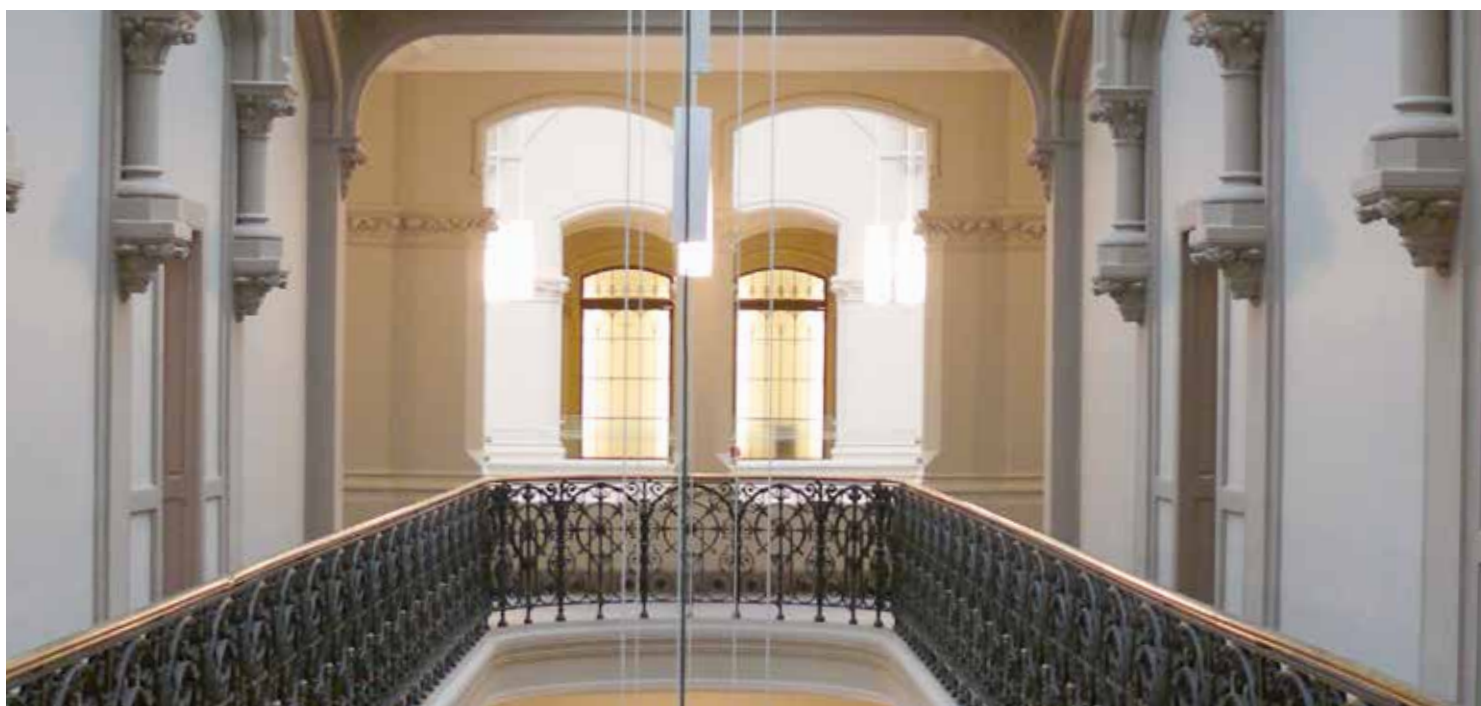


Economic Review

June 2013



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Economic projections for Belgium – Spring 2013

Introduction

Just as in the euro area in general, the growth slowdown which had begun during 2011 led to a contraction in activity in Belgium last year. According to the latest national accounts data, real GDP shrunk by about 0.3 % in 2012, which was slightly less than the fall recorded in the euro area.

The Bank's previous projections (autumn 2012), published in the December 2012 Economic Review, foresaw a slow economic recovery which would only emerge during 2013. However, activity was not projected to grow this year on an annual basis, also because of the negative spillover effect of the fall in GDP in 2012. That picture remains basically unchanged in the new projections. The year 2013 is still expected to bring a difficult, patchy recovery of the economy which, according to the available survey data, has slowed down again lately. The slow revival of domestic demand, hampered not only by the adverse evolution of employment but also by factors of uncertainty, credit restrictions and low capacity utilisation, continues to impede the recovery.

Nevertheless, at global level, the economic situation had appeared to stabilise, and even to pick up since the end of last year, against the backdrop of a strong surge of the financial markets and an extremely accommodating monetary policy pursued by the main central banks. In the United States and Japan, that policy was even explicitly and determinedly aimed at promoting the growth of activity and reducing unemployment. In the euro area, further progress had been made in eliminating the existing macroeconomic imbalances. Due to important austerity measures in many countries, the average public deficit in the euro area continued to fall in 2012, though it still

stands at 3.7 % of GDP according to the EDP notifications published by Eurostat on 22 April 2013, and this despite a contraction in activity. The implemented structural reforms are also gradually improving the competitiveness of countries with a current account deficit, enabling them to increasingly support their macroeconomic adjustment policies by expanding their exports, rather than just restricting domestic demand.

The restoration of confidence on the financial markets also appears to be more robust than six months ago. Thus, the crisis concerning Cyprus and the uncertainty about the outcome of the Italian elections, with the ensuing fears of a political stalemate, did not cause lasting damage to confidence on the European financial markets.

As yet, this financial market optimism has nevertheless not generated a clear, stable revival of activity in all regions of the world. In that respect, the emerging countries are performing the best, followed by the United States which, after having found a temporary solution to the fiscal cliff at the beginning of the year, still needs to make progress in the form of lasting adjustments to public spending, though activity is gradually picking up. The euro area is clearly lagging behind.

According to the most recent statistics, namely the flash estimates published on 15 May 2013 by Eurostat, real GDP in the euro area was down again by 0.2 % in the first quarter of the year. That is already the sixth consecutive fall. The weakness of economic activity is clearly not confined to the peripheral countries. For example, in France and the Netherlands, traditionally among the core euro area countries and two of Belgium's main trading partners, the economy is still contracting as well. Although the Eurosystem's spring projections (of which

these estimates for Belgium are a part) predict a slow recovery later this year, the outlook for the euro area in 2013 remains rather bleak.

The recent movement in the business survey indicators also shows that the economic engine of the euro area is struggling to restart. According to most survey data (such as the Bank's overall synthetic curve that gauges business confidence in Belgium), confidence, which had been picking up since the end of 2012, has clearly crumbled again since March 2013. Although these indicators are highly volatile, and their month-on-month changes must therefore be interpreted with due caution, this fall is a source of uncertainty regarding the short-term outlook, even though, in the case of the overall synthetic curve, the indicator recorded a marked improvement in May again, regaining roughly the level seen at the beginning of the year. As explained below, for various reasons, these estimates for Belgium assume that growth will stagnate again in the second quarter of the year.

The economic projections for 2013 and 2014 presented in this article were finalised on 22 May 2013. They were based on Eurosystem technical assumptions determined on 14 May, of which the main ones are described in the box in section 1. As usual in these exercises, the projections for public finances only take account of measures which have been formally adopted by the government – or which are very likely to be approved – and for which the implementing arrangements have been specified in sufficient detail at the time of conclusion of the exercise. In that regard, in contrast to the December projections, it was possible to take account of the budget and competitiveness measures, announced by the federal government in November 2012. The decisions adopted in the spring of 2013 at the time of the budget reviews of both the federal government and the Regions and Communities were also taken into consideration.

1. International environment and assumptions

In recent months, the global economy has continued to regain momentum. Economic activity and international trade, which had slowed down in the course of 2012, have picked up to some extent from the end of that year. However, the growth of global activity has remained moderate, despite the constant support from a very accommodating monetary policy, since the continuing correction of various imbalances and the persistent political uncertainty in the advanced economies are still acting as a worldwide brake. The growth revival has thus remained vulnerable to a possible further setback. In addition, growth rates

have varied widely between regions. Mainly the emerging countries have recorded vigorous growth. A number of advanced economies, such as the United States, Sweden and Switzerland, have also shown a marked improvement and recorded moderate growth. Conversely, in the euro area, activity has continued to contract.

From the summer of 2012, a number of new economic policy measures were taken in response to the growth slowdown and the prolonged euro crisis. In Europe, the ECB's announcement of the new instrument of the Outright Monetary Transactions (OMTs) did much to help end the fragmentation of the financial markets in the euro area. It strengthened confidence in a favourable outcome for the euro crisis, in particular by banishing fears that a number of countries might be forced to leave the euro area. Later in the year, further progress was made concerning the institutional framework of the euro area, notably when the European Stability Mechanism (ESM) entered into force and with the progress towards the creation of a banking union. Outside Europe, there were also various important policy initiatives. For instance, at the end of last year, the American Federal Reserve announced additional purchases of securities and linked its future monetary policy to the movement in the employment rate and inflation. Furthermore, at the beginning of January 2013, an agreement was concluded in the United States, so that the US economy largely avoided a sudden and severe tightening of its fiscal policy (fiscal cliff). In Japan, the government elected at the end of last year launched an ambitious plan to combat the persistent deflation and to support economic activity. Finally, in China, the easing of monetary policy fostered a gradual revival.

