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HIGHLIGHTS

- Global profit margins are extremely high by historical standards, raising concern that a regression to more normal levels could trigger a major stock market correction.
- Ominously, several key margin supports are set to reverse, due in part to rising borrowing costs and rekindling wage growth.
- Fortunately, there are several under-acknowledged structural supports that should prevent profit margins from falling much.
- Both our scorecard- and econometric-based forecasts argue for roughly flat to slightly lower profit margins in the future.
- The key point is that margins are not likely to fall precipitously, removing a major downside risk from the equation.

## PROPHET MARGINS

Stock markets have enjoyed a banner half-decade, forcefully reclaiming the ground lost to the financial crisis, and then some. This vigorous performance has occurred thanks, above all else, to two key enablers: surging earnings and recovering valuations. On the surface, there is nothing especially questionable about either. Earnings naturally rise as economies grow, and valuations recover as risk aversion fades.

However, a closer examination reveals a significant vulnerability within this cozy equation. Corporate earnings growth has been, in a sense, too good – persistently outpacing both revenues and the economy. This has driven profit margins to multi-decade highs (Exhibit 1).

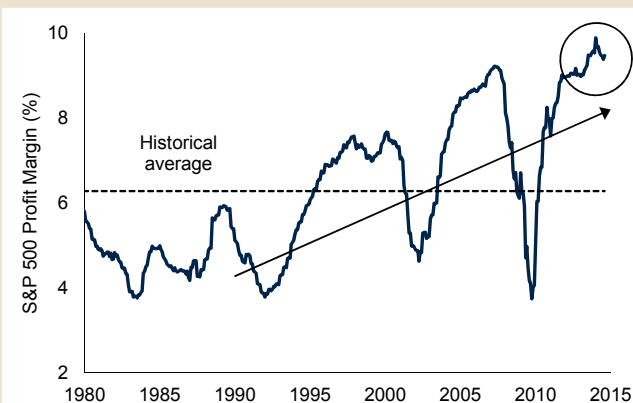
Worryingly, profit margins have long been assumed to be mean-reverting, arguing that these juicy gains may eventually have to reverse. Such a scenario would necessitate an eye-watering

one-third decline in the S&P 500. With stakes as big as these, a clear sense of the downside risk is imperative.

This report evaluates the seriousness of the threat by seeking to understand the forces that have propelled profit margins higher, and their likely direction in the future (Exhibit 2). In so doing, we find that a large number of previously favourable profit-margin enablers are on the cusp of reversing, including the advantages of low borrowing costs, deleveraging, soft wage growth and deferred capital investment. The decline in these drivers suggests that profit margins could suffer.

Fortunately, there are a number of underappreciated structural forces that continue to support high (and in some cases, even rising) profit margins, including globalization, automation and a compositional shift toward higher-margin sectors.

Exhibit 1: S&P 500 profit margin is very high



Source: RBC Capital Markets, RBC GAM

Exhibit 2: Weakening profit margin outlook

|                    | NEGATIVE | NEUTRAL       | POSITIVE           |
|--------------------|----------|---------------|--------------------|
| Rates              |          | Globalization | Sector composition |
| Leverage           |          | Tax rate      | Automation         |
| Wages              |          | Unionization  | Demographics       |
| Capital investment |          |               |                    |
| Currency           |          |               |                    |
| Mean reversion     |          |               |                    |

Note: Column indicates whether variable should drive margins higher or lower in future; colouring indicates whether variable's influence has shifted (improving = green, unchanged = grey, worsening = red). Source: RBC GAM

In the end, our analysis calls for profit margins to stabilize around current levels. The two most credible techniques argue for a slight drop and broadly unchanged margins, respectively. A third hints that an increase is possible, though we do not expect one. The most important message is that none of our forecasting techniques suggests a major correction, just as none seems to foretell a further significant increase. Thus, stock market skeptics will have to find another vulnerability to fret over.

## Measuring profit margins

A company's net profit margin is the share of revenues that remains once expenses<sup>1</sup> have been paid. Normally, companies must work quite hard for their profit, keeping merely one out of every 17 dollars that enter the till.

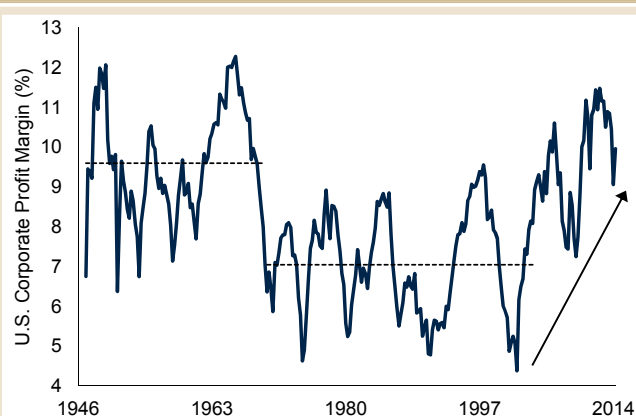
However, profit margins are not constant over time. Sometimes margins are thin, and at other times they are considerably more expansive. U.S. S&P 500 Index profit margins have indeed undulated over the years, but all the while exhibited a curious upward trend, from 5.9% in 1980 to 9.5% today (refer back to Exhibit 1). Don't let the small absolute figures obscure the main point: profit margins have managed a remarkable 61% gain.<sup>2</sup>

Is this phenomenon of rising profit margins a mere quirk of the 500 large companies in the S&P index, unreflective of the broader economy? Alternately, are high profit margins a function of U.S. exceptionalism rather than a global trend? The clear answer to both is "no."

### Internal breadth

Profit margins across the entire breadth of non-financial corporations<sup>3</sup> are also materially elevated relative to 1980 levels, be a remarkable 79% (Exhibit 3). This makes sense, as most of the margin drivers we will discuss later are theoretically applicable to more than just the largest companies.

Exhibit 3: U.S. corporate profit margins on an uptrend



Note: Profit margins for U.S. nonfinancial corporations. Historical average for 1947 to 1969 and 1970 to 2003 shown as dotted lines in chart. Source: BEA, Haver Analytics, RBC GAM

## Geographic breadth

Are profit margins also high in other countries? It is folly to try and compare profit margins on an absolute basis between countries due to very different regulatory environments, sector makeups (profit margins vary substantially by sector), tax regimes and accounting standards. The cleanest way to evaluate the question, then, is simply to determine whether margins have also increased in other countries. The clear answer is "yes" for the U.K., Europe, Canada and Japan, though not quite to the same extent as the U.S. (Exhibit 4).

### Setting the table

In short, rising profit margins have been a broad, global reality. This permits us to focus on the U.S. as a proxy for the rest, benefiting from extensive S&P 500 and national-accounts data to arrive at our conclusions.

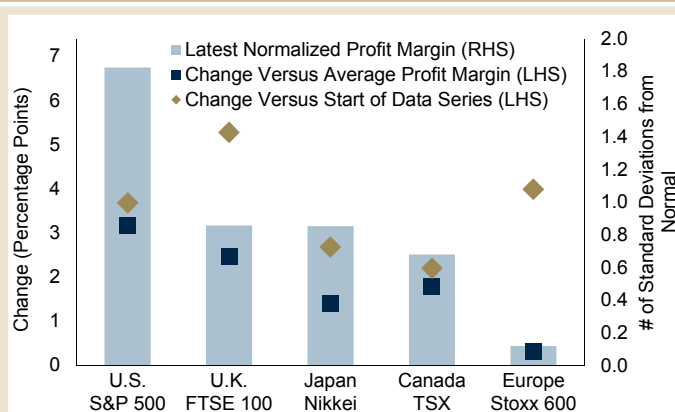
What has enabled the increase in profit margins, and can it continue its remarkable ascent? We identify the key factors that have driven profit margins higher and, with a clear eye on the future, break them into three categories: margin drivers that are reversing, margin drivers that are stabilizing and margin drivers that are pushing forward.

## Arguments for falling margins

Several variables are about to stop contributing to the ascent of profit margins and instead begin detracting from them. Most are cyclical in nature.

