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Economic projections for Belgium – Spring 2006

Introduction

Despite the persistence of high oil prices and a general upward trend in interest rates, albeit starting from unusually low levels, the world economy remained vigorous in 2005 and early 2006, while inflation was relatively moderate. In the euro area, where growth still lags behind that of the other main economic regions, a cyclical upturn occurred in the second half of 2005. It proved to be stronger in Belgium, as is evident from the significant improvement in the indicators obtained from the business survey up to April 2006, and from real quarterly GDP growth estimated at 0.8 p.c. for the first three months of the year. The starting situation for the spring 2006 economic projections, which relate to the years 2006 and 2007, therefore seems slightly more favourable than had been predicted six months ago, in the autumn 2005 projections.[1] However, the euro's recent appreciation combined with the additional increase in commodity prices and higher interest rates, could affect the outlook for growth and inflation in Belgium, and more generally in the euro area.

Produced as part of a biannual exercise by the Eurosystem central banks – the results for the euro area being obtained by aggregating the results for the various national economies[2] – these projections for Belgium are prepared by the Bank on the basis of a set of common assumptions concerning the international environment and movements in interest rates, exchange rates and commodity prices. They also depend on assumptions specific to the Belgian economy as regards variables which are to a large extent influenced by the discretionary action of the economic agents. That applies, for example, to the wage agreements resulting from negotiations between the social partners, and to government decisions on the budget.

As regards labour costs in the private sector, the yet fragmentary and uncertain indications currently available for the expected developments in Germany, France and the Netherlands point to relatively moderate growth in 2007. According to the technical assumption made for this exercise, the increase in hourly labour costs will be in line with the effect of indexation.

The figures for public finances take account of the recent data on tax revenues, the endogenous effect of the macroeconomic environment, and an expenditure pattern based on past developments and measures already introduced. New government measures concerning revenue or expenditure, to be adopted in the months ahead at the time of the supplementary budget review announced by the federal government for 2006, or in connection with the 2007 budget, were not taken into account in the projection exercise. In some circumstances, they could in turn affect the projections for the economy as a whole.

The first section deals with the international environment. It summarises the Eurosystem projections for the euro area and presents the principal common assumptions. The next three sections go into more detail on the recent situation and the projections for the national economy, dealing respectively with activity, employment and the main expenditure components (section 2) – which, in accordance with Eurosystem practice, are presented without taking account of specific seasonal effects and the impact of irregularities in the calendar – prices and labour costs (section 3) and the public finance figures (section 4). Finally, the main risks relating to the projections are

(1) NBB (2005), "Economic projections for Belgium – Autumn 2005", Economic Review 4-2005.

(2) The projections for the euro area were published in the ECB's June monthly report.

discussed in the last section, which also contains a summary of the results obtained by other institutions.

The projections for Belgium were drawn up on the basis of information available as at 19 May 2006.

1. International environment

1.1 World economy

In 2005 the world economy continued to grow strongly, despite the sharp rise in oil prices and less accommodating monetary policies. Inflationary pressure also remained moderate worldwide. Global GDP grew by 4.6 p.c., slightly below the very strong growth recorded in 2004. After slowing down at the start of the year, industrial activity took off again, while the service sector maintained its momentum. World trade also picked up again in the second half of the year, expanding by an average of around 7 p.c. in 2005. The cyclical indicators and the statistics available point to sustained robust economic activity in the initial months of 2006. In the United States, according to the provisional estimates, GDP surged again in the first quarter. In Japan, the economic recovery continued. In the euro area, there was a further significant strengthening of business confidence in industry and services at the beginning of 2006, and – according to a first estimate – GDP growth was fairly sustained in the first quarter.

However, owing to the very strong global demand and the narrow margins of unused capacity, in both production and refining, oil prices increased sharply and were highly volatile. The price per barrel of Brent increased from around 40 dollars in December 2004 to 63 dollars in March 2006. Geopolitical factors and the persistence of sustained demand pushed the price still higher, to an average of just over 70 dollars in May. These factors are expected to continue operating throughout the projection period and, taking account of the inertia in bringing new capacity into service, the oil price is likely to maintain this high level for the coming two years.

Furthermore, the stimulus provided by monetary policy has diminished. In the United States, the progressive tightening of monetary policy has continued. Since June 2004, the Federal Reserve has raised the Fed funds rate by 25 basis points in sixteen successive steps. On 10 May 2006, the date of the latest increase when this article went to press, the interest rate thus stood at 5 p.c. In the context of ebbing deflation in Japan, the Bank of Japan adjusted its monetary policy operating target on 9 March 2006, thus ending the policy of quantitative easing which it had applied since March 2001, and opening the way to a less expansionary monetary policy in the future, while retaining its zero interest rate policy. In the euro area, the ECB Governing Council raised the Eurosystem key rate by 25 basis points on 6 December 2005 and on 8 March 2006, bringing it to 2.50 p.c.[1]

Nonetheless, financing conditions remained favourable, and this combined with strong corporate profits underpinned economic activity. Despite the higher interest rates on the benchmark 10-year bonds in the leading economies at the end of 2005 and in the first few months of 2006, rates remained fairly low, partly because of the increased credibility of monetary policy in the industrialised countries, the formation of foreign exchange reserves by Asian central banks, and the investment on the financial markets of the windfall profits made by the oil-exporting countries. In addition, there was a further decline in the interest spread on emerging market and corporate bonds.

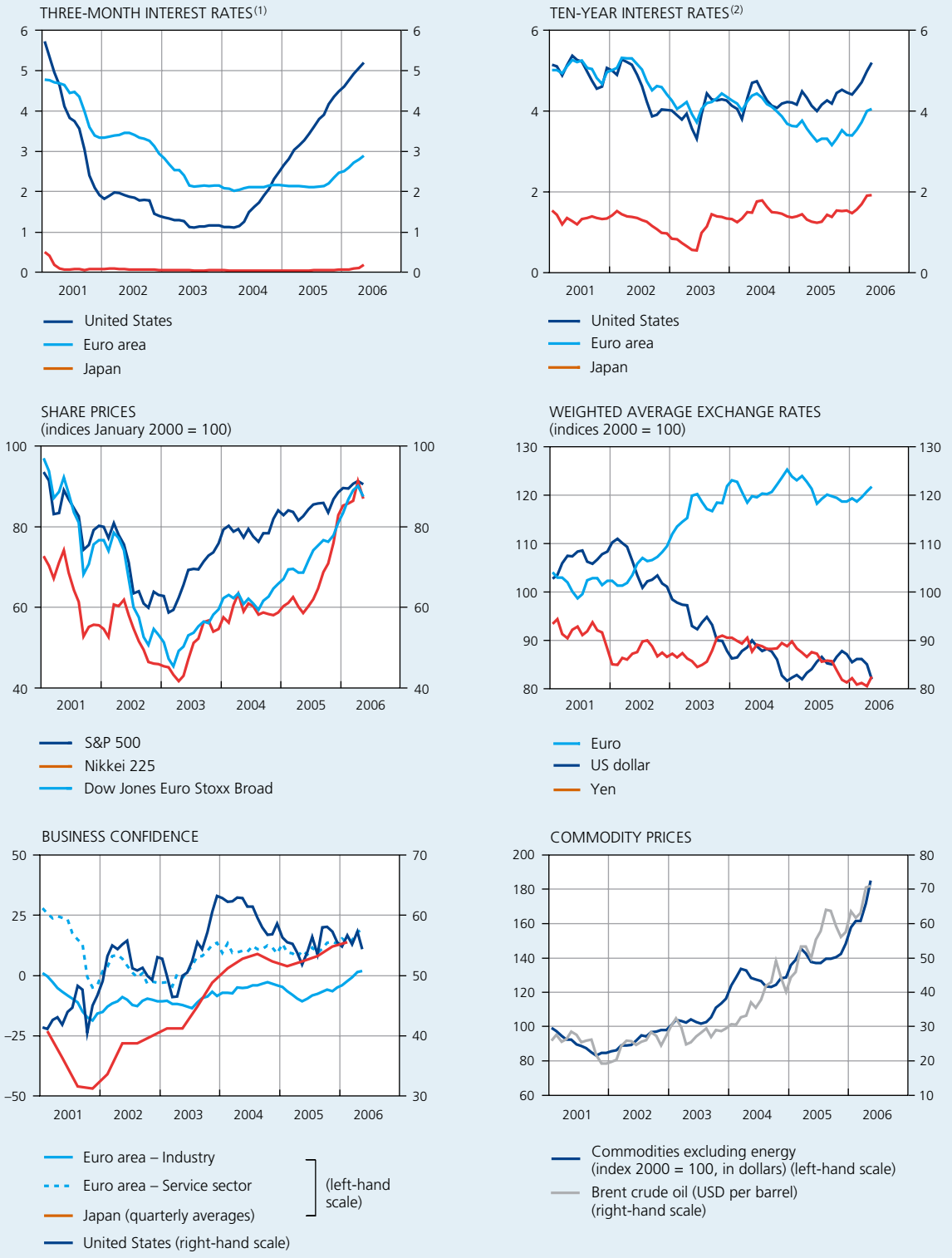
The strong growth and substantial corporate profits, together with the low level of long-term interest rates, also supported the rise in share prices. The Japanese Nikkei and the Dow Jones Euro Stoxx recorded particularly strong increases, but share prices subsided in mid-May 2006. House prices produced a more varied picture. They continued to soar in certain industrialised countries, while moderating in others such as the United Kingdom, where the market cooled off. As a result of the widening interest rate spread between the United States and the euro area, the dollar appreciated during 2005, despite the large US current account deficit. However, during the initial months of 2006, the dollar lost ground, particularly against the euro. Overall, the fluctuations in the weighted average exchange rates of the main industrialised countries have remained relatively limited since the beginning of 2005.

In this context, and despite the persistently high oil price, the international institutions have issued favourable forecasts for 2006 and 2007. According to the European Commission, global GDP will maintain its vigorous growth, at 4.6 p.c. in 2006 and 4.3 p.c. in 2007, permitting consolidation of the labour market. World trade is projected to continue expanding rapidly. Inflation should be contained as a result of growing international competition in a context of globalisation, wage moderation and increased credibility of monetary policy. Financing conditions look set to remain favourable and should thus continue to underpin growth.

(1) On 8 June 2006, the Governing Council raised the key rate to 2.75 p.c.

CHART 1 FINANCIAL AND COMMODITY MARKET DEVELOPMENTS AND CONFIDENCE LEVELS IN THE MAIN ECONOMIES

(Monthly averages, unless otherwise stated)



Sources: BIS, EC, ECB, HWWA, ISM, OECD, NBB.
(1) Interest on three-month interbank deposits.
(2) Yield on ten-year government bonds (benchmark loans).

TABLE 1 PROJECTIONS FOR THE MAIN ECONOMIC REGIONS EXCLUDING THE EURO AREA

(Percentage changes against the previous year, unless otherwise stated)

	2005	2006	2007
	Actual	Projections	
GDP at constant prices			
United States	3.5	3.2	2.7
Japan	2.7	2.8	2.4
China	9.9	9.5	9.0
India	8.0	7.3	7.3
Middle East and North Africa	5.4	5.2	5.0
Commonwealth of Independent States	6.7	6.5	6.3
United Kingdom	1.8	2.4	2.8
World	4.6	4.6	4.3
p.m. World trade	*7.1*	*8.5*	*7.1*
Inflation (1)			
United States	3.4	2.9	1.6
Japan	–0.3	0.7	1.0
Unemployment rate (2)			
United States	5.1	4.8	5.1
Japan	4.4	4.3	4.3

Source: EC, spring forecasts, May 2006.
(1) Consumer price index.
(2) Percentages of the labour force.

World growth is also expected to be more evenly spread among the various economic regions. In the United States, the economy should continue growing at a sustained rate, albeit slightly more slowly than in 2005. The prediction is that, after a vigorous first six months, activity will slacken pace following a short-term interest rate hike and cooling of the housing market. The contribution of the United States to the development of global economic activity is thus expected to decline somewhat over the next two years.

Supported by structural intervention, economic activity in Japan is also expected to remain on course, gradually conquering deflation. Domestic demand is forecast to remain robust, while the expansion in the Asian emerging countries is expected to stimulate Japanese exports. In China, growth is again projected at a minimum of 9 p.c. in 2006 and 2007, although that rate is slightly below the 2005 figure. The slowdown is attributed primarily to the dip in net exports, due partly to the more moderate expansion of activity in the United States. In India, too, growth is expected to slacken its pace somewhat, though nevertheless remaining robust. On the basis of expanding domestic demand and strong intra-regional trade, the emerging Asian countries are likely to remain a key growth area for global economic activity.

In the context of persistently high oil prices, the growth prospects also look good for the oil-exporting countries, particularly Russia and the countries of the Middle East and North Africa. After the emerging Asian countries, the CIS countries have become the fastest growing region of the world. The Latin American economies should maintain sustained growth over the next two years at a rate close to 4 p.c., while annual growth of over 5 p.c. is expected for the countries of sub-Saharan Africa.

For the new Member States of the European Union, activity is expected to expand by an average of 4.5 to 5 p.c. Foreign direct investment there is promoting fixed capital formation and making it possible to finance the current account deficits on the balance of payments. In the United Kingdom, growth is expected to pick up in 2006 and 2007, after subsiding from 3.1 p.c. in 2004 to 1.8 p.c. in 2005. This was due mainly to a slowdown in domestic demand against the background of a cooling housing market and high energy prices.

1.2 Eurosystem projections for the euro area

Despite the forecast slight slackening of global growth, which nonetheless remains relatively robust, the high level of commodity prices and the recent appreciation of the euro, the external environment should generally remain conducive to growth in the euro area. Recent information points to the temporary nature of the deceleration recorded at the end of 2005. In the first quarter of 2006, real growth totalled 0.6 p.c. Initially underpinned by the dynamism of external demand, growth is projected to continue at a quarterly rate in the region of 0.5 p.c. The average annual GDP growth in terms of volume, which came to just 1.4 p.c. in 2005, should reach between 1.8 and 2.4 p.c. in 2006 and 1.3 to 2.3 p.c. in 2007.

Export demand should also help to strengthen investment, in a context of a revival in business confidence, good profitability and continuing favourable financing conditions. Private consumption should be boosted by the gradual improvement in the labour market situation, and hence in household disposable income. However, the increases in indirect taxes in 2007, primarily in Germany, could exert a temporary moderating effect.

TABLE 2 EUROSYSTEM PROJECTIONS

(Percentage changes against the previous year)

	Euro area			*p.m. Belgium*		
	2005	2006	2007	*2005*	*2006*	*2007*
Inflation (HICP)	2.2	2.1 – 2.5	1.6 – 2.8	*2.5*	*2.4*	*1.9*
GDP by volume	1.4	1.8 – 2.4	1.3 – 2.3	*1.5*	*2.5*	*2.0*
of which:						
Private consumption	1.4	1.4 – 1.8	0.5 – 1.7	*1.3*	*2.1*	*1.8*
Public consumption	1.4	1.3 – 2.3	0.7 – 1.7	*1.9*	*1.9*	*2.4*
Investment	2.5	2.3 – 4.5	1.6 – 4.8	*8.4*	*0.9*	*2.0*
Exports	4.1	5.2 – 8.0	3.3 – 6.5	*2.6*	*5.2*	*4.3*
Imports	5.0	5.3 – 8.7	2.8 – 6.2	*3.8*	*4.9*	*4.2*

Sources: ECB, NBB.

Inflation measured by the HICP averaged 2.2 p.c. in 2005, the main factor being the increase in oil prices. It is forecast to range between 2.1 and 2.5 p.c. in 2006, and between 1.6 and 2.8 p.c. in 2007, under the impact of a further substantial contribution from the energy component in the first year and adjustments to indirect taxes in the second year. Apart from these factors, inflationary pressure should be contained during the projection period, owing to the continuing wage moderation and the influence of international competition.

Box – Eurosystem assumptions

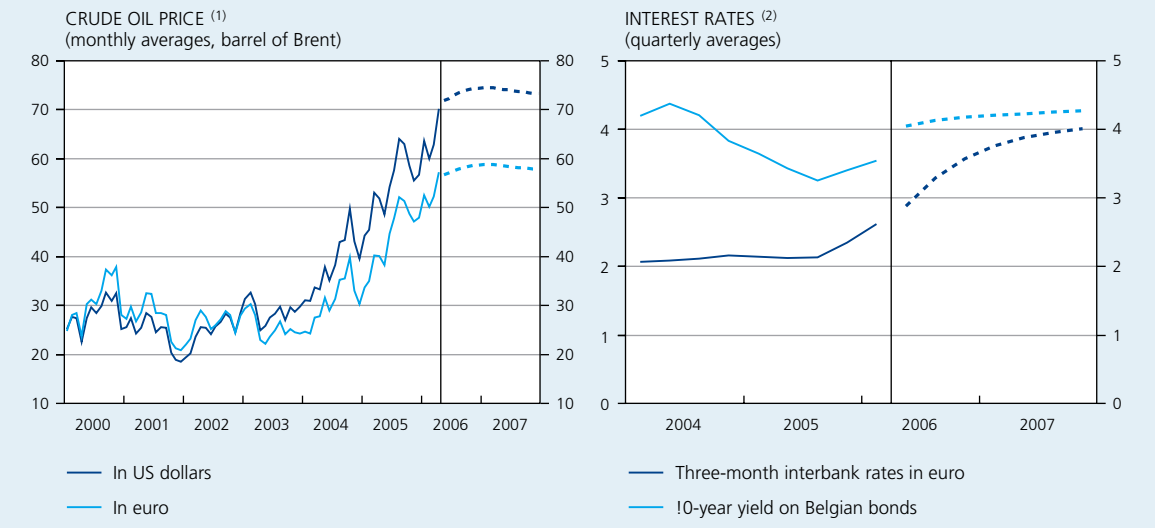
The Eurosystem's economic projections for the euro area and the corresponding projections for Belgium are based on the following technical assumptions:

– The interest rates are based on market expectations. In previous projection exercises, the Eurosystem assumed that short-term interest rates would remain constant over the projection horizon. In order to further improve the quality and the internal consistency of the macroeconomic projections, it was decided to base the assumption on market expectations in accordance with the same approach as that already adopted for long-term rates. This is a purely technical adjustment, and does not imply any change in the ECB's monetary policy strategy or in the role of the projections within that strategy.

  The short-term rate in euro stood at 2.9 p.c. when the projections were prepared. According to market expectations, it is set to increase to an annual average of 3.1 p.c. in 2006 and 3.9 p.c. in 2007. The representative long-term interest rate for Belgium is projected at 4 p.c. in 2006 and 4.2 p.c. in 2007.

– The bilateral euro exchange rates are kept constant at their value as at the beginning of May 2006, namely 1.27 US dollar to the euro.

ASSUMPTIONS CONCERNING THE MOVEMENT IN OIL PRICES AND INTEREST RATES



Source: ECB.
(1) Actual figures up to April 2006, assumption from May 2006.
(2) Actual figures up to the first quarter of 2006, assumption from the second quarter of 2006.

– In accordance with the movement in implicit prices reflected in forward contracts, global oil prices are expected to continue edging upwards during 2006, from around 72 dollars per barrel, the level reached in the first half of May 2006. Taking an average over the year, Brent is forecast to cost 70.3 dollars per barrel in 2006 and 73.9 dollars in 2007, compared to 54.4 dollars in 2005.

ASSUMPTIONS UNDERLYING THE EUROSYSTEM PROJECTIONS

	2005	2006	2007
		(Annual averages)	
Three-month interbank rates in euro	2.2	3.1	3.9
Ten-year bond yields in Belgium	3.4	4.0	4.2
Euro exchange rate against the US dollar	1.24	1.25	1.27
Oil price (US dollars per barrel)	54.4	70.3	73.9
		(Percentage changes)	
Export markets relevant to Belgium	5.9	7.2	5.3
Export competitors' prices	3.1	2.2	1.2
of which: competitors from the euro area	2.2	2.5	1.4

Source: ECB.

The expected developments in world trade and the results of the projections for the euro area's partners concerning trade in goods and services can be used to assess the external conditions for the Belgian economy. Boosted by an acceleration at the beginning of the year, the volume growth of the export markets, calculated as the weighted sum of imports from third countries, should average over 7 p.c. in 2006, before dropping to 5.3 p.c. in 2007. The competitors' export prices should remain moderate, rising by 2.2 p.c. in 2006 and 1.2 p.c. in 2007.

2. Activity, employment and demand in Belgium

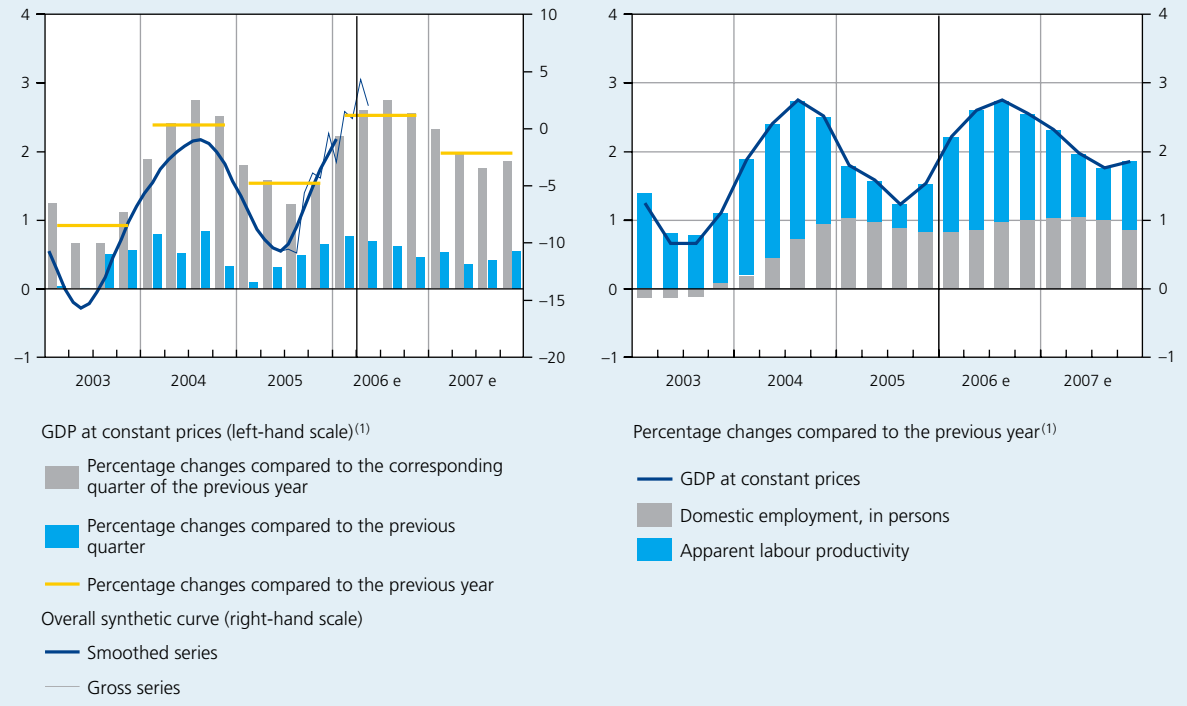
2.1 Activity and employment

In Belgium, economic activity strengthened considerably at the end of 2005 and in the initial months of 2006. At the beginning of 2005, GDP growth had dipped sharply following the temporary weakening of foreign trade, which had a marked effect on industrial activity. It gradually speeded up again, rising from 0.1 p.c. in the first quarter of 2005 to 0.6 p.c. in the final quarter. According to an initial NAI estimate, it reached 0.8 p.c. in the first quarter of 2006, outpacing the potential growth rate, owing to a cyclical upturn in industry and consolidation of the sustained rate of growth in business services.

The recovery was accompanied by a steep rise in business confidence, and to a lesser extent, by stronger consumer confidence. The climate improved especially in manufacturing industry, thanks to the marked rise in export orders. Although confidence recently appears to have moved ahead somewhat of the revival in real activity, there is still a strong correlation between the two. The restoration of confidence was also confirmed by the strong increase in

CHART 2 ACTIVITY AND EMPLOYMENT

(Seasonally adjusted data)



Sources: NAI, NBB.
(1) Calendar adjusted data.

the capacity utilisation rate, principally in the case of semi-finished products, bringing it to its highest level since the beginning of 2001. During the initial months of 2006, industrial production and export volumes were also well above the levels of the final quarter of 2005. According to the indicators already available, this dynamism should be maintained in the second quarter.

The stronger than expected improvement in economic activity observed in the first half year accounts for the upgrading of the GDP growth forecast for 2006, from 2.2 to 2.5 p.c., against 1.5 p.c. growth in 2005. However, economic growth is projected to slow down gradually during the year, moving closer to its potential rate, owing to the persistently high oil prices and the euro's recent appreciation against the dollar. Furthermore, external demand is expected to slacken while short-term interest rates and, to a lesser extent, long-term rates should continue to rise. Thus, Belgium's GDP growth is expected to drop to 2 p.c. in 2007. It would then be close to the growth rate forecast for the euro area as a whole, having significantly outpaced it in 2006.

Employment normally mirrors movements in activity, albeit after a certain time-lag and with some attenuation. However, the weakening of economic activity seen at the beginning of 2005 had little impact, since a total of 39,000 extra jobs were created on average over the year, corresponding to an increase of 0.9 p.c. against 2004. This apparent breaking of the link between cyclical variations in activity and employment is due to the labour hoarding effect. Faced with a downturn which they consider temporary, employers prefer to retain their staff rather than incur the successive costs of redundancies followed by recruitment of staff whom they may need to train to meet their requirements once business picks up. Flexibility mechanisms in the organisation of labour, such as variable working hours and temporary unemployment in fact enable firms to adjust the volume of labour in line with output. When business activity accelerates, it first triggers an increase in the actual hours worked, without directly leading to any increase in the rate of job creation.

The rate of labour utilisation is reflected in the growth of productivity per worker, which slowed to 0.6 p.c. in 2005. Owing to the impact of labour hoarding, it should pick up during 2006-2007 to an average of 1.3 p.c., which is closer to its long-term growth rate. Employment should thus continue growing steadily at 0.9 to 1 p.c. per annum, corresponding to the creation of 80,000 new jobs over the period 2006-2007 as a whole.

The creation of new jobs is likely to relate primarily to employees in the private sector. In the public sector, employment is forecast to rise by a total of 8,000 persons

TABLE 3 LABOUR SUPPLY AND DEMAND

(Calendar adjusted data, annual averages, year-on-year changes in thousands of persons, unless otherwise stated)

	2002	2003	2004	2005	2006 e	2007 e
Working-age population	31	30	30	31	36	37
Labour force	15	44	63	58	37	48
p.m. Harmonised activity rate (1)	*64.8*	*64.9*	*65.9*	*66.7*	*66.9*	*67.2*
National employment	–7	–3	24	39	38	42
p.m. Harmonised employment rate (1)	*59.9*	*59.6*	*60.4*	*61.1*	*61.3*	*61.6*
Frontier workers	0	1	1	0	0	0
Domestic employment	–6	–3	24	39	38	42
Self-employed persons	–7	–6	–2	5	6	4
Employees	1	2	26	34	32	38
Public sector	17	10	7	–1	4	3
Private sector	–16	–7	19	34	28	34
Unemployed job-seekers	22	47	38	20	–1	6
p.m. Harmonised unemployment rate (2)	*7.5*	*8.2*	*8.4*	*8.4*	*8.2*	*8.2*

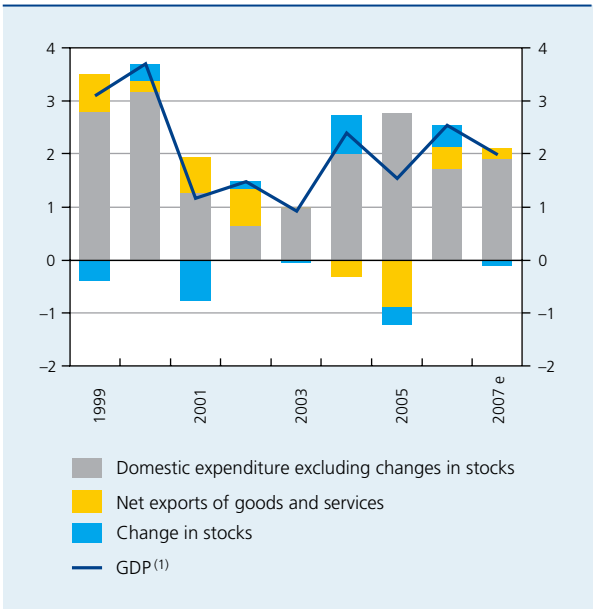
Sources: EC, NAI, NEMO, NBB.

(1) Percentages of the working-age population (15-64 years).

(2) Percentages of the labour force. This series corresponds to the results of the labour force survey, adjusted monthly in accordance with the Eurostat methodology, using national administrative data.

CHART 3 MAIN EXPENDITURE CATEGORIES AT 2000 PRICES

(Calendar adjusted data, contribution to GDP growth in percentage points, unless otherwise stated)



Sources: NAI, NBB.
(1) Annual percentage changes.

by 2007, following a slight decline in 2005, due mainly to a recruitment freeze on the part of the Flemish Region. Having already increased last year for the first time since 1997, the number of self-employed persons is likely to continue rising by a further 10,000 units over the projection period, one reason being the opportunities which the self-employed status offers for the population of the new EU Member States, in terms of access to the Belgian labour market.

The number of additional jobs during the period 2006-2007 more or less corresponds to the predicted increase in the supply of workers on the labour market, resulting partly from the expansion of the working-age population and partly from the increase in the activity rate, from 66.7 p.c. in 2005 to 67.2 p.c. in 2007. The number of unemployed job-seekers is expected to remain more or less steady in 2006 and 2007, despite the inclusion of unemployed job-seekers aged between 50 and 58 years, who are now required to remain available for the labour market. They are therefore counted as unemployed and are included in the labour force. The harmonised unemployment rate, expressed as a percentage of the labour force, is forecast to remain steady at 8.2 p.c.

2.2 Expected developments in the main expenditure categories

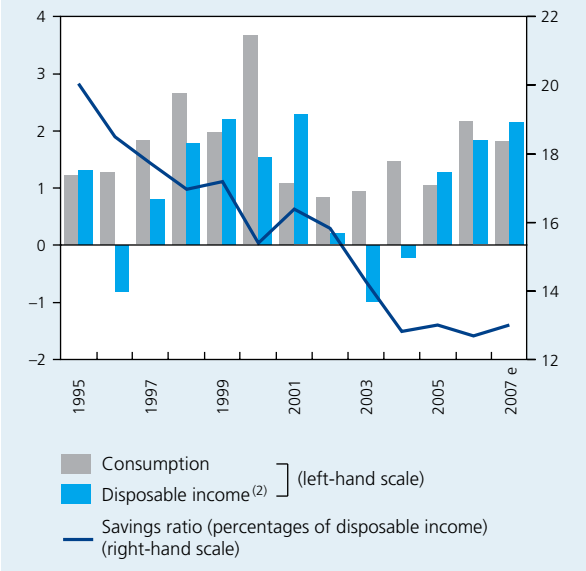
Most of the expenditure categories should contribute to GDP growth in 2006 and 2007, the latter thus presenting a more balanced structure than in 2004 and 2005. Having dampened economic activity for two years, net exports should once again stimulate growth, particularly in 2006. Domestic demand is projected to remain robust during the period in question. Nonetheless, in relation to 2005, it will be based more on consumption expenditure, while the growth rate of investment is expected to slacken, following the exceptional dynamism recorded last year. The contribution of stocks to GDP growth is estimated at 0.4 point in 2006, becoming negligible in 2007.

In 2006, half of the contribution of domestic demand to GDP growth is likely to come from private consumption, which looks set to expand by 2.1 and 1.8 p.c. respectively in 2006 and 2007, against 1.3 p.c. in the two preceding years.

Private consumption should thus record its highest growth rate since 2000, buttressed by an accelerating increase in purchasing power. Following the fall in

CHART 4 CONSUMPTION, DISPOSABLE INCOME AND SAVINGS RATIO OF INDIVIDUALS

(Percentage changes at constant prices compared to the previous year (1), unless otherwise stated)



Sources: NAI, NBB.
(1) Non calendar adjusted data.
(2) Data deflated by the deflator of private final consumption expenditure.

TABLE 4 GROSS DISPOSABLE INCOME OF INDIVIDUALS, AT CURRENT PRICES

(Percentage changes against the previous year, unless otherwise stated)

	2003	2004	2005 e	2006 e	2007 e
Gross primary income	0.3	2.3	3.5	3.4	3.5
of which:					
Wages and salaries	1.8	2.9	3.5	3.5	3.2
Compensation per person	1.7	2.1	2.4	2.5	2.1
Employment	0.1	0.7	1.0	0.9	1.1
Gross operating surplus and gross mixed income	1.1	0.2	4.3	3.7	3.0
Property income (1)	–8.8	1.9	2.7	2.6	5.9
Current transfers (1)	–1.1	2.3	1.1	–0.3	0.9
of which:					
Current taxes on income and assets	0.3	3.3	3.6	0.6	2.7
Gross disposable income	0.6	2.3	4.1	4.2	4.0
p.m. At constant prices (2)	*–1.0*	*–0.2*	*1.3*	*1.8*	*2.2*
Consumption expenditure of individuals	2.6	4.0	3.8	4.6	3.7
Savings ratio (3)	14.3	12.8	13.0	12.7	13.0

Sources: NAI, NBB.
(1) These are net amounts, i.e. the difference between incomes or transfers received from other sectors and those paid to other sectors, excluding transfers in kind.
(2) Figures deflated by the deflator of private final consumption expenditure.
(3) Gross savings as a percentage of gross disposable income, these two aggregates including the net claims of households on pension funds.

inflation, the real increase in private disposable income should strengthen from 1.3 p.c. in 2005 to 1.8 and 2.2 p.c, in 2006 and 2007. In nominal terms, both the primary income earned by individuals and their disposable income, after allowing for net transfers paid to other sectors – which mainly cover taxes and contributions paid to the government, and social benefits received – should increase at a more or less constant rate in 2005 and during the projection period, by around 3.5 p.c. for primary income and 4 p.c. for disposable income. The main reason for the faster growth of disposable income lies in the effects of the implementation of the tax reform initiated in 2001 and reductions in social contributions planned, in particular, for 2007. In that year, the rise in the average level of interest rates taken into account in the assumptions should boost the net capital income of individuals. Within the primary income, that contribution should offset the slight deceleration in wages and the income of self-employed.

According to the projections, the private savings ratio will show little change, hovering around 13 p.c. of disposable income. The consolidation of job creation and the more modest increases in energy prices should cause households to cut back their precautionary savings somewhat in 2006, following a temporary increase in 2005. Conversely, that rate is forecast to increase slightly again in 2007, with individuals making relatively little use of their capital incomes for consumption purposes.

Following an acceleration at the end of 2005, residential investment should remain relatively dynamic in 2006. In the construction sector, confidence stabilised at a high level and the increase in the number of building permits granted, which had already surged by 11 p.c. in 2006, accelerated further at the beginning of 2006. Investment is projected to rise by 3.6 p.c. in 2006, against 3.2 p.c. in 2005, thus exceeding the growth of real disposable income for the fourth year in a row. This growth is underpinned by the continuing low level of long-term interest rates and price rises on the secondary market. According to expectations, the influence of these factors will diminish over the period considered, and that should curb the rate of growth of residential investment, bringing it down to 1.7 p.c. in 2007, comparable to the rise in disposable income.

In 2006 public consumption is expected to maintain the growth rate seen in preceding years. However, there should be a slight acceleration in 2007 on account of health care spending.

TABLE 5 GDP AND MAIN CATEGORIES OF EXPENDITURE AT 2000 PRICES

(Calendar adjusted data; percentage changes compared to the previous year, unless otherwise stated)

	2003	2004	2005	2006 e	2007 e
Consumption expenditure of individuals	1.0	1.3	1.3	2.1	1.8
Consumption expenditure of general government	2.6	1.9	1.9	1.9	2.4
Gross fixed capital formation	–0.6	4.4	8.4	0.9	2.0
Housing	3.7	9.1	3.2	3.6	1.7
General government	1.0	1.1	14.1	–5.6	6.3
p.m. Excluding sales of public buildings	*1.0*	*6.9*	*5.2*	*5.8*	*–6.7*
Enterprises	–2.0	3.3	9.4	0.8	1.5
p.m. Excluding purchases of government buildings and ships	*–2.2*	*–0.1*	*10.6*	*2.4*	*3.0*
Change in stocks (1)	–0.1	0.7	–0.3	0.4	–0.1
p.m. Total domestic expenditure	*0.9*	*2.8*	*2.5*	*2.2*	*1.8*
Net exports of goods and services (1)	0.0	–0.3	–0.9	0.4	0.2
Exports of goods and services	2.8	5.6	2.6	5.2	4.3
Imports of goods and services	2.9	6.3	3.8	4.9	4.2
GDP	0.9	2.4	1.5	2.5	2.0

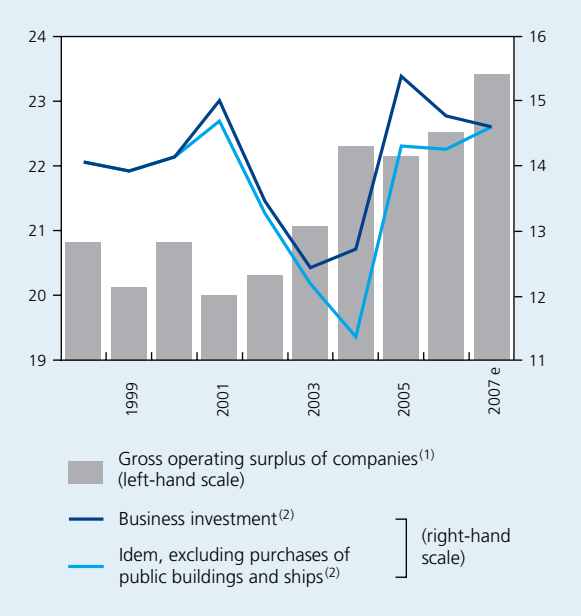
Sources: NAI, NBB.
(1) Contribution to the change in GDP.

The increase in public investment in 2006, excluding sales of public buildings, should also be in line with the trend in previous years. Local authority investment is expected to remain substantial at first, as a result of the run-up to the municipal and provincial elections in October. In 2007 investment is forecast to decline by 6.7 p.c. However, the expected pattern of public investment is greatly distorted by significant sales of public buildings, classed as government disinvestment in the national accounts. In all, these sales are estimated at 0.7 billion euro in 2006, with enterprises and foreign countries appearing as the counterparties for 0.6 and 0.1 billion euro respectively. Taking account of these sales, public investment is expected to fall by 5.6 p.c. in 2006 before rising by 6.3 p.c. in 2007.

Having been decidedly reticent in the preceding years, enterprises substantially stepped up their investment in 2005 by around 10 p.c. According to the projections, investment growth should drop to 0.8 p.c. in 2006 and 1.5 p.c. in 2007. However, abnormal factors, particularly the absence of major additional investment in maritime transport after the first half of 2005, and the real estate transactions relating to the sales of buildings by public authorities, representing large amounts in 2006, depress the growth rates recorded. Leaving aside all exceptional transactions, enterprises are projected to increase their gross fixed capital formation by 2.4 and 3 p.c. in 2006 and 2007 respectively.

CHART 5 BUSINESS INVESTMENT AND GROSS OPERATING SURPLUS

(Percentages of GDP)



Sources: NAI, NBB.
(1) Gross data at current prices.
(2) Calendar adjusted data, at constant prices.

The caution displayed by enterprises during 2002-2004 caused the investment ratio to decline by 1.3 percentage points of GDP, despite the relatively favourable situation in terms of demand and financing conditions. After the catching up which ensued in 2005, this rate – expressed exclusive of exceptional transactions – is expected to remain steady at 14.3 p.c. of GDP in 2006 and 14.4 p.c. in 2007.

Demand and financing conditions look set to remain favourable during the projection period, and investment should therefore continue to bolster GDP growth. First, in manufacturing industry the rate of capacity utilisation has increased considerably in the recent period, owing to the revival in output. Next, enterprises have substantial own resources, measured on the basis of the gross operating surplus, at 22.1 p.c. of GDP in 2005. These resources should increase further during the period in question, to reach 23.4 p.c. of GDP in 2007, owing to the wider margins due to the slower pace of input price increases and the moderate rise in labour costs, combined with the increase in the volume of sales.

Finally, the conditions for raising external finance via borrowing or share issues also remain favourable, even if the long-term interest rate is likely to increase slightly to 4.3 p.c. by the end of the projection period. At the end of 2005, for the first time since the second quarter of 2002, the prospect of stronger demand and the favourable credit conditions brought a year-on-year increase in the volume of lending to non-financial corporations.

The volume of exports of goods and services had contracted sharply in the first quarter of 2005, following the weakening of external demand addressed to Belgium. Although the export markets then rapidly resumed their sustained growth, exports took a little longer to recover, picking up from the end of the year. Overall, exports of goods and services grew by 2.6 p.c. in 2005, which was well below the expansion of the export markets.

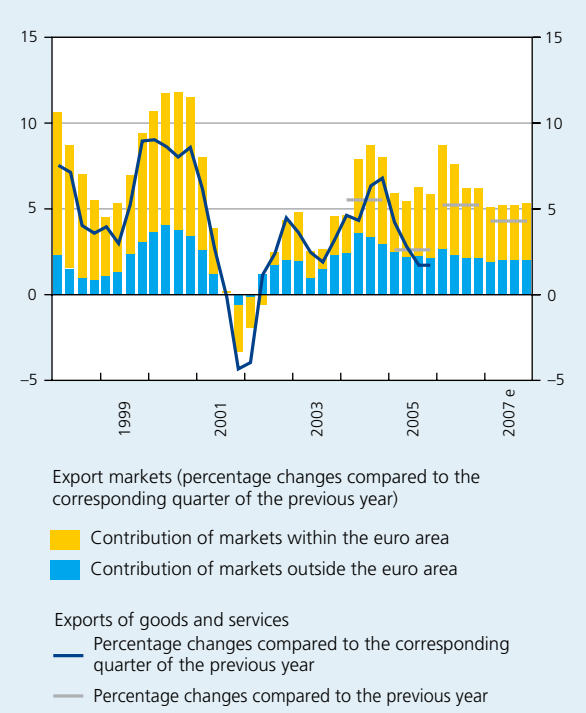
The recent figures point to a further acceleration of the export markets at the beginning of 2006, slightly surpassing expectations. This improvement which, according to the foreign trade statistics, also boosted the volume of exports, will have done much to support the consolidation of growth during the first half of 2006. The more vigorous foreign demand is based entirely on the demand from partners within the euro area, where the growth rate is expected to match that of markets outside the euro area. According to the assumptions adopted by the Eurosystem, the expansion of Belgium's export markets will accelerate in 2006 to reach 7.2 p.c., before dropping back to 5.3 p.c. in 2007.

These developments are projected to generate a recovery in the volume growth of exports, boosting it to 5.2 p.c. in 2006, before slowing down to 4.3 p.c. in 2007, owing to developments on the export markets and the delayed effects of the recent currency appreciation. Taking the projection period as a whole, however, the loss of market shares is expected to be less than in 2005, owing to the larger proportion represented by euro area partners in the expansion of the relevant export markets, and the improvement in price competitiveness resulting from the more moderate trend in Belgium's export prices, in line with the prices of competitors. As a result of less steep increases in the prices of energy and commodities, the pace of import price rises is also expected to slow down, although initially they may continue to outstrip export prices, causing a deterioration in the terms of trade in 2006 of 0.6 p.c., against 0.7 p.c. in 2005. Conversely, a small improvement is expected in 2007.

The growth rate of the import volume is estimated to increase from 3.8 p.c. in 2005 to 4.9 p.c. in 2006 and 4.2 p.c. in 2007, the acceleration being less than that of exports, as the unusually dynamic investments bolstered the volume of imports in 2005. Also, after dampening

CHART 6 EXPORT MARKETS AND EXPORTS OF GOODS AND SERVICES

(Data adjusted for seasonal and calendar effects)



Sources: ECB, NAI, NBB.

growth for two years, net exports should contribute to growth at a rate of 0.4 p.c. of GDP in 2006. However, that contribution is expected to fall slightly in 2007, to 0.2 p.c. of GDP.

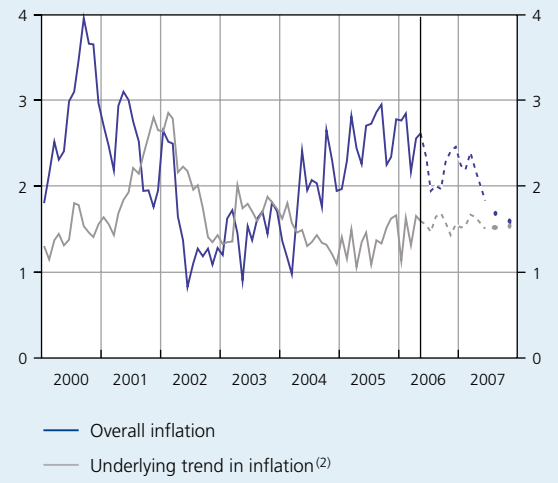
While the steep increases in import prices and the slackening growth of export volumes had considerably eroded the balance of current transactions in 2005, the movement in import and export volumes and prices should lead to a modest improvement in that balance during the projection period, boosting it to 2.1 p.c. of GDP in 2006 and 2.3 p.c. in 2007, against 1.7 p.c. in 2005.

3. Prices and costs

Since 2004, the movement in overall inflation in Belgium has been determined mainly by energy prices. The almost continuous rise in the past two years pushed inflation measured by the HICP to over 2 p.c. Energy prices also exert a dominant influence on the recent monthly fluctuations, and in the projections up to the end of 2007. Thus, temporary measures aimed at reducing the cost of heating oil for households had slowed inflation by around 0.2 point in the final quarter of 2005, but the new increase in the price of crude oil on the international markets brought inflation to 2.8 p.c. at the beginning of the current year. The profile of the projections is influenced by a sequence of effects, namely the downward basis effect in the summer of 2006, as the corollary to particularly high oil prices twelve months earlier, then the upward effect caused by the temporary measures

CHART 7 INFLATION

(HICP – percentage changes compared to the previous year, unless otherwise stated [1])



Sources: EC, NBB.

(1) Excluding the estimated effect, in January and July 2000, of the fact that prices discounted in sales have been taken into account in the HICP from 2000 onwards.

(2) Measured by the HICP excluding unprocessed food and energy.

TABLE 6 PRICE AND COST INDICATORS

(Percentage changes compared to the previous year, unless otherwise stated)

	2003	2004	2005	2006 e	2007 e
HICP	1.5	1.9	2.5	2.4	1.9
Health index	1.5	1.6	2.2	1.7	1.9
Deflators of the demand components and of GDP					
Imports	–2.1	2.8	6.4	3.8	1.3
Exports	–2.1	2.3	5.6	3.3	1.4
p.m. Terms of trade	*–0.1*	*–0.5*	*–0.7*	*–0.6*	*0.1*
Domestic demand	1.9	2.7	2.7	2.1	1.8
GDP	1.7	2.3	2.2	1.5	1.9
Costs of domestic origin per unit of value added (contributions to the change in the GDP deflator)					
Labour costs	0.4	0.1	1.1	0.4	0.6
Gross operating surplus	1.2	1.5	0.9	0.9	1.5
Indirect taxes net of subsidies	0.1	0.7	0.3	0.3	–0.2

Sources: EC, NAI, NBB.

mentioned. More fundamentally, the energy component is expected to continue making a major contribution to overall inflation until the initial months of 2007. That will then diminish rapidly, coinciding with the slight fall incorporated in the assumption adopted for oil prices. As a result, overall inflation should drop back below 2 p.c. in the second half of 2007. Taking an annual average, it will fall from 2.5 p.c. in 2005 to 2.4 p.c. in 2006, an upward revision of 0.1 point compared to the autumn 2005 forecast. Inflation in 2007 is projected at 1.9 p.c.

Apart from its direct effect, the increase in the energy price has had hardly any significant repercussions so far on the general price movement. On the contrary, the underlying trend in inflation has steadily eased, from an average of 2.1 p.c. in 2002 to 1.4 p.c. in 2005. However, it began to edge upwards during last year and, according to the projections, should continue to do so since the underlying trend in inflation is expected to reach 1.6 p.c. by the end of 2007. This change is due to the accelerating import price rises observed in 2005, previously curbed by the euro's appreciation. Apart from energy, the price increases of imported commodities were particularly significant, and that is expected to contribute towards a progressive increase in the prices of industrial goods. However, that effect is restrained by the growing competition generated by the globalisation of trade. In services, price increases are expected to be limited to around 2 p.c., following the moderation of inflationary pressures of domestic origin.

In 2006 and 2007, the increase in total domestic costs incorporated in the overall output of goods and services, as reflected in the GDP deflator, is expected to remain below 2 p.c., the main factor being the moderate contribution of labour costs, in the order of 0.5 point, in line with the picture seen in 2003 and 2004. This contribution was slightly above 1 point in 2005, the acceleration having been largely absorbed by a smaller rise in the operating surplus.

The acceleration in unit labour costs seen in 2005 was also apparent in the business sector, where the increase came to 1.6 p.c. It was due to the temporary decline in the growth of productivity, which fell to just 0.2 p.c. owing to the downturn in business activity at the beginning of the year. In a context of a more balanced economic growth, productivity is expected to increase at an average annual rate of 1.4 p.c. in 2006 and 2007, close to its trend rate. In both of those years the rise in unit labour costs is expected to drop to 0.8 p.c.

According to the data now available for 2005 and the developments expected in 2006, hourly labour costs will rise by 4.2 p.c. over the two years together. Despite the impact of higher indexation than was expected at the time of the central pay negotiations at the end of 2004, that increase should be less than the nominal 4.5 p.c. norm adopted by the government for 2005-2006. Among the factors contributing to that outcome, the introduction of the new health index in January 2006 has the technical effect of reducing automatic wage indexation in that

TABLE 7 LABOUR COSTS IN THE PRIVATE SECTOR

(Percentage changes compared to the previous year)

	2003	2004	2005 e	2006 e	2007 e
Labour costs per hour worked	1.5	1.9	1.8	2.4	1.9
Collectively agreed wages (1)	1.8	2.4	2.4	2.4	
Real agreed adjustments	0.4	1.0	0.4	0.6	
Indexations	1.5	1.4	2.0	1.9	
Wage drift (2)	–0.6	–0.1	–0.1	0.0	
Employers' social security contributions	0.3	–0.4	–0.5	0.0	
Labour productivity (3) (4)	1.3	1.9	0.2	1.6	1.1
Unit labour costs	0.2	0.0	1.6	0.8	0.8

Sources: FPS Employment; Labour and Social Dialogue; NAI; NBB.

(1) Wage increases set by the joint committees.

(2) Increases and bonuses granted by enterprises, over and above those under central and sectoral collective agreements, wage drift resulting from changes in the structure of employment, and errors and omissions.

(3) Value added at constant prices per hour worked by employees and the self-employed.

(4) Calendar adjusted data.

year.[1] In addition, the wage drift has been less than in the past, probably because of structural changes in the structure of employment. Additional cuts in employers' social contributions also curbed the increase in labour costs in 2005, as they had in the previous year. Measures aimed at reducing the tax burden were also introduced for shift workers and scientific researchers, plus measures aimed at cutting the tax wedge on overtime pay. According to the national accounts conventions, they are recorded as subsidies paid to the companies and not as a component of labour costs. Nonetheless, despite this slower rise in labour costs during 2005-2006, the handicap in relation to the three neighbouring countries – Germany, France and the Netherlands – has probably increased. The downward revision in those countries is likely to have been greater than that in Belgium.

For 2007, the 1.9 p.c. rise in hourly costs assumed for this exercise is of the same order of magnitude as in previous years, and broadly corresponds to the expected indexation effect.

(1) The interested reader will find an explanation for that effect in point 3.5 of the article published in this review on the new national consumer price index.

4. Public finances[2]

4.1 Summary

According to provisional figures published by the NAI in April 2006, Belgian public finances recorded a small surplus of 0.1 p.c. of GDP in 2005.[3] However, according to the projections the budget should show a deficit again from 2006, limited to 0.3 p.c. of GDP this year but reaching 1.2 p.c. of GDP in 2007. These projections, which were based on the macroeconomic context described above, take account only of budget measures

(2) The projections for public finances allow for calendar effects on the macroeconomic variables. According to that calculation, real growth of GDP was 1.2 p.c. in 2005, 2.6 p.c. in 2006 and 1.9 p.c. in 2007, compared to 1.5 p.c., 2.5 p.c. and 2.0 p.c. respectively for calendar adjusted GDP.

(3) In April 2006, Eurostat announced that it had reservations about the NAI's statistical treatment of the BNRC restructuring on 1 January 2005. In Eurostat's opinion, the incorporation of the BNRC's historical debts in the Rail Infrastructure Fund should have been included in government expenditure as a capital transfer. As a result, the 2005 budget would have shown a deficit of 2.4 p.c. of GDP rather than a surplus of 0.1 p.c. of GDP. However, the Belgian government has announced that it will introduce legislation to annul this transaction with retroactive effect and the way in which it is eventually recorded therefore requires further examination. It should be pointed out that this is a one-off transaction and that its exact statistical treatment in no way influences the budget projections described in this article for the period from 2006 to 2007.

TABLE 8 BUDGET PROJECTIONS: OVERVIEW[1]

(Percentages of GDP)

	2003	2004	2005	2006 e	2007 e
Public revenue	51.2	49.4	50.1	49.4	48.7
Primary expenditure	45.8	44.6	45.6	45.6	45.9
Primary balance	5.4	4.8	4.5	3.9	2.8
Interest charges	5.3	4.8	4.4	4.2	4.0
Financing balance	0.1	0.0	0.1	–0.3	–1.2
Change in the financing balance		–0.1	0.1	–0.4	–0.9
due to changes[2] in:					
interest charges		0.6	0.4	0.2	0.2
cyclical component[3]		–0.2	–0.3	0.3	0.0
GDP growth		0.3	–0.4	0.3	–0.1
composition effects		–0.6	0.1	–0.1	0.1
non-recurrent factors		–0.5	–0.3	0.0	–0.6
structural primary balance[4]		0.0	0.2	–0.8	–0.5
Public debt	98.5	94.7	93.3	90.4	88.7

Sources: NAI, NBB.

(1) According to the methodology used in the excessive deficit procedure (EDP). This methodology differs from that of the ESA 95 which was adjusted in 2001 to exclude from the calculation of the financing balance and interest charges the net interest gains on certain financial transactions, such as swaps and forward rate agreements (FRAs).

(2) A positive (negative) figure improves (deteriorates) the financing balance.

(3) According to the methodology described by Bouthevillain C., Ph. Cour-Thimann, G. van den Dool, P. Hernández de Cos, G. Langenus, M. Mohr, S. Momigliano and M. Tujula (2001), *Cyclically adjusted budget balances: an alternative approach*, ECB Working Paper Series, n° 77 (September). A less technical description of this methodology can be found in Box 6 *Cyclically adjusted budget balances: calculation method used by the ESCB* in the NBB Report 2003 (Part 1), pp. 83-84.

(4) Balance adjusted for cyclical and non-recurrent factors.

which have already been announced and are sufficiently detailed; they obviously disregard the effect of possible future decisions, e.g. at the time of an additional budget review in 2006 and the preparation of the 2007 budget. In accordance with the ESCB methodology, the actual budget targets, such as the zero balance for this year and a small surplus for 2007, laid down in the December 2005 stability programme, are not taken into account.

The movement in the budget balance is due to the influence of four different factors.

During the projection period, the financing balance should continue to benefit from the decline in interest charges. Although the forecasts are based on the assumption of rising short and long-term interest rates, the average implicit rate on the public debt should continue to fall, albeit at a less sustained rate than in recent years. This further fall is due to the low proportion of debt securities tied to short-term interest rates, and the fact that when long-term loans are repaid, they can still be refinanced at lower rates. Combined with the additional decline in the debt ratio, this should reduce interest charges by 0.2 p.c. of GDP per annum in 2006 and 2007.

TABLE 9 MAIN NON-RECURRENT FACTORS[1]

(Millions of euro, unless otherwise stated)

	2005	2006 e	2007 e
Shift between withholding tax on earned income and assessments	205	0	0
Sales of real estate	171	711	0
Capital transfers in return for taking over pension liabilities	503	0	0
Tax regularisation operations	0	400	0
Securitisation of tax arrears	439	440	–336
Repayment of charges levied or payment of arrears following judicial decisions	224	0	0
Energy consumption rebate	–145	–97	0
Total	**1,397**	**1,454**	**–336**
p.m. Percentages of GDP	*0.5*	*0.5*	*–0.1*

Sources: NAI, NBB.
(1) A positive (negative) figure improves (deteriorates) the financing balance.

The revival of economic activity is also favourable for public finances. This year in particular, activity should expand by more than the trend growth rate. Viewed overall, the business cycle should improve the financing balance by 0.3 p.c. of GDP during the period considered.

However, the influence of lower interest charges and the favourable business cycle is likely to be more than offset by the disappearance of non-recurrent factors and, above all, the structural decline in the primary surplus.

In 2005, non-recurrent factors improved the financing balance by 0.5 p.c. of GDP. This year, the impact of those factors should be broadly similar. New real estate sales, mainly via a real estate investment fund with fixed capital (SICAFI) set up for the purpose, should raise over 700 million euro. In addition, the government would again arrange the securitisation and sale of tax arrears in 2006.[1] This concerns indirect taxes and the proceeds are estimated at 600 million euro. However, the net impact of these securitisation operations on the 2006 budget is lower: the operation carried out in 2005 will have the effect of reducing revenues in the ensuing years, as the arrears concerned accrue to the purchasers of the underlying securities on collection. Revenues are expected to be around 160 million euro lower in 2006. In addition, the projections take account of the government's estimate of the revenue from a new operation to settle unpaid taxes which, unlike the one-off tax regulation applied in 2004, is also applicable to businesses. Finally, the temporary rebate granted in 2006 on household consumption of natural gas is expected to cost almost 100 million euro. For 2007, the estimates only take account of the negative impact on that year's tax revenues of the two securitisation operations mentioned earlier.

Adjusted for the influence of cyclical and non-recurrent factors, and following a small increase over the last two years, the primary surplus is expected to fall by 1.4 p.c. of GDP during 2006-2007.

Despite the budget deficits predicted for 2006 and 2007, the debt ratio should continue to decline during those years. In contrast to 2005, when the reduction in the debt ratio had been seriously curtailed by the debt-increasing impact of the BNRC restructuring, no major adjustments between the deficit and the debt are expected either this year or next. At the end of 2006, the debt ratio should come to 90.4 p.c. of GDP. In 2007, the public debt should continue to fall, dropping to 88.7 p.c. of GDP.

(1) Eurostat will further clarify the statistical treatment of the securitisation operations carried out by the government.

4.2 Revenue

In both 2006 and 2007, public revenues are expected to contract sharply in relation to GDP, by 0.6 and 0.7 p.c. of GDP respectively. This decline is due to the disappearance of non-recurrent measures which boosted revenues in 2005, and measures which, in net terms, reduce the burden of taxes and parafiscal levies.

As regards these last measures, the personal income tax reform will continue to have a significant impact on the tax assessments, especially in 2006 – of almost 1.4 billion euro – as a number of aspects of the reform which came into force in 2004 were not taken into account in the withholding tax on earned income. Moreover, social security contributions will be further reduced. For 2006, this primarily concerns an extra reduction in the personal contributions for the lowest wages, whereas the cuts in employers' contributions for young workers and older workers, introduced via the Generation Pact, should mainly depress revenues in 2007. Overall, social security contributions would be cut by 650 million euro over the two years. Finally, revenues should also be reduced, although to a lesser extent, by the decision to grant a corporation tax allowance for taxes paid to the regions and subsidies received from them, the increase in the tax allowance for pension savings in the calculation of personal income tax, the gradual abolition of the compensatory excise duty on diesel cars, the reduction in levies on drinks in non-returnable packaging and the reduction in personal income tax planned in the Flemish Region for 2007.

However, the impact of these reductions in charges should be partly offset by other measures. Thus, specific measures will be taken to further step up the battle against tax and social contribution fraud. In this connection, the estimates take into account the additional revenue of more than 550 million euro expected by the government, including that generated by more efficient collection of social contributions on the private use of company cars. In addition, the levies on certain financial products were increased in 2006. On the one hand, this concerns a new 1.1 p.c. tax on premiums for various insurance products. On the other hand, the share of the surplus value resulting from interest recorded by certain capitalisation investment funds is made subject to the 15 p.c. withholding tax on income from movable property, while the stock market tax on the sale of these funds has been increased. These two tax increases together should bring in around 455 million euro.

Overall, the new measures should lead to a reduction in taxes and parafiscal levies of 0.3 and 0.2 p.c. of GDP respectively in 2006 and 2007.

In addition, structural shifts in the macroeconomic framework are also expected to curb the growth of public revenues. The trend increase in labour incomes, which are taxed at a relatively high rate, would indeed be considerably below the increase in GDP, which automatically reduces revenue as a percentage of GDP.

TABLE 10 STRUCTURAL MEASURES RELATING TO PUBLIC REVENUES

(Millions of euro, unless otherwise stated; changes compared to the previous year)

	2006	2007
Taxes	–572	–441
Personal income tax reform (1)	–1,356	–146
Increased tax allowance for pension savings	–8	–66
Flemish Region tax abatement	0	–125
Withholding tax on income from certain capitalisation funds	235	0
Tax allowance for regional taxes and subsidies	–149	0
Tax on class 21 and class 23 insurance products	220	0
Reduction in levies on drinks in non-returnable packaging	–97	0
Gradual abolition of the compensatory excise duty on diesel cars	–44	–89
Fight against fraud and more efficient collection	480	0
Other	147	–15
Social security contributions	–323	–332
Reduction in employers' contributions	–38	–332
Reduction in employees' contributions	–361	0
Fight against fraud and more efficient collection (2)	76	0
Total	**–895**	**–773**
p.m. Percentages of GDP	*–0.3*	*–0.2*

Sources: FPS Finance, NSSO, budget documents.
(1) Including the secondary effects on municipal taxes.
(2) Including the levies on company cars.

4.3 Primary expenditure

The estimates of primary expenditure in 2006 take account of the budget of the federal authorities, including the social security budget, and the budgets of the communities and regions. The relatively rapid growth in

2006 is due to the strong expansion of certain categories of expenditure. Thus, after a particularly modest increase in 2005, the real growth of health care spending should once again be well above the trend increase in activity. Moreover, the investment expenditure of the local authorities should continue to rise strongly, as is usual in a municipal and provincial election year. In addition, expenditure in 2006 will be swollen by the increase in the budget earmarked for the service vouchers and by the measures in favour of shift work, the employment of researchers, and overtime working which, in accordance with the ESA 95, are recorded as subsidies.

It is obviously difficult to estimate the growth of primary expenditure for 2007, since no budget is available as yet for that year. The estimates are therefore based on a relatively neutral spending policy, whereby the increase in primary expenditure, adjusted for cyclical and non-recurrent factors, should be close to the trend growth of activity. The impact of the relatively steep rise in health care spending would be offset here by the decline in investment expenditure on the part of the local authorities, typical in a year following the municipal and provincial elections.

5. Assessment of the uncertainty of the projections

The economic projections for Belgium discussed in this article were prepared at a time of significant changes in various ambient factors, namely recent developments in economic activity and movements on the international financial markets, that could distort the outlook. In the short term, the current upturn in the cycle, which accounts for the 0.3 point upward revision of GDP growth in 2006, could prove a little stronger than expected. All things considered, the strong and rapid improvement in business confidence during the initial months of the year might also suggest a more dynamic expansion in activity. However, confidence could rapidly subside, as attested in recent times.

These projections indicate a gradual slackening of the growth rate, as oil prices remain steady at a high level, with stable exchange rates at their level of mid-May 2006 – following the euro's appreciation during the preceding weeks – rising interest rates and gradually weakening foreign demand. In the current situation, these assumptions – and hence the projections themselves – are subject to a considerable margin of uncertainty.

In view of the continuing sustained demand and tensions on the supply side, which are also fuelled by geopolitical factors, the movement in oil prices, as in prices of other commodities, remains particularly uncertain. Any additional increase in the cost would depress consumption and investment demand via the decline in real household incomes and the operating surplus of businesses. It would curb world growth, and hence export demand. Beyond the direct effect exerted by the energy component of the price index, it would also be liable to rekindle inflationary pressure. Conversely, a degree of

TABLE 11 COMPARISON OF THE FORECASTS FOR BELGIUM

(Percentage changes compared to the previous year)

	Real GDP		Inflation [1]		Publication date
	2006	2007	2006	2007	
NBB – Spring 2006	2.5	2.0	2.4	1.9	June 2006
p.m. Autumn 2005	2.2	n.	2.3	n.	December 2005
Federal Planning Bureau (FPB)	2.4	2.1	2.4	1.8	May 2006
IMF	2.1	2.4	2.4	1.8	April 2006
EC	2.3	2.1	2.4	2.1	May 2006
OECD	2.5	2.4	2.2	1.9	May 2006
Belgian Prime News	2.2	1.9	2.1	1.6	March 2006
Consensus Economics	2.3	2.1	2.3	1.9	May 2006
Economist's Poll	2.2	1.9	2.1	1.8	May 2006
p.m. Actual figures 2005	*1.5*		*2.5*		

(1) HICP, except FPB : deflator of private consumption.

TABLE 12 COMPARISON OF THE ASSUMPTIONS

	2006					2007				
	NBB	EC	IMF	FPB	OECD	NBB	EC	IMF	FPB	OECD
Export markets	7.2	7.5	n.	6.6	n.	5.3	5.9	n.	6.2	n.
Oil (dollars per barrel)	70.3	68.9	61.25	66.9	68.0	73.9	71.0	63.0	67.0	70.0
Short-term interest rate	3.1	n.	3.0	3.1	2.7	3.9	n.	3.4	3.3	3.4
Long-term interest rate in Belgium	4.0	n.	n.	3.9	4.0	4.2	n.	n.	4.1	4.3
Dollars per euro	1.25	1.22	1.19	1.22	1.24	1.27	1.22	1.20	1.24	1.26

normalisation cannot be ruled out, though the timescale is difficult to define.

The substantial current account imbalances which have persisted for several years, and will tend to increase slightly in 2006 and 2007, could trigger a larger increase in long-term interest rates than was allowed for in the assumptions, or major exchange rate adjustments. A sudden appreciation of the euro would damage the price competitiveness of the euro area and the growth of international trade in goods, variables to which the Belgian economy is particularly sensitive.

In Germany, major changes to indirect taxes are planned for 2007, accompanied in particular by a measure to reduce employers' contributions and to speed up depreciation temporarily under the tax rules. Given the unusual character of the measures, the effects which they will exert in the short and medium term on the behaviour of the economic agents, and their impact on the neighbouring economies, are difficult to predict with any accuracy.

As regards the pattern of activity, the Bank's projections differ from those of the international institutions and the average views of the private forecasters in that GDP growth is put slightly higher in 2006, with a more marked slowdown in 2007. These differences mainly reflect a more favourable starting situation, as indicated by recent statistical information, and the effect of less favourable medium-term assumptions, particularly for the euro exchange rate and the dollar price of oil. These last two factors largely cancel one another out where inflation is concerned, so that the Bank's projections on that point are similar to those of the international institutions.

Annex

PROJECTIONS FOR THE BELGIAN ECONOMY: SUMMARY OF THE MAIN RESULTS

(Percentage changes compared to the previous year, unless otherwise stated)

	2003	2004	2005	2006 e	2007 e
Growth (calendar adjusted data)					
GDP at 2000 prices	0.9	2.4	1.5	2.5	2.0
Contributions to growth:					
Domestic expenditure, excluding change in stocks	1.0	2.0	2.8	1.7	1.9
Net exports of goods and services	0.0	–0.3	–0.9	0.4	0.2
Change in stocks	–0.1	0.7	–0.3	0.4	–0.1
Prices and costs					
Harmonised index of consumer prices	1.5	1.9	2.5	2.4	1.9
Health index	1.5	1.6	2.2	1.7	1.9
GDP deflator	1.7	2.3	2.2	1.5	1.9
Terms of trade	–0.1	–0.5	–0.7	–0.6	0.1
Unit labour costs in the private sector	0.2	0.0	1.6	0.8	0.8
Hourly labour costs in the private sector	1.5	1.9	1.8	2.4	1.9
Hourly productivity in the private sector	1.3	1.9	0.2	1.6	1.1
Labour market					
Domestic employment (annual average change in thousands of units)	–3.3	23.7	38.5	38.2	41.6
Harmonised unemployment rate [1] (p.c. of the labour force)	8.2	8.4	8.4	8.2	8.2
Incomes					
Real disposable income of individuals	–1.0	–0.2	1.3	1.8	2.2
Savings ratio of individuals (p.c. of disposable income)	14.3	12.8	13.0	12.7	13.0
Public finances					
Primary balance (p.c. of GDP)	5.4	4.8	4.5	3.9	2.8
Financing requirement (–) or capacity of general government (p.c. of GDP) [2]	0.1	0.0	0.1	–0.3	–1.2
Public debt (p.c. of GDP)	98.5	94.7	93.3	90.4	88.7
Current account (p.c. of GDP according to the balance of payments)	**4.1**	**3.4**	**1.7**	**2.1**	**2.3**

Sources: EC, NAI, NSI, NBB.

(1) "Adjusted series" (Eurostat).

(2) According to the methodology used in the excessive deficit procedure (EDP).

A new national index of consumer prices and 10 years of the HICP

D. Cornille *

Introduction

This article discusses recent developments in regard to measures of inflation, both in Europe in general and in Belgium in particular. The introduction of a new national index of consumer prices (NICP) in Belgium at the start of 2006 and almost 10 years of application of the harmonised index of consumer prices (HICP) at European level constitute an opportune moment to look back over recent methodological developments, in order to highlight the progress made and underline the challenges still to be tackled. Although methodology lies at the heart of this subject, it is equally relevant from an economic perspective because of the key roles played by both the HICP and NICP.

The article starts by explaining some basic principles and describing the two inflation measures simultaneously used in Belgium, namely the NICP and HICP, before discussing a number of aspects of the recent reform of the NICP.

1. Coexistence of the national index of consumer prices and the harmonised index

In Belgium, the NICP has a long history dating back to 1920, the year in which the first index (base 1914 = 100) was published. Of course, the methodology has undergone many changes, as has the way in which the index is used. At present the NICP and, since 1994, its variant known as the "health index", forms the point of reference for everything related to the indexation of wages and salaries, social security benefits, rents, and so on, with a view to protecting households' purchasing power. For this reason, the drawing up and calculation of the NICP are based on consultation between the social partners within the Index Committee and the National Labour Council. This consultation is a uniquely Belgian phenomenon, which has existed in various forms since the inception of the index.

In practice, the NICP is calculated each month by the *FPS Economy, SMEs, Self-employed and Energy*, according to the methodology approved by the Minister for the Economy on the advice of the Index Committee. The index is only published once it has been approved by the Index Committee. In the event of disagreement at Committee level, it is the Minister for the Economy who must make the final decision.

Like Belgium, the other European countries have consumer price indices with their own specific features and there are sometimes significant methodological differences between countries. These disparities were even more pronounced some ten years ago, creating a need to harmonise the national indices within the EU.

So the HICP was born[(1)]. This index has been published since 1997, and retropolated data have been available since 1995 (and for some countries from as early as 1990). The HICP was initially used in connection with the convergence criteria set out in the Maastricht Treaty[(2)], and still plays a role in this regard for the new members

* The author wishes to thank M. Collin and L. Aucremanne for their contribution to this article.

(1) In accordance with Council Regulation (EC) no.2494/95, implemented in January 1997.

(2) The Treaty dates back to 1992, prior to the introduction of the HICP, but already referred to inflation being calculated using the index of consumer prices on a comparable basis.

of the EU wishing to join the euro area[1]. Since the start of phase 3 of European Monetary Union, this index has been directly applied in the quantitative definition of price stability in the euro area, which is a central element of the monetary policy strategy of the Eurosystem. In fact, the ECB's Governing Council defined price stability as a situation in which the year-on-year rise in the HICP for the euro area is maintained, over the medium term, below, but close to, 2 p.c.

The HICP of the EU Member States are calculated at national level, but using methodologies harmonised by Eurostat and in accordance with specific European legislation. Eurostat also calculates the aggregates for the EU or the euro area. In Belgium, as with the NICP, it is the *FPS Economy, SMEs, Self-employed and Energy* which calculates the index. The Index Committee is not involved at any stage in compiling or publishing the HICP.

The Belgian HICP is published by Eurostat, at the same time as the HICP for the other EU countries and the HICP for the euro area as a whole, of which the Belgian HICP is a component. Uniquely for the euro area, although it compiles the statistics, the *FPS Economy, SMEs, Self-employed and Energy* does not publish the index. This situation is regrettable, because a key variable such as the HICP certainly deserves to be better promoted by its producer.

The coexistence of two indices is not unique to Belgium, but occurs in most other countries of the EU-15. However, there is no truly compelling argument for using two different measures of inflation at the same time. Both from the point of view of safeguarding purchasing power – the aim of the national index – and for monetary policy purposes, inflation must be measured as accurately as possible, based on high quality standards. In fact, the two objectives are in no way contradictory – quite the opposite. The very essence of a monetary policy geared towards price stability is precisely to prevent any monetary erosion of purchasing power. In practice, however, there are considerable methodological differences between the two indices which, in certain circumstances, may result in substantial discrepancies in the measured inflation trend, which is liable to cause some confusion among the general public.