These measures averted the main short-term risks and thus helped to restore confidence on the financial markets. Against the backdrop of an extremely accommodating monetary policy pursued by central banks in the advanced economies, stock markets gained an average of 25 % between the summer of 2012 and early 2013, and volatility was down to its lowest level since the outbreak of the financial crisis in 2007. Spreads on the bonds of euro area Member States against the German Bund also narrowed significantly. In the closing months of 2012, these various policy measures also prompted an improvement in business confidence and, mainly outside the euro area, economic activity appeared to stabilise.

However, at the beginning of 2013, doubts emerged about the durability of the economic recovery, as a number of events during the initial months of the year came as a reminder that the euro crisis was not over yet: the February elections in Italy led to a temporary political

stalemate and at the end of March a rescue plan had to be devised for Cyprus, about which communication was sometimes ambiguous. In addition, financial market fragmentation persisted in the euro area. The publication of adverse economic figures in the United States, the euro area and China also fuelled concerns over economic activity. Business confidence was therefore eroded in the initial months of the year. In contrast, there was no reversal in sentiment on the financial markets. In the medium term, a number of factors of uncertainty continue to hamper the ongoing economic recovery: persistent imbalances in the euro area and the emergence of adjustment fatigue which could impede the necessary correction of those imbalances, the absence of a credible medium-term plan to lead public finances to a sustainable path in the United States and Japan, and latent geopolitical tensions which could cause a sudden surge in commodity prices.

Prices of the categories of commodities most sensitive to the business cycle (crude oil and industrial commodities) rose further at the end of 2012 and the beginning of 2013 in response to the improvement in the economic climate. However, a widespread fall set in from February, owing to the erosion of confidence and the gloomier outlook in the main regions, in particular in the emerging countries. The steepest fall concerned energy commodities, principally crude oil. The price of Brent crude dropped from USD 118.5 per barrel in mid-February to around USD 100 from mid-April. Consumer price inflation continued on the downward trend which had begun in the second half of 2011 as a consequence of, *inter alia*, the fall in commodity prices.

In this context, growth forecasts for 2013 were revised downwards. The EC's spring forecast predicts moderate global GDP growth of 3.1% in 2013, followed by a rise to 3.8% in 2014. That growth is likely to be supported by favourable financial conditions, the accommodating monetary policy and the further progress in deleveraging in a number of important economies. However, major divergences persist between the various regions. In general, growth is expected to be much more vigorous outside Europe. In the euro area, growth will probably continue to vary considerably between Member States. In 2013 and 2014, inflation is set to

TABLE 1 PROJECTIONS FOR THE MAIN ECONOMIC REGIONS
(percentage changes compared to the previous year, unless otherwise stated)

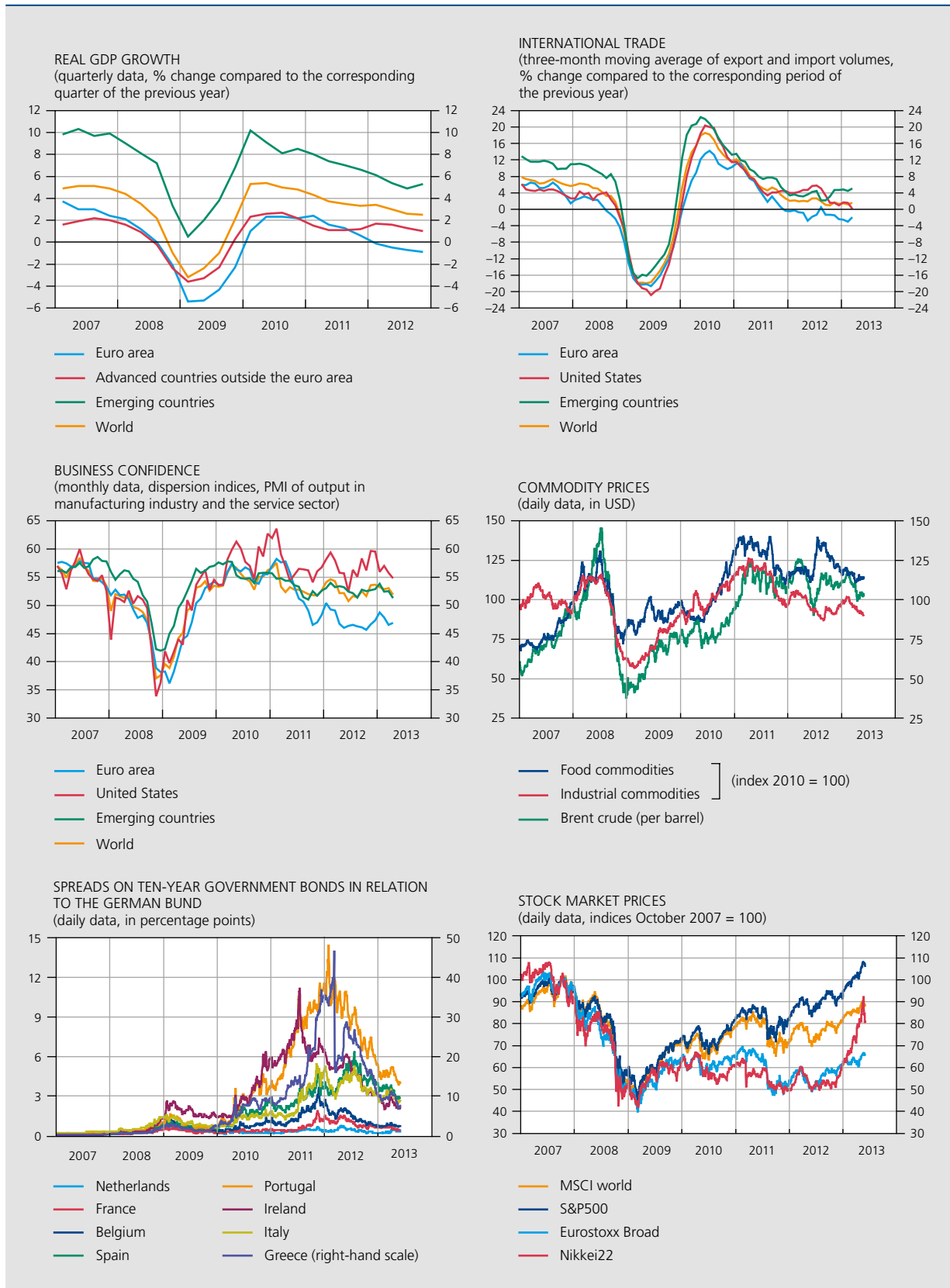
	2012	2013	2014
	Actual figures	Projections	
GDP in volume			
World	3.0	3.1	3.8
of which:			
United States	2.2	1.9	2.6
Japan	2.0	1.4	1.6
European Union	-0.3	-0.1	1.4
China	7.8	8.0	8.1
India	4.1	5.7	6.6
Russia	3.4	3.3	3.8
Brazil	0.9	3.0	3.6
<i>p.m. Global imports</i>	2.3	3.2	5.8
Inflation⁽¹⁾			
United States	2.1	1.8	2.1
Japan	0.0	0.2	1.8
European Union	2.6	1.8	1.7
China	2.7	3.0	3.0
Unemployment rates⁽²⁾			
United States	8.1	7.7	7.2
Japan	4.3	4.3	4.2
European Union	10.5	11.1	11.1

Sources: EC, IMF.
(1) Consumer price index.
(2) Percentages of the labour force.

remain moderate; with the exception of Japan, which is pursuing an aggressive anti-deflationary policy, inflation is not expected to rise significantly during the projection period. Owing to the persistent weakness of economic activity, unemployment is expected to increase further in the European Union this year, in contrast to unemployment in the United States and Japan, and should only stabilise in 2014.

