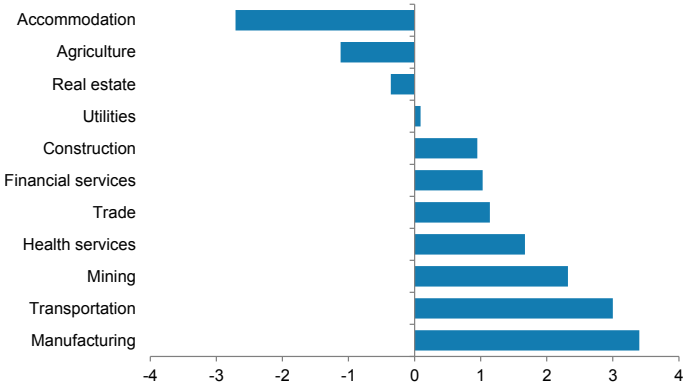
Source: IMF, Morgan Stanley Research; Note: Chart shows percentage point changes over ten years calculated as the residual of the labour share.

Sectors

In addition to the country differences, the **secular trend in the profit share also masks some major sector differences.** The IMF goes on to assess whether the upward trend in profits is mainly driven by a change in the sector composition and to quantify the drivers of the change in the profit share. Expressing the results from the IMF study mentioned before in terms of profit shares shows that the profit share increased in 70% of the major economic sectors (**Exhibit 6**). The **sharpest increases were seen in tradeable sectors, notably manufacturing.** But transportation, mining and several services sectors, including health services, distributive services, financial services and construction services, also saw a material increase in profitability.

Exhibit 6:

Estimated trend change in the profit share by sector since 1998



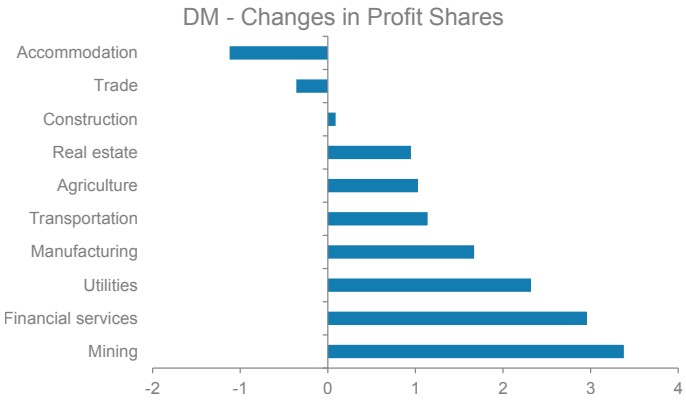
Source: IMF, Morgan Stanley Research; Chart shows percentage point changes over ten years calculated as the residual of the labour share.

Interestingly, **90% of the increase in the profit share comes from within-sector gains, not from a shift between sectors.** Apart from China, where a fundamental shift in the economic structure from agriculture or other sectors (industry, services) accounts for about 60% of the increase in the profit share, shifts in economic activity from low-profit sectors to high-profit sectors do not seem to have played a significant role. We will come back to this phenomenon later: It is key to the rising role of so-called superstar companies.

Breaking the **changes in the sectoral profit shares down into DM and EM** reveals an interesting pattern. The sector with the **sharpest increases in DM and EM was mining.** At almost 12pp, it saw four times the gain in EM than in DM. Financial services was also in the top three in DM and EM, gaining about 3pp in each group. Utilities was #3 in DM and #4 in EM, gaining 2.5pp and 2pp, respectively. Construction, which has been a major beneficiary of a rising profit share of about 6pp in EM, did not see a material change in DM.

Exhibit 7:

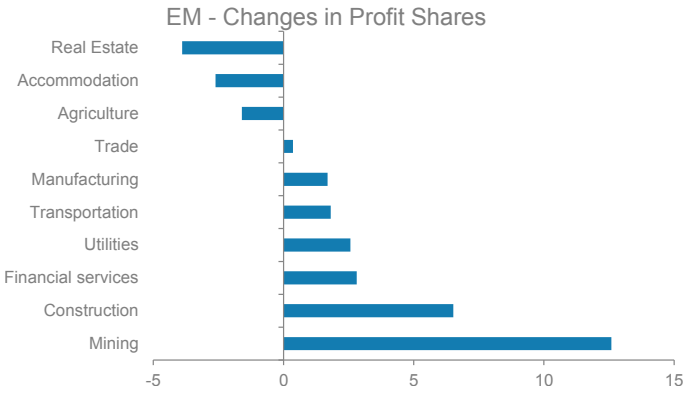
Changes in DM profit shares by sector since 1993



Source: IMF, national sources, Morgan Stanley Research; Note: Chart shows percentage point changes over 25 years calculated as the residual of the labour share.

Exhibit 8:

Changes in EM profit shares by sector since 1993



Source: IMF, national sources, Morgan Stanley Research; Note: Chart shows percentage point changes over 25 years calculated as the residual of the labour share.

Drivers behind the rise in the profit share

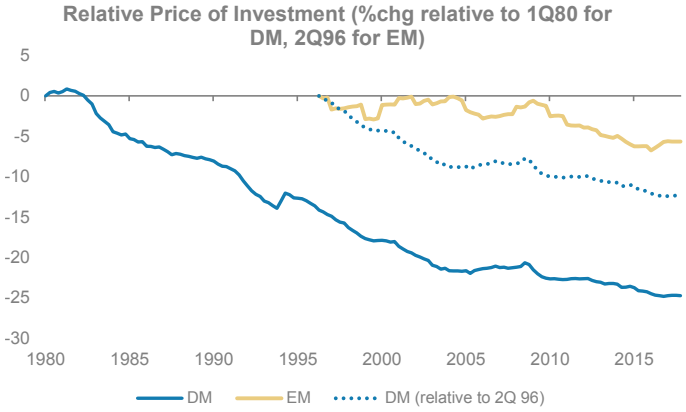
The academic studies provide **two main explanations for the secular rise in the profit share – technology and globalisation.** We would stress that both developments are closely correlated. Hence, it might not always be possible to statistically disentangle the two factors fully. An **additional factor is the increasing corporate concentration** within sectors seen over the last few decades (which at least in part is also facilitated by globalisation and technology).