2. The main methodological principles of the two indices[2]

2.1 The concept of household final monetary consumption expenditure

The concept used for the coverage of the HICP is that of "Household Final Monetary Consumption Expenditure" (HFMCE). The same principle has been applied for the Belgian NICP since 1998. HFMCE is "expenditure incurred on goods and services that are used for the direct satisfaction of individual needs or wants of households" (Council Regulation (EC) no. 1687/98). In HFMCE, the reference to the notion of "monetary" means a payment must take place. The requirement for a monetary transaction to take place in order for a product to be included in the HICP reflects the idea that inflation is a monetary phenomenon, in the long term at least.

As practices differed among Member States, initially products for which the consumer does not pay the full price were not included in the HICP, although they were already being incorporated in the NICP. It was subsequently agreed that, in accordance with the monetary concept, the prices included in the HICP should reflect the amounts actually paid by households, less refunds (e.g. the patient's contribution). This net price concept is also applied for the NICP.

At the present time, the costs of owner occupied housing are not included in the HICP (cf. Box 1); only rents actually paid are included and so the coverage of the HICP differs markedly from that of private consumption according to the national accounts, which includes imputed rents. This significant difference is due mainly to the fact that imputed rents are incompatible with the concept used for the coverage of the HICP, because they are non-monetary. The costs of owner occupied housing are not included in the NICP either.

(1) Article 1 of the Protocol on the convergence criteria of the Treaty (art. 121) stipulates: "The criterion on price stability (...) shall mean that a Member State has a price performance that is sustainable and an average rate of inflation, observed over a period of one year before the examination, that does not exceed by more than 1.5 p.c. that of, at most, the three best performing Member States in terms of price stability".

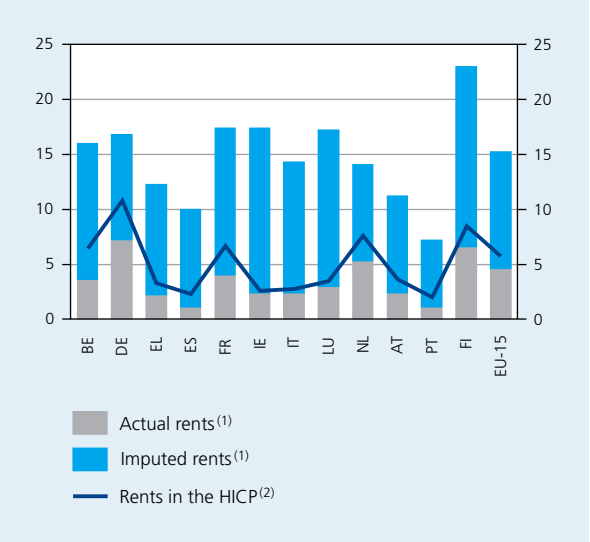
(2) See also the article by M. Druant, *The Belgian HIPC: a big step towards an accurate measure of inflation*, the Bank's Economic Review, November 2001

Box 1 – The costs of owner occupied housing

One important feature of a consumer price index is that its basket must cover household consumption expenditure in an exhaustive and, for the HICP, harmonised way. In this respect, the fact that the costs of owner occupied housing are not included can be regarded as a weakness of the HICP insofar as the expenditure incurred on dwellings by their owners generally accounts for a very large proportion of their final consumption expenditure. According to the national accounts this totalled, on average, a little over 10 p.c. of the final expenditure of private individuals in the EU in 2003 and 13 p.c. in Belgium. This estimate is based on the concept of imputed rents used in the national accounts.

SHARE OF THE COST OF HOUSING IN HOUSEHOLD CONSUMPTION

(Percentages)



Sources: OECD, EC, NBB.

(1) According to the national accounts, as a percentage of final household consumption in 2003, the last year for which data is available for all the countries under review.

(2) Weighting of actual rents in the HICP in 2006.

Moreover, there are at present marked differences in the housing structure of European households, as the percentage of owners and tenants varies greatly within the EU. The relationship between the share of actual rents and imputed rents gives an idea of the relative size of the rental market. Thus the weighting of rents in the HICP is 11.1 p.c. in Germany, as opposed to 2 and 2.3 p.c. in Portugal and Spain respectively, where the share of owner-occupied households (75.7 and 84.3 p.c.) is much greater than in Germany (42.6 p.c.). In Belgium, the rental market is also relatively underdeveloped. Thus rents actually paid account for only around 6 p.c. of the HICP and the NICP. These discrepancies can be explained primarily by the differing habits and regulations governing the housing market (taxes, subsidies, protection of the tenant, etc.). Consequently, the fact that actual rents are included but the housing expenditure of owner-occupiers is excluded hinders comparisons between countries.

In light of these arguments, if the costs of owner occupied housing were included, it would be possible to widen the coverage of the HICP and facilitate comparisons at international level, which might help to improve the credibility of the index. This is the reason why Eurostat, in collaboration with the ECB, launched a pilot project in the year 2000 with the aim of establishing the most appropriate way of producing an index of the costs of owner occupied housing. This index could subsequently be included in the HICP basket, subject to approval by the Council of the European Union and the European Parliament.

Despite the relatively weighty arguments in favour of the inclusion of these costs, there are still many objections. Of all the possible methodologies, an estimate based on imputed rents is not compatible with the concept of monetary expenditure, whilst other methods would require the inclusion of the prices of assets in the HICP and/or interest expenditure, which is not desirable from the point of view of monetary policy. So the inclusion of the costs of owner occupied housing remains a complex problem, which explains why the possible inclusion of these costs in the HICP is unlikely to happen before 2010.

2.2 Geographical coverage

The geographical coverage of the Belgian HICP, in common with all Member States and, consequently, the aggregate for the euro area, relates to consumption within the domestic territory of the respective Member States and the euro area (Council Regulation (EC) no. 1688/98). This means that the structure of the HICP weightings is influenced by purchases of foreign consumers (mainly tourists) in the euro area countries, whereas expenditure incurred by residents while abroad has no bearing on this structure. The use of this concept enables double counting or omissions to be avoided when the individual Member States' HICP are aggregated.

The NICP, in contrast, is based on a hybrid concept which is about halfway between the concepts of domestic territory and national territory as defined in the national accounts. The NICP is close to the concept of national territory, as it excludes the expenditure of non-residents in the territory. However, it diverges from that concept inasmuch as it also excludes the expenditure of residents incurred abroad.

2.3 Population coverage

The two indices are based on the concept of the average representative household. However, the coverage of the HICP is more complete, as the expenditure of residents of institutions (such as retirement homes) is covered by the HICP (Council Regulation (EC) no. 1688/98), but not by the NICP.

As the price index is representative of the expenditure of all households, it necessarily differs in one way or another from the structure of expenditure typical of each type of household. For those on low incomes, for instance, food and housing are a larger than average expense item; for the elderly, the share of expenditure on healthcare is greater than it is for young people. Although this is not one of the aims of the CPI the inability of the price index to reflect these social differences is sometimes considered to be unfortunate. In fact, this would only be possible if specific indices were calculated for each category of household. Although technically possible using the detailed data from the household budget survey (HBS), this type of index is not calculated in Belgium so it is not possible to assess the extent of these differences.

TABLE 1 SUMMARY OF THE VARIOUS CONCEPTS OF GEOGRAPHICAL COVERAGE

	Expenditure of non-residents in the country	Expenditure of residents incurred abroad
Concept of domestic territory	Included	Not included
Concept of national territory	Not included	Included
Concept used for the NICP	Not included	Not included

2.4 Coverage by type of retail trade

Although European regulations are not explicit on the subject, the coverage of price collections by type of retail trade must be representative. At the time of the introduction of the HICP and the NICP (base 1996), this base was brought into line with the results of a 1995 study on the structure and forms of distribution in Belgium. In the absence of a new study on this subject, the breakdown by type of outlets was not explicitly reviewed, either for compiling the HICP or for the new NICP. However, some practical adjustments were made as and when visited outlets that had disappeared had to be replaced with new ones. In practice, these were replaced by similar outlets. It is only for very significant changes – i.e. the total disappearance of a type of outlets in a certain locality – that more substantial adjustments are made. This implies that, if the sample of outlets is not updated more thoroughly, the index is adversely affected because it becomes less representative and a degree of upward bias occurs, because the emergence over the last 10 years of a growing number of "discount" stores is not properly reflected in the index.

It ought, therefore, to be possible to improve this aspect, if the *FPS Economy, SMEs, Self-employed and Energy* had the necessary resources. It would indeed be advisable to obtain a better picture of the current forms of distribution and how they impact on prices.

2.5 Elementary aggregation

As regards the elementary aggregation, i.e. the calculation of the indices for each product in each locality, the European regulation gives the option, in principle, of two formulas. Either the ratio between the arithmetic means of prices or the ratio between the geometric means can be used. In Belgium, only the first formula is used for both the HICP and the NICP, except for the prices of cars for which geometric means are used from 2006 onwards, for both the HICP and NICP [(1)]. The geometric mean is used much more widely in most other euro area countries.

This is not without impact on the measure of inflation, as at this elementary stage of aggregation the average prices are calculated as simple non-weighted averages of the individual prices, because information on quantities sold is not generally available in such detail [(2)]. This implies that each separate observation is, in reality, accorded the same weight, which remains fixed over time. Consequently, an individual product neither loses nor gains in importance if fewer or more consumers buy that particular product. Thus the index may become less representative and may even be affected by a degree of upward bias since, in principle, it is precisely those products and/or stores with the highest prices which lose market share in favour of less expensive products and/or stores. For products with high elasticity of substitution, the geometric mean is a better choice for rectifying this problem [(3)].

2.6 Adjustments for quality changes

The HICP is supposed to measure the "pure" price changes of a basket of goods and services the quality of which remains constant. All variations in price related to improvements in quality have to be corrected, i.e. the statisticians must determine what percentage of the total variation in the price of a product corresponds to a quality change and what percentage is the result of an actual price change. A change in quality occurs when the modification in a product's characteristics or the replacement of a product with a new model make a significant difference in terms of its utility for consumers.

For the HICP, the European Commission defines a number of minimum standards which must be met by EU Member States. For instance, if there is a change in quality, the Member States must calculate a price index taking adequate account of these changes, based on explicit estimates of the value of the change in quality. Furthermore, the Commission specifies that "in no case should a quality change be estimated as the whole of the difference in price between the two items, unless this can be justified as an appropriate estimate" (Commission Regulation (EC) no. 1749/96). Normally, three explicit methods are distinguished: a) the econometric method (hedonic regressions), b) the method which estimates the value of the quality change based on the prices of the optional extras, because often certain characteristics of a new model have previously been marketed as an option, and c) the method based on expert opinion.

In Belgium, an explicit estimate of quality changes for PCs has been included in the HICP since 2002. These estimates are based on the option pricing method. As of 2006, both the HICP and NICP also incorporate an explicit estimate of quality changes for the price of cars. However, the new NICP does not yet incorporate an explicit procedure for taking account of changes in the quality of PCs, although this product has been included in the new basket.

(1) In fact, as of 2006 the car index is defined as an arithmetic mean of the indices of 9 market segments, the indices for which are calculated on the basis of geometric means of prices.

(2) In future, however, the use of "scanner data" could make it possible to take account of quantities sold at the elementary level.

(3) The geometric mean enables full account to be taken of the substitution effect if the substitution elasticity is exactly equal to one. Inflation will still be overestimated if the substitution elasticity is greater than one, albeit to a lesser extent than in the case of the arithmetic mean. Actual inflation will be underestimated if the substitution elasticity is less than one. The arithmetic mean only produces an accurate measure of inflation if there is no substitution, and tends to overestimate actual inflation in all other cases.

Box 2 – Adjustments for quality changes in the euro area

Adjustments for quality changes pose a major challenge to statisticians. The minimum standards set by Eurostat remain relatively vague and allow the different national statistical institutes a great deal of flexibility as regards the choice of method and the choice of products requiring a correction. Given that the methods for quality adjustments applied in practice differ greatly from one EU Member State to the next, this problem remains to this day one of the main causes of incomparability of the HICP.

The problem of adjustments for quality is particularly pertinent at present for cars, clothing and information and communication technology products, such as PCs and mobile phones. The change in prices of data-processing equipment, cars and telephone equipment – goods that are sold on markets that are actually relatively well integrated and on which competition is relatively fierce – diverges greatly within the euro area. The prices of data-processing equipment in the euro area recorded a cumulative drop of 52.6 p.c. in the period 2002-2005 and one of 60.4 p.c. in the period 1996-2001, in relative terms. However, there are major differences within the monetary union. In Spain, for instance, the changes in the relative prices of these products amounted to a decline of 64.6 p.c. between 2002-2005, compared with a fall of just 21.2 p.c. in Greece. There are also major differences between the European countries for telephone equipment and cars, which are at least partly attributable to differences in adjustments for quality

The fall in prices of information technology equipment in Belgium over the last period (61.3 p.c.) was one of the sharpest in the countries of the monetary union whereas in the past these prices had fallen much less sharply than

HICP FOR GOODS CHARACTERISED BY RAPID QUALITY CHANGES

(Cumulative changes in relative prices over the period indicated, percentages)

	Period from January 1996 to December 2001				Period from January 2002 to December 2005			
	Euro area	Belgium	Euro area countries with the sharpest falls in prices		Euro area	Belgium	Euro area countries with the sharpest falls in prices	
Data-processing equipment	–60.4	–40.0	–74.8	(NL)	–52.6	–61.3	–64.6	(ES)
			–72.3	(FR)			–61.3	(BE)
			–71.6	(AT)			–54.3	(AT)
Telephone and fax equipment	–38.3	–38.0	–71.3	(FI)	–50.3	–38.8	–67.7	(FI)
			–60.5	(AT)			–57.8	(PT)
			–51.4	(FR)			–54.5	(AT)
Cars	–5.0	–3.0	–27.9	(EL)	–3.6	–4.4	–11.7	(FI)
			–13.4	(IE)			–11.4	(EL)
			–12.3	(FI)			–7.6	(LU)

Sources: EC, NBB.

the euro area average. This turnaround is due in the main to the methodological changes made to this index and, in particular, the introduction of adjustment methods for quality changes regarding PCs since January 2002. Except for PCs during the last period, the falls in the prices of the categories of product in question were relatively modest in Belgium, which is evidence of the country's less than proactive attitude to adjustments for quality changes.

2.7 Updating of the index

The main aim of the index of consumer prices is to measure the change over time in the prices of a basket of goods and services bought by households and which are representative of their consumption expenditure. As the structure of expenditure changes over time, it is very important that the basket monitored remains representative. This requires regular updates, both regarding the products monitored and the weight accorded to them.

THE GRADUAL ADJUSTMENT OF THE BELGIAN HICP – PERIOD 1996-2006

The HICP can be updated annually if desired, both as regards the products covered and the weightings of the different products. However, updating is obligatory for new products representing at least one-thousandth of final expenditure. The same applies to the weightings inasmuch as it is strictly forbidden to use weightings that are more than seven years old, or if a possible change would affect inflation by more than 0.1 percentage point in absolute value terms.

Since 2000, Belgium has been reviewing the HICP weightings on a regular basis (although not systematically each year) based on the results of the latest household budget survey. The average deviation in the weighting structure vis-à-vis its reference period was thus reduced to 2.5 years and the maximum deviation to four years, which is significantly less than the abovementioned seven-year limit.

Besides adjusting the weightings, Belgium also regularly adjusts the basket of products so that "new" products can be introduced. These are products which recently became significant in consumer expenditure terms, such as PCs (in 1999), airline tickets (in 1999), mobile phones (handsets and calls, in 2001), disposable contact lenses (in 2001), camcorders (in 2002), Internet subscriptions (in 2004), scanners, DVDs and digital cameras (in 2005).

Moreover, the HICP has also undergone other improvements, such as the extension of coverage to medical services and products, as well as education and social protection (in 2000). The HICP, the coverage of which was initially (in 1996) more limited than that of the NICP, has thus become more representative than the latter. In addition, in 2000 the concept of domestic territory was introduced in the Belgian HICP, and more specifically the expenditure of foreign visitors was taken into account[1]. In 2001, the prices discounted in sales were also included

(1) These represent roughly 5 p.c. of the total consumption expenditure covered by the HICP. Almost all the expenditure of foreigners has been added to a very small number of items in the HICP (restaurants, hotels and other types of accommodation). However, the drawback of this was that seasonal price movements, which are typical of this kind of product, were overemphasised. Since January 2001, the expenditure of foreigners has been spread across a wider range of goods and services.

TABLE 2 THE GRADUAL ADJUSTMENT OF THE BELGIAN HICP

	Reference period for weightings	Introduction of "new" products	Other modifications
1996-1998	1995-1996		
1999		PCs, airline tickets, refuse collection, etc.	
2000	1997-1998		Coverage extended to social services, education, health Harmonisation of the geographical and the population coverage
2001	1999	Mobile phones, disposable contact lenses, organic food, etc.	Inclusion of prices discounted in sales (retroactive from 2000)
2002		Mixer taps, camcorders, etc.	Quality adjustments for PCs
2003			
2004	2001	Internet subscription	
2005		Scanners, DVDs, digital cameras, etc.	
2006	2004	Inclusion of the adjustments made for the NICP which had not yet been included in the HICP (e.g. quality adjustments for cars)	

Average/maximum deviation for weighting structure compared with the reference period: 2.5 years / 4 years

Sources: FPS Economy, SMEs, Self-employed and Energy; NBB.

TABLE 3 THE PIECEMEAL REFORMS OF THE BELGIAN NICP

Index	Reference period for the weightings	Period of application of the index	Number of years applied	Average/maximum deviation for the weightings	Number of products monitored	Number of products removed	Number of new products
1981 = 100	1978-1979	1984-1990	7	8.5 years / 11.5 years	401	51	94
1988 = 100	1987-1988	1991-1997	7	6.5 years / 9.5 years	429	29	57
1996 = 100	1995-1996	1998-2005	8	6 years / 9.5 years	481	36	88
2004 = 100	2004	2006- ...		n.	507	102	128

Sources: FPS Economy, SMEs, Self-employed and Energy; NBB.

in the HICP with retroactive effect from 2000. Since 2002, quality changes for PCs have also been taken into account. In 2006, the main changes to the new NICP, which had not yet been included in the HICP, will be taken into account in the HICP.

THE PIECEMEAL REFORMS OF THE BELGIAN NICP – AN HISTORICAL PERSPECTIVE

In the past, the NICP was fully updated every seven or eight years, specifically in 1984, 1991 and 1998 and 2006. Based on the period of application of the index, it is therefore also possible to calculate, for the NICP, the average and maximum deviation in weightings compared with their reference period. It becomes apparent that the maximum deviation is between 9.5 and 11.5 years, which is well in excess of the upper limit that applies to the HICP (a maximum deviation of seven years). Such differences seriously compromise the representativeness of the index.

It is also apparent that the number of products monitored has increased substantially with each reform. Moreover, the current reform of the NICP appears to be the most radical in terms of the number of new products and the number of products removed. The large number of products that have been replaced indicates that the basket of household consumption changed substantially between 1996 and 2004, which is no doubt partly attributable to the developments in the ICT sector.

2.8 Economic implications of the methodological differences

Despite the importance of the NICP, particularly as regards indexation, the HICP's flexibility makes it the most accurate measure of inflation in Belgium, based as it is on a more representative basket of products and more appropriate weightings. Whereas in the past the differences between the monthly year-on-year changes of the HICP compared with the NICP were relatively small (they have been negative since 2001, but less than 0.1 percentage point – as an annual average – until 2003), they were considerably greater in 2004 and 2005, when they amounted to –0.23 percentage point and –0.25 percentage point respectively. A similar picture emerges for the underlying trend in inflation, which disregards unprocessed food and energy. For this measure of inflation, the difference between the HICP and NICP was –0.3 percentage point on average in 2004 and 2005. Such discrepancies naturally had a considerable upward effect on the rate at which the health index rose and, by extension, wage costs.

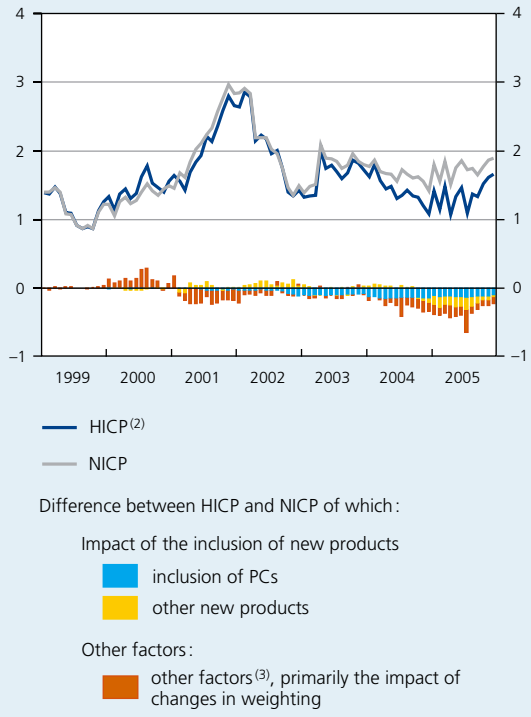
Prior to 2003, the inclusion of new products had no significant impact. However, in 2003, virtually the whole of the difference which, admittedly, was small during that year, can be attributed to PCs. In 2004, almost half the difference can be attributed to the change in prices of PCs, whereas these only account for roughly a third of the difference in 2005, the year in which various new high-tech products (DVDs, scanners, etc.) were included in the HICP and accounted for another third of the observed difference[1]. The other factors, the main one being the effect of the changes to the weightings, also had a downward effect in 2004 and, particularly, 2005, yet this was not always the case in the past.

The lack of updates can therefore produce a major bias in the measure of inflation. The recent reform of the NICP puts an end to the said ageing of the index, as well as providing a mechanism for partial, interim adjustments. The rest of this article discusses this reform in greater detail.

(1) In 2003 and 2004, these other new products had conversely helped reduce the observed difference.

CHART 1 COMPARISON OF THE HICP AND THE NICP : THE UNDERLYING TREND IN INFLATION [1]

(Percentage changes compared with the corresponding period of the previous year)



Sources : EC ; FPS Economy, SMEs, Self-employed and Energy ; NBB.

(1) Measured against overall index, excluding unprocessed food and energy products.

(2) Excluding the estimated effect, in January and July 2000, of the fact that prices discounted in sales have been taken into account in the HICP since 2000.

(3) Calculated by difference.

3. Recent reform of the NICP

This section considers in greater detail the ways in which the reform of the index in January 2006 addresses some of the problems described above. These relate mainly to the adjustments for quality changes and the introduction of biennial mini reforms. Lastly, the practical implications of the updates are illustrated, especially the adjustment of the basket of products and the adjustment of the weightings, as well as their impact on the measure of inflation.

3.1 Adjustments for quality changes

Prior to the reform, the NICP did not contain any adjustments for quality changes. These adjustments were included in the new index, specifically for cars. Estimates of the monetary value of the quality change are based on the prices of optional extras. For PCs, on the other hand, the Index Committee decided not to apply any explicit estimates (based, for example, on the prices of optional extras), but instead to solve the problems associated with quality changes based on so-called implicit methods. This special treatment for PCs will therefore remain a source of divergence from the HICP, in which quality changes for PCs have for several years been estimated on the basis of the prices of optional extras. Hence there is still considerable room for progress in this area and it would be interesting to carefully monitor the development of this issue at European level, specifically by considering the new studies on quality changes.

3.2 The introduction of biennial mini reforms

The introduction of biennial mini reforms will enable new products to be included. The same rule will be applied as for the HICP, i.e. a product will be included once it represents at least 0.1 p.c. of consumption expenditure. To facilitate the inclusion of new products, certain weightings may be changed on the proviso that the weighting of the twelve main categories of the COICOP classification remains constant [1]. This innovation will help avoid the NICP becoming significantly outdated and improve both its representativeness and reliability. However, it should be noted that these reforms are but partial given that, as in the past, the weightings will only be fully updated once every seven to eight years. If it is to successfully carry out these mini reforms, the *FPS Economy, SMEs, Self-employed and Energy* will need to have the necessary resources at its disposal and gain access as quickly as possible to the HBS, two conditions that have not always been satisfied in the past.

The introduction of these mini reforms also provides an opportunity to undertake a new study of the various types of distribution and their current structure, the last study on this dating back to 1995. As mentioned above, the absence of an update for changes in the structure of the retail trade remains a weakness in Belgium, for both the HICP and the NICP.

3.3 Adjustment of the basket of products

The new NICP encompasses 507 products, compared with 481 for the NICP with the base year 1996. Overall, 102 products have been dropped compared with the index with the base year 1996 and 128 new products

(1) The COICOP classification (nomenclature of individual consumption functions, adapted to the needs of the CPI) is the classification of products used for the NICP. The 12 main categories are : 1) Food and beverages ; 2) Tobacco ; 3) Clothing and footwear ; 4) Housing, water, electricity, gas and other fuels ; 5) Furnishings, household equipment and routine household maintenance ; 6) Healthcare expenditure ; 7) Transport ; 8) Communication ; 9) Recreation and culture ; 10) Education ; 11) Hotels, cafés and restaurants ; 12) Miscellaneous goods and services.

TABLE 4 EXAMPLES OF NEW PRODUCTS AND PRODUCTS DROPPED FROM THE NEW NICP[1]

	Examples of new products	Examples of products dropped
Unprocessed food	Broccoli	Celery
	Meat kebab	Stewed beef
Processed food	Multigrain bread	Instant coffee
	Wheat beer (HICP 1999)	Table beer
	Baby foods (HICP 2001)	
Non-energy industrial goods	Mixer taps (HICP 2002)	Gas oven (HICP 2005)
	Electric lawnmower	Food processor
	Children's boots	Vest
	DVD player (HICP 2005)	Radio-cassette with CD player
	PC (HICP 1999)	Blank audio cassette
Services	Pizzas eaten in a restaurant	Calls from telephone boxess
	Calls on mobile phones (HICP 2001)	Carwash
	Internet subscription (HICP 2004)	Radio and television licence fee
	Babysitting	
	Theatre season ticket	
	Veterinary surgery	
Energy	Electricity and gas: change to definitions: 5 products instead of the previous 13	

Sources: FPS Economy, SMEs, Self-employed and Energy; NBB.
(1) If appropriate, the year in which the product was included in the HICP – or withdrawn from this index – is stated in brackets.

have appeared, 44 of which had already been gradually incorporated in the HICP. The components subject to the most changes are non-energy industrial goods, and services. The processed food component has undergone lesser adjustments and the unprocessed food component has seen a slight decline in both the number of products and its weighting. As for energy, the main changes relate to the definition of the standard user categories for electricity and gas. For these two products, there are now five "standard user categories" as opposed to thirteen. These changes were necessitated by the fact that the information available for Flanders – which has a liberalised market – and for the rest of Belgium was no longer classified according to the same standard users.

These changes were made for various reasons, the main one being, as with the methodology in the HICP, the desire to cover all products for which average household expenditure accounts for one thousandth of the total expenditure. This entails dropping some products that are no longer representative, such as table beer, the share of consumption of which has decreased, or calls from telephone boxes which are no longer representative given the development of mobile telephony. Conversely, other products have become representative and have therefore been added, such as DVD players and Internet subscriptions, or calls made on mobile phones and mobile phones themselves, to name just a few obvious examples.

Other products have had their definition altered or the sample on which they were based has been improved. The most notable examples of these are cars, landline telephony, books, periodicals, daily newspapers or tourist travel abroad. For clothing, two different samples have been introduced: one for winter and one for summer.

3.4 Adjustment of weightings

First of all, the weighting of the 65 localities where individual prices are recorded was adjusted based on the 2004 population, but the extent of this change was limited. As regards the weighting of products, the new weightings were decided on the basis of the results of the HBS conducted by the NSI in 2004. However, some changes were made in order to make these compatible with the coverage principles described above.

TABLE 5 THE WEIGHTING STRUCTURE OF THE NICP

(Per thousand)

	Old index (Base 1996)		New index (Base 2004)
	1996 weightings	1996 weightings at 2004 price (1)	2004 weightings
Energy	100.2	104.2	95.5
Unprocessed food	95.6	100.0	82.8
Processed food	132.0	133.0	120.0
Non-energy industrial goods	332.3	316.0	337.3
Services	340.0	347.0	364.4
Total	**1,000.0**	**1,000.0**	**1,000.0**

Sources: FPS Economy, SMEs, Self-employed and Energy; NBB.
(1) Corrected to take account of the actual change in prices of electricity in Flanders prior to March 2005 (i.e. prior to the delayed inclusion of the new tariffs for Flanders in the NICP, base 1996).

A degree of caution is required when comparing the new weighting structure with the structure for the old index, in order to correctly interpret the real changes between the two indices. The 1996 weightings in fact present an inaccurate picture of the actual contribution to total inflation of the changes in price for a given product in 2005. Depending on the changes in the relative prices, this contribution has become either greater or smaller than the contribution prevailing in the base period. For products whose prices developed more rapidly than total inflation between 1996 and 2004, the implicit 2004 weighting coefficient will be higher than the original coefficient[1]. This is true of the components energy, food and services, which thus implicitly (i.e. without the weightings being explicitly updated) increased in importance in the old index. The opposite is true of non-energy industrial goods, as the change in the prices of these goods has been more restrained than total inflation.

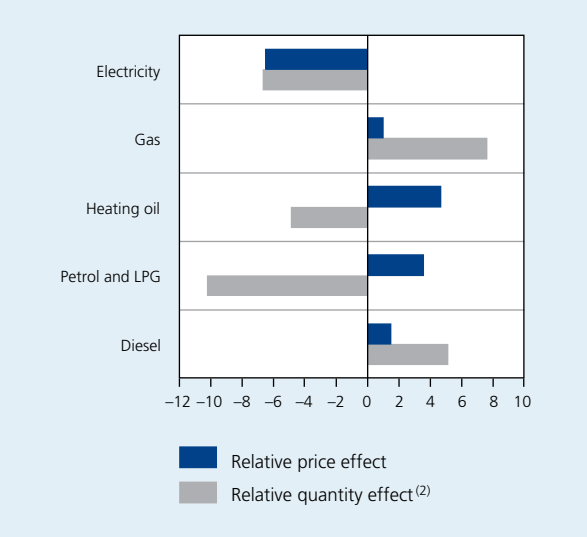
To assess the true impact of the introduction of new weightings on inflation, they must therefore be compared with the implicit weightings of the old index at 2004 prices. Such a comparison shows that the contribution of both unprocessed and processed food to inflation is decreasing. Together, these products represent roughly 20 p.c. of the basket for the new index. This is not surprising, as it is well known that the importance of this type of product declines as standards of living rise. This development is part of a long-term movement which was also observed during the previous reforms. On the contrary, compared with the situation in the old index in 2004, it is apparent that the contribution of non-energy industrial goods and of services is increasing in the new index. These developments, and more especially that observed for services, also reflect structural shifts. Non-energy industrial goods make up roughly 34 p.c. of the new basket, while the share of services is 36 p.c. It is, among others, the goods and services relating to culture and recreation, telecommunications, expenditure on healthcare and transport (including the purchase of vehicles) which tend to gain in importance, whilst expenditure on clothing and furniture in particular follows the reverse trend.

The energy component, meanwhile, will have a less significant impact in the new index compared with the situation at the end of the period of application of the old index. Energy products represent roughly 9.5 p.c. of the new index, compared with a weighting of almost 10.5 p.c. in the old index at 2004 prices. A detailed breakdown of the changes in the weighting coefficients for the energy component illustrates that there can be significant changes in weightings, even within a large category. Moreover, based on this analysis a distinction can be made between energy products which are not included in the health index and those that are.

(1) The implicit weighting coefficients are calculated as the product of the initial weighting coefficient and the index of relative prices for the category, whereby the latter corresponds to the ratio of the index for the category in question and of the overall index. In the specific case of energy, they also take account of the fact that the indices at 2004 prices do not yet include tariff reductions for electricity in Flanders following liberalisation, which were in fact included in the index late, in March 2005.

CHART 2 IMPACT OF THE REFORM ON THE WEIGHTING COEFFICIENTS OF ENERGY PRODUCTS (1)

(Per thousand)



Sources: EC; FPS Economy, SMEs, Self-employed and Energy; NBB.
(1) I.e. between 1996 and 2004.
(2) The relative quantity effect is estimated by difference.

TABLE 6 ADJUSTMENT OF WEIGHTINGS: IMPLICATIONS FOR THE ENERGY CONTENT OF THE INDEX

(Percentages of the total)

	Total index		Health index	
	Old index (Base 1996) at 2004 prices	New index (Base 2004)	Old index (Base 1996) at 2004 prices	New index (Base 2004)
Weight of energy	10.4	9.5	6.9	6.2
Direct energy feedstocks content	3.7	3.4	2.5	2.2

Sources: FPS Economy, SMEs, Self-employed and Energy; NBB.

Between 1996 and 2004, the relative price effect had a markedly positive impact on the weight of heating oil, petrol, LPG, diesel and gas. This effect reflects the fact that, in a context of rising crude oil prices, the prices of the products in question have risen faster than total inflation. This effect is most pronounced for heating oil, given its greater sensitivity to fluctuations in the price of crude oil, and for petrol, the price of which has also risen following increases in excise duty. For electricity, however, the price effect has had the opposite effect for two reasons: firstly, in the run-up to liberalisation, tariff reductions were gradually introduced in the whole of Belgium from 2000 onwards at the request of the federal government and secondly, since July 2003, liberalisation in Flanders has also led to lower prices, so that the upward effect of the prices of energy feedstocks was more than offset.

These relative price effects, which also resulted in fluctuations in the implicit weights for 2004 in the old index, are not relevant when comparing new weightings. However, it was possible to calculate by difference a so-called relative quantity effect, which illustrates the true impact of the introduction of the new weightings. This exercise reveals that the shares of petrol, electricity and heating oil have declined considerably, whilst the shares of gas and diesel have risen. These developments seem to indicate that consumers have replaced heating oil and electricity with gas to heat their homes, whilst for motor fuels the greater popularity of diesel to the detriment of petrol is clearly apparent.

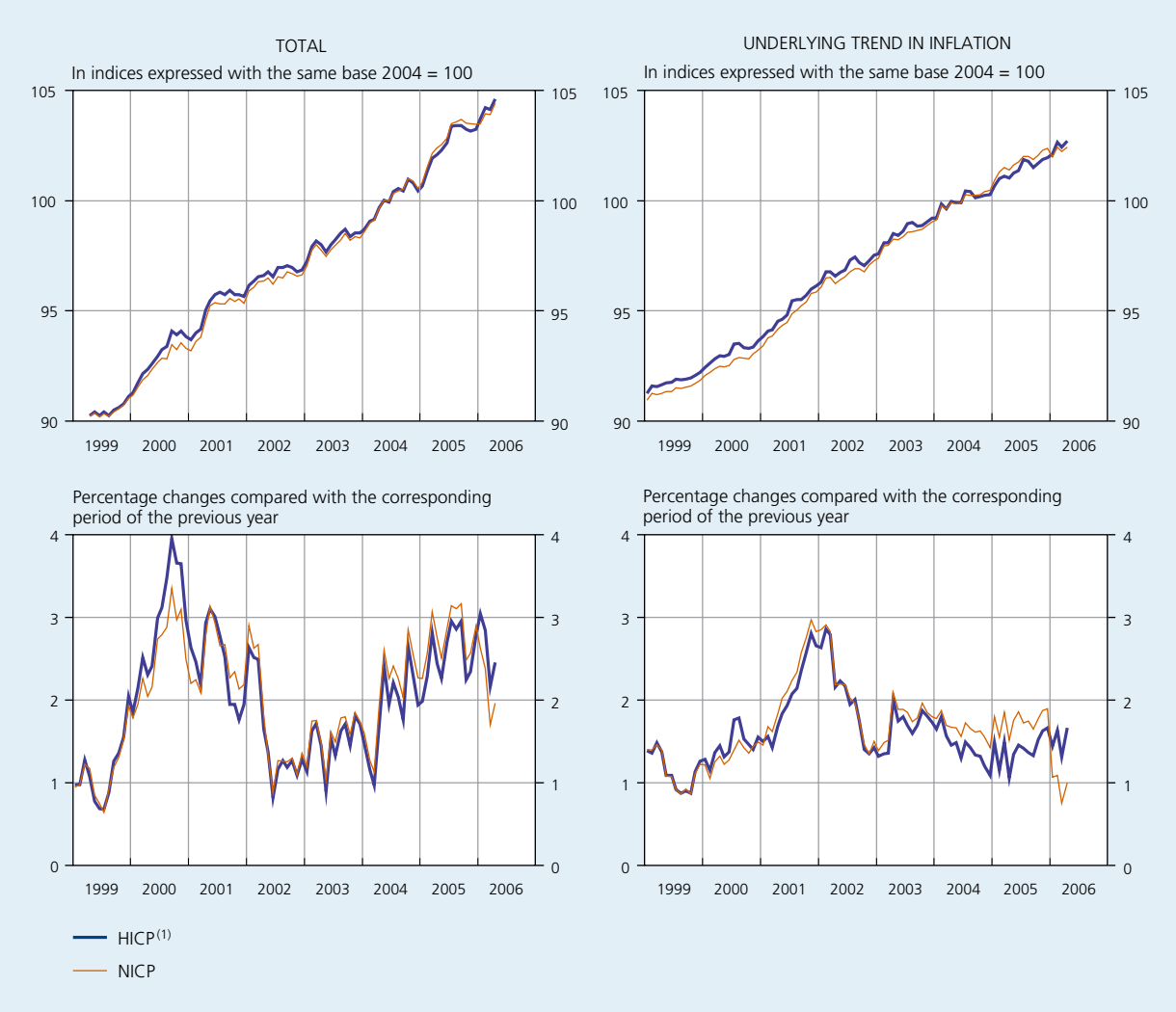
Although the introduction of the new index in reality reduces the share of all energy products combined from 10.4 p.c. to 9.5 p.c. in the total index, the decline is a little less pronounced in the health index, namely from 6.9 p.c. to 6.2 p.c. The sensitivity of inflation to changes in the price of crude oil does not, however, depend solely on the weighting of energy products, but also on the share of energy feedstocks in the cost structure of all the products, regardless of whether or not they are energy products. For non-energy products, this share is rather difficult to estimate, which is why we are concentrating here on the case of energy products, for which feedstocks play a more direct role. These include, for example, the share of the price of crude oil in the price of petrol at the pump, which also contains other costs of domestic origin, and taxes. If one takes account of this for the different energy products, the direct share of energy feedstocks in the health index falls from 2.5 to 2.2 p.c., a decline of the same magnitude as that of the total index, in which the share of energy feedstocks declines from 3.7 to 3.4 p.c. Consequently, the introduction of the new index means that both total inflation and the development of the health index will be a little less sensitive to fluctuations in the prices of crude oil than was the case in recent years.