It may seem strange to expect fading margin supports for cyclical reasons when most of what we say about the business cycle is positive. Indeed, we believe the developed world economies are in the process of accelerating out of their earlier malaise, and suspect this upswing may even prove longer-lived than the usual cycle.

Exhibit 4: Profit margins elevated internationally



Note: Dataset begins in 1980 for U.S. S&P 500, 1990 for Canada TSX, and in the early 2000s for the rest. For countries that start in early 2000s, the window therefore excludes the 1990s, a period of particularly robust profit margin increases. Source: Bloomberg, RBC GAM

The two views can be reconciled via the observation that the stage of the business cycle is less important to the level of profit margins than commonly imagined (Textbox A). Instead, what is happening is that several supports that were stretched to an unusual degree by the severity of the financial crisis are beginning to recoil as economies normalize.

### Rates

Thanks to stimulative central banks and risk-averse investors, companies have enjoyed record-low borrowing costs over the past six years. Even factoring in the hit that firms have suffered from their fixed-income assets on the revenue side of the ledger, they have come out well ahead. Some rough calculations indicate that non-financial corporate profits are a substantial 32% higher than they would be had 1980-era borrowing costs instead persisted (Exhibit 5).

Admittedly, 1980 was not exactly a normal era for borrowing costs.<sup>6</sup> For context, profits are “only” 13% higher than they would have been if subjected to the average borrowing cost of the past 15 years. Furthermore, borrowing costs rise with a significant lag given the seven-year average duration of the corporate bond market, providing a buffer. Nevertheless, as the U.S. Federal Reserve (Fed) and a handful of other major central banks begin removing stimulus over the next few years, it seems inevitable that corporate borrowing costs will rise, pinching profit margins.

### Deleveraging

Hand in hand with low borrowing costs has been a marked decline in corporate leverage over the past several years. The S&P 500 debt-to-capital ratio<sup>7</sup> has fallen to its lowest level in over 20 years (Exhibit 6). This is an understandable response to the ravages of the global financial crisis, which punished firms that relied heavily on credit and alerted other companies to the possibility of previously unimagined volatility.

Less leverage may reduce overall profits, but the savings on interest expenses nevertheless boost profit margins.

With regard to the future, the strengthening economy, fading memories of the financial crisis and hard evidence of accelerating business-credit growth (Exhibit 7) all hint that deleveraging is likely over, and perhaps even that some additional leverage will henceforth be taken. While overall profits may benefit, a recent tailwind for margins should simultaneously turn into a slight headwind.

### Wages

The stubborn persistence of slow wage growth is partly a cyclical and partly a structural phenomenon. Their collective effect has scythed the inflation-adjusted compensation for a unit of output by 29% since 1980 (Exhibit 8). This has been one

#### TEXTBOX A: DOWNPLAYING THE BUSINESS CYCLE

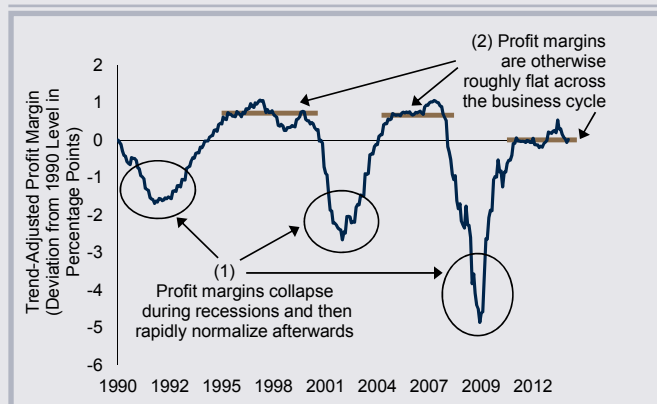
The conventional wisdom is that profit margins expand steadily across the economic cycle, before collapsing in a recession and beginning the process anew.<sup>4</sup>

In reality, this isn't quite right. Profit margins are indeed usually quite poor during a recession, and do then rebound during the early stages of the recovery. But after this initial bounce, they are then generally steady on a trend-adjusted basis across the remainder of the expansion (Exhibit A).

The term “trend-adjusted” is the key point. Strictly speaking, profit margins have indeed risen right across the economic cycle over the past few decades. But this is only because profit margins were rising for structural reasons (which we will evaluate later), not because of the stage of the business cycle itself.

Thus, with profit margins already fully recovered from recession levels, we should not automatically assume that profit margins will continue to rise across the cycle.<sup>5</sup>

Exhibit A: Profit margin cyclicality



Note: S&P 500 profit margins are trend-adjusted so that the cumulative increase from 1980 to 2014 is subtracted. Adjusting for this permits a clearer sense for how margins move across the business cycle. Source: RBC Capital Markets, RBC GAM

of the most – if not the most – important drivers of higher profit margins over this period.

Fascinatingly, both the cyclical and structural wage constrictions are now transitioning toward a new, more employee-friendly environment. We focus on the cyclical aspect here, and will consider the structural component later as part of a broader discussion on globalization, automation and unionization.

It is slightly disorienting that although economic growth has begun to pick up, wage growth is still stagnant in the U.S.

(Exhibit 9) and most of the developed world. The reason for this is that it is taking longer than usual to burn off the economic slack generated by such a deep recession. And until labour market slack is substantially gone, wage pressures are unlikely to build.

There is a ferocious debate over precisely when wages will begin to rise more quickly. We believe this day is coming sooner rather than later, as demonstrated by surveys confirming a rapidly changing attitude toward wage increases, particularly by employers (Exhibit 10). The Fed tends to think it will happen a bit later (though their thinking is clearly evolving in our direction). Either way, it is fair to assume that wages will accelerate within a few years' time.

Naturally, corporate profit margins will come under pressure as worker compensation – representing around 15% of S&P 500 company expenses – begins to rise more quickly.<sup>8</sup> For instance,

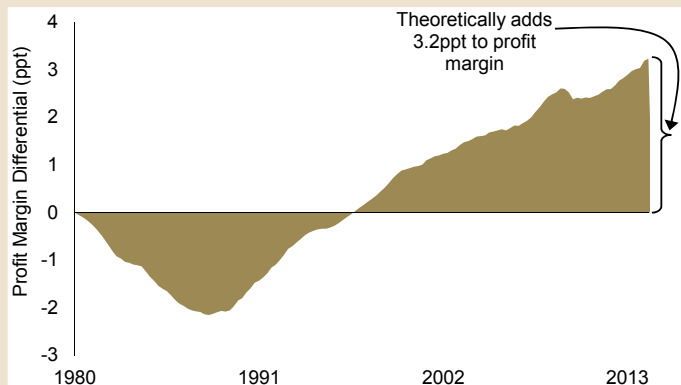
if wages<sup>9</sup> begin to rise 1 percentage point more quickly per year, the cumulative effect would theoretically subtract as much as 0.7 percentage point off profit margins by 2020 – a serious hit.

### Capital investment

In addition to the benefit of unnaturally low borrowing costs and cheap labour, the aftermath of the global financial crisis has prompted companies to postpone costly capital investments. Part of the reason is that many were burned by the financial crisis and are now reluctant to get too far ahead of demand. But the main and utterly practical reason is simply that they haven't had to: their existing capital stock has been more than sufficient given a sharp decline in capacity utilization since the crisis.

