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Allianz Research

Do we need more inflation for more corporate investment?

Executive Summary



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- Up until 2019, global disinflation pushed down corporate investment.
- However, since 2020, the return of inflation has failed to reverse the trend.
- This is paradoxical because corporates never had it so good in terms of net profit margins, return on capital employed, cost of funding and effective taxation of profits.
- Instead, CAPEX has been dwarfed by cash accumulation, share buybacks and dividends. Alongside sticky long-term inflation expectations, increasing concentration (market power) and subjective factors are the most plausible explanations for the weakness of investment.
- Should this weakness persist, it could backfire on inflation.

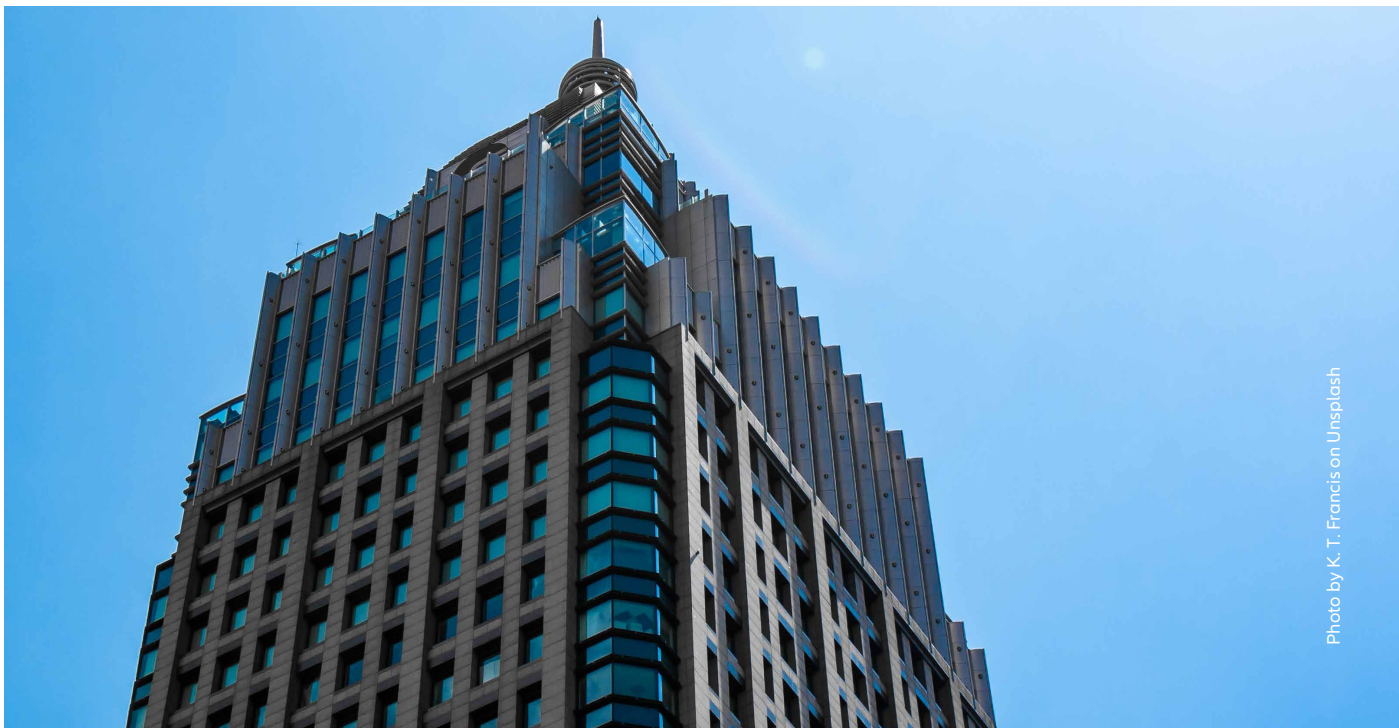




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Inflation and corporate investment

Up until 2019, global disinflation pushed down corporate investment; however, since 2020, inflation has failed to lift corporate investment.

Changes in inflation reflect demand and supply. So, when global inflation is accelerating – as it has since mid-2020 – the question to ask is whether demand or supply is causing such an acceleration. Undoubtedly, policymakers' response to the Covid-19 crisis – namely mixing easy monetary policy with expansive fiscal policy – was designed to stimulate demand and has succeeded in doing so. Undoubtedly, too, the Covid-19 crisis, and then the war in Ukraine, have disrupted global supply chains. But beyond these well-known and much-commented-on factors, what about corporate investment? Has it played or could it play a role in fostering inflation by constraining supply?

To shed some light on this important issue, we look

at the relationship between headline inflation in the OECD and global net corporate investment. By headline inflation in the OECD, we mean the annual rate of change in the total OECD all items price index. By global net corporate investment, we mean the aggregate net CAPEX-to-EBITDA ratio of the constituents of Refinitiv's global market indices (see Appendices 1 and 2). By net CAPEX, we mean capital expenditures (CAPEX) minus depreciation and amortization.¹

For non-financials excl. resources, the net CAPEX-to-EBITDA ratio has decreased from 50% in 1980 to -4.5% in Q1 2021. In Q4 2022, it was close to 0%. From 1979 to 2019, the OECD headline inflation rate has consistently led the net CAPEX-to-EBITDA ratio by four quarters.

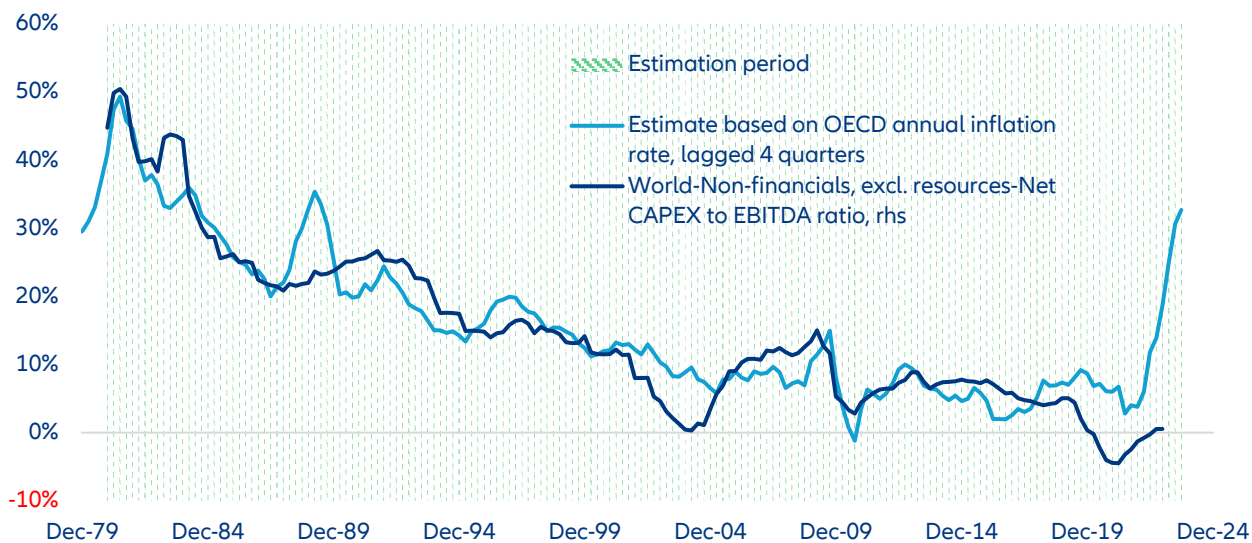
¹ The corporate finance notion of CAPEX is equivalent to GFCF (gross fixed capital formation) in national accounts. Net CAPEX can be negative if depreciation and amortization exceeds CAPEX.

During this period, 1pp of annual inflation has been worth on average – four quarters later – 3.2pps of net CAPEX-to-EBITDA. Without any ambiguity, Granger causality tests indicate that, during these four decades, the causality has run from inflation to corporate investment (and not the other way around). In other words, if one wished for more investment, one should first have wished for more inflation.

since mid-2020, had the past been any guide to the future, the net CAPEX-to-EBITDA ratio should have surged to about 20% by the end of 2022, and should reach about 30% by the end of 2023. But for the time being, higher investment remains to be seen (Figure 1).

With global inflation accelerating from 0.9% to 10.4%

Figure 1: The (broken) link between inflation and the net CAPEX-to-EBITDA ratio: waiting for Godot



Sources: Refinitiv, Allianz Research

Corporates have never had it so good

That non-financial corporates currently show such a low propensity to invest is quite paradoxical because they have never had it so good since disinflation started in 1980. Since then, notwithstanding some cyclical fluctuations, net profit margins have increased, the pre-tax cost of debt has decreased and so has the effective taxation of profit.

As regards the rise in net profit margin, it is to be seen not only at the highest aggregate level, but also for eight sectors out of 10, the only exception being telecommunications and utilities. It is particularly pronounced for four sectors: energy, basic resources, basic materials and industrials.

The rise in net profit margin explains that of the return on capital employed (the ratio of EBITDA-to-total assets). Here again, energy, basic resources and basic materials stand out.

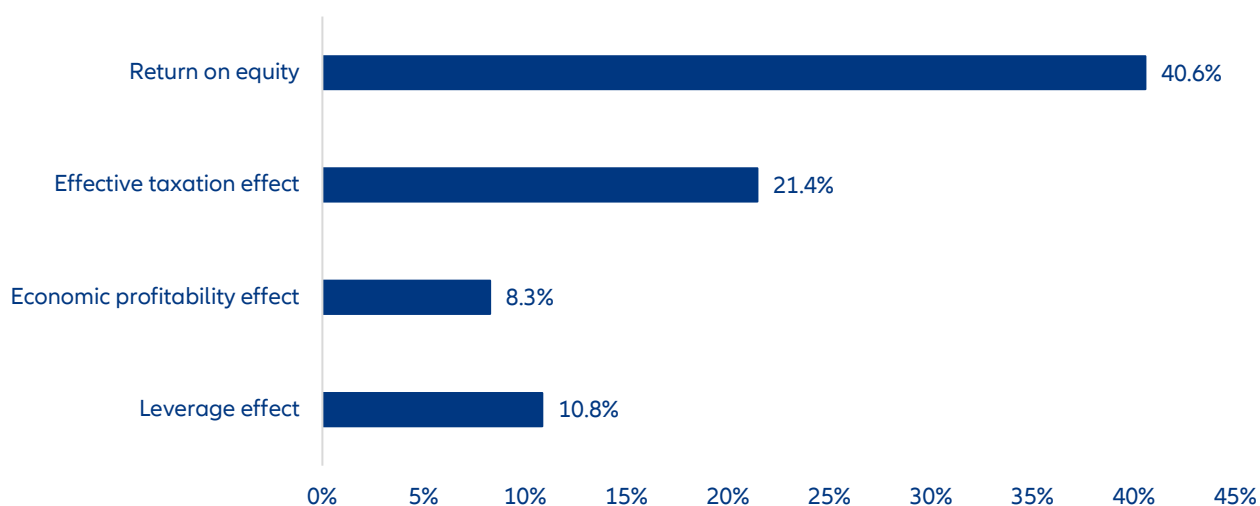
That the pre-tax cost of debt (nominal interest rates) has decreased, at least until mid-2021, does not need to be documented. But it surely has been an incentive to increase the equity leverage ratio (from 153% to 191.4%). Only one sector (industrials) shows a decline in the equity leverage ratio.

It is noteworthy that, in contrast to market rates, the implicit average interest rate paid by corporates has barely increased since mid-2021, while the return on capital employed has gained about 2pps to 11% and still stands well above market rates. Put differently, leveraging the equity has remained profitable. Last but not the least, the effective profit tax rate has declined from 35.2% to 24.1% of taxable income in every sector except energy.

The combination of an increasing return on capital employed, a declining pre-tax cost of debt, increasing leverage and a declining effective profit tax rate has boosted the realized return on equity in all sectors, most notably in energy, basic resources and basic materials (Figure 2).

It is quite remarkable that, thanks to such favorable trends in its drivers, the return on equity (average of eight sectors as of Q4 2022: 15.6%; median: 16.1%; minimum: 7.1%; maximum: 23.1%) generally far exceeds the trend rate of growth in nominal sales (6% a year in USD terms). More recently, as we have already seen, the icing on the cake, inflation – which is typically favorable to profits and investment – has increased.

Figure 2: Contributions to the change in the return on equity since 1999*.



Sources: Refinitiv, Allianz Research

*Note: Being log rates, the rates of change shown in this figure are additive. The rate of change of the return on equity is the sum of

- the rate of change in the effective tax rate on profits (a lower tax rate boosts the return on equity),
- the rate of change in economic profitability (i.e. the return on capital employed and its excess over the cost of debt)
- the rate of change in the debt-to-equity ratio

To compute these three rates of change, we use Fisher's index numbers.

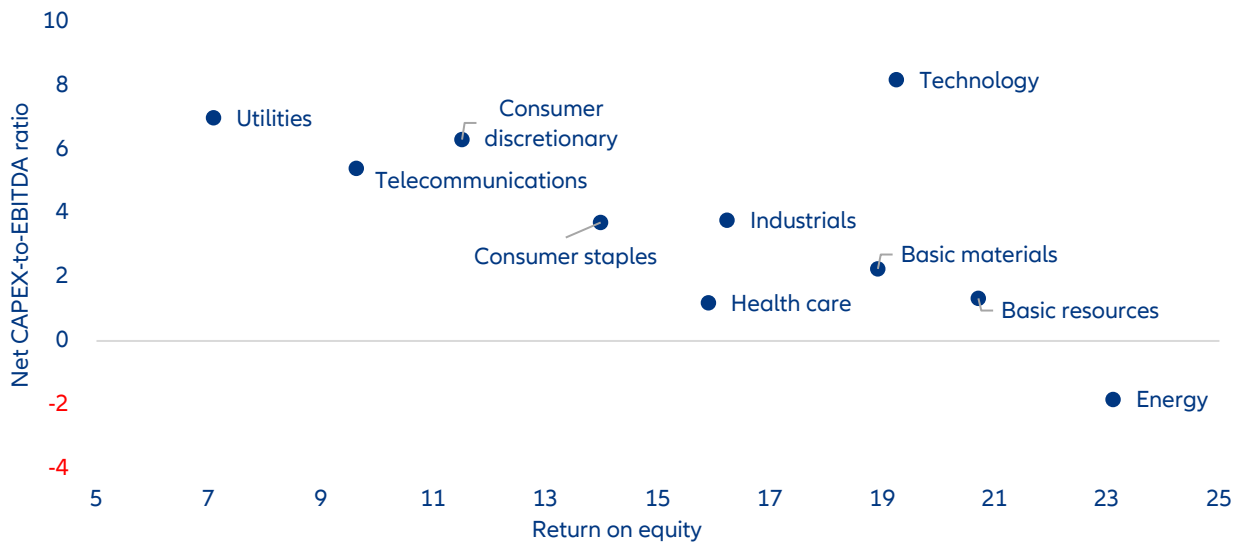
The higher the after-tax return on equity, the less net CAPEX: so, where has the money gone?

Even more paradoxically, the decline in the propensity to invest has been the most pronounced in the sectors posting the highest returns on equity: energy, basic resources, basic materials and industrials (Figure 3).

If companies have benefited from ideal conditions to make profits and borrow money, but have - at the same

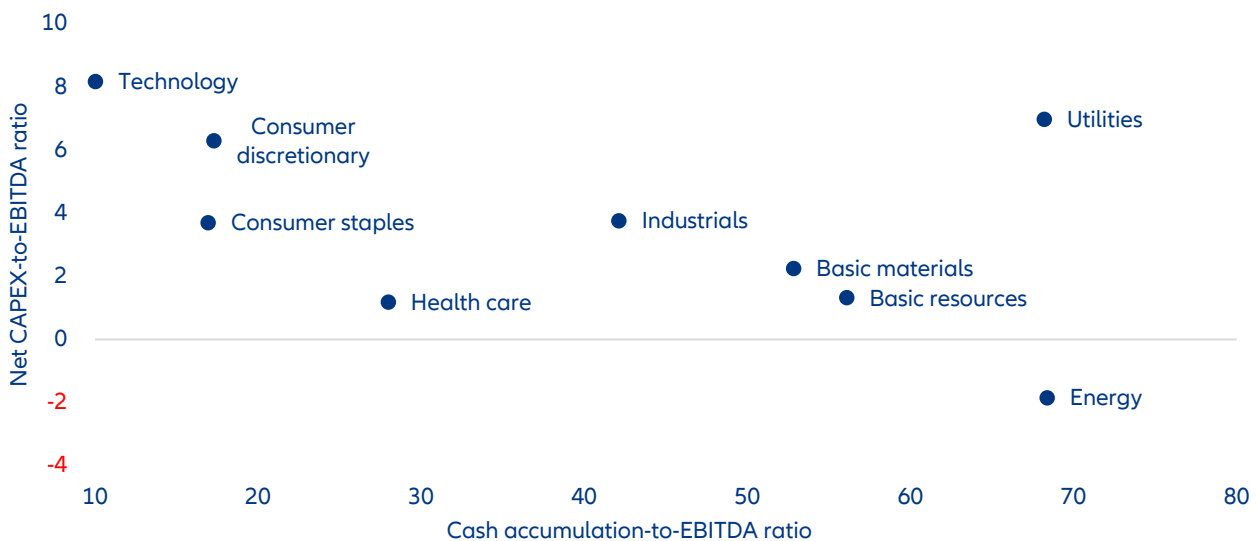
time - shown a declining propensity to invest in capital goods, how then have they employed their funds? Hoarding cash, buying back their own shares and paying dividends. The negative correlation between, on the one hand, share buybacks or dividends, and on the other hand net CAPEX, is very much the same as that between net CAPEX and cash accumulation (Figure 4).

Figure 3: Change in net CAPEX-to-EBITDA ratio from Q3 2020 to Q4 2022 and return on equity as of Q4 2022



Sources: Refinitiv, Allianz Research

Figure 4: Change in net CAPEX-to-EBITDA ratio from Q3 2020 to Q4 2022 and cash accumulation as of Q4 2022



Sources: Refinitiv, Allianz Research

Increasing market power and corporate finance mantra are the most plausible explanations for investment weakness

It is not too difficult to propose plausible theories of firms' diminished propensity to invest. It is much more difficult to quantify the impact of the factors potentially explaining it.

On a positive note, following Nicolas Crouzet and Janice Eberly, one can argue that in today's world, hard-to-measure intangible assets are increasingly substituting for easy-to-measure tangible assets.² Intangible capital includes research and development expenditure patents, software, chemical formulas, databases, artistic value, employee training, design processes and brand recognition. If true, this theory would imply that corporate investment is underestimated. The intangible capital assumption is, however, hard to reconcile with the fact that the sectors experiencing the lowest propensity to invest in tangible assets are not the ones that should be in the greatest need of intangible assets (Figure 3).

On a less positive note, following Thomas Philippon³ and Luigi Zingales⁴, one can argue that "bad" concentration (excessive market power) is not an incentive to invest. Philippon exposes the concentration argument essentially in the case of the US. As US equities account for 51.5% of the Refinitiv global equity index (against 14.3% for emerging markets and 10.5% for the EMU), this is worth considering.

² Crouzet, N., and J. Eberly (2018), Intangibles, investment, and efficiency. AEA Papers and Proceedings 108, 426-431.

³ Philippon, T. (2019). The Great Reversal, How America Gave Up on Free Markets. Harvard University Press.

⁴ Zingales, L. (2017). Towards a political theory of the firm. Journal of Economic Perspectives 31 (3), 113-130.

Unfortunately, Refinitiv does not provide Herfindahl-Hirschman indices, the classic concentration metrics used by economists. If, by default, as in Table 1, we look at the average sales by index constituents, the global energy sector looks the most concentrated of all. It is also the one with the lowest propensity to invest. According to Gutiérrez and Philippon, "increased short-term thinking" is the next most plausible explanation for the weakness of investment.⁵ Firms may:

- Set their target return on equity at a level so high that it leads them to reject many investment projects.
- Be aware that leverage magnifies the volatility of the return on capital employed and by the same token the downside risk to the return on equity (hence the cash hoarding).
- Expect that the environment will not stay as good as it currently is (lower profit margin, higher interest rates, higher tax rates).
- Struggle to invest in green technologies at scale.
- Prioritize the short-term maximization of shareholders' value through dividends and share buybacks.

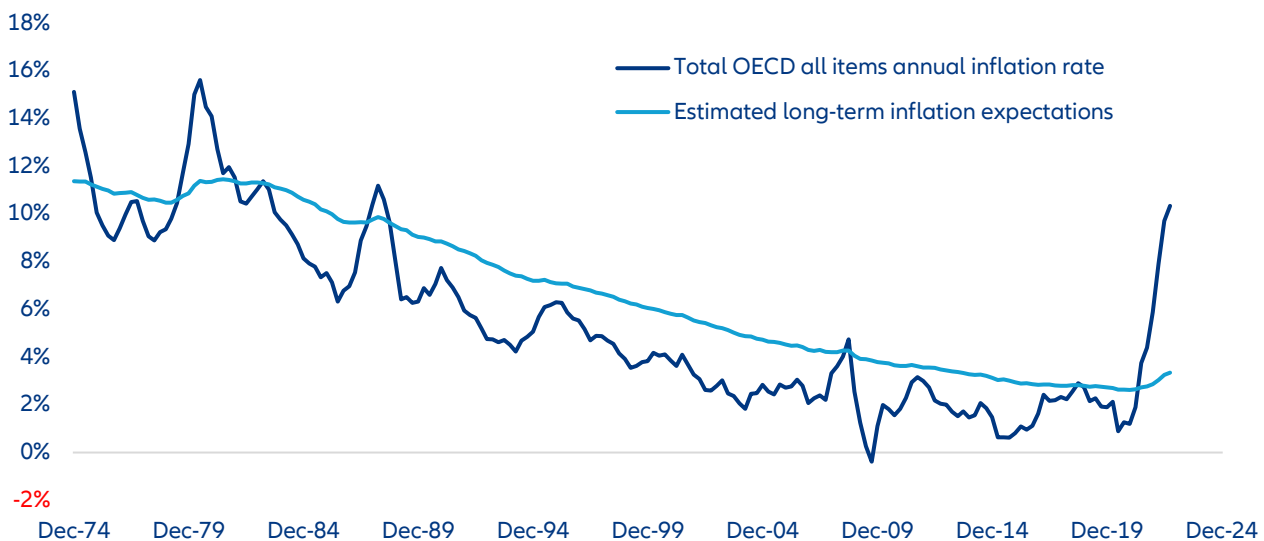
⁵ Gutiérrez, G., and T. Philippon (2017). Investment-less growth : An Empirical investigation. Brookings Papers on Economic Activity (Fall).

Can't we see the forest (sticky long-term inflation expectations) for the trees (volatile observed inflation)?

It may also be the case that the rise in observed inflation has not yet been pronounced and persistent enough to trigger a rise in inflation expectations large enough to warrant, in turn, an increase in investment, and therefore future supply (Figure 5). Under this assumption, the investment and inflation outlook would need to get worse (investment too low, inflation too high) before it gets better (higher investment, lower inflation).

In the short term, cash accumulation, share buybacks and dividend payments undoubtedly contribute to supporting shareholders' value. But, in the long run, such strategies are not sustainable, if only because – everything else being equal – the weakness of investment will not help tame inflation. With net profit margins, return on capital employed, return on equity and equity leverage at record highs, and effective taxation rates and interest rates at or still close to record lows, the question equity investors should ask is, can it get any better? The answer is: probably not.

Figure 5: Observed inflation and estimated long-term inflation expectations *



Sources: Refinitiv, Allianz Research

*Note: Long-term inflation expectations are estimated as a dynamic exponentially-weighted moving average of past rates of inflation: the gain in the up-dating equation increases with inflation and inflation surprises.

APPENDIX I – Global listed equities sectors

Table 1 – Global listed equities sectors: taxonomy, number of constituents and average net sales

Q3 2022	Constituents	Average net sales (\$ bn)
Non-financials	5,186	8.2
Non-financials, excl. resources	4,759	7.5
Technology	530	8.1
Telecommunications	195	10.4
Health care	445	7.2
Industrials	1,295	5.8
Consumer discretionary	1,000	8.6
Consumer staples	561	8.5
Utilities	334	7.7
Basic materials	515	6.2
Basic resources	307	6.3
Energy	313	20.8

US equities account for 51.5% of the Refinitiv global non-financials index, against 14.3% for emerging markets, 10.5% for the EMU, and 7.0% for Japan.

APPENDIX II - Staging CAPEX in the context of corporate finance

For each sector, Refinitiv provides since 1979 the standardized quarterly financial data computed by Worldscope. First and foremost, while national accounts typically do not break down gross fixed capital formation (investment) by sector, Worldscope provides us with CAPEX, the key variable we want to observe. But, by providing other variables - like total assets, enterprise value, shareholders' equity, market value, index value, common equity, net debt (total debt minus cash), net sales, net profit margin, EBITDA, EBIT, interest charge cover, net income, free cash flow, dividend yield, return on equity – the Worldscope database also makes it possible to look at CAPEX in the broad context of corporate finance.

By combining some of the variables listed above, we can easily compute simple, but useful, ratios like the net CAPEX-to-sales, the net CAPEX-to-EBITDA ratio, the return on capital employed (EBITDA-to-total assets ratio), the effective profit tax rate; we can estimate some variables, like dividends paid out or new shares issued.

Net CAPEX

Subtract EBIT from EBITDA to get depreciation and amortization. Subtract depreciation and amortization from CAPEX to get net CAPEX (which can be negative if depreciation and amortization exceeds CAPEX).

Total debt

Divide the market value by the price-to-book ratio to get the book value. Subtract the book value from total assets to get total debt.

Interest rate bill

Divide EBIT by the interest charge cover to get the interest rate bill.

Average interest rate before tax

Divide the interest rate bill by net debt to get the average interest rate before tax.

Equity leverage ratio

Divide total debt by common equity to get the leverage ratio.

Cash holdings

Deduct net debt from total debt to get cash balances.

Dividends paid out

Multiply the market value by the dividend yield to get dividends paid out.

New shares issued

Multiply the market value of the index at the beginning of a quarter by its performance during the quarter to get a theoretical market value at the end of the quarter. Subtract this theoretical market value from the actual market value of the index at the end of the quarter to get new shares issued during the quarter. If negative, such a difference indicates share buybacks.



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