Technology

One way to capture the **impact of technological change** is to look at the relative price for capital goods relative to the general price level. Doing this shows a steep decline in the relative price of capital goods for both DM and EM (**Exhibit 9**). The decline in DM since the mid-1990s is roughly twice the size of the one in EM. This difference likely reflects the greater weight of ICT investments in DM, especially in the US. This steep decline in the relative price of capital goods provides incentives for corporates to replace workers with machines (note that this shift would be even bigger versus wages, which have increased more than the GDP deflator). Whether or not workers can be replaced depends on the extent to which routine tasks can be automated.

Exhibit 9:

Relative price of investment goods since 1980



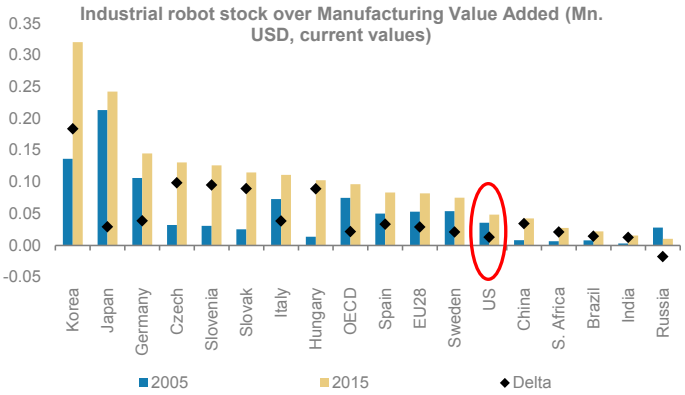
Source: National sources, OECD, Morgan Stanley Research

One specific focus for the future within the broader impact of technological change is the **impact of automation, notably robots.** Estimates of the possible replacement rates from automation range from 9% (see OECD, 2016) to 57% (see World Bank, 2017). Exploring the varying impact of automation on regional labour markets in the US, D Acemoglu and P Restrepo find that adding one robot per 1,000 workers lowers the local employment ratio by ~0.275% and local wages by ~0.4%. This implies that about 4.6 workers lose their job for every new robot employed.

As the use of industrial robots in the US thus far has been relatively limited (**Exhibit 10**), Acemoglu and Restrepo estimate that thus far only between 360,000 and 670,000 jobs have been lost to robots (see Robots and Jobs: Evidence from the US Labour Market, NBER WP). This corresponds to a share of about 0.24% to 0.45% in total employment in the US. Going forward, however, a fourfold increase in the stock of industrial robots would dent the employment ratio by a more meaningful 0.9-1.75pp and wage growth by 1.3-2.6pp over a 10-year period from 2015.

Exhibit 10:

Automation remains low in US manufacturing relative to other DM countries



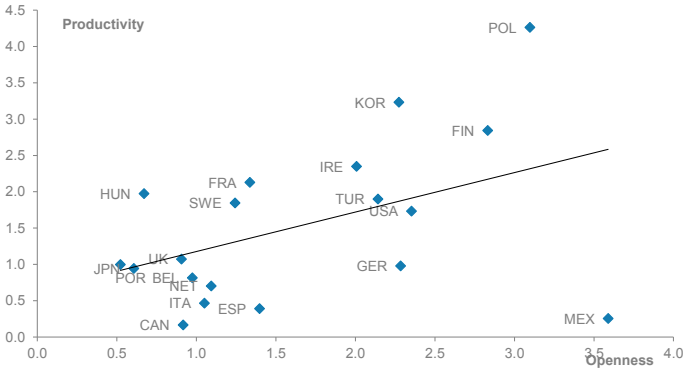
Source: OECD calculations based on International Federation of Robotics data and the World Bank, World Development Indicator Database, Morgan Stanley Research

Our technology analysts believe that we are at the dawn of new data-centred computing cycle that will likely double incremental IT investment by the corporate sector (see Global Technology Insight: The Data Era Becomes Investable, April 9, 2018) as multiple technologies are emerging at the same time, including the internet of things, artificial intelligence, virtual/augmented reality and automation. If these **new data technologies indeed drive investment spending materially higher, this could also affect secular profit trends.** It would very much depend on how much the next computing cycle boosts labour productivity growth materially and to what extent it would dent job creation and wage growth.

At face value, **additional IT investment spending of US$1.6 trillion over the next ten years is relatively small compared to global GDP.** As a result, the additional IT investment spending itself would only add 0.1pp to global GDP growth in the coming ten years. However, the impact on private sector capex would likely be considerably larger (around 1.5pp based on relevant US data). The overall impact on GDP, productivity and profitability depends on the Incremental Capital Output Ratio (ICOR) which measures the marginal investment spending that is necessary to generate the next unit of output. While the IT ICOR has been well below one until 2001, it has hovered around two since the GFC.

Exhibit 12:

Productivity gains and increasing openness (1985-latest)



Source: OECD, Morgan Stanley Research

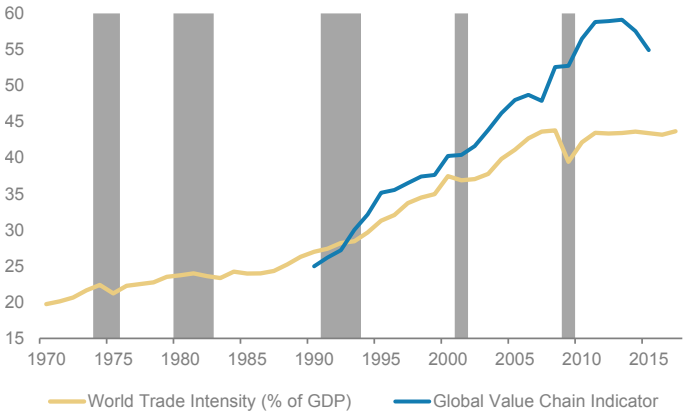
Globalisation

Globalisation has likely increased competitive pressures by allowing companies to leverage global value chains through offshoring labour-intensive stages of the production process. Together with increasing import penetration and a larger pool of labour globally, this has likely reduced labour's bargaining power.

Standard models of international trade would predict that the **profit share should increase in capital-rich DMs.** This is because opening up to trade with labour-rich EM causes invested capital to become scarcer relative to labour and because a bigger global labour force increases the marginal productivity of invested capital. But, the **profit share should normally decrease in EM,** where capital becomes less scarce after opening up to trade with capital-rich DMs. However, the empirical pattern points to rising profit shares in both DM and EM.