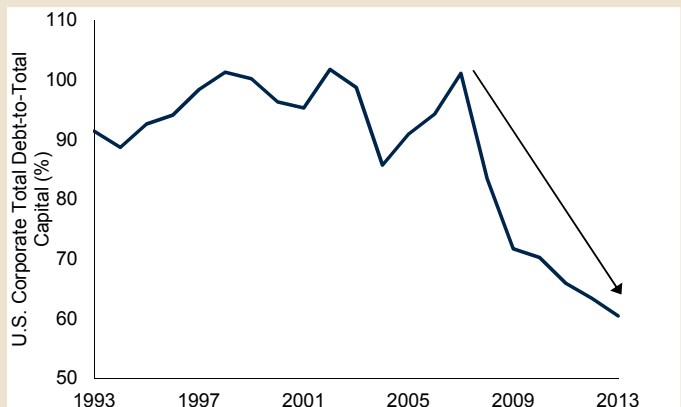
Now, however, the need for business investment is arguably returning given strengthening economic growth and an increasingly normal-looking capacity-utilization rate (Exhibit 11). Further confirmation comes from the declining

**Exhibit 5: Profit margins boosted by low rates**



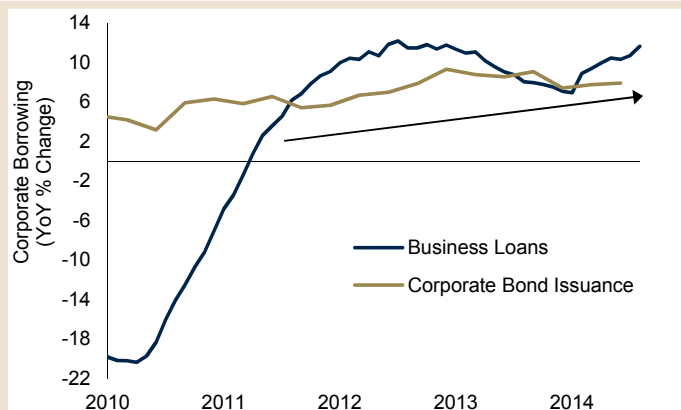
Note: Measured as difference between actual profit margins for U.S. nonfinancial corporations and estimated profit margins at 1980 interest rate level.  
Source: Haver Analytics, RBC GAM

**Exhibit 6: Less leverage helps profit margins slightly**



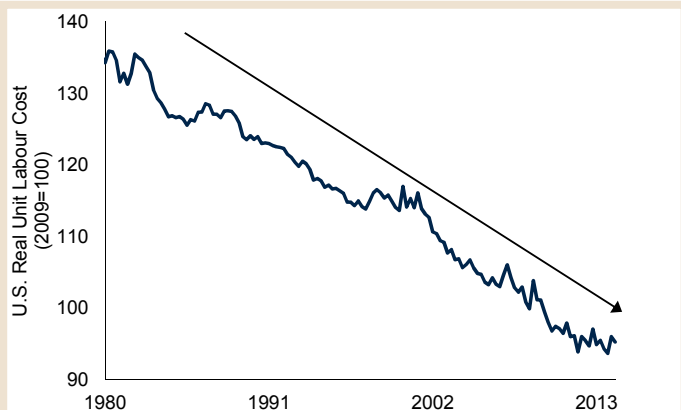
Note: Total debt-to-total capital of S&P 500 companies.  
Source: S&P, Haver Analytics, RBC GAM

**Exhibit 7: Businesses begin to re-lever?**



Note: Corporate bond issuance for U.S. non-financial corporations only.  
Source: Federal Reserve Board, Haver Analytics, RBC GAM

**Exhibit 8: Falling productivity-adjusted labour costs**



Source: BLS, Haver Analytics, RBC GAM

capital stock-to-profits ratio (Exhibit 12). The average age of the U.S. corporate capital stock is now the highest on record, screaming out for renewal (Exhibit 13).

Determining the effect of rising capital investment on profits margins is a roundabout journey. Accrual accounting principles demand that only the part of the capital stock that was “consumed” in the period (i.e. the depreciated part) appears as an expense, regardless of how much money was actually spent buying capital in that period.

This technicality greatly delays and mutes the deleterious effect of more capital investment on profit margins. Still, more capital investment certainly reduces the cash flow of businesses, and also eventually translates into slightly smaller profit margins as the additional capital stock is consumed.

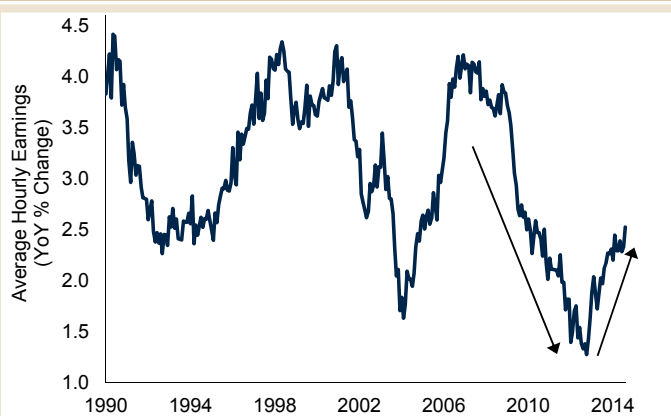
**Currency**

The U.S. dollar cycles through long, multi-year periods of strength and weakness. For almost a decade, the dominant trend was a weakening greenback, which had the beneficial effect of making U.S. exports more attractive to foreign buyers, and increasing the dollar-denominated haul of U.S. multinationals' foreign profits.

Lately, however, the U.S. dollar has reversed course and begun appreciating (Exhibit 14). This is a trend we expect will continue due to valuation considerations, the strengthening U.S. economy and the prospect of Fed tightening.

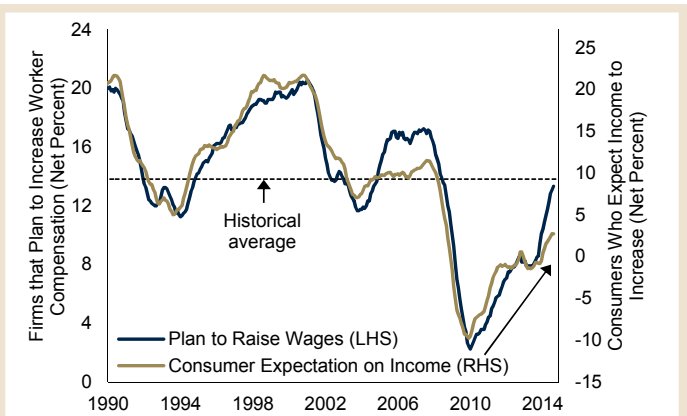
Thirty-eight percent of S&P 500 revenues and 40% of profits are earned abroad, and a strengthening U.S. dollar obviously makes these profits worth less. Contrary to initial expectations, however, a 10% increase in the dollar (a reasonable

**Exhibit 9: U.S. wage growth is slow, but picking up**



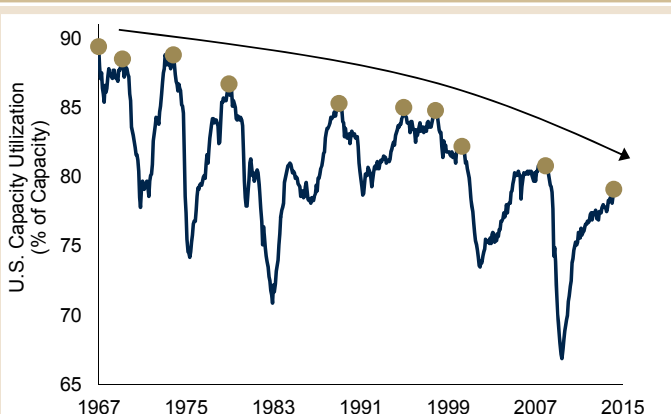
Source: Bureau of Labor Statistics, Haver Analytics, RBC GAM

**Exhibit 10: Impending higher wages**



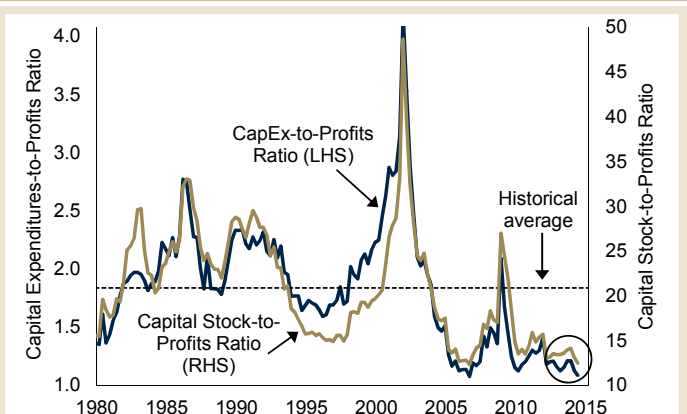
Note: 12-month moving average (12MMA) of percent of firms planning to increase wages less percent planning to decrease wages in the next three months. 12MMA of percent of consumers who expect income to increase less percent expecting income reduction. Historical average since 1990 for both series shown as one dotted line. Source: The Conference Board Consumer Confidence Survey, NFIB Small Business Economic Survey, RBC GAM