Overall, it appears that the new weighting structure differs considerably from the structure relating to the old index, justifying the principle of relatively frequent updates. It is regrettable in this regard that the biennial reforms will have no impact on the weighting of the major categories and that, consequently, even the new national index will in the end gradually decline in terms of its representativeness. It should be pointed out that the HICP remains more flexible in this regard.

3.5 Attempt to quantify the impact of the introduction of the new NICP

It is no easy task to quantify the impact of the introduction of the new NICP, as there are no direct points of comparison between the old and new NICP. The old index ceased to be published in January 2006 and the new index does not cover the past, prior to January 2006. It is, however, possible to compare the NICP with the HICP.

CHART 3 IMPACT OF THE RECENT REFORM OF THE NICP ON THE DISCREPANCY BETWEEN THE NICP AND THE HICP



Sources: EC ; FPS Economy, SMEs, Self-employed and Energy ; NBB.
(1) Excluding the estimated effect of prices discounted in sales since 2000.

As the composition of the new NICP bears many similarities with the structure of the HICP it is safe to assume that the reform should help eliminate the discrepancy observed between the two indices in recent years. The impact of the reform on NICP-measured inflation should therefore be between –0.2 and –0.3 percentage point per annum, and involves eliminating the positive bias which characterised the NICP in 2004 and 2005, caused by the deterioration in its representativeness. This effect will only be sustained if the new index does not deteriorate over time, which is more likely now than in the past because of the introduction of the biennial mini reforms. However, the HICP is still more efficient as regards maintaining its representativeness and adjustments for quality changes.

Nevertheless, NICP-measured inflation will only be close to HICP-measured inflation from 2007 onwards. Indeed, 2006 is a transitional year during which inflation measured by the NICP is still temporarily influenced by the old base, because inflation is measured by comparing the indices for 2006 (post reform) with the indices for the corresponding month of 2005 (pre reform, but converted in order to enable comparison).

In this regard, the way in which the transition between the new and the old index is handled from a statistical point of view is not neutral. In the case of the NICP, the method followed consists of placing side by side, in January 2006, the two indices expressed on a shared base of 2004 = 100, but without chaining them. In practice, this amounts to eliminating, in January 2006, the difference in level

between the two indices that has accumulated since 2004. For this reason, in 2006 inflation measured according to the NICP will be affected by a considerable, albeit temporary, downward effect. Overall, the impact of the introduction of the new index on inflation measured by the NICP should be of the order of –0.6 percentage point in 2006.

In other words, the surplus in the measure of inflation due to the obsolescence of the index in 2004 and 2005 is counterbalanced in 2006 by the negative impact of the transition method used. The same assessment is valid for the health index, for which the conversion coefficient was fixed by the social partners within the National Labour Council, although the impact would be a little less (–0.5 percentage point in 2006). It can therefore be said that the share of the indexations arising in 2004 and 2005 which is attributable to the ageing of the index will be offset in 2006. In light of the loss of competitiveness in terms of wage costs, such a correction will undoubtedly be welcome. Nevertheless, it should be stressed that offsetting in this way is merely a second-best solution, as, ideally, obsolescence of the index should be avoided altogether, so that no major corrections have subsequently to be made. From the point of view of competitiveness, prevention is after all better than cure, whilst the (somewhat counterintuitive) corrections may compromise the credibility of the index of consumer prices in the eyes of the general public. This illustrates once again how important it is to keep constant watch over the quality and representativeness of the measure of inflation.

4. Conclusions

The January 2006 introduction of the new NICP with base 2004, and the accompanying reform, puts an end to the significant ageing of the index. The loss of representativeness of the index had become particularly evident in 2004-2005, and was not neutral in terms of inflation. Thanks to the reform, the discrepancy between the NICP and HICP should become considerably smaller from 2007 onwards. However, in 2006 the methods used for the introduction of the new NICP will produce a significant downward effect both in terms of NICP-measured inflation and of the trend in the health index.

Of the reform's innovations, the introduction of biennial mini reforms represents significant progress in terms of improving the updating of the NICP and maintaining its representativeness. The greater flexibility of the HICP and the fact that it is more accurate in terms of adjustments for quality changes nonetheless continue to make this a more precise index.

Despite the improvements made, a number of challenges remain both in terms of the HICP and the NICP. At European level, the major challenges are undoubtedly those relating to the treatment of the cost of housing incurred by owner-occupiers and the harmonisation and generalisation of the adjustments for quality changes. These challenges apply a fortiori both to the Belgian HICP and, even more so, to the NICP, where cars are the only product for which adjustments for quality changes are made.

Other major challenges, of concern more specifically to Belgium, are the updating of the data on the structure of the retail trade (the version currently being used dating back to 1995) and the widening of the elementary aggregation to include a greater number of products based on the geometric mean. In both cases, both the HICP and the NICP would better reflect the substitution effects between outlets and between products.

If further progress is to be made in this area, adequate resources must be made available for measuring inflation.

Costs, advantages and drawbacks of the various means of payment

Introduction

On 9 February 2004, in response to the announcement at the end of 2003 by one of the major Belgian banks that it would charge a fee for ATM withdrawals, a gentlemen's agreement on the means of payment was concluded between the Belgian Bankers' Association, the Minister for the Economy and the Minister for Consumer Protection.

Point 5 of this agreement reads: "The parties recognise the need for more efficient payment traffic. To this end, the competent ministers will hold a consultation among the various interested parties before the end of the month. As part of this, concrete initiatives will be taken to modernise the payment circuit at government level. In addition, the competitive position of the Belgian banks will be reviewed."

Under this agreement, the two ministers, together with the Minister of Finance, asked the Governor of the National Bank of Belgium to take charge of the business consultation regarding the future of the means of payment, involving all the parties affected by this issue.

To ensure the effectiveness of this consultation, a Steering Committee on the future of the means of payment was set up, which is chaired by the Governor of the National Bank of Belgium and represents all the interested parties.

Among the proposals made at the first meeting of this Committee on 13 May 2004 was the formation of a working group in charge of conducting a study of the costs and benefits of the various means of payment.

For eighteen months, all the parties involved in the business consultation, i.e. the National Bank, the federal government, the financial sector, the professional organisations of small and medium-sized enterprises and traders and of the distribution as well as consumer organisations, collaborated closely in this working group. This modus operandi allowed for a consensual approach to the design of the study and the interpretation of the results.

The working group completed its tasks in the autumn of 2005. On 15 December the report entitled "Costs, advantages and drawbacks of the various means of payment[(1)]" was submitted by the Governor of the National Bank of Belgium, in his capacity as Chairman of the Supervisory Board of the Financial Services Authority, to the three federal ministers who had commissioned the report.

This investigation followed an analysis framework inspired by the Dutch report "Betalen kost geld", which was published in March 2004[(2)].

The aims of the Dutch report were twofold:
- to identify and quantify the costs associated with the means of payment used at points of sale;
- to calculate the cost savings obtained by replacing expensive payment instruments with cheaper ones.

(1) The full report can be downloaded at: http://www.nbb.be/doc/TS/Publications/Brochures/MoyenPaiement.pdf

(2) This report can be consulted at: http://www.dnb.nl/dnb/bin/doc/Rapport%20Betalen%20kost%20geld_tcm12-35125.pdf

The Belgian study has the same objectives. Although the research methods differ fundamentally in certain respects from those adopted in the Netherlands, the scope of the investigation is the same:

- it only looks at the costs of payment traffic at points of sale. The following instruments are therefore considered: notes and coins, the electronic purse (Proton), debit cards and credit cards. Thus the costs of payment transactions among professional market participants and the costs of payments made by individuals away from points of sale (more specifically transfers and domiciliations) are not considered. Likewise, the investigation is not concerned with less common payment instruments such as cheques, store cards and the Diners Club and American Express credit cards.
- furthermore, only the macroeconomic costs are taken into consideration, i.e. the internal costs incurred by the parties in the payment chain (the financial sector, the issuing institutions and the points of sale) when processing payments made and received.

Three surveys had to be carried out for the purposes of this investigation, relating specifically to:

- the costs of payment traffic borne by the financial sector;
- the costs of payment traffic borne by the points of sale;
- the use of payment instruments by consumers in order to determine the frequency with which notes and coins are used.

The basic data on costs relate to 2003. This year, for which detailed data were available from the national accounts during the study, could also be analysed on the basis of the surveys conducted when the working group commenced its activities. Broadly speaking, those data continue to be relevant, although innovations – particularly as regards electronic payment traffic – have brought about certain changes.

1. Breakdown and analysis of the macroeconomic costs of means of payment in Belgium

After verifying and extrapolating the results of the first two surveys, the total macroeconomic costs – i.e. for the financial sector, the issuing institutions (National Bank of Belgium and the Belgian Royal Mint) and the points of sale combined – can be estimated at 2,034 million euro, or 0.74 p.c. of GDP.

The costs of means of payment attributable to notes and coins amount to 0.58 p.c. of GDP, as against 0.11 p.c. for debit cards, 0.04 p.c. for credit cards and, finally, 0.02 p.c. for the electronic purse.

Roughly 50.5 p.c. of the costs of the means of payment are incurred at points of sale, 47.1 p.c. by the financial sector and 2.3 p.c. by the issuing institutions.

The total costs must be broken down according to fixed costs, variable costs related to the number of transactions and variable costs related to turnover. The costs associated with the electronic means of payment are largely fixed: this is because a significant portion of the costs of the financial sector relate to the computer system needed in order to carry out electronic transactions. The total fixed costs are highest for Proton (83 p.c.), followed by credit cards (75 p.c.) and debit cards (61 p.c.). The composition of the costs of notes and coins is much more balanced: 49 p.c. of the costs are fixed, 51 p.c. variable (25 p.c. related to the number of transactions, 26 p.c. related to turnover).

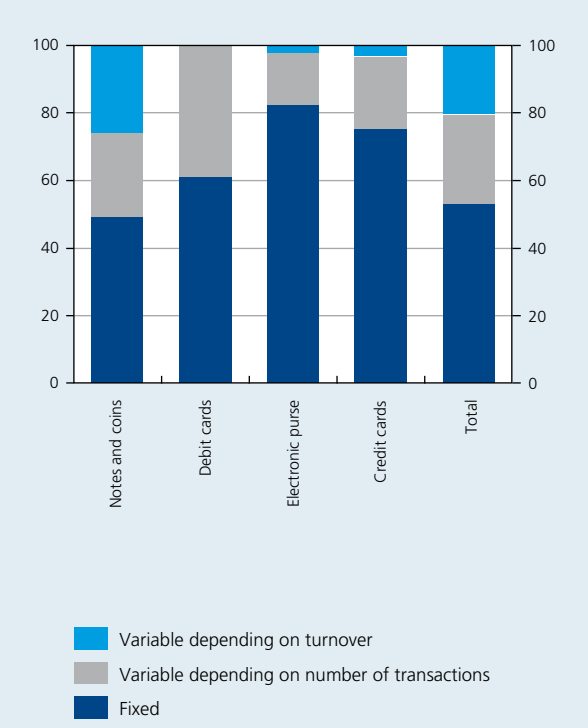
TABLE 1 TOTAL COSTS OF THE PAYMENT INSTRUMENTS
(Millions of euro)

	Notes and coins	Debit card	Electronic purse	Credit card	Total
1. Total costs of the financial sector	724	144	15	76	959
2. Total costs of the issuing institutions	47	–	–	–	47
3. Total costs of the points of sale	812	152	43	21	1,027
4. Total costs (= sum of 1 to 3)	1,583	296	58	97	2,034

Source: NBB.

CHART 1 BREAKDOWN OF THE TOTAL COSTS OF THE PAYMENT INSTRUMENTS

(Percentages of the total)



Source: NBB.

2. The payment behaviour of consumers

However, in order to compare the total costs of each payment instrument, account must be taken of both the number of transactions carried out with that instrument and the turnover generated by that instrument.

To find out how many transactions have been carried out using notes and coins, a survey of the payment behaviour of individuals was required. To this end, the network manager Banksys and the National Bank commissioned a study from the agency INRA/IPSOS, which they funded on a 50/50 basis. Between 1 December 2004 and 15 March 2005, the research institute conducted 3,600 telephone interviews on the use of payment instruments both overall, and broken down by consumption category.

However, the initial interpretation of the results revealed that they were biased in several respects. Various ways of correcting that bias were investigated. Finally, to provide a basis for further work, a decision was made to weight the survey results according to the "raking" technique and to retropolate the data from the survey period to 2003 based on amounts withdrawn at ATMs. This method seemed the most reliable but there still appears to be some uncertainty surrounding the actual number of transactions carried out with notes and coins.

Thus 2,970 million transactions in notes and coins were counted for 2003. According to the Banksys data, debit cards, Proton and credit cards were used 539 million, 107 million and 37 million times respectively in 2003.

As regards the amounts, these payment instruments account for 52.2 billion, 26.8 billion, 0.6 billion and 3.7 billion euro respectively. Thus the average amounts for notes and coins, debit cards, Proton and credit cards are, respectively, 17.57 euro, 49.81 euro, 5.15 euro and 99.02 euro.

Notes and coins therefore account for 81.3 p.c. of transactions at points of sale. However, the market share of notes and coins is just 62.7 p.c. based on turnover. This is due to the high average amounts settled using debit and credit cards.

TABLE 2 USE OF PAYMENT INSTRUMENTS AT POINTS OF SALE

	Notes and coins	Debit card	Electronic purse	Credit card	Total
1. Number of payments (in millions)	2,970	539	107	37	3,653
(percentages of the total)	(81.3)	(14.8)	(2.9)	(1.0)	(100.0)
2. Amounts paid (in millions of euro)	52,185	26,836	553	3,656	83,230
(percentages of the total)	(62.7)	(32.2)	(0.7)	(4.4)	(100.0)
3. Average amount per transaction (= 2 : 1) (in euro)	17.57	49.81	5.15	99.02	22.78

Sources: IPSOS survey, NBB calculations.

3. Summary of the analysis of macroeconomic costs: possible cost savings

If the costs of the payment instruments are compared with the transactions effected, it becomes apparent that the costs per transaction are virtually the same for three instruments. Costs, at 53 euro cents, are lowest for notes and coins, closely followed by Proton (54 euro cents) and by debit cards (55 euro cents). The costs for credit cards are considerably higher (2.62 euro).

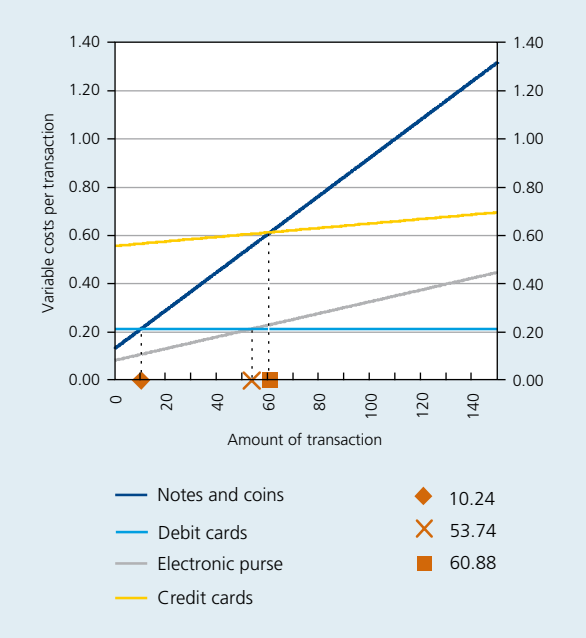
Per euro of turnover, the debit card is the cheapest payment instrument (1 euro cent); much higher costs are associated with notes and coins and credit cards (3 euro cents in both cases) and, above all, Proton.

In order to identify potential efficiency gains, the variable costs of the payment instruments have to be related to the turnover and the volume of transactions.

The variable costs per additional transaction are lowest for the electronic purse, followed by notes and coins, debit cards and credit cards.

The variable costs per euro of additional turnover, however, are highest for notes and coins, for which the variable costs per transaction rise sharply the higher the amount to be paid. Debit cards do not entail variable costs per euro of additional turnover and therefore present a flat trend in variable costs related to turnover.

CHART 2 VARIABLE COSTS PER TRANSACTION
(In euro)



Source: NBB.

The chart illustrates that the variable costs of notes and coins and debit cards are identical for a transaction of 10.24 euro: it is better to settle amounts below this level in cash and amounts above this level by debit card. It must also be stressed that the costs associated with Proton are always lower than those of notes and coins, but as soon as the transaction amount reaches 53.74 euro, Proton becomes more expensive than the debit card. Upwards of 60.88 euro, payment by credit card entails fewer variable costs than notes and coins.

TABLE 3 PAYMENT INSTRUMENT INDICATORS
(In euro)

	Notes and coins	Debit card	Electronic purse	Credit card
Total average costs per transaction	0.53	0.55	0.54	2.62
Total average costs per euro of turnover	0.03	0.01	0.10	0.03
Variable costs per additional transaction (α)(1)	0.1331	0.2139	0.0835	0.5575
Variable costs per euro of additional turnover (β)(2)	0.0079	...	0.0024	0.0009
Variable costs per average transaction(3)	0.2718	0.2141	0.0960	0.6491

Source: NBB.
(1) Transaction-related variable costs divided by the number of transactions.
(2) Turnover-related variable costs divided by total turnover.
(3) $\alpha + (\beta \times$ average transaction amount).

TABLE 4 SUBSTITUTION SCENARIO

	Notes and coins	Debit card	Electronic purse	Credit card	Total
Situation in 2003					
Number of transactions (in millions)	2,970	539	107	37	3,653
Total amount (in millions of euro)	52,185	26,836	553	3,656	83,230
Average amount (in euro)	17.57	49.81	5.15	99.02	22.78
Total costs (in millions of euro)	1,583	296	58	97	2,034
Simulation					
Change in number of transactions (in millions)	–750	500	250	0	0
Number of transactions (in millions)	2,220	1,039	357	37	3,653
Total amount (in millions of euro)	40,935	36,836	1,803	3,656	83,230
Average amount (in euro)	18.44	35.46	5.05	99.02	22.78
Total costs (in millions of euro)	1,394	403	82	97	1,976
Saving (in millions of euro)	**189**	**–107**	**–24**	**0**	**58**

Source: NBB.

Finally, any efficiency gains regarding the use of payment instruments can be quantified based on a simulation. To this end, a hypothetical 750 million transactions settled using notes and coins are replaced with 250 million transactions (averaging 5 euro) paid by using Proton and 500 million transactions (averaging 20 euro) settled by debit card. The ultimate saving amounts to around 58 million euro. So, just as in the study "Betalen kost geld", in which a similar simulation was carried out, the saving is in the region of 0.02 p.c. of GDP.

This saving is ultimately relatively modest, even when compared with the level of total costs (0.74 p.c. of GDP). Only the transition to a cashless society could deliver substantial savings. However, this is a purely hypothetical scenario, given that notes and coins are popular with the public. Moreover, we must not lose sight of the fact that the fixed costs of the electronic means of payment would increase sharply in the context of such a radical scenario: this would require heavy investment in infrastructure, and specifically an increase in the number of terminals. Nevertheless, these investments could then in turn produce economies of scale.

4. General analysis of the advantages and drawbacks of the various means of payment

In addition to measurable costs, unquantifiable advantages and drawbacks are also relevant in the assessment of the benefits of the various payment instruments for society as a whole. The working group tried to produce an overview as complete as possible of this for the various payment instruments. It should be pointed out that this analysis is not based on an ad hoc survey of a sample of consumers or traders, but is derived mainly from an in-depth exchange of views between the members of the working group, corroborated by various studies and investigations.

The observation is that notes and coins offer inherent advantages. They remain, for example, the only universally accepted payment instrument, first and foremost due to their status as legal tender and also because no terminal is necessary. Notes and coins can also be used for transactions between individuals. Notes and coins guarantee the confidentiality of transactions and offer complete security with regard to the protection of privacy. The use of notes and coins is also unlikely to lead to excessive debts. Furthermore, it can be a factor for social integration.

Electronic payment instruments are more user-friendly. In addition, the use of these instruments is associated with fewer dangers with regard to security and theft, particularly when theft involves violence. Electronic payments

TABLE 5 USE OF PAYMENT INSTRUMENTS BY SECTOR

(Percentages of the total number of transactions effected in each sector)

	Notes and coins	Debit card	Electronic purse	Credit card	Transfer	Other [1]
Supermarkets	42.1	50.6	0.8	3.0	0.0	3.5
Other specialised stores and retail outlets	77.9	16.3	3.2	1.4	0.4	0.9
Retail trade excluding stores	98.1	1.0	0.9	0.0	0.0	0.0
Petrol stations	40.6	52.9	0.6	2.6	1.5	1.8
Vending machines	84.4	0.7	13.0	1.2	0.0	0.7
Transport	89.8	1.2	2.8	0.0	1.4	4.7
Hotels, restaurants and pubs	90.9	2.7	2.6	1.5	0.0	2.3
Leisure activities	87.1	8.3	0.0	0.9	3.8	0.0
Personal care	88.3	10.0	0.0	0.0	0.0	1.7
Liberal professions	96.6	2.6	0.0	0.0	0.0	0.8
Person-to-person	92.4	0.0	0.0	0.0	6.9	0.7
Other	38.1	6.6	2.0	0.4	50.6	2.3
Total for all sectors [2]	70.6	21.1	2.4	1.6	2.4	1.8

Sources: IPSOS survey, NBB calculations.

(1) Luncheon vouchers, store cards, etc.

(2) The figures discussed here relate to the non-adjusted data from the survey. Primarily for this reason, the data for the total of all sectors will differ from the data in Table 2, which contains adjusted data.

leave traces which can be used as evidence in the event of any disputes. For traders, the use of these instruments facilitates reconciliation with their accounts.

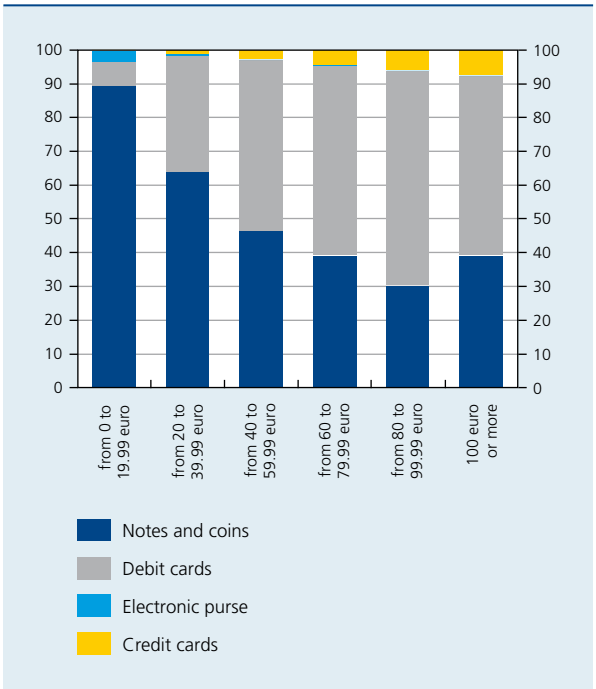
The use of the payment instruments also depends on certain specific factors: the sector in which the purchase is made and the amount involved.

After all, statistics produced on the basis of the survey of consumer payment behaviour show that consumers' habits regarding payments can vary substantially depending on the type of point of sale where they are making their purchases. Debit cards are the most common payment instrument for purchases in supermarkets and petrol stations, whilst cash continues to be the most popular method of payment in specialised stores and retail outlets, hotels, restaurants and pubs and most other sectors. The Proton card accounts for a less significant proportion of transactions in all sectors, but is used relatively more often in transactions effected via vending machines, which may indicate that many of these machines accept this method of payment.

The results of the survey conducted in Belgium regarding the use of payment instruments also highlight the role of the amount to be paid in the choice of payment instrument. It is found, for instance, that cash and the Proton card are used to pay for 89 p.c. and 3.5 p.c.

CHART 3 USE OF PAYMENT INSTRUMENTS BROKEN DOWN INTO AMOUNT BANDS

(Percentages of the total number of transactions)



Sources: Banksys, IPSOS survey, NBB calculations.

respectively of transactions for amounts of less than 20 euro. These percentages fall the greater the amount payable, whereas the rate of use of debit cards presents a rising trend. Credit cards, meanwhile, are mainly used to settle relatively large amounts, although they are not used to a greater extent than debit cards.

From the use made of them by consumers, it emerges that each payment instrument has comparative advantages depending on these two factors (sector and amount) which continue to justify the use of that instrument.

Conclusion

The total macroeconomic costs associated with the use of the means of payment are estimated at around 0.74 p.c. of Belgian GDP in 2003, which is a far from negligible figure. Efforts must therefore be made to improve the suitability and efficiency of the payment instruments, within the bounds of feasibility.

Increasing the market share of the electronic means of payment, which entail lower variable costs, will contribute to improvements of this kind. However, the simulation carried out shows that the saving made is relatively modest. Moreover, this saving only affects macroeconomic costs; if private costs, i.e. payments between the parties involved, are taken into account, this may completely alter the distribution of the efficiency gains achieved.

Furthermore, the spontaneous development of payment traffic is heading in the right direction, given the constant growth of electronic means of payment. Nevertheless, demand for notes and coins continues unabated.

In this context of growth in the use of electronic means of payment, there is no sense in attempting to speed up this development by seeking a sudden change in the payment behaviour of Belgian consumers through radical policy measures.

Although it is essential – partly for the sake of efficiency – that the spontaneous development towards more electronic payment traffic continues, it is fundamentally wrong to strive for a cashless society.

After all, it would be exorbitantly expensive to completely do away with notes and coins, and require huge investments in terminals and so on. Moreover, it is difficult to conceive of a real alternative to the use of notes of coins in a number of situations, such as person-to-person transactions, itinerant trade, etc.

Furthermore, a cashless society governed by a monopoly of one type of means of payment would produce a dangerous situation, with that society running unnecessary risks. The electronic payment system may fail due to a fault in the telecommunications network. If there were no alternative means of payment available in such an event, the consequences for the economy would be incalculable. Therefore the concurrent existence of various means of payment ensures mutual back-up should one of the means of payment suffer serious disruption.

Finally, consumers must be able to continue to choose freely between the instruments they wish to use. The study shows that consumers prefer a diverse range of instruments, in which notes and coins undoubtedly still have their place. After all, consumers remain attached to notes and coins which are an appropriate means of payment for smaller amounts and certain transactions.

A diversification of instruments continues to have positive effects in terms of achieving the most flexible possible settlement of transactions. Moreover, the payment behaviour of consumers – including the success of the cash back facility when paying by debit card is coupled with a cash withdrawal – shows that the means of payment can complement each other.

Finally, in this discussion on the efficient use of payment instruments we must not lose sight of the European dimension of this issue. From a European perspective, Belgian electronic payment instruments are currently working efficiently. With a view to the transition to the Single Euro Payments Area (SEPA) it must be ensured that this level of efficiency is at least maintained or possibly even improved.

Working time and forms of employment in Belgium

J. De Mulder
M. Druant

Introduction

The link between economic activity and demand for the production factor labour is closer and more direct if it is expressed in terms of working time rather than in terms of the number of persons in work, because the number of hours worked per person is a great deal more flexible than the number of workers. An increase in demand can be met faster by getting the existing staff to work more hours than by recruiting additional personnel (and vice versa in the case of a decline in activity).

Apart from the influence of the business cycle, structural changes in the organisation of labour inevitably affect developments in working time per person: economic and social changes lead to the emergence of new forms of employment, while the importance of existing forms increases or declines.

Thus, the typical full-time employee on a permanent contract, working from Monday to Friday, 9 to 5, has become less common, and is increasingly giving way to alternative forms of employment. In a good many cases, the growing use of those alternatives accords with the wishes of the employers and workers concerned, but it may also give rise to tension, since the working hours desired by employees and employers respectively are not necessarily ideal for both parties. Alternative forms of employment are also more common among risk groups such as women, older persons, the young and the low-skilled, creating the danger of a dual labour market.

Section 1 of this article gives a few definitions relating to working time and forms of employment, and outlines the legal framework governing these matters. Section 2 deals with the current situation and the trend in working time; section 3 then discusses the alternative forms of employment. The article ends with a number of conclusions.

The analysis often focuses on the comparison between Belgium and the EU average. In view of the large variations in terms of the labour market situation between Belgium and the 10 new Member States[1], the EU-15 – i.e. the 15 Member States prior to the 2004 enlargement – were used as the reference.

1. Definitions and legal framework

1.1 Working time

The EU directive of 23 November 1993 concerning the organisation of working time[2] defines working time as "any period during which the worker is working, at the employer's disposal and carrying out his activity or duties, in accordance with national law and/or practice". In practice, however, various concepts are commonly used, depending on the elements included or ignored in the calculation of working time.

(1) On 1 May 2004, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovenia, Slovakia and the Czech Republic joined the European Union.

(2) Council Directive 93/104/CE of 23 November 1993 concerning certain aspects of the organisation of working time. Official Journal no. L307 of 13/12/1993, p. 0018-0024.

TABLE 1 WEEKLY WORKING TIME OF EMPLOYEES IN BELGIUM IN 2004

(Hours)

	per FTE	per person
Legal or maximum working time	38.0 (with exceptions)	–
Collectively agreed working time		
FPS Employment, Labour and Social Dialogue (1)	37.6	–
Labour force survey (2)	37.1	–
Usual working time (3)	39.1	35.3
Actual working time (3)	38.0	34.4

Sources: EC, FPS Economy, FPS ELSD.
(1) Agreed working time under the various joint committees, weighted according to their share of salaried employment.
(2) Labour force survey (FPS Economy).
(3) Labour force survey (EC).

First, there is the *legal or maximum working time*. In the EU directive, this averages 48 hours a week over a reference period of 4 months maximum. The Member States have implemented this directive in varying ways. In Belgium, the maximum weekly working time is a great deal less: since 1 January 2003 it has been set at 38 hours. As a rule, the standard reference period is three months. The other EU-15 Member States with the exception of Denmark and Germany have also laid down the maximum working time by law; in all these countries the maximum is between 40 and 48 hours per week.

In practice, setting the maximum working time by law offers many possibilities. In Belgium, where the social dialogue has long played a crucial role, the weekly *collectively agreed working time*, which concerns the normal weekly working time for a full-time employee, is determined per sector or per enterprise by a collective labour agreement. According to the available data, obtained from the FPS Employment, Labour and Social Dialogue or from the labour force survey, the average collectively agreed working time in Belgium in 2004 was just over 37 hours per week.

The concept of collectively agreed working time does not necessarily correspond to the actual hours worked. In the first place, it concerns the normal working time of a full-time employee, whereas part-time work is becoming increasingly common. Also, it disregards overtime or absences on account of sickness or holidays. If these elements are included in the calculation of working time, we arrive at the concepts of usual working time and actual working time. The *usual working time* concerns the hours which should normally be worked during a standard week, and differs from the collectively agreed working time according to the frequency of part-time working and normal overtime. Next, the *actual working time* differs from the usual working time as a result of abnormal overtime on the one hand and absences on account of sickness, holidays or training on the other hand. The results of the labour force survey can again be used by way of illustration. In 2004, a Belgian employee usually worked an average of just over 35 hours a week, while the actual working time was about 1 hour less.

1.2 Alternative forms of employment

Apart from regulating weekly working time, the Belgian government has also laid down rules on the use of alternative forms of employment (Gevers and Peeters, 2005).

In the case of *part-time working*, the working time calculated on a weekly basis or as an average during a reference period is less than that of a full-time employee in a comparable situation. However, each period of duty must last at least three hours, and the weekly working time of a part-timer must not be less than one-third that of a full-time worker in the same category.

The *career break / time credit* (1) system enables employees to stop work temporarily or to reduce their working hours while retaining most of their employees' rights. During the career break period, the employee receives an allowance

(1) The career break scheme was introduced in 1985. On 1 January 2002, it was replaced in the private sector by the time credit. The scheme was retained in the public sector.

from the government. In addition, there is the system of leave for specific purposes, namely parental leave, palliative care leave and leave on grounds of medical assistance for a family member who is seriously ill.

The *forms of temporary employment* include both fixed-term contracts and contracts for specific projects, as well as substitution contracts, temporary work and working for temporary work agencies. They are all regulated by law. Their common feature is that they are used by employers to meet a specific need (replacement of a worker who is temporarily absent, execution of a clearly defined project, catering for a temporary increase in the work load); the contracts are therefore of short duration and there is a limit to the number of successive contracts permitted. The maximum term varies from one case to another, but as a rule it cannot exceed 30 months – though some exceptions are possible; a maximum of 4 successive temporary contracts can be concluded. Successive agency contracts must not exceed a cumulative total period of 11 months. The Belgian regulations are stricter here than those of other OECD countries in regard to the type of work for which agency workers may be used, and the cumulative maximum duration of successive temporary and agency contracts (OECD, 2004).

Working on Sundays and public holidays and night work (work done between 8 p.m. and 6 a.m.) are prohibited by law in Belgium. However, numerous exceptions are possible provided that there is a compensatory rest period during a specified period following the work. The Belgian regulations on this are among the most stringent in all the EU-15 Member States. The time range defined as "night" is also very long, so that the night work classification applies sooner in Belgium than in other countries.

In the case of *shift work*, employees take over from one another at the same work station in accordance with a specified roster. Under this system it is possible to increase the maximum working time without recourse to overtime. These deviations are permitted only if the time worked does not exceed an average of 38 hours per week over a three-month period.

The *rules on overtime working* are very strict. Under no circumstances may working time exceed 11 hours per day or 50 hours per week. Overtime must attract additional payment; the supplement is 50 p.c. for overtime during the week and 100 p.c. on Sundays and public holidays. This extra payment can be converted to compensatory rest time by arrangement under a collective agreement.

The system of *variable working hours* is not regulated by law, but it is permitted. This system offers the advantage that the beginning and end of the working day can be determined flexibly, without there being any overtime attracting additional payment or the need to grant a compensatory rest period.

2. Working time

2.1 Average working time

2.1.1 Average working time per person in work and per employee

In order to compare working times in Belgium with those in the other EU-15 countries, this article uses the data obtained from the labour force survey, harmonised at European level and containing a great deal of detailed information on both usual and actual working times. This article presents only the usual working times, as the actual working times may be distorted by exceptional events during the reference week, preventing any reliable comparison and analysis.

According to the labour force survey, the usual average working time per person in work in Belgium in 2004 was 37 hours per week; that was slightly below the EU-15 average of 37.4 hours. Greece had by far the longest weekly working time, with the average person working around 43 hours per week. The Netherlands had by far the shortest working time, with barely 31 hours.

Since 1983, there has been a significant decline in weekly working time in Belgium. In that year, people still worked on average just over 40 hours a week; over a period of 20 years or so, the weekly working time has therefore declined by more than 3 hours. Neighbouring countries, and particularly the Netherlands, also recorded a marked decline. The average weekly working time in the EU-15, for which data are only available from 1995, dropped from 38.4 hours in 1995 to 37.4 hours in 2004. In Belgium, the decline over that same period was slightly less at 0.7 hours.

In Belgium, as in the majority of the other countries for which data are available since 1983, the major part of the reduction in working time occurred in the first half of the period considered. Portugal and Ireland, and to a lesser extent Luxembourg, Germany and the Netherlands, are the only countries where working time has continued to fall significantly in the past 10 years.

Box 1 – The various working time sources in Belgium

Data on working time in Belgium are available from various national and international sources. However, there are often variations in what is actually being measured, so that mutual comparisons are difficult. Moreover, no single data source is exhaustive, so that they all supply partial information and it is not possible to choose just one source in order to obtain a complete picture of working time in Belgium.

