Analysis

Winners and losers in industrial profitability

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Despite the recent weakness in profitability, operating profits in Finnish manufacturing have generally developed steadily. After the electronic and electrical industry, the chemical industry, particularly the pharmaceutical industry, has become the sector with the second highest profitability. In the short-term, industrial profitability has reflected fluctuations in export demand but, in the long-term, it has also tracked the development of relative wages.



On the measuring of industrial profitability

The profitability of Finnish manufacturing has been weak in recent years, but to what extent do the difficulties of the export industry reflect the subdued developments in export markets, and to what extent are they the result of competitiveness problems that are domestic in nature?

The profitability of manufacturing over the longer-term (1975–2015) can be examined on the basis of national accounts statistics. Due to differences between sectors, in terms of capital intensity for example, no single indicator of profitability can provide a full picture of profitability levels in a sector, nor make sectors comparable with each other. Consequently, this article examines profitability using two indicators. They are the ratio of operating surplus to output, which is a measure of operating profit, and the ratio of operating surplus to net capital stock, which describes capital productivity. Of the measures of profitability, operating profit reflects more clearly than capital productivity the developments in Finland's export markets and cost-competitiveness.

Of the industrial sectors, this article separately examines the following: the chemical industry, metal industry, electronic and electrical industry, forest industry, and other manufacturing sectors. In most of the sectors, the two indicators of profitability provide a broadly similar picture of profitability developments, although the indicator of return on capital typically fluctuates more strongly than operating profit. In many industrial sectors, profitability has developed fairly steadily, but there have also been winners and losers.

In the short term, growth in Finland's export markets has fluctuated more strongly than cost-competitiveness as measured by relative labour costs. Volatility in export markets has also sometimes been rapidly reflected in industrial profits. Relative to the magnitude of the shock to export markets, the decline in manufacturing sector operating profits after the financial crisis was, however, significantly smaller than during the 1990s' recession. The link between cost-competitiveness and profitability is more clearly observable in the long term than in the short term.

How has profitability developed in different sub-sectors of manufacturing?

Average operating profits in the manufacturing sector in the period 1975–2015 have varied between 5% in the forest industry and 13% in the electronic and electrical industry. Return on capital, however, has exhibited slightly stronger fluctuations than operating profits. Based on both indicators, manufacturing sector profitability has been exceptionally weak particularly in recent

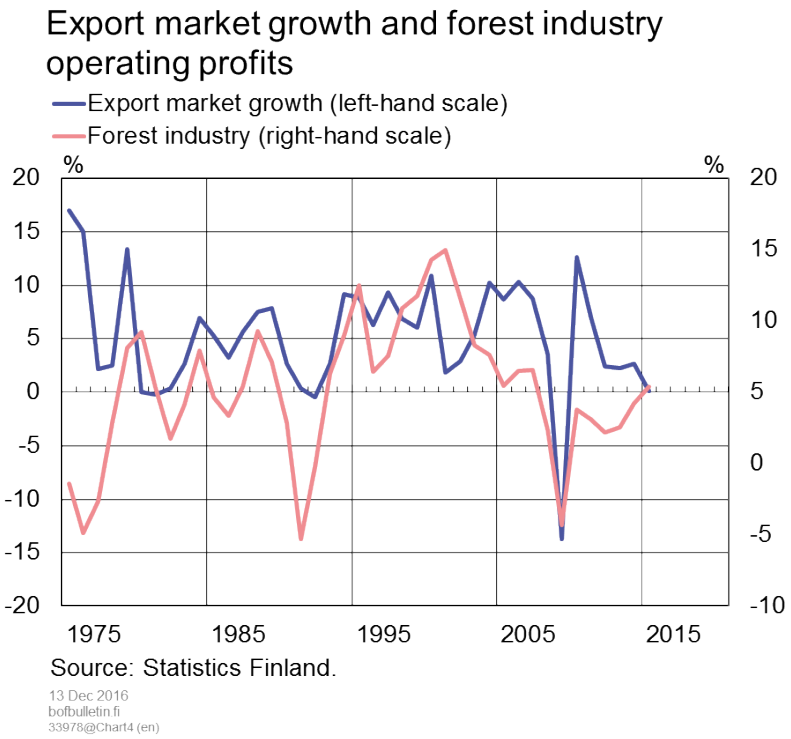
years, i.e. after the financial crisis. In 2009–2015, operating profits in the manufacturing sector were just under 5% and return on capital was just over 8%. Manufacturing sector profitability was also weak in the late 1970s/early 1980s, but even then operating profits reached some 8% and return on capital was just over 10%. Return on capital reached peak levels at the turn of the millennium, when it was just under 20%. Until the global financial crisis in 2008, the sector with the strongest profitability by far was the electronic and electrical industry. During this period, the ratio of operating surplus to output was some 16% and the ratio of operating surplus to net capital stock was 30%. The second highest levels of profitability are found in the chemical industry, where profitability relative to output has been close to 10%.