**Exhibit 11: U.S. capacity utilization more or less back to normal**



Note: Peak capacity utilization is assumed to continue declining across the cycles. Source: Federal Reserve Board, Haver Analytics, RBC GAM

**Exhibit 12: Firms need to invest more**



Note: Ratios for U.S. non-financial corporations. Capital stock at cost. Historical average since 1980 for both series aligned as one dotted line in chart. Source: FRB, Haver Analytics, RBC GAM



expectation over the next several years) does not therefore translate into a 4% drop in S&P 500 profits. Mitigating factors abound. Companies normally hedge a significant portion of their exposure to foreign currencies. A sizeable chunk of multinationals' input costs and production are also located overseas, providing a natural hedge against adverse currency movements. In turn, a 10% increase in the dollar might subtract more like 1.5% from S&P 500 profits and therefore only one or two tenths of a percentage point from profit margins.

## Arguments for steady margins

Another set of margin drivers are losing steam, albeit merely to the point of supporting a steady profit margin rather than an outright decline.

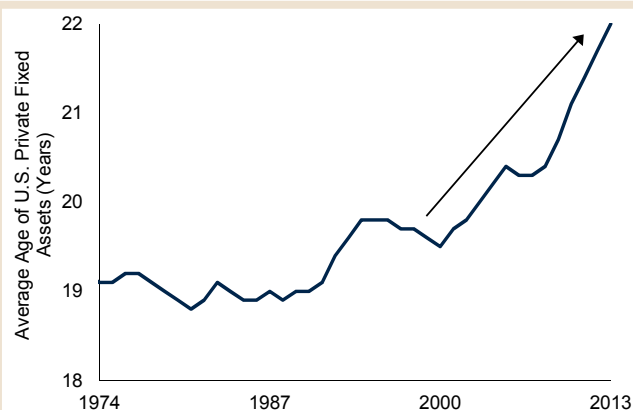
### Globalization

Over the past several decades, globalization advanced briskly as free trade deals were struck, tariffs fell and emerging-market economies exploded higher. Since 1995, the foreign share of S&P 500 earnings has almost tripled.<sup>10</sup>

Globalization has also been a key structural driver of rising profit margins, with benefits arriving via several channels:

- Cheap foreign labour has reduced the cost of overseas production
- Cheap foreign labour has placed downward pressure on domestic labour costs (refer back to Exhibit 8)
- Cheaper borrowing costs due to an emerging-market savings glut have reduced overall expenses
- Cheaper foreign inputs have reduced overall expenses
- Lower tariffs have reduced profit leakage
- Previously unserved markets have generated outsized initial profitability

Exhibit 13: U.S. private fixed assets getting older



Source: BEA, FRB, Haver Analytics, RBC GAM

- Economies of scale have improved as global sales have grown

However, times are changing. As we articulated in a recent *Economic Compass* entitled “Wither Globalization?”, the rate of globalization appears to have slowed. Exports and international financial flows are growing less quickly, for a variety of reasons. Rising competitive parity between nations is reducing one of the central advantages of trade. Subtle trade barriers have emerged, though mostly in non-tariff form. Lastly – and least contentiously – the favourable tailwind from past trade initiatives is fading, and potential new deals are hung-up in interminable negotiations.

Naturally, slower globalization means that a previously reliable upward pressure on profit margins is weakening. Notably, foreign labour is not as cheap on a relative basis as it was (Exhibit 15). Foreign markets are also becoming more competitive, with domestic and foreign names jostling for a share of increasingly savvy consumers' wallets.

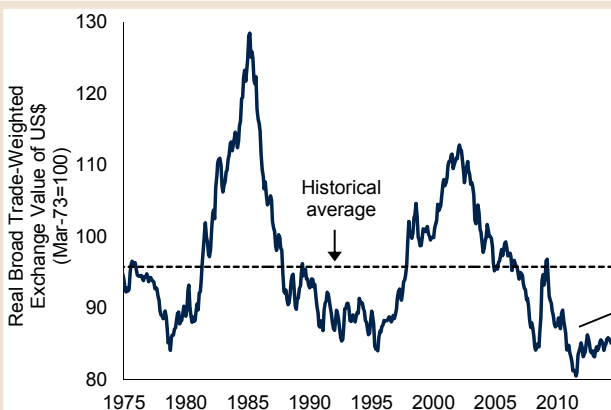
### Taxes

While the official U.S. corporate income-tax rate remains high by global standards at 35% and has declined only slightly over the years, the effective rate has fallen much more sharply and is now fairly low – averaging 22.5% (Exhibit 16).<sup>11</sup>

As a result of the declining tax rate, U.S. profits are a substantial 27% higher than they would have been had the 1980 effective tax rate remained in place. Theoretically, this explains multiple percentage points of the increase in profit margins across this period. Indisputably, this has been an important contributor to margins.

As such, it is crucial that we correctly anticipate the future direction of taxes. In an important break from the past, we are not convinced that the effective corporate income tax rate can continue to decline. A reduced tolerance for loopholes and

Exhibit 14: U.S. dollar is cheap, and should rise



Note: Historical average since 1973.

Source: Federal Reserve Board, Haver Analytics, RBC GAM

foreign tax leakage is the main reason why. The U.S. appears to be working toward comprehensive tax reforms that will combine lower tax rates with fewer loopholes, resulting in a broader tax base and an effective tax rate that is essentially unchanged.

Thus, the tax environment is transforming from a big driver of rising profit margins into merely a support of existing margins.

### Unionization

The rate of unionization has declined sharply in the U.S. over the past several decades (Exhibit 17). When unionization was high, workers were in a strong position to argue for a steady share of profits as productivity rose. This would also spill over into the non-unionized space, as the threat of unionization and the possibility of losing employees to unionized competitors kept compensation rising across the entire economy.

As unionization has ebbed, fewer firms are held to account by their workers to fully share in the fruits of rising productivity. Moreover, the overall rate of unionization has arguably fallen below the minimum threshold necessary for unionized wages to exert any influence over the remainder of the labour market.

In turn, while unionization's decline shows no sign of ebbing, it may be past the point of mattering whether the unionized share is a mere 11% or a puny 5% – the bulk of the productivity gains look set to continue accruing to the owners of capital.<sup>12</sup>

### Arguments for rising margins

Last are three structural developments that continue to support rising profit margins.

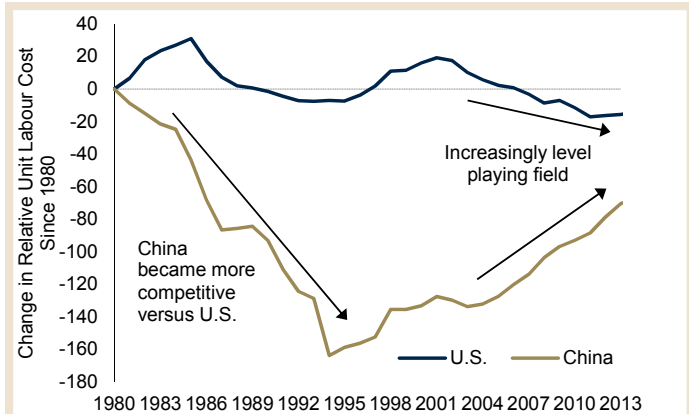
#### Sector composition

The first is a shifting sector composition. Few things stand still in the frenetic world of business, and this includes the relative heft of different industries. Within the S&P 500, for instance, a compositional shift has occurred in favour of the Information Technology (tech) and Financials sectors, at the expense of sectors such as Industrials. This is highly relevant to our investigation, because the former two sectors tend to have very high profit margins. Thus, overall profit margins would be rising even if each individual sector's margins remained completely unchanged.

Collectively, we calculate that this compositional shift across sectors explains a whopping 32% of the increase in the S&P 500 profit margin between 1990 and 2014 (Exhibit 18).<sup>13</sup>

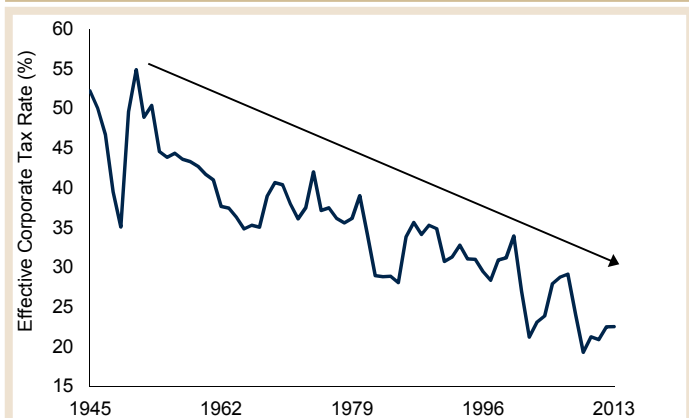
There is no reason to think tech's ascendancy is anywhere near done. If anything, many of the qualities of the tech sector that enable high profit margins (such as low fixed costs and a focus on R&D) are beginning to circulate in the bloodstream of

**Exhibit 15: Shrinking competitive differential means less boost to profit margins from overseas operations**



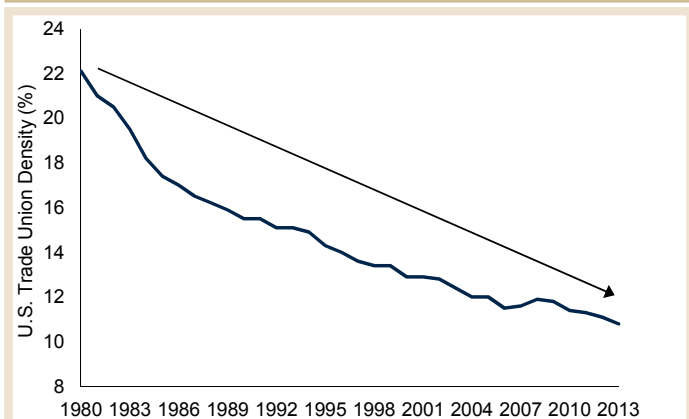
Note: Relative unit labour cost expressed in natural logarithm, then multiplied by 100. Source: OECD, Haver Analytics, RBC GAM

**Exhibit 16: Declining effective U.S. corporate tax rate**



Note: Measured as U.S. National Accounts taxes paid as percentage of pre-tax profits. Source: BEA, Haver Analytics, RBC GAM

**Exhibit 17: U.S. unionization rate sliding steadily**



Note: Measured as wage and salary earners that are trade union members as percentage of the total number of wage and salary earners. Source: OECD, RBC GAM

other sectors. Thus, this trend will continue to push for higher profit margins.

### Automation

As machines and technology replace labour, automation continues to roll forward. The stock of U.S. machinery and equipment has outgrown the number of workers by a factor of four since 1950 (Exhibit 19). This is theoretically relevant for profit margins, since the primary motivation of replacing workers with machines is cost savings (read: higher profit margins).

That said, while Exhibit 19 confirms ongoing automation, it doesn't make a clear case for accelerating automation. On the contrary, it even hints that the pace of traditional automation may even be slowing a bit.

Nevertheless, we believe automation is still accelerating, albeit in a different form. Past automation focused on replacing manufacturing workers with (fairly expensive) machines. In contrast, the internet promises to replace sales clerks in quite a different fashion. Few envision a costly robot trundling around the store, suggesting the hot new look for summer. Instead, the replacement occurs via a tilt toward web-based sales, supported by inexpensive and highly scalable software. This type of automation is just getting started.

### Demographics

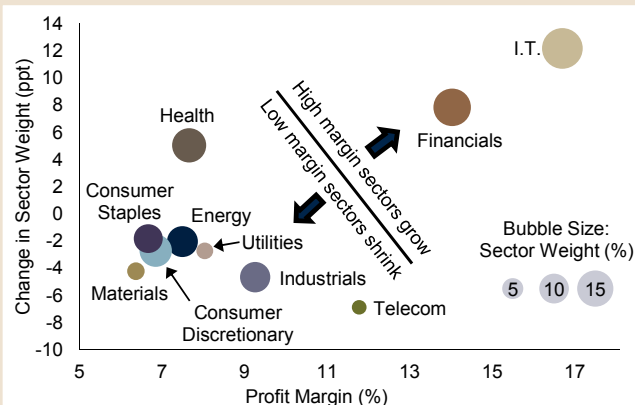
The demographic argument for higher profit margins is based more on observation than theory. Profit margins were unusually low through the 1970s and 1980s as Baby Boomers entered the workforce. In contrast, more sluggish eras of working-age population growth have managed higher profit margins (Exhibit 20).

As is widely recognized, the coming years will be marked by a continued demographic deterioration. In turn, this may enable profit margins to continue rising.

However, we don't put an enormous weight on this impulse for three reasons: the theoretical justification is weak, the so-called demographic effect may simply be picking up other influences and the demographic trend is actually not that bad through 2020.

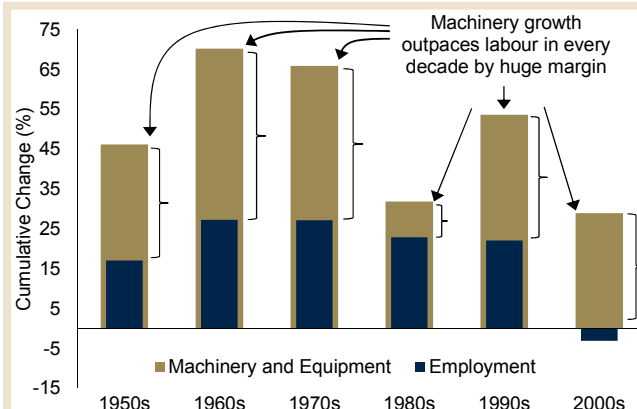
On the first, it is easy enough to fathom that stronger working-age population growth would increase corporate revenues, but much less clear why profit margins would fall sharply. On the second, the so-called demographic effect could instead be a reflection of parallel trends in interest rates, inflation rates or government price and wage controls.<sup>14</sup> On the third, while the population is aging and overall growth is slowing, population growth among the important cohort aged 25–54 will temporarily defy this trend.

Exhibit 18: Sectoral shift drives higher U.S. margins



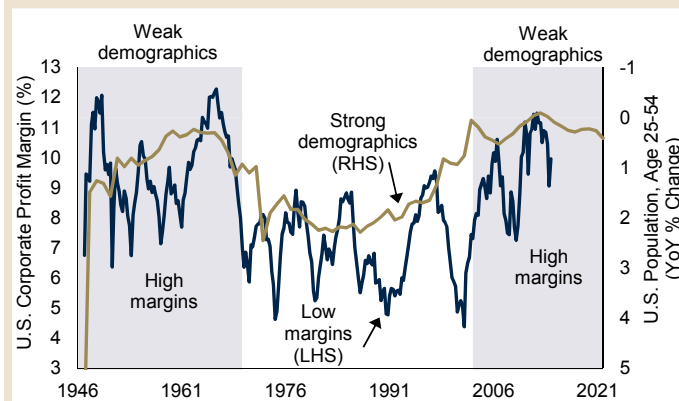
Note: Change in weights of S&P 500 GICS sectors from 1990 to 2014. Latest profit margins and sector weights shown in chart. Source: Bloomberg, Haver Analytics, RBC GAM

Exhibit 19: Evidence of ongoing automation



Note: U.S. private sector employment growth versus change in U.S. real machinery and equipment capital stock. Source: BEA, BLS, Haver Analytics, RBC GAM

Exhibit 20: Poor demographics support high margins



Note: Profit margins for U.S. nonfinancial corporations. Demographic forecast from Census Bureau. Source: BEA, Census Bureau, Haver Analytics, RBC GAM



## What about competitive forces?

Wait a second. Granted, a large number of factors have pushed profit margins sharply higher over the past several decades. And, yes, several of them look set to persist. But isn't there a powerful all-weather offset in the form of competition? Logically, if a sector suddenly enjoys sharply increased profit margins, it should be flooded with new entrants until margins are driven back down to their original level.

In theory, this is spot on. In practice, it hasn't worked. Yes, profit margins occasionally fall sharply, but in recent years these nadirs have only manifested in the depths of recession and have not persisted for long.

Statistical tests confirm this changing landscape. Whereas profit margins could once be mathematically defined as "stationary," it is no longer possible to reach this conclusion when the latest data is included in the analysis.

A number of developments appear to be preventing profit margins from falling back to trend levels.

### A. Service sector margins

The service sector has become more important over time, and can manage sustainably higher profit margins. This is for two main reasons, both relating to barriers to entry.

First, companies in the service sector tend to have more natural barriers to entry. This is frequently due to the complexity of their operations (such as in finance, law, accounting and consulting), the need for an extensive and carefully placed capital stock (such as the critical importance of a retailer's store locations or a telecom company's signal towers sites) and the huge importance of a reputation built up over years of service. New entrants struggle to match the incumbents on any of these fronts, and so struggle to penetrate the market.

Second, the service sector also tends to benefit from extensive artificial barriers to entry created by governments wishing to protect their national champions, most obviously in the telecom, aviation and financials space.

### B. Tech sector and beyond

As already noted, the tech sector enjoys unusually high margins. These high margins should prove durable, primarily for reasons of scalability and because existing firms have potent tools to defend themselves via the clever use of intellectual property, powerful network effects and strategic acquisitions (Textbox B).

As product complexity increases outside the tech sector, some of these enablers could support bigger margins in other sectors, too.

### C. Return on equity

Another reason profit margins can remain high is that they aren't actually the main consideration for firms deciding whether to enter a market – the prospective return on equity is.

Due to recent deleveraging, a larger fraction of the average company's capital base is now composed of equity rather than debt. In turn, profits – plump as they are – are being spread across a broader base of shareholders than usual, with the result that the return on equity is no higher than normal (Exhibit 21).

### D. Profit margin lag?

Another possible explanation for why competitive forces have not yet felled high profit margins is that the reaction lag may be longer than we realize. There are three possible reasons for a slow response.

First, the manner in which companies achieve higher profit margins matters. If they do so via price increases, the extra profit margin is vulnerable to almost immediate undercutting by existing or new firms. But if firms achieve higher profit margins via cost controls or efficiencies, the advantage can last for much longer (though not forever) as other firms struggle to implement their own reforms. This theory rings true: profit margins have been boosted entirely for cost-cutting reasons, arguing for a delayed unwind (Exhibit 22).

Second, business dynamism is down: fewer new firms are being born and fewer old firms are being destroyed (Exhibit 23). In turn, incumbents are more likely to be left alone for an extended period of time before competitors enter the space. But, of course, competitors do eventually arrive.

Third, many markets confer an enormous first-mover advantage. Governments are slow to react, but ultimately have some say over the extent of this advantage, with the ability to tilt market conditions in favour of a more level playing field, to the point of dismantling dominant entities when necessary, such as the Standard Oil breakup in 1911, the Bell System dismantling in 1982 and the Microsoft web browser/operating system split in 2001. Regulators may finally be starting to catch up to the tech sector, with the European Union hot on Google's heels.

### Or are barriers shrinking?

As a partial rebuke to all of the reasons why barriers to entry are higher and thus profit margins can remain elevated, it should be conceded that the information revolution is simultaneously undercutting the business models of many non-tech industries. This is most obvious in the retail space, but potentially extends to hotels, airlines, taxis, communications and beyond. The internet empowers customers to more efficiently seek out the lowest price (to the obvious detriment of corporate profit

## TEXTBOX B: TECH BARRIERS TO ENTRY

Technology operations are often highly scalable, with a large upfront fixed cost of research and development, followed by very low marginal costs. With the help of the internet, potential revenue upside – and thus profit margin upside – is material. This enables an initial condition of high profit margins.

From this advantageous starting point, these high margins can be defended via the clever use of intellectual property, powerful network effects and strategic acquisitions.

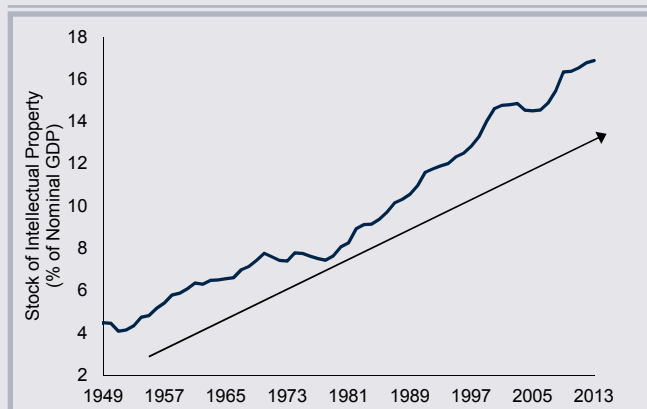
Knowledge-era industries are rightly focused on innovation, resulting in valuable intellectual property. This has indisputably become more important over time, with the value of intellectual property surging from 11% of GDP in 1990 to 17% today (Exhibit B). In turn, potential competitors are unable to provide similar products, or must pay a fee to do so.

Powerful network effects act as another natural barrier to entry for tech firms, creating a winner-take-all environment. Put simply, many technological products are only viable once they are widely deployed. In turn, even the most technologically advanced offering cannot be assured of success against an entrenched incumbent. Examples abound. Social networks become exponentially more useful as additional participants join, creating an impossible hurdle for new market entrants. Retail websites are hard to top once they have accumulated a critical mass of knowledge about buyer behaviour and a database of product reviews. Auction websites require a large number of sellers and buyers flocking to the same portal. Third-party applications are only

built for an electronic device once it is in widespread use, creating a chicken-or-egg problem for new devices.

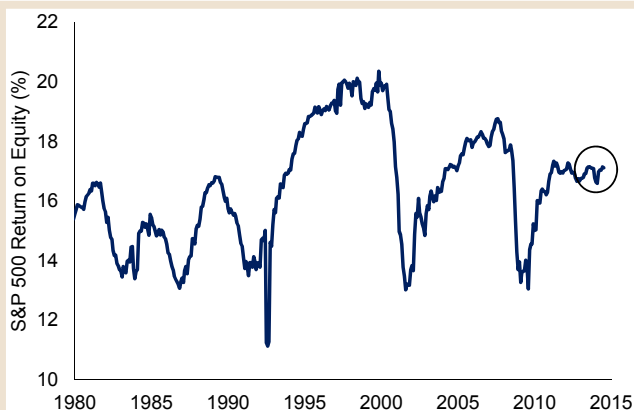
Tech firms also seem especially willing to gobble up small competitors for the triple purpose of acquiring their intellectual property, adding their customers and – crucially – eliminating a competitive threat. This enables large tech firms to carve out a relatively clear (and thus profitable) playing field.

Exhibit B: Intellectual property rising in importance



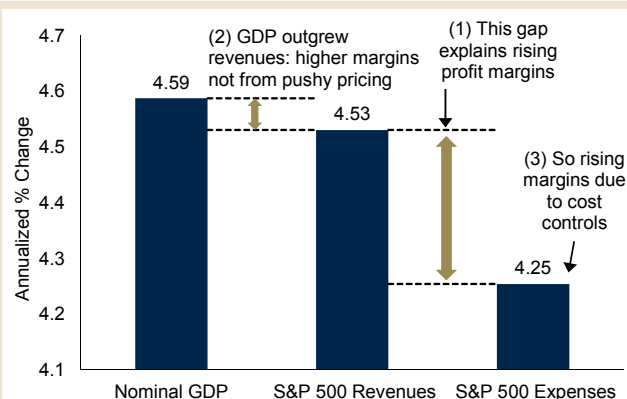
Source: BEA, Haver Analytics, RBC GAM

Exhibit 21: S&P 500 return on equity no higher than usual



Source: RBC CM, RBC GAM

Exhibit 22: Profit margins rose due to cost constraints



Note: For period of 1992 to 2014. Expenses defined as gap between after-tax earnings and revenues. Source: S&P, Haver Analytics, RBC GAM

margins). Similarly, it is easier to gauge product quality, undermining the reputational advantage previously enjoyed by incumbents (and thus reducing their profits).

### Competition bottom line

The question of profit margin mean-reversion is clearly a nuanced one. We suspect there may still be some vestigial inclination for profit margins to edge lower – all else equal – but the competitive forces that normally accomplish this feat are clearly in a weakened state.

## Forecasting profit margins

Now that we have identified the key profit margin drivers and provided some sense for the likely direction of each driver going forward, we can turn our attention to quantifying their collective impact. There are several practical ways to go about this (Textbox C).

### Scorecard

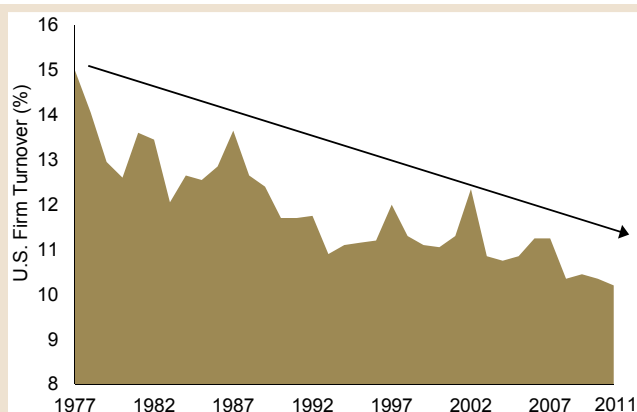
Our first forecasting strategy uses our expert judgement to assign a weight to each profit margin driver,<sup>15</sup> then scores each factor according to whether it is expected to have a negative, slightly negative, neutral, slightly positive or positive effect on the future direction of profit margins (Exhibit 24).

The results show six variables with a collective weight of 50% pushing profit margins lower, three variables with a collective weight of 30% nudging profit margins higher and the remaining three variables (combining for a 20% weight) arguing for flat margins going forward. Collectively, these point to a very slight downward bias for profit margins in the future.

### Econometric model

Our second forecasting strategy employs an econometric model. Given the challenge inherent in modelling a dozen

Exhibit 23: Firm turnover declining steadily



Note: Turnover defined as fraction of outstanding firms created or closed in a year. Source: U.S. Census Bureau, RBC GAM

### TEXTBOX C: A FALSE START

Our initial hope had been to quantify the direct impact of each profit margin driver separately – using a combination of theory and data – then combine them to arrive at an aggregate forecast. This was simple enough for variables like corporate borrowing costs, whose effect can be calculated directly from income statement data. However, the effort proved impractical across the entire set of relevant drivers.

Many of the concepts were overlapping (such as wages and globalization), rendering a straight add-up misleading. For some variables (especially wages), different estimation techniques yielded radically different estimates of their effect on profit margins. Just as problematic, the effects of many of the key profit margin drivers did not lend themselves to independent quantification (examples include globalization, automation, unionization and demographics).

The exercise was not entirely useless – it helpfully informed the scorecard approach that we ultimately deployed in its stead – but on its own it generated an unworkable Frankenstein monster of a forecast.

Exhibit 24: Profit margin scorecard

|                                                     | OUTLOOK         | WEIGHT |
|-----------------------------------------------------|-----------------|--------|
| Rates                                               | Negative        | 15%    |
| Wages                                               | Negative        | 10%    |
| Currency                                            | Negative        | 5%     |
| Mean reversion                                      | Negative        | 10%    |
| Leverage                                            | Slight negative | 5%     |
| Capital investment                                  | Slight negative | 5%     |
| Globalization                                       | Neutral         | 5%     |
| Tax rate                                            | Neutral         | 10%    |
| Unionization                                        | Neutral         | 5%     |
| Automation                                          | Slight positive | 10%    |
| Demographics                                        | Slight positive | 5%     |
| Sector composition                                  | Positive        | 15%    |
| <b>OVERALL MARGIN OUTLOOK: VERY SLIGHT NEGATIVE</b> |                 |        |

Source: RBC GAM

macroeconomic variables, we are pleasantly surprised by the coherence of the results.<sup>16</sup>

Each of the two models (one for non-financial corporate profit margins, one for S&P 500 profit margins) manages to explain around 90% of the movement in profit margins dating from 1980 (Exhibit 25).

Inevitably, the models are not perfect. A handful of explanatory variables have the “wrong” sign, though this is not unusual with so many correlated variables vying for influence (Exhibit 26).<sup>17</sup> In the end, a healthy nine of 11 variables point in the expected direction in the non-financial corporate model, with eight of 11 going the right way for the S&P 500.

Exhibit 27 shows how each driver has altered profit margins since 1980, and how they can be expected to affect margins over the coming years.<sup>18</sup> The two models make slightly different forecasts. The non-financial corporate model forecasts profit margins that are 1.1 percentage points lower than today by 2020, while the S&P 500 model predicts profit margins that are 0.5 percentage point higher (Exhibit 28).

Do these conflicting forecasts render the model useless? To the contrary, they help to calibrate our expectations. Together, the models argue for profit margins to occupy a relatively snug range around current profit margin levels, with perhaps the slightest of downward biases.

### Survey

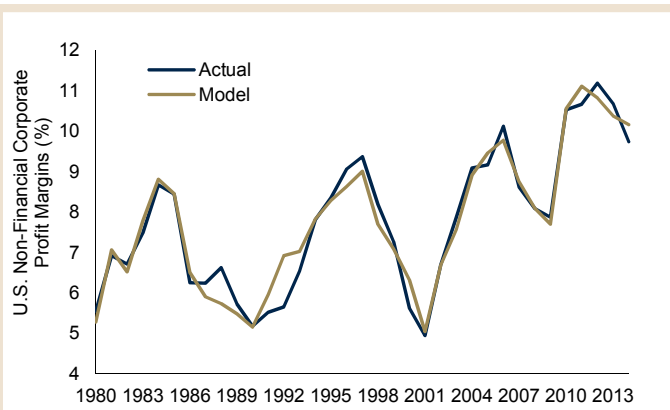
Finally, it is worth asking businesses themselves how they see profit margins evolving. The Atlanta Fed’s survey on this subject finds that the majority of respondents believe profit margins are actually a bit lower than usual (Exhibit 29).

### Final thoughts

Each of our forecasting techniques arrives at a slightly different conclusion. The scorecard-based system calls for slightly lower margins; the models argue for approximately flat margins (or a smidgen lower); the survey – which should probably be acknowledged as the flimsiest of the techniques – suggests margins could even increase in the future.

We place greater trust in the first two forecasts, implying that the odds of margins declining from here are probably better than them rising. But the clearest conclusion is that profit margins are already about right. Promisingly, there is precedent for a sustained period of high margins such as this (see the 1940s through 1960s in Exhibit 3).

Exhibit 25: Profit margin model remarkably accurate



Source: Haver Analytics, RBC GAM

Exhibit 26: Modeling profit margins

|                               | EFFECT ON MARGINS          |                 |
|-------------------------------|----------------------------|-----------------|
|                               | Non-financial corporations | S&P 500         |
| Business cycle                | Neutral                    | Neutral         |
| Rates                         | <b>Positive</b>            | Negative        |
| Leverage                      | <b>NEGATIVE</b>            | <b>NEGATIVE</b> |
| Wages                         | <b>NEGATIVE</b>            | <b>Positive</b> |
| Currency                      | Negative                   | Negative        |
| Globalization                 | <b>Positive</b>            | Positive        |
| Tax rate                      | <b>Negative</b>            | <b>POSITIVE</b> |
| Unionization                  | Negative                   | <b>Negative</b> |
| Sector composition            | Positive                   | Positive        |
| Automation                    | <b>Positive</b>            | <b>Positive</b> |
| Working-age population growth | <b>POSITIVE</b>            | Positive        |
| <b>Explanatory power</b>      | <b>92%</b>                 | <b>85%</b>      |

Note: Direction indicates whether an increasing variable has a positive or negative effect on profit margins. Colour coding indicates whether direction is consistent with theoretical expectations. Bolded sign means result is statistically significant (at 25% level or better); Bolded and capitalized sign means result is highly statistically significant (at 10% level or better).

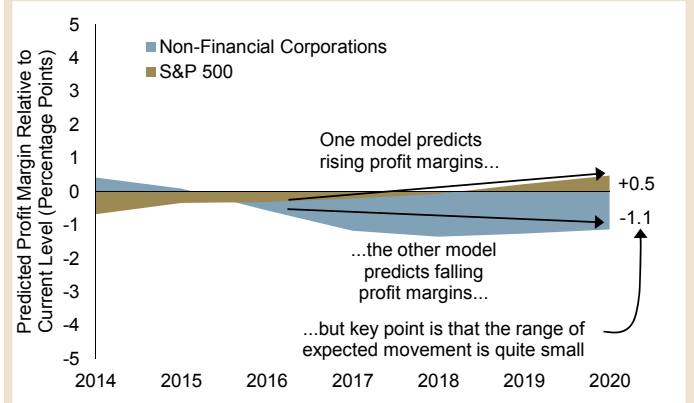
Crucially, none of the approaches prophesies a collapse in profit margins, just as none calls for a particularly forceful continuation of the recent upward trend. The first part of this should come as a relief to investors, though the second adds to a swell of evidence<sup>19</sup> that future stock market gains may be less forceful than the surge of the past several years.

Exhibit 27: Model predictions

| EFFECT ON PROFIT MARGINS (PPT)     |                 |             |                      |             |
|------------------------------------|-----------------|-------------|----------------------|-------------|
|                                    | 1980–2014       |             | 2014–2020 (forecast) |             |
|                                    | Non-fin. corps. | S&P 500     | Non-fin. corps.      | S&P 500     |
| Business cycle                     | -0.0            | +0.1        | +0.0                 | -0.0        |
| Rates                              | -2.2            | +1.7        | -0.4                 | +0.3        |
| Leverage                           | -6.4            | -4.2        | -1.6                 | -1.1        |
| Wages                              | +10.7           | -1.4        | -0.8                 | +0.1        |
| Currency                           | +0.0            | +0.0        | -0.0                 | -0.0        |
| Globalization                      | -0.5            | -0.1        | +0.1                 | +0.0        |
| Tax rate                           | +0.9            | -2.9        | 0.0                  | 0.0         |
| Unionization                       | +1.2            | +7.8        | +0.1                 | +0.8        |
| Sector composition                 | +0.4            | +0.2        | +0.1                 | +0.1        |
| Automation                         | +3.3            | +4.1        | +0.6                 | +0.7        |
| Working-age population growth      | -2.6            | -1.6        | +0.4                 | +0.2        |
| <b>Cumulative predicted change</b> | <b>+4.9</b>     | <b>+3.8</b> | <b>-1.6</b>          | <b>+1.2</b> |
| <b>Actual margin change</b>        | <b>+4.2</b>     | <b>+4.3</b> | <b>?</b>             | <b>?</b>    |

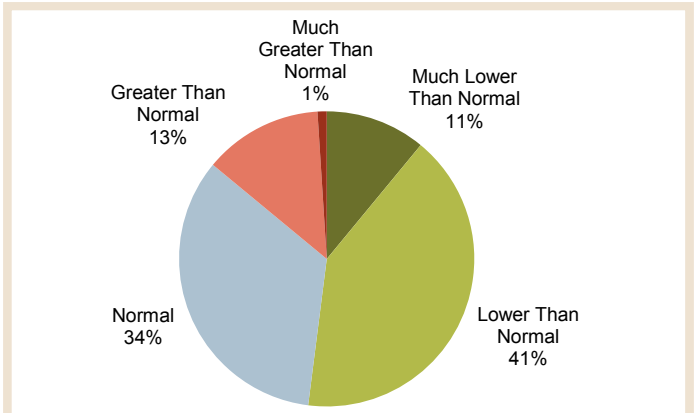
Source: Haver Analytics, RBC GAM

Exhibit 28: Profit margin model forecasts are roughly flat



Source: Haver Analytics, RBC GAM

Exhibit 29: U.S. businesses don't think profit margins are high



Note: Percentage of respondents in September 2014 survey of businesses on current profit margins compared with "normal" times.  
Source: Federal Reserve Bank of Atlanta, Haver Analytics, RBC GAM



## Notes:

<sup>1</sup> A company's costs would include the cost of input materials, labour, the depreciation of machinery and equipment, marketing, interest payments and taxes.

<sup>2</sup> Relative to the average U.S. profit margin level since 1980 (6.3%), margins are up by a lesser – but still remarkable – 51%.

<sup>3</sup> Financial corporations are excluded because their balance sheets and income statements are so different from the rest as to be almost incomparable.

<sup>4</sup> The logic behind this is presumably that when the economy is strong, consumers save less and become less discriminating, allowing profit margins to shimmy higher.

<sup>5</sup> Providing theoretical support, while consumers may become less discriminating as the cycle progresses, significant offset may come from firm behaviour, with businesses shifting their focus from profit margins when revenue growth is anemic to topline growth and market share when times are good.

<sup>6</sup> Interest rates were at some of the highest levels on record.

<sup>7</sup> The definition of capital is the sum of corporate debt plus corporate equity, so the debt-to-capital ratio reveals what fraction of corporate financing is being conducted with debt – a classic definition of leverage.

<sup>8</sup> From the perspective of corporations, a silver lining to wages compressing profit margins may be a greater willingness of those benefiting from higher paycheques to deploy their money back into the economy. In other words, firms could suffer smaller profit margins but higher overall sales (and possibly even higher profits).

<sup>9</sup> Salaries represent about 70% of total worker compensation.

<sup>10</sup> Foreign S&P 500 profits were a mere 15% of the total in 1995, versus 40% today.

<sup>11</sup> What explains the difference between the statutory tax rate and the effective rate? Profits earned abroad are often taxed at a lower rate in the other country. Losses in prior years can be offset against subsequent earnings, reducing the overall tax burden. Perhaps most importantly, the tax code is riddled with credits, exemptions and loopholes that permit companies to whittle away at their tax load.

<sup>12</sup> Perhaps labour will mount a counterattack in a different form, proving us wrong. There is certainly a renewed interest in inequality, with tentative steps in the U.S. directed at addressing it. For instance, the U.S. federal income tax rate was recently increased on top earners, and minimum wages were hiked in a significant minority of states. But the actions are still only tentative, and have not – yet – congealed into a potent force capable of challenging businesses. Most dauntingly, in a globalized world, this sentiment would need to span borders to have any real hope of success.

<sup>13</sup> We are unable to evaluate the shift in sector composition dating back to 1980 due to a lack of data.

<sup>14</sup> That said, we are unconvinced that inflation has much of an effect on profit margins since firms can in theory pass additional costs through to customers.

<sup>15</sup> We intentionally assigned a diminished weight to variables that overlapped with one another.

<sup>16</sup> Models can be fickle in the best of conditions, and this one was particularly challenged by limited historical data (only 34 data points), the problem of highly correlated explanatory variables and the challenge of finding a numerical proxy for several of the “intangible” drivers (such as globalization).

<sup>17</sup> There are also mitigating factors. We suspect, for instance, that the demographic variable was unable to reflect the “right” sign in part because the pre-baby boom era could not be included in the model.

<sup>18</sup> The model's forecasts are made using our own forecasts for each of the explanatory variables, based on the views espoused earlier in the report.

<sup>19</sup> The fact that stock indices are mostly now in the range of fair value also limits the magnitude of future gains.

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