Corporate profit margins : recent developments in a low inflation context

V. Baugnet
T. De Keyser

Introduction

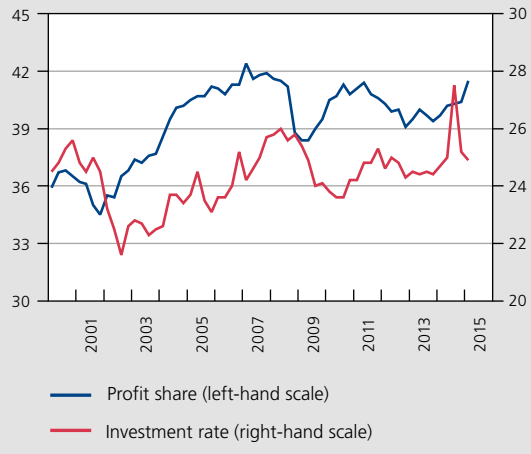
Profitability is a decisive factor for corporate investment policy. If the level of profitability is adequate, the funding necessary for new projects can be made available internally. According to the business surveys conducted by the Bank, 90 % of investment in Belgium is thus financed out of own resources. A profitable business will also have readier access to external finance, and particularly bank loans, necessary for carrying out its projects. Chart 1 illustrates the extent to which a rise in corporate profit margins is generally accompanied by an increase in the rate of investment after a lag of two to three quarters. Moreover, a sound profit base makes it easier to withstand external shocks, be it a slackening of demand, a sudden rise in the price of inputs (such as energy) or an increase in borrowing costs.

The first part of this article presents a diagnosis of corporate profitability in Belgium, approaching it essentially from the profit share angle. What was the impact of the recent crisis on the profit share of Belgian companies ? Were some sectors of activity affected more than others ? Did the profit share of SMEs move in line with those of large firms ? How profitable are Belgian firms in comparison with their foreign counterparts ? These are the kind of questions that we shall address in this first section.

Section 2 focuses on the determinants of corporate profit shares. Weak demand, low consumer purchasing power and rising input costs are all factors linked to the economic cycle that may compress corporate profit margins. The cyclical factors may be combined with more structural factors such as globalisation and the resulting competition which becomes ever more intense and geographically widespread, or the development of new forms of production and consumption linked to new technologies (e-commerce, etc.), which may likewise depress corporate profitability. Finally, not all branches of activity are affected in the same way : industry differed from market services in that respect before and after the crisis, as sectoral characteristics such as capital intensity and the

CHART 1 PROFIT SHARE (1) AND INVESTMENT RATE (2) OF NON-FINANCIAL CORPORATIONS IN BELGIUM

(in %, data adjusted for seasonal variations and calendar effects)



Source : NAI.

(1) The profit share of non-financial corporations is defined as the gross operating surplus divided by gross value added.

(2) The investment rate of non-financial corporations is defined as gross fixed capital formation divided by gross value added.

trend in productivity and labour costs influence corporate profit margins.

The final section examines the connection between corporate profit margins and economic activity before considering the role of profit margins in price movements and their link with the various components of prices. In that connection, it analyses the factors contributing to the current low inflation climate. Finally, a brief international comparison reveals whether the situation in Belgium is comparable to that in other countries.

1. Recent diagnosis of the profitability of Belgian firms

Profitability can be analysed by means of the indicators obtained from two main statistical sources: the national accounts, on the one hand, and the annual accounts of firms (balance sheets and profit and loss accounts), on the other hand.

In the national accounts, corporate profitability can be approached from the profit share angle also known as the profit margin or the mark-up rate. The (gross) profit share is the ratio between the (gross) operating surplus and the (gross) value added. That indicator measures the percentage of value added retained by companies after payment of wages to workers and the net taxes (minus subsidies) on production and imports. The profit share therefore corresponds roughly to the share of value added that remunerates the factor capital; the profit share is not independent from the capital intensity, that may vary from one country or one branch of activity to another. It should also be noted that, in this article, the profit share is usually understood in the strict sense, i.e. the gross operating surplus excluding gross mixed income which, as its name indicates, comprises "mixed" labour and capital incomes accruing to self-employed workers; when the analysis is supplemented by an international comparison, the broader concept (the only one available internationally) is used. The profit share can also be expressed in net terms, i.e. after deduction of depreciation.

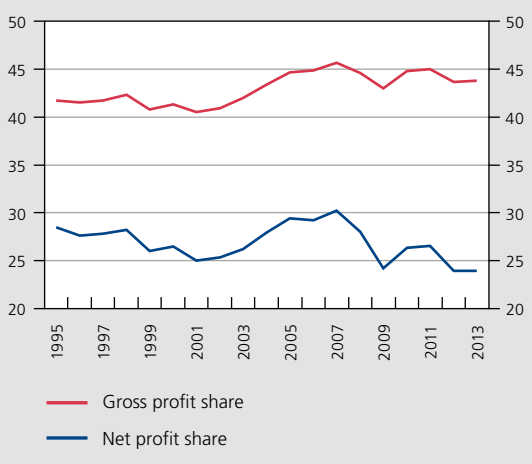
The profit share is calculated before taking account of financial costs and direct taxes; it is therefore far removed from the concept of profit, but it has the advantage of eliminating the role of the financial structure and taxation in the assessment of results and thus measuring the operating profitability of firms. Moreover, this indicator is consistent with other macroeconomic variables derived from the national accounts, such as wages, productivity, capital stock, etc. It also permits an international comparison and is available over a relatively long period of time.

Additional measures of profitability can be calculated on the basis of the information contained in firms' balance sheets and profit and loss accounts. These measures can refine our assessment of a firm's commercial or financial performance. For example, the net return on the operating assets, defined as the ratio between the net operating result and the operating assets, expresses the firm's commercial performance in relation to the factors allocated directly to its operation. It permits a comparison of the efficiency of the productive process of firms operating in different branches of activity within which the scale and structure of the assets may vary considerably. The return on equity, which divides the net result after tax by the equity capital, is the ultimate measure of profitability, i.e. the return accruing to shareholders after deduction of all costs and taxes. Calculated on the basis of the microeconomic data, these profitability indicators derived from the balance sheets can be used for separate analysis of large firms and SMEs.

The balance sheet indicators and those derived from the national accounts are both produced per branch of activity. This article concentrates on non-financial corporations, excluding firms in non-market services and in agriculture. References to firms as a whole therefore mean firms in industry (manufacturing and the energy sector), market services (excluding banks), and construction; these branches represent around 70 % of the value added produced in Belgium. The statistics per branch of activity are available from 1995 to 2013.

CHART 2 GROSS AND NET PROFIT SHARES OF NON-FINANCIAL CORPORATIONS[1] IN BELGIUM

(in %)



Source: NAI.

(1) Unlike the profit share in chart 1, which relates to non-financial corporations as a whole, this relates only to firms in industry, market services and construction.