As in the electronic and electrical industry, profitability levels in the forest industry have also fluctuated over time. Profitability increased temporarily in the 1990s, and was significantly higher than the long-term average (5%/7%), but it started to decrease in the new millennium. In the remaining sectors of manufacturing ('Other manufacturing sectors' in Chart 1), profitability has developed fairly steadily in the period under review and has remained close to 7–8% of output and 12–14% of net capital. In metal industry sectors other than the electronic and electrical industry, profitability relative to output has remained stable and at average levels. In the years preceding the financial crisis, however, the profitability of the metal industry relative to capital stock grew temporarily to over 30%.

Chart 1.



Chart 2.



Since the early 1990s, operating profits in the electronic and electrical industry have closely tracked profitability in electrical industry. Profitability levels in the electrical industry have fluctuated, but mainly remained very good until 2008. Thereafter, profitability collapsed and continued to decline until 2015. In the electronic industry, on the other hand, profitability has developed very steadily throughout the period under review, and did not weaken significantly during the financial crisis. The electronic industry has recorded relatively strong profitability figures and close to those in the chemical industry, i.e. at slightly over 10%, in recent years.

In terms of operating profit, the pharmaceutical industry has clearly been the most profitable sub-sector of the chemical industry throughout the review period. In terms of return on capital, however, pharmaceutical industry profitability has exceeded that of the other sub-sectors of the chemical industry only since 2003. The profitability of the other sub-sectors of the chemical industry has developed favourably, even though profitability has been slightly weaker since the turn of the millennium than in the earlier years of the review period.

In oil refining, profits have been low, on average, compared with the other sub-sectors of the chemical industry, and in some years, profitability has even decreased. Due to the strong volatility in oil prices, fluctuations in profitability have also been significantly stronger than in the other sub-sectors.

Oil refining has witnessed considerable fluctuations in return on capital. With the exception of the peak in the early 2000s and the period between the late 1970s and the mid-1980s, return on capital in oil refining has not typically been higher than in the other sub-sectors of the chemical industry.

The financial crisis weakened profitability significantly in most sub-sectors of the metal industry. Of these, repair and installation of machinery and equipment did not suffer from the financial crisis in terms of profitability; profitability levels have even increased in the aftermath of the economic crisis as a result of the accumulation of postponed investment. During the financial crisis, the largest collapse in profitability was witnessed in the manufacture of basic metals but even in this sub-sector, developments have been positive in recent years. In terms of value added in the metal industry, the most important sub-sector is the manufacture of other machinery and equipment. Profitability levels have not, however, improved in parallel with the increased importance of this sub-sector.

Return on capital has increased slightly, on average, in the metal industry since the 1990s' recession, but volatility in this indicator has also intensified. In 2009, return on capital weakened significantly, however, in nearly all the sub-sectors of the metal industry, and it has still not recovered to pre-crisis levels. The biggest exception is again the repair and installation of machinery and equipment. In this sub-sector, return on capital has followed the ratio of operating surplus to output and has improved since 2006, and particularly strongly in recent years.

The share of forest industry value added accounted for by wood and paper has remained fairly stable, and the paper industry's share of value added has been approximately 70%. Volatility in profitability has been higher in the paper industry than in the wood industry, but otherwise developments have been fairly similar. The 1990s' recession and the financial crisis clearly stand out as periods when profitability turned negative, whereas in the early 2000s paper industry profitability reached peak levels. In recent years, too, the trend in profitability has been positive.

In the forest industry, developments in capital productivity have been very similar to those in operating profits. Profitability turned negative in the late 1970s, the early 1990s and after the financial crisis. In recent years, both the paper industry and the wood industry have succeeded in improving their return on capital.

Corporate profitability sensitive to fluctuations in export demand

The Finnish manufacturing sector is focused mainly on exports. Of the factors affecting profitability developments in the corporate sector, we focus below on two key factors impacting

export demand, namely export market development and the cost-competitiveness of exports. Profitability developments in the export industry depend on many factors that affect each other and are often determined simultaneously in the global economy. Explaining the profitability of the export industry using individual variables is also more difficult than explaining export demand, for example, and therefore the following examinations are only indicative.

The profitability of export companies depends first and foremost on developments in Finland's export markets. The pace of growth in the world markets fluctuates quite considerably from year to year, and these fluctuations are often difficult to anticipate. Unexpected growth in demand boosts corporate profitability particularly in the short term if companies are able to temporarily improve their margins by increasing prices before competition forces prices down again to normal levels. An increase in demand also boosts the return on capital employed, even if the profit margin remains unchanged.

Correspondingly, an unexpected decrease in demand erodes corporate profitability more in the short than in the long term. In the short-term, a company's capital stock is fixed and capital costs must be covered, despite fluctuations in demand. If the demand for a company's products weakens for a prolonged period, the company can, however, make a downward adjustment in its capital stock or divest its unprofitable businesses.

In addition to the development of export markets, industrial profitability depends on the cost-competitiveness of Finnish companies. Competitiveness can be measured with several statistics-based indicators. This article examines the development of Finnish labour costs relative to other countries of broadly similar level of economic development. A decrease in relative labour costs improves the profitability of Finnish companies relative to production by foreign companies, not only in export production but also in production that competes with imports.

The cost-competitiveness of industry reflects not only labour costs but also the trend in labour productivity. Instead of relative labour costs, cost-competitiveness is thus measured in terms of unit labour costs, which are defined as the ratio of labour costs to labour productivity. In the short-term, however, productivity growth depends partly on developments in export demand.[1] Relative labour costs therefore describe the impact of purely domestic factors on competitiveness better than unit labour costs.[2]

In the following, we examine the importance of improvements in export markets on manufacturing sector profits (Chart 3). Developments in export markets are described by the trade-weighted growth in Finland's export markets. Finland's export markets grew in 1975–2015 on average by 5% per annum. The growth trend accelerated significantly in the 1990s, as the importance of the emerging economies in the global economy increased. As a result of the financial crisis, growth in

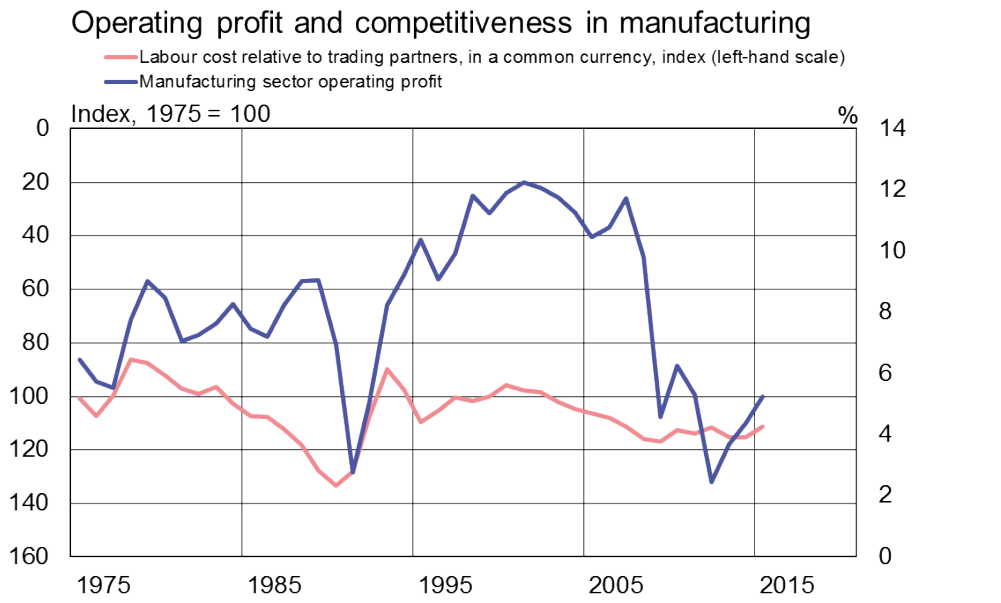
export markets has slowed, however.

Despite the trend growth in the global economy, the pace of growth has fluctuated considerably in the short term. During the financial crisis, the global economy even contracted in 2009. Instead of the size of the export markets, we should examine (Chart 3) the growth rate in export markets, which reflects the short-term volatility of export demand around its long-time trend.

The trend in manufacturing sector operating profit has tracked developments in the export markets more closely than return on capital. The period between the 1970s and the early 1990s is not fully comparable with the post-recession years, however, because before the recession, export industry profitability was boosted by occasional devaluations. Following developments in export markets, operating profits dipped initially at the turn of the 1990s as exports to the Soviet Union collapsed. A significant dip in export market growth was also experienced at the beginning of the millennium in the wake of the bursting of the IT bubble and a 'mini recession', but this was not reflected in the profits of Finnish manufacturing. The financial crisis turned the trend in the export markets temporarily downwards, but the largest collapse in the export markets proved to be short-lived, however.

Since 2011, export market growth has again started to slow. Relative to the size of the shock to the export markets, the dip in manufacturing sector profits was smaller, however, than the corresponding reaction during the 1990s recession, and in recent years profitability as measured by operating profits has started to recover.

Chart 3.



*A fall in the competitiveness indicator signals lower relative labour costs, i.e. an improvement in competitiveness. Correspondingly, a rise in the indicator signals weaker competitiveness. Relative labour costs are described with a reverse scale, i.e. a rise in the indicator signals a fall in relative labour costs and an improvement in competitiveness.

Source: Statistics Finland.

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Of the individual sectors, the trend in operating profits in the forest and metal industries has generally tracked most closely the cyclical turns in the export market (Charts 4 and 5). During the financial crisis, the strongest decline in operating profits was, however, experienced in the electronic and electrical industry. The considerable weakening of profitability is probably explained by the stage of the global business cycle and Nokia's difficulties in maintaining market shares. In the chemical industry and other sectors of manufacturing, the link between global economic growth and profitability is slightly weaker than in the other sectors, however.

Chart 4.

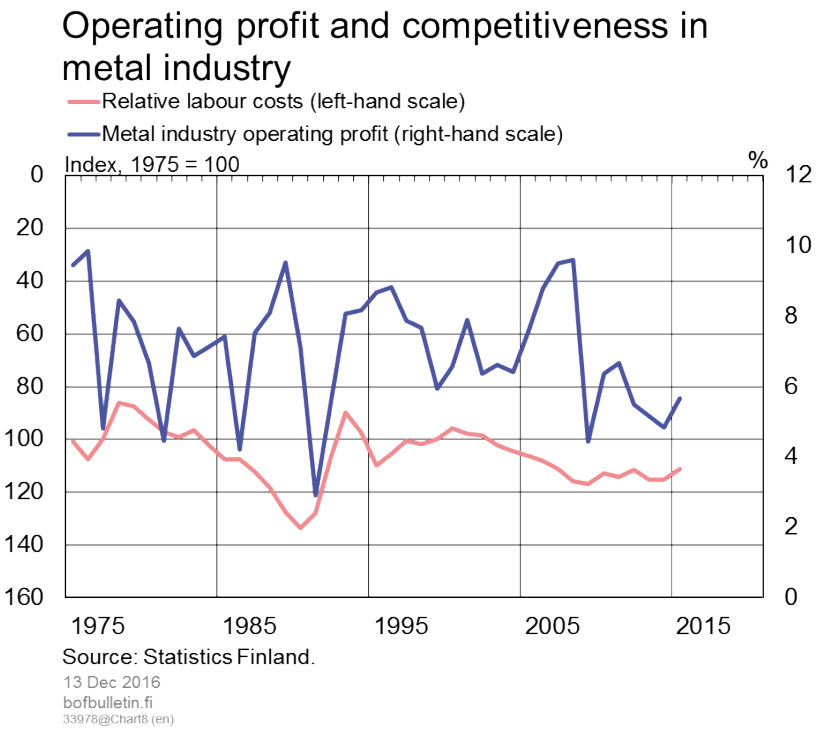
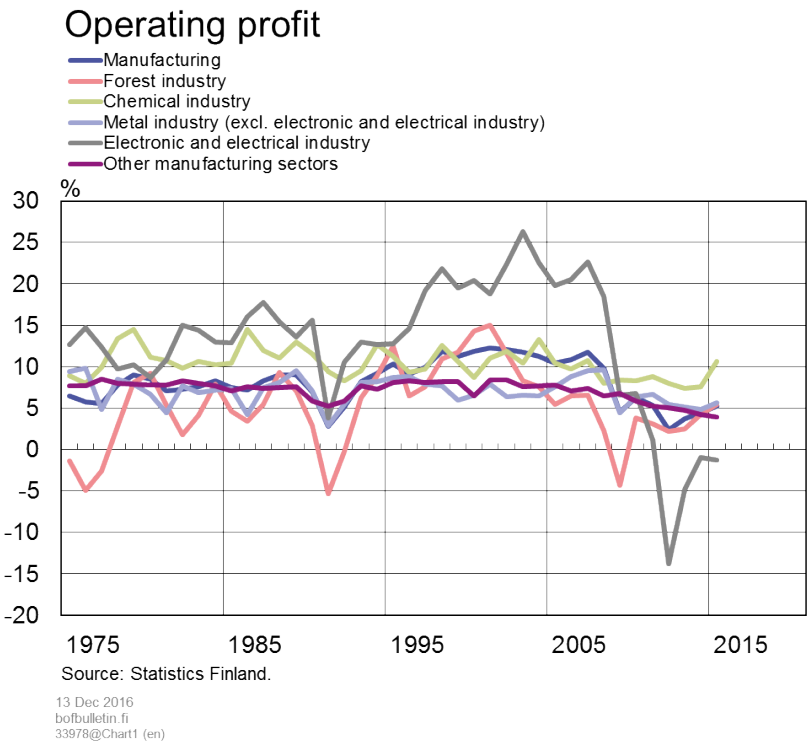


Chart 5.



The profitability of export companies also reflects their cost-competitiveness. There is no

unambiguous definition of cost-competitiveness. Various indicators take into account in different ways changes in input prices, productivity, exchange rates and terms of trade. One possible indicator is that of export industry wage costs, which describes Finnish export industry's labour costs relative to those of our trading partners in a common currency. An improvement in cost-competitiveness is therefore an indication of a decline in wages relative to the competitor countries, which boosts corporate profitability. In such a situation, a company can cut its prices without having to lower its profit margins.

The developments in relative labour costs are compared to the trend in manufacturing sector operating profits (Chart 6). Overall, relative labour costs have developed fairly steadily in the period 1975–2015. Cost-competitiveness is characterised by long trend changes, and even of the devaluations in the early part of the review period, only the devaluations conducted during the recession are observable.

Short-term fluctuations in relative labour costs have thus been significantly smaller than those in export markets. In simple charts, the short-term impact of cost-competitiveness on demand and thereby profitability is therefore easily masked by the impact of export market shocks. Manufacturing sector productivity has tracked fairly well the long-term developments in competitiveness. An exception is the period which starts from the devaluations conducted during the 1990s recession and ends in the financial crisis. In that period, industrial profitability remained good for a long time, despite the gradual weakening of competitiveness, and it turned sharply down only in the wake of the financial crisis.

Chart 6.



In the years before and after the turn of the millennium, operating profit figures in manufacturing are dominated by high levels of profitability in the electrical industry, which has been affected more by other factors than domestic labour costs. Particularly in the metal and chemical industry, operating profits have, in contrast, also moved more or less in parallel with the trend in competitiveness in the early years of the millennium. In the metal industry, profitability peaked temporarily, however, just before the financial crisis (Charts 7 and 8).

Chart 7.



Long-term developments in profitability fairly steady

In many industrial sectors, profitability has developed fairly steadily over the past 40 years. In the years following the financial crisis, however, profitability developments have been exceptionally weak. Of the sub-sectors of industry, the highest profitability levels are nowadays recorded in the chemical industry, following the collapse in profitability in the electronic and electrical industry during the financial crisis.

In most of the sectors, the two indicators of profitability, i.e. operating profit and return on capital, provide a similar picture of developments in the sectors. Return on capital has exhibited much stronger fluctuations than operating profit, however. In the short term, it has been difficult for companies to adjust the amount of capital employed when the business cycle deteriorates. During upswings, return on capital has been correspondingly higher.

In the short term, growth in Finland's export markets has fluctuated more strongly than cost-competitiveness, and industrial profitability has weakened when export markets have collapsed, mainly in connection with the 1990s recession and the financial crisis. Relative to the magnitude of the shock to the export markets, the decline in manufacturing sector operating profits was significantly smaller, however, than during the 1990s recession.

Relative labour costs in the industrial sector have developed steadily, and even all the devaluations of the 1970s and 1980s are not clearly observable in the trend in competitiveness. There seems, however, to have been a link between industrial profitability and the trend in cost-competitiveness over the longer term. This has been most clearly observable in the metal and chemical industries. In the forest industry and in the electronic and electrical industry, profitability has more often diverged from the development of competitiveness than in the other industrial sectors.

Notes

1. Fluctuations in demand are reflected in productivity for the same reason as in profitability. When demand increases (decreases) and the capital stock is fixed in the short term, companies can increase (decrease) the capacity utilisation rate, which results in a temporary improvement in productivity. ↑
2. Kajanoja (2016) has compared various cost and price-competitiveness indicators. See http://www.eurojatalous.fi/fi/2016/artikkelit/suomen-kustannuskilpailukyky--lisaa-hyodyllisia-mittareita-ja-vastauksia-kysymyksiin/ (in Finnish only). ↑

Keywords

cost competitiveness, export markets, profitability by sector