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How Assets-as-a-Service can save a balance sheet blow out

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Being 'asset-light' has been Wall Street dogma for years. And no wonder. Over the last decade, US stocks with low levels of Property, Plant, and Equipment (PPE) have seen double the stock market returns of high PPE stocks. In Europe, the returns have been triple.

But could it all come to an end? Over the last two years, the PPE on company balance sheets has exploded. In the US, it has grown from 40 per cent to 60 per cent. In Europe, it has gone from 36 per cent to 48 per cent. The cause has been new accounting rules that capitalise operating leases. This has affected 80 per cent of large European companies and 90 per cent of large US companies. And investors are not ignoring this – rather it has shone a spotlight on the 'true' level of assets that a company uses to operate.

Adopting an "Assets-as-a-service" model may help reduce the balance sheet drag. Indeed, corporate interest in AaaS has jumped between 30 and 50 per cent since the covid outbreak left many firms paying for idle assets.

In this piece we review the burgeoning AaaS market and analyse how stock markets penalise companies for poor asset efficiency. We then analyse how companies can materially increase their Return on Equity by converting even a small proportion of their equipment into AaaS operations.

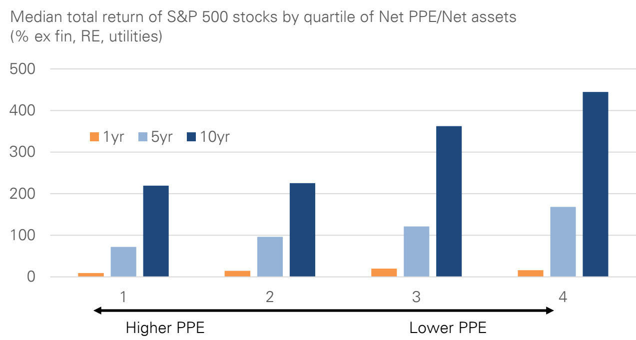
Summary on a page

- Investors love asset-light companies. Those companies that have the least amount of property, plant, and equipment (PPE) on their balance sheets have doubled the stock market performance of those companies that have the most PPE in the US. In Europe, the most asset-light stocks have seen triple the outperformance.
- Yet, since 2018, the amount of PPE on corporate balance sheets has surged. In the US it has jumped from 39 per cent to 56 per cent of net assets. In Europe it has jumped from 36 per cent to 47 per cent.
- The need to become more asset-light again has fuelled interest in Assets-as-a-Service (AaaS) where a company pays to use the equipment it needs on a time or output basis. That contrasts with the usual options of buying equipment or signing a long-term lease.
- Covid has been a big catalyst for AaaS as, during lockdowns, companies suffered from having their equipment sitting idle while they were still paying (or effectively paying) for it.
- The discussion of AaaS in corporate documents and reports has ballooned over the last year. During semi-annual and annual reporting periods, AaaS mentions have growth between 30 and 50 per cent.
- AaaS has primarily been used for technology services but is now broadening to include industrial equipment, commercial services, chemical supply, utilities and more.
- Aside from addressing underutilisation risk, AaaS can also improve cashflow management, reduce balance sheet size, reduce capital outlays, provide natural insurance against a cyclical business cycle, and avoid incurring depreciation expense.
- Sustainability benefits can be found in the multiple incentives that exist through the producer-financer-user chain to maintain and extend the life of the assets.
- AaaS can help rebuild companies post-covid. This is because, over the last decade, corporate returns have been propped up by rising profit margins and leverage. Yet, both are now under severe pressure due to wage demands, potential tax increases, and rising bond yields.
- So, corporate managers may find the easiest way to boost returns is to boost asset turnover. In both the US and Europe, asset turnover ratios have cratered from 1.0 before the financial crisis to around 0.6 today. That means there is tremendous scope for companies to become more efficient with their assets and give a meaningful boost to their return on equity.
- Over this same time period, stock markets have increasingly penalised corporates for adding more PPE. This applies over almost every sector.
- If the average company could convert just 10 per cent of its PPE into an AaaS contract, all else equal, it could increase its return on equity by 0.6 per cent in the US and 0.4 per cent in Europe. As companies convert more of their PPE into AaaS contracts, the boost to return on equity compounds upon itself.
- Our prior research "The Alpha in Asset Turnover" has shown that companies that increase their asset turnover generally see their stock outperform the stock of those companies that let their asset turnover fall.