After a substantial increase from 40 % to almost 46 % between 2002 and 2007, the gross profit share of Belgian firms had fallen steeply in 2008 and 2009, dropping to 43 %. Following a slight recovery in the two ensuing years the gross profit share contracted again in 2012 before stabilising at 44 % in 2013.

A more marked decline in the profit share since the crisis is evident if it is considered in net terms. The net profit share fell from a peak of around 30 % in 2007 to 24 % in 2013. Compared to the gross concept, the net profit share is obtained after deducting capital depreciation and thus takes account of the theoretical deterioration of production facilities. In that connection, it must be pointed out that, in the national accounts, depreciation is estimated on a linear basis according to the lifetime of the assets, disregarding their actual use and without considering tax or accounting factors which often influence the depreciation policies of firms.

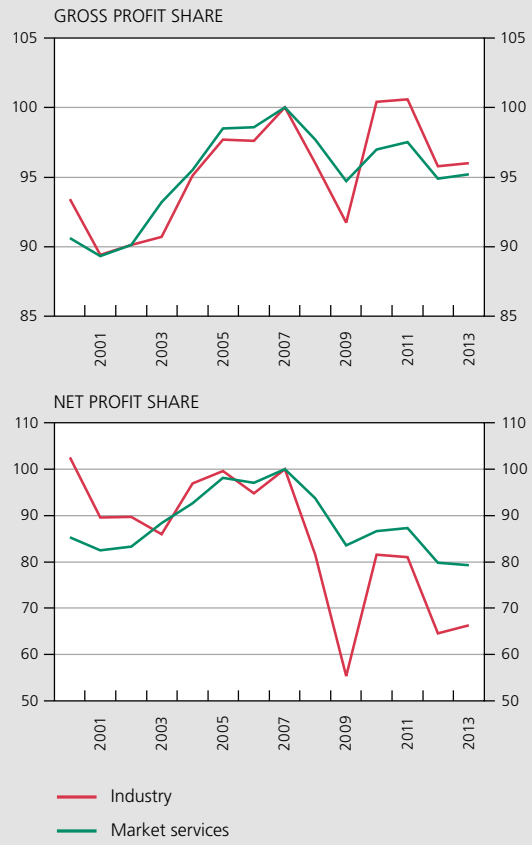
The sluggishness of depreciation expenditure at a time of weak growth of activity and operating surplus, has depressed net profit margins since the beginning of the 2008 recession. Moreover, since the second half of the 1990s, there has been a steady increase in the average depreciation rate of the capital stock. That is connected with the growing proportion of IT and digital assets which tend to depreciate faster. These two factors explain why the net margin has been eroded far more than the gross margin since 2008.

Viewing the two concepts side by side shows the difficulty of assessing the current level of corporate profitability. According to the gross concept, the current level of the margin, though below the 2007 peak, is not particularly low; the decline in the gross profit share since the crisis is more a sign of a return to normal following a strong expansion phase. Conversely, according to the net concept, the profit margin is currently well below its historical average, the decline since the crisis coming on top of a downward trend in the long run.

Are there any disparities between branches of activity? Chart 3 shows the movement in profit margins in industry and market services in gross and net terms. From 2000 to 2007, the gross profit share was rising quite strongly in industry and market services. When the crisis erupted, profit shares fell more sharply in industry than in market services, but the ensuing recovery phase was also more pronounced in industry. In net terms, as mentioned earlier for non-financial corporations as a whole, the situation was considerably less favourable in the two main branches. It was in industry, especially, that profit share fell behind; in 2013 the net profit share there

CHART 3 PROFIT SHARES IN INDUSTRY AND MARKET SERVICES

(index 2007=100)



Source: NAI.

was more than 30 % below its pre-crisis level. Over the same period, a drop of around 20 % occurred in market services.

The industrial sub-sectors were not all affected in the same way. For instance, it was heavy industry that suffered the most dramatic fall in profitability: first in metallurgy, then in coking and refining and the manufacture of rubber, plastics and non-metallic minerals, and finally in the wood and paper branch. Profit shares also declined, though to a lesser degree, in textiles and food. Conversely, gross profit shares were stable in chemicals, pharmaceuticals and the energy sector. Finally, the gross margins of firms in metal manufacturing – a sector that encompasses plant and machinery, electrical, electronic and optical equipment – and in the manufacture of transport equipment actually increased between 2007 and 2013. However, the very marked improvement in profit share between 2007 and 2013 in the manufacture of transport equipment must be viewed in perspective,

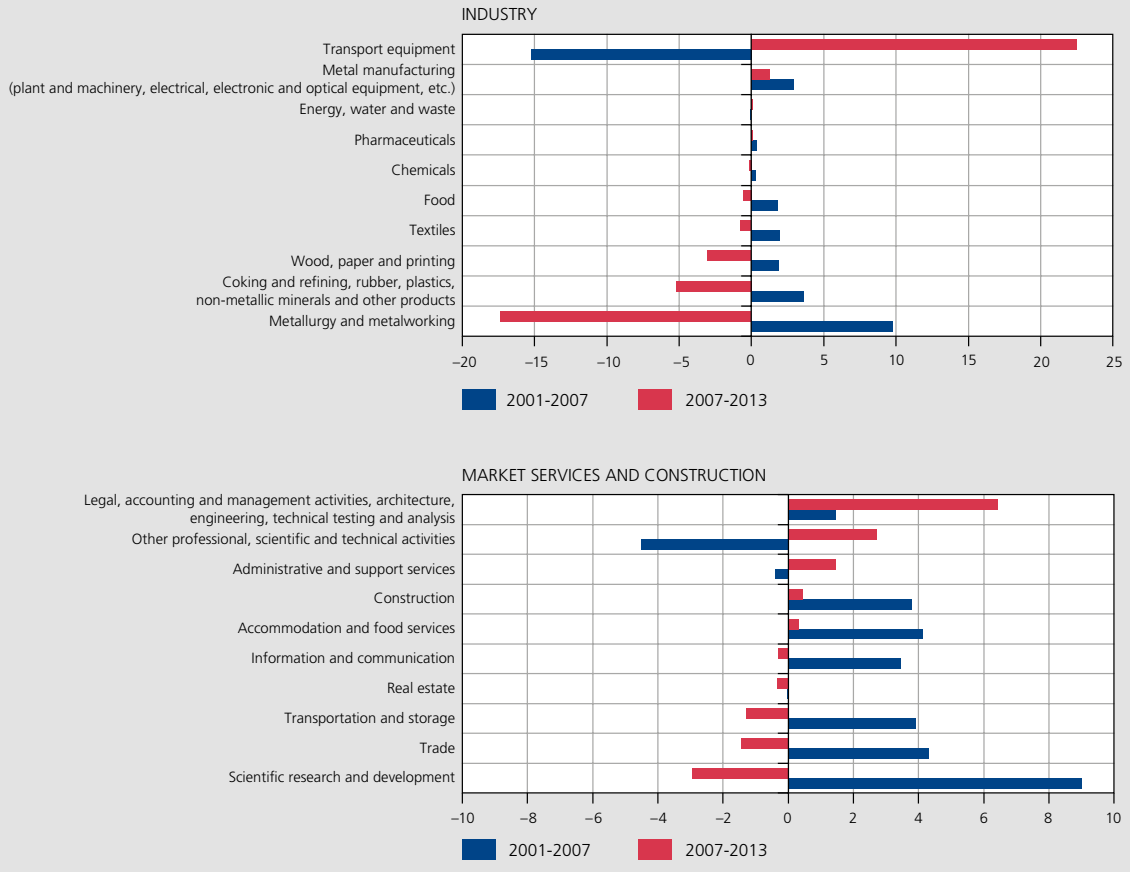
since that was due mainly to the dip in 2007, when a major car manufacturer in the north of the country closed down.

Generally speaking, branches featuring a high degree of innovation seem to have recorded a tinier reduction in the profit share than the more traditional industrial branches. It is also interesting to note that, in industry, the branches where profit margins have fallen most steeply since the crisis are those which had seen the biggest rise previously, from 2001 to 2007. This suggests an important cyclical component in the pattern of the profit margin. This applies to metallurgy, coking and refining, and the manufacture of rubber, plastics and non-metallic mineral products. The strong global demand for these industrial products, particularly from emerging countries, had certainly contributed to the very favourable performance of these branches of activity in the pre-crisis period.

The crisis that erupted in 2008 had a varying impact on the sub-sectors in market services and construction. The sharpest fall in profit shares occurred in the scientific research and development branch, in trade, and in transportation and storage. This last branch is closely connected with industry; the slump in trade from the end of 2008 and in 2009 and the only partial recovery that followed had a serious impact on the activity of this branch. Within the trade branch, profit margins on sales of motor vehicles and in the wholesale trade contracted much more sharply than retail margins. There was a small decline in profit margins in real estate and in the information and communication branch, while profitability actually improved slightly in accommodation and food service activities and in construction. Finally, the business services branch (administrative services, scientific, technical, legal and accounting activities, etc.) recorded quite a marked rise in profitability between 2007 and 2013.

CHART 4 GROSS PROFIT SHARES BEFORE AND AFTER THE CRISIS, BY BRANCH OF ACTIVITY

(average annual growth rate over the period, in %)



Source: NAI.

The alternative profitability indicators calculated on the basis of firms' balance sheets (see Annex 1) confirm that the industrial sub-sectors hardest hit since the crisis were metallurgy, the wood and paper branch and textiles. Conversely, they modify the finding that construction companies were only slightly affected by the crisis, since they reveal that the profitability of those companies was eroded to the same extent as in market services. The balance sheet indicators are probably more relevant for assessing the situation in construction since they take account of the results of self-employed workers, who are very numerous in this branch, while the profit share is calculated in the strict sense, i.e. excluding the gross mixed income of self-employed workers.

The indicators calculated on the basis of firms' balance sheets can also be produced separately for large firms and SMEs. Chart 5 illustrates three profitability indicators: the net margin on sales, which measures the commercial performance of an activity unit, disregarding financial, exceptional and tax factors; the net return on total assets, which measures the firm's economic profitability in terms of the assets employed; and the return on equity, i.e. the profit accruing to shareholders after deduction of all expenses and taxes, which is the ultimate measure of the firm's financial profitability. The indicators are represented by the median of the observations, which is unaffected by outliers within the two populations.

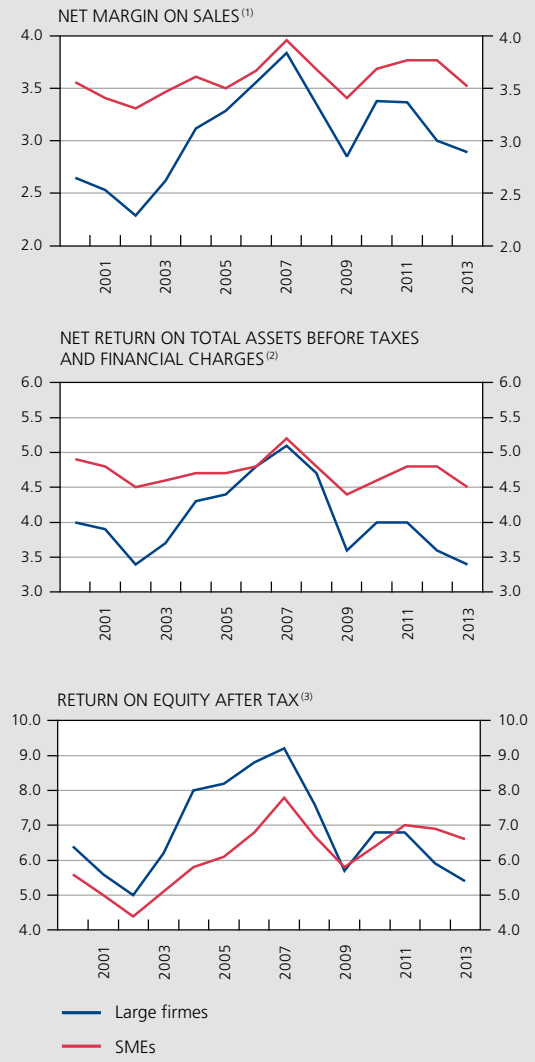
Since 2008, the profitability of large firms has been eroded more than that of SMEs, but it had improved more strongly before the crisis. That finding is valid whichever profitability indicator is used. The indicators per branch (see Annex 1) show that in almost all sectors, large firms have suffered more than SMEs. The negative impact of size on the movement in profitability since the crisis seems just as significant as the influence of the sector of activity.

Various factors may have helped smaller firms to maintain their profit margins better at the outbreak of the crisis in 2008. First, SMEs were more flexible in their staff management, and were able to shed excess staff more quickly in the face of slackening demand, while large firms may have retained jobs for longer. The degree of exposure to the international environment also varies between large firms and SMEs, even within the same branch of activity: for instance, in food service and accommodation activities, hotel chains and catering companies – being more dependent on the global market – are typically large organisations, while SMEs are linked more closely to the domestic market. Finally, if a larger proportion of SMEs went bankrupt in the wake of the crisis and therefore left the statistical population, that could also explain the maintenance of an "apparently" higher rate of profitability – only the most profitable SMEs being recorded – while the population of large firms is traditionally more stable over time.

To complete the analysis, it is worth comparing the movement in the profit share of Belgian companies with that of their foreign counterparts. Only the gross profit share, taking account of the gross mixed income of self-employed workers, is available for international comparisons, namely up to 2014.

CHART 5 PROFITABILITY INDICATORS IN LARGE FIRMS AND SMEs

(in %, median of the observations)



Source: NBB (Central Balance Sheet Office).

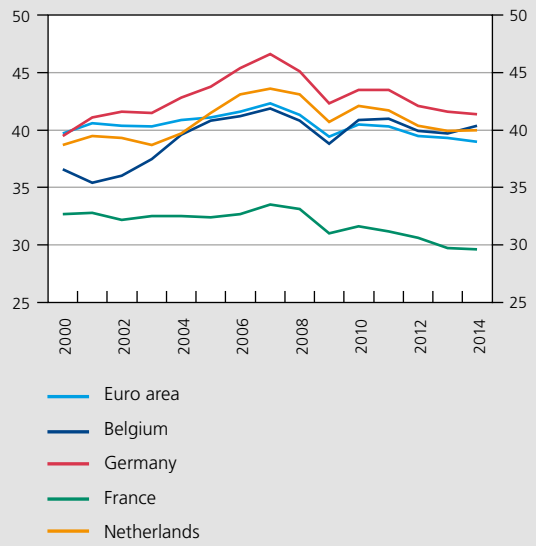
(1) Defined as the net operating result divided by the turnover.

(2) Defined as the net result before tax and financial charges, excluding exceptional results, divided by the total assets.

(3) Defined as the net result after tax, excluding exceptional results, divided by the equity.

CHART 6 PROFIT SHARES OF NON-FINANCIAL CORPORATIONS: INTERNATIONAL COMPARISON (1)

(in %)



Source: Eurostat.

(1) It corresponds to the gross profit shares of non-financial corporations, including the gross mixed income of self-employed persons.

The erosion of the profit share of Belgian firms since the crisis has been similar to that seen on average in the euro area and in the three neighbouring countries. The profitability of Belgian companies, like that of their German and Dutch counterparts, had risen sharply before the crisis, but that is not true of French firms, whose profitability had remained stable during that period.

The current level of the profit share of Belgian firms is very close to the European average. German firms lead the field in profitability, whereas French firms have a systematically lower profit margin. However, it should be noted that structural characteristics, such as capital intensity, sectoral specialisation or the importance of self-employed workers in the economic fabric, may vary from one country to another and may generate structural differences in profit shares between countries.

2. Determinants of the profit share

This section reviews the factors which may have influenced profit shares both during the recent period and also, more structurally, since 1995. Developments in industry are distinguished from those in market services, in view of the sometimes contrasting dynamics in these two main branches. From 1995 to 2013, the profit share increased by 5 % in cumulative terms in the corporate sector as a whole. While the profit share has increased by almost 9 % in industry, it has remained broadly unchanged in the market services.

Profit share, capital intensity and return on capital

Since the profit share is deemed to remunerate the capital invested in the production process, it is inextricably linked to the concepts of capital intensity and return on capital. The profit margin can in fact be broken down into:

$$\text{Profit share} = \frac{\text{Gross operating surplus}}{VA} = \overbrace{\frac{K}{VA}}^{\text{Capital intensity}} \times \underbrace{\frac{\text{Gross operating surplus}}{K}}_{\text{Return on capital}}$$

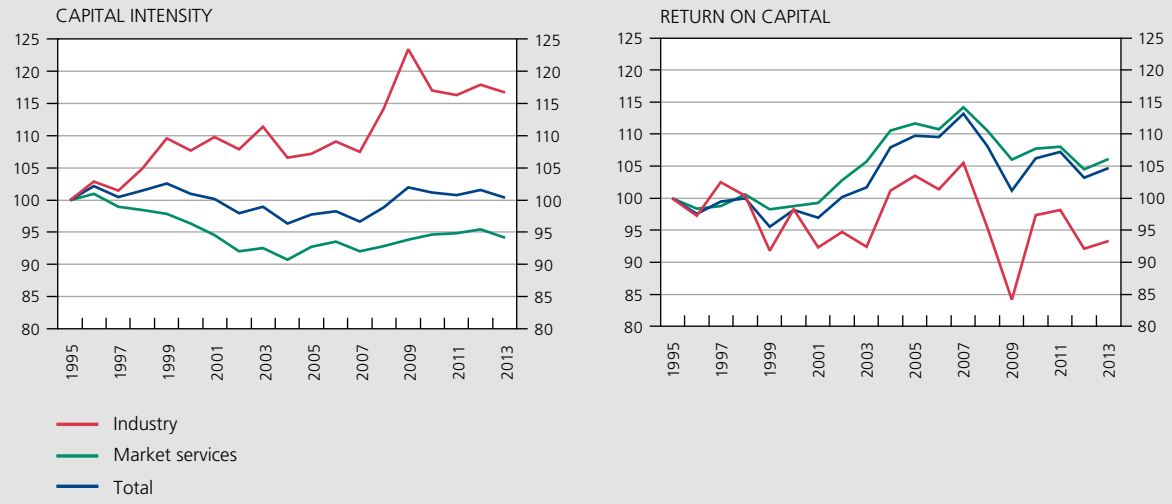
where VA = gross value added and K = capital stock

The first component represents the capital intensity in value, i.e. the capital stock divided by value added; the second component can be called the intrinsic rate of return on capital, or return on capital, i.e. the gross yield obtained by the capital stock. The decomposition of the profit share shown in chart 7 is in nominal terms and encompasses price effects on top of volume effects. All other things being equal, the profit share rises (falls) if the return on capital rises (falls) and/or the capital intensity rises (falls).

The capital intensity of non-financial corporations as a whole has varied only very slightly between 1995 and the present day. However, that apparent stability conceals significant disparities between sectors. In industry, the capital intensity increased considerably and more or less constantly between 1995 and the present day, whereas it tended to decline, albeit less steeply, in market services. In cumulative terms, capital intensity increased by just over 15 % in industry between 1995 and 2013 whereas it fell by around 5 % in market services.

The return on capital remained stable overall from 1995 to the early 2000s, before rising significantly up to 2007. After that, the crisis that erupted in 2008 triggered an abrupt fall in the return on capital, followed by a partial recovery. The pattern of the return on capital has varied less between industry and market services, if we exclude the period at the beginning of the years 2000, when the return on capital slowed down somewhat in industry but rose in market services. Industry actually recorded

CHART 7 DETERMINANTS OF THE PROFIT SHARE: CAPITAL INTENSITY AND RETURN ON CAPITAL[1]
(index 1995 = 100)



Source: NAI.
(1) Capital intensity is defined as the capital stock divided by the value added, both expressed in nominal terms. The return on capital is defined as the gross operating surplus divided by the capital stock, both expressed in nominal terms.

a cumulative fall of around 6 % in the return on capital between 1995 and 2013, while market services saw an increase on a similar scale.

What does that tell us in regard to the analysis of the profit share? It is evident that short-term fluctuations in profit shares are driven primarily by variations in the return on capital, whereas capital intensity is influenced mainly by more structural shifts. Thus, since the 2008 crisis, the decline in profit margins in industry and in market services essentially reflects the fall in the return on capital, which has a highly cyclical component.

Viewed over a longer period, i.e. considering developments taking place since 1995, the relative reduction in capital intensity in market services has been compensated by a proportional increase in the return on capital, which has exerted a neutral influence on the profit margin.

In industry, ever-increasing investment is necessary to generate the same value added; in other words, the average productivity of the capital is declining. In its 2015 technical report[1], the Central Economic Council puts forward a number of reasons for the steady fall in capital productivity in industry. First, it could be due to constantly declining productivity gains from the new investment made, or steadily shrinking margins, e.g. because of the relative rise in intermediate costs compared to selling prices. Another explanation is statistical, and concerns the use of the national accounts. In the event of adjustments leading to a decline in activity, value added falls but the capital stock remains present in the national accounts until it disappears at the end of its life. The decline in capital productivity would then be due not to lower productivity gains but to the fact that the capital stock contains capital which is no longer being used.

Profit share, productivity and labour costs

The profit share can also be analysed as a supplement to the share of compensation of employees and net indirect taxes in the value added of companies.

$$VA = \underset{surplus}{Gross\ operating} + \underset{of\ employees}{Compensation} + \underset{taxes}{Net\ indirect}$$

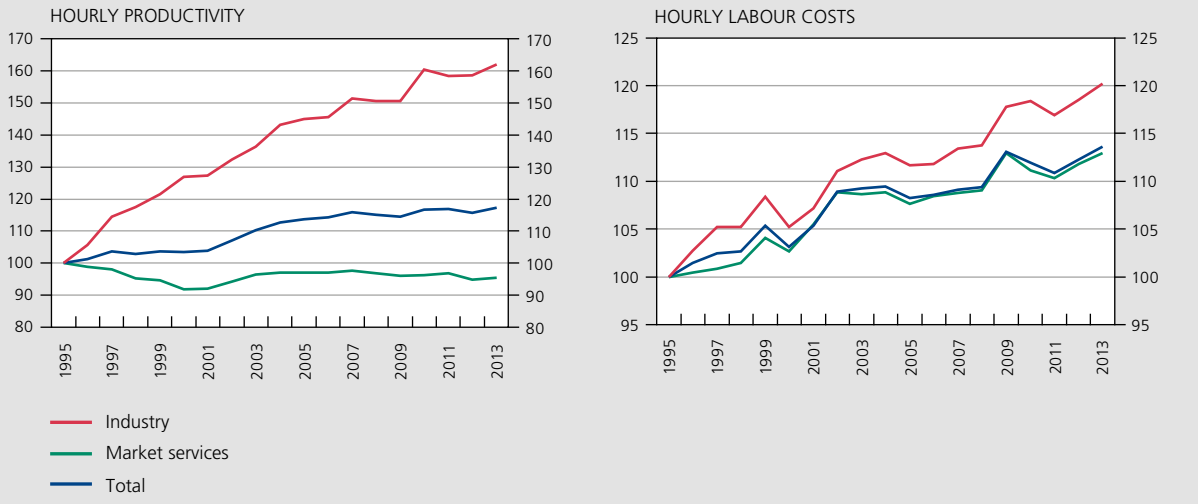
$$Profit\ share = \frac{Gross\ operating\ surplus}{VA}$$

$$= 1 - \frac{Compensation\ of\ employees}{VA} - \frac{Net\ indirect\ taxes}{VA}$$

(1) Annexes to the 2015 technical report, Central Economic Council, June 2015.

CHART 8 DETERMINANTS OF THE PROFIT SHARE: PRODUCTIVITY AND LABOUR COSTS[1]

(index 1995 = 100)



Source: NAI.

(1) Hourly productivity is defined as the volume of value added divided by the number of hours worked. Hourly labour costs are defined as real wages (deflated by the consumer price index) in relation to the number of hours worked.

The share of employee compensation in value added can then be broken down as follows:

$$\frac{Compensation}{VA} = \overbrace{\frac{Compensation}{Hours}}^{\text{Hourly labour costs}} \times \overbrace{\frac{Hours}{VA}}^{\text{Hourly productivity (inverted scale)}}$$

The first element represents hourly labour costs while the second is equal to the inverse of hourly productivity (a similar reasoning is of course possible per person rather than per hour).

Under the simplifying assumption that the influence of net indirect taxes is marginal[1], the profit share is influenced primarily by changes in real productivity compared to wages. The decomposition of the profit share shown in chart 8 is in real terms; thus the variables do not encompass any price effects. The profit share tends to rise (fall) as real productivity per hour/per person increases faster (more slowly) than real wages per hour/per person.

From 1995 to 2013, real hourly productivity recorded a cumulative rise of almost 20 % in non-financial corporations as a whole. Over that same period, hourly labour costs increased by just under 15 %. Labour productivity accelerated much faster in industry than in the economy as a whole, while real wages in that sector hardly increased any faster. A very different picture emerges in market services, where productivity declined slightly in cumulative terms between 1995 and 2013, while wages increased at the same rate as overall.

Since the crisis, productivity has stagnated in the economy as a whole while labour costs have continued to rise, albeit at a moderate pace. Once again, the two main branches present a contrasting picture: productivity growth was weaker than the rise in labour costs in market services, while the opposite applied in industry.

Since real productivity has long tended to outpace the rise in labour costs in industry, one might have expected a pronounced increase in the profit share in that branch; conversely, given that productivity has not risen as fast as labour costs in market services, the profit share there should have tended to fall. The absence of these tendencies is due to the existence of relative price effects.

Profit share, relative prices and competition

Relative price effects occur because firms in a given sector pay wages which are generally linked to the consumer price index (CPI), but their income depends on their selling prices which do not necessarily move in line with average prices. For each sector i, it is possible to identify a relative price effect corresponding to the ratio between the value added deflator for

(1) This assumption is not always verified. Indeed, from 1995 to 2013, net indirect taxes tended to fall slightly as a percentage of value added in Belgium, owing to the rise in wage subsidies.

the sector in question and the consumer price index, which also contributes to the movement in the profit share:

$$\Delta\,(\textit{Profit share})_i \approx \Delta\,(\textit{Hourly productivity})_i - \Delta\,(\textit{Hourly wages})_i + \Delta\,(\textit{Relative prices})_i$$

$$\text{Where } (\textit{Relative prices})_i = \frac{(\textit{VA deflator})_i}{\textit{Consumer prices}}$$

Relative price effects can be approached via the movement in the value added deflators in the various branches of activity (see table 1). These deflators illustrate the relative ability of firms in the various branches to pass on their input cost increases in their selling prices.

The contrast between the movement in the value added deflators in industry and market services is very striking. Between 1995 and 2013, the rise in selling prices was zero, on average, in industry, compared to 2.4 % in market services. Even during the recent crisis period, services selling prices continued to rise quite strongly. Conversely, in industry, even when activity is very buoyant and there is, in principle, strong demand for industrial goods, as in the first half of the 2000s, firms struggle to impose even small increases in their selling prices. The adverse movement in relative prices therefore exerts structural pressure on industrial profit margins.

In industry, these relative price effects have been particularly unfavourable, since 1995, in metallurgy, textiles and the wood and paper sector. In regard to the recent crisis period, the most negative relative price effects were recorded in metallurgy, coking and refining, and the manufacture of plastics, rubber and non-metallic mineral products, and in the food industry and the wood and paper sector. Some products of these industries – notably textiles or base metals – have characteristics which make it harder to charge high prices. These are standardised products which can be easily copied, so that the potential supply is abundant. Demand for these products is also highly elastic, as consumers will only pay a limited amount for products which are readily interchangeable.

Analysis of the degree of competition sheds additional light on the disparities between the fixing of selling prices in industry and in market services. Thus, in a monopolistic situation, firms with market power can charge prices in excess of the marginal costs. The market power of firms is therefore another determinant of the profit margin in the long term.

Belgian industrial firms face intense competition across an ever-widening geographical area. This fiercer competition from low-cost producers, whether it comes from the emerging economies, from the new EU Member States or, more recently, from certain southern European countries which have carried out internal devaluations, is

TABLE 1 RELATIVE PRICE EFFECTS PER BRANCH OF ACTIVITY

(value added deflator, average annual growth rate over the period, in %)

	1995-2013	1995-2001	2001-2007	2007-2013
Total	**1.7**	**1.4**	**2.2**	**1.4**
Market services	**2.4**	**2.8**	**2.7**	**1.7**
Industry	**0.0**	**–1.4**	**1.1**	**0.4**
of which:				
Food	–0.7	0.8	–1.1	–1.8
Textiles	–1.4	–2.3	–2.2	0.3
Wood, paper and printing	–1.0	0.3	–1.8	–1.6
Chemicals	1.9	–1.2	1.6	5.2
Pharmaceuticals	0.6	–1.8	0.6	3.0
Metallurgy and metalworking	–1.9	–3.3	4.2	–6.4
Metal manufacturing (plant and machinery, electrical, electronic and optical equipment, etc.)	1.1	–2.2	1.6	4.0
Transport equipment	–0.4	–3.8	–3.0	5.8
Coking and refining, rubber, plastics and non-metallic mineral products, and others	0.4	2.0	2.5	–3.3
Energy, water and waste	1.1	–0.9	2.0	2.2

Source: NAI.

exerting severe downward pressure on final selling prices in industry.

In market services, market power is linked more to the degree of domestic competition. It can be measured by a concentration index which corresponds to the sum of the squares of the market shares of each firm within a sector. Such an index has been calculated using balance sheet data for Belgian companies in the various branches of market services over the period 1995-2013. It seems that the degree of concentration had declined in market services from 1995 to 2005, reflecting an increase in competition. Since then, however, the degree of competition appears to have stabilised or even diminished slightly.

The results of the OECD's Product Market Regulation (PMR) indicators likewise suggest that entry to the Belgian services sector is subject to greater administrative and regulatory barriers than the average for OECD countries.

The less intensive competition on services markets might therefore explain why the rising labour costs in recent years – which in Belgium have persistently exceeded those in neighbouring countries – were easier to pass on in higher services prices. Recent analyses indicate that this phenomenon may have had a significant influence on total inflation in Belgium. Although total inflation has dropped below the level registered in neighbouring countries in recent years, underlying inflation seems to have fallen less sharply in Belgium, mainly because of the rise in services prices. A number of structural factors which might have contributed to that are suggested, including divergences in labour productivity, indexation mechanisms applicable to many services prices, and relatively weaker competition on the services market. Given this context, the EC and other international institutions have for years recommended that Belgium adopts structural reforms on product markets.

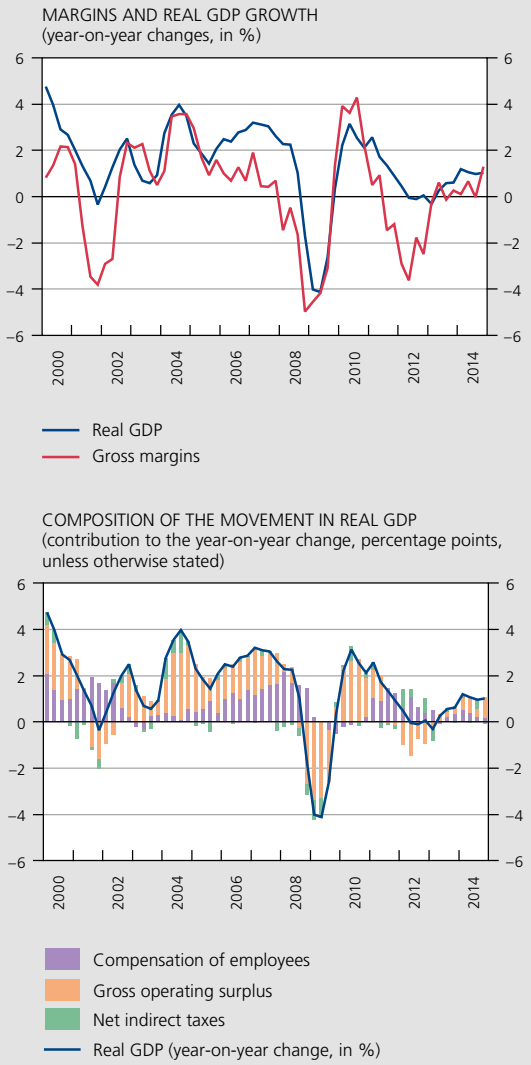
One phenomenon that could stimulate competition and therefore exert structural downward pressure on prices in services, especially in the retail trade, is the growth of e-commerce, or trade through the internet. This type of trade permits much more intensive and wider comparison of prices and products, particularly in the case of standardised goods and services, thus increasing competition among those products. In addition, entering a digital market is easier, so that the extra threat of competition also depresses prices. Prices may also be dragged downwards by structurally lower costs. Owing to a high degree of centralisation and automation, and possibly lower labour costs, e-commerce often features a cost structure different from that of traditional marketing channels.

Eurostat statistics on the percentage of people ordering a product or service on the internet over the past year indicate that Belgium still lags behind the euro area average in many branches of activity. Competition in the branches selling those products or services is likely to get even stronger as internet shopping becomes more common. In addition, the regulatory framework is gradually being adapted and made less restrictive in order to encourage this form of trade.