THE VARIOUS SOURCES INDICATING WORKING TIME PER PERSON IN BELGIUM

	Concept	Coverage				*p.m. in 2004*
National accounts (NAI)	volume of labour	year	employees	economy	level	*1,512 hrs a year (2002)*
Technical report (CCE)	actual	year	employees	private sector	level	*1,591 hrs a year*
FPS ELSD	collectively agreed (per FTE)	year	clerks	private sector	index (1997 = 100)	*99.5*
			workers			*99.5*
Social balance sheets (NBB)	actual	financial year	employees	private sector	level	*1,420 hrs a year*
Prodcom survey (FPS Economy)	actual	month	employees	industry	index (2000 = 100)	*90.8*
				construction		*94.5*
Labour force survey (EC)	usual	week	persons in work	economy	level	*37.0 hrs a week*
			employees			*35.3 hrs a week*
	actual		persons in work			*36.5 hrs a week*
			employees			*34.4 hrs a week*
Structure of earnings survey (EC)	paid hours	month	employees	industry, services	level	*179 hrs a month (2002)*
Employment Outlook (OECD)	actual	year	persons in work	economy	level	*1,522 hrs a year*
			employees			*1,441 hrs a year*

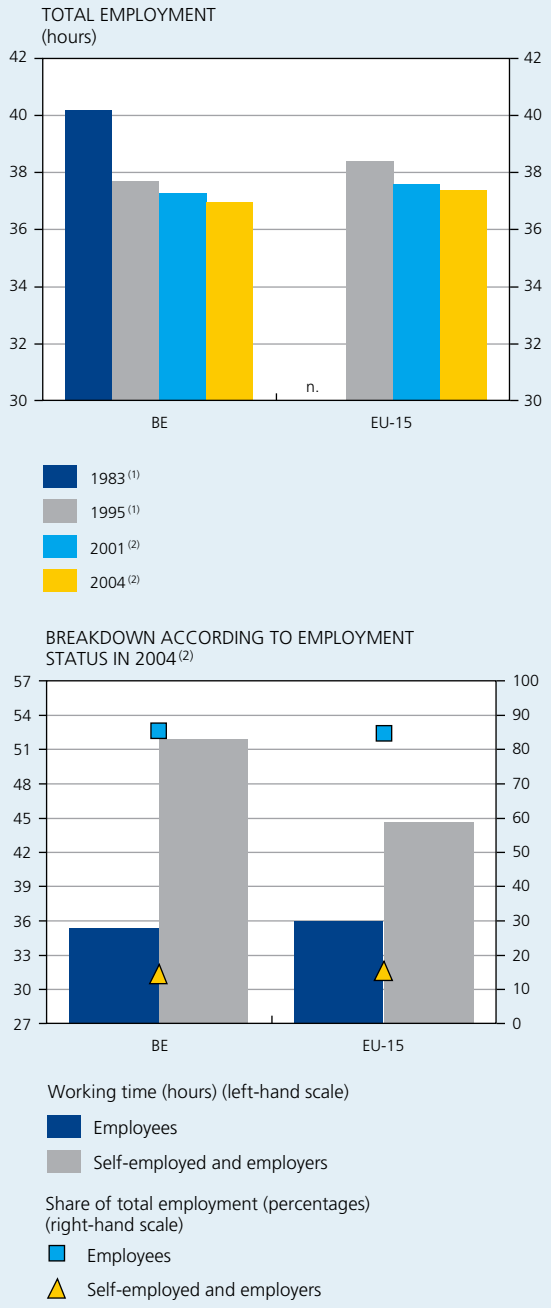
The majority of the sources are surveys (labour force survey, structure of earnings survey, Prodcom) or are based on surveys (e.g. the CCE and the OECD). That does not apply to the national accounts, the collectively agreed working time of the FPS Employment, Labour and Social Dialogue, and the social balance sheets.

As in the other EU-15 Member States, the average number of hours worked in Belgium is significantly higher for self-employed workers than for employees. While Belgian employees worked an average of around 35 hours per week in 2004, the average weekly working time for the self-employed came to almost 52 hours. That figure was also 7 hours above the EU-15 average.

The rest of this article will focus on employees, as the discussion about working time – important in the debate on the economy's competitiveness – primarily concerns them.

The average Belgian employee worked 35.3 hours per week in 2004, which is slightly below the EU-15 average of 36 hours per week. Greece, with around 40 hours, and the Netherlands, with just under 30 hours, were respectively first and last in the EU-15 ranking.

CHART 1 USUAL WEEKLY WORKING TIME IN BELGIUM AND IN THE EU-15



Source: EC.
(1) Second quarter data.
(2) Second quarter data in the EU-15.

2.1.2 Breakdown according to various criteria

The average working time per employee and the differences recorded between the EU-15 Member States depend on a number of characteristics of the population of employees, particularly the breakdown between full-time and part-time workers, and the breakdown by sex, branch of activity and age.

In Belgium, an average full-time employee worked roughly 39 hours per week in 2004, while the average part-timer worked 23 hours per week. The average part-time worker therefore had a 60 p.c. job. *Full-time* and *part-time* jobs respectively represented 76.5 p.c. and 23.5 p.c. of total salaried employment.

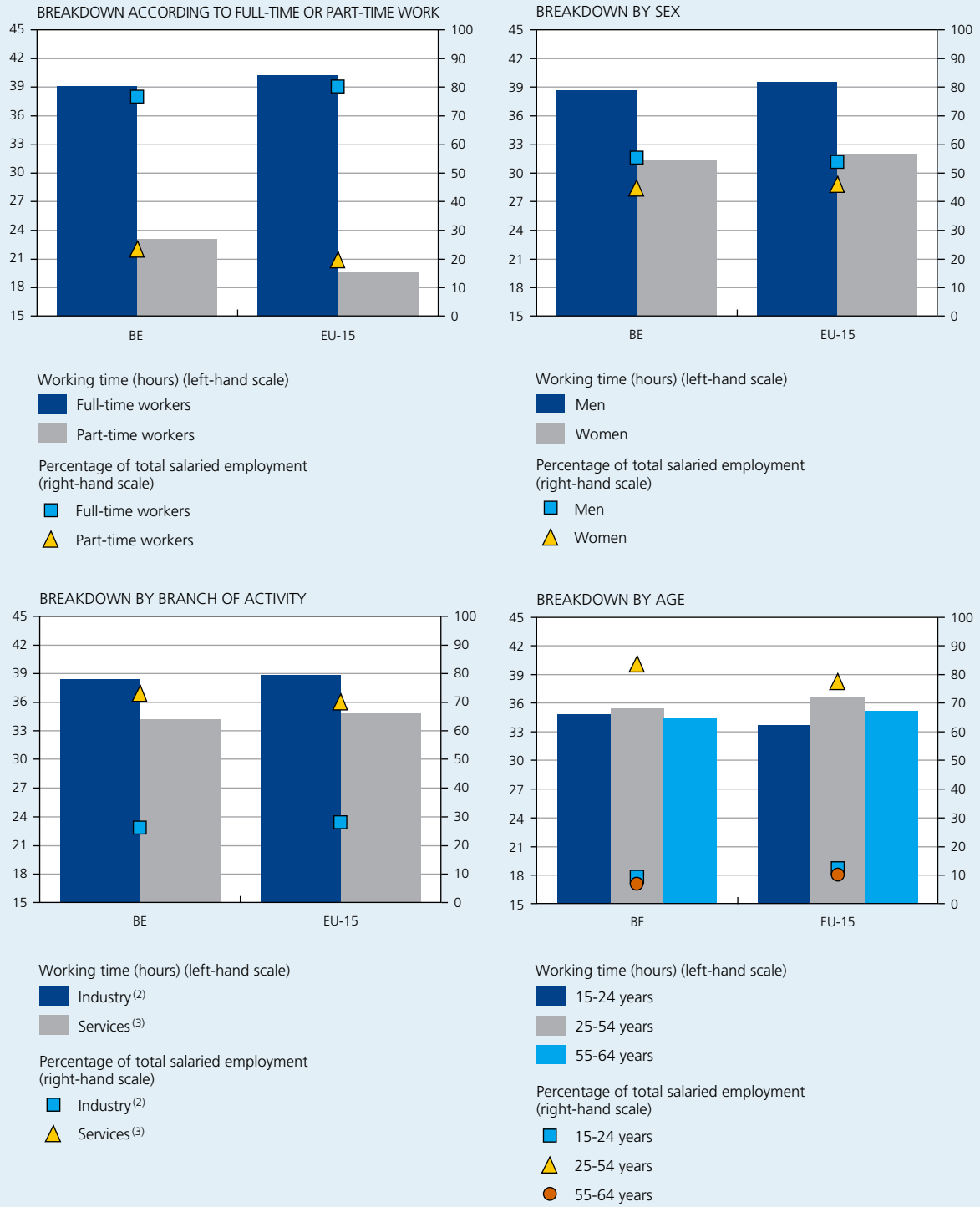
On average, a full-time employee in the EU-15 worked around 40 hours per week in 2004, and a part-timer worked roughly 19.6 hours. Taking an average, a part-time job thus represented rather less than half of a full-time job. In the EU-15, part-time jobs in that year accounted for roughly one-fifth of the total number of employees, slightly less than in Belgium.

The average working time for full-time and part-time employees respectively falls within a fairly narrow range for all EU-15 Member States: for full-time workers it ranged from roughly 39 hours in the Netherlands to almost 43 hours in the United Kingdom. In 2004, part-timers worked around 18 hours in Germany and 23 hours in France and Belgium. In terms of working time, full-time workers in Belgium are thus at the bottom of the European league, while part-timers in Belgium work, on average, the longest hours of all Member States.

In the Netherlands, where the total average working time was by far the lowest, the working time of full-time and part-time employees was comparable to that in the other EU-15 countries. The very low average working time is therefore largely due to the exceptionally high proportion of part-time work: around 46 p.c. of jobs were part-time positions, more than twice the average percentage for the EU-15. The high average working time in Greece is also attributable partly to the proportion of part-time work which, at barely 4 p.c., was much lower than in the other Member States.

A second interesting breakdown concerns the *sex* of the employees. In all the EU-15 countries, the average working time was significantly longer for men than for women in 2004, owing to the higher proportion of women working part-time. Taking the EU-15 average, men worked 39.5 hours per week compared with 32 hours for women, or around 80 p.c. of the average man's working time.

CHART 2 USUAL WEEKLY WORKING TIME PER EMPLOYEE IN BELGIUM AND IN THE EU-15 IN 2004 (1): BREAKDOWN ACCORDING TO VARIOUS CRITERIA



Source : EC.

(1) Second quarter data for the EU-15.

(2) NACE Nomenclature, C to F.

(3) NACE Nomenclature, G to Q.

In Belgium, men worked an average of 38.6 hours per week and women 31.3 hours. The difference between the sexes in terms of working time was most marked in the Netherlands and the United Kingdom, at almost 11 hours per week. In contrast, the average difference in working time was only around 3 hours in Greece, Portugal and Finland.

On average in the EU-15, men accounted for 54 p.c. of salaried employment and women 46 p.c.; in Belgium, that proportion was almost similar at 55-45 p.c. In the United Kingdom and in the northern Member States of Sweden, Finland and Denmark, women made up roughly half the employees; in the southern Member States of Spain and Greece, however, the proportion of women was barely 40 p.c.

A breakdown by *branch of activity* reveals that the average working time is longer in industry than in services. In the EU-15, the average working time in industry in 2004 came to around 39 hours per week, while in services it was 35 hours. Once again, this finding is connected with the other explanatory variables, as salaried employment in the more traditional industrial branches has a relatively smaller proportion of women and part-time work.

Working time in Belgium was very close to the EU-15 average with just over 38 and 34 hours respectively in industry and services. At 26 p.c., the share of industry in total salaried employment in Belgium was slightly below the EU-15 average (28 p.c.), whereas in services the figure for Belgium (73 p.c.) was 3 percentage points above the average.

The last available breakdown concerns the *age* of the employees. On average, the smallest relative differences are found here.

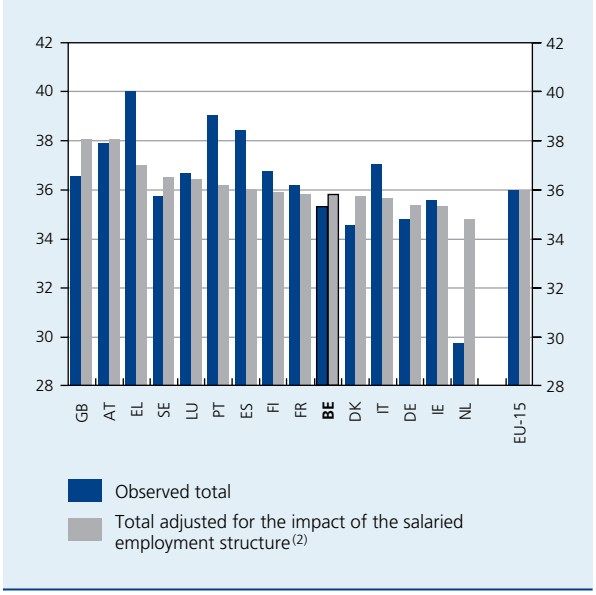
In Belgium, in 2004, the average weekly working time of young employees (aged 15-24) was in the region of 35 hours, or almost one hour less than the figure for those aged 25-54. In a number of countries, including the northern Member States and the Netherlands, that difference is much greater, perhaps because those countries have a relatively larger number of students who are also employed, albeit part-time, reducing the average number of hours worked by employees in that age group.

In the majority of the EU-15 Member States, the difference between the 25-54 and 55-64 age groups in terms of hours worked is relatively small. Thus, in Belgium the oldest employees worked on average 1 hour per week less than the 25-54 age group in 2004; the average difference for the EU-15 was one and a half hours. However, the comparison here is once again slightly distorted because in some countries, such as Belgium, the number of older persons in work is relatively small. In the northern Member States, the percentage of persons aged 55-64 years in total salaried employment is more than double the Belgian figure.

2.1.3 Adjustment for differences in the salaried employment structure

As a general rule, the average working time in the EU-15 countries shows marked variations depending on whether the employees concerned work full-time or part-time, and according to the workers' sex, branch of activity and – to a lesser extent – their age. The initial differences found between the countries in terms of average working time therefore depend on the salaried employment structure. A relatively high (low) working time may be due to a relatively large (small) proportion of full-time work, men and/or industrial branches in salaried employment. However, the interdependence of the breakdowns used (e.g. part-time work, which often concerns women in the service branches) makes it difficult to investigate purely

CHART 3 USUAL WEEKLY WORKING TIME PER EMPLOYEE IN BELGIUM AND IN THE OTHER EU-15 COUNTRIES IN 2004[(1)]: ADJUSTMENT FOR DIFFERENCES IN THE SALARIED EMPLOYMENT STRUCTURE



Sources: EC, NBB calculations.

(1) Second quarter data for Germany and the EU-15.

(2) The impact of the salaried employment structure was calculated as the difference between, on the one hand, the data on the number of hours worked broken down according to part-time and full-time work, sex, branch of activity and age, weighted by the corresponding composition of salaried employment in the EU-15 and, on the other hand, the same data for the number of hours worked weighted by the salaried employment structure of the country in question. The adjusted total was then obtained by adding together the observed total and the impact thus calculated.

on the basis of such one-dimensional breakdowns the extent to which this influences the average working time recorded.

In order to arrive at a conclusion, the various characteristics used (full-time or part-time work, sex, branch of activity and age) were combined to give 36 categories of employees.

Per country, an adjusted total average working time was calculated by taking the national detailed working time figures for the 36 different categories and weighting them with their respective shares in the total employee population of the EU-15.

As expected, the composition of the employee population explains a substantial part of the differences recorded in the average working time: for the equivalent salaried employment structure (namely that of the EU-15 average), the differences between the Member States are significantly smaller. While the average working time initially recorded for employees in 2004 ranged between almost 30 hours in the Netherlands and roughly 40 hours in Greece, the average working time following the adjustment varied only between about 35 hours in the Netherlands and 38 hours in the United Kingdom and Austria.

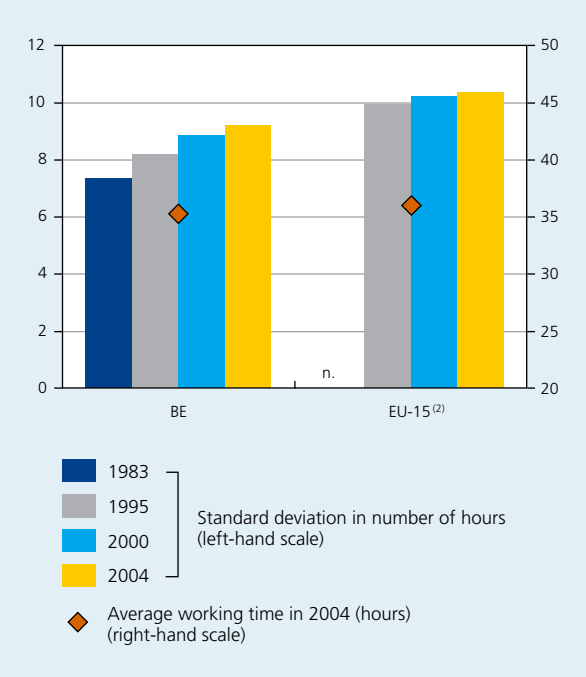
For Belgium, the adjustment was only half an hour per week, which indicates that the salaried employment structure there is relatively close to the EU-15 average. Following that adjustment, the average working time in Belgium is practically the same as the EU-15 average.

The main countries where the adjustment did have a major impact were the Netherlands, where the average increased, and Greece, Portugal and Spain where it was reduced. That therefore confirms that the highest (Greece) and lowest (Netherlands) average working times recorded in the EU-15 can be largely attributed to differences in the salaried employment structure.

2.2 Working time dispersion

Apart from the average working time, the breakdown of working time between employees is also an interesting data item. Calculation of the standard deviation provides an indication: a small (large) standard deviation indicates that the individual working times differ relatively little (significantly) from the average.

CHART 4 STANDARD DEVIATION OF THE USUAL WEEKLY WORKING TIME OF EMPLOYEES[1] IN BELGIUM AND IN THE EU-15



Sources: EC, NBB calculations.
(1) Second quarter data.
(2) Average of the countries, weighted by their share in total number of employees.

The standard deviation of the usual weekly working time of employees in the EU-15 has increased over the years, a sign of growing diversity in working hours. It went up from 9.9 hours in 1995 to 10.3 hours in 2004; in Belgium, it increased by 1 hour over that same period. An increase or stabilisation was observed in almost all the Member States except Portugal and the United Kingdom, where the level was already very high in 1995. In the case of the countries for which data covering a longer period are available, the rise in relation to the year 1983 is even more marked. Thus, the standard deviation has increased by almost 2 hours in Belgium over the past 20 years.

Significant differences are found between the standard deviations of the Member States. In 2004, the United Kingdom and the Netherlands had the highest standard deviations at 13 and 12 hours respectively. Belgium was in the intermediate group with a figure of 9.2 hours. In Portugal, the standard deviation was about 7 hours.

The breakdown of working time between employees is due to the way the work is organised. The level of the standard deviation in the various countries thus provides an indication of the degree of diversity in individual

working hours. The general increase in the standard deviation seen in recent decades may in turn be attributed to the growing use of alternative forms of employment and new types of contract; this will be discussed in the next section.

3. Use of alternative forms of employment

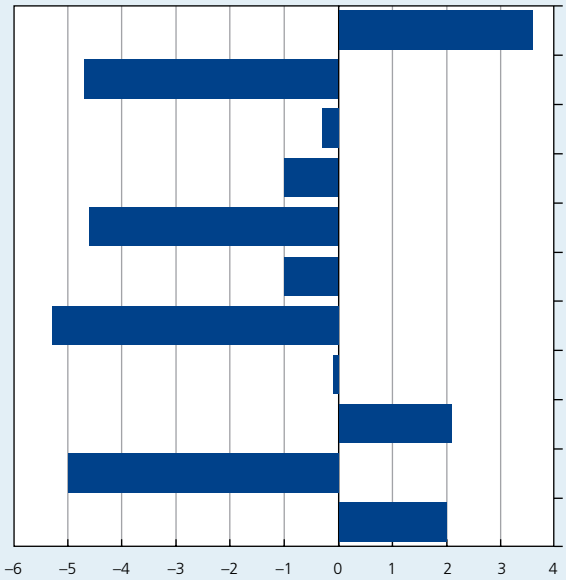
Until a few decades ago, the typical employee was a man working fixed full-time hours in the daytime from Monday to Friday under a permanent contract of employment. Since then, a number of social and economic developments have reduced the dominance of this stereotype. Not only are women increasingly participating in the labour market, there have also been fundamental changes in the way that work is organised. The usual form of employment did not fulfil the growing need for flexibility, expressed at the level of both supply and demand on the labour market.

Where the supply is concerned, the alternative forms of employment make it easier to reconcile work with family life, attracting on to the labour market people who would not otherwise have been considered or who would not have been interested in a job. On the demand side, greater flexibility enables employers to respond better to changes in the work process and in customers' requirements. It also facilitates improvements in the organisation of the production process, promoting economic growth.

However, these forms of employment may give rise to tensions. First, the working times which may be of interest to the employer, such as night work and shift work, are not necessarily conducive to the well-being of the employees. The converse is also true: the forms of employment which best enable workers to combine a job with their private life (e.g. part-time work and career breaks) may make it difficult to organise the work in the best possible way within the enterprise. It is also evident that alternative forms of employment are more common among risk groups, such as women, older workers, the young and

CHART 5 ALTERNATIVE FORMS OF EMPLOYMENT IN BELGIUM AND IN THE EU-15 IN 2004 (1)

(Percentages of the employee population)



	LEVEL IN BELGIUM 2004	*p.m. 1992*
Part-time work	23.5	*13.9*
Temporary forms of employment	8.7	*4.9*
Evening work	11.7	*9.4*
Night work	4.6	*4.9*
Saturday work	13.1	*10.1*
Sunday work	7.2	*5.5*
Shift work	9.3	*16.0*
Overtime	12.6	*n.*
of which: unpaid overtime	8.8	*n.*
Variable working hours (3)	27.6	*n.*
Home working	4.6	*3.8*

Source: EC.

(1) A positive/negative sign indicates that the form of employment is more/less common in Belgium than in the EU-15. In the case of evening work, night work, Saturday and Sunday work, shift work and home working, the employees concerned usually work those schedules.

(2) Second quarter data for the EU-15.

(3) Total variable hours, hours fixed independently and arrangements in which the starting and finishing times for the day's work are fixed individually.

the low-skilled, which indicates the potential risk of a dual labour market. When these people find work, they often take less secure jobs or jobs entailing difficult working conditions.

The number of Belgian employees working alternative schedules seems to be below the EU-15 average. That applies particularly to shift work, variable hours, temporary forms of employment and Saturday work. In each of these cases, the share of Belgian employees was around 5 percentage points below the European average. In the case of night work and Sunday work, the difference was only 1 percentage point.

It is only part-time work and – to a lesser extent – unpaid overtime and home working that are relatively more common in Belgium.

3.1 Part-time work

In 2004, 20 p.c. of employees in the EU-15 held a part-time job. In Belgium, the percentage was a little higher since almost one in four employees worked part-time. That proportion has risen sharply in recent years: in 1992, the figure was only around 14 p.c. in Belgium.

The number of part-time jobs has increased in all the EU-15 Member States. In Austria, the Netherlands, Luxembourg, Belgium and Italy, the majority of the jobs created between 1996 and 2004 were part-time. Taking the EU-15 average, the contribution of part-time work to the rise in salaried employment came to 47 p.c. during that period.

Part-time workers are still predominantly women: in 2004, more than 1 in 3 female employees worked part-time, on average in the EU-15, while only 6.5 p.c. of men did so. In Belgium, these percentages were slightly higher, at around 44 and 7 p.c. respectively. The same was true in the Netherlands, where the overall percentage of part-time work, at 46 p.c., was double the average rate in the EU-15: more than one-fifth of men and no less than three-quarters of women there worked part-time.

Part-time work is not distributed uniformly over the age groups. On average in the EU-15, it is more common at the beginning and end of working life. In Belgium, on the other hand, the percentage of part-time work increases with age, as it is less common to combine studying with a (part-time) job there. In 2004, almost 30 p.c. of Belgian employees aged between 55 and 64 years worked part-time. Cutting down on working time towards the end of one's career in order to continue working longer therefore seems to meet an existing need.

In Belgium, as on average in the EU-15, the low-skilled are more likely to work part-time than the highly skilled. The percentage of part-time work in Belgium is above the EU-15 average for all levels of education.

Box 2 – Career break and time credit

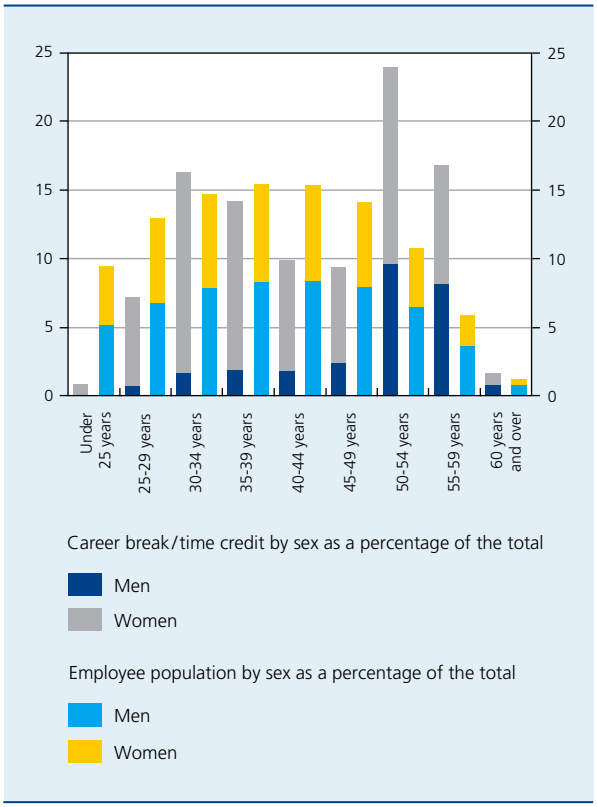
In 2004, a total of 176,000 people, or 5 p.c. of employees, were taking a career break or receiving a time credit. This system mainly concerns the female population: 8 p.c. of female employees were taking a career break or receiving a time credit in that year, against just 2 p.c. of men.

Use of the career break or time credit scheme remained more or less steady during the first half of the 1990s, but has expanded sharply since 1996, especially among women. The increase has been confined almost exclusively to part-time arrangements.

In 2004, about half of the part-time career breaks led to a one-fifth reduction in working time: in 46 p.c. of cases, working time was halved (NEMO, 2004).

Leave taken for specific purposes represented 16 p.c. of the total in 2004, mainly in the form of parental leave, while palliative care and medical assistance for sick family members were less common. It was mainly women (84 p.c.) who used these schemes.

CAREER BREAK AND TIME CREDIT IN 2004:
BREAKDOWN BY AGE AND SEX



Sources: EC, NEMO.

Career breaks and time credit are particularly popular among the over 50s: in 2004 their proportion in the total number of persons taking a career break or receiving a time credit was twice as high as their share of the total employee population. The reason lies in the favourable rules devised to keep them working longer, and encouraging them to take a part-time career break at the end of their working life: workers aged 50 and over who have worked for at least twenty years can cut their working time by half or one-fifth until they reach retirement age (Devisscher and Van Pelt, 2005). In addition, the lump sums which they receive are higher than those paid to other employees taking a career break (NEMO, 2004). This scheme has been a success: over 90 p.c. of the over 50s who take a career break do so part-time.

The under 30 age group is clearly under-represented among persons taking a career break or receiving a time credit. In the 30-39 age group the use of these schemes is more or less proportional to their share in the employee population. This is the age group where the career break is used mainly to enable people to combine their job with their family life.

If age and sex are taken into account, it is evident that men mainly choose to take a career break at the end of their working life. Among women, career breaks are spread more evenly among all the age groups and women are over-represented in all categories – except for the under 25 age group – in relation to their share in the employee population.

3.2 Temporary forms of employment

In 2004, around 13 p.c. of employees in the EU-15 were employed under a temporary contract. Temporary forms of employment were by far the most widespread in Spain, where about one-third of contracts were temporary. The proportion was over 15 p.c. in Portugal, Finland and Sweden. With just under 9 p.c., Belgium's rate is the fourth lowest. In Luxembourg and Ireland, the proportion of temporary contracts was under 5 p.c.

Temporary forms of employment are distributed more evenly between men and women than part-time employment arrangements: taking the EU-15 average, 14 p.c. of women were employed under a temporary contract, against 13 p.c. of men. However, these contracts are more common for women than for men in the majority of countries: in Belgium the proportions were around 12 p.c. and 6 p.c. respectively.

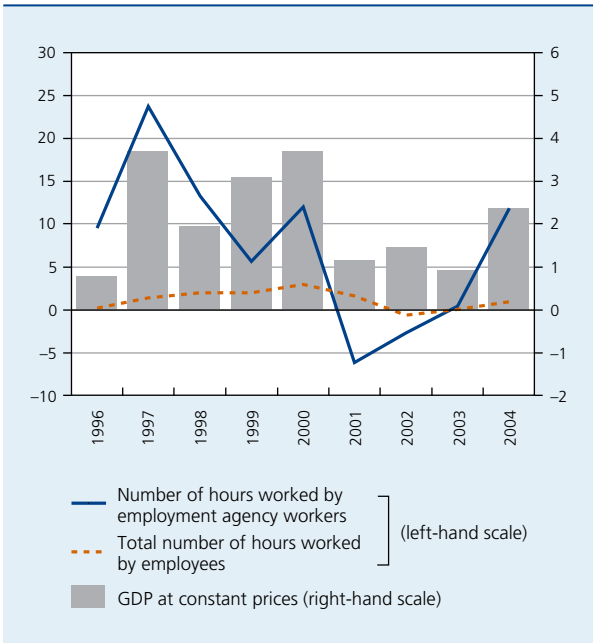
Box 3 – Working for temporary work agencies

Working for temporary work agencies is the classic example of a highly flexible form of temporary employment. The data on the number of hours of agency work performed in Belgium are supplied by Federgon, the umbrella organisation for the main temporary employment agencies.

The number of hours worked by employment agency workers is connected to the business cycle, as is the total number of hours worked within the economy. However, agency work responds much more sharply to cyclical fluctuations than total salaried employment: as in the case of temporary employment in general, the hours worked by agency workers increase much more steeply during a boom and show a much faster decline when economic activity subsides.

WORKING FOR TEMPORARY WORK AGENCIES

(Percentage annual change)



Sources: Federgon, NAI, NBB.

Although permanent contracts are still the most common, temporary forms of employment expanded much faster in the period 1997-2004. The rate of growth averaged 7 p.c. per annum in Belgium, while the number of jobs under permanent contracts increased by an average of 1 p.c. The expansion of temporary forms of employment exhibits a pro-cyclical pattern, indicating that, at least to some extent, they are used to cope with fluctuations in demand. At the time of an economic boom – as occurred in 1997-2000 and in 2004 –, temporary work expanded strongly in Belgium, in line with the EU-15 average. Conversely, it contracted during the period of slack activity in 2001-2003. Throughout these periods, employment under permanent contracts continued to expand in the EU-15, even when the economy was not doing so well, but the growth rate was significantly lower than that of temporary forms of employment during boom periods. The same pattern was evident in Belgium, except during the period of slack activity from 2001-2003, when permanent contracts stagnated.

Overall, temporary forms of employment have made a smaller contribution than part-time work to the expansion of total salaried employment. During the period 1996-2004, 1 in 3 of the jobs created concerned a temporary contract, both in Belgium and on average in the EU-15.

Young people are more often employed on a temporary basis: in 2004, around one-third of Belgian workers in the 15-24 age group were employed under such a contract. Young people presenting themselves on the labour market are often taken on under a temporary "probationary contract", or they themselves choose not to commit themselves permanently to a particular job. That percentage was around 8 percentage points below the EU-15 average. The reason is that, as already mentioned, it is less common in Belgium for students to take a job – generally temporary work – while studying. The proportion of temporary forms of employment declines sharply with age: 7 and 3 p.c. of Belgians respectively in the 25-54 and 55-64 age groups were employed under a temporary contract: in the EU-15, the average proportions for the two age groups were about 3 percentage points higher.

There is also a negative correlation between temporary work and standard of education. It is mainly the low-skilled who take temporary jobs: this phenomenon is much more marked in the EU-15, on average, than in Belgium.

Temporary jobs are mainly of short duration, which is logical in view of the very strict employment regulations in this area. In Belgium, in 2004, 13 p.c. of persons questioned had nonetheless been employed for more than two years on a temporary basis. Although temporary work is conducive to flexibility on the labour market and may lead to a permanent job, the potential disadvantages should certainly not be ignored. In that regard, the European Commission points out that prolonged temporary employee status entails the risks of lower remuneration, less job security and fewer opportunities for on-the-job training (EC, 2003).

3.3 Non-standard work schedules

The labour force survey provides information on five types of non-standard work schedules: shift work, evening work, night work, Sunday work and Saturday work. The data concern people who generally work these non-standard hours.

In 2004, evening work concerned around 12 p.c. of Belgian employees. Night work was less common, concerning just under 5 p.c. of employees. Around 13 and 7 p.c. respectively of employees usually work on Saturdays and/or Sundays. Shift work concerned 9 p.c. of employees in Belgium. As mentioned above, these percentages are lower than the corresponding rates for the EU-15 as a whole.

The various forms of non-standard work schedule follow a pattern which is clearly linked to that of the branch of activity where they are most common. Thus, the proportion of evening, Saturday and Sunday work has continued to rise since 1992. These are the non-standard schedules which are most common in the service sector – which is still expanding. Conversely, the proportion of night work has remained steady, and that of shift work has actually declined. These two work schedules are most widely used in manufacturing industry, a branch of activity where employment is in structural decline.

The data supplied by an ad hoc module attached to the labour force survey for the second quarter of 2004 reveal that the majority of persons working non-standard hours consider that such hours are compatible with their personal life. That was true for about 70 p.c. of employees, on average, in the EU-15. In Belgium, that figure was 10 percentage points higher.

3.4 Overtime

As a general rule, there are strict regulations on overtime working in the EU. Overtime is also an expensive solution for firms, as they have to pay a higher rate for it, or offer a compensatory rest period.

An ad hoc module on overtime was attached to the labour force survey for the second quarter of 2004. The results need to be interpreted with the utmost caution as they are undoubtedly influenced to a great extent by the way in which the survey participants interpreted the question relating to overtime. Although, where paid overtime was concerned, the participants bore in mind the regulations on overtime and the corresponding statutory compensation, their interpretation probably varied greatly in the case of unpaid overtime. For example, the question did not specify whether or not the overtime had to be worked at the place of employment.

In 2004, around 13 p.c. of employees in the EU-15 worked overtime. The differences between the Member States were considerable. In particular, the United Kingdom, the Netherlands and Austria stood out: in those countries, 20 p.c. or more of employees worked overtime. Belgium belonged to the intermediate group with a figure of almost 13 p.c. Conversely, in Denmark, Spain, France and Greece, fewer than 5 p.c. of employees worked overtime. More commonly men are working overtime: taking the average for the EU-15, 15 p.c. of male employees worked overtime, against 10 p.c. of females.

Barely half of the employees who worked overtime in the EU-15 were paid for it. In Belgium, Germany and the Netherlands, this proportion was even lower: under one-third of the employees concerned were paid for their overtime work. The numbers working unpaid overtime were hence relatively higher in Belgium than the EU-15 average.

On average, the EU-15 employees working overtime worked an additional 8 hours per week, of which 3.6 hours were paid and 4.4 hours unpaid. Here, too, there are significant differences between the Member States. The highest number of overtime hours was worked in Greece (total of 15 hours per week, of which 11 hours were paid). In Belgium, too, the amount of overtime worked was considerable, at 10 hours per week, 3 hours being paid and 7 unpaid. Spain comes last in this respect, with 4 hours per week.

3.5 Variable working hours

The ad hoc module mentioned above also contained a question about the employees' working hours. In the EU-15, 1 in 5 employees, on average, worked flexible hours. This means that, within certain limits, they can extend or shorten their contractual working day without any overtime being involved. The extra hours can be saved up and used for taking leave. In addition, 7 p.c. of workers decided the starting and finishing times for their day's work by arrangement with their employer, and 5 p.c. of employees determined their working hours independently. The majority, namely 67 p.c. of workers, were employed on the basis of fixed working hours.

Major differences are apparent between Member States. In the southern countries, i.e. Spain, Greece and Portugal, fixed working hours are still more common than the average. In Ireland and the Netherlands, too, fixed hours applied to over three-quarters of workers. Belgium came just behind with 72 p.c. of employees working fixed hours. Flexible working hours such as flexible hours or working hours defined on an individual basis – whether or not by arrangement with the employer – are much more common in the Scandinavian countries and in Germany: in those countries, only half of workers or even fewer were employed on the basis of fixed hours.

3.6 Home working

In 2004, almost 5 p.c. of Belgian employees regularly worked at home, and 6 p.c. stated that they did so occasionally. Thus, home working was slightly more common in Belgium than on average in the EU-15. Since 1992, the percentage of employees working at home has increased slightly in Belgium.

Conclusions

This article discussed the changes which have taken place in working times and alternative forms of employment over the past two decades. The trends observed in Belgium were placed in an international context. It also examined whether the Belgian regulations on this matter are stricter than those of the other EU-15 countries.

The regulations in Belgium are stricter than the EU-15 average as regards the maximum permitted working time and night work. Compared to the OECD countries, they are stricter in regard to the type of work for which temporary agency employees can be used and in regard to the cumulative maximum duration of successive temporary

contracts. If flexibility is expressed in terms of the greater or lesser frequency of alternative forms of employment, Belgium displays greater flexibility than the EU-15 average in the case of part-time work, unpaid overtime and home working. All other flexible forms of employment (particularly shift work, variable working hours, temporary forms of employment and Saturday work) are less common.

According to the labour force survey, the usual working time averaged 37 hours for all persons in work in Belgium in 2004, which was just below the EU-15 average. In 1983, the average weekly working time was still just over 40 hours in Belgium.

The average working time is significantly longer for self-employed persons than for employees. If only the latter group is taken into account, for whom working time plays a key role in the debate on competitiveness, Belgian employees worked on average around 35 hours per week, which was slightly below the EU-15 average.

Generally speaking, the average working time is considerably longer for men and in industry. A breakdown by age reveals smaller differences. This means that the average recorded working time for the various countries is influenced by the salaried employment structure. Following adjustment for this factor, the differences are much smaller and the working time in Belgium is about the same as the EU-15 average.

The reduction in average working time and the widening dispersion of working time observed over the years reflect, in particular, the growing use of part-time working and other alternative forms of employment.

These are more common among risk groups such as women, older workers, the young and the low-skilled. In many cases they satisfy a genuine preference on the part of the persons concerned. Thus, a good many women want to achieve a better balance between their job and their family life, so that they opt for part-time work or a career break. Among older workers, these forms of employment satisfy the desire to scale down their activities at the end of their career. Temporary contracts enable the young, in particular, to acquire useful work experience; like part-time work schedules, they offer the young the opportunity to hold a job while studying. On the other hand, it is necessary to be aware that the expanding use of alternative forms of employment entails a risk of further segmentation of the labour market.

As regards demand on the labour market, alternative forms of employment give employers a number of instruments conducive to a flexible production process. For instance, temporary contracts (including working for temporary work agencies) and overtime make it possible to absorb fluctuations in demand. As regards non-standard work schedules, there has been an increase in Belgium in forms which are commonplace in the service sector (evening work, Saturday work and Sunday work). Night work remains steady whereas shift work has declined. This last development is connected with the structural decline in employment in industry.

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The redistributive character of taxes and social security contributions

K. Van Cauter
L. Van Meensel*

Introduction

The distribution of incomes resulting from the remuneration of labour and capital in the production process is often referred to by the term primary income distribution. It is influenced partly by factors for which individuals are not responsible, such as their talents or their social background, and by wealth inequality. Moreover, there are certain social risks, such as illness, old age or unemployment, which prevent a substantial proportion of the population from participating in the labour market and thus acquiring an income. There is a social consensus endorsing partial compensation for the impact of these factors on the distribution of income, and pursuit of what could be considered a fairer distribution of income. Reducing inequality in the distribution of primary income and wealth – and at the same time combating poverty – is therefore one of the government's principal tasks (Musgrave, 1959). How far the government should go in that redistribution depends on the value judgments of society.

The government can adjust the distribution of income, or more generally the distribution of well-being, in various ways. It can provide social benefits, e.g. in the form of pensions, invalidity benefits and unemployment benefits. It can produce or purchase goods and services such as education and health care, public transport or social housing, and make them available to the population free of charge or at low cost. It can oblige enterprises to charge social rates, as in the case of electricity or fixed telephony. However, the government can also make use of taxes and social contributions for the purpose of its redistribution policy.

Typical for redistribution via taxes and social contributions – leaving aside the use of the resources generated – is that nobody's income improves. The redistributive character lies in the diversity of the amounts of the individual contributions, so that these compulsory levies modify the differences in terms of disposable income. In this connection, reference is often made to the principle of "contributive capacity" whereby everyone should contribute to the financing of public spending in accordance with their economic capacity. Specific criteria for measuring an individual's economic capacity are the level of income, size of assets, scale and type of consumption or the effort required to obtain income or assets. This contributive capacity principle therefore amounts to ensuring that "the strongest shoulders bear the heaviest burdens".

Apart from the aim of fairness, there are other considerations involved in the decision to levy taxes and social security contributions. A central idea of the theory of optimal taxation is that these levies disrupt the efficiency of the market because of their effect on the allocation of the factors of production and on the composition of spending [(1)]. To limit the loss of efficiency due to the market distortion,

* In preparing this article, the authors were fortunate to benefit from calculations made by Christian Valenduc (FPS Finance, Research and Documentation Department). The international comparison has to a large extent been based on information made available by Gerlinde Verbist (University of Antwerp, Centre for Social Policy Herman Deleeck). The authors would like to thank them both for their helpful collaboration.

(1) According to this theory, taxes and social security contributions are considered to be essentially negative for general economic performance because they disrupt the market mechanism and distort decisions on working, investment, consumption and saving, and inhibit economic initiative. Conversely, certain types of public spending (infrastructure, education, research & development, etc.) enhance the productivity of the economy and are therefore essential to the achievement of satisfactory economic growth. On the basis of these considerations, the prevailing consensus is that the favourable economic effects of public spending compensate for the adverse effect of taxes when that spending remains below a certain level and is clearly productive.

the government should raise its finance by low, uniform rates of tax levied on the broadest possible base, which should preferably be inelastic. The disruption of the efficient allocation of the production factors is thus kept to a minimum. A tax in the form of a fixed amount per person, regardless of income, assets or expenditure, would therefore be optimal from the point of view of efficiency. This shows that efficiency considerations are sometimes difficult to reconcile with the aim of equitable taxation.

The government also has to take account of the practical constraints which may restrict its freedom of action. Thus, international agreements are necessary in order to avoid unfair fiscal competition, particularly as regards sources of taxation such as assets, which may be highly mobile. The effort to achieve the taxation and income distribution desired by society may also be hampered if the tax rules are not properly respected, e.g. in the case of tax evasion.

This article aims to explain the redistributive character of taxes and social security contributions in Belgium, and to demonstrate the mechanisms behind that redistribution. The article begins by presenting the measures of inequality and redistribution. Next, it compares the degree of redistribution in Belgium with that seen in the other European Union countries, showing the level of redistribution by means of taxes, social security contributions and social benefits. It then describes in succession the redistributive mechanisms of personal income tax, social security contributions and indirect taxes[1]. Finally, it summarises the main conclusions.

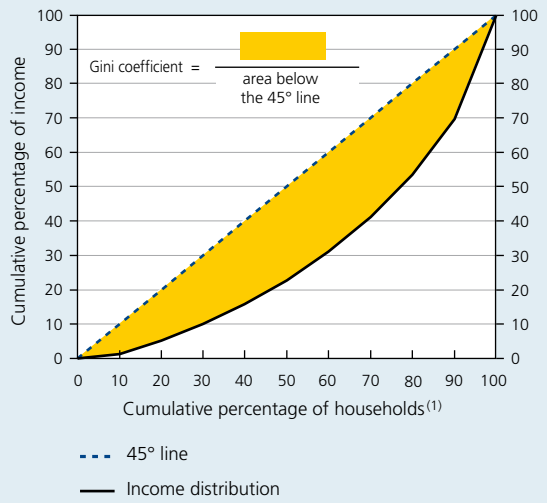
1. Measures of income inequality and redistribution

1.1 Measures of income inequality

The inequality of the income distribution is often represented graphically in the form of the so-called Lorenz curve. Individuals or households are ranked in ascending order of income, and the curve plots the cumulative number of individuals or households against their cumulative share of income. In a situation in which everyone has the same income, the Lorenz curve coincides with the bisector or 45° line, whereas a Lorenz curve which is aligned with the axes corresponds to a situation in which a single person or household receives all the income.

(1) Owing to the lack of relevant information, the article does not consider the effect of taxes on assets and capital incomes.

CHART 1 THE LORENZ CURVE AND THE GINI COEFFICIENT, MEASURES OF INCOME INEQUALITY



(1) Households are ranked in ascending income order.

A frequently used aggregate measure of the inequality of the income distribution is the Gini coefficient, which is closely connected with the Lorenz curve. This coefficient is calculated by taking the area between the Lorenz curve and the 45° line and dividing it by the total area below the 45° line. It always has a value between 0 and 1. The higher the Gini coefficient, the greater the income inequality. The value 0 corresponds to a totally even distribution, where as the value 1 corresponds to an income distribution where a single person receives all the income. However, one drawback of this measure is that the same Gini coefficient can represent different types of income distribution. The Gini coefficient can also be used to measure the inequality of the tax distribution.

1.2 Measures of income redistribution

Income redistribution means the reduction of inequalities in the distribution of income. The degree of redistribution is measured by the difference between income inequality before tax (and social security contributions and benefits) and income inequality after tax (and social security contributions and benefits). In graph form, redistribution is shown by the Lorenz curve moving closer to the 45° line.

The degree of redistribution (R) is defined as the difference between the Gini coefficient before the income redistribution (Gb) and after it (Ga):

$$R = Gb - Ga$$

It can be shown that the redistributive character of the tax (R) depends partly on the progressiveness of the tax (P) and partly on the average rate of the tax (t) via the formula[1]:

$$R = \left(\frac{t}{1-t}\right) \times P$$

The progressiveness of a tax represents the degree to which the tax differs from a proportional tax which would generate the same revenue. A progressive tax has a rising average rate. In a system of progressive taxation, the proportion of taxes payable by the lower (higher) income groups is thus lower (higher) than their share of the income. If the opposite is true, it is called a system of degressive (or regressive) taxation.

The index of progressiveness is defined as the difference between the Gini coefficient of the tax distribution (C) and the Gini coefficient of income distribution before taxes.[2]

$$P = C - Gb$$

Apart from the Gini coefficient used here, the literature proposes various other ways of measuring inequality and redistribution. As the correlation between these various measures is sometimes low, they may lead to different conclusions. The results should therefore be interpreted with caution.

2. Income redistribution in Belgium in a European perspective[3]

As already mentioned, the inequality of the primary distribution of income is the inequality resulting from the remuneration of the production factors. In other words, it is the income inequality before the collection of any social benefits and before payment of taxes and social contributions[4]. According to EUROMOD[5], Belgium – with a Gini coefficient of 0.46 in 1998 – had the fourth lowest rate of primary income inequality in the EU-15. Only Denmark, Austria and – in particular – the Netherlands had a lower primary inequality. Belgium is thus below the EU-15 average, for which the Gini coefficient was 0.48. The highest inequality in the primary distribution of income was recorded in southern Europe (Portugal, Italy, Greece and Spain) and in the Anglo-Saxon countries (Ireland and the UK).

Social benefits, social security contributions and direct taxes on income[6] bring about a significant reduction of income inequality in all the EU-15 countries. However, there are large differences between countries. The smallest inequality reduction occurs in the southern European countries, excluding Spain. The Gini coefficient also shows a relatively small decline in the Netherlands, but the initial inequality there is significantly less than in the other European countries. In Belgium, the inequality reduction – the Gini coefficient falls by 0.21 – exceeds the average for the EU-15, where the (unweighted) average reduction comes to 0.19 (the weighted average reduction comes to 0.17). Only Finland, Denmark and Luxembourg have a higher degree of redistribution. Belgium is thus among the countries with relatively low primary income inequality and a high degree of redistribution.

The breakdown[7] of the redistribution between social benefits and income taxes shows that, in all countries, social benefits account for the bulk of the income redistribution. That is not surprising since social benefits are largely intended for persons with little or no primary income. However, in the majority of countries, taxes on income account for a considerable part of the redistribution. On average, those taxes reduce the Gini coefficient by 0.07. In Belgium, taxes and social security contributions actually reduce the Gini coefficient by 0.09. After Luxembourg, Belgium has the highest level of redistribution via income taxes in the EU-15.

As already stated, the degree of redistribution via income taxes is determined by the average rate and the progressiveness of those taxes. In Belgium, the average rate of taxes on income is higher than in the EU-15. However, it is primarily the relatively high progressiveness of those taxes in Belgium that generates the higher degree of redistribution. As the progressiveness of the personal income tax in Belgium is more or less the same as the EU-15 average,

(1) However, this breakdown is possible only if the ranking of households according to their income is not changed by taxation.

(2) This index of progressiveness was calculated by N.C. Kakwani (1977) and is named after him.

(3) This analysis is based on Immervoll (2005) and Verbist (2004).

(4) The government also exerts influence on primary income distribution, notably by imposing minimum wages and by public sector employment.

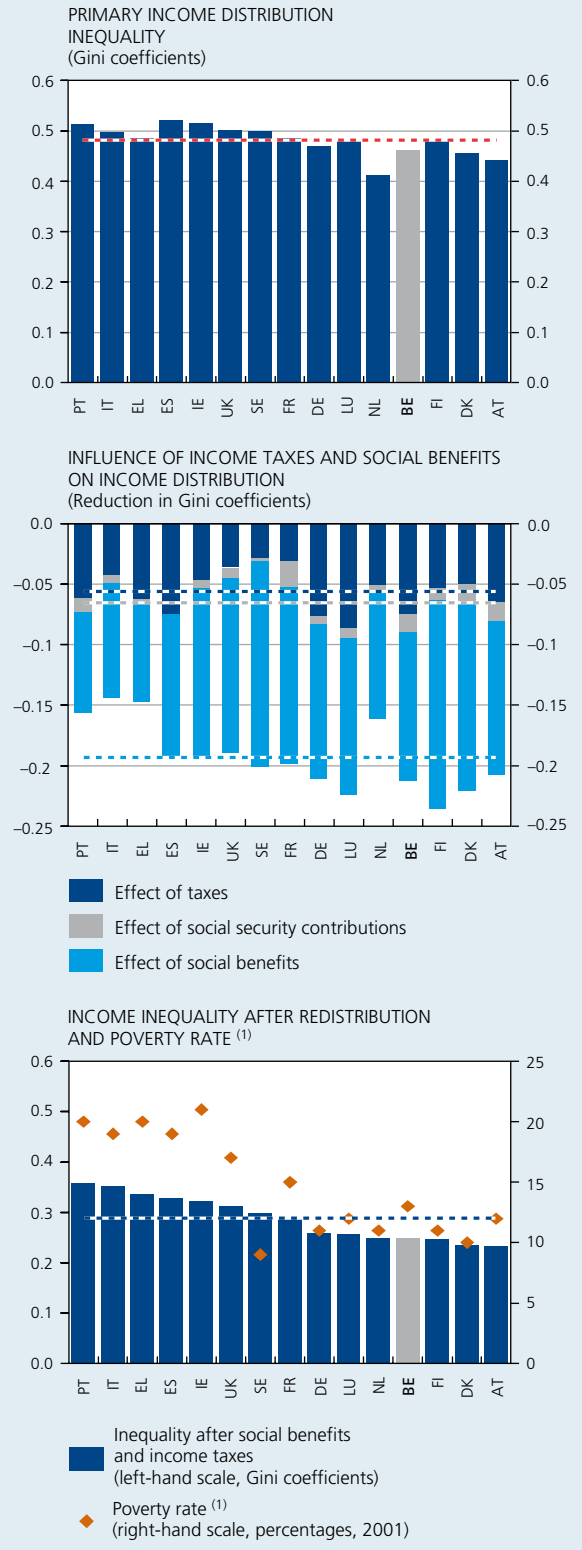
(5) EUROMOD was developed under the direction of Professor H. Sutherland at Essex University (United Kingdom). It is a microsimulation model which, on the basis of income data taken from socioeconomic surveys, simulates the impact of income taxes and social benefits on income distribution. In the case of Belgium, EUROMOD is based on the Panel Survey on Belgian Households which relates to incomes in 1998. The advantage of the microsimulation model is that the methods are harmonised – permitting comparisons between the various EU-15 countries - and it also takes account of the impact of taxes and social benefits. However, such simulation models do have their limitations, owing to the reliability of the sample and the absence of information on the tax allowances granted for certain expenditure.

(6) Immervoll (2005) defined these as personal income tax, other taxes on capital incomes and local taxes.

(7) Immervoll (2005) rightly demonstrated that a breakdown of the overall redistribution according to the various instruments cannot be accurate. In order to illustrate the importance of the different factors, an approximative division is made, by which the reduction of each instrument separately is applied in proportion to the total redistribution.

CHART 2 INCOME INEQUALITY AND REDISTRIBUTION IN THE EU-15

(1998, unless otherwise stated)



Sources: EC, Immervoll (2005).

(1) Percentage of the population whose income equivalent is less than 60 p.c. of the median income.

it is essentially the progressiveness of social security contributions that accounts for this outcome. Except in Belgium, the United Kingdom, Ireland and Finland, social security contributions in the EU-15 are practically proportional, or even degressive in some cases. In Belgium the main reason is that no social security contributions are payable on social benefits, or only limited contributions on benefits beyond a certain level (1).

As a result of the relatively low level of primary income inequality and the high degree of redistribution due to social benefits and taxes on income, the inequality of the secondary distribution of income in Belgium is relatively low in comparison with the majority of the EU-15 countries. Only Finland, Denmark and Austria have a lower level of secondary income inequality. After social benefits and taxes on income, the southern European countries and the Anglo-Saxon countries still record the highest level of inequality. The countries with the greatest inequality generally record the highest poverty rate. That is not surprising since that rate is often measured by the percentage of the population whose income is less than 60 p.c. of the standardised median income (Atkinson, 2002). The more unequal the distribution of incomes, the greater the risk of a larger number of persons falling below this 60 p.c. mark.

3. The redistributive character of personal income tax

This chapter deals with the redistributive character of personal income tax in Belgium, explaining the main mechanisms involved in that redistribution. Two particular points will be discussed in more detail, namely the redistributive aspects of the various personal income tax allowances and the personal income tax reform passed in 2001.

The analysis is based on the statistics relating to personal income tax returns. In addition, a number of data were obtained from the SIRe microsimulation model developed by the Research and Documentation Department of the FPS Finance. The data taken from the tax returns have the advantage of being very detailed and very accurate; on the other hand, they only concern people who submit a tax return. It is estimated that between 10 and 15 p.c. of the population do not submit a tax return because their income is too low (Pittevils and Timmermans, 1995).

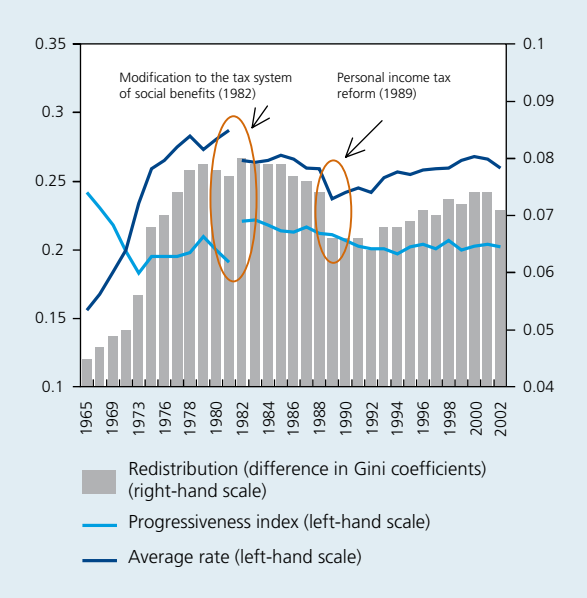
(1) In the United Kingdom and Ireland, there are maximum and minimum income thresholds for social security contributions, and the progressive effect of the minimum thresholds is greater than the degressive effect of the maximum thresholds. In Finland, there is a supplementary social security contribution in the case of high incomes.

3.1 Overall view of the redistributive effect of personal income tax

After social security contributions, personal income tax is the principal source of government revenue. The tax is concentrated primarily on the highest income deciles. On their 2002 income (2003 tax year), the 20 p.c. of households with the lowest incomes paid 0.4 p.c. of the total personal income tax, whereas they received 5 p.c. of the total amount of that income. The 20 p.c. of households with the highest net disposable incomes paid 61.7 p.c. of the total personal income tax, while receiving 46.5 p.c. of the total income before tax. Personal income tax is clearly distributed more unevenly between the income groups than the pre-tax incomes, so that the after tax incomes are distributed more equally. While the 50 p.c. of households with the lowest net disposable incomes receive altogether 22.8 p.c. of those pre-tax incomes, they receive 27.8 p.c. of the total incomes after tax.

The redistributive character of personal income tax increased between 1965 and 2002, primarily during the first part of that period. This was due to divergent trends in the average rate and progressiveness. Up to 1975, the redistributive effect of personal income tax became much stronger as a result of tax rises which greatly increased the average rate, while at the same time exerting a negative effect on the progressiveness of personal income tax. The personal income tax reform implemented from the 1983 tax year, modifying the fiscal treatment of replacement incomes, caused a break in the series. The abatements (deductions from taxable income) for replacement incomes were replaced by tax credits (tax deductions) so that replacement incomes were henceforward included in taxable income without any increase in the

CHART 3 REDISTRIBUTIVE EFFECT OF PERSONAL INCOME TAX [1]



Sources: FPS Economy, FPS Finance.
(1) Until 1975, the data are only available every two years.

TABLE 1 PERSONAL INCOME TAX IN BELGIUM PER INCOME DECILE

(2002 incomes, 2003 tax year; percentages, unless otherwise stated)

Income decile	Upper income threshold [1] (in euro)	Share of pre-tax incomes	Share of personal income tax	Share of incomes after tax	Average tax rate
1	7,188	1.3	0.0	1.8	0.6
2	10,738	3.7	0.4	4.9	2.7
3	13,080	4.8	1.1	6.1	5.8
4	15,863	5.9	2.6	7.0	11.7
5	18,914	7.1	4.6	7.9	17.0
6	22,292	8.3	7.0	8.8	21.7
7	26,958	9.9	9.4	10.1	24.7
8	34,460	12.4	13.1	12.1	27.7
9	47,485	16.3	19.4	15.3	30.9
10	–	30.2	42.4	25.9	36.6

Source: FPS Economy.
(1) Net taxable income (i.e. after allowances for professional expenses), per tax return.

tax on those incomes[1]. The main effect of the personal income tax reform of 7 December 1988, which came into force in 1989, was to sharply reduce the levies on earned income[2]. The average rate of personal income tax thus declined. Since the progressiveness also declined slightly, that reform reduced the redistributive character of personal income tax.

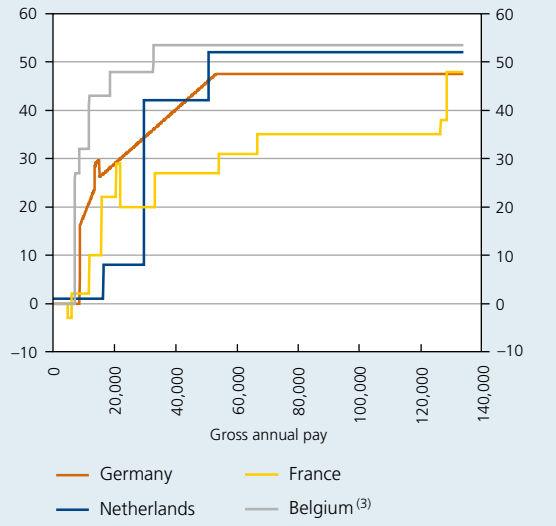
During the 1990s the progressiveness of personal income tax remained fairly stable, but as a result of the rise in the average rate – brought about in particular by the introduction of the complementary crisis contribution, the non-indexation of the tax scales and the automatic increase in the tax burden resulting from the real increase in incomes – the redistributive character of personal income tax increased. Between 2000 and 2002, the phasing out of the complementary crisis contribution resulted in a further fall in the average rate.

(1) Until the introduction of the law of 5 January 1976, unemployment benefits, sickness and disability benefits and the compensation paid for occupational diseases and industrial accidents were totally tax free, while old age pensions and survivors' pensions were only taxable in certain cases. From the 1977 tax year onwards, all replacement incomes were, in principle, included in the tax base. This measure was accompanied by the introduction of abatements.

(2) The changes introduced by this reform included the total abandonment of the aggregation of earned incomes (previously, the earned incomes of spouses had been added together and were jointly subject to the progressive rates of personal income tax), the introduction of the dependent spouse allowance for single income households, and the tax-free allowance (increased for dependent adults and children), and it adjusted the marginal rates of tax, cutting the highest rate from 70.8 p.c. to 55 p.c.

CHART 4 MARGINAL RATES OF PERSONAL INCOME TAX[1][2]

(2004, percentages)



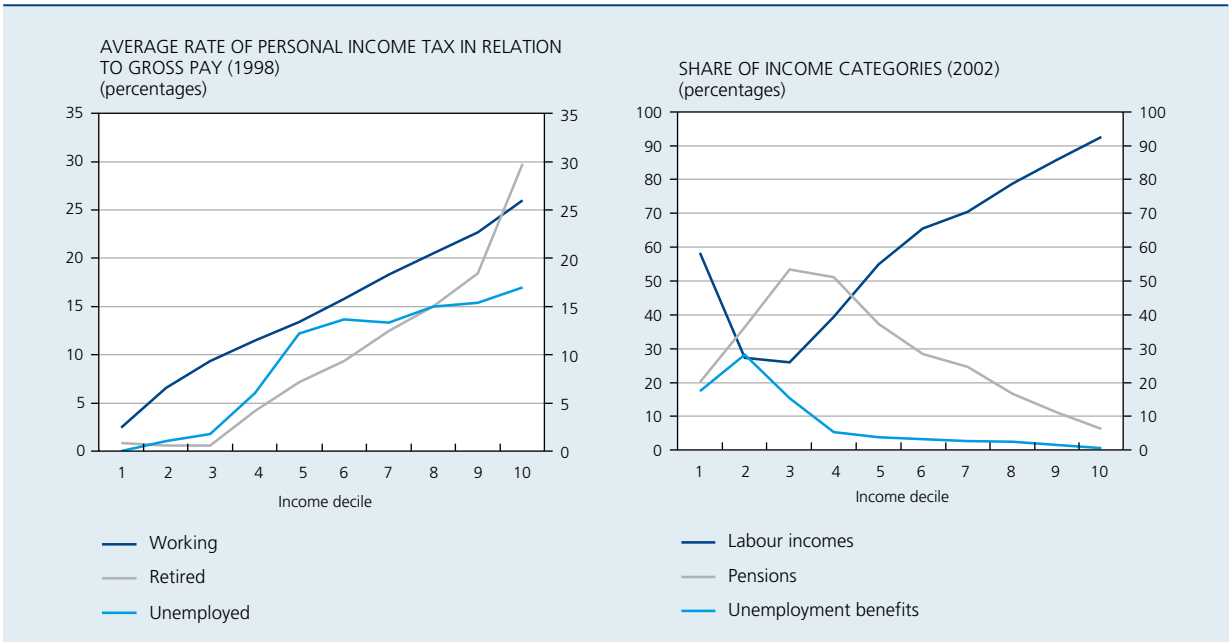
Sources: OECD, NBB.

(1) For single persons with no children, having earned income only.

(2) The standard allowances for professional expenses and various tax credits are taken into account; the tax-free allowance is regarded as a zero rate of tax.

(3) Including local additional centimes on personal income tax, assumed to be levied at the rate of 7 p.c.

CHART 5 COMPARISON OF PERSONAL INCOME TAX BETWEEN LABOUR INCOMES AND REPLACEMENT INCOMES



Sources: FPS Economy, Verbist (2005).

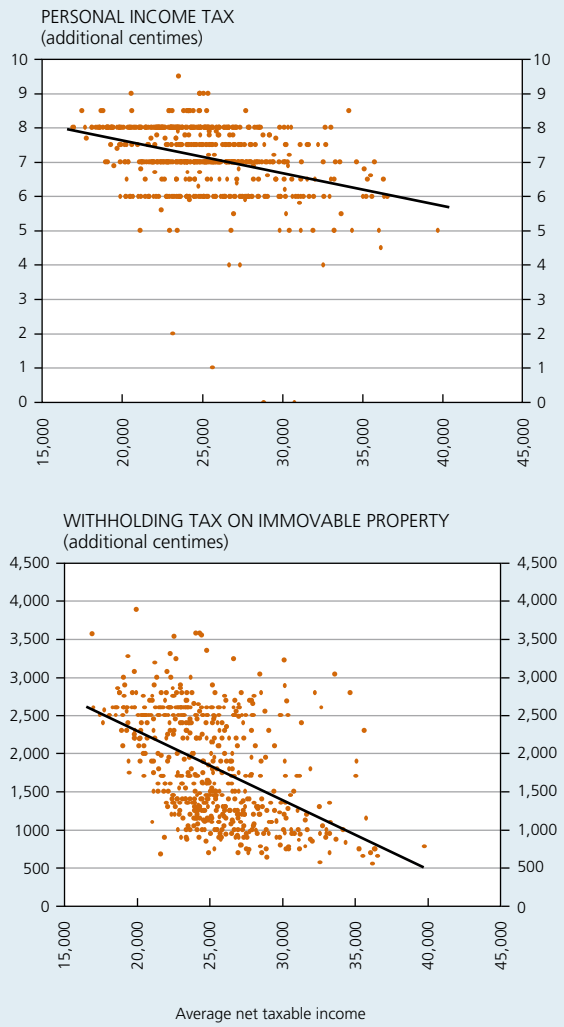
3.2 The average rate and progressiveness of personal income tax

The average rate of personal income tax was 26 p.c. in the 2003 tax year. The average rate per income decile clearly shows that personal income tax is highly progressive in Belgium. While the average rate of tax on the first income decile is 0.6 p.c., it increases to 36.6 p.c. for the tenth decile. Up to and including the seventh income decile, the average rate is below the average for all tax returns.

There are three main factors responsible for the sharp increase in the tax rate per decile. First, there are the marginal rates of tax applicable to the income brackets.

CHART 6 DEGRESSIVITY OF LOCAL INCOME TAXES

(2002 incomes, 2003 tax year)



Sources: FPS Economy, FPS Finance.

These rise from 25 p.c. for the lowest income bracket to 50 p.c. for the highest (excluding supplementary local income taxes). Next, owing to the tax-free allowance, taxable income is entirely exempt from personal income tax up to a certain threshold. The tax-free allowance therefore in fact corresponds to a zero rate on the first part of incomes. Finally, the tax credits granted on replacement incomes such as pensions, sickness and invalidity benefits and unemployment benefits augment the progressiveness of personal income tax. The tax credits are subject to various restrictions, and are reduced as incomes increase. If a household is living entirely on social benefits, the tax reductions often mean that no personal income tax is payable.

Around three-quarters of the progressiveness of personal income tax is due to the tax scales associated with the tax-free allowance. The tax credits for replacement incomes contributes about a quarter to the progressiveness index. A number of other factors, such as the additional centimes on personal income tax levied by local authorities, exert a weak negative effect overall on the progressiveness of personal income tax (Valenduc, 2005).

Comparison of the rates of personal income tax charged in Belgium on 2004 incomes (including the tax-free allowance and the supplementary local income taxes) with those applicable in neighbouring countries reveals that, owing to the tax-free allowance, the situation for the lowest income bracket in Belgium is more or less the same. As income increases, however, the marginal rate is significantly higher in Belgium. The 50 p.c. rate, applicable to the highest tax bracket, is similar to that charged in neighbouring countries; however, it is higher if the local additional centimes on personal income tax are taken into account.

For the various income deciles, the tax reduction for replacement incomes leads to a wide variation in the tax rate according to whether the income is obtained solely from labour or also includes pensions or unemployment benefits (Verbist, 2005). In the case of the higher income deciles, this difference disappears, if all or part of the income consists of pensions[1]. The tax reductions for replacement incomes make a major contribution to progressiveness, not only because the tax rate on the benefits increases with each income decile, but also because the percentage of total income represented by benefits is highest for the lowest income deciles.

(1) The implicit average rate of tax for pensioners in the highest decile is actually higher, among other things because these pensioners have fewer dependent children.

As already stated, the additional tax levied by local authorities has a negative influence on the progressiveness of the personal income tax. The wealthiest municipalities – on the basis of the average net taxable incomes stated in the personal income tax returns per municipality – charge a lower supplementary rate than the municipalities where the average income of the population is lower. This degressivity of personal income tax at local level also appears to apply in respect of the additional centimes on the withholding tax on immovable property.

3.3 The redistributive aspects of the tax allowances

Certain types of household spending give rise to a tax advantage in regard to personal income tax. In 2002, these tax allowances totalled 6 p.c. of the personal income tax collected, or 0.7 p.c. of GDP. From the point of view of the budget, the most important ones concern support for the construction, renovation or purchase of a house. The tax allowance for capital repayments on mortgage loans and the associated tax allowance for life insurance covering these mortgage debts in themselves already account for 3.2 p.c. of personal income tax.

The primary concern in introducing tax allowances is not so much the redistribution of income as the provision of incentives encouraging a particular type of behaviour or spending. That emerges clearly from a comparison between the inequality of tax allowances and the inequality of incomes before personal income tax. In all cases, the inequality of tax allowances is greater than the inequality of pre-tax incomes. This means that, in relative terms, it is the higher incomes that benefit most from the tax reductions.

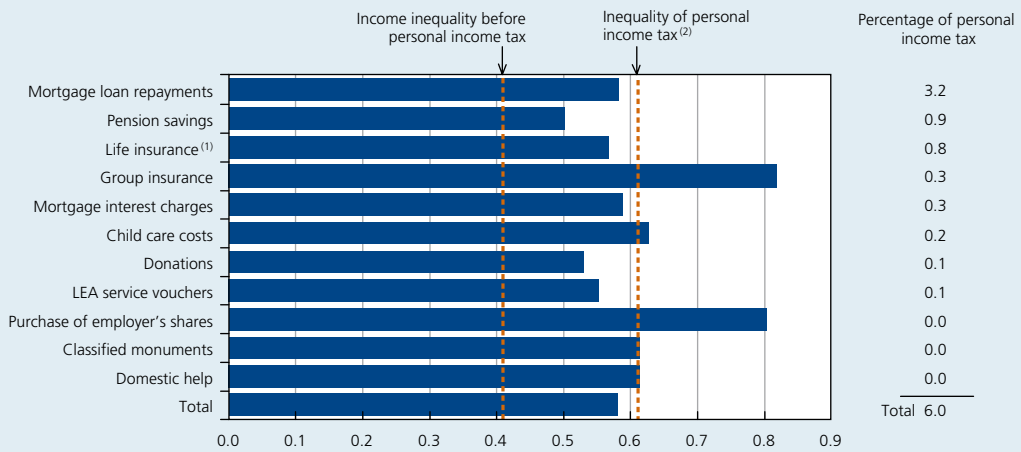
There are substantial variations in inequality between the different tax allowances. The allowance granted for group insurance and that granted for the purchase of employer's shares are particularly unequal in their distribution [(1)]. The two highest income deciles represent around 85 p.c. of the budgetary cost of these measures. Conversely, however, the inequality of other tax expenditures, such as those associated with owner-occupied housing, pension savings, life insurance, donations and LEA service vouchers is less than that of personal income tax. This means that if these tax reductions were abolished and offset by an equivalent proportional reduction in the rates of personal income tax – and the average rate therefore remained constant – that would diminish the redistributive character of personal income tax.

The inequality of the distribution of tax allowances is influenced by the number of households per income decile claiming these allowances. The average amount claimed per household may also vary from one decile to another. In this context, potential restrictions on the amount of the

(1) The allowance granted for the purchase of employer's shares is incompatible with the tax reduction granted on pension savings.