Investors love asset-light companies

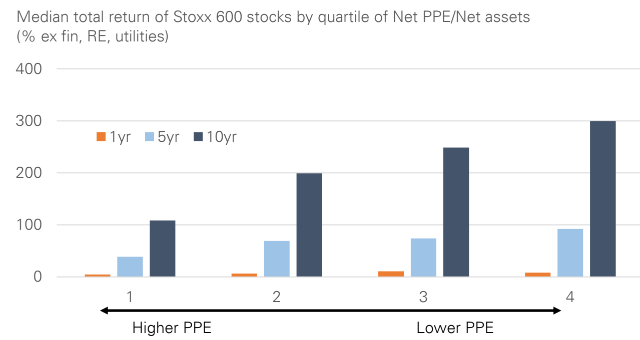
It has been a slam dunk since the financial crisis for managers to make their businesses asset-light. As the following charts show, in both the US and Europe, companies with lower levels of plant and equipment (as a proportion of net assets) have comfortably outperformed those that are more asset intensive. The effect shown in the charts is even more striking considering that they use the market return of the median stocks and thus are less affected by the large outperformance of particular stocks.

Figure 1: Stock markets love companies that are asset-light, particularly in the US ...



Source : Factset, Deutsche Bank

Figure 2: ... but also in Europe

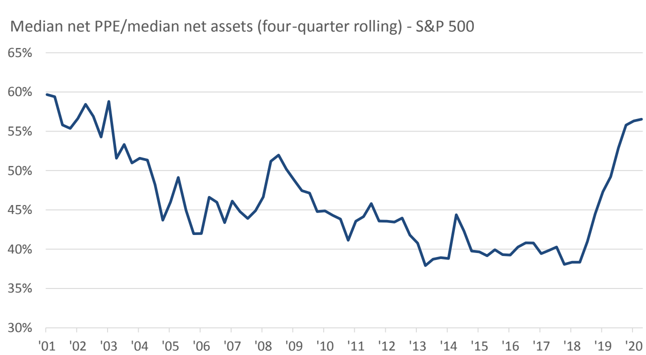


Source : Factset, Deutsche Bank

Of course, this effect is relatively well known and various activist investors have pushed companies to reduce their asset base for this very reason. One way they did this was to dispose of Property, Plant, and Equipment (PPE) and replace it with assets that were leased.

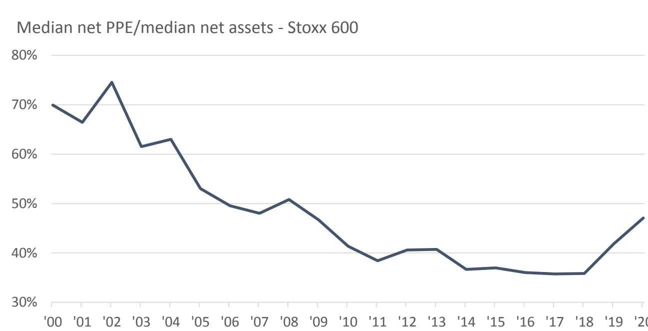
This is now a big problem. Since companies have adopted new accounting rules over the last two years, the amount of PPE on company balance sheets has ballooned. In the US, it has grown by half, and a little less in Europe. This has reversed the two-decade trend of companies becoming more asset-light.

Figure 3: PPE on balance sheets has surged over the last two years ...



Source : Factset, Deutsche Bank

Figure 4: ... which has made the amount of assets used by firms far more transparent



Source : Factset, Deutsche Bank

Some will argue that investors simply ignore or adjust for accounting rule changes. That would be a mistake in this instance. That is because the new accounting rules shine a light on the leases in a way that was not visible before. Specifically, they tell investors the value of the assets the company effectively has under its control. Previously, only more general disclosures were required.

This change means that investors have discovered many companies are more asset intensive than they originally thought. As such, company managers now face a new challenge to reduce their PPE and benefit from the market valuation premium that goes with it. This is where assets-as-a-service come in.

What is Asset-as-a-Service?

Traditionally, when corporates have obtained the assets they need to run their business, they have either purchased them or leased them. The third option – using an "Asset-as-a-Service" vendor was only considered in niche cases. This is quickly beginning to change.

The AaaS model offers firms the opportunity to pay-as-you-go for the assets they need to run their business. A simple example is a film streaming service. A customer pays a monthly fee for access, and avoids having to purchase a DVD. Another example is the cloud business operated by Amazon and Microsoft which allows customers to pay to use computing power without having to buy the equipment themselves.

In the case of the streaming service, the payment is based on the amount of time the subscription is held for (typically month-to-month). However, when a corporate pays for the use of an asset, it may do so based on the time or quantity used, the output produced, or another factor.

Critically, using an AaaS asset differs from leasing that asset as the user is not locked into a contract in the same way. So the costs for using an AaaS asset drop into an 'expense' line on the income statement, and no asset appears on the balance sheet.

Technology-based applications have been the first indicators of the potential of the AaaS market, however, the applications are now expanding. This is being boosted by the 'Internet of Things' which is making the tracking and measuring of usage and production of machines ubiquitous.

Hence, the AaaS pay-per-use model is increasingly extending to industrial equipment and other tangible assets. Just a few examples include:

- Mining and drilling equipment
- Commericial printing
- Industrial compressed gas supply
- Decentralised solar power plants

Figure 5: Case study: Indigenous ownership in the Assets-as-a-Service market

A BBC documentary titled 'Australia with Simon Reeve' featured Gina Castelain, a Wik and Wik Waya woman from Aurukun in Far North Queensland, Australia. She owned a company that rented bulldozers and motor graders to Rio Tinto's Weipa operations on a contractual basis.

Although her business operated on a relatively small scale, Castelain's business was very much representative of how assets-as-a-service can be employed to broaden capital ownership across many facets of society. Moreover, it showed how a multi-national corporation can successfully collaborate with small, local companies owned by Aboriginal Australians.

The company, called Aurukun Earthmoving, owned a small number of bulldozers along with other vehicles, and provided contractual earthmoving and drilling services mainly to Rio Tinto's bauxite mine and to Queensland's Main Roads department.

Source : BBC, Deutsche Bank

Why now?

Over the last two years, several factors have coalesced to lay the foundation for growth in AaaS models:

Returns depressed by covid

Although corporate profits have begun to bounce back from their nadir in 2020, covid has exposed the 'profitability deficit' so many companies experienced as their assets lay idle. In turn, this has renewed the focus on the two-decade trend of falling 'return on assets'

The section titled "AaaS can boost falling company returns" analyses in detail the opportunity to boost returns on assets and equity and explores how AaaS may provide a way to reverse the declining trend.

Sustainability

The explosion of interest in corporate sustainability and ESG criteria means that firms are looking for ways to use their assets more efficiently. A pay-per-use model, and others like it that can be provided by AaaS, reduces the incentive for waste.

Internet of Things

The IoT evolution is so powerful, partly, because it allows for better tracking and data recording. This is a key part of the AaaS model, particularly relating to pay-per-use, and maintenance requirements. It also extends to finding efficiency gains. One analysis by IoT Analytics estimates that the Equipment-as-a-Service market will grow from $22bn in 2019 to $131bn by 2025. That is a compounded growth rate of 35 per cent.

Accounting changes

When the new lease accounting rules took force in 2019, it forced companies to add leasing contracts both as an asset and as a liability to their balance sheet. The amount added was something of a proxy for the assets that were being used by the company over the long-term but were kept off-balance sheet. By the end of 2019, 438 companies in the S&P 500 had added $608bn to their assets. In Europe, 476 Stoxx 600 companies had added €490bn to their assets.

Although the operations of the businesses did not change, for those managers that prided themselves on being asset-light, or had business models and capital structures that depended upon it, the addition of lease assets was a problem. It was also a problem for those companies that liked the way the old rules allowed them to appear to be more asset efficient than is now the case.

Figure 6: Lease accounting has boosted PPE on corporate balance sheets ...

Source : Factset, Deutsche Bank

Figure 7: ... but different industries have felt very different effects

Source : Factset, Deutsche Bank

For both groups of companies, AaaS offers a solution. It allows companies to retain the use of the assets they need, whilst removing them from their balance sheet. And given that the operating assets that have been brought on-balance sheet are typically discreet tangible items, it should not be difficult, in most cases, to adjust to using them “as a service” instead of via a lease.

The benefits of AaaS

Although some will argue that using AaaS services is effectively the same as simply signing a lease for the asset, there are some key benefits to AaaS:

- Covid/underutilisation risk. A big problem highlighted by covid was that companies can be left with equipment, whether owned or leased, sitting unutilised. To address this, an AaaS agreement can allow a firm to pay a sum dependent on the amount the equipment is used, instead of a fixed payment for the product itself or a fixed lease payment. This insures the firm against the risk that assets are left idle in the future. That should make internal budget approval processes easier as the cost of the asset will correlate better with its use.

- Improve cash flow management. This is the key follow-on from reducing underutilisation risk. Essentially, AaaS provides greater visibility and control over cash flow. Whereas an operating lease model mandates a set cash outflow each month, an AaaS model can allow for a variable payment depending on the value it generates or the use that is carried out.

- Reduction in balance sheet size. As an AaaS agreement will typically not be defined as an operating lease and thus will not be subject to the new accounting rules that mandate these leases be brought on balance sheet.

- Reduced capital outlay. This is particularly useful for cash-poor/early stage companies. Of course, this is the case for a leased asset.

- Cyclical insurance. Companies will find it easier to respond to cyclical swings in the economy. Specifically, during periods of uncertainty, firms will be able to easily dial back their spending/usage of AaaS products in a way that they cannot if those assets are purchased or contracted via a lease.
- Avoid depreciation expense risk. This is an issue even for leased assets. That is because the new accounting rules mandate that firms in most countries (outside the US) must record a depreciation expense in their income statement relating to the "asset" they have on their balance sheet that corresponds to the leased asset. AaaS agreements will generally avoid this issue.

From the producer's perspective, moving to an AaaS model may help derive new or greater revenue streams. That potential arises as the asset 'producer' can now be involved with the 'user' company throughout the life cycle of the asset. This may include maintenance and ancillary items to better capture a customer's wallet.

Aside from specific company benefits, there are sustainability and ESG benefits to moving to an AaaS model. For example, an asset 'provider' can repeatedly offer machinery previously used by one customer to another. That increases the incentive to maintain the asset longer than might be the case with an asset that is owned. And if payment for an AaaS asset is based on usage, there will be less incentive for users to be wasteful in their operations compared with the case where an asset is leased.

Is AaaS just a fancy term for an operating lease?

From the user's point of view, an AaaS agreement can be very similar to using it under an operating lease. After all, they are paying a regular amount for the asset and don't have all the risks of ownership.

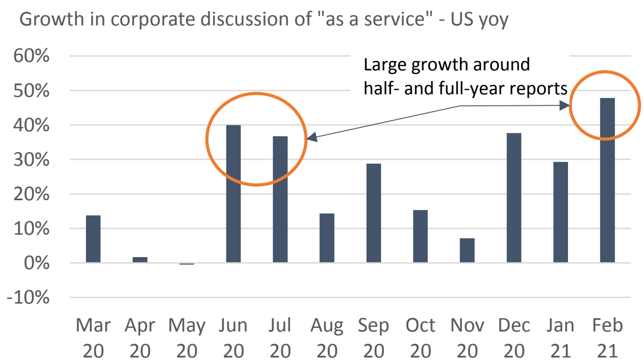
Although an AaaS agreement may appear similar to an operating lease, there are some key differences. Foremost is the fact that, in general, an AaaS agreement can be terminated with little notice, whereas an operating lease agreement is typically made to last several years. This is a key reason why AaaS assets will not fall under IFRS 16 accounting and thus the payments for them will not be capitalised on the user's balance sheet.

From an operational standpoint, a company using an asset under an AaaS agreement can be expected to continue using that asset for several years. The key point, though, is that by not having the obligation to use the asset for years means, legally, the user does not treat the asset as being under lease.

Corporate discussion of "as a service" issues

Over the last 12 months, the discussion among corporates of "as a service" has seen a dramatic increase in both the US and Europe. This has particularly been the case since the second half of 2020 when companies began to look for ways to mitigate the risk of disrupted operations. The discussion growth peaked around the time that half-yearly corporate reports were released.

Figure 8: US companies are leading the discussion of assets-as-a-service ...



Source : AlphaSense, Deutsche Bank

Figure 9: … although European companies have begun to take note

Source : AlphaSense, Deutsche Bank

Size of the market

Given the market for AaaS is so young, estimating its potential future size relies on assumptions for which there are a wide range of options. One way to approach the problem is to start with the assets that companies currently have on their balance sheet. From there we can examine how much of those assets is bound up in tangible things that companies need to operate - property, plant, and equipment (PPE). We can then assume that a proportion of PPE could be transferred to AaaS contracts (in the case below, ten per cent). As a rough check, we can compare that to the amount of operating lease assets currently on balance sheets.

The following table excludes companies in the financials, real estate, and utilities sectors for which AaaS may be less relevant.

Figure 10: One way to judge the potential AaaS market size

	S&P 500 ($bn)	Stoxx 600 (€bn)
Total assets	13,861	9,358
Total gross property, plant, and equipment	4,512	5,536
Proportion of PPE that can be converted into AaaS	10%	10%
Total potential AaaS market size	451	554
Total operating lease assets	485	402

Source : Factset, Deutsche Bank

In time, it seems inevitable that the number of providers of AaaS assets will grow to the point that the ten per cent conversion rate assumed above will reasonably grow to 20 per cent or more. Of course, the asset has to be recorded on someone's balance sheet. As the market for AaaS evolves, this could end up being specialised asset/AaaS companies.

The market size is probably larger still

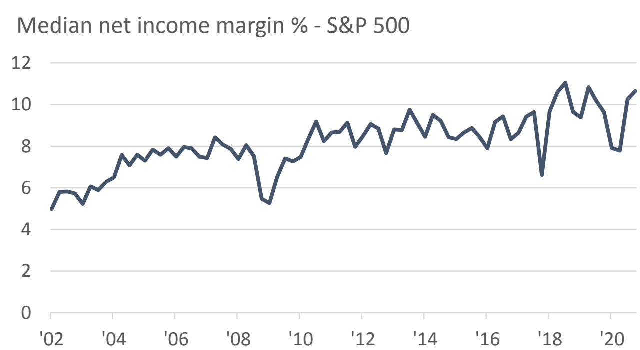
Estimating the market size with reference to the amount of lease assets recently brought on balance sheet likely underestimates the potential size of the AaaS market. That is because the amount of the lease asset on a company's balance sheet will not be equal to its replacement value as the asset is based on discounting future lease payments. That means, the shorter the period of the lease, the lower the apparent asset value. The interest rate used to discount the payments will also cause differences.

As a result, the value of the underlying assets (ie the potential size of the as-a-service market) will, in many cases, be larger than the value of the lease assets suggest.

AaaS can boost falling company returns

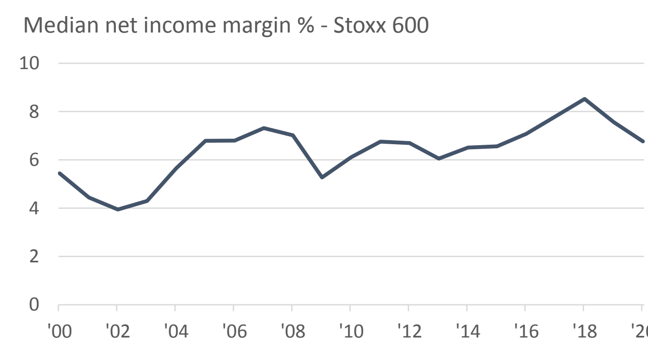
Covid threw a bright light on just how quickly company profitability is affected by the slowdown in customer demand and how susceptible some companies are to failure as a result. The damage from the slowdown in customer demand was heightened from the corporate reliance on the trend of rising profit margins over the last two decades. The following charts exclude firms in the financials, real estate, and utilities sectors.

Figure 11: Profit margins have begun to recover from their covid slump ...



Source : Factset, Deutsche Bank

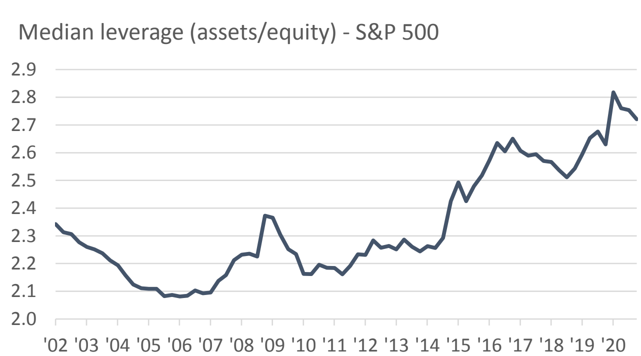
Figure 12: ...but they face downward pressure in the post-covid economy



Source : Factset, Deutsche Bank

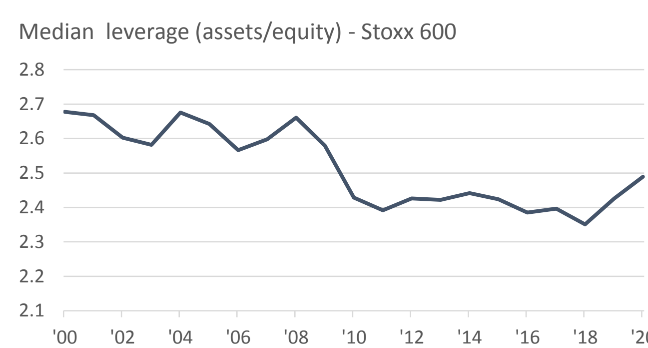
In turn, the susceptibility of companies to failure has been amplified by the increase in leverage in many companies. This has been particularly the case in the US, but also recently in Europe.

Figure 13: US companies began to delever as covid hit ...



Source : Factset, Deutsche Bank

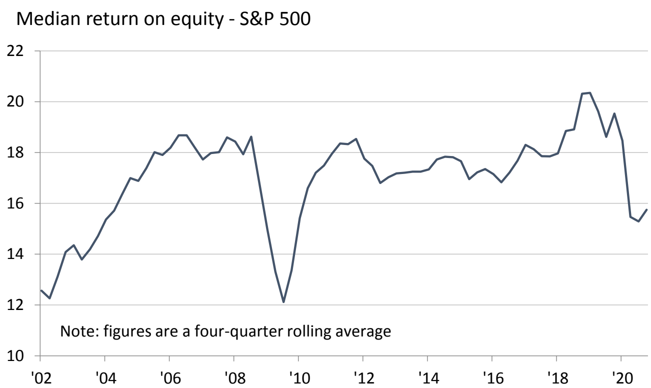
Figure 14: ... although European companies did not follow the trend



Source : Factset, Deutsche Bank

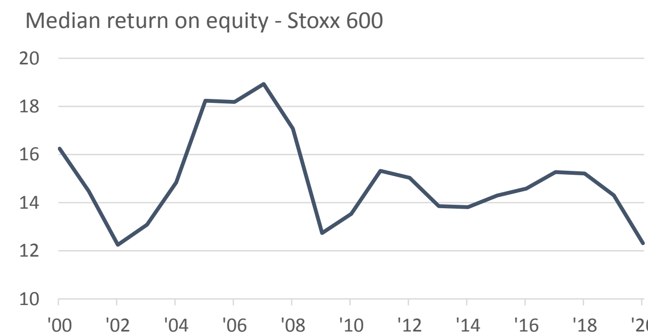
As a result of these factors, it is no wonder that returns on equity have fallen over the last 12 months.

Figure 15: Corporates need to find a way to restore profitability in a post-covid world ...



Source : Factset, Deutsche Bank

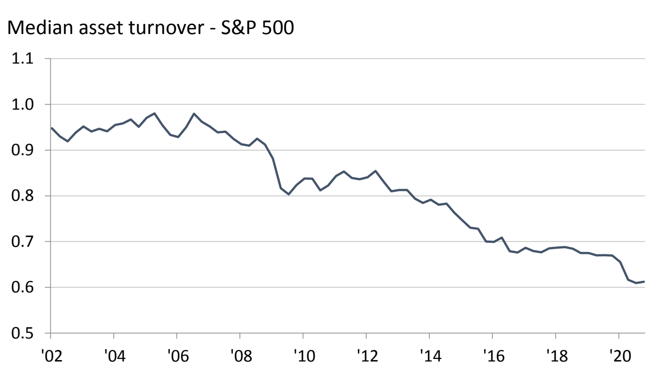
Figure 16: … and pent-up demand is only a short-term fix



Source : Factset, Deutsche Bank

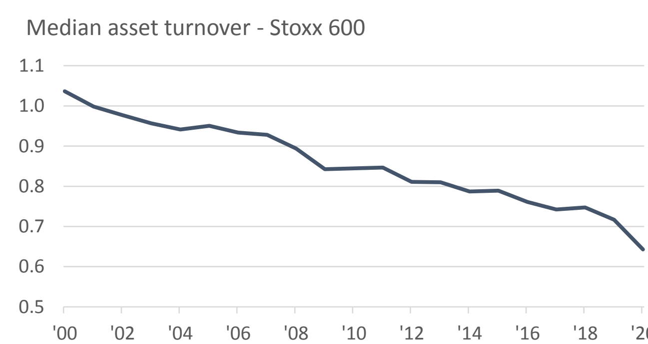
As corporate managers have been forced to admit the uncomfortable truth that they have placed too much reliance in margins and leverage, they have been forced to examine the third element that drives returns on equity: asset turnover. This has been declining for decades and the pandemic finally highlighted the big problem that companies are terribly inefficient in their use of assets.

Figure 17: Corporates must address their woeful record at using assets efficiently ...



Source : Factset, Deutsche Bank

Figure 18: … as it is becoming a heavier and heavier anchor on profitability

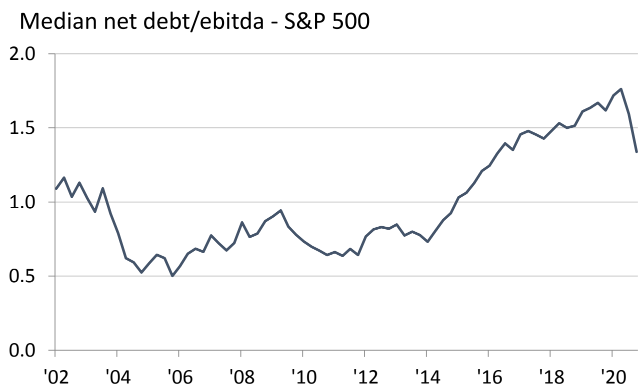


Source : Factset, Deutsche Bank

The renewed focus on asset turnover is unlikely to go away as the pandemic recedes. Although corporate profit margins have rebounded in the US, it appears that most companies will have trouble raising them further. Several factor push against them, The first is the recent emphasis on higher wages and additional employee benefits that has become more discussed since President Biden took office. Should the call for a $15 federal minimum wage be answered, many companies will face a difficult decision about the extent to which they can pass on the extra cost to customers. A second factor is the momentum behind the push for higher corporate tax and a minimum level of global corporate taxation.

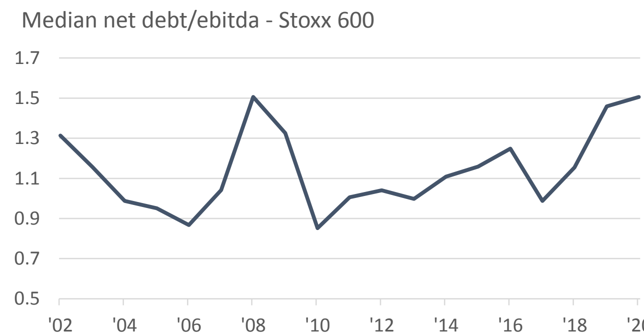
Similarly, the days of ever-increasing leverage appear numbered. The pandemic has made investors realise that when tail risks occur, high leverage can be devastating. Already, companies have begun to delever in the US - something that is easier to see when we look at net debt to ebitda ratios. In Europe, it has been a different story and companies tended to increase their leverage slightly in 2020. However, given this is now at a multi-decade high, the pressure will be on managers to lower their leverage, not raise it.

Figure 19: Will corporates be able to justify a return to record levels of leverage? ...



Source : Factset, Deutsche Bank

Figure 20: … or is the "leverage crutch" that has boosted returns a 2010-decade phenomenon?



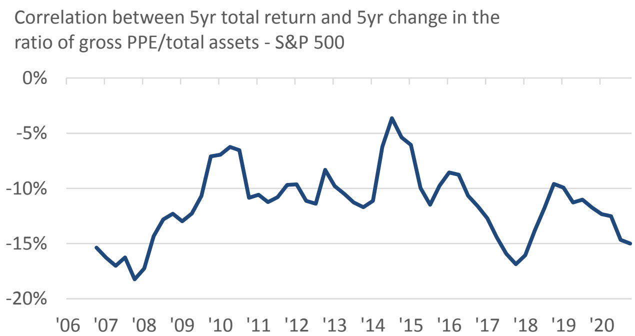
Source : Factset, Deutsche Bank

While the chart shows that there has only been a modest decline in leverage over the last year, it masks the wide difference in delevering that occurred within some companies. As the following chart shows, if a company entered 2020 with high levels of leverage, it was more likely to delever during the year. In turn, this puts downwards pressure on the company's return on equity.

Investors want asset efficiency

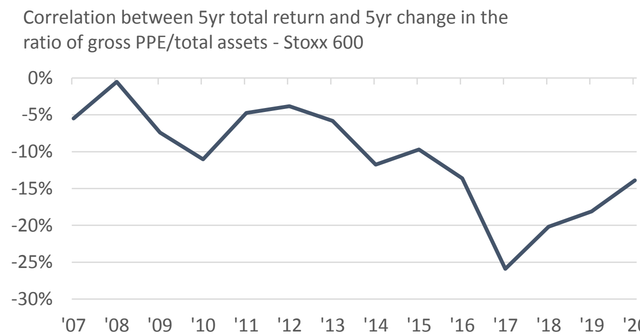
Already, there are signs that investors are focusing more and more on asset turnover. Indeed, since the financial crisis, if a company has become more asset intensive, its share price has tended to suffer. In other words, there has been an increase in the negative correlation between a stock's total return and its use of PPE as a proportion of assets.

Figure 21: Investors penalise stocks that add assets to their balance sheets ...



Source : Factset, Deutsche Bank

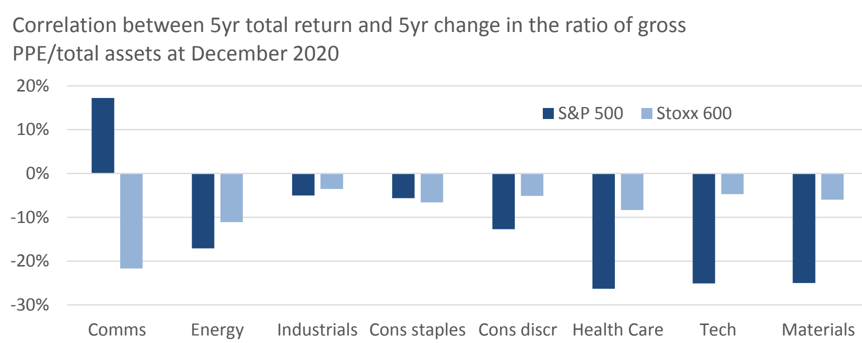
Figure 22: … this may become more pronounced as the corporate reliance on margins and leverage wears off



Source : Factset, Deutsche Bank

This has been the case across most industry groups as the following chart shows (bear in mind that 'Communications' has only been an industry group since 2018).

Figure 23: Investors in almost every sector sell stocks where managers add PPE to the balance sheet



Source : Factset, Deutsche Bank

The increased propensity of investors to penalise stock prices where a company becomes less asset efficient should worry corporate managers. That is because the amount of PPE on company balance sheets has accelerated since 2018, in part, due to new lease accounting rules (IFRS 16 or ASC 842) that brought operating-lease assets onto the balance sheet.

The acceleration in PPE being added to company balance sheets has reversed the trend of companies becoming more asset-light over the last two decades (even as they have become less efficient at using those assets). This remains the case even if technology and communications stocks are excluded from the analysis.

How AaaS can boost asset turnover and thus RoE

It is encouraging that, of the three components of RoE, asset turnover is possibly the easiest for management to control. By contrast, margins and leverage are arguably more dependent on broader competition and market conditions.

So, if companies could reduce the amount of assets on their balance sheet, whilst retaining the ability to derive sales, the company would boost its asset turnover and thus its return on equity. That would directly translate into share price outperformance, assuming current correlations hold. So what sort of RoE boost can companies derive?

First the US. The median company has gross PPE of $5.9bn. If just ten per cent of this can be converted to an AaaS model, that will remove $591m from its total assets, or 3.4 per cent. Using median annual sales of $10.9bn (in the year to December 2019), this means asset turnover would increase from 63 per cent to 65 per cent. In turn, the company's return on equity would increase from 17.2 per cent to 17.8 per cent.

In Europe, the median company has gross PPE of €2.4bn. If just ten per cent of this can be converted to an AaaS model, that will remove €236m from its total assets, or 2.9 per cent. Using median annual sales of €5.2bn (in the year to December 2019), this means asset turnover would increase from 64 per cent to 66 per cent. In turn, the company's return on equity would increase from 13.3 per cent to 13.7 per cent.

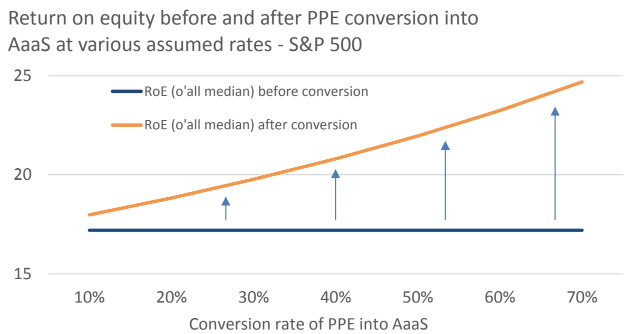
Figure 24: The mechanics of how AaaS leads to higher returns on equity

S&P 500 $m	Stoxx 600 €m	
5,909	2,356	Median total Gross PPE
10%	10%	Assumed AaaS conversion
591	236	Total PPE at assumed conversion rate
17,283	8,104	Median total assets
16,692	7,868	Tot ass post removal of 10% of gross PPE
3.4%	2.9%	% drop in total assets
10,869	5,194	Median annual sales
17,283	8,104	Median assets
16,692	7,868	Median asset post assumed conversion rate
62.89%	0.64	Asset turn before
65.12%	0.66	Asset turn after
3.5%	3.0%	% change
17.2%	13.3%	RoE before
17.8%	13.7%	RoE after
0.6%	0.4%	Increase pp

Source : Factset, Deutsche Bank

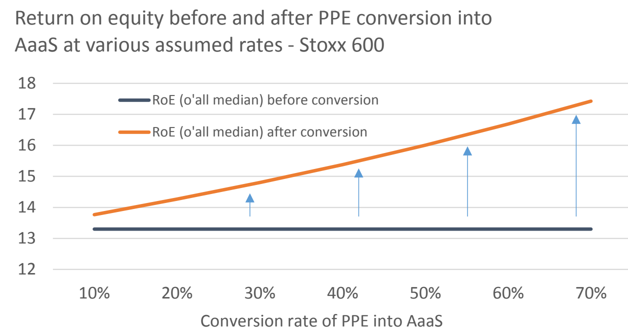
If companies are able to use the AaaS market to convert further assets from being 'owned' to being 'used', the benefits to return on equity are amplified as shown in the following charts.

Figure 25: The more assets a company is able to remove from its balance sheet ...



Source : Factset, Deutsche Bank

Figure 26: … the greater the impact on RoE



Source : Factset, Deutsche Bank

Finally, efficient assets lead to stock market returns

Our prior research has suggested that companies that have become more asset efficient have seen stock market outperformance. Our piece “The Alpha in Asset Turnover” (published just before the introduction of the accounting rules regarding operating leases in 2018) showed that US firms that increased asset turnover over the past five years saw a median share price increase of 87 per cent compared with the 69 per cent seen for companies with a decline in asset turnover. The story was similar in Europe, where companies with a positive change in asset turnover over the prior five years saw a median share price gain of 88 per cent versus the 61 per cent for companies with a negative change in asset turnover in the same period.

Amidst the powerful evidence that asset efficiency leads to greater profitability and higher stock returns, it seems imperative that in a post-covid world, corporates should seek to reverse the decades-long trend of declining asset turnover. Given that the conditions are in place for the rapid growth of the AaaS market, this may be one convenient way that helps managers recover from the effects of the covid recession.

Appendix 1

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