CHART 1

GLOBAL ECONOMIC ACTIVITY AND DEVELOPMENTS ON FINANCIAL AND COMMODITY MARKETS



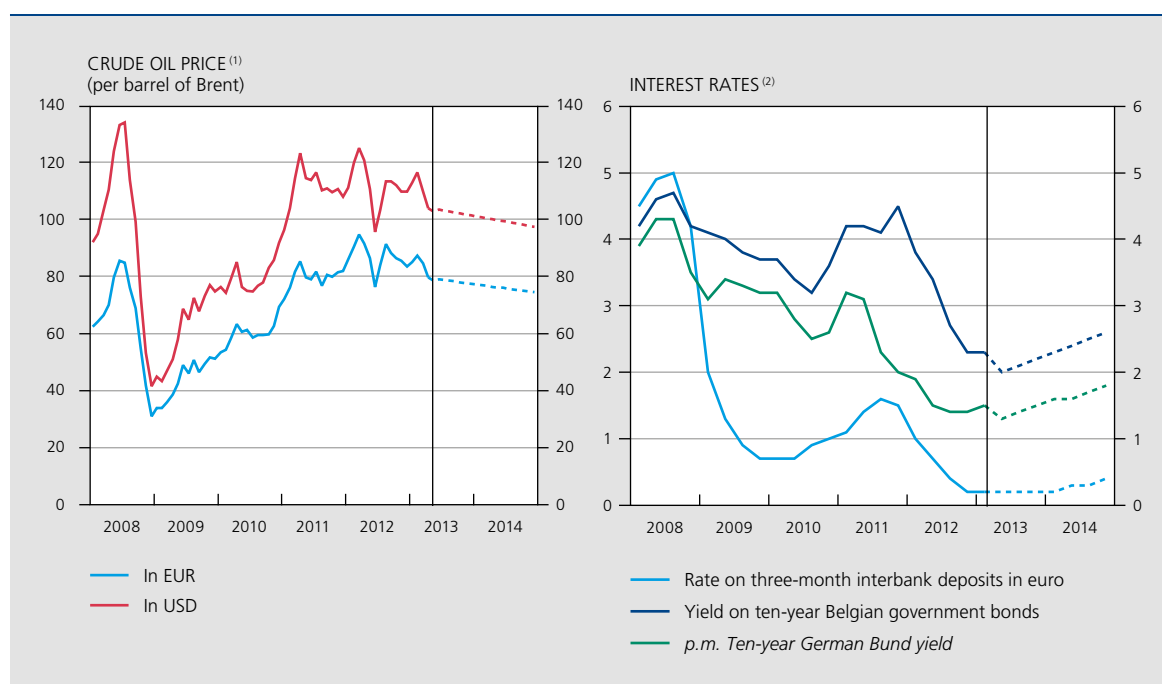
Sources: Thomson Reuters Datastream, NBB.

Box 1 – Assumptions for the projections

The macroeconomic projections for Belgium described in this article form part of a joint Eurosystem exercise for the euro area. That exercise is based on a set of technical assumptions and forecasts for the international environment drawn up jointly by the participating institutions, namely the ECB and the national central banks of the euro area.

In the projections, exchange rates are assumed to remain constant at the average level recorded in the last ten working days before the cut-off date of 14 May 2013. In the case of the US dollar, the exchange rate then stood at USD 1.31 to the euro, which was slightly above the 2012 average of USD 1.28 per euro.

ASSUMPTIONS CONCERNING OIL PRICES AND INTEREST RATES



Source: ECB.

(1) Actual figures up to 14 May 2012, assumptions from 15 May 2013.

(2) Actual figures up to the first quarter of 2013, assumptions from the second quarter of 2013.

In regard to oil prices, account is taken of market expectations as reflected in forward contracts on the international markets. Mid-May 2013, this indicator suggested that the price per barrel of Brent will decline gradually over the projection horizon, from an average of USD 113 in the first quarter of 2013 to an average of USD 98.5 in the last quarter of 2014.

The interest rate assumptions are likewise based on market expectations in mid-May 2013. The three-month interbank deposit rate, which had fallen to an unusually low level of barely 21 basis points in the first quarter of 2013, is projected to remain stable until the last quarter of 2013. In view of the evolution of these rates in 2012, this implies that the annual average for the short-term market segment in 2013 will decrease by almost two-thirds against the 2012 average. In 2014, this rate is expected to rise slowly to reach 36 basis points in the final quarter.

The expected movement in interest rates charged by the banks on business investment loans and private mortgage loans takes account of the transmission generally apparent in relation to market rates. In these Eurosystem

projection exercises, the rates applied by the banks of each country are modelled on the basis of the market rates to which they are most closely linked, and their projections are based on the ones for these reference interest rates.

Thus, since the start of the financial crisis (and especially the sovereign debt crisis), mortgage interest rates in Belgium have been greatly influenced by the Euribor ten-year swap rates, rather than by government bond yields. The interest rates charged on business loans generally depend on the rates for shorter maturities.

At the end of 2013, the long-term mortgage interest rate is projected at only 2.93 %, more than half a percentage point lower than one year before. In 2014, that interest rate is forecast to fall by a further 20 basis points. The rate on business loans is also set to decline somewhat further to just over 2 % at the end of this year, before rising again by around 5 basis points in the course of 2014. The level of interest rates for both households and businesses is therefore exceptionally low throughout the projection period.

Another key assumption concerns developments on the foreign markets relevant for Belgium. During 2012, imports by Belgium's trading partners had already decelerated sharply. Over the year as a whole, the export market volume expanded by barely 1.3 % (against 5 % in 2011). The decline was most marked for sales in the euro area, where demand for imports stagnated. In 2013, the export markets are forecast to expand by only 1.2 %, owing to the persistent weakness of economic activity. For the second consecutive year, markets in the euro area will produce hardly any real growth, and demand for imports from markets outside the euro area is likely to slacken further. In 2014, global trade is expected to continue picking up, and export markets should expand again by 4.4 %. For both 2013 and 2014, that implies a substantial downward revision compared to the assumptions underlying the Bank's December 2012 forecasts.

The trend in Belgian exports is not only determined by the growth of these markets, but also by changes in market shares and therefore by Belgium's competitiveness. In regard to the cost aspects of that competitiveness, what matters is the development of prices which competitors charge on the export markets. The projections assume that those prices will fall: in 2013, competitors' prices on the export markets are forecast to decline by 0.6 %, whereas in 2012 they still increased by 3.7 % compared to the previous year. Price restraint is also forecast for 2014, with an increase of no more than 1.2 %.

EUROSYSTEM PROJECTION ASSUMPTIONS

	2012	2013	2014
	(annual averages)		
Interest rate on three-month interbank deposits in euro	0.57	0.20	0.29
Yield on ten-year Belgian government bonds	3.0	2.1	2.4
EUR/USD exchange rate	1.28	1.31	1.31
Oil price (US dollars per barrel)	112.0	105.5	100.0
Household mortgage interest rate	3.6	3.2	2.9
Corporate loan interest rate	2.4	2.3	2.2
	(percentage changes)		
Export markets relevant to Belgium	1.3	1.2	4.4
Competitors' export prices	3.7	-0.6	1.2

Source: ECB.



Of course, developments on the export markets relevant for Belgium are inextricably linked to global economic growth. In that respect, the Eurosystem projections are based on two key assumptions. First, as in December 2012, it is assumed that the current policy concerning the euro crisis will be continued up to the end of the projection period. That implies that there will be no major negative shocks to confidence which could seriously affect economic activity in the euro area. Also, for the rest of the world, the expansion of activity is expected to remain more or less unchanged in 2013, at around 3.6%, rising to 4.2% in 2014. In particular, this assumes that the growth slowdown in China in the first quarter of 2013 is temporary, and does not herald a prolonged downturn.

The Eurosystem projections for the euro area were revised downwards compared to the December 2012 forecasts, and are still slightly below the ECB staff estimate dated March 2013 for this year. After having contracted by 0.5% in 2012, activity in the euro area is set to continue to decline this year within a range around a midpoint of -0.6%. However, the forecasts still vary widely from one country to another. Although the economy will contract further in a number of core countries of the euro area as well, the countries that need to make greater efforts to consolidate their public finances and restore their competitiveness are likely to see their economic activity flagging by more than the euro area average in 2013. In 2014, the euro area should return to positive growth, though the pace will still be relatively slow: the projections indicate a broad range with a midpoint of 1.1%.

Inflation in the euro area, which had still reached 2.5% in 2012, is on a declining trend. That is not only attributable to the weak economic activity but also to the expected fall in commodity prices, including oil. Domestic

cost pressures – especially labour costs – should remain under control throughout the euro area. For 2013, the Eurosystem expects inflation to range around a midpoint of 1.4%. For 2014, the margin of uncertainty is naturally greater, but inflation is forecast to continue slowly subsiding.

2. Activity and demand

Economic growth in Belgium ground to a halt around mid-2011, and since then activity has even contracted. In its December projections, the Bank assumed that this slight decline would persist at least until the spring of this year. According to the latest estimates by the NAI, real GDP indeed recorded a slight fall in the fourth quarter of 2012, whereas for the first quarter of this year the flash estimate, which was taken into account in these projections, indicated very meagre positive growth of 0.1%. The confidence indicators – in line with those for Germany, for example – had actually improved slightly

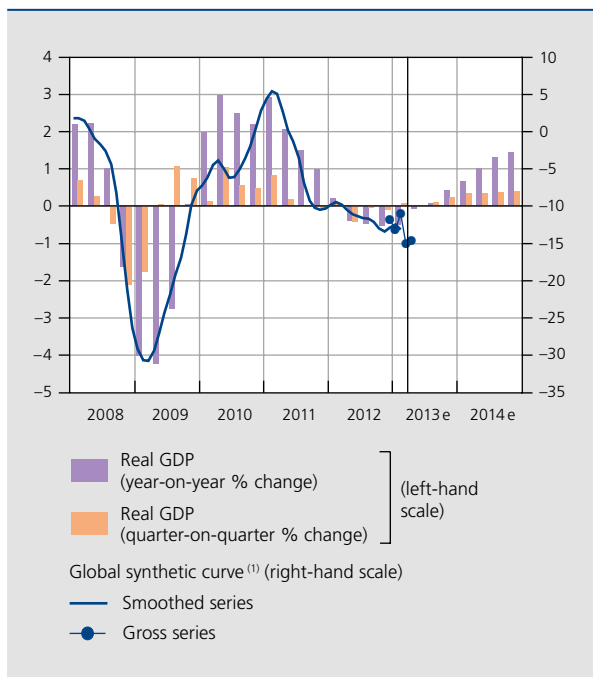
TABLE 2 EUROSISTEM PROJECTIONS
(percentage changes compared to the previous year)

	Euro area			<i>p.m.</i> Belgium		
	2012	2013 e	2014 e	2012	2013 e	2014 e
Real GDP	-0.5	-1.0 / -0.2	0.0 / 2.2	-0.3	0.0	1.1
of which:						
Private consumption	-1.3	-1.1 / -0.5	-0.5 / 1.7	-0.3	0.0	0.8
Public consumption	-0.4	-0.6 / 0.4	-0.1 / 1.3	0.4	0.9	1.5
Investment	-4.2	-4.1 / -1.7	-0.9 / 4.5	-0.6	-1.8	2.0
Exports	2.9	-1.0 / 2.6	0.3 / 7.9	0.7	-0.1	3.2
Imports	-0.7	-2.5 / 1.1	0.1 / 7.5	0.5	-0.4	3.3
Inflation (HICP)	2.5	1.3 / 1.5	0.7 / 1.9	2.6	1.0	1.2

Sources: ECB, NBB.

CHART 2 GDP AND THE BUSINESS SURVEY INDICATOR

(data adjusted for seasonal and calendar effects, unless otherwise stated)



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

around the beginning of the year. The growth of exports and private consumption at the beginning of the year was slightly better than forecast in December. On 5 June 2013, however, the growth of activity in the first quarter was slightly downgraded by the NAI, and now stands at zero.

Since March 2013, the confidence indicators have clearly deteriorated again, as elsewhere in Europe: thus, in March, the Bank's synthetic curve fell to its lowest level since September 2009, although Belgian firms became considerably more optimistic again in May. Similarly, consumer confidence was seriously eroded at the end of the first quarter. Against that backdrop, when the estimates were finalised, it seemed likely that growth in the second quarter would slow down slightly compared to the flash estimate for the first quarter. The baseline scenario therefore assumes that the stagnation of economic activity will persist during this quarter. A sharper fall, as in the second quarter of 2012, is considered less likely. On the one hand, because the global economic revival appears more robust, and because the increasing confidence in a favourable resolution of the euro crisis seems to have strengthened. On the other hand, more specifically in regard to activity in Belgium, it seems less likely that private expenditure will decline more steeply and that the process of de-stocking by firms will also make a significant

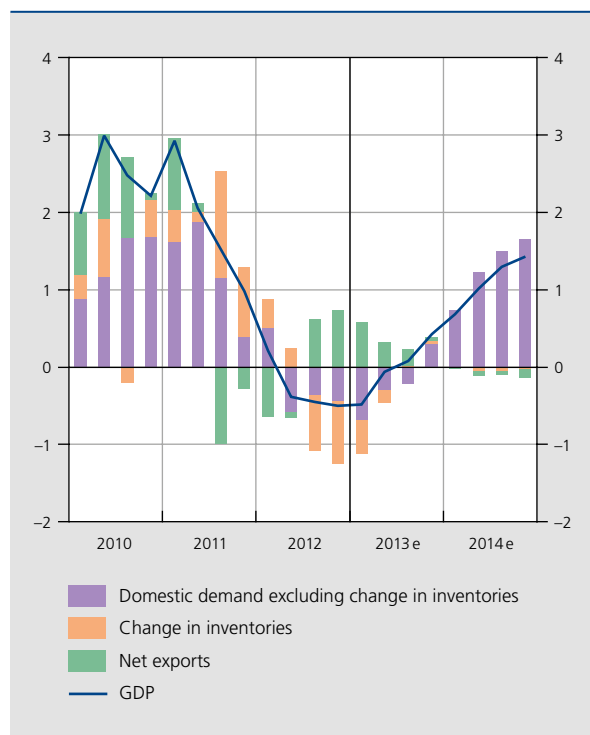
negative contribution to growth as that would imply an acceleration in inventory reduction.

For the second half of 2013, the forecasts indicate a slow improvement in the economic climate resulting from gradually strengthening foreign demand. Overall, however, the growth outlook for 2013 remains unchanged compared to the December forecast, so that growth is again put at zero. The somewhat stronger-than-expected growth in the first quarter is likely to be offset by slightly weaker activity growth in the following quarters, mainly owing to a loss of momentum in export growth. That is caused by the downward revision concerning the growth of the export markets mentioned previously, and, to a lesser extent, by the weaker increase in public consumption owing to the consolidation measures specified in the 2013 federal budget. In accordance with the December forecast, real GDP is therefore not expected to grow in 2013 since the slightly positive growth rates predicted for the second half of the year will be neutralised by the negative spillover effect of the contraction of activity in the course of 2012.

Next year, the improvement in economic activity, with quarterly growth rates forecast at 0.3 to 0.4% throughout the year, should produce a positive year-on-year growth.

CHART 3 MAIN EXPENDITURE CATEGORIES

(contributions to year-on-year GDP growth in percentage points; data adjusted for seasonal and calendar effects)



Sources: NAI, NBB.

According to the projections, activity is set to expand by 1.1 % in 2014.

In regard to the expenditure components, activity is likely to be only supported by a positive contribution from net exports in 2013, which is not unusual in the initial phase of a cyclical revival. Although the positive year-on-year figure for net exports is largely due to a spillover effect of 2012 growth, the estimates for 2013 also assume that exports will strengthen by a bit more than imports, despite the very modest growth of the export markets. Exports are thought to have produced somewhat stronger growth particularly in the first quarter of this year, as is also suggested by the provisional monthly foreign trade figures; exporters would have seen a clear increase in the volume of their sales on foreign markets in the first quarter of 2013. Overall, the year-on-year growth of the volume of exports is expected to remain virtually unchanged in 2013, whereas imports will record slightly negative growth. In 2014, exports are forecast to grow by more than 3 %, but as domestic demand should pick up, the contribution from imports is expected to roughly match that growth. In contrast to this year, the growth contribution from net exports will therefore be neutral.

Over the projection period as a whole, export growth falls slightly short of the (limited) expansion of the export

markets. In the projections it is therefore assumed that, as in previous years, Belgium will lose market share as a result of competitiveness gaps, attributable to both costs and non-cost factors. The recent government measures aimed at restricting wage growth and whose goal it is to reduce the competitiveness gap in relation to other countries are likely to somewhat boost price competitiveness in the longer term; ultimately, that should reduce the loss of market share in later years.

Real domestic demand (excluding the change in inventories) is set to shrink in 2013. Although the profile varies somewhat for the different demand components, it mainly concerns a spillover effect due to the decline in 2012. During the first half of the year, real domestic demand is expected to continue recording slightly negative quarter-on-quarter growth rates, before returning to positive territory from the second half. This accelerating growth will continue in 2014, with the projections indicating quarterly growth averaging 0.4 %. That should translate into year-on-year growth comparable to the 2010 and 2011 figures.

Real private consumption is expected to remain virtually unchanged this year, despite the more rapid growth in activity in the second half of the year. Over the year as a whole, while the disposable income of households is

TABLE 3 GDP AND MAIN EXPENDITURE CATEGORIES IN CHAINED EUROS, REFERENCE YEAR 2010
(percentage changes, data adjusted for calendar effects, unless otherwise stated)

	2010	2011	2012	2013 e	2014 e
Final consumption expenditure of households and NPIs	2.7	0.2	-0.3	0.0	0.8
<i>p.m. Real gross disposable income</i>	-1.2	-0.9	0.7	0.3	1.1
<i>Savings ratio</i> ⁽¹⁾	15.3	14.1	15.0	15.2	15.5
Consumption expenditure of general government	0.6	1.1	0.4	0.9	1.5
Gross fixed capital formation	-1.2	4.2	-0.6	-1.8	2.0
Housing	3.1	-5.3	-2.8	-3.1	0.2
General government	-1.2	5.9	0.9	-1.8	1.2
Enterprises	-3.2	8.6	0.1	-1.3	2.9
<i>p.m. Domestic expenditure excluding change in inventories</i> ⁽²⁾ ..	1.3	1.2	-0.2	-0.2	1.2
Change in inventories ⁽²⁾	0.3	0.7	-0.2	-0.1	0.0
Net exports of goods and services ⁽²⁾	0.7	-0.1	0.2	0.3	0.0
Exports of goods and services	9.6	5.5	0.7	-0.1	3.2
Imports of goods and services	8.9	5.7	0.5	-0.4	3.3
GDP	2.4	1.9	-0.3	0.0	1.1

Sources: NAI, NBB.

(1) Gross data, in percentage of gross disposable income in the broad sense, i.e. including the change in households' entitlements to additional pensions accruing in the context of an occupational activity.

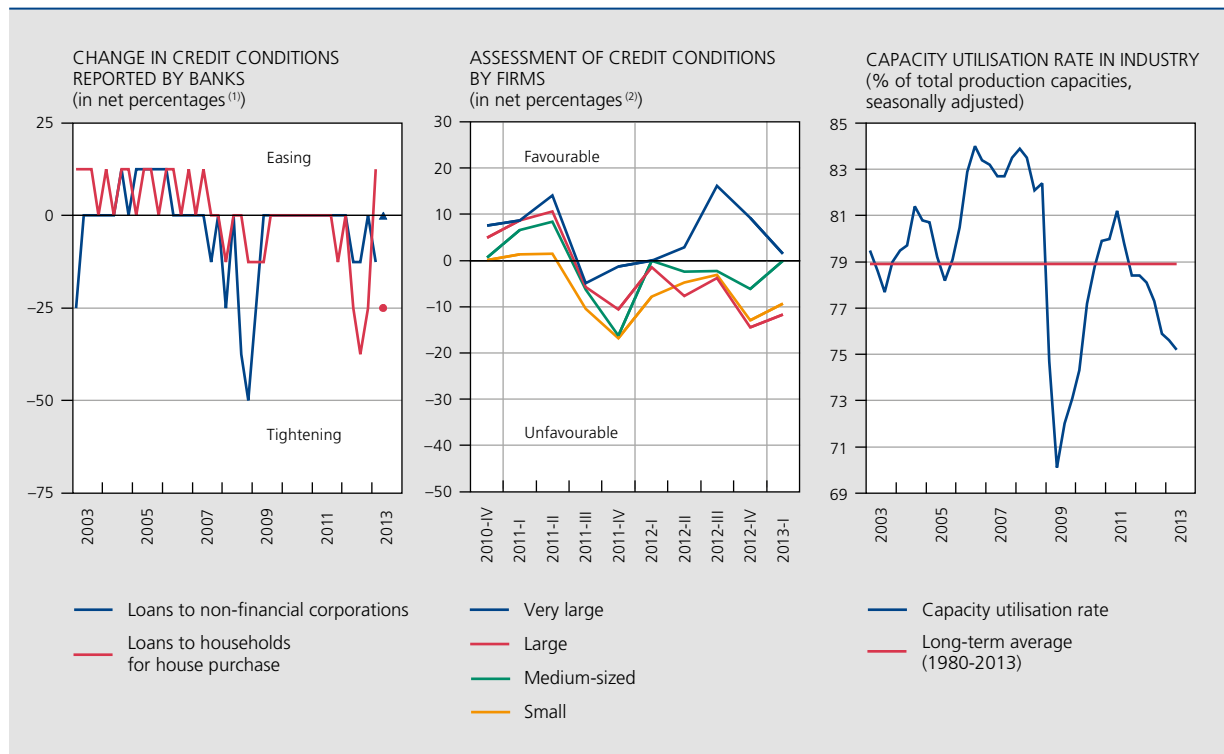
(2) Contribution to the change in GDP.

forecast to edge upwards in real terms, according to the projections almost all of that additional income will be set aside as savings. In a context of persistent macroeconomic uncertainty, particularly in relation to employment and future income, individuals will continue to focus primarily on building up precautionary savings. The savings ratio, which had begun to rise in 2012 from an exceptionally low level of around 14 % in 2011, will therefore continue to climb this year, though there will be a fall in the share of non-labour income in total disposable income, of which a larger part is traditionally devoted to savings. Moreover, the rise in household income will also be restrained by the slower growth of labour incomes and the increase in income taxes. After three consecutive years of minimal or even negative growth, private consumption will not really take off until 2014, and even then, growth will probably amount to less than 1 %. Once again, a disproportionate share of the income growth – which should considerably exceed the 2013 figure while remaining modest, notably on account of wage moderation – will be allocated to savings. Despite the economic upturn, households – which had to dip into their savings in 2010 and 2011 in order to more or less maintain their consumption levels – will

restore their savings ratio to a level closer to the long-term average. Moreover, although the share of non-labour incomes is likely to increase, the rise in the savings ratio should be modest overall. That may also be caused by the extremely low real return on financial assets, which makes savings relatively less attractive.

In contrast to private consumption, investment in housing is forecast to record negative real growth again in 2013, for the third successive year. Naturally, the macroeconomic uncertainty also weighs – and perhaps even more so – on this household expenditure category. Lending criteria are also restraining the growth of this investment. Although the mortgage interest rate is historically low, there are myriad signs that households are finding it increasingly difficult to obtain mortgage loans from financial institutions. For instance, the Bank Lending Survey shows that credit conditions for mortgage loans have been tightened significantly since mid-2012 (though they were apparently eased slightly in the first quarter of 2013). This more restricted access to credit is depressing residential building and activity in the construction sector. The real growth of investment in housing is not expected

CHART 4 CREDIT CONDITIONS AND CAPACITY UTILISATION



Source : NBB.

(1) Weighted net percentages of banks indicating whether the (non-interest-related) lending criteria have been eased (+) or tightened (-) compared to the previous quarter. Banks' expectations for the second quarter of 2013 (Bank Lending Survey).

(2) Quarterly survey of credit conditions: in regard to the general conditions, the net percentage is calculated as the difference between the percentage of firms stating that these conditions are favourable (+) or unfavourable (-).

to return to positive territory until the first quarter of 2014, since both uncertainty and credit restrictions are likely to become less severe at that time.

Real business investment is also expected to markedly decline in the first half of 2013. Once again, this is partly attributable to the uncertain outlook and credit restrictions. In regard to the latter, in the Bank Lending Survey, financial institutions report a tightening of the conditions in the second half of 2012 and again in the first quarter of 2013. However, the situation is not clear-cut, and varies according to firm size: although firms of all sizes indicated a deterioration in the first quarter of this year in the quarterly survey on credit conditions, very large firms still reported a fairly favourable assessment of credit conditions. This suggests that mainly small and medium-sized firms have been experiencing problems in obtaining loans to fund investment projects for several quarters. Internal financing options are also likely to be very limited, following the steep decline in the gross operating surplus of firms in 2012, and with the prospect of moderate real growth of that surplus in 2013, owing to the relatively sluggish economic environment. In addition, capacity utilisation in manufacturing industry is currently clearly below its long-term average, suggesting that strengthening activity will initially be covered by more intensive use of existing production facilities, and will only induce new investment at a later stage. Nevertheless, it is estimated that real business investment will gradually rise from the third quarter of 2013. However, over the year as a whole, it will still fall by more than 1 % before returning to clearly positive growth in 2014.

Despite the consolidation efforts, public consumption is still rising in real terms. It is even likely to gather momentum over the projection horizon, recording real year-on-year growth of almost 1 % in 2013 and 1.5 % in 2014. In that respect, it should be noted that these projections do not take account of future measures which might be taken at the time of the 2013 budget review or when the 2014 budget is drawn up. Conversely, public investment is set to fall sharply in real terms in 2013, as is quite usual for a year following the local elections.

3. Labour market

Employment generally takes some time to react to changes in economic activity. The cyclical downturn which occurred in the course of 2012 and the rather gloomy outlook for 2013 therefore have implications for the labour market projections. Despite the revival of economic growth in 2014, employment will probably continue to fall in that year, though to a lesser extent.

The reduction in the volume of labour at the time of the 2008/2009 recession had been largely cushioned by the fall in the hours worked per person, due to, *inter alia*, the anti-crisis measures which aimed to preserve a maximum number of jobs. The pre-existing temporary unemployment scheme had played a key role in that respect. After several years of crisis, many firms now have smaller financial reserves, the anti-crisis measures have come to an end, and the access conditions for the temporary unemployment scheme have become stricter⁽¹⁾; consequently, it has become harder for firms to continue labour hoarding to the same extent in the event of a new downturn in activity. Moreover, it is only a viable option in the case of a temporary weakening of activity, and is much less usual if stagnation persists.

In 2013, in a context of zero activity growth, the volume of labour is set to fall slightly. Taking account of the aforementioned factors, domestic employment is unlikely to be sustained by a reduction in average working time, and could even fall a little more sharply than the volume of labour. While the number of days of temporary unemployment is expected to continue rising, average working time should nevertheless increase slightly, partly as a result of stricter conditions governing access to certain forms of part-time time credit and because, at the start of an upturn in activity, firms generally decide, where possible, to first get their existing staff to work more hours before taking on new employees. Despite this slight increase, hours worked per person remain well below the level prevailing before the great recession.

The number of employees is projected to fall considerably during the projection period, primarily – of course – in the branches sensitive to the business cycle, but also, to a lesser extent and owing to fiscal consolidation both at the federal level and at the level of the Communities and the Regions, in general government and education. In the branches sensitive to the business cycle, job losses will mainly occur in industry.

In contrast, salaried employment in the heavily subsidised “other services”, which had been a stabilising factor during the crisis years, is likely to continue to grow in 2013 and 2014. The employment generated by the service voucher system, which subsidises part of the wage cost of domestic helpers and whose use has made a particularly significant contribution to employment in recent years, should continue to expand in both 2013 and 2014. However, the more stringent controls and recent price

(1) It was decided that employers making excessive use of the temporary unemployment scheme should pay a “responsibilisation contribution”.

TABLE 4 LABOUR SUPPLY AND DEMAND

(Data adjusted for calendar effects, annual averages, unless otherwise stated)

	2009	2010	2011	2012	2013 e	2014 e
	(percentage change)					
Real GDP	-2.8	2.4	1.9	-0.3	0.0	1.1
Volume of labour	-1.6	0.9	1.9	0.2	-0.2	0.0
Domestic employment in persons	-0.2	0.7	1.4	0.2	-0.4	-0.1
	(changes in thousands of persons)					
Domestic employment	-8.8	30.8	61.6	8.2	-17.7	-6.0
<i>p.m. Change during the year</i> ⁽¹⁾	-24.3	58.9	53.1	-8.9	-26.4	9.2
Employees	-13.3	25.0	52.0	2.2	-21.3	-9.2
of which:						
Branches sensitive to the business cycle ..	-38.1	3.4	34.5	-6.5	-28.4	-21.1
General government and education	13.8	6.7	0.8	-3.2	-3.1	-1.4
Other services	11.0	14.9	16.8	11.9	10.2	13.3
Self-employed persons	4.5	5.8	9.6	6.0	3.6	3.2
Frontier workers	1.1	0.5	-2.3	-0.4	0.0	0.0
Total employment	-7.7	31.3	59.3	7.8	-17.7	-6.0
Unemployed job-seekers	50.6	13.7	-19.8	14.5	30.2	31.8
<i>p.m. Change during the year</i> ⁽¹⁾	59.7	-10.3	-11.7	24.4	39.6	16.3
Labour force	42.9	45.0	39.5	22.3	12.5	25.8
<i>p.m. Harmonised unemployment rate</i> ⁽²⁾	8.0	8.4	7.2	7.6	8.3	8.7

Sources: EC, NAI, NEO, NBB.

(1) Difference between the fourth quarter of the year concerned and the fourth quarter of the previous year.

(2) Percentages of the labour force (15-64 years), non calendar adjusted data.

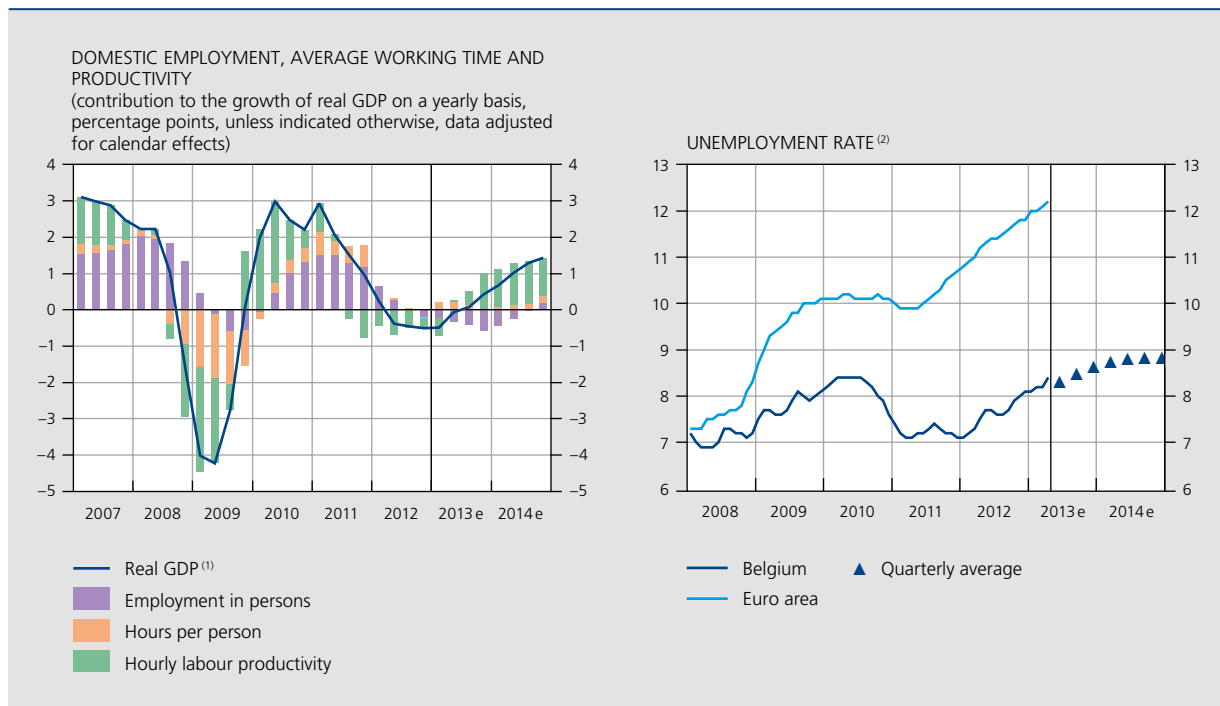
increases, together with a saturation effect, are likely to somewhat curb the pace of growth.

The decline in the number of employees should be partly offset by the rise in the number of self-employed persons, even though that increase is likely to be considerably smaller than in the past years. The reason lies not only in the persistent weakness of economic activity, but also in certain institutional factors which are now playing a lesser role, such as the transitional rules on the free movement of people, applicable to the countries which joined the EU in 2004. Those rules – abolished since 2009 – which were intended to protect the labour markets of the “old” EU Member States against a supply shock, were in fact largely circumvented by working on a self-employed basis, as that status was not covered by the rules. This measure now still applies to persons from Romania and Bulgaria, countries which joined the EU in 2007, and expires on 31 December 2013.

Owing to these developments, domestic employment is likely to record an annual average fall of around 18 000 persons in 2013 and around 6 000 persons in 2014.

The decline in employment, partly owing to the downturn in economic activity and partly to the expansion of the labour force, will lead to a further increase in unemployment in 2013 and 2014, ultimately affecting over 620 000 persons. The recently implemented unemployment and pre-pension reforms are aimed at helping unemployed persons to find a (new) job as quickly as possible and extending working life. On account of the downturn in economic activity and the lack of demand for labour, those measures are unlikely to have a significant impact at present. These are the main reasons why the unemployment rate of persons aged from 15 to 64 years is set to increase, reaching an average of 8.3 % in 2013 and 8.7 % in 2014.

CHART 5 LABOUR MARKET
(seasonally adjusted data)



Sources: EC, NAI, NBB.

(1) Percentages.

(2) Harmonised unemployment rate, as a percentage of the labour force.

4. Prices and costs

According to the current projections, consumer price inflation, measured by the HICP, is estimated at 1% in 2013, against around 1.4% in the euro area, and 1.2% in 2014. Having exceeded 2% throughout 2012 – with an average of 2.6% –, the increase in prices has remained well below that figure since January 2013.

The observed deceleration is primarily due to energy prices which, after rising by 6% in 2012, are set to fall by a comparable amount in 2013. These prices are projected to record negative year-on-year growth rates in 2013, and in 2014 too, albeit to a lesser extent.

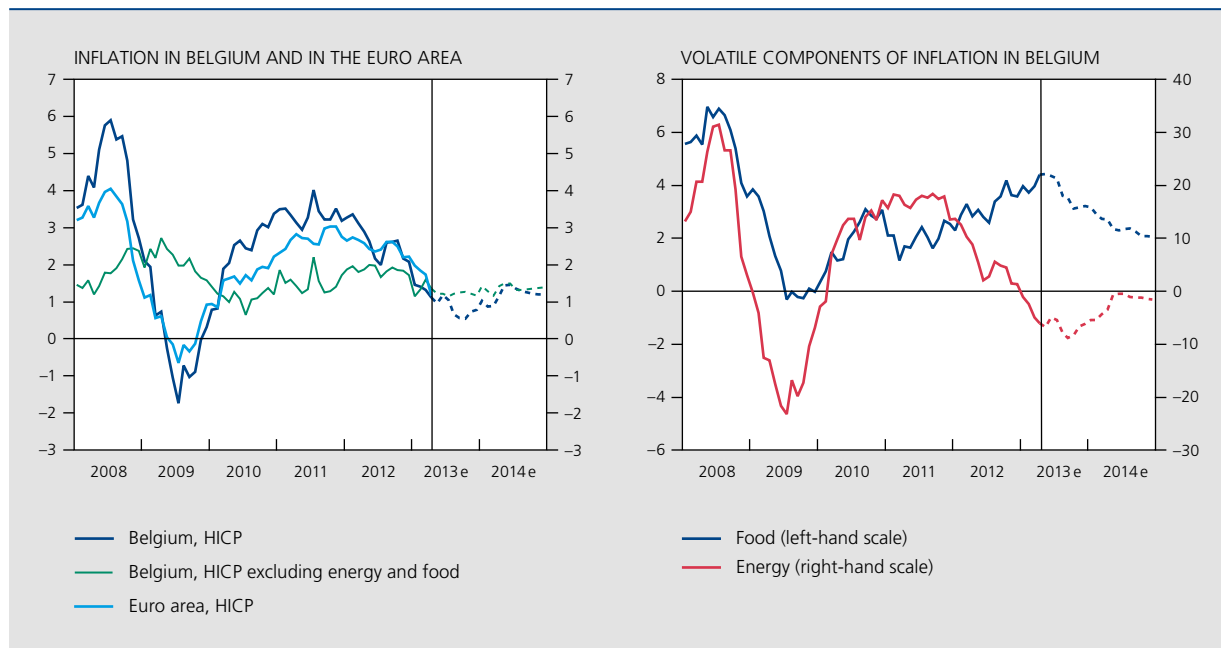
These developments are attributable partly to the prices of petroleum products on the international markets and the behaviour of the euro in relation to the dollar, and partly to developments on the gas and electricity market. Although the annual average price of a barrel of Brent remained stable between 2011 and 2012, it is likely to fall over 2013 as a whole since the current projections forecast an average of USD 105 in 2013, compared to USD 112 in 2012. At the same time, the exchange rate of

the euro against the dollar is projected to stand at 1.31, compared to 1.28 in 2012. The combination of a lower Brent price with a slightly stronger euro accentuates the fall in the oil price in euro in 2013 compared to 2012. Moreover, after the freezing of gas and electricity price indexation between April and December 2012, several suppliers announced substantial tariff cuts from January 2013 as a result of significant changes in market shares. In addition, the indexation formulas for variable-price contracts can henceforth only be based on the prices quoted on European gas and electricity markets, and may no longer refer to the oil price, though a transitional period has been granted for gas up to the end of 2014, subject to certain conditions.

In contrast to energy prices, food prices are rising faster than in 2012, curbing the deceleration in total inflation. Thus, prices of unprocessed food, which had risen by 3.4% in 2012, are expected to increase even more in 2013. Adverse supply conditions linked to bad local weather conditions for fruit and vegetables are expected to drive up prices in this category by 4.4% in 2013. Moreover, the average year-on-year price rise for processed food could reach 3.5% in 2013, against 3.1%

CHART 6 INFLATION

(HICP, percentage change compared to the corresponding period of the previous year)



Sources: EC, NBB.

in 2012. That is partly caused by the increase in world prices of food commodities in 2012, especially cereals, more specifically because of the drought in the United States, and partly to the new increases in excise duties on tobacco in 2013.

The increases in indirect taxes on services and the price rises in the communications sector in January 2012 accounted for much of the acceleration in underlying inflation in 2012, which averaged 1.9%. In 2013, the underlying trend is no longer influenced by these factors and has therefore decelerated sharply since January, helping to restrain total inflation, though to a lesser extent than

TABLE 5 PRICE AND COST INDICATORS

(percentage change compared to the previous year)

	2010	2011	2012	2013 e	2014 e
HICP	2.3	3.4	2.6	1.0	1.2
Health index	1.7	3.1	2.7	0.9	1.1
Underlying inflation ⁽¹⁾	1.1	1.5	1.9	1.3	1.4
GDP deflator	2.0	2.0	2.0	1.6	0.9
Labour costs in the private sector					
Labour costs per hour worked	0.9	2.2	3.3	1.8	0.9
of which indexation	0.5	2.7	2.8	1.6	0.9
Labour productivity ⁽²⁾	1.5	0.1	-0.8	0.0	1.1
Unit labour costs	-0.6	2.1	4.1	1.8	-0.2

Sources: EC, FPS Employment, Labour and Social Dialogue, NAI, NBB.

(1) Measured by the HICP excluding food and energy.

(2) Real value added per hour worked by employees and self-employed workers.

energy. Taking account of the gloomy economic context, the current projections forecast core inflation at an average of 1.3 % over 2013 as a whole, and 1.4 % in 2014.

After having peaked at 4.1 % in 2012, the rise in unit labour costs in the private sector is expected to subside to 1.8 % in 2013, and would even move into negative territory, at -0.2 %, in 2014, according to the adopted assumptions and in view of the projected economic climate. Although in 2012 the competitiveness of Belgian producers was still influenced by this stronger rise in labour costs that outpaced the rise in Belgium's three main trading partners, namely Germany, France and the Netherlands, the situation is likely to stabilise in 2013 and improve slightly in 2014.

In 2014, this development will benefit from the gradual recovery of labour productivity gains which had been hit by the slowdown in activity at the end of 2011, and mainly in 2012; that effect should still be noticeable in 2013. The rise in hourly labour costs is another decisive factor: in the private sector, hourly labour cost growth, which went up from 2.2 % in 2011 to 3.3 % in 2012, will drop to 1.8 % in 2013 and 0.9 % in 2014. These fluctuations largely reflect the pattern of wage indexation. Following a rise of 3.1 % in 2011 and 2.7 % in 2012, the health index – which is used as the reference for wage indexation – is projected to increase by 0.9 % in 2013 and 1.1 % in 2014. The change in the calculation of the health index (in particular due to the inclusion of the downward effect of prices discounted in the sales) is a contributory factor to this deceleration in 2013. Nonetheless, since the various joint committees do not all apply the indexation mechanisms at the same time, the automatic wage adjustment will continue to generate slightly bigger increases in 2013, even though inflation began to fall at the end of 2012. In 2014, that effect will be apparent in a significantly slower pace of wage increases. Apart from indexation, the assumption concerning the movement in hourly labour costs in the private sector in 2013 and 2014 takes account of an agreed real wage freeze, as specified in the draft interprofessional agreement for 2013-2014 imposed by the government. Other factors relating to wage-setting should have a neutral impact in 2013 and be slightly positive in 2014.

5. Public finances

5.1 Overall balance

According to the provisional data published by the NAI at the end of March 2013, the Belgian government deficit

stood at 3.9 % of GDP in 2012. In the macroeconomic context described above, the deficit should fall to 2.9 % of GDP in 2013, before increasing again to 3.3 % of GDP in 2014.

The improvement in the overall balance in 2013 is primarily due to non-recurring factors. In particular, the 2012 deficit was driven up by the federal government's capital injection in Dexia. In contrast, in 2013, temporary factors, such as the expected revenues from the fiscal regularisation, will have a beneficial effect on the overall balance. In 2014, the disappearance of these one-off factors is likely to be the principal determinant of the increase in the deficit.

Interest charges are expected to have a favourable influence on the budget balance again in 2013. Following a slight rise in 2012, they will begin to decline again in 2013 and 2014 as a percentage of GDP, mainly as a result of the steep fall in both short- and long-term interest rates.

The efforts already made by the various levels of government should also improve the overall balance.

Conversely, the economic situation is likely to have a detrimental effect on public finances in 2013, while its impact on the overall balance should be generally neutral in 2014.

According to the projections, which only take account of measures which have already been announced and are sufficiently detailed – consolidation efforts are still needed to meet the April 2013 stability programme targets. That programme anticipates a deficit of 2.5 % of GDP in 2013, then 2 % of GDP in 2014, a year for which no budget has yet been drawn up. In 2013, the difference between the Bank's projections and the stability programme target is mainly attributable to two factors. First, the macroeconomic framework is a little less favourable than expected in the budget. This is the principal factor accounting for a gap of 0.1 percentage point of GDP compared to the government's target of 2.5 % for federal finances. Second, the projections result in a slight deficit for both the Communities and the Regions and for local authorities – the latter case partly on account of the upward revision of the 2011 deficit in the NAI's government accounts – whereas the stability programme aims at a balanced budget for all these sub-sectors.

5.2 Revenue

Public revenues expressed as a percentage of GDP are projected to rise by 0.5 percentage point in 2013, before declining by 0.3 percentage point in 2014. The new

TABLE 6 GENERAL GOVERNMENT ACCOUNTS⁽¹⁾
(% of GDP)

	2010	2011	2012	2013 e	2014 e
General government					
Revenue	48.7	49.5	50.9	51.4	51.1
Fiscal and para-fiscal revenue	43.1	43.5	44.7	45.2	45.3
Other	5.5	6.0	6.2	6.1	5.8
Primary expenditure	49.1	49.9	51.3	51.1	51.3
Primary balance	-0.4	-0.4	-0.5	0.3	-0.2
Interest charges	3.4	3.3	3.5	3.2	3.1
Financing requirement (-) or capacity	-3.8	-3.7	-3.9	-2.9	-3.3
<i>p.m. Effect of non-recurring factors</i>	0.0	-0.2	-0.4	0.4	0.0
Overall balance per sub-sector					
Federal government	-3.0	-3.4	-3.4	-2.6	-2.9
Social security	0.0	0.0	-0.1	0.0	0.0
Communities and Regions	-0.7	-0.2	-0.1	-0.2	-0.3
Local authorities	0.0	-0.1	-0.3	-0.2	0.0

Sources: NAI, NBB.

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

increase in the revenue ratio in 2013 is due mainly to structural fiscal and para-fiscal measures, while the impact of temporary factors is stable, and non-fiscal and non-para-fiscal revenues are down against the previous year.

Apart from the tougher measures to combat evasion of taxes and para-fiscal levies, the principal structural measures can be divided into several main categories. Thus, the continuing harmonisation of the tax on income from movable property at 25 %, with a few exceptions, and the increased tax on capital gains and life insurance premiums are expected to generate almost 0.2 % of GDP in additional revenue originating from capital incomes. Companies are subject to a new reference rate for the calculation of notional interest, which is now equal to the average interest rate on ten-year OLOs in the third quarter – instead of the whole year – of the penultimate year preceding the year of the tax assessment. Moreover, personal income tax revenues should increase, amongst others as a result of the abolition of the deduction for part of energy-saving investments and the conversion of the tax deductions into tax cuts. Finally, indirect taxes would be boosted by the increase in excise duty on tobacco and alcohol and tightening of the rules concerning VAT on investment goods for mixed – both business and private – use.

TABLE 7 STRUCTURAL MEASURES AND FACTORS CONCERNING PUBLIC REVENUES

(in € million, unless otherwise stated;
changes compared to the previous year)

	2013 e	2014 e
Taxes	1 934	951
of which:		
Capital incomes	679	59
Percentage change in the tax deduction for risk capital	386	517
Deduction for energy-saving investment	206	136
Taxes on goods and services	385	329
Measures to prevent tax evasion and to improve collection of taxes ..	249	0
Social security contributions	-207	-124
Non-fiscal and non-para-fiscal revenues	-478	-763
Total	1 249	64
<i>p.m. Idem, in % of GDP</i>	0.3	0.0

Sources: Budget documents, NBB.

Social security contributions are set to decline slightly in 2013, as a result of the structural reductions thereof which have been approved and which are intended to improve competitiveness. However, the impact of those measures will be attenuated by exceptional revenues resulting from the current spate of redundancies, as the severance pay paid by employers is subject to tax and social security contributions.

Structural non-fiscal and non-parafiscal revenues are also diminishing to a large extent. For instance, the payments made by the financial sector in return for the assistance and guarantees provided for the sector will decline sharply in 2013.

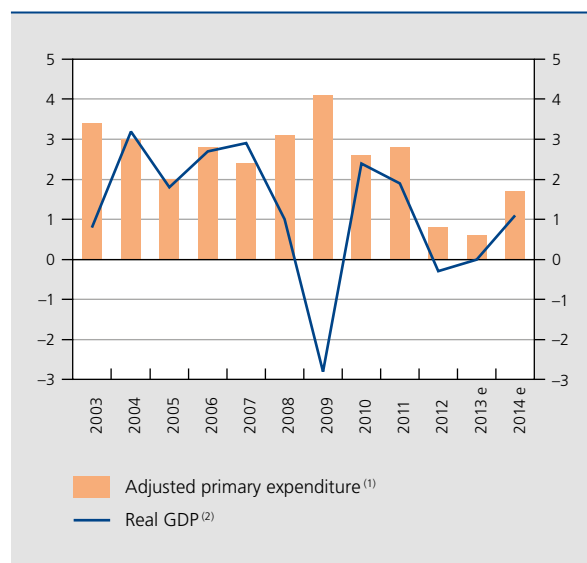
Temporary factors had given a major boost to fiscal and other revenues in 2012. In 2013, their importance in tax revenues should be more or less stable, as the revenues expected from the tax regularisation, in particular, should roughly offset last year's windfalls, namely the late payment of the nuclear levy and the early collection of the levy on life insurance reserves. In the case of non-fiscal and non-parafiscal revenues, there are some new temporary factors in 2013 – such as the repayment by bpost of earlier subsidies or the refund of excess customs duties collected by the EU – which only partly compensate for the loss of the previous year's positive factors.

The reduction in the revenue ratio in 2014 will be partly due to the evaporation of temporary factors increasing revenues in 2013. That effect is likely to be reinforced by a further decline in the financial sector's payments for guarantees, the reduction of dividends paid out by KBC, and the further cut in social security contributions. However, that should be partly offset by revenues from the sale of licences for greenhouse gas emissions and by the impact of the fall in the reference rate used to calculate notional interest, as well as by other less significant factors.

5.3 Primary expenditure

In relation to GDP, primary expenditure is projected to fall by 0.3 percentage point to 51.1 % in 2013, before creeping back up to 51.3 % in 2014. Real primary expenditure will remain stable in 2013, before a 1.1 % increase in the following year, in line with real GDP growth. The rise in real expenditure in 2013 is considerably restrained by the end of the recapitalisation of Dexia in 2012. After adjustment for the influence of non-recurring and cyclical factors plus indexation effects, growth is put at 0.6 % in 2013 and 1.7 % in 2014.

CHART 7 PRIMARY EXPENDITURE OF GENERAL GOVERNMENT AND GDP
(year-on-year % change)



Sources: NAI, NBB.

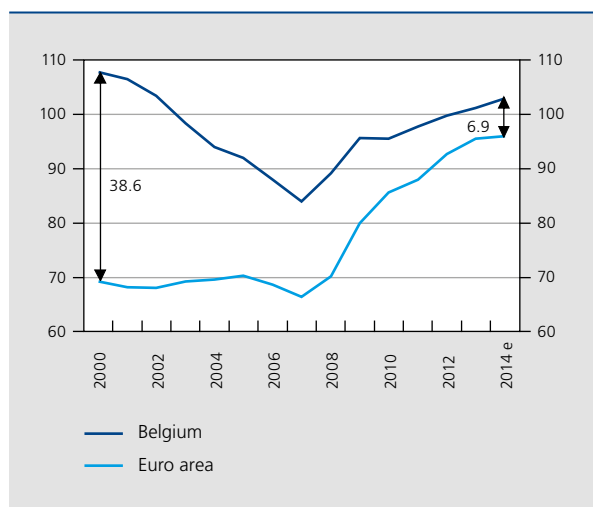
(1) Primary expenditure is deflated by the HICP and adjusted for cyclical, non-recurring and fiscally neutral factors, and for the effect of indexation. The latter is due to the difference between the actual indexation of civil service pay and social benefits and the increase of the HICP.

(2) Data adjusted for calendar effects.

The expected development of total adjusted primary expenditure in 2013 masks divergent movements within the government sub-sectors. The federal government is projected to record an increase in expenditure outstripping the trend growth of GDP. Compared to the pace of past increases, the growth of social security expenditure is expected to be moderate, particularly as a result of the health care savings, while pension expenditure will continue to significantly outpace GDP growth owing to population ageing. The Communities and Regions are projected to record very slightly negative expenditure growth. Local authority expenditure is also expected to fall in real terms, as investment is scaled down following the municipal and provincial elections.

The growