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NBB Economic Review

2023 No 8

The development of corporate profit margins and inflation

by T. De Keyser, G. Langenus, L. Walravens



The development of corporate profit margins and inflation

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Introduction

Against the backdrop of skyrocketing inflation in the euro area, the development of firm profit margins has come under scrutiny. Domestic cost pressures, as measured by the GDP deflator, can be broken down into changes in unit labour costs and profits and, lately, much debate has focused on the extent to which the latter have contributed to the upswing in inflation. Did the high-inflation environment allow or entice firms to increase their profit margins, thereby exacerbating price hikes? Recent communication by the ECB, such as in [Arce et al \(2023\)](#), seems to suggest that the contribution of unit profits to inflation has been exceptionally high and larger than that of unit labour costs. This has been interpreted as lending some support to the idea that inflation was largely caused by “greed” on the part of price-setting firms.

The evolution of firm profitability should also be viewed in the context of the cost competitiveness of Belgian firms, as well as the broader macroeconomic situation. In this connection, a worsening external trade balance may reflect a decline in cost competitiveness. Belgium has a detailed legal framework to prevent wage bargaining leading to persistent disruptions in competitiveness, which could weigh on investment, employment and growth. However, the recent spike in inflation and ensuing substantial indexation of nominal wages have put a strain on this framework. At the same time, employment growth has remained robust and unemployment is near historical lows, while labour shortages remain high.

This article aims to shed light on the development of profit margins in Belgium. It should be noted here that, in principle, both the pattern of inflation and the way in which firms’ costs have been evolving may differ from the situation in the euro area as a whole. This is mainly because Belgian energy inflation reacts more quickly to changes in international market prices of natural gas, for several reasons, while higher prices translate more rapidly into higher wage costs due to automatic indexation mechanisms. The National Bank of Belgium (NBB) has already indicated that there is no evidence of widespread “greedflation” in Belgium. According to current data, the macroeconomic profit margin of non-financial corporations was already declining in 2022, with the drop gaining further traction this year. In addition, as analysis by [Bijnens et al \(2023\)](#), based on microdata, revealed that price hikes were mostly fuelled by higher input costs and that, also from a microeconomic perspective, firms have generally not increased their profit margins.

The present article adds additional elements to that analysis. Firstly, we contextualise recent developments in profit margins within longer-term trends, try to capture the impact of composition effects on these trends, and compare the latter with those in the neighbouring countries. Secondly, using more granular balance sheet data, we look at different indicators of profitability for the median firm, both across the total population of firms and

for a subset of larger and smaller firms, in order to complement the information derived from national accounts statistics and macro indicators. In this regard, it should be recalled that macroeconomic indicators do not always correspond to actual developments in firms' bottom line. Lastly, we return to the question on the extent to which profit margins have contributed to inflation in Belgium.

The cut-off date for the calculations in this article was 15 October 2023.

1. Corporate profit share in Belgium through the lens of macroeconomic statistics

1.1 How has the average profit share of firms developed over time?

In macroeconomic statistics, corporate profitability is most often gauged via the profit share (or "margin rate"). The (gross) profit share is the ratio between the (gross) operating surplus and (gross) value added. It essentially measures the percentage of value added retained by companies after the deduction of wages and net taxes on production and imports. It can be interpreted as the portion of income going to the production factor capital (before corporate taxes). The profit share of non-financial corporations¹ (NFCs), on which discussion often focuses, does not account for purely financial transactions such as interest (or dividend) payments. It is far removed from the concept of profit at firm level. Moreover, by definition, macroeconomic statistics do not necessarily reflect the situation of the median firm: they are aggregates that are heavily influenced by the substantial weight of large companies. However, the concept of profit share is internationally comparable and consistent with other macroeconomic variables in the national accounts, such as wages, productivity, capital stock, etc.

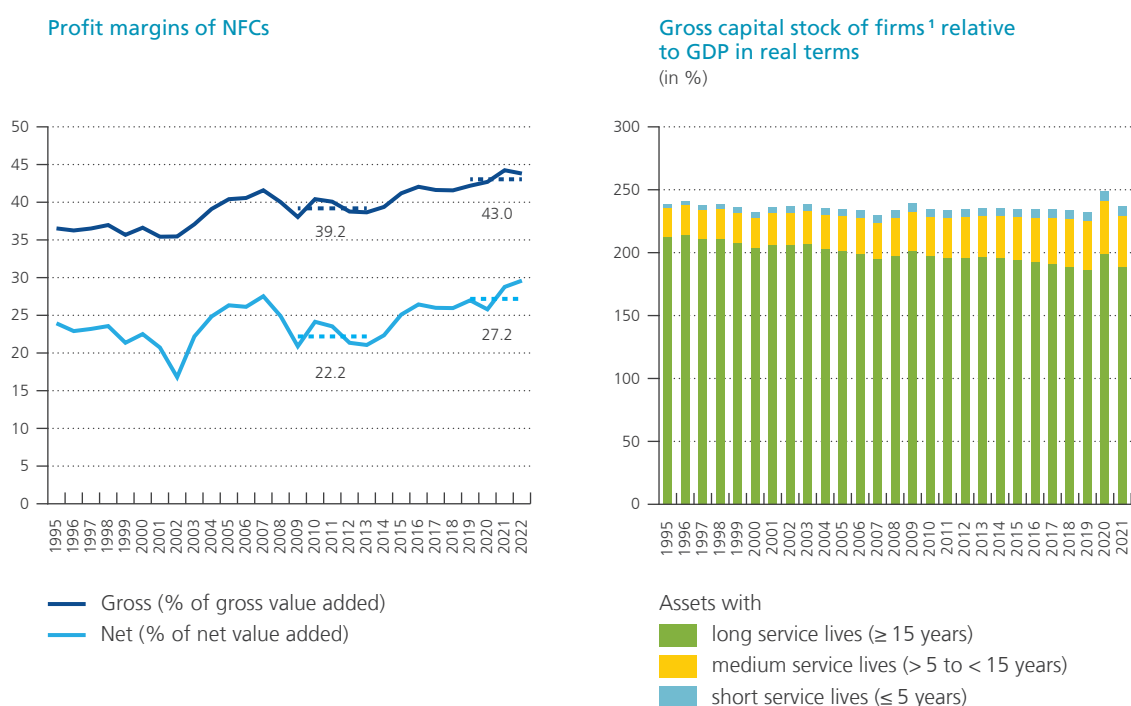
The (gross) profit share of Belgian NFCs hovered around 36 % in the period 1995-2000 but has been trending upwards since then, with a clear interruption during and in the aftermath of the 2007-08 global financial crisis (GFC). However, it rose again, from below 39 % in 2013 to about 44 % in 2021, before falling back somewhat in 2022 against the backdrop of a strong increase in input costs. In quarterly terms, the gross profit share fell back to 40.9 % in the first quarter of 2023. Despite this recent fall, it is still relatively high in historical terms.

¹ The NFC sector consists of institutional units whose principal activity is the production of goods and non-financial services. For more information, see https://www.nbb.be/doc/dq/cis/e/info_new.html.

Figure 1

Gross and net profit margins of Belgian non-financial corporations

(in %)



Sources: National Accounts Institute (NAI), NBB.

1 Proxied by total economy gross capital stock excluding dwellings and non-market services.

It is also worth looking at the net macroeconomic profit rate. The difference between the gross and net concepts pertains to write-offs of capital goods: it is the share of value added that firms need to gradually replace their capital stock. Here we note that, contrary to firms' own depreciation policies, which may be determined by tax or accounting rules, asset depreciation in the national accounts is based on a standard survival function for each asset type, applied to the entire capital stock.

Net profit share in Belgium is significantly lower than gross and has long hovered near 25% of net NFC value added. While a modest upward trend can be seen over the observation period, the net profit share currently remains much closer to its 1995 level. In seasonally adjusted quarterly terms, the net profit share fell back to just below 26% in the first quarter of 2023. The widening gap between gross and net profit reflects increasing capital amortisation (from an estimated 10% of real GDP in 1995 to about 13% in 2021). However, it should be emphasised that the net profit rate also increased significantly from 2014 and peaked in 2022, according to current data.

The National Accounts Institute (NAI) does not publish full statistics on capital depreciation. However, we do have more detailed information on the composition of the capital stock for the economy as a whole. By excluding dwellings – which are mostly owned by households – and non-market services, we can establish a proxy for the capital stock used by firms.

Increased capital depreciation is not due to a trend increase in capital stock: in real terms, the latter has remained broadly constant as a share of GDP. However, the composition of capital stock has changed, with a growing proportion of assets having (assumed) shorter service lives. This reflects broader economic developments.

ICT equipment (with an assumed service life of five years) and R&D capital (which is depreciated over ten years), for instance, have seen their share in the capital stock increase, while the share of assets with longer service lives, such as non-residential buildings (warehouses, offices, etc.) and (heavy) machinery, has declined. This is also reflected at industry level. Excluding non-market activities and dwellings, the breakdown of gross capital stock growth in real terms shows that the manufacturing share has diminished while the contribution from services has been more robust.

All in all, the trend increase in the gross macroeconomic profit indicator is partly due to shifts in the composition of capital stock which require larger write-offs. However, also in net terms, firm profitability has increased significantly since 2014.

1.2 Is the development of profit margins broad-based across industries?

In this section we analyse the extent to which the development of profit margins differs between and, where relevant, within various industries.²

The upward trend in the gross margin rate can be seen across the main industries in the Belgian economy: the manufacturing industry, construction and market services have all seen their profit margins rise sharply since 2014, particularly over the last few years. Manufacturing showed the largest increase, with gross profit margins rising on average by nearly eight percentage points, to reach around 47 % over the period 2019-2021. Nevertheless, the overall profit margin of the manufacturing industry is still clearly lower than that of market services and construction, where profit margins have also risen considerably in recent years.

In manufacturing, strong increases in profit margins can be seen in the pharmaceutical and chemical industries, as well as the metal products industry. As regards market services, the real estate services industry traditionally has a very high margin rate,³ but this has, however, remained relatively flat since 2014. The gross profit rate of important market services industries, such as financial and insurance services and administrative support activities, has strongly increased since 2014.

Overall, the hike in the profit rate appears to be quite widespread across the major industries of the Belgian economy.

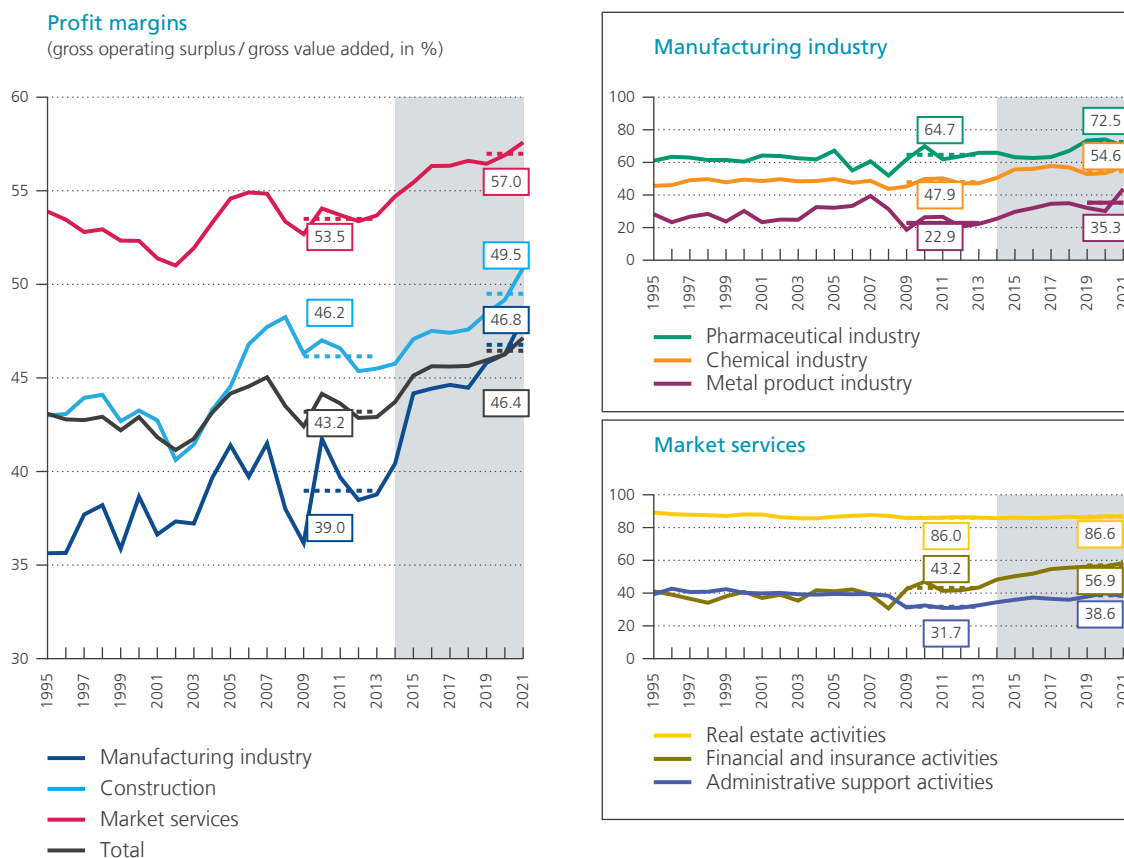
2 For this purpose, limited data availability required a broadening of the scope of our analysis from NFCs to the entire economy, i.e. all institutional sectors combined (NFCs, financial companies, individual entrepreneurs, general government, households).

3 This partly reflects the specific composition of that industry. Firstly, rental of (commercial and residential) buildings does not typically require substantial labour input. Wage costs are therefore limited, which implies high gross margins for this type of activity. Secondly, in the national accounts, this industry also includes imputed rent (i.e. the rent that homeowners would have to pay if they were tenants of the property in which they live). It should be emphasised that the net margin for this industry is substantially lower due to high capital write-offs.

Figure 2

Profit margins development by industry

(gross operating surplus in % of gross value added)



Source: NAI.

1.3 What caused the accelerated growth in profit margins over the last decade?

The increase in profit margins seen in recent years across the Belgian economy, in most industries, may be due to several factors. We first consider the importance of structural shifts in the composition of overall value added between industries with higher and lower profit rates. We then take a broader look at widespread margin rate changes, which are likely to be related to general trends in wage costs. Lastly, we consider changes to firms' market power and to the level of net taxes (taxes minus subsidies on production and imports) which can also affect profit margins.⁴ We focus on changes that have occurred since 2014 but look at averages of several years to deal with volatility in the annual numbers. In the following sections, we compare the average gross profit rate in the period 2019-2021 with that of 2009-2013.

⁴ Value added taxes (VAT) are a major component of such taxes which also include import duties, excise duties, consumption taxes, taxes on ownership of land or fixed assets, etc. The subsidy component includes subsidies on products, import subsidies, etc.

a. The impact of composition effects

The aggregate macroeconomic margin rate is a weighted average of the margin rates in individual industries. Changes in the average profit share can reflect composition effects, to some extent: if an industry with a higher margin rate sees its weight in the economy increase, to the detriment of industries with low margins, then the aggregate profit margin will increase (composition effect), despite there being no change to the specific profitability of each individual industry (net impact of changes in individual industries).

The overall margin rate increased by some 3.3 percentage points between the periods 2009-2013 and 2019-2021. A more detailed analysis shows that approximately one third of this increase can be explained by shifts in the composition of value added, with the remainder being the result of changes in margin rates in the individual industries.

As indicated, both the manufacturing industry and market services contributed positively to the significant rise in the margin rate of the total economy observed over the last decade. The positive composition effect is mostly accounted for by market services, however. While the growing importance of the high-profit pharmaceutical industry pushed up the profit rate in manufacturing, this was partly offset by the decreasing relative weight of certain industries with significant margins, such as the chemicals and the machinery and equipment manufacturing industries. The larger positive composition effect in market services is mostly attributable to an increasing share in value added of real estate and financial and insurance services.

About two thirds of the change in the overall margin rate is due to variations in margin rates in the individual industries. Of these variations in the margin rate in individual industries, about one third is attributable to rising profit margins in the manufacturing industry – in particular the pharmaceutical, chemical, manufacturing of basic metals and fabricated metal products industries. All of these industries (as indicated in the previous section) saw their average margin rate increase markedly. The remaining two-thirds pertains to market services, followed by the construction industry. Within market services, financial and insurance activities account for the bulk of the rise, with administrative and support service activities also driving the increase.

Figure 3

Importance of composition effects and actual changes in industry profit margins



Source: Eurostat.

¹ The composition effects and the net impact of changes in the profit rate in individual industries are calculated at A38 level, then added (by the sum of individual effects) to the higher levels (manufacturing industry, markets services, total).

b. The impact of wage cost developments

As indicated above, the increase in profit margins since 2014 has been relatively broad-based across industries. Hence, it seems plausible that economy-wide factors are at play. In this section we focus specifically on growth in wage costs⁵ in the private sector, recalling that, *ceteris paribus*, corporate profit margins increase if labour costs increase less than labour productivity.

In Belgium, growth in labour costs excluding indexation has been outpaced by real hourly productivity growth. Between 1995 and the GFC, the gap measured around nine percentage points, based on the most macroeconomically relevant concept of labour costs which also includes certain subsidies to firms (wage subsidies and targeted reductions in social security contributions). The gap then widened further, as labour costs essentially flatlined for most of the 2010s. More recently, the difference between labour cost excluding indexation and labour productivity growth, as measured since 1995, increased to over 15 percentage points. This was the key driver of the increase in profit margins seen across a broad range of industries; this does not mean, however, that the income accruing to firm owners increased to the same degree.

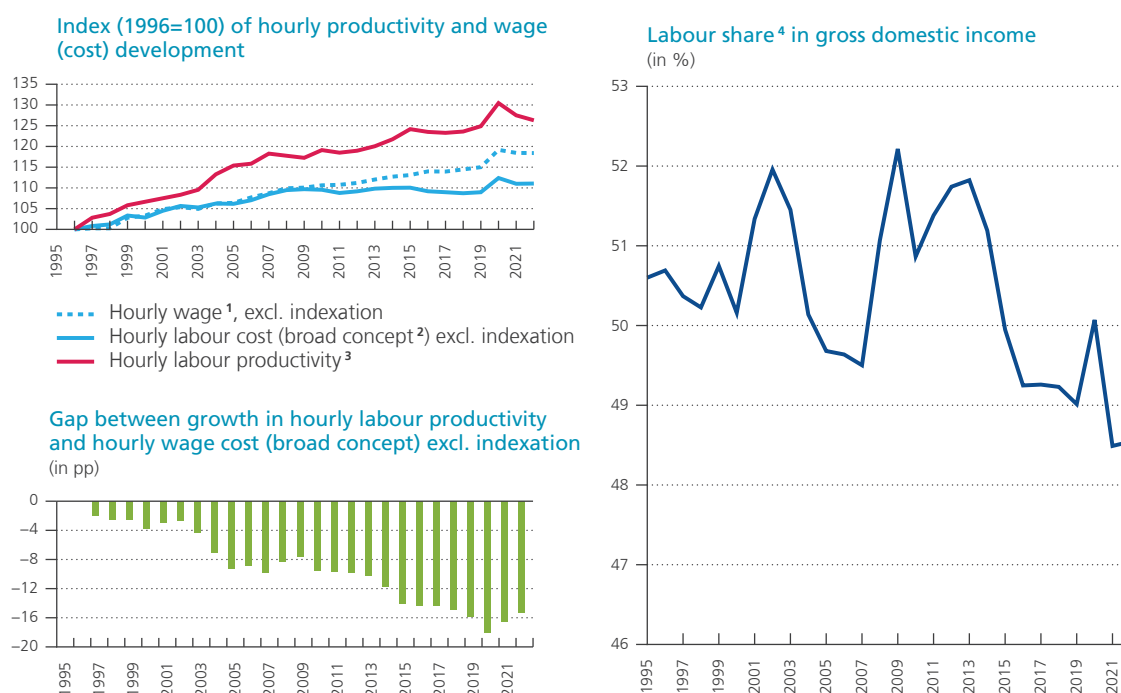
The wage-productivity gap narrowed only for brief, specific periods, e.g. when productivity stagnated during and in the immediate aftermath of the GFC, while hourly labour costs continued to rise. Although negotiated wage increases were limited, automatic indexation typically exceeded the GDP deflator, i.e. the price of domestic production. This is an explanatory factor for the temporary decline in profit margins around that time.

The gap between real labour costs and labour productivity widened – and corporate profit margins increased strongly – after the GFC. This was largely related to the strengthening of the government policies to improve the cost competitiveness of Belgian firms. Various measures were taken to curb wage costs during that period. Firstly, the federal government imposed a zero real growth cap for negotiated wages, from 2013 to 2015. Secondly, the automatic indexation mechanisms (including those related to replacement incomes) were temporarily suspended in 2015, leading to a 2% decline in real wages (and replacement incomes). Lastly, employer social security contributions were reduced significantly, *inter alia* in the context of the tax shift from 2016 onwards.

⁵ Belgian wage costs are defined here not according to the national accounts concept but rather according to a broader concept which includes reductions in social security contributions for target groups and wage subsidies that are recorded as subsidies to firms. This concept provides a better picture of the relevant labour costs for firms.

Figure 4

Development of wage costs and hourly labour productivity



Source: NAI.

1 Negotiated wage growth and wage drift.

2 This differs from the national accounts concept by including reductions in social security contributions for target groups and wage subsidies that are recorded as subsidies to firms.

3 Real value added per hour worked in the private sector.

4 Share of compensation of employees in gross domestic income.

While the concept of labour costs is broader and includes social security contributions paid to the government, it should be underlined that employees' real wages did not keep pace with labour productivity either. An index that tracks negotiated wage growth and wage drift (and, hence, should be closer to an average real wage concept) has also seen lower growth than hourly labour productivity since 1995. This gap has been narrowing somewhat over the last few years, mainly as a result of declining labour productivity.

Another, more holistic way of looking at the development of wage costs is through the lens of the labour share in total national income. While there is some yearly volatility, the share of national income accruing to labour clearly rose around the GFC but has been on a downward trend since 2014. There was a small increase during the COVID-19 pandemic, when labour hoarding led to a temporary uptick in unit labour costs. However, overall, the labour share fell to a historically low level of approximately 48.5 % in 2021 and 2022. This is the flipside to the strong increase in profit margins observed since 2014 and confirmation that the aforementioned wage cost moderation policies led to a decoupling of wage growth from productivity growth.

In fact, using data on the total wage mass, wage subsidies, hours worked and value-added, it is possible to calculate an average 'unit labour cost' (i.e. the average cost in terms of labour to produce a unit of output) including certain subsidies for the private sector in Belgium and the neighbouring countries, insofar as they are implicitly tied to labour costs. Due to substantial volatility in the data and heterogeneity in the policy responses to COVID-19, an average was used for the period 2020-2021 (data on subsidies were not yet available

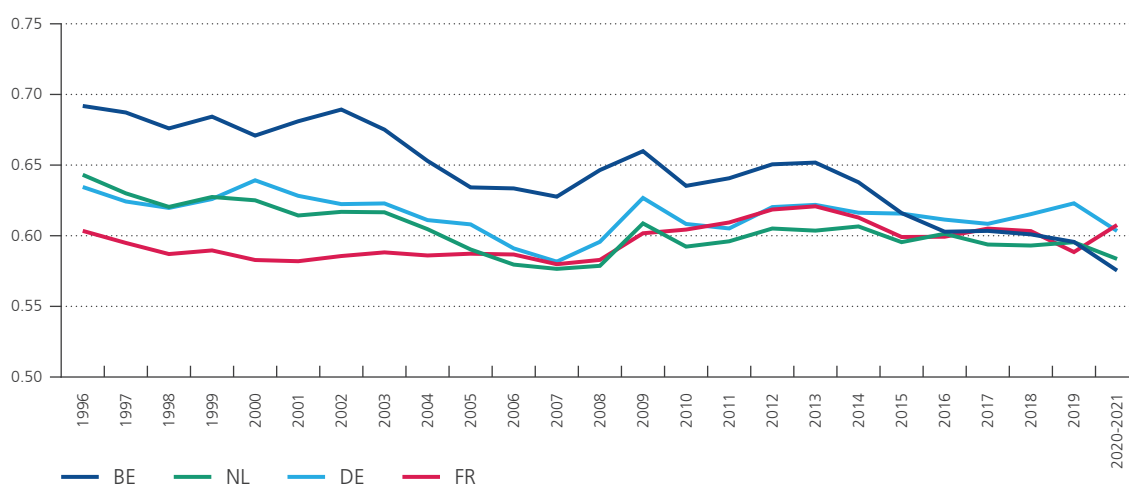
for 2022). While an hour of labour has been – and remains – relatively more expensive in Belgium, growth in this component was outpaced by that of hourly productivity. This has reduced overall unit labour costs after 2014, bringing them more in line with that in the neighbouring countries. In the most recent period, Belgian unit labour costs were even on the lower end of the range: close to the level in the Netherlands and clearly lower than in France and Germany. This is in stark contrast to the situation before 2014, when Belgian unit labour costs were significantly higher than in the neighbouring countries.

The decline in unit labour costs has likely, among other factors, contributed to the strong employment growth seen since 2014. As a case in point: the labour market remains tight currently, despite the deterioration of the business environment since the outbreak of the COVID-19 crisis and the subsequent shocks; vacancy rates have eased somewhat but remain historically high and employment growth has remained on track up to the most recent period. In this connection, it should be stressed that in the short run we expect the gap with respect to the average unit labour cost in the neighbouring countries to worsen somewhat again due to the still high impact of automatic wage indexation.

Figure 5

Private sector unit labour cost development incl. wage subsidies, in Belgium and the neighbouring countries

(€ per unit output)