3. Link between margins, cyclical developments and prices

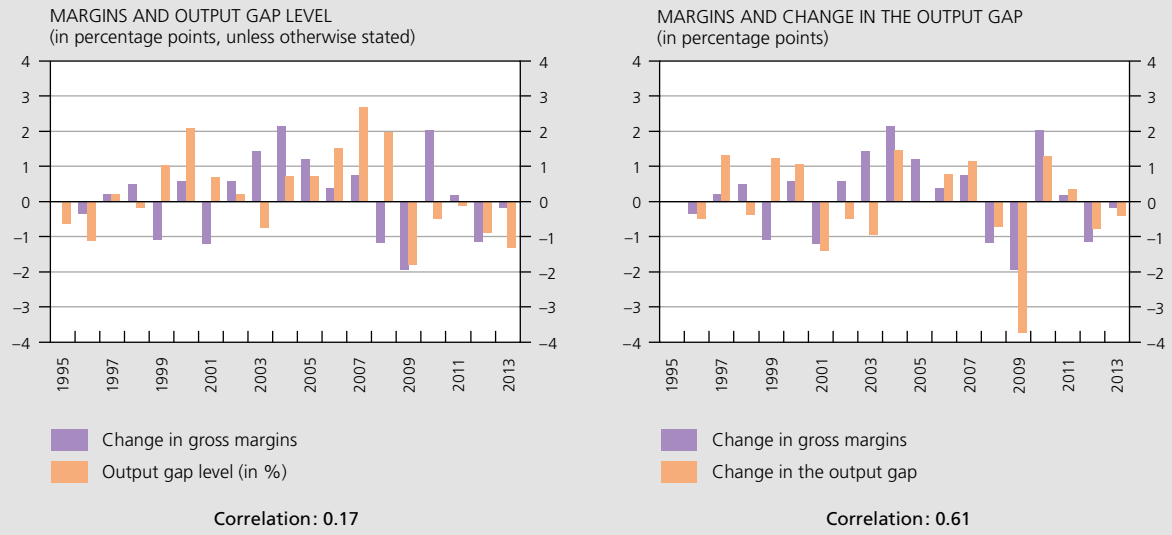
The movement in margins may also be linked to changes in economic activity and prices. On the first point, margins

CHART 9 MARGINS AND REAL GDP GROWTH IN BELGIUM



Sources: EC, NAI.

CHART 10 MARGINS AND OUTPUT GAP



Sources: EC, NAI.

present a decidedly pro-cyclical profile in Belgium: thus, the coefficient of correlation with real GDP stood at 0.72 for the period 1995-2013. Analysis of real GDP growth from the income angle, which breaks that growth down into the contribution of compensation of employees, the gross operating surplus, and net indirect taxes, in fact reveals the importance of a rise in the gross operating surplus as a contributor to GDP growth. The volatility of GDP growth seems to be mainly due to this factor. The contribution to GDP growth of the increase in the wage bill is relatively somewhat smaller as well as being far more stable. Given their much smaller weight in value added, net indirect taxes have only a limited influence on real GDP growth.

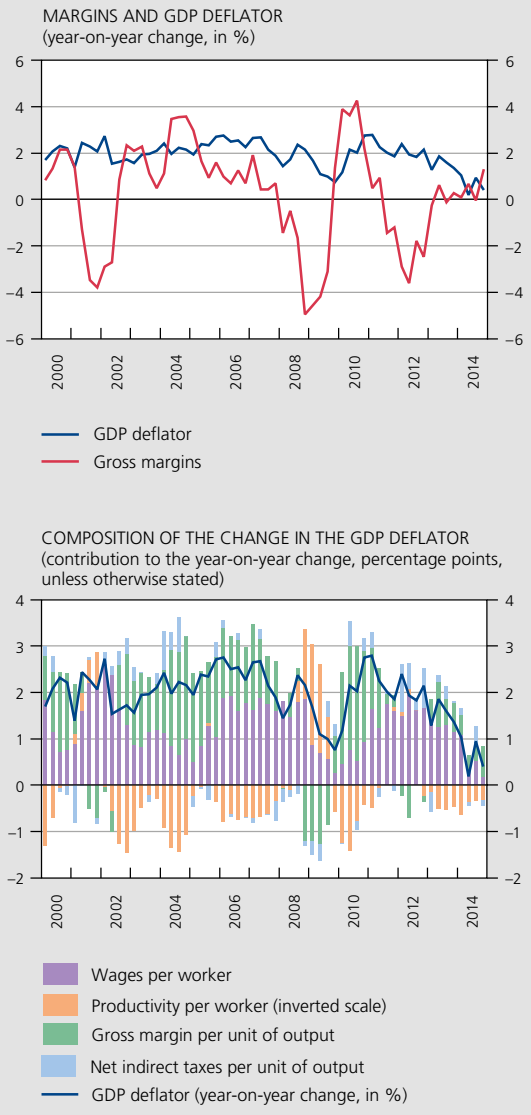
The movement in margins is also frequently linked to the output gap, which measures the difference between an economy's actual GDP and potential GDP. The argument for the link with margins is that, if the output gap is negative, it is harder for firms to increase their margins because of the unused production capacity which constantly exerts downward pressure on prices. Although this link certainly appears to exist, it is rather tenuous, as there is hardly any correlation between the level of the output gap and margins. Conversely, changes in the size of the output gap closely mirror the movement in margins, with a correlation of 0.61 for the period 1996-2013. This link does not in itself indicate causality, but it shows that margins increase mainly when the output gap improves, and vice versa.

As already stated, margins rise faster in periods of buoyant economic activity and contract proportionately when the economic situation deteriorates. Consequently, margin growth is far more volatile than the changes in the GDP deflator, which is used here as a measure of the general movement in prices in the economy.

The relative stability of prices in Belgium during the period analysed thus masks highly cyclical underlying components. In the short term, the margin per unit of output appears to serve as a buffer, absorbing reductions in productivity. The often very marked decline in productivity at the beginning of crisis episodes is due, among other factors, to the decision of companies to engage to a certain degree in labour hoarding.

The need for the shock absorber function is probably due to the presence of rigidities, particularly in regard to prices, which delays the adjustment of these latter to changing market conditions. Moreover, it is difficult to raise prices in periods of weak economic activity, owing to the prevalence of fierce competition in those periods, aimed at winning over consumers who are tempted to save rather than spend. Conversely, when economic activity picks up the market can afford to charge higher prices again, with an underlying increase in margins. The period from late 2009 to 2011 is one example. Margins therefore act to some extent as a buffer in the face of fluctuations in labour costs per unit of output, thus stabilising cyclical movements in the GDP deflator.

CHART 11 MARGINS AND MOVEMENT IN THE GDP DEFLATOR IN BELGIUM



Source: NAI.

During the most recent period, price increases have been well below the average of 2 % ; inflation is falling fast, while the increase in remuneration has been halted, notably as a result of the various policy measures to keep labour costs under control. The upward pressure on prices due to the margin increases over the last three quarters is largely offset by the downward pressure of steady productivity gains. As already mentioned, this situation should be viewed in the context of the sharp fall in prices at international level.

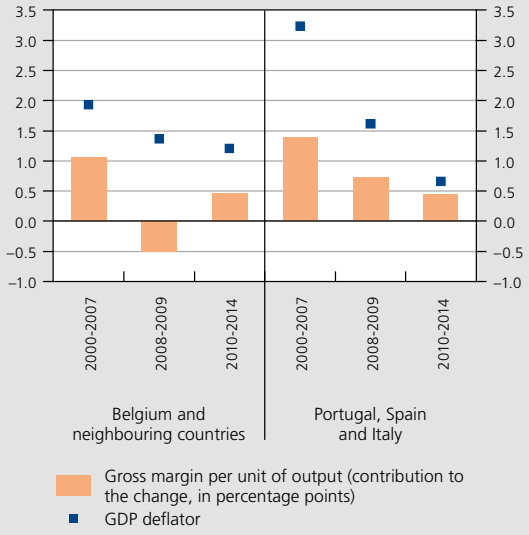
An international comparison shows that the movement in the GDP deflator and the contribution made by profit margins vary from one euro area country to another. Despite the presence of idiosyncratic factors, there are still some similarities between Belgium and its neighbouring countries – Germany, France and the Netherlands, which form a first group of countries – and between Spain, Portugal and Italy, which form a second group. In regard to the level of the deflator, it can be said that the price growth in the first group fell from 2 % to around 1 %, which is less than in the second group, where the deflator averaged almost 3.5 % before the crisis, compared to around 0.5 % after it.

The contribution of the unit margin to the deflator varied greatly between the two groups of countries during the crisis years. In Belgium and its neighbours, the crisis caused margins to contract, the decline being slightly smaller in France and the Netherlands than in Belgium, and slightly bigger in Germany. In the countries which form the second group, the margin per unit of output increased continuously on average over the periods considered. In that group, the adjustment seems to have taken place via labour costs instead.

As a result of these disparities, the share of the operating surplus in GDP has risen since the crisis in the group of southern European countries, mainly at the expense of the wage bill. In Belgium and its neighbouring countries, the opposite happened: the share of the operating surplus

CHART 12 CHANGE IN MARGINS PER UNIT OF OUTPUT AND THE GDP DEFLATOR: GEOGRAPHICAL DISPARITIES

(average annual growth, in % unless otherwise stated)



Sources: EC, NAI.

declined in favour of the wage bill. One possible explanation for the constantly positive contribution of the margin per unit of output to the deflator may lie, for example, in the increased cost of external financing in the wake of the crisis, which forced companies from the southern European countries to rely more on their internal financing, resulting in continuous strong margin growth. Another possibility is less competition in markets, as suggested by a recent study concerning Spain (Montero *et al*, 2014)[1]. In addition, the steeper rise in wages in the southern European countries was probably not adequately offset by productivity gains, which caused the labour market to readjust abruptly when the crisis erupted. In Belgium and in the neighbouring countries, this tension on the labour market was evident to a much lesser degree, or even absent.

Conclusions

Firms which are sufficiently profitable stand up better to fluctuating economic conditions and are more inclined to invest. However, since the 2008-2009 recession, the profit share (i.e. profit margin) of Belgian firms has exhibited a marked decline which has been widespread, affecting almost all branches of activity. The decline has been slightly greater in industry than in market services, particularly if account is taken of the expenditure necessary in the future to replace and modernise production facilities, which are tending to depreciate ever more rapidly. The profitability of large firms has been eroded more significantly than that of SMEs, but it had improved more strongly before the crisis. The movement in the profit share of firms in Belgium has been no different from that evident in neighbouring countries.

It is mainly cyclical factors that explain the fall in profit margins since the crisis, whereas those margins had risen considerably during the pre-crisis period. In industry, the adverse trend in relative prices is putting structural pressure on profit margins in a context of ever fiercer global competition in manufactured goods. However, the steady rise in labour productivity in volume, clearly outpacing real wage growth, makes it possible to maintain a reasonable margin. Firms in market services, which are less exposed to international competition, are suffering from inadequate productivity growth, while until recently their labour costs were still rising quite steeply. Ultimately, other factors such as the development of e-commerce, may also influence profit margins in services.

Finally, there is a close correlation between the movement in profit margins and the trend in economic activity. Firms tend to boost their margins when economic activity is buoyant and reduce them when activity loses momentum. The link between margins and prices appears to be much looser, as margins in Belgium seem to act as a buffer, moderating the effects of cyclical fluctuations on labour costs and productivity. To some degree, margins temper the impact of economic shocks on prices. A comparison with a few other euro area countries shows that this effect has been likewise apparent in Belgium's neighbouring countries during the crisis, whereas in some of the more peripheral countries that was not the case, or the effect was much smaller.

(1) Montero, J. and A. Urtasun (2014), *Price-cost mark-ups in the Spanish economy : a microeconomic perspective*, Banco de España, Documentos de Trabajo 1407.

Annex

PROFITABILITY OF BELGIAN FIRMS SINCE THE CRISIS ACCORDING TO THE BALANCE SHEET INDICATORS

(average annual growth rate in the period 2007-2013)

	Net margin on sales	Net return on total assets before taxes and financial charges	Return on equity after tax
Large firms	**–3.5**	**–6.4**	**–7.9**
01. Food	–1.5	–2.2	–0.4
02. Textiles	–10.6	–9.1	–10.2
03. Wood, paper and printing	–10.8	–12.4	–16.0
04. Chemicals	0.3	–5.1	–5.4
05. Pharmaceuticals	–2.7	–4.1	–6.2
06. Metallurgy and metalworking	–10.3	–11.8	–15.0
07. Metal manufactures	–4.5	–7.5	–10.8
08. Trade in motor vehicles	–7.7	–8.1	–10.2
09. Wholesale trade	–5.1	–6.2	–7.8
10. Retail trade	–2.3	–5.6	–4.9
11. Transportation and storage	–5.4	–6.0	–7.8
12. Food service activities and accommodation	–17.5	–12.3	–11.6
13. Information and communication	–2.6	–2.4	–5.0
14. Real estate activities	–1.1	–2.2	1.0
15. Business services	–2.0	–4.1	–7.5
16. Energy, water and waste	2.0	–2.4	–2.8
17. Construction	–3.1	–7.4	–10.1
18. Other services	–6.6	–8.1	–9.5
SMEs	**–3.5**	**–2.3**	**–2.4**
01. Food	–5.8	–1.1	1.0
02. Textiles	–13.6	–3.3	–2.7
03. Wood, paper and printing	–10.5	–6.3	–8.9
04. Chemicals	1.0	–5.3	–4.1
05. Pharmaceuticals	–7.3	2.1	17.7
06. Metallurgy and metalworking	–7.0	–6.1	–7.7
07. Metal manufactures	–4.5	–4.1	–5.1
08. Trade in motor vehicles	–6.8	–4.0	–5.1
09. Wholesale trade	–5.3	–4.2	–5.1
10. Retail trade	–6.3	–1.9	–2.5
11. Transportation and storage	–4.9	–2.5	–3.1
12. Food service activities and accommodation	–5.2	2.2	2.7
13. Information and communication	0.8	1.9	2.5
14. Real estate activities	–1.1	–0.7	6.4
15. Business services	–0.2	1.1	1.8
16. Energy, water and waste	0.8	–4.1	–6.4
17. Construction	–3.8	–4.3	–5.5
18. Other services	–3.0	–1.3	–0.8
Grand total	**–3.5**	**–4.3**	**–5.2**

Source: NBB (Central Balance Sheet Office).