CHART 7 INEQUALITY OF TAX ALLOWANCES

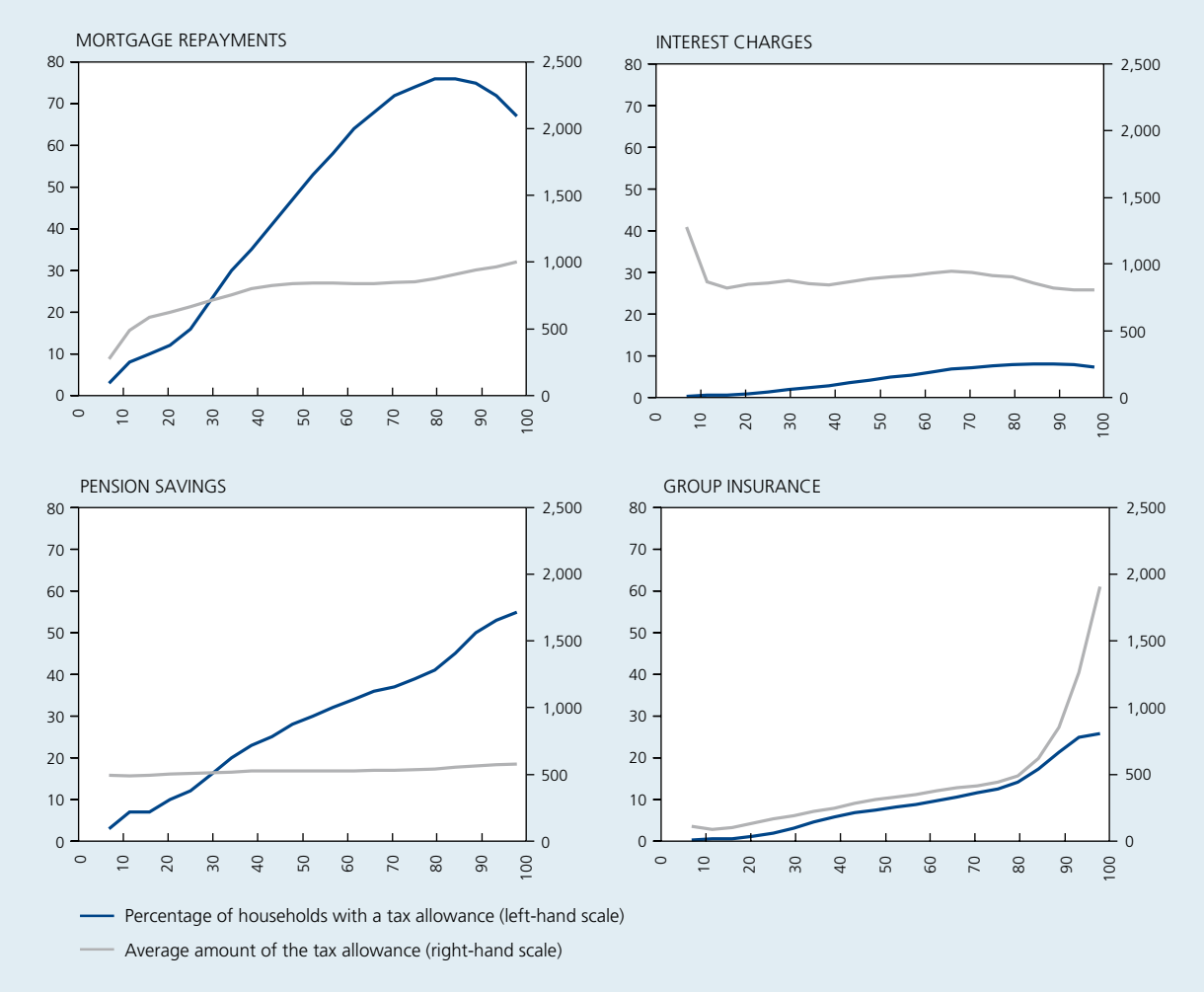
(2002 incomes, 2003 tax year, Gini coefficients)



Source : FPS Finance.
(1) Other than linked to mortgage loans.
(2) Inequality of personal income tax taking into account the tax allowances.

CHART 8 DISTRIBUTION OF TAX ALLOWANCES PER INCOME PERCENTILE [1]

(2002 incomes, 2003 tax year)



Source: FPS Finance.
(1) Net taxable income.

tax allowances are, of course, important. Moreover, the tax advantage gained also depends on the rate of tax applicable to the amount deducted. As many of the deductions are subject to the marginal rate or what is known as the improved average rate, that also increases the inequality in the distribution of tax allowances, although this last effect is significantly less than the two effects mentioned earlier. However, the importance of these factors varies widely between the various tax allowances.

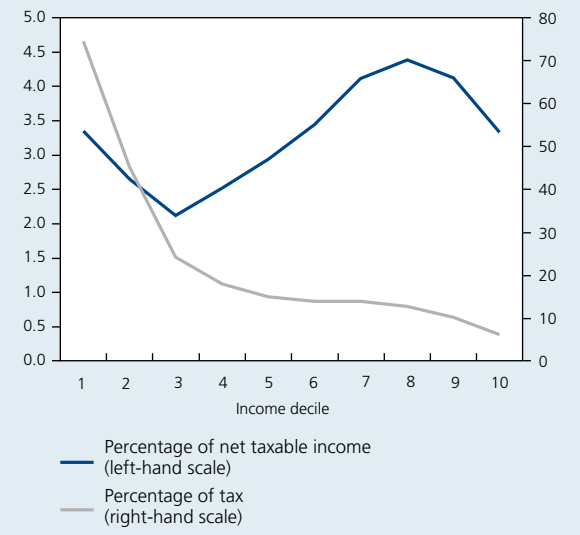
The proportion of households claiming the allowances for mortgage repayments, mortgage interest charges, pension savings and group insurance increases the higher the net disposable income. Thus, over two-thirds of the highest income groups make use of the tax allowance for mortgage repayments, whereas very few in the lowest income groups do so. As regards the average amount deducted, there are noticeable differences between the tax allowances. In the case of mortgage interest charges, almost everyone claims the maximum allowance. Conversely, where mortgage repayments are concerned, the average amount increases slightly as income rises[1]. The amount deductible for pension savings is limited, and the average allowance claimed is in the region of the maximum for all income groups. Conversely, there is virtually no limit on the average amount claimed in respect of group insurance[2], and it is significantly more in the highest income groups than in the lower ones.

(1) Under the new tax allowance for home owners which came into effect in 2005 and will gradually become more important, the average amount per income decile will be more uniform.

(2) The only restriction is that the annuity provided by the group insurance must not exceed 80 p.c. of gross annual pay.

CHART 9 AVERAGE ADVANTAGE OF THE 2001 PERSONAL INCOME TAX REFORM

(simulation based on 2002 incomes, 2003 tax year)



Sources: FPS Finance, NBB.

3.4 The redistributive aspects of the 2001 personal income tax reform

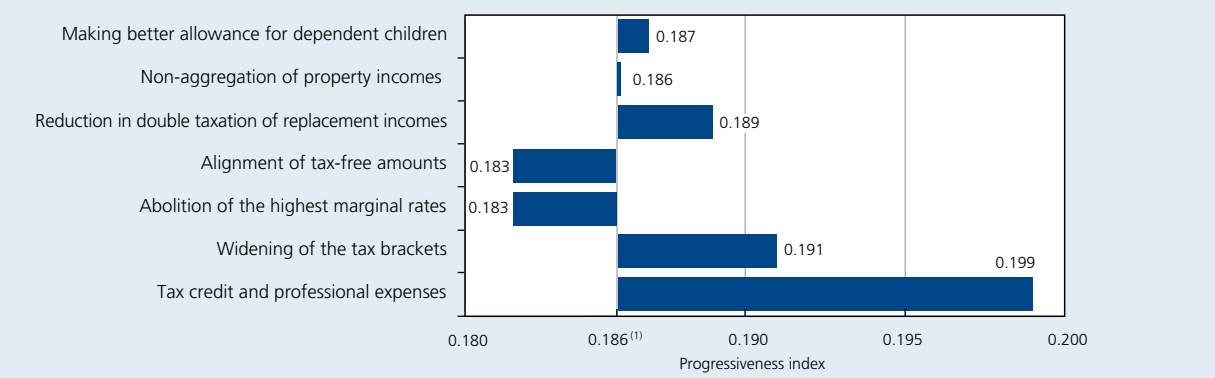
The personal income tax reform introduced by the law of 10 August 2001 and phased in over several years was based on four aims. The first aim was to reduce the tax burden on labour incomes. The second concerned neutrality vis-à-vis forms of cohabitation. The third and fourth aims, far less important for the budget than the first two, concerned taking greater account of dependent children and encouraging environment-friendly behaviour.

Overall, this tax reform had hardly any impact on the redistributive character of personal income tax. The reform lowered the average tax rate from 26 to 23 p.c., but this was offset by increased progressiveness. Even if the households which do not submit any tax return – and therefore do not benefit from the tax reform – are taken into account, the personal income tax reform caused only a negligible reduction in the redistributive character of personal income tax (Cantillon, 2003).

The tax advantage in relation to disposable income varies between income deciles. In the first income decile, the tax advantage represents just under 3.5 p.c. of net taxable income. After the first income decile, the tax advantage declines as a result of the reduced size of the tax credit for low earned incomes, without the other measures having any significant effects for these income groups. From the fourth decile onwards, the widening of the tax brackets and the measures in favour of neutrality regarding forms of cohabitation increase the tax advantage. The lowering of the top marginal rates primarily improves the situation for the upper deciles. However, these income groups have largely reached the maximum absolute advantage conferred by the other reform measures, so that the overall relative advantage declines with income.

CHART 10 EFFECT OF THE 2001 PERSONAL INCOME TAX REFORM ON THE PROGRESSIVENESS OF THE TAX

(2002 incomes, 2003 tax year)



Source: FPS Finance.
(1) This is the value of the personal income tax progressiveness index before the 2001 reform.

If the effect of this personal income tax reform is viewed in relation to the taxes paid, it is evident that the reform is making the tax significantly more progressive. The tax reform particularly reduces the taxes paid by the lowest income groups. The average reduction in tax is 74 p.c. for the first decile, dropping to around 6 p.c. for the highest income decile.

As already mentioned, this tax reform increased the progressiveness of personal income tax. However, that is the overall outcome of all the measures. Examination of each measure's impact on progressiveness reveals that the main factors increasing progressiveness were the introduction of the tax credit for low earned incomes and the increase in the rates of the standard allowances for professional expenses. The widening of the intermediate tax brackets, individualisation of the tax credits for replacement incomes, and the measures aimed at taking greater account of the cost of children also increase that progressiveness. Conversely, the abolition of the highest marginal rates is clearly a measure favouring individuals or households with a high income. The alignment of the tax-free allowance for married persons with that for cohabitants exerts also a negative effect on the progressiveness of personal income tax, since there are relatively more married couples in the higher income groups.

It should be noted that the tax credit granted to taxpayers on low earned incomes in 2004 was abolished for employees but retained for self-employed persons. In the case of employees, this tax credit was replaced from 2005 onwards by extending the reduced rate of personal social security contributions in the form of the so-called work bonus. While this measure reduces the redistributive character of personal income tax, it augments it of personal social security contributions.

4. The redistributive character of social security contributions

In Belgium as in the other EU-15 Member States, income redistribution under the social security system takes place mainly via social benefits. Social contributions are not generally regarded as levies contributing to redistribution. However, the international comparison presented earlier shows that, in Belgium, the personal social contributions [(1)] do increase redistribution to a limited extent.

Although the personal contributions are, in principle, proportional to wages, since a uniform rate of 13.07 p.c. [(2)] is applied to all income levels (since the abolition of the wage ceilings in 1982), there are mechanisms which cause social contributions to be progressive. These include the special social security contribution and the reductions in contributions for low wage earners, that were reformed and extended in 2005 by the introduction of the work bonus.

The fact that only low contributions, if any, are levied on various social benefits also contributes to the progressiveness of the contributions. Thus, pensions are subject to a solidarity contribution of up to 2 p.c. on the highest pensions, while there is a contribution of 3.55 p.c. levied for health care. A 3.5 p.c. pension contribution is also levied on incapacity benefits and on collectively agreed early retirement allowances. In addition, these social contributions apply only if the benefits exceed a certain amount. No social contributions are levied on unemployment benefits. As already mentioned, the recipients of social benefits belong to the lower income deciles. The share of earned incomes – on which contributions are higher than on benefits – increases according to the income decile. The highest deciles therefore pay, on average, the highest social contributions, and that augments the redistributive effect.

In the case of self-employed workers, the social contributions are degressive, moderating somewhat the progressiveness of social contributions overall.

4.1 The special social security contribution

The special social security contribution was introduced in 1994 and applies to all employed persons, whether employees or civil servants. Households whose members are entirely self-employed do not pay this contribution. This contribution is unique in being levied on the basis of the net taxable income of the household.

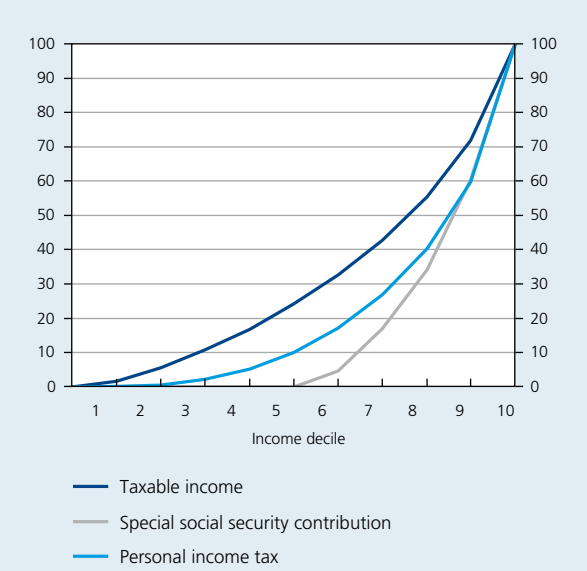
No special contribution is payable if the household's net taxable income is less than 18,592 euro per annum. For incomes between 18,592 and 21,071 euro, the rate increases to 9 p.c. It then drops to 1.3 p.c. for incomes between 21,071 and 60,162 euros. There is a zero marginal rate applicable to incomes of over 60,162 euro, so that the maximum contribution is 731 euro. Despite this limit and the fact that the marginal rates decline as income increases, this contribution is more progressive than personal income tax. The reason is that low incomes are exempt because of the lower limit already mentioned. No special social security contribution is payable up to the fifth income decile. This contribution

(1) This analysis takes no account of employers' contributions.

(2) For statutory civil servants, who are not employed in a local public service, the personal social contributions amount to 11.05 p.c.

CHART 11 THE SPECIAL SOCIAL SECURITY CONTRIBUTION BY INCOME DECILE

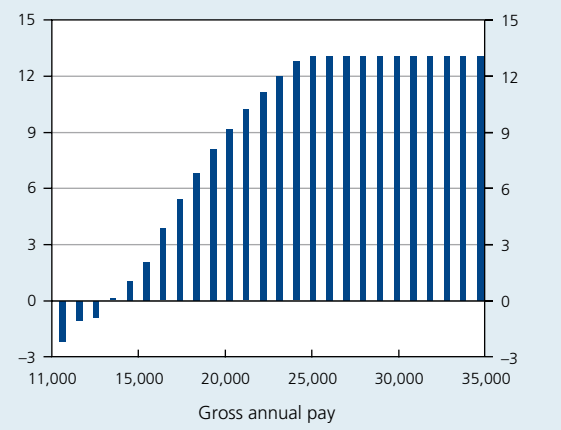
(2002 incomes, 2003 tax year)



Source: FPS Finance.

CHART 12 AVERAGE RATE OF PERSONAL SOCIAL SECURITY CONTRIBUTIONS AFTER APPLICATION OF THE WORK BONUS

(percentages)



Source: NBB.

becomes particularly significant from the seventh to the ninth income decile, while the ceiling applies to the tenth decile.

4.2 Work bonus

The work bonus is a reduction in personal social security contributions granted to low wage earners and certain workers affected by corporate restructuring. For the year 2006, the maximum reduction in personal contributions granted by means of the work bonus was increased to 140 euro per month[1]. This maximum is granted to workers earning a gross monthly income of up to 1,234 euro. For incomes in excess of that figure, the work bonus gradually declines to zero at the point where monthly income equals 2,036 euro. For part-time workers, the maximum amount and the wage ceilings are adjusted proportionately according to their working hours.

As a result of the work bonus, employees receiving the minimum wage do not in practice pay any personal contributions. In the case of slightly higher incomes, the work bonus causes the average rates of personal contributions to rise gradually to 13.07 p.c., up to the pay level at which the work bonus ceases to apply.

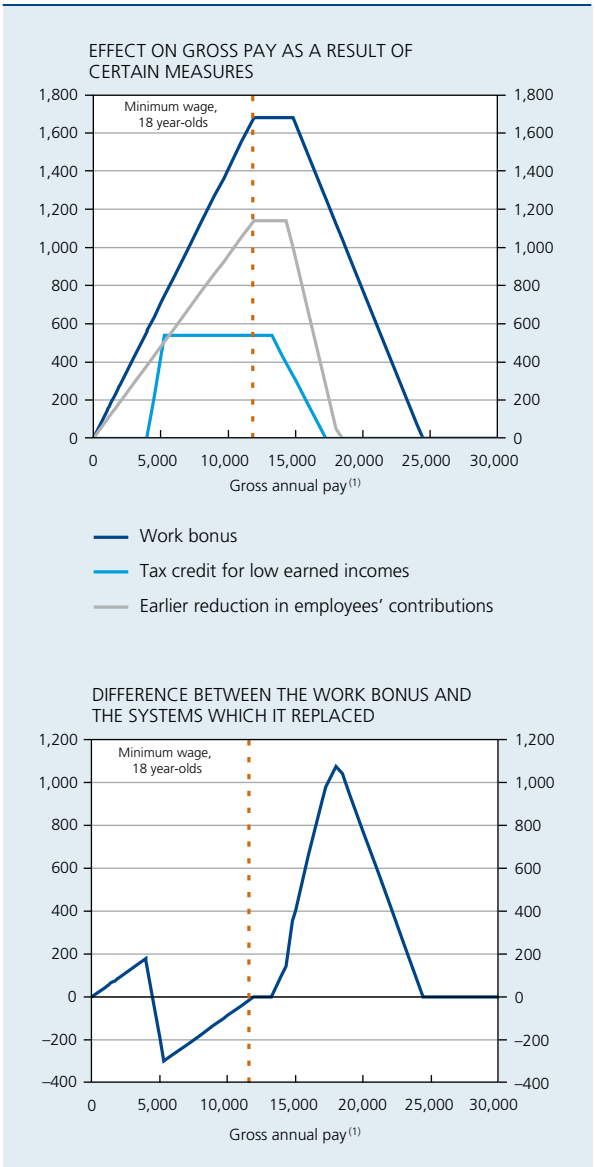
The redistribution implications of the work bonus are different from those of the systems which it replaced, such as the reductions in personal contributions introduced on 1 January 2000 and the tax credit for low earned incomes. This last measure was aimed almost exclusively at employees being paid an amount close to the minimum wage, but part-timers were often also eligible. In contrast, the work bonus is aimed at both full-time and part-time workers receiving wages which – though low – are significantly higher than the minimum wage. For incomes close to the minimum wage, the change is neutral and has no effect on net income. Employees being paid less than the minimum wage – mainly part-time workers – incur a loss. The main advantage of the change is conferred on employees receiving an income in excess of the minimum wage.

4.3 Social contributions payable by self-employed workers

In contrast to the system for employees, the social contributions payable by self-employed workers are clearly degressive. In 2006, the rate of 19.65 p.c. applies to incomes up to 47,203 euro, with a minimum of 475 euro per quarter. On incomes between 47,203 and 69,568 euro, the rate of social contributions is 14.16 p.c., while no

(1) This figure applies to non-manual workers; for manual workers, the maximum reduction is 151 euro per month.

CHART 13 REDISTRIBUTIVE EFFECTS OF THE WORK BONUS
(in euro)

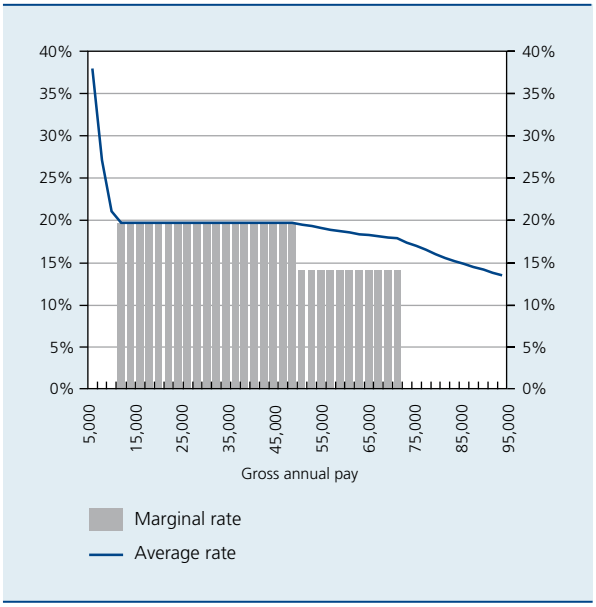


Source: NBB.
(1) On the basis of twelve equal monthly wage payments.

contributions are payable on incomes above that level. Owing to the structure of self-employed workers' contributions, the average rate is high initially, on account of the minimum contributions, before equalling the marginal rate of 19.65 p.c. Beyond the income levels subject to the marginal rates of 14.16 p.c. and 0 p.c., there is a gradual decline in the average rate.

(1) The data were adjusted for household size on the basis of the equivalence scales used by the OECD.
(2) In the case of excise duties, this analysis was only possible for mineral oils and tobacco, which make up 87 p.c. of excise revenues.

CHART 14 AVERAGE AND MARGINAL RATES OF SOCIAL CONTRIBUTIONS PAYABLE BY SELF-EMPLOYED WORKERS



Source: INASTI.

5. The redistributive character of indirect taxes

The redistributive character of indirect taxes is examined on the basis of the household budget survey conducted in 2001 by the Directorate-general Statistics of FPS Economy. That survey gives average household spending figures (1), for the various expenditure categories, per income decile. There are over 800 expenditure categories altogether. The redistributive effects of VAT and excise duties are examined on the basis of both the expenditure profile of the various income deciles and the percentage represented by VAT or excise duty in the average price for each expenditure category in 2001 (2).

5.1 VAT and excise duties in Belgium

Belgium applies various rates of VAT. Thus, certain goods and services, such as daily papers, rents and school fees, are de facto subject to a zero rate. A reduced rate of VAT – 6 p.c. – generally applies to basic products such as most food products, water consumption, magazines and books, hotel or camp site accommodation, sporting and cultural activities, passenger transport and renovation work on residential property which is at least fifteen years old (temporarily applicable to residential property which is at least five years old). Next, there is an intermediate rate

of 12 p.c. which applies only to margarine, coal and cable television. The standard rate of 21 p.c. applies to all other product categories. Products not explicitly specified as attracting a lower rate are subject to this 21 p.c. rate[1].

The rates of excise duties levied on mineral oils, tobacco products and beverages vary widely. Thus, in 2001 the excise duty on one thousand litres of petrol was over 200 euro more than the amount charged on the same quantity of diesel. Excise duties represented 47 p.c. and 35 p.c. respectively of the selling price of petrol and diesel. In Belgium, unlike in most EU-15 countries, only a small amount of duty is levied on heating oil; in 2001, excise duty represented only 4 p.c. of the selling price. Conversely, the excise duty on a packet of cigarettes averaged 2 euro in 2004, corresponding to 57 p.c. of the average selling price of 3.5 euro.

5.2 Value added tax

The most significant indirect tax from the point of view of the budget is VAT, which raised the equivalent of 7 p.c. of GDP in 2005. The breakdown of VAT between households was simulated on the basis of the expenditure categories in the household budget survey and the rates of VAT. The total simulated VAT corresponds to around 70 p.c. of the actual VAT received by general government in 2001. The difference in relation to actual VAT revenues is due mainly to certain firms, the liberal professions and certain bodies such as local authorities being unable to recover any VAT, and to the expenditure effected in Belgium by non-residents. The simulated VAT totals 9.6 p.c. in relation to household expenditure and 8.6 p.c. of total disposable income.

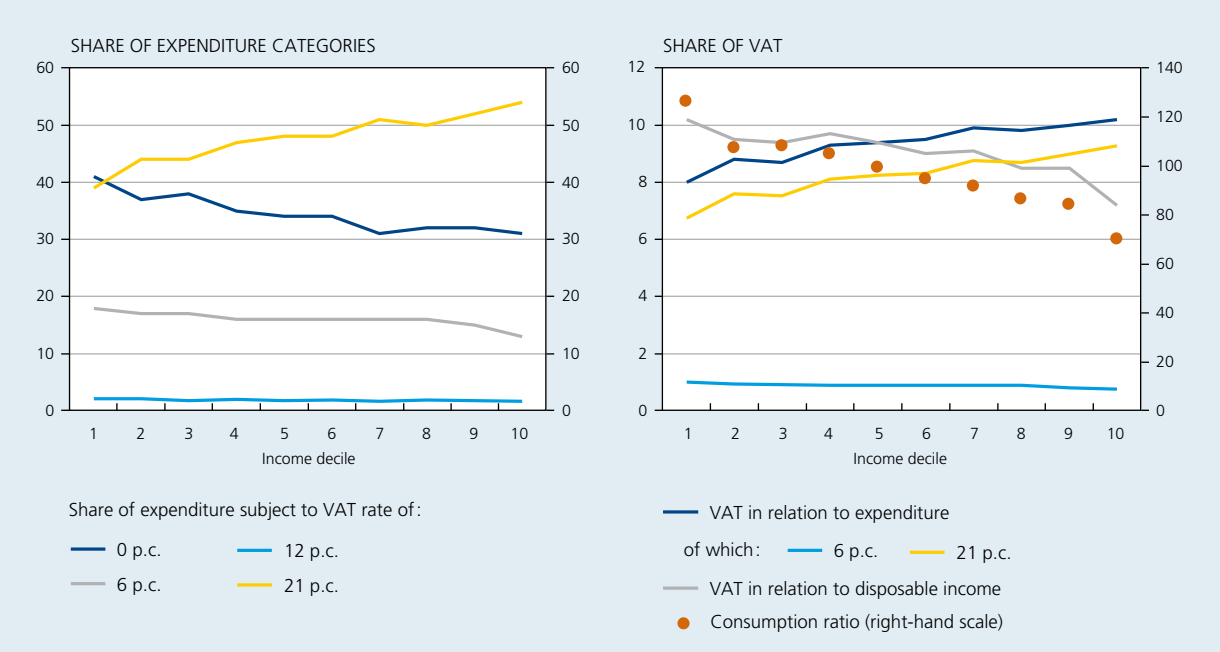
The pattern of household consumption varies according to the income decile. In proportion to their expenditure, the lower income groups consume relatively more of the products which are subject to the reduced rate of 6 p.c. or those which are exempt from VAT[2]. The level of consumption of products subject to the 6 p.c. reduced rate falls from 19 p.c. in the first income decile to 13 p.c. in the last income decile. The expenditure to which the zero rate applies – particularly rental charges[3] – drops from 41 p.c. in the first decile to 31 p.c. in the tenth decile. The proportion represented by the 12 p.c. rate is negligible, at 2 p.c., and remains constant across all income deciles. The proportion of expenditure subject to the residual rate of 21 p.c. increases sharply across the income deciles, rising from 39 p.c. in the first decile to 54 p.c. in the tenth decile.

(1) Apart from the rates mentioned above, there is also a 1 p.c. rate applicable to transactions in non-monetary gold.

(2) In the literature, this aspect is known as "Engel's law". As income increases, the relative importance of expenditure on basic essentials such as food declines.

(3) For home owners, the household budget survey also takes account of imputed rents, which are included as income.

CHART 15 REDISTRIBUTIVE CHARACTER OF VAT



Sources: FPS Economy, NBB.

Owing to the pattern of household consumption and the diversity of tax rates, the simulated VAT is progressive in relation to household expenditure. It rises steadily from 8 p.c. in the lowest income decile to 10.2 p.c. in the tenth income decile.

In proportion to disposable income, VAT is decidedly degressive. It declines from 10.2 p.c. in the first decile to 7.2 p.c. in the tenth decile. However, its degressive character is particularly marked in the first and tenth deciles, since there is only a gradual decline in the proportion of VAT between the second and ninth deciles, down from 9.5 to 8.5 p.c.

The degressivity of indirect taxes in relation to income is due to the fact that indirect taxes are levied only on household consumption and not on income saved. The consumption of households with the lowest disposable income is about 27 p.c. greater than their income. In the fifth income decile, consumption and disposable income are in overall balance. In contrast, the highest decile spends on average only 70 p.c. of its income on consumption, saving the remainder [1].

(1) The choice between the two measures – in relation to the expenditure of the disposable income of households – is not straightforward. Expenditure may in fact be regarded as a better indicator of household prosperity than income, which is volatile (De Coster, 1995).

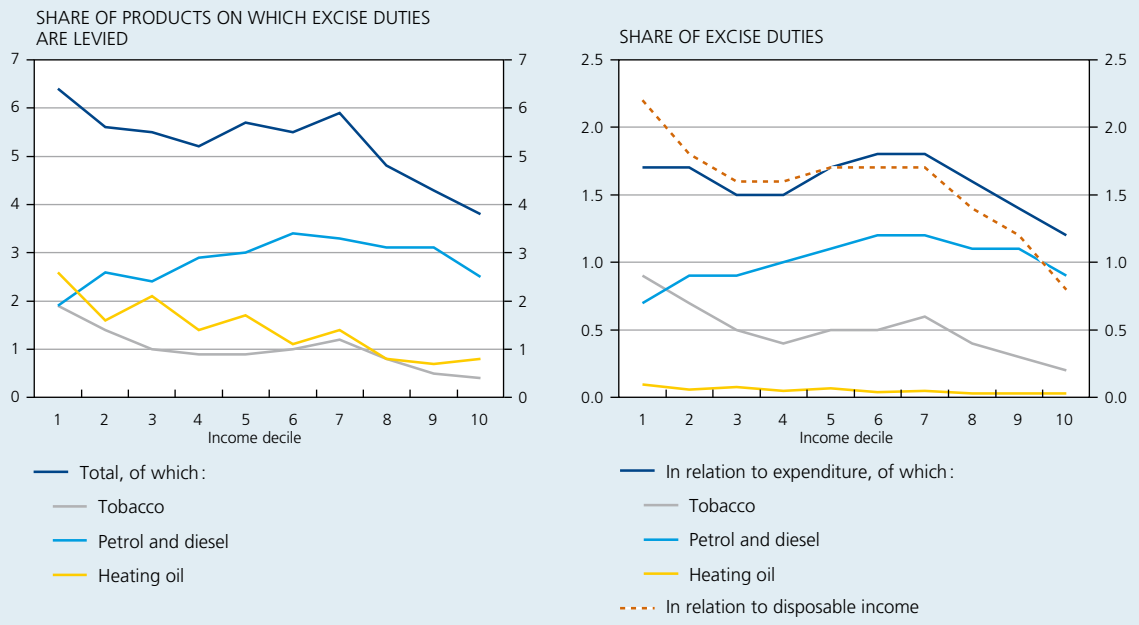
5.3 Excise duties

Simulated excise duties represent 1.4 p.c. of disposable income. In 2001, these simulated excise duties totalled only 40 p.c. of the excise duties actually collected. This small proportion is due to the large amount of excise duty on diesel, petrol and heating oil, paid to general government by firms. Also, the simulation could not include the excise duty on (alcoholic) beverages, since the rates applicable vary greatly and the information obtained from the household budget survey is not sufficiently specific.

There are wide variations in the relative importance of the various expenditure categories on which excise duties are levied. Expenditure on petrol and diesel is proportionally more significant in the intermediate income deciles, where it represents just over 3 p.c. of expenditure. The share of expenditure on heating oil declines considerably between the first and tenth deciles, dropping from 2.5 p.c. to 0.8 p.c. The proportion of expenditure on tobacco products falls sharply across the income deciles, dropping from 1.9 p.c. in the first decile to 0.4 p.c. in the tenth.

Unlike VAT payments, for wich the relative importance increases in proportion of consumption, excise duties do not present a clear pattern. In relation to income, excise duties are degressive, but this finding is due essentially to

CHART 16 REDISTRIBUTIVE CHARACTER OF EXCISE DUTIES



Sources: FPS Economy, NBB.

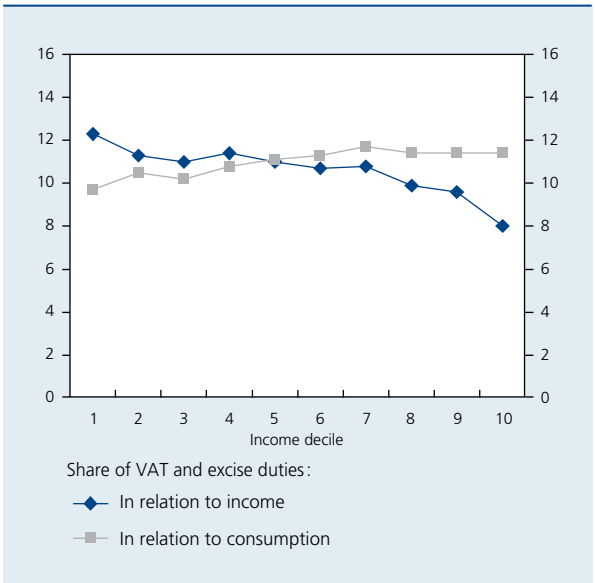
the first and last deciles. The profile is similar in relation to household expenditure, but is less marked. In terms of consumption, the excise duties on petrol and diesel are progressive up to the seventh decile and then become degressive. Since heating oil is subject to only a very low level of excise duty in Belgium, that duty has little influence on the household budget[1], even though the percentage of expenditure devoted to heating oil falls sharply across the income deciles. The excise duty on tobacco is the main reason for the degressive character of excise duties as a whole in proportion to income. The recent increases in the excise duty on tobacco reinforced that degressivity.

Excise duties are levied on products whose consumption the government aims to discourage because they are harmful either to health, such as tobacco and alcohol, or to the environment as in the case of petrol and diesel. The government therefore considers the redistributive character of excise duties to be less important than their dissuasive effect.

5.4 The redistributive character of VAT and excise duties

Overall, VAT and excise duties are therefore neutral or even slightly progressive in relation to household expenditure. However, in relation to household incomes they are clearly degressive.

CHART 17 REDISTRIBUTIVE CHARACTER OF VAT AND EXCISE DUTIES



Sources: FPS Economy, NBB.

Conclusions

Compared to the other EU-15 countries, Belgium has less primary income inequality. Moreover, there is a relatively high degree of redistribution in Belgium, so that – after taxes, social benefits and social security contributions – the disparities are among the smallest in Europe. As in other countries, this income redistribution is effected primarily via social benefits. However, redistribution via taxation also plays a very important role.

The most strongly redistributive tax in Belgium is personal income tax, which is highly progressive. That is due principally to the structure of the tax scales and the amount of the tax-free allowance, and to the reduction in taxes on replacement incomes. The influence of social security contributions on the redistribution of income is relatively limited, although it is greater than in the majority of the EU-15 countries.

VAT, which accounts for the bulk of indirect taxes, is slightly progressive in relation to expenditure, owing to the rate structure whereby the reduced rate and the zero rate apply to goods and services which are consumed to a proportionally greater extent by low-income households. Conversely, in relation to disposable income, VAT is degressive. That is because the savings ratio increases with each income decile. Excise duties are rather degressive, in relation to both household spending and household income.

This study also illustrates the fact that tax measures are seldom neutral in their effect on income redistribution. However, this effect is clearly dependent on the practical arrangements of these measures. The personal income tax reform approved in 2001 and the introduction of the work bonus increased the progressive effect of the compulsory levies on earned income and reduced the average rate of the levy. While the impact of increases in excise duties on fuel is more mixed in terms of redistribution, the recent increases in excise duty on tobacco have accentuated their degressive character. However, it is clear that the government also uses excise duties as an instrument to discourage unhealthy or ecologically unsound consumption behaviour.

(1) However, it should be noted that heating oil is subject to 21 p.c. VAT.

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Credits to individuals – Analysis of the data recorded by the Central Individual Credit Register [1]

H. De Doncker

Introduction

In the context of the control of excess debt, the Central Individual Credit Register (CICR) was converted into a "positive" central register on 1 June 2003. Since then, by recording all consumer credit and mortgage loans contracted for private purposes by individuals resident in Belgium, and any resulting payment default, the Central Register has provided a more or less exhaustive picture of credit granted to individuals [2].

At the request of the CICR Guidance Committee, the Central Register information was examined in detail during 2005 [3]. This study had two aims. First, it analysed the data on contracts and individuals in the positive and negative sections of the records, in order to arrive at an overall view of the main characteristics of the private credit market. It also prepared an initial outline of the profiles of bad payers, on the basis of aggregate data. This article focuses specifically on this second aspect of the analysis.

Although the CICR covers almost the whole of the private credit market, owing to the compulsory participation of all lending sources, it should be stressed that there are significant limitations concerning the information recorded, and these have a direct influence on the research options and/or the interpretation of the results. Owing to the characteristics of the information recorded, plus the technical features inherent in the data file, the study is subject to a number of limitations. Thus, it is based mainly on aggregate data relating to the number of credit contracts notified by the issuers and, owing to the lack of historical series, remains structural in its nature. Moreover, the analysis of borrowing and repayment behaviour according to the borrower's characteristics is limited to the demographic variables recorded by the CICR, namely age and place of residence.

Borrowing and repayment behaviour of the reference individuals

Analysis of the profiles of bad payers is intended to reveal the differences in borrowing and repayment behaviour in terms of the borrowers' characteristics. Since payment defaults [4] refer to contracts rather than individuals – as a person may effect a number of credit contracts which are not necessarily all recorded in a negative sense, and each person need not be the sole debtor in respect of some or all of those credit contracts –, a link was established between the information on persons and the contracts: for this part of the analysis, the contracts are linked to the place of residence and age of the first debtor named, hereinafter referred to as the "reference person" for the credit.

(1) This text is an extract from the analysis published in January 2006 in *Working Paper* no.78 with the same title. The full text of *Working Paper* no.78 can be downloaded from the NBB's website. (www.bnb.be).

(2) A more detailed description of the information recorded by the CICR is available on the NBB's website. (www.bnb.be).

(3) The analysis covered data for March-April 2005. These are 'frozen' data in that deletions effected during that period were retained in the records, while modifications and corrections relating to individuals and contracts recorded after the period covered by the analysis were disregarded in the calculations. The data used for the study are therefore slightly different from those published by the CICR.

(4) Payment defaults are recorded by the CICR if they fulfil the criteria defined per credit type. These include both unpaid and paid arrears; at the time of the study it was not possible to deal with the two aspects separately.

Age

As regards the age of the reference persons, various concepts can be examined. Regardless of the age of the borrowers recorded at the time of examination of the data, the "initial age", i.e. the age of the borrowers at the time of conclusion of the credit contract, and the "payment default" age, i.e. the age when the payment default began, are very interesting.

The frequency distribution of the reference persons according to initial age varies slightly according to the type of credit, as is logical on the basis of the credit life cycle theory *(chart 1)*.

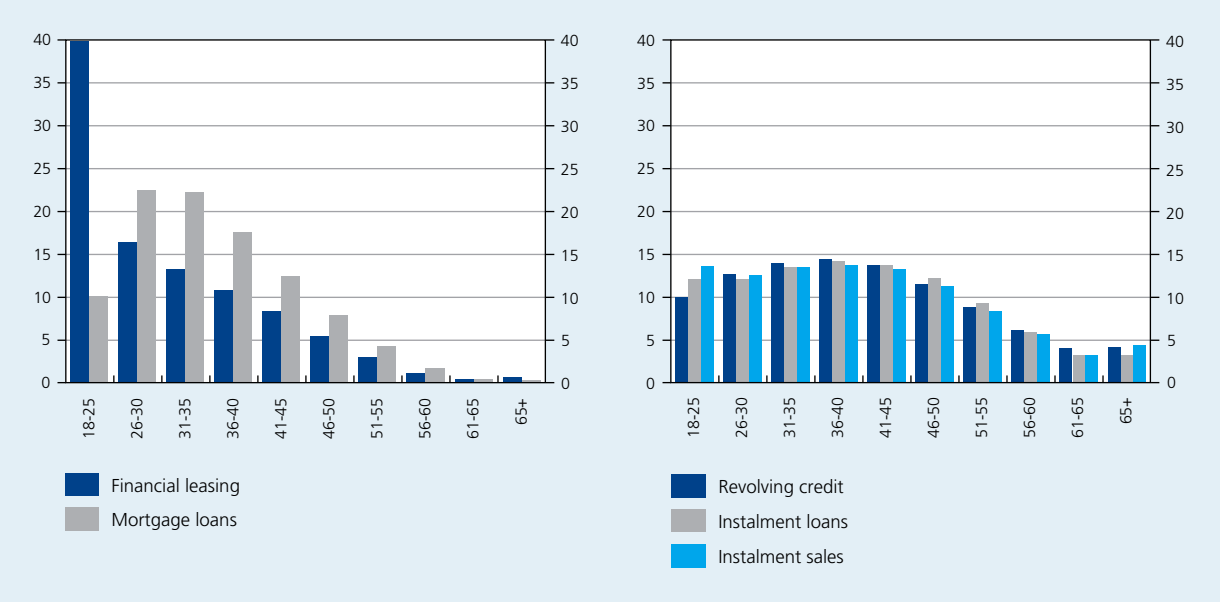
The youngest borrowers, particularly those aged 18-25 years, are by far the largest group in the financial leasing category[1]; some 40 p.c. of contracts of this type are concluded by borrowers in this age group, and the relative importance of the older age groups declines rapidly. In the case of instalment sales and instalment loans, the youngest age group is slightly more heavily represented than in the other two forms of credit, albeit to a much lesser extent than for financial leasing. As confirmed by the data published by the FPS Economy concerning the use of consumer credit, financial leasing and instalment sales are forms of credit eminently suited to the acquisition of cars and computers, and the above observations therefore bear out the life cycle theory. The peak age groups for mortgage loans are 26-30 years and 31-35 years, and these are also the groups borrowing the largest amounts, on average. The breakdown of borrowers by initial age is clearly unevenly balanced in the case of mortgage loans: around 90 p.c. of contracts are concluded before the age of 45 years. Conversely, as suggested by the theory, revolving credit, instalment loans and instalment sales are the forms of credit which attract a borrowing public distributed more evenly across the age groups.

For reasons concerning data availability, and more specifically because of the shortness of the time series and the limited periods for preserving data in the positive section of the CICR, it is not currently possible to calculate representative payment default percentages – comparing the number of contracts in arrears of payment with the total outstanding credit contracts – on the basis of the concept of the initial age. However, the percentages of payment defaults by age at the time of examination of the data do show a clear, reverse correlation between age and payment default percentage for all types of credit *(chart 2)*. The figures thus confirm the widespread view that younger borrowers represent a higher risk, on average, than older borrowers. Economic factors, such as whether or not the person has an earned income or

(1) Financial leasing is a type of credit which is dying out; the percentage represented by these contracts is negligible. From here on, this article will not analyse this type of credit separately.

CHART 1 FREQUENCY DISTRIBUTIONS OF REFERENCE PERSONS ACCORDING TO INITIAL AGE

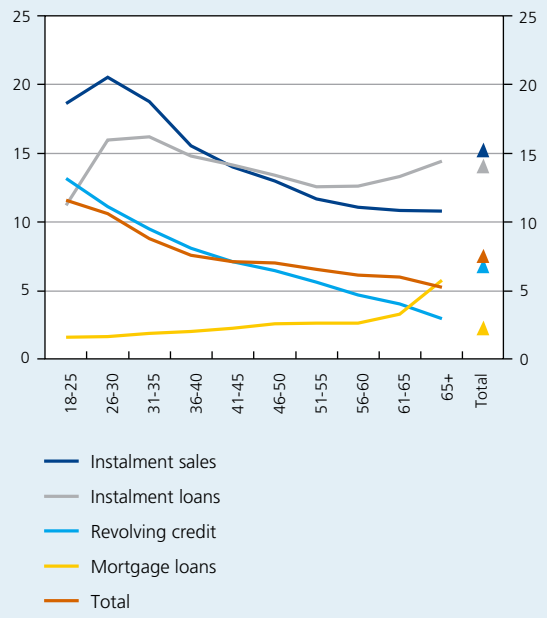
(Percentages)



Source: CICR.

CHART 2 PAYMENT DEFAULT PERCENTAGES BY AGE GROUP

(Defaulting contracts in percentages of the total outstanding contracts, by age group)



Source: CICR

replacement income, the amount of that income, and job security certainly play a role here, but the attitude and behaviour of both the young and the lenders aiming at this target group must also be taken into account.

Looking at individual forms of credit, there is also an evident negative correlation between age and payment default percentage in the case of revolving credit and instalment sales, except for the 18-25 age group where instalment sales are concerned. This negative correlation is less marked in the case of instalment loans: it does not apply to the 18-25 age group, and from about the age of 55 years onwards it changes into a positive correlation. Finally, in the case of mortgage loans, the correlation between the payment default percentage and age is clearly positive, although these percentages are fairly low overall.

It was not possible to identify directly any convincing explanation for the positive correlation between age and payment default percentages in the case of mortgage loans, in contrast to revolving credit and instalment sales. In any case, this finding seems to suggest that, where delays occur in the repayments on various forms of credit, other factors play a decisive role. The frequency distributions of the reference persons by age of payment default seem to confirm in every way the previous findings concerning the various types of credit. Although the data available from the CICR are insufficient to test hypotheses on this subject, there are various factors which could provide an explanation, if only in part, for the divergent results in the case of mortgage loans.

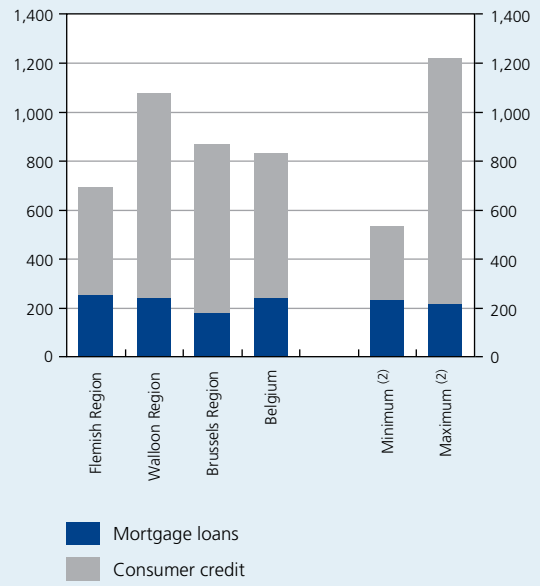
Thus, it is clear from practical experience that in the event of financial problems it is other, unsecured debts that are the first to be left unpaid, before the family home is put at risk by the suspension of mortgage repayments. Presumably, a number of "passive sources" or events triggering excess debts, in other words setbacks in life such as job loss, divorce, illness or long-term unfitness for work, affecting the borrower (or perhaps the borrower's partner) – all factors generally cited in the literature on payment defaults – are proportionately more common in the older age groups.

Place of residence

In order to gain an idea of the credit requirements of the various regions, the number of credit contracts was related to the adult population.

CHART 3 CREDIT REQUIREMENTS BY REGION

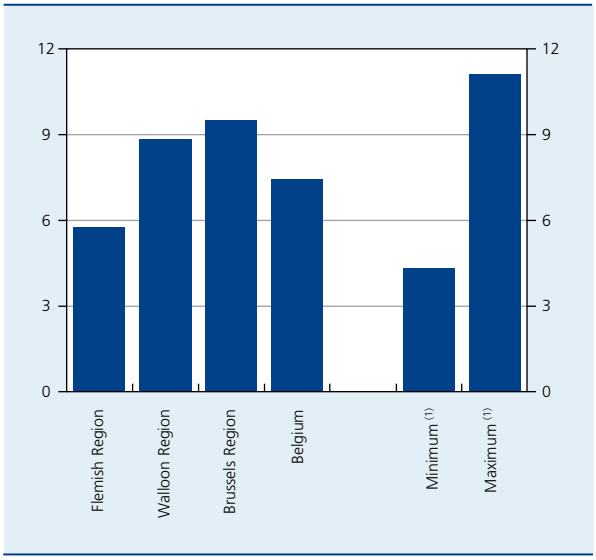
(Number of contracts per thousand persons in the adult population (1))



Sources: CICR and FPS Economy.
(1) Population situation as at 1 january 2004.
(2) Of the individual districts.

CHART 4 TOTAL DEFAULT PERCENTAGES, BY REGION

(Contracts in arrears, as a percentage of the total contracts, by region)



Source: CICR.
(1) Of the individual districts.

This shows that total credit requirements are not evenly distributed across all the regions *(chart 3)*. Wallonia has a relatively higher level of borrowing than Flanders, and Brussels falls between the other two regions. The ranking of the total credit requirements according to the individual districts within the regions tallies entirely with this geographical division of the country.

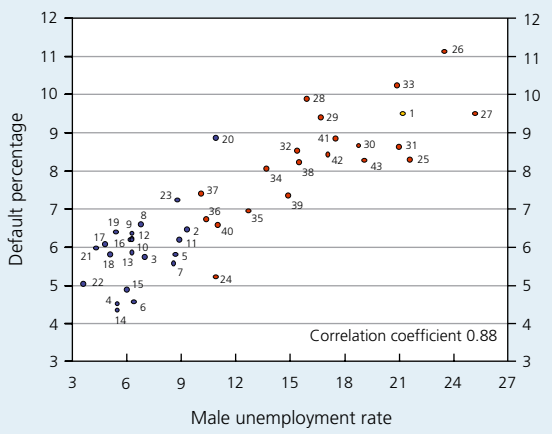
The higher credit requirements in Wallonia more specifically concern consumer credit, both as regards such credit in general, and for all forms of consumer credit viewed individually. As regards mortgage loans, the number of contracts effected is relatively greater in the Flemish Region. Finally, in the case of consumer credit, the Brussels Capital Region falls between the two regions, but comes at the bottom of the ranking of the various districts in terms of mortgage loan requirements.

The assessment of the regional results regarding payment defaults is based on the concept of the "default percentage" which links the contracts in arrears in a particular region to the total outstanding contracts in that region *(chart 4)*. These default percentages vary considerably between the regions: the Brussels Capital Region comes first, with 9.5 p.c., followed by the Walloon Region with 8.8 p.c., while the Flemish Region – at 5.8 p.c. – scores well below the national average of 7.5 p.c.

The ranking of the individual districts presents the same picture, broadly speaking: the highest default percentages are recorded in the south of the country, particularly in the Hainaut districts and in Liège, and the lowest percentages in the north, primarily Flemish Brabant. However, both areas of the country have some notable exceptions: in Flanders, the district of Ostend has a relatively high score, while in Wallonia the district of Nivelles ranks particularly low.

Various national and international studies on the default phenomenon point, on the one hand, to demographic factors (age, standard of education, divorce, property ownership, etc.) as relevant for repayment behaviour. On the other hand, there are of course also economic factors (income, employment/unemployment) which may play a significant role here. However, since the information on borrowers recorded in the CICR is strictly confined to date of birth, sex and place of residence, it is not possible to test those potential factors on a microeconomic basis. The clear north-south divide in terms of payment defaults nevertheless suggests that regional characteristics, which

CHART 5 DEFAULT PERCENTAGES AND MALE UNEMPLOYMENT RATE (1) PER DISTRICT



1 Brussels Capital
2 Antwerp
3 Mechelen
4 Turnhout
5 Hasselt
6 Maaseik
7 Tongres
8 Alost
9 Termonde
10 Eeklo
11 Ghent
12 Audenarde
13 Saint-Nicolas
14 Hal-Vilvorde
15 Louvain
16 Bruges
17 Dixmude
18 Ypres
19 Courtrai
20 Ostend
21 Roulers
22 Tielt
23 Furnes
24 Nivelles
25 Ath
26 Charleroi
27 Mons
28 Mouscron
29 Soignies
30 Thuin
31 Tournai
32 Huy
33 Liège
34 Verviers
35 Waremme
36 Arlon
37 Bastogne
38 Marche-en-Famenne
39 Neufchâteau
40 Virton
41 Dinant
42 Namur
43 Philippeville

Sources: CICR and NEMO.
(1) Unemployment rate: situation march 2005.

tend to be economic, may explain these differences to some extent.

In all respects, a number of regional demographic and income-related variables seem to show a close correlation with the default percentages. Marital status, translated into the percentage of the population who are divorced or married, displays a significant correlation even at district level. In particular, however, the variations in the male unemployment rate exhibit very close links with the variations in the default percentages between districts *(chart 5)*: the correlation between the two series is no less than 88 p.c.

Conclusion

Examination of the information on contracts and persons recorded in a positive and negative sense in the CICR has provided an initial stimulus for research on the profiles of bad payers; the Bank hopes to continue down this road in the future, as part of the effort to combat excessive debt.

On the basis of aggregate data, the study established variations in borrowing and repayment behaviour on the part of borrowers, depending on the age group to which they belong or their place of residence.

The frequency distributions of reference borrowers according to age when first recorded by the Central Register vary according to the type of credit. Thus, certain types of credit are contracted by significantly younger borrowers, in line with the life cycle theory. In the case of consumer credit, the default percentages by age category display a negative correlation with the borrower's age; conversely, in the case of mortgage loans the correlation is positive. Although no convincing explanation can be identified, these divergent results suggest that, for each type of credit, other factors have some influence over the default process, so that differentiation is necessary.

Where place of residence is concerned, the study also identifies clear differences in both borrowing and repayment behaviour on the part of borrowers. Not only do credit requirements vary considerably between regions, the composition of the loan portfolio and the relative use of the various categories of lender reveal significant differences between the north and south of the country. These regional variations are expressed not only at regional level, but also at district level. The north-south divide is also evident in the default percentages. It is not attributable only to the variations in the loan portfolio, as indicated by the percentages of the main forms of individual credit. A number of regional socio-economic variables (unemployment rate, disposable income per head, marital status) in fact show a close correlation with the default percentages per district.

The limitations of the CICR data, particularly those relating to people's characteristics, prevent any deeper analysis. However, a more detailed study is needed to acquire a better understanding of the default process and to produce more accurate and reliable profiles of persons experiencing payment problems.

Summaries of articles

Economic projections for Belgium – Spring 2006

The backdrop to the forecasting exercise paints a contrasting picture: the initial situation of the projections appears slightly more favourable than in the previous forecast exercise of autumn 2005, with the Belgian economy displaying undoubted momentum at the beginning of 2006. However, a number of conditions relating to the external environment are likely to be less favourable for growth and inflation.

In Belgium, after having increased by 0.8 p.c. during the first three months of 2006, economic growth is set to slow gradually throughout the year due to the rise in the price of oil, the recent appreciation of the euro against the dollar, the rise in interest rates and a weakening external demand. All in all, real GDP growth should amount to 2.5 p.c. in 2006 and 2 p.c. in 2007. Most of the domestic demand categories, as well as net exports, are set to contribute to GDP growth, with the composition of growth being more balanced than in 2004 and 2005.

As a result of labour hoarding, the economic recovery is highly unlikely to lead to a marked increase in the rate of job creation but is instead expected to bring about a higher utilisation rate of the workforce. After having increased by 39,000 units in 2005, the number of persons in employment in Belgium should increase further, by some 80,000 units over 2006 and 2007. With job creation corresponding broadly to the increase in the population of working age, the harmonised unemployment rate is set to fall only very slightly, from 8.4 p.c. in 2005 to 8.2 p.c. in 2006 and 2007.

Overall inflation movements in Belgium will mainly be determined by the developments of energy prices, with the energy component continuing to make a key contribution to the rise of the harmonised index of consumer prices until the early months of 2007. On annual average, overall inflation is expected to fall, from 2.5 p.c. in 2005 to 2.4 p.c. in 2006 and 1.9 p.c. in 2007. The underlying inflation trend should only increase moderately, to 1.6 p.c. at the end of 2007, due, among other things, to moderate labour costs developments. Hourly labour costs are likely to increase by 4.2 p.c. for the years 2005-2006 taken together, which is less than the nominal norm of 4.5 p.c. endorsed by the government. As far as 2007 is concerned, the growth rate in hourly costs is assumed to be in line with projected inflation.

After having shown a limited surplus in 2005, of 0.1 p.c. of GDP, the general government financing balance should turn negative from 2006, by 0.3 p.c. of GDP that year and by 1.2 p.c. in 2007. This forecast does not take into account the new measures which would be adopted by the government during the next few months, on the occasion of the additional budget review announced by the federal government for 2006 and within the framework of the 2007 budget. Interest charges

should continue to fall and tax revenues are expected to benefit from the promising economic climate, especially in 2006, although these elements are more than offset by the disappearance of the favourable incidence of non-recurring factors. Despite the budget deficits forecast for 2006 and 2007, the debt ratio should continue its downward trend during these two years.

JEL Code: E17, E25, E37, E66

Key words: Belgium, macroeconomic projections, Eurosystem

A new national index of consumer prices and 10 years of the HICP

To mark the introduction, in January 2006, of a new national index of consumer prices (NICP) in Belgium and almost 10 years of application of the harmonised index of consumer prices (HICP) at the European level, the article highlights recent methodological developments regarding the two inflation measures.

By reviewing the basket and the weighting scheme of the NICP, the 2006 reform eliminates the loss of representativeness, which was particularly pronounced in 2004 and 2005. As a result, there will be smaller discrepancies between NICP inflation and HICP inflation from 2007 onwards, while the method used for the introduction of the new NICP will temporarily reduce NICP-measured inflation in 2006.

Despite the improvements introduced for the NICP, and in particular the adoption of bi-annual mini reforms, the HICP continues to be a more precise measure because its greater flexibility enhances its representativeness and because it is more accurate in terms of adjustments for quality changes. Future challenges include the treatment of owner-occupied housing, and the generalisation and harmonisation, at the European level, of the adjustments for quality changes.

JEL Code: E31, E64

Key words: consumer price index, HICP

Costs, advantages and drawbacks of the various means of payment

The total macroeconomic costs of the payment instruments used in the points of sale can be estimated to be 2.034 million euros, or 0.74 p.c. of Belgian GDP in 2003. The payment costs arising from cash were 0.58 p.c. of GDP, compared to 0.11 p.c. for debit cards, 0.04 p.c. for credit cards and 0.02 p.c. for the electronic purse Proton. About 50.5 p.c. of the payment costs originate in points of sale, whilst 47.1 p.c. come from the financial sector and 2.3 p.c. from currency-issuing institutions.

If the costs of payment instruments are confronted to the transactions carried out, it can be seen that the costs per transaction are similar for three instruments. Costs are lowest for cash, at about 53 eurocents, but this instrument is closely followed by Proton (54 eurocents) and debit cards (55 eurocents). For credit cards, the costs are noticeably higher (2.62 euros).

The costs per euro of turnover show that debit cards are the least expensive (1 eurocent), whilst cash, credit cards (at 3 eurocents in both cases), and especially Proton (10 eurocents), generate higher costs. These differences in costs, though, do not give any indication of the savings which could be made by replacing payment instruments with high variable costs with other instruments offering lower ones. The composition of the costs differs significantly between the different payment methods studied. Electronic payment costs are essentially fixed in nature: a significant part of these

costs is linked to the infrastructure required for carrying out electronic transactions. The percentage is highest for Proton, with total fixed costs of 83 p.c. Next come credit cards (75 p.c.) and debit cards (61 p.c.). The cost breakdown for cash is far more balanced: 49 p.c. for fixed costs and 51 p.c. for variable costs (25 p.c. depending on the number of transactions and 26 p.c. on the amounts transacted).

Variable costs per additional transaction are lowest for electronic purses, followed by cash, then debit cards and credit cards. Variable costs by additional euro of turnover are the highest for cash, since variable costs per transaction increase markedly according to the amount to be paid. In Belgium debit cards do not entail variable costs per additional euro of turnover and therefore give a level development for variable costs in relation to turnover. Essentially, variable costs for cash and debit cards are identical for a transaction of 10.24 euros; it is better to pay smaller amounts in cash and higher amounts using a debit card. Moreover, it should be pointed out that the costs for using Proton are always lower than those for using cash but as soon as the sum to be paid reaches 53.74 euros, Proton becomes more expensive than using a debit card.

It is possible to quantify a possible efficiency improvement in the use of payment instruments through a simulation. In order to do this, an analysis was carried out of the hypothetical replacement of 750 million transactions settled in cash by 250 million transactions (of an average 5 euros) paid by using Proton, and 500 million (of an average of 20 euros) using a debit card. The finding was that the saving would be about 58 million euros or 0.02 p.c. of GDP. Such a saving is rather low, even if a comparison is made at overall cost level (0.74 p.c. of GDP). Only a shift to a cashless society could generate substantial savings. This is, however, a purely theoretical scenario.

As its market share shows, cash continues to be the public's firm favourite: cash transactions make up 81.3 p.c. of point of sale operations. Cash does have intrinsic advantages; it continues to be the only payment instrument which is universally accepted, basically because of its legal tender status, but also because its use does not require a terminal. Moreover, it can be used for operations between private individuals. Cash guarantees confidentiality in transactions and offers complete security in terms of protecting the private sphere of life. In addition, its use is unlikely to lead to building up excessive debts and lastly, it can also be a factor in social integration.

Consumers should be able to continue to choose the payment methods they wish to use freely. Diversifying them contributes to greater flexibility for settling transactions and is therefore socially justified. In the future, efforts to make payment instruments more useful and more efficient will obviously have to be made. The spontaneous development of payments is already on the right lines, given the constant advances made in the area of electronic payments.

JEL Code: E42, G21

Key words: banknote, cash, credit card, payment card

Working time and forms of employment in Belgium

The article discusses developments over the past two decades in regard to working time and alternative forms of employment, placing the trends seen in Belgium in an international perspective. It also examines whether the Belgian regulations on this subject are stricter than those in the other EU-15 countries.

For the Belgian working population, the usual working time averaged 37 hours per week in 2004, whereas in 1983 it was a little over 40 hours. There are wide variations within the EU-15. Belgian working time is somewhat shorter than the average for the EU-15, and that also applies to employees. The average working time ascertained for the various countries is influenced by

the employment structure. After adjustments for that factor, the differences are definitely smaller, and working time in Belgium is roughly the same as the EU-15 average.

The decline in average working time and the increased dispersion which have emerged over the years are inevitably connected with the growing use of part-time working and other alternative forms of employment such as temporary work, employment during non-standard hours, overtime working, variable working hours and home working. In many cases this satisfies a genuine preference on the part of the persons concerned, e.g. those seeking a better balance between work and family life. However, since these forms of employment are more common among risk groups such as women, older workers, the young and the low-skilled, there is a danger of further segmentation of the labour market. On the demand side of the labour market, the alternative forms of employment give employers a range of instruments which are conducive to a flexible production process.

JEL Code: J220

Key words: working time, part-time employment, temporary work, overtime, flexibility

The redistributive character of taxes and social security contributions

The article aims to explain the redistributive character of taxes and social security contributions in Belgium, and to demonstrate the mechanisms behind that redistribution. Compared to the other EU-15 countries, Belgium has less primary income inequality. Moreover, there is a relatively high degree of redistribution in Belgium, so that – after taxes, social benefits and social security contributions – the disparities are among the smallest in Europe. As in other countries, this income redistribution is effected primarily via social benefits. However, redistribution via taxation on income also plays a very important role.

The most strongly redistributive tax in Belgium is personal income tax, which is highly progressive. That is due principally to the structure of the tax scales and the amount of the tax allowance, and to the reduction in taxes on replacement incomes. The influence of social security contributions on the redistribution of income is relatively slight, although it is greater than in the majority of the EU-15 countries.

VAT, which accounts for the bulk of indirect taxes, is slightly progressive in relation to expenditure, owing to the rate structure whereby the reduced rate and the zero rate apply to goods and services which are consumed to a proportionally greater extent by low-income households. Conversely, in relation to disposable income, VAT is degressive. That is because the savings ratio increases with each income decile. Excise duties are degressive, in relation to both household spending and household income.

This study also illustrates the fact that tax measures are seldom neutral in their effect on income redistribution. However, this effect is clearly dependent on the practical aspects of this type of measures. The personal income tax reform approved in 2001 and the introduction of the work bonus increased the progressive effect of the compulsory levies on earned income and reduced the average rate of the levy. While the impact of increases in excise duties on fuel is more mixed in terms of redistribution, the recent increases in excise duty on tobacco have accentuated their degressive character.

JEL Code: D31, H23

Key words: taxes and social contributions, income distribution, redistributive effects

Credit to Individuals – Analysis of the data recorded by the Central Individual Credit Register

Since 1 June 2003 the file of the Central Individual Credit Register has recorded information relating to all consumer credits and mortgage loans contracted by natural persons for private purposes, as well as any payment defaults resulting from these loans. This registration aims to strengthen the means of preventing the excessive indebtedness of private individuals.

On demand of the Accompanying Committee of the Central Individual Credit Register the data of this unique and quasi exhaustive database have been thoroughly analysed in 2005. In the article, some of the results of that analysis, which was published in January 2006 in Working Paper n° 78, are given.

More specifically, the article investigates borrowing and payment behavior according to debtor characteristics. The analysis finds that borrowing patterns, especially as credit portfolio composition is concerned, clearly diverge according to age and residence. Furthermore, striking differences were found for the percentage of loan defaults if these variables were taken into account. In particular, the article comes to the conclusion that loan defaults aggregated at the regional level show remarkably strong correlations with economic and demographic factors.

JEL Code: D14, D18, G21, G22, G29, R29

Key words: credit bureau, consumer credits, mortgage loans, loan payment defaults

Abstracts of the working papers series

78. Kredieten aan particulieren – Analyse van de in de Centrale voor Kredieten aan Particulieren geregistreerde gegevens, by H. De Doncker, January 2006

Since 1 June 2003 the file of the Central Individual Credit Register has recorded information relating to all consumer credits and mortgage loans contracted by natural persons for private purposes, as well as any payment defaults resulting from these loans. This registration aims to strengthen the means of preventing the excessive indebtedness of private individuals. In the paper, the data of this unique and quasi exhaustive database are thoroughly analysed. Based on the information for the registered credit contracts and the registered persons, firstly a general description of the structure and characteristics of the Belgian private credit market is given. Further, the paper investigates borrowing and payment behavior according to debtor characteristics. The study finds that borrowing patterns, especially as credit portfolio composition is concerned, clearly diverge according to age and residence. Furthermore, striking differences were found for the percentage of loan defaults if these variables were taken into account. In particular, the paper comes to the conclusion that loan defaults aggregated at the regional level show remarkably strong correlations with economic and demographic factors.

79. Is there a difference between solicited and unsolicited bank ratings and if so, why ? by P. van Roy, February 2006

The paper analyses the effect of soliciting a rating on the rating outcome of banks. Using a sample of Asian banks rated by Fitch Ratings (« Fitch »), evidence is found that unsolicited ratings tend to be lower than solicited ones, after accounting for differences in observed bank characteristics. This downward bias does not seem to be explained by the fact that better-quality banks self-select into the solicited group. Rather, unsolicited ratings appear to be lower because they are based on public information. As a result, they tend to be more conservative than solicited ratings, which incorporate both public and non-public information.

80. A generalised dynamic factor model for the Belgian economy – Useful business cycle indicators and GDP growth forecasts, by Ch. Van Nieuwenhuyze, February 2006

The paper aims to extract the common variation in a data set of 509 conjunctural series as an indication of the Belgian business cycle. The data set contains information on business and consumer surveys of Belgium and its neighbouring countries, macroeconomic variables and some worldwide watched indicators such as the ISM and the OECD confidence indicators. The statistical framework used is the one-sided generalised dynamic factor model developed by Forni, Hallin, Lippi and Reichlin (2005). The model splits the series in a common component, driven by the business cycle, and an idiosyncratic component. Well-known indicators such as the EC economic sentiment indicator for Belgium and the NBB overall synthetic curve contain a high amount of business cycle information. Furthermore, the richness of the model allows to determine the cyclical properties of the series and to forecast GDP growth all within the same unified setting. The common component of the variables are classified into leading, lagging and coincident with respect to the common component of quarter-on-quarter GDP growth. 22 p.c. of the variables are found to be leading. Amongst the most leading variables the authors finds asset prices and international confidence indicators such as the ISM and some OECD indicators. In general, national business confidence surveys are found to coincide with Belgian GDP, while they lead euro area GDP and its confidence indicators. Consumer confidence seems to lag. Although the model captures the dynamic common variation contained in the data set, forecasts based on that information are insufficient to deliver a good proxy for GDP growth as a result of a non-negligible idiosyncratic part in GDP's variance. Lastly, the paper explores the dependence of the model's results on the data set and show through a data reduction process that the idiosyncratic part of GDP's quarter-on-quarter growth can be dramatically reduced. However, this does not improve the forecasts.

81. Linear reduction in employers' contributions, by Ph. Jeanfils, Ph. Delhez, L. Van Meensel and K. Burggraeve, K. Buysse, Ph. Du Caju, Y. Saks, K. Van Cauter, March 2006

Belgium is among the European countries with the largest tax wedge on earned incomes, while its employment rate is below the European average. It is also a fact that social contributions play a predominant role in the financing of social security in Belgium. Hence the idea of expanding alternative financing in order to reduce the burden on labour while maintaining the balance of public accounts. To assess the merits of various measures which might be used in such a social security reform, the Bank's new model is used to simulate cuts in employers' social security contributions and alternative financing measures : a VAT increase, introduction of a value added levy, and a general social contribution. In the case of the value added levy, the automatic financial effects on the various branches of activity are examined via national accounts data. A measure to reduce employers' contributions has a favourable impact on employment, since it encourages substitution between factors of production in favour of labour, and it enhances the competitiveness of firms. These beneficial effects are more marked if the reductions in charges are not reflected in gross pay. All compensatory measures destroy jobs but generate public revenue. A VAT increase has a highly inflationary impact and is detrimental to growth, competitiveness and employment. If the link between higher inflation and wages is neutralised, this negative impact on jobs is greatly moderated, but so is the payback for public finances. A value added levy destroys many jobs and has a major impact on competitiveness, particularly to the detriment of the most capital-intensive businesses. A general social contribution has relatively modest effects provided it does not trigger pay rises via the ensuing increase in the tax wedge.

82. The patterns and determinants of price setting in the Belgian industry, by D. Cornille and M. Dossche, May 2006

The paper documents the patterns and determinants of price setting in the Belgian industry. It analyses the micro data underlying the Producer Price Index (PPI) over the period February 2001 to January 2005. On average only one out of four prices changes in a typical month, while the absolute size of a price change amounts to 6 p.c. The frequencies of price adjustment are particularly heterogeneous across sectors, which is determined by heterogeneity in the market and cost structure. The authors find no signs of downward nominal rigidity. A joint analysis of sizes and frequencies of price adjustment across time shows that price setting is characterised by both time- and state dependent pricing. About 38 p.c. of the exported goods are affected by pricing-to-market.

83. A multi-factor model for the valuation and risk management of demand deposits, by H. Dewachter, M. Lyrio and K. Maes, May 2006

How to value and manage deposit accounts where deposits have a zero contractual maturity, but which, in practice, remain stable through time and are remunerated below market rates? Does the economic value of the deposit account differ from the face value and is it possible to reliably measure it? To what extent is the economic value sensitive to yield curve changes? In the paper, the authors try to answer the above questions. The valuation is performed on yield curve, deposit rate and deposit balance data between December 1994 and June 2005 for a sample of Belgian bank retail savings deposits accounts. They find that the deposits premium component of Belgian savings deposits is economically and statistically significant, though sensitive to assumptions about servicing costs and outstanding balances average decay rates. They also find that deposit liability values depreciate significantly when market rates increase, thereby offsetting some of the value losses on the asset side. The hedging characteristics of deposit accounts depend primarily on the nature of the underlying interest rate shock (yield curve level versus slope shock) and on the average decay rate. They assess the reliability of the reported point estimates and also report corresponding duration estimates that results from a dynamic replicating portfolio model approach more commonly used by large international banks.

84. The single European electricity market: A long road to convergence, by F. Coppens and D. Vivet, May 2006

In the context of Working Paper no. 59 the authors argued that electricity has a number of characteristics that set it apart from other commodities. It was demonstrated that some of these characteristics might complicate the deregulation process. The current paper analyses the ongoing deregulation process in the European electricity sector and attempts to establish whether these difficulties can more readily be solved at European level. It would appear that some problems, e.g. economies of scale in electricity generation, have less of an impact at European level than within smaller national markets. However, a number of difficulties have to be overcome before a unified European electricity market can become a reality. These include the limited interconnection capacities between Member States. The EC has taken steps to improve the situation, for example by offering financial support for investments and promoting the development of regional markets as an interim measure ultimately leading to a fully integrated market. Apart from the difficulties related to electricity generation and transmission there are also exogenous factors that influence the ongoing deregulation process, e.g. the implementation of the Kyoto protocol and the dramatic increases in primary fuel prices. The paper argues that a consistent, stable and uniform European regulatory framework must be put in place if the impact of these difficulties is to be minimised.

Conventional signs

–	the datum does not exist or is meaningless
e	estimate by the Bank
n.	not available
p.c.	per cent
p.m.	pro memoria

List of abbreviations

COUNTRIES

AT	Austria
BE	Belgium
DE	Germany
DK	Denmark
EI	Greece
ES	Spain
FI	Finland
FR	France
GB	United Kingdom
IE	Ireland
IT	Italy
LU	Luxemburg
NL	Netherlands
PT	Portugal
SE	Sweden

OTHERS

BIS	Bank for International Settlements
BNRC	Belgian National Railway Company
CCE	Central Council for the Economy
CICR	Central Individual Credit Register
CIS	Commonwealth of Independent States
Coicop	Classification of individual consumption according to purpose
EC	European Commission
ECB	European Central Bank
EDP	Excessive Deficit Procedure
ELCB	Employment, Labour and Collective Bargaining
ESA	European System of Accounts
ESCB	European System of Central Banks
EU	European Union
EU-15	European Union, excluding the ten countries which joined in 2004

FPB	Federal Planning Bureau
FPS	Federal Public Service
FTE	Full-time Equivalent
GDP	Gross Domestic Product
HBS	Household Budget Surveys
HFMCE	Household Final Monetary Consumption Expenditure
HICP	Harmonised Index of Consumer Prices
HWWA	Hamburgische Welt-Wirtschafts-Archiv
ICP	Index of Consumer Prices
ICT	Information and Communication Technologies
IMF	International Monetary Fund
ISM	Institute for Supply Management
LEA	Local Employment Agency
NACE	EC Nomenclature of Economic Activities
NAI	National Accounts Institute
NBB	National Bank of Belgium
NCPI	National Consumer Price Index
NEMO	National Employment Office
NISSE	National Institute for the Social Security of the Self-Employed
NSI	National Statistical Institute
NSSO	National Social Security Office
OECD	Organisation for Economic Co-operation and Development
SEPA	Single Euro Payments Area
SICAFI	Société d'investissement à capital fixe immobilier (real estate investment fund with fixed capital)
SMEs	Small and Medium-sized Enterprises
VAT	Value Added Tax

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