Exhibit 11:

Trade intensity has more than doubled since the mid-1970s, global value chains have done the same since 1990



Source: OECD, Morgan Stanley Research; Note: Trade intensity is the sum of exports and imports in GDP (also known as the degree of openness). GVC indicator is the ratio of intermediate goods imports to final domestic demand.

The **observed increase in DM and EM profit shares** could point to DM offshoring tasks to EM that are more capital-intensive than the local EM production. As a result, offshoring increases the capital intensity in EM and thus the profit share. Equally, as DMs shift more labour-intensive stages of production abroad, DM production would become even more capital-intensive. To the extent that increased international capital mobility lowers the cost of capital and thus also facilitates higher capital intensity, it could be an additional reason for the profit share to increase in DM and EM.

Other explanations for the upward trend in the profit share include the deregulation of labour and product markets, increased concentration of corporate power on the back of economies of scale, first-mover advantages or agglomeration effects more broadly (creating so-called superstar companies) and changes in government policies including declining corporate tax rates. **Exhibit 13** shows that corporate income taxes have been lowered materially since the mid-1980s, with the average DM tax rate on corporate income falling from 47% to less than 30% last year and the average EM rate easing from 37% in 1990 to a similar level as in DM.

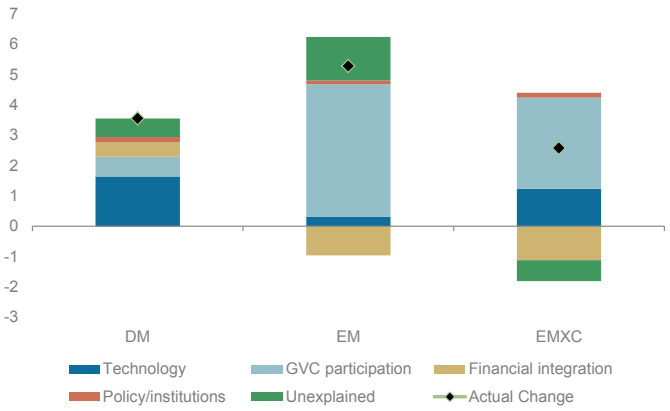
Exhibit 13:

Corporate income tax rates, DM and EM, 1985 to 2018

Source: National sources, CMIE, Deloitte, KPMG, IMF, OECD, Morgan Stanley Research; Note: DM and EM aggregates are PPP-weighted averages of selected countries.

Exhibit 14:

Contributions to the rise in the profit share since 1993



Source: IMF, Morgan Stanley Research

Empirical assessment of drivers behind the higher profit share

According to comprehensive IMF studies (see Understanding the Downward Trend in Labour Income Shares, WEO, April 2017 and Why Is Labor Receiving a Smaller Share of Global Income? Theory and Empirical Evidence, IMF WP 17/169), **about half of the total increase in the global profit share can be traced back to technological change.** For any given decline in the relative price of capital goods, DM economies with a higher degree of routinisation (i.e., standardising production processes so that they can eventually be automated) saw a four times bigger increase in the profit share than those with a low degree of routinisation. As profit shares rose more in tradeable sectors, the observed pattern in the profit share changes also suggests that **globalisation played an important role, especially in EM.** On the whole, as Exhibit 14 shows, **in DM, technology likely was the largest factor boosting the profit share. In EM, globalisation – notably the integration into global value chains – has likely been the main driver.** For EM, the IMF does not find a discernible impact of technology. Note that removing China from the EM group would reduce the role of global value chains materially and increase the role of technology.

These findings regarding the role of technology and globalisation in DM and EM likely reflect two factors:

First, the **relative price of capital goods did not decline as much in EM** as it did in DM (with a drop of only 7% in EM compared to 12% in DM, reflecting a smaller weight of ICT investment – a dynamic dominated by the US).

Second, **the degree of routinisation at the outset has been lower in EM.** This likely reduced the possibility to leverage technology aggressively.

From an investor point of view, these different drivers would imply that EM corporate profitability might be primarily threatened by trade protectionism while DM corporate profitability could be undermined by a slower pace of innovation or slower diffusion of new technologies.

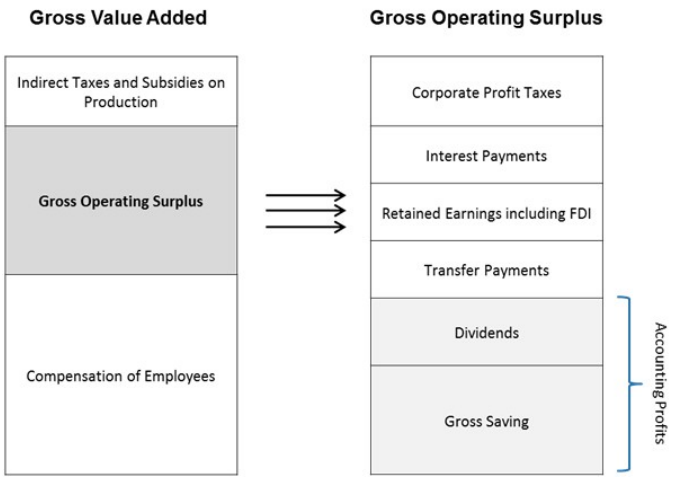
The broader global results are also **confirmed by US regional industry data.** Here the IMF (see What Explains the Decline of the U.S. Labour Share of Income? An Analysis of State and Industry Level Data, IMF WP 17/167) finds that the modest secular uptrend in US profit share has been masking much variation at the state and sector level. Again the rise in the profit share reflects a rise within sectors and within states, not a shift in the composition between them. More specifically, **90% of the rise in the US profit share over the last 15 years is driven by a rise within industries/states.** The bulk of the rise in the profit share is driven by technological change, notably the automation of routine tasks. **Automation accounts for 44-57% of the rise** in the US profit share. According to the IMF, globalisation also plays a role as offshoring of intermediate inputs explains 21-33% of the rise and import competition in final product markets a further 16-21% of the rise in the profit shares.

From rising profit shares to a corporate savings glut

The rise in the global profit share together with stable, if not falling, investment share has led to a rise in corporate savings over the last few decades: This rise in corporate savings is not unique to the US, to the tech sector or to multinational companies. We won't go into the details of the statistical differences between the system of the national accounts and the financial accounts of corporates (for details, see European Economics: Enter the Gross Operating Surplus, September 18, 2002). Essentially, corporate savings are the undistributed profits accruing within the corporate sector.

Exhibit 15:

How do corporates actually save – a stylised diagram



Source: Morgan Stanley Research based on CKN 2017

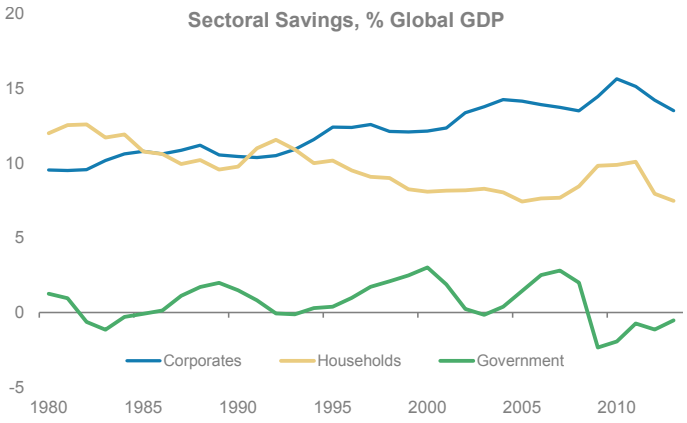
The net balance of corporate savings and investment spending gives the excess saving of the corporate sector – the corporate savings glut. This **corporate savings glut has been pushing down interest rates and credit risks.** The corporate savings glut is due to a secular rise in profit share in combination with a stable, if not declining, investment share. A **secular shift in savings from the household sector to the corporate sector** has emerged over recent decades.

At the global level, the corporate savings rate has risen from ~10% in the 1980s to nearly 15% of GDP: As Exhibit 16 shows, over the same time, the household savings rate dropped from 15% to less than 10%. Contrary to the government savings rate (aka the budget balance), which mostly shows cyclical swings around the zero line, household and corporate savings show secular trends. With a **broadly unchanged share of corporate investment in GDP,** the rising profit share is what pushed the **corporate sector to become source of funding for the rest of the economy** (see Exhibit 17 and Exhibit 18 for details).

Instead of borrowing from households (via financial intermediaries or financial markets) to finance investment spending, **corporates have become net lenders to the rest of the economy.** The corporate savings overhang not only creates a **shortfall in demand,** it also weighs on the long-term growth potential to the extent that it is due to weak investment.

Exhibit 16:

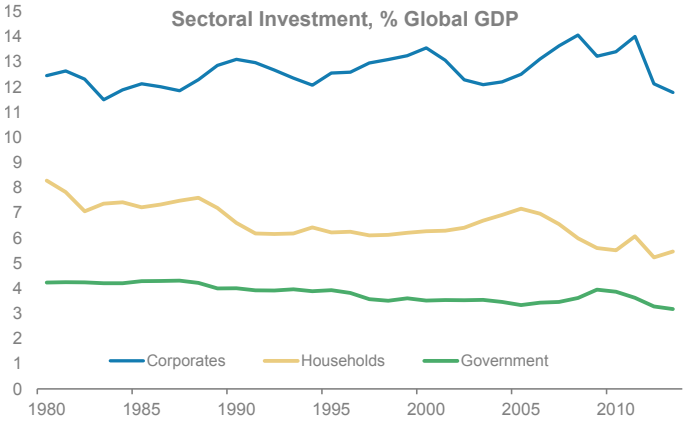
Sectoral savings, % of global GDP



Source: Chen, P., L. Karabarbounis and B. Neiman (2017) "The Global Rise of Corporate Saving", forthcoming, Journal of Monetary Economics, Morgan Stanley Research; Note: CKN generate their estimates by pooling saving data across all countries for all three sectors and regressing the sector-saving ratios on time fixed effects. They weigh the regressions by GDP at market exchange rates and control for changes in the country composition. To benchmark the level of the estimates, they pool all available countries in our data in 2013 and calculate the appropriate global value. We then use the estimated time fixed effects to extrapolate that level backwards.

Exhibit 17:

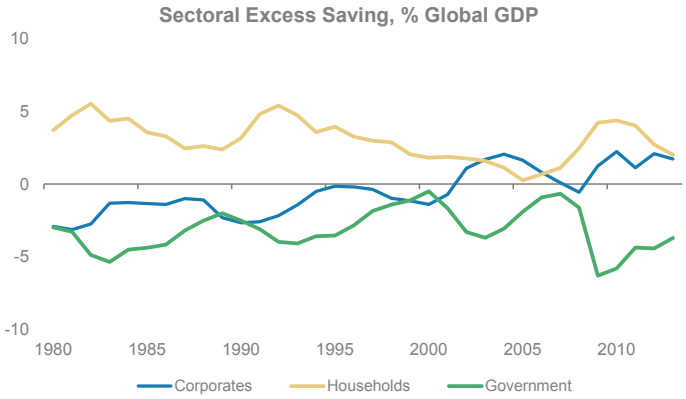
Sectoral investment, % of global GDP



Source: Chen, P., L. Karabarbounis and B. Neiman (2017) "The Global Rise of Corporate Saving", forthcoming, Journal of Monetary Economics Morgan Stanley Research.

Exhibit 18:

Sectoral excess savings, % of global GDP



Source: Chen, P., L. Karabarbounis and B. Neiman (2017) "The Global Rise of Corporate Saving", forthcoming, Journal of Monetary Economics, Morgan Stanley Research

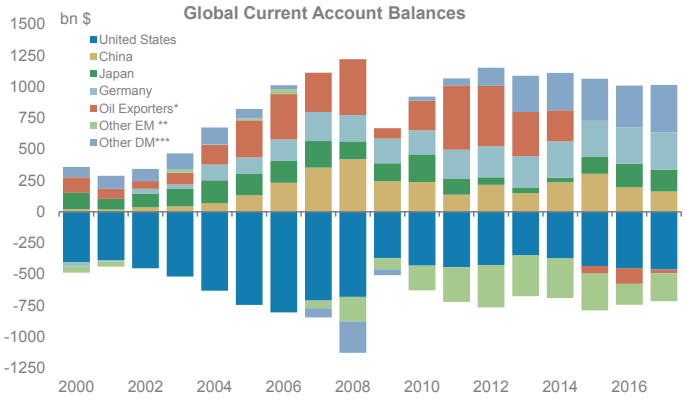
The **corporate savings glut is crucial for long-term growth prospects and, also, the build-up of external imbalances.** In the US, corporate profits started to exceed investment spending in the early 2000s. The corporate savings overhang surged during the GFC (even though especially profits took a major hit).

Together with similar metrics for the household sector and the government sector, corporate savings make up national savings. **The sum of the net lending across sectors to the rest of the world is also known as the current account balance.** Hence, there is a connection between the corporate savings glut and external imbalances. This pattern is not unique to the US. Germany shows a similar pattern. In Canada, Japan and the UK, a corporate savings overhang emerged already in 2000. Only France and Italy don't show a corporate savings overhang yet.

International comparisons across 26 OECD countries show that countries with a larger increase in the corporate savings overhang have not only seen a greater shortfall in GDP growth, but also experienced bigger improvements in their current account balances as the higher corporate savings were reinforced by an increase in excess savings in the household sector.

Exhibit 19:

Current account balances widened as a result of the global savings glut



*Includes the Middle East, North Africa and the Commonwealth of Independent States

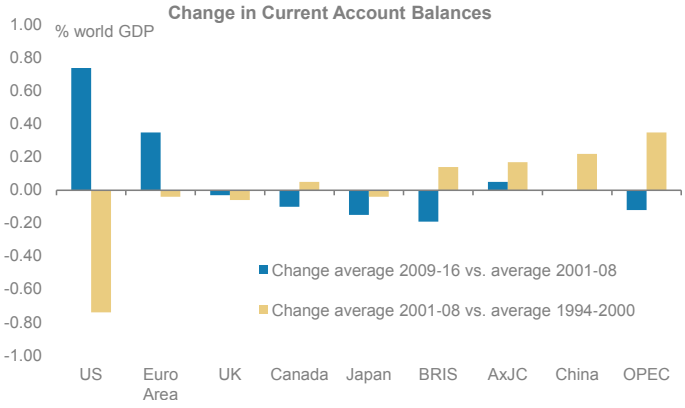
**Excludes the Middle East, North Africa, the Commonwealth of Independent States and China

***Excludes Germany, Japan and the United States

Source: IMF, Morgan Stanley Research

Exhibit 20:

Shifts in current account balances are related to corporate savings



Source: IMF, Morgan Stanley Research; Note: BRIS = Brazil, Russia, India and South Africa, AxJC = HK, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan, Thailand and Vietnam.

Dissecting the corporate saving glut

A recent study of firm-level data by the Federal Reserve Bank of Minneapolis finds that the **increase in corporate savings reflects an increase in profits, not a change in dividend, tax or interest payments** (see P Chen, L Karabarbounis, and B Neiman – The Global Rise

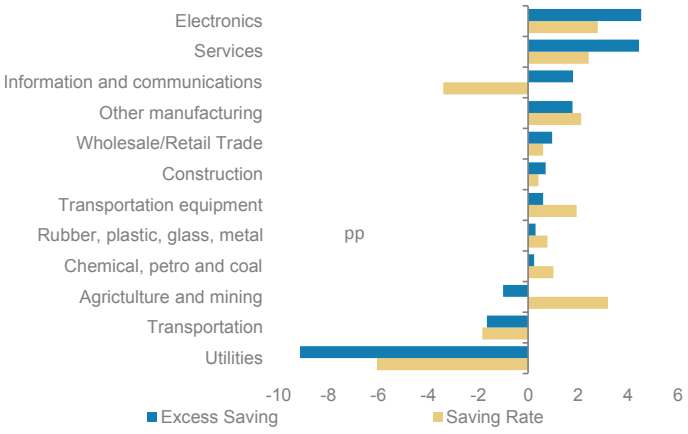
of Corporate Savings, WP 736, March 2017). The Fed economists also did not find evidence that firm size or company age systematically affect corporate saving trends.

Instead, the largest part of the **increase in corporate savings globally can be traced back to increases within sector, size and age groups.** While multinational companies tend to save more, these savings seem to be powered by higher profit shares, not lower taxes or lesser dividends. With the share of multinationals in overall value-added being relatively stable over time, their higher savings rates cannot explain the rise in corporate savings globally.

In their panel of 66 countries, CKN looked at **corporate saving behaviour in various years between 1980 and 2013.** Their analysis starts in 1980, the earliest year for which data for at least eight countries (Finland, France, Germany, Italy, Japan, Netherlands, Norway and the US) are available. The UK enters the sample only in 1989, three years ahead of China. The full sample, which is only available from 2007, consists of over 60 countries that account for more than 85% of global GDP.

Exhibit 21:

Change in the corporate savings rate and excess saving rate over the last 10 years

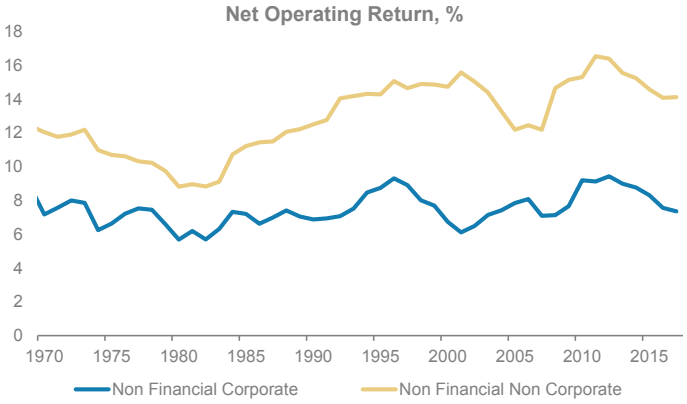


Source: Chen, P., L. Karabarbounis and B. Neiman (2017) "The Global Rise of Corporate Saving", forthcoming, Journal of Monetary Economics, Morgan Stanley Research.

Their colleagues at the **Federal Reserve Board studied the corporate savings overhang in the run-up to and after the GFC across the G7** (see JW Gruber and SB Kamin (2015) The Corporate Savings Glut in the Aftermath of the Financial Crisis, FRB WP). Contrary to conventional perception, Gruber and Kamin find that the sharp decline in investment spending during the GFC was broadly in line with historical patterns. However, **in the run-up to the GFC, investment spending was unusually weak.** Debunking another conventional wisdom, they also show that dividend payouts and share buybacks trended higher – a pattern that is inconsistent with corporates cutting investment spending to boost balance sheets and to deleverage debt. Looking at the interaction between investment spending, corporate payouts and balance-sheet adjustments, Gruber and Kamin find that the **corporate savings glut started to emerge before the GFC.** At that point the share of investment in GDP and in corporate profits had already started to decline. Furthermore, the decline in investment spending has coincided with an increase in corporate payouts. **Corporate deleveraging or risk-aversion are unlikely to be the primary drivers of the investment weakness.**

Exhibit 22:

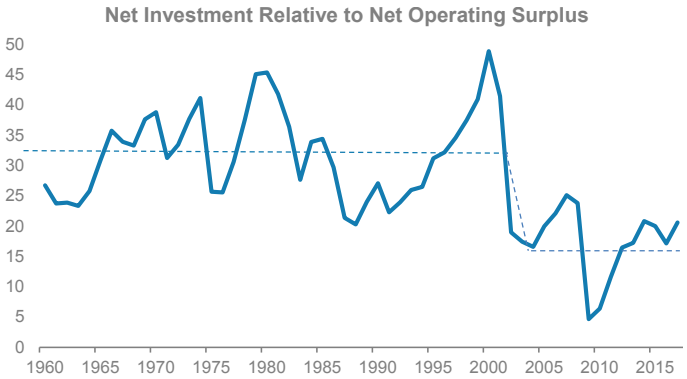
Net operating return for US companies



Source: BEA, Morgan Stanley Research

Exhibit 23:

Net investment as a % of net operating surplus, US non-financial corporate business



Source: BEA, Morgan Stanley Research

Instead, the empirical pattern is consistent with either a **lack of profitable investment opportunities (secular stagnation) or with missing motivations to invest (declining competition).** A similar finding also emerges from a recent study by two NYU economists. Looking at investment spending in the US over the last three decades, Gutierrez and Philippon show that **investment is weak relative to corporate profits and relative to asset valuations** (see G Gutierrez and T Philippon – Investment Less Growth: An Empirical Investigation, NBER WP 22897, 2016). An important finding of their study is that instead of Tobin's Q having declined over the last few decades, a gap between Tobin's Q and investment spending has opened in the US.

Gutierrez and Philippon **make five observations about the weakness in US investment spending:**

• **Investment is low even though corporate profitability is high** and rising.

• **Investment spending falls short of the level Tobin's Q** would imply.

• A higher **depreciation rate is not the reason** why net investment has been weak since the early 2000s. The drop in net investment echoes a decline in gross investment.

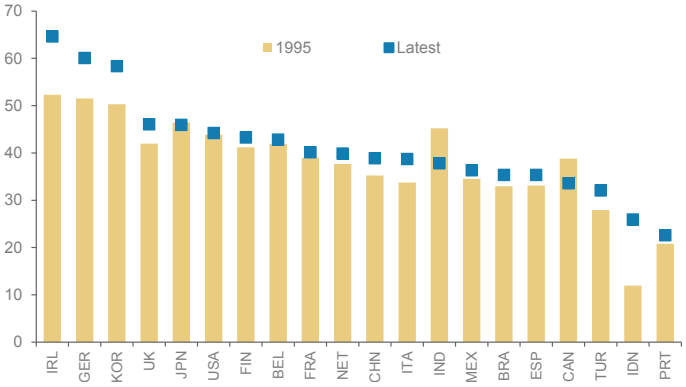
• The **number of competitors in an industry has declined materially since the mid-1990s** due to the sharp drop in the number of new entrants.

• While **share buybacks and dividend payouts have increased since the mid-1980s,** quasi-index ownership has only leapt higher since 2000.

Using industry-level and firm-level data, Gutierrez and Philippon also **don't find support for the US investment weakness being driven by rising risk-aversion or financial constraints.** Globalisation and intangible investment explain some of the observed industry trends. But by far the **most important factors explaining weak investment in the US are weaker competition and weaker governance.** Both factors don't just drive the investment gap higher, but also the amount of free cash flow going into share buybacks.

Exhibit 24:

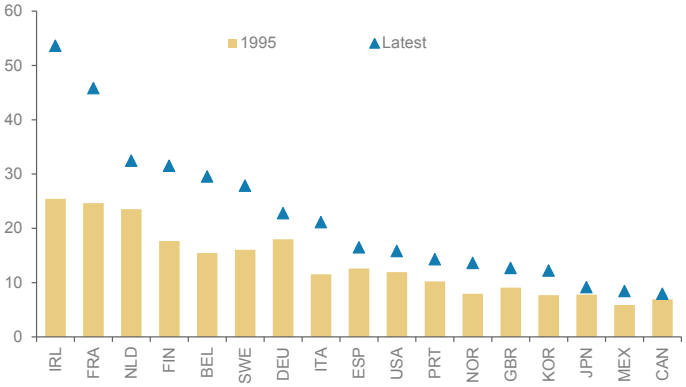
Share of high R&D intensity sectors in manufacturing



Source: OCED, Morgan Stanley Research

Exhibit 25:

Rise of intermediate services input in manufacturing



Source: OECD, Morgan Stanley Research

Enter the 'superstar companies'

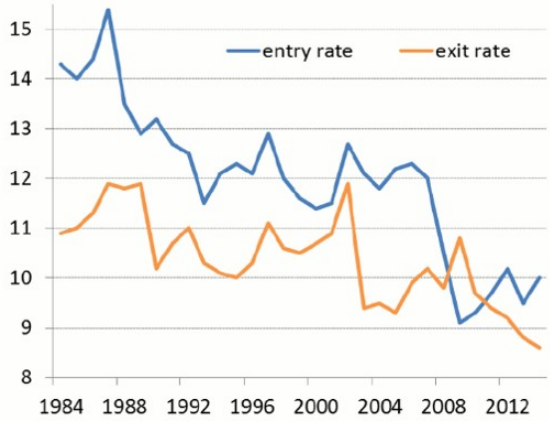
Another possible explanation for the corporate savings glut and the weak investment spending in the US could be the decrease in competition due to a decrease in firm entry and exit activity and increased industry concentration. In a widely cited paper, Autor et al 2017 argue that the **increased profit shares across six major US sectors are due to rising industry concentration** (see D Autor, D Dorn, L Katz, C Patterson, and J Van Reenen (2017), The Fall of the Labour Share and the Rise of Superstar Firms, NBER WP 23396). Looking at 700 US industries within manufacturing, retail, wholesale, services, finance, utilities and transportation between 1982 and 2012, the authors observe that **production shifts to so-called superstar companies.** They also find a positive correlation between industry concentration and profit shares.

The rise of superstar companies might have to do with technological change or with monopolistic behaviour: Autor et al advocate the idea that superstar companies are able to reap higher profit shares because they are more productive. Broadening the analysis to firm-level data for 16 DM countries, the OECD also finds **widening discrepancies between high- and low-productivity firms operating in the same sector** (see G Berlingieri, P Blanchenay, and C Criscuolo (2017), Great Divergences: The Growing Dispersion of Wages and Productivity in OECD Countries, STI Policy Note, OECD). The differences in productivity are echoed in the differences in profits even though superstar companies are paying higher wages than their less successful competitors. This could reflect a self-selection of the most productive workers ending up working for the most productive and most profitable firms. Autor et al argue that **increasing industry concentration – driven by technology and globalisation – as well as less active anti-trust authorities** are the main reason for the rising profit share.

The jury is still out on the reasons behind increasing industry concentration: It could be due to fundamental economic changes, such as technology and globalisation, or to political changes, such as reduced antitrust enforcement. However, some researchers observe that the DoJ and the FTC brought on average almost 16 anti-trust cases per annum in the 1970s, 1980s and 1990s (15.7). Since 2000 the average number of anti-trust cases (under Section 2) has dropped to less than three per year (2.8) (see L Zingales (2017), Towards a Political Theory of the Firm, Journal of Economic Perspectives, August 2017). Over the last two decades, 75% of US industries experienced an increase in concentration (with the Herfindahl Index rising an average 50%) while the average market capitalisation of listed US companies trebled from US$1.2 billion to US$3.7 billion. He attributes this to slower creation of start-ups and to faster merger activity.

Exhibit 26:

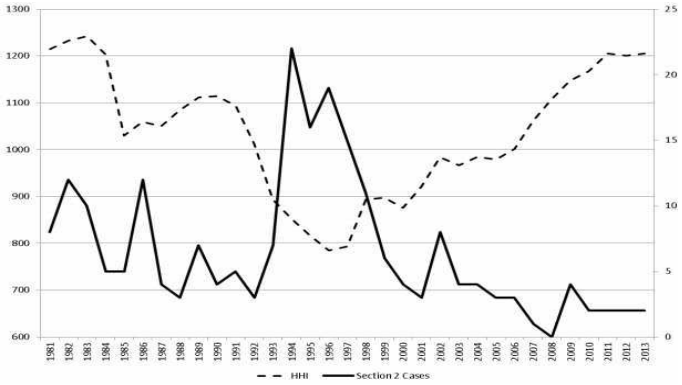
US corporate exit rates declined faster than entry rates



Source: BdF, Census Bureau

Exhibit 27:

Relationship between concentration levels and antitrust enforcement



Note: To construct the HHI index, every year we sum up the squared total sales of each firm in a given NAICS 3-digit industry divided by the aggregate number of firms in the industry Source: Grullon, Larkin, Michaely 2016 .

That market concentration has been intensifying could be due to **increasing market entry barriers.** We make two observations. First, the exit rate of US companies is lower than the entry rate. Second, the entry rate of new firms has fallen more than the exit rate of existing firms. This would suggest that markets have become less contestable over time. In addition, **antitrust enforcement seems to have become laxer over time**. Exhibit 27 shows the relationship between the Herfindahl-Hirschman concentration index for all US publicly traded firms and the number of cases filed by the Department of Justice under Section 2 of the Sherman Act of 1890. [2]

The **superstar company model** essentially postulates that changes in the heterogeneity of companies operating within the same sector are critical to the rise in the profit share and the corresponding decline in the labour share. Specifically, Autor et al evaluate whether the rise of superstar companies is **reflecting a rise in the concentration of sales among heterogenous firms** and whether **industries with larger increases in concentration see larger increases in the profit share.** They clearly find an increase in sales concentration over time, even though the level of concentration differs materially between sectors. Employment concentration has grown more slowly than sales concentration, implying that productivity per head has become more dispersed. Furthermore, the profit share should rise differentially in sectors that are experiencing a larger increase in concentration.

2. The Herfindahl-Hirschman index (HHI) is a measure of market concentration and is calculated by summing the square of the market share of each firm competing in a market. HHI ranges from 0 to 10,000. A relatively high HHI reading signifies higher market concentration and lower competition, while a HHI reading closer to zero indicates a competitive market place. Hence, laxer enforcement indeed seems to have coincided with rising concentration.

Indeed, Autor et al find that **for each percentage point increase in a sector's concentration index for the largest 20 companies in the sector, the labour share falls by 0.4pp** and the profit share rises by 0.6pp. For the manufacturing industry, they find that the industries that have become more concentrated over time were also the ones where productivity increased the most. By contrast, concentration does not seem to have a close correlation with the wage dynamics. As a result, they argue that this pattern suggests that it is more likely that technology is driving the concentration than anti-competitive forces such as lobbying and rent-seeking by the incumbent firms. **At the macro level, the share of labour falls as the weight of superstar companies in the economy grows.** Over time, sales will likely become increasingly concentrated (see D Autor, D Dorn, L Katz, C Patterson and J van Reenen – Concentrating on the Decline in the Labour's Share, AER, 5(2017) 180-185).

While there are a number of sectors in which the **domination of superstar companies** is particularly striking, such as technology, financial services and healthcare, the phenomenon is more broad-based. As Jonathan Garner showed in Asia/GEMs Strategy Insights: Stock Beneficiaries of the Profits Super Cycle, January 9, 2014, **seven out of ten sectors globally saw an increase in profit concentration and profitability** between 2006 and 2011. At the same time, larger DM companies (by market cap) have also been able to grow their ROEs more quickly than smaller companies regardless of the sector they are operating in.

Looking at the ROEs for all constituents in the MSCI World Index between 1980 and 2012, he also showed that the median ROE of the largest 100 companies in MSCI World was higher than for the overall universe of MSCI World. While the ROEs improved for both groups since the 1990s, the median ROE of the 100 largest DM companies improved at a much larger scale. All in all, this led to **increased dispersion of profitability at the stock level.** This hypothesis was also confirmed by the fact that normalised ROE distributions of the largest 100 companies not only shifted towards the right, but developed a fat tail since the GFC.

On balance, it therefore looks likely that **antitrust policy in the US and elsewhere in DM has failed to stem the tide of increased corporate concentration** (see also Galston, Hendrickson, 2018).

Denting long-term equilibrium interest rates

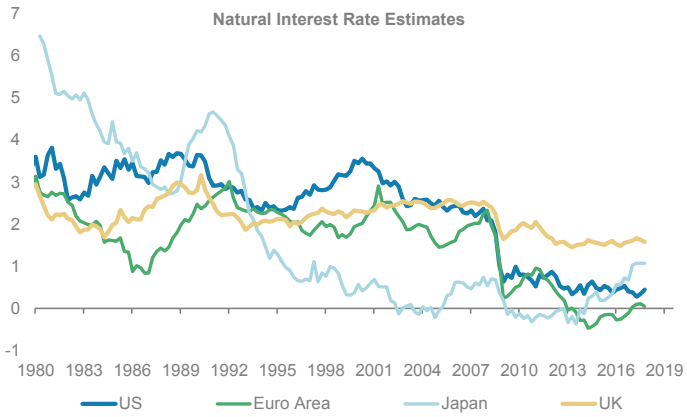
The macroeconomic impact of the decline in competition is considerable: C Jones and T Philippon estimate that if it wasn't for the decline in competition denting investment spending and thus economic growth, **the Fed would have been able to raise rates already at the end of 2010.** By 2015, it would have brought the FFR to about 2% already (see C Jones and T Philippon (2016), The Secular Stagnation of Investment, Mimeo). These new results add an interesting microeconomic aspect to the debate on the global savings glut driving down interest rates triggered by Former Fed Chair Ben Bernanke in 2005.

Excess savings

Former Vice-Chair Stanley Fischer stressed the **role of excess savings in denting equilibrium interest rates.** Dr Fischer reckons that the slowdown in potential output growth from 3% to just 1.5% has been the main factor depressing the natural rate of interest in the US. In his most recent speech in August 2017, Fischer estimated the natural rate of interest to have declined by 150bp since the GFC. In his late 2016 speech, he was referencing the Laubach-Williams estimate showing a decline of 225bp. More than half of the decline, Fischer argued at the time, or about 120bp, was due to the decline in long-term growth prospects. But he also found a sizeable impact from weak investment spending (70bp) and adverse demographics (75bp) (see S Fischer (2016), Why are Interest Rates So Low? Causes and Implications, FRB). Estimating an equilibrium level of interest rates provides us with a useful yardstick for a neutral monetary policy rate. However, it should not be seen as an attempt to forecast near-term interest rates or bond yields.

Exhibit 28:

Natural rates of interest have fallen materially in US and EA



Source: Holston, Laubach and Williams (2016) for the US, euro area and UK. Bank of Japan Working Paper Series for Japan, Note: We assumed the 2Q17 Japan number remained unchanged in 3Q and 4Q17. Morgan Stanley Research

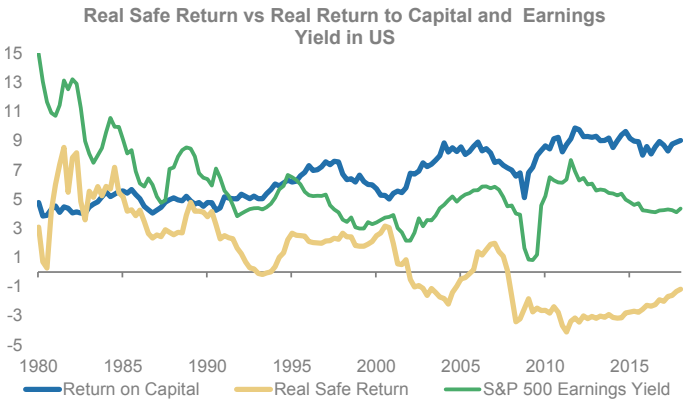
Factors driving the equilibrium interest rate levels are interconnected, for instance in the decline in potential growth and productivity gains on the back of demographic change. The key difference between the different drivers lies in their impact on the natural interest rate, in particular whether they would imply a decline in the rates of return on all assets (i.e., risk assets, real capital and government bonds) or mostly in government bond yields.

Safe asset scarcity

But the divergence between the returns on risk assets versus government bonds matters: Over the last 30 years, US Treasury yields have declined more than high-quality corporate debt yields, S&P earnings yield or yields on productive business capital. This gap suggests that investors are willing to pay a premium for safe, liquid assets. As **Exhibit 29** shows, the gap between government bond yields and the returns on equities as well as productive capital has widened materially since 2000, likely reflecting an increasing shortage of safe assets (see The Safe Assets Shortage Conundrum, R Caballero 2017) or a rise in global risk-aversion.

Exhibit 29:

Mind the gap between safe asset and risk returns



Source: BEA, FRB, Univ. Michigan, S&P; Note: The safe real return is constructed as the real yield on 90-day US Treasuries, using median inflation from the University of Michigan's Survey of Consumers. The real after-tax return to capital is constructed as total after-tax capital income, according to Gomme et al. (2011), net of depreciation divided by the previous period's value of business capital. It is adjusted for the share of intangibles in total capital from Koh, D, R Santaeulàlia-Llopis, and Y Zheng (2016), "Labor Share Decline and Intellectual Property Products Capital", Barcelona Graduate School of Economics WP 927.

Returns on equities were more or less stable until 2008, while bond yields were falling: From 2008 onwards, the return on productive capital resumed its uptrend while real interest rates fell below zero after the GFC, and equity returns struggled to stabilise after an initial post-crisis bounce. Note that the secular discrepancy between the return on risk and on safe assets started to emerge already in 2000 when risk-free rates kept falling and the risk premia crept higher. This differentiation matters because, over the last 30 years, US Treasury yields have declined more than high-quality corporate debt yields, S&P earnings or yields on productive business capital. This gap suggests that investors are willing to pay a premium for safe, liquid assets.

The rising divergence suggests that there is a growing shortage of safe assets globally: This likely reflects an increasing shortage in safe assets (see The Safe Assets Shortage Conundrum, R Caballero 2017) or a rise in global risk-aversion. Initially, it was probably the savings glut and then post-crisis risk attitudes, financial regulations and issuance dynamics that drove the risk premia on safe assets higher and their yields lower.

However, as he and his co-authors argue in Caballero et al (2017), divergence between the rates of return on safe assets versus the productive capital **reflects similar macro fundamentals as the divergence between the labour and the profit share: technological change and rising mark-ups.** Hence, a shift away from secular stagnation driven by higher investment spending and faster productivity growth, especially in the US, would not shift the equilibrium real interest rates materially higher. **But unless there is a material decline in risk-aversion, a much larger supply of safe assets or a material compression in profit margins, the rise in long-term equilibrium interest rates is likely to be limited.**

Disclosure Section

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