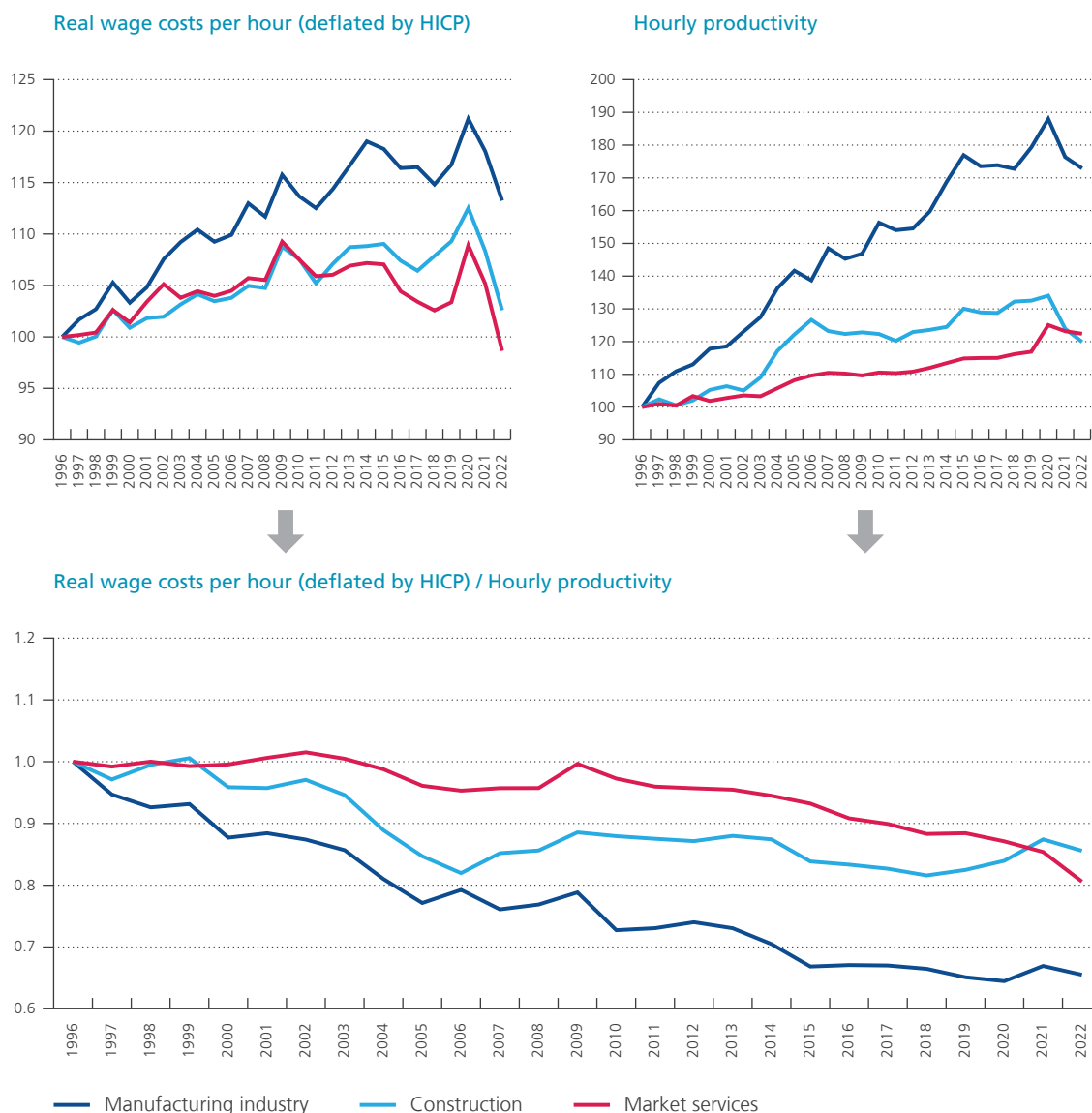


Sources: CCE, Eurostat.

At industry level, the cumulative gap since 1996 between growth in wage costs and labour productivity is clearly larger for the manufacturing industry. While real wage costs in manufacturing rose more than in the construction industry and in market services, this was made up for by productivity gains that significantly outpaced productivity developments elsewhere in the economy. This is consistent with the observation that profit margins increased more in the manufacturing industry and presumably reflects the heavily coordinated wage bargaining system, which could mean that industry-specific productivity developments cannot be fully translated into sufficiently differentiated wage growth.

Figure 6

Wage costs and labour productivity in different industries



Source: NAI.

c. The impact of changes in market concentration

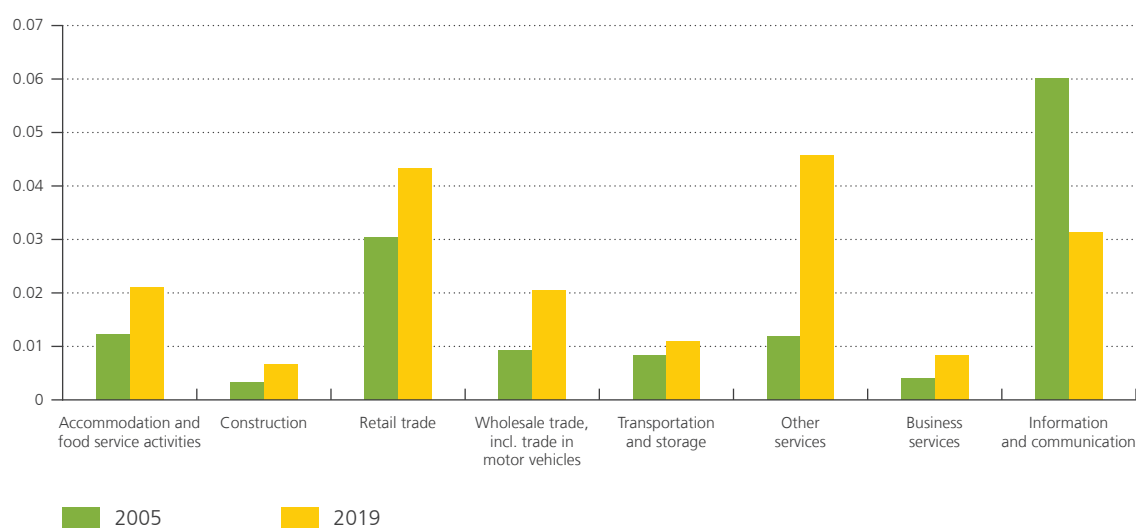
Changes to a firm's market power can also influence how profit margins develop: for example, firms with market (pricing) power can charge prices in excess of their marginal costs. Market services have, on average, a higher profit margin rate than the manufacturing industry, which can at least in part be explained by their different competitive environments: industrial sectors are, in general, subject to fierce international competition. Goods account for a much larger share in global value chains than services, as evidenced by their relative shares in trade flows. Although e-commerce has led to an increase in international competition within certain services industries, trade barriers, both in tariff and non-tariff form, generally remain much higher for services.

Even within the Single Market, where services industries account for about three quarters of total value added, goods still dominate trade flows.

Given that market services are, in general, more domestically oriented, their degree of market power depends to a large extent on the intensity of domestic competition to which they are subject. When applying market concentration indices such as the Herfindahl-Hirschman index,⁶ to balance sheet data for Belgian companies from 2005-2019 (excluding the COVID-19 period), the results suggest that the degree of concentration within most market services industries has increased over this stretch, with the exception of the ICT services industry. All other factors being equal, less competition for a firm usually means higher profitability.

Figure 7

Herfindahl Hirschman index



Sources: CBSO, NBB.

Higher levels of profitability should, in principle, attract entrants to the market. However, the OECD's product market regulation (PMR) indicators, which measure a country's regulatory barriers to competition and market entry, indicate that Belgian services industries are still heavily regulated compared to those in the neighbouring countries, despite gradually improving scores over the years. For example, Belgium's score for "Barriers in Service & Network sectors" places it below its neighbours and clearly below the OECD average.

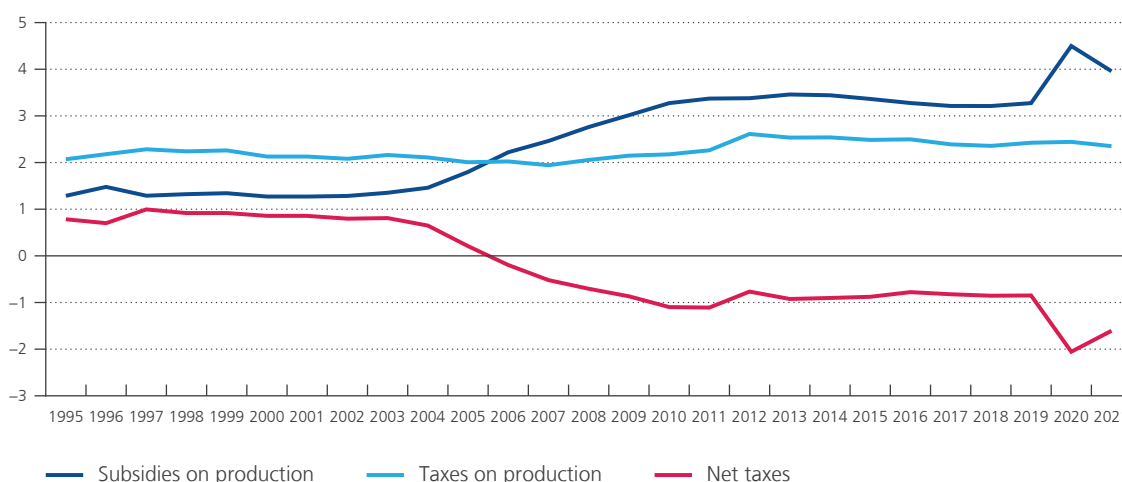
6 This is calculated by squaring the market share of each firm within an industry and adding up all the results.

d. The impact of net taxes

The margin rate can, in principle, also be affected by changes in net taxes (indirect taxes paid minus subsidies received). While taxes on production have been fairly stable over time, subsidies to firms have shown a trend increase. This partly reflects the targeted reductions in labour costs discussed in Section 1.3b, but includes increases in other subsidies. However, focusing specifically on the post-2013 period, net taxes were fairly stable up to the pandemic years and, hence, do not appear to be a driver of the strong upswing in profit margins observed during this time.

Figure 8

Indirect taxes paid and subsidies received



Source: NAI.

2. How do Belgian profit margins compare with those in other countries?

It is important to compare the observed increase in profit margins in Belgium to developments in other countries. In this respect, this section focuses on Belgium's three largest neighbours, which are also its main trading partners and the reference point for the Competitiveness Act, namely Germany, France and the Netherlands.

2.1 General development and contribution by industry

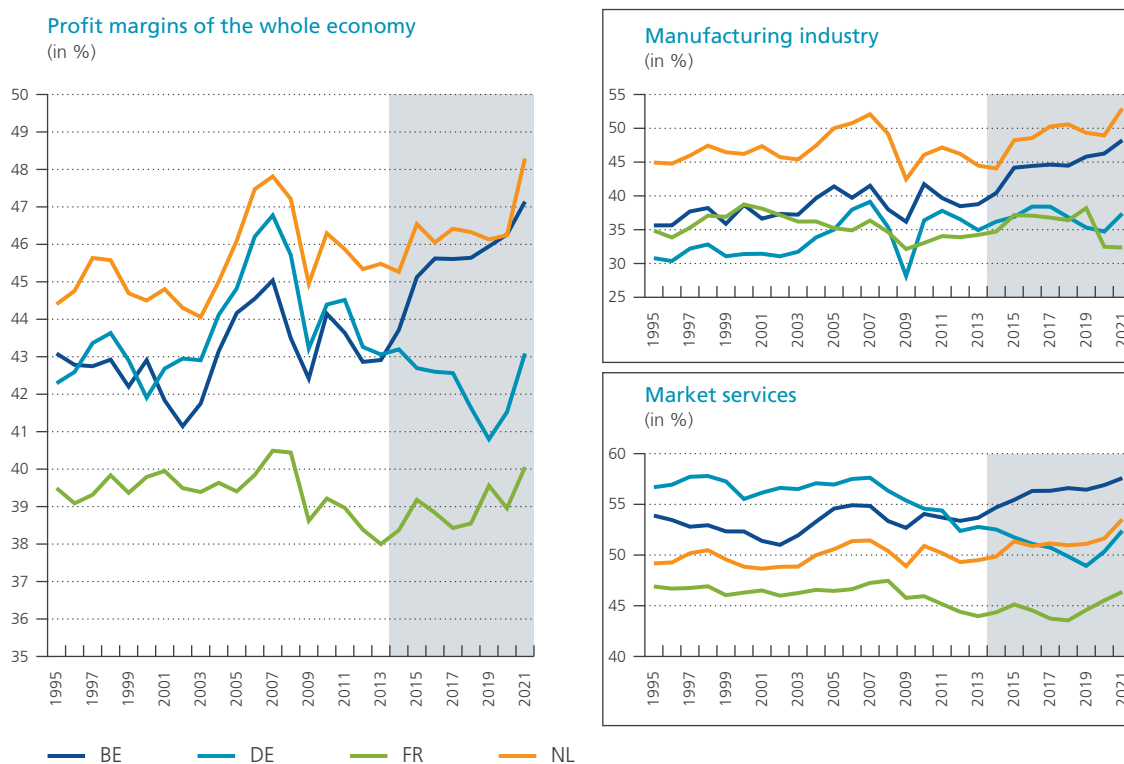
In the period 2014-2021, Belgian profit margins clearly deviated from the trends seen in the neighbouring countries. In the immediate aftermath of the GFC, Belgium's average margin rates were comparable to those of Germany and lower than those of the Netherlands. Since then, however, margin rates have, for the most part, increased significantly more in Belgium than in its three largest neighbours. The overall profit margin in Belgium rose, on average, from 43.2% to 46.4%, an increase of 3.3 percentage points. This upward trend was not visible in the neighbouring countries: the average gross profit margin in Germany decreased by 1.9 percentage points, while the French and Dutch margins increased by only 0.9 and 1.3 percentage points, respectively, over the same period.

The greater increase in Belgium was particularly visible in the manufacturing industry, where the profit margin has risen sharply in recent years. Manufacturing in the Netherlands saw a similar uptick, but this was not the case in France or Germany, where the profit margin remained relatively stable. Market services in Belgium also witnessed an upward trend, unlike in France and Germany, with the Belgian profit margin clearly higher than in any of the three neighbouring countries at the end of the observation period.

Figure 9

Profit margins in Belgium compared with its three largest neighbours

(gross operating surplus in % of gross value added)



Source: Eurostat.

2.2 What explains the difference between profit margin developments in Belgium and in its main neighbouring countries?

a. Differences in the composition effect and changes in the margin rate of individual industries

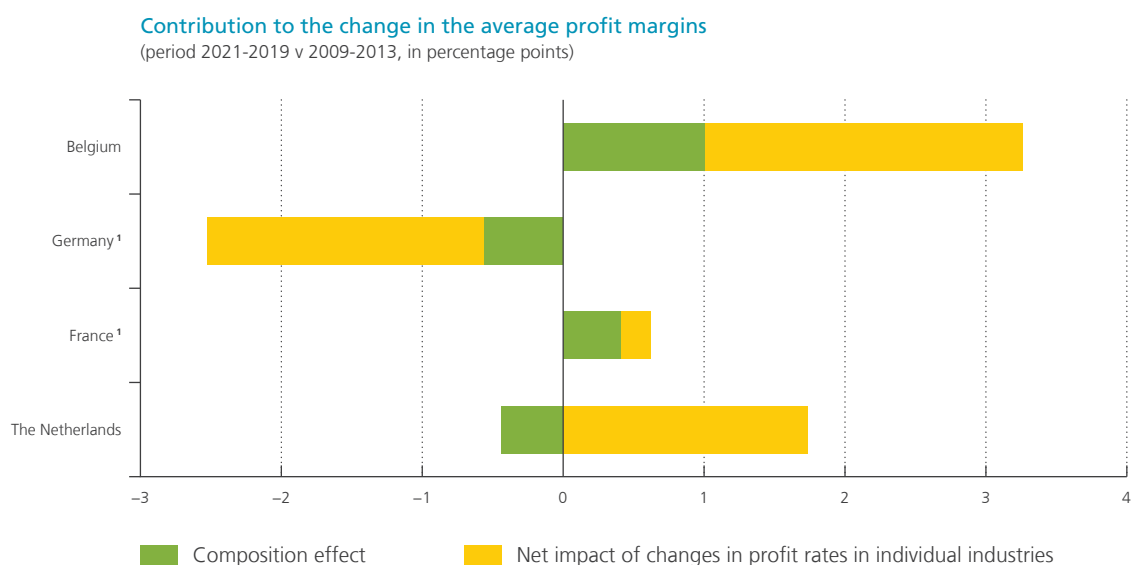
Analysis of the evolution of the margin rate in Belgium reveals that one third was due to a positive composition effect and the rest due to effective increases in the margin rates of various industries. Shifts in the composition of value added pushed up the overall profit margin much less in the three neighbouring countries. France saw a positive but much more limited composition effect than Belgium, while in the Netherlands and Germany, the composition effect actually reduced the overall profit margin.

The negative composition effect in Germany resulted from a shift in the structure of its economy towards non-market services. In particular, there was a reduction in the relative weight of market services, such as

financial and insurance services and real estate activities, and a limited reduction in the weight of the chemical and pharmaceutical industries, i.e. activities with high margin rates. In the Netherlands, the rapid cessation of natural gas extraction from 2014 led to a significant decline in the weight of the highly profitable mining and quarrying industry: this explains a large part of the negative composition effect observed here. The decline in the average weight of the financial and insurance services industries also explains this negative effect. In France, the limited positive composition effect was mainly driven by a relative increase in the share of the real estate activities and the chemical industry, both of which are characterised by a high margin rate, in the country's economic structure.

Figure 10

Importance of the composition effect and changes in industry profit margins – Belgium compared to its three largest neighbours



Source: Eurostat.

¹ Germany and France: period 2020-2019 v 2009-2013, in percentage points.

Correcting for such shifts in the composition of value added, profit margins in Belgium still increased substantially more than in the Netherlands and France, while German profit margins declined. Notably, the margin rate for market services in Germany fell from 53.9% to 49.6%. In stark contrast to the situation in Belgium, nearly all market services industries in Germany saw their margin rates decline, in particular financial and insurance, transport and storage, information and communication, and scientific activities services (which together account for a large proportion of German market services). In France, the limited increase in profit margins can mainly be traced back to a rise in the margin rates in wholesale and retail trade, transport and storage services, and, to a lesser extent, the chemical industry. As for the Netherlands, key industries such as wholesale and retail trade, the food industry, and real estate activities saw their margins increase. However, unlike in Belgium, the average margin rate of the pharmaceutical industry fell in the Netherlands in the period under review.

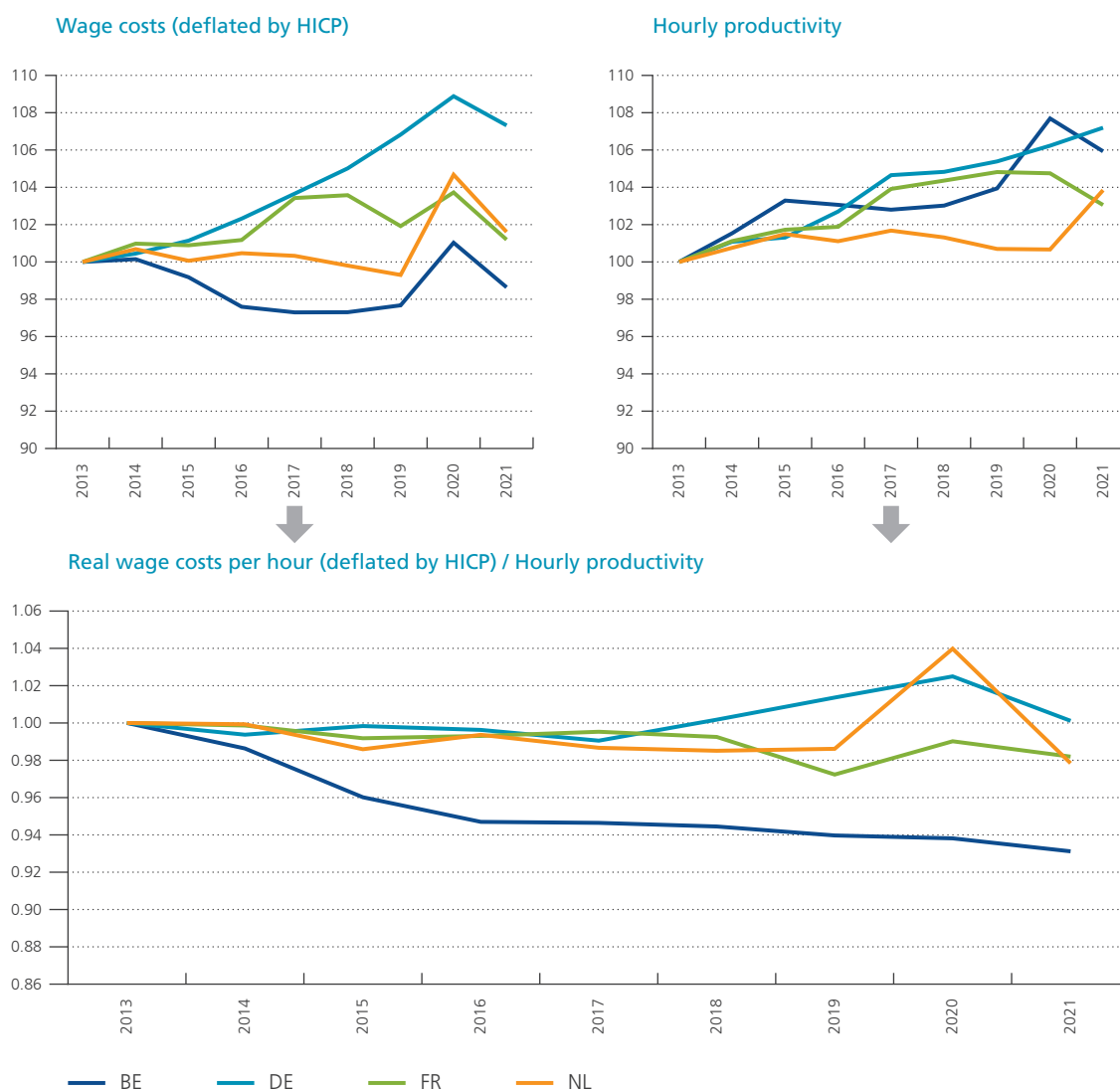
b. The impact of changes in real hourly wage costs and hourly productivity

The greater increase in average profit margins in Belgium (even after correcting for composition effects) is clearly related to different developments in wage costs and labour productivity in the main neighbouring countries.

Firstly, real hourly wage costs⁷ flatlined in Belgium in the period 2014-2021, while they clearly increased in the other countries. Secondly, the increase in hourly labour productivity in Belgium was broadly in line with that seen in Germany but was significantly larger than that in France or the Netherlands. These two factors resulted in a gap between real hourly wage costs and productivity that widened much more in Belgium than in any of the other three countries, which clearly drove, in conjunction with the aforementioned composition effect, the stronger relative rise in the average profit margin in Belgium. It also seems fair to conclude that strong wage moderation policies in Belgium contributed to the clear decoupling of Belgian profit margin developments from those of its largest neighbours.

7 Contrary to the analysis in Section 1.3b which was limited to Belgium, we refer here to a narrower concept of wage costs, as we do not have readily available information on wage cost reductions recorded as subsidies for the other countries. However, this should, in principle, not affect the conclusions drawn.

Figure 11
Real wage costs and labour productivity in Belgium and its main neighbours



Source: Eurostat.

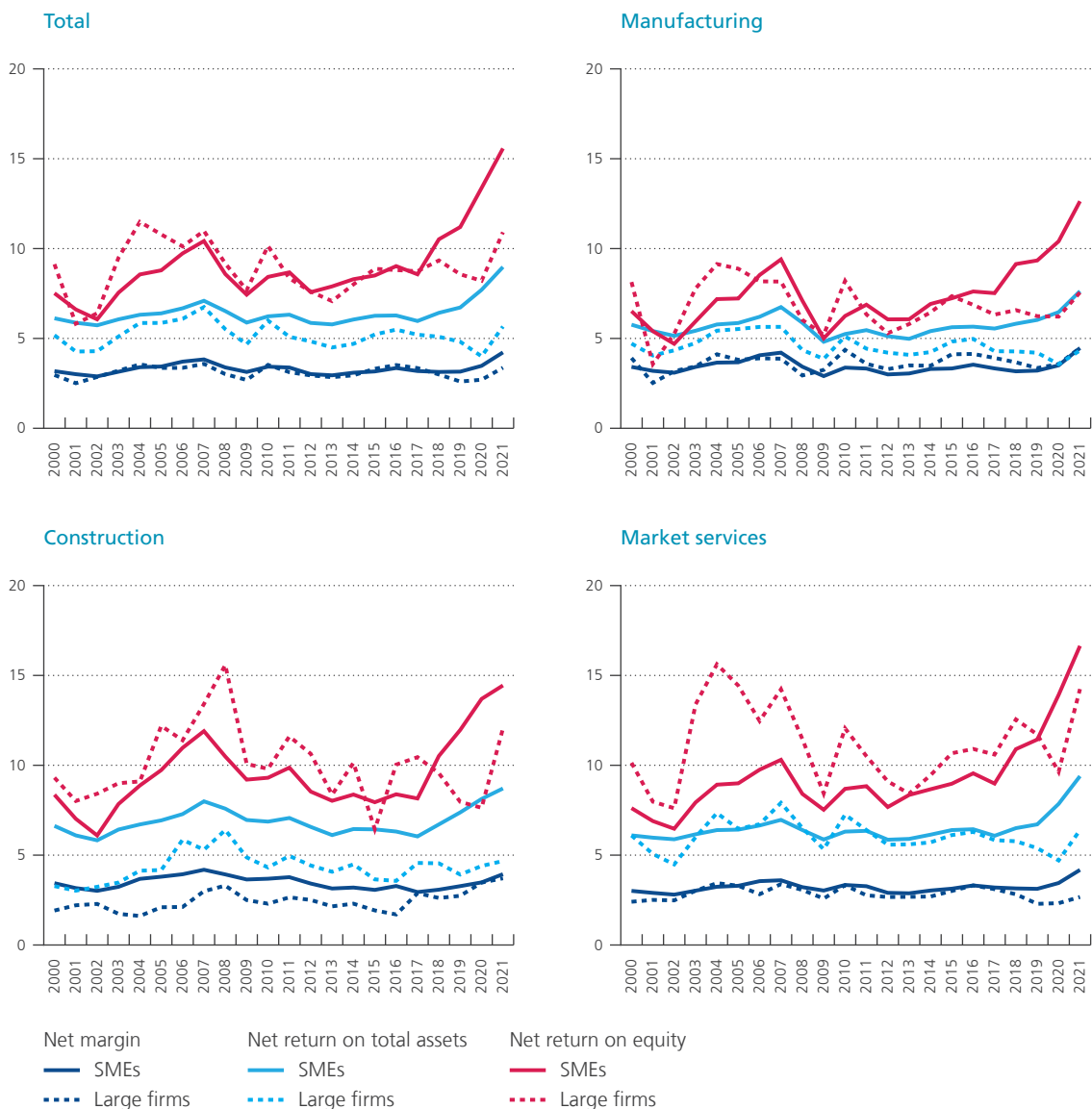
3. What do more granular profit indicators from firm accounts reveal?

As previously mentioned, macroeconomic profit margin indicators may not adequately reflect the actual bottom line of the average or median firm. Hence it is also useful to look at more granular indicators which should more closely approximate the reality at firm level. An important question to pose here is whether or not they show similar developments to those revealed by the macroeconomic profit margin indicators.

Figure 12

Firm-level profitability indicators

(in %)



Sources: CBSO, NBB.

In this section, we present a number of profitability indicators based on Belgian firms' balance sheet data starting in 2000 and running up to 2021. Some caution may be warranted regarding results from the most recent years: at the time of writing, the data for 2020 and 2021 were available for research purposes but data quality checks were still being carried out for these years. Public services were excluded from the analysis in order to have a close proxy for the population of private sector firms.

While many different concepts of profit indicators can be considered, we selected three measures that are commonly used:

- the net margin on sales ("net margin"), which measures the commercial performance of a firm, i.e. its ability to make a profit on sales after deducting all operating costs (including write-downs), excluding financial, exceptional and tax-related factors;
- the net return on total assets before taxes and financial charges ("net return on total assets"), which measures a firm's gross profitability after write-downs in terms of the total assets employed to generate that profit;
- the return on equity after tax excluding exceptional results ("return on equity"), which is the regular profit accruing to the owners of a firm after expenses and taxes (whether distributed as dividends or not).

For each of these indicators, we look at results for the median firm. This has the advantage that the results are unaffected by outliers.

One advantage of using granular data such as those from balance sheets is that it allows for a differentiation of results by firm size. In this exercise, we use OECD-standard definitions for firm sizes, which are based on the number of employees: "small and medium-sized enterprises" (SMEs) employ fewer than 250 people, while "large enterprises" employ more than 250 people. Without this distinction, the results would largely reflect the situation of smaller companies, as they are much more numerous: only about 1% of all companies can be classified as "large enterprises". Firms that had fewer than one full-time employee were excluded from the sample as such firms may simply reflect labour income in the context of tax optimisation.

A first observation when looking at the balance sheet-based profit indicators is that while NFCs' macroeconomic profit share accounts for about 40%-45% of their total value added in gross terms, or about 20% in net terms, actual firm level profitability is much lower. Relative profitability depends on the indicator. Net margins, for example, lie below 4% for most firms. At first glance, it may seem counterintuitive that the "return on equity" indicator, which is measured after taxes, is higher than the two indicators measured before tax; however, this is predominantly due to the different denominators of these indicators. Sales turnover is generally (much) larger than a firm's total asset value, which in turn is larger than its equity value, which includes not only assets but also liabilities.

In broad terms, as is the case for the macroeconomic profit share, the balance sheet data generally reveal two periods of rising profitability among firms. The first wave occurred after the dotcom crash and lasted until GFC. During the latter, profitability dropped and remained virtually stagnant thereafter. The second wave of rising profitability indicators began in around 2014 and accelerated from 2017 onwards. This increase in profitability continued up to 2021, when most of the profit ratios were at or near historic highs. Overall, these developments seem mostly to be in line with those revealed by the macroeconomic indicators, as discussed in the first two sections of this article.

When looking at individual industries, some granular indicators confirm the finding from the macro analysis that market services tend to have a higher profit rate than the manufacturing industry. However, given that the firm-level analysis looks at the situation for the median firm, the difference is often much more limited or even absent. The net margin indicator, for example, is broadly similar across the main industries.

Lastly, it is notable that the most recent increase in profit margins generally seems to be stronger for SMEs than for large companies. This may in part be related to the fact that government measures during the pandemic

were targeted particularly at SMEs. Larger firms took a bigger hit in relative terms, which is visible in the drop in their profit ratios across the major sectors in 2020. While data for 2022 were not yet available at the time of writing, we expect this peak to be followed by a sharp drop, due to the roll-back of government support measures and the energy crisis. Overall, in most cases, the profitability of large firms remains lower than the peaks observed in the run-up to the GFC.

4. Do higher profits lead to higher inflation?

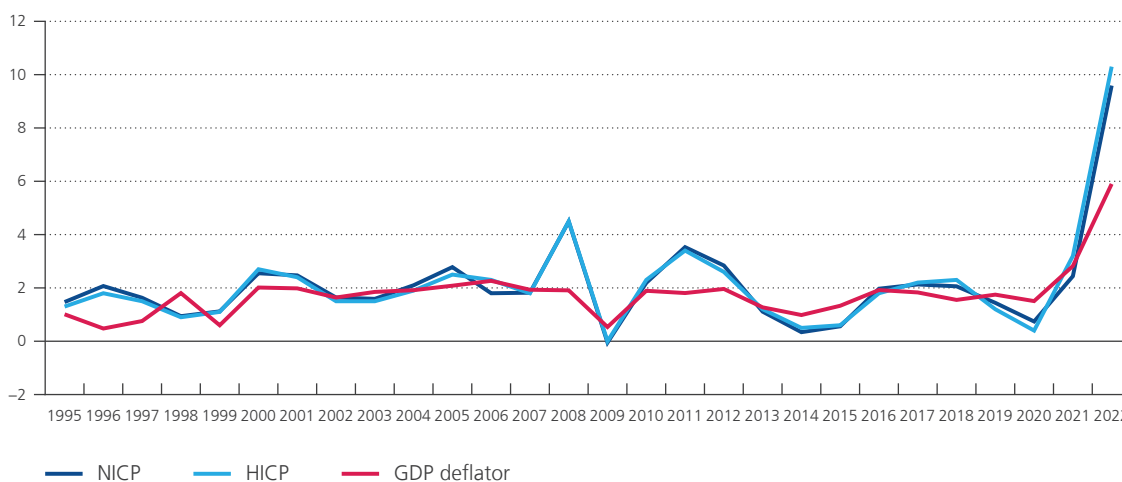
While in the past the focus has often been on wage growth as a (potential) driver of inflation, corporate profits have increasingly come under scrutiny. Macroeconomic statistics show that in many countries, the profit share increased, at least initially, in the context of the strong surge in inflation in the post-pandemic period. This led to a debate about so-called “greedflation”. This term typically refers to a situation whereby “greedy” firms maximise profits by raising prices beyond what is needed to cover rising input costs or to maintain their profitability, thereby (further) eroding purchasing power and complicating policy efforts to rein in inflation. As mentioned in the previous sections of this article, the profit share of Belgian corporations increased considerably from 2014, but declined in 2022.

In this section, we analyse the impact that profit-share dynamics have had on inflation. As usual, this is done using the GDP deflator which measures the “price” of domestic value added and, hence, domestic cost pressures. This does not necessarily coincide with consumer price inflation which accounts for price changes of all goods and services that are part of households’ consumption basket and as such also takes into account the impact of the terms of trade developments. In the period 2021-2022, in particular, measures of consumer inflation were substantially higher than the change in the GDP deflator due to strong increases in the prices of imported goods (mostly energy). At first, such a shock does not directly affect the GDP deflator, as these goods are not domestically produced. Assuming unchanged taxation, the GDP deflator only rises to the extent domestic producers pass on increases in their input costs to their sales prices and to the extent wages change. The development of profit margins is an important indicator in this respect.

Figure 13

Consumer price inflation measures and the GDP deflator

(in %)



Sources: NAI, Statbel, NBB.

For purposes of analysis, it is useful to break down the GDP deflator into its various components on the basis of the income side of GDP:

$$\text{Nominal GDP} = \text{Gross Operating Surplus} + \text{Compensation of Employees} + \text{Net Taxes}$$

Dividing this breakdown of nominal GDP by real GDP yields an expression for the GDP deflator as the sum of gross operating surplus per unit of production (unit profits), compensation of employees per unit of production (unit labour cost), and net taxes per unit of production (unit taxes):

$$\text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}}$$

$$\text{GDP Deflator} = \frac{\text{Gross operating surplus}}{\text{Real GDP}} + \frac{\text{Compensation of employees}}{\text{Real GDP}} + \frac{\text{Net Taxes}}{\text{Real GDP}}$$

$$\text{GDP Deflator} = \text{Unit Profits} + \text{Unit Labour Cost} + \text{Unit Taxes}$$

Note that unit profits are directly related to profit share as follows:

$$\text{Unit Profits} = \frac{\text{Gross Operating Surplus}}{\text{Nominal GDP}} * \frac{\text{Nominal GDP}}{\text{Real GDP}}$$

$$\text{Unit Profits} = \text{Profit share} * \text{GDP Deflator}$$

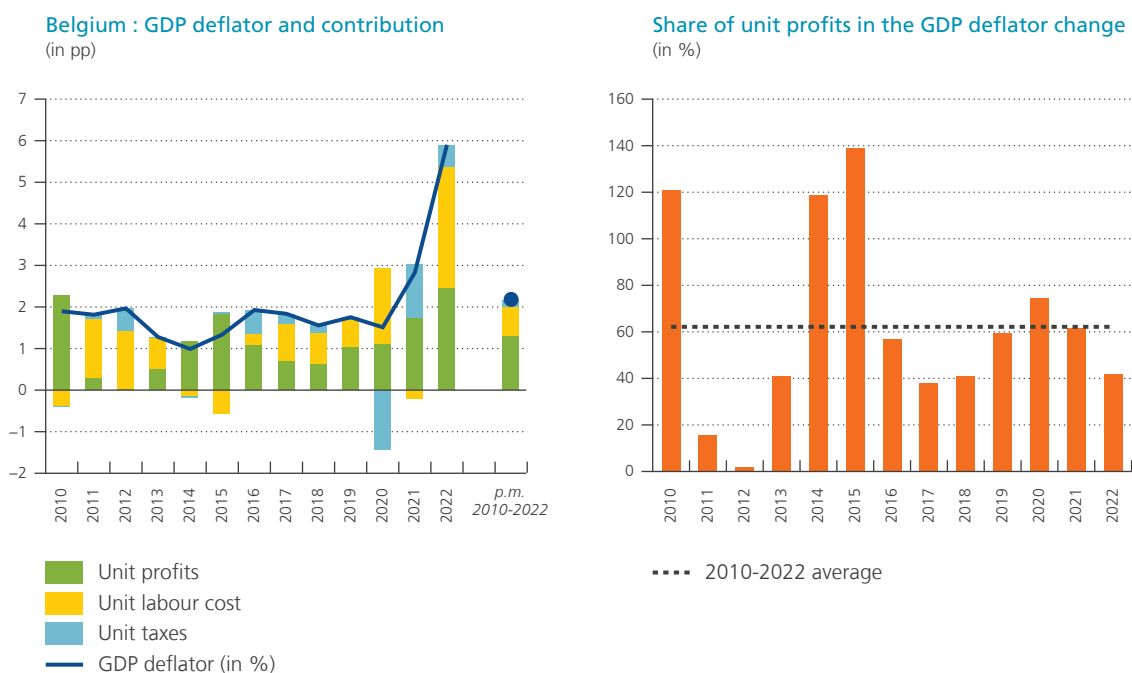
It is important to stress that unit profits can change (increase/decrease) even if the macroeconomic profit share remains constant, simply as a result of movements in the GDP deflator.

The results of the breakdown of the change in the GDP deflator show that while domestic inflation has long been relatively stable, at just below 2%, the composition of this change is more volatile. The role of profits as a buffer in times of accelerating wages was confirmed, for example, in 2011-2012, when wages accelerated and the contribution of unit profits to domestic inflation was reduced to nearly zero. During the subsequent period of wage moderation, the opposite occurred: the contribution of unit labour costs dropped considerably, even entering negative territory in 2014 and 2015, while the contribution of unit profits rose, albeit with some lag. Overall, the breakdown of the GDP deflator seems to confirm that the increase in the profit share from 2014 was accommodated by a significant wage moderation and did not lead to higher inflation.

Figure 14

Drivers of change in the annual GDP deflator

(in pp, unless otherwise mentioned)



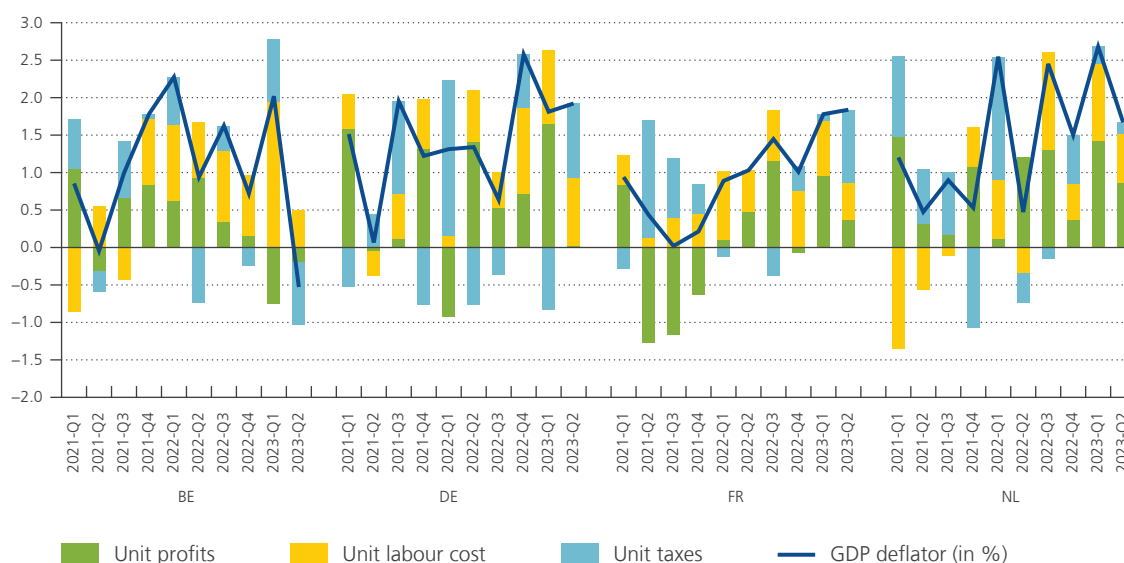
Source: NAI.

In the most recent period, domestic inflation rose markedly, however. The gradual unwinding of COVID-19-related government support over the course of 2021 caused a rise in the contribution of net taxes to domestic price pressures. Prices accelerated further due to the outbreak of the energy crisis as from the second half of 2021, and the subsequent price hikes by firms. The relatively quick response of automatic wage indexation mechanisms also caused the contribution of unit labour costs to increase rapidly as from late 2021, leading to the peak in inflation in 2022. In general, the share of the contribution of unit profits to inflation was already declining and fell below the long-run average in 2022.

Figure 15

International comparison of the drivers of the quarterly change in the GDP deflator

(in percentage points, unless otherwise mentioned)



Source: Eurostat.

A breakdown of recent quarter-on-quarter growth of the GDP deflator shows this in more detail. Provisional data reveal that the contribution of unit profits to the Belgian GDP deflator fell back markedly starting in the second half of 2022 and turned negative in the first and second quarters of 2023. Generally speaking, unit labour costs rose more quickly and more significantly in Belgium than in its three main neighbours and contributed more to domestic inflation due to the automatic indexation of nominal wages. The spike in unit labour costs in the first quarter of 2023 mostly reflects the substantial indexation effect for a large group of employees in January 2023: about 30% of employees benefit from wage indexation on an annual basis. The flipside of the strong surge in unit labour costs is that the contribution of unit profits declined much faster in Belgium than in other countries.

Incidentally, we note that in the face of a shock to input prices, unit profits can, in principle, rise even if pricing behaviour remains the same. For example, firms may define profitability as a fixed-percentage mark-up over costs (as is often the case) and succeed in raising their prices accordingly. Higher unit profits then simply reflect a fixed mark-up on rising input costs. The fact that unit profits actually declined in Belgium therefore implies that firms actively reduced their mark-ups in the face of the strong surge in input costs.

Conclusion

Firm profitability is an important economic concept. Past or projected profitability affects a firm's recruitment and investment strategies, with higher profits typically correlated with higher economic growth and employment. Moreover, a sufficient level of profitability constitutes a buffer to deal with external shocks, such as a slowdown in demand, a sudden rise in input costs (e.g. energy prices), higher financing costs or, as we have seen in the recent past, a combination of these. However, rising firm profits are often criticised in public discourse, as they are said to be a sign of corporate greed and to contribute to higher inflation, which in turn erodes purchasing power.

This article aims to shed light on the longer-term trends in firm profitability in Belgium. It complements recent work by Bijmens *et al.* (2023) focusing on firm profits and pricing behaviour in recent quarters.

Macroeconomic statistics suggest that the gross profit margins of Belgian firms have trended upwards over time, with a significant acceleration as of 2014. Despite the decline observed in the most recent statistics (from 2022 onwards), gross profit margins remain at very high levels. Over the longer term, the rise in net profit margins (excluding capital amortisation) has been much more moderate. Part of the increase in macroeconomic profit margins can indeed be traced back to higher capital write-offs. The latter have increased because the share of assets with longer service lives in the capital stock has fallen, as the share of IT and transport equipment, for example, has risen. This requires higher capital amortisation, which firms have to finance from their gross margins.

However, the net profit margin has also increased significantly since 2014, the main period on which we focus in this article. The increase in average profit margins during this time is only partly due to composition effects (accounting for about one third): industries with higher profit margins have seen their relative importance in GDP increase, e.g. the pharmaceutical industry and real estate development activities.

Such structural shifts do not, however, account for most of the increase, and a disaggregated analysis shows that rising profit margins have been widespread across individual industries, affecting both manufacturing and services. It is beyond the scope of this article to comment on the situations of individual industries, let alone firms, but this finding suggests that economy-wide factors are at play. One key conclusion of our analysis is that wage costs have risen much less than labour productivity (coinciding with a declining wage share in national income) and that competitiveness in terms of wage costs vis-à-vis Belgium's main neighbouring countries has improved markedly. Aside from rising labour productivity, this is also due to various policies, aimed at improving the cost competitiveness of Belgian firms, through both "wage norms" (that limit real wage growth) and ad hoc measures in the post-2014 period, such as the temporary suspension of indexation mechanisms and cuts to employer social security contributions. In fact, if wage subsidies are taken into account, Belgian unit labour costs in the most recent period were clearly lower than in Germany and France. However, this is a backward-looking analysis. As indicated in section 4, unit labour costs have recently increased more rapidly in Belgium than in the neighbouring countries. Profit margins of Belgium firms should continue to decline in 2023.

While most industries have seen their profit margins rise recently, the increase was particularly large for manufacturing. Despite higher wage cost growth in that industry, productivity growth in manufacturing outpaced the economy-wide trend by a greater degree, leading to a wider gap between wage cost growth and hourly productivity growth. This could suggest that the heavily centralised wage bargaining system offers insufficient room to anchor wage growth to industry-specific productivity trends, leading to diverging developments in terms of profits.

An international comparison shows that profit margins in Belgium have also significantly diverged from the trends seen in its three main neighbours (to which the legal framework concerning cost competitiveness is anchored). Firstly, the latter did not all benefit from the favourable composition effects mentioned above. Secondly and more importantly, wage cost growth diverged less from hourly productivity growth in those countries than in Belgium.

Macroeconomic statistics on margin rates do not do justice to the actual bottom line of the median firm. As such, we also looked at more granular data from firm balance sheets. While these typically – and obviously – show lower margins, a post-2014 increase is also visible in these data. This corroborates the macroeconomic analysis. One remarkable finding is that in the data covering the period up to 2021, the increase in the various profitability indicators seems to have been somewhat greater for the median (smaller) firm than for the largest 1 % of companies. At the end of 2021, the profitability of the smaller median firm in our sample was at a historic high. This contrasts slightly with the finding from our macroeconomic analysis that firm profitability has in particular increased in the manufacturing industry, where companies tend to be larger. However, it should be

underlined that at the time of writing, the granular balance sheet data for 2020 and 2021 were still undergoing checks by the Central Balance Sheet Office and data for 2022 was not yet available. It seems likely that the profitability of smaller firms has significantly worsened against the backdrop of the cost crisis.

Lastly, we also look specifically at the link between firm profits and inflation, albeit through the (usual) lens of the GDP deflator, which increased much less than consumer prices. Generally speaking, we confirm the findings in earlier work by [Baugnet and De Keyser \(2015\)](#). In Belgium, profit margins are strongly negatively correlated with wage costs. This explains why the surge in profit margins in the period 2014-2021 did not cause a strong spike in inflation. In fact, as indicated, this mostly reflected the very moderate growth in unit wage costs over the period. This also sheds light on the most recent developments: inflation indeed went up spectacularly as of mid-2021 but domestic cost pressures mostly came from rising wage costs resulting from automatic indexation mechanisms. The contribution of firm profits to inflation, on the other hand, declined in recent quarters and even turned negative. This is at odds with developments in other countries where unit profits initially pushed up inflation, as labour costs rose more slowly.

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Conventional signs

%	per cent
e.g.	for example
etc.	<i>et cetera</i>
i.e.	id est (that is)
p.m.	<i>pro memoria</i>

List of abbreviations

Countries or regions

CBSO	Central Balance Sheet Office
COVID-19	Coronavirus disease 2019
ECB	European Central Bank
EU	European Union
GDP	Gross domestic product
HICP	Harmonised index of consumer prices
ICT	Information and communication technology
NAI	National Accounts Institute
NBB	National Bank of Belgium
NICP	National index of consumer prices
NFC	Non-financial corporations
OECD	Organisation for Economic Cooperation and Development
PMR	Product market regulation
R&D	Research and development
SME	Small and medium-sized enterprises
VAT	Value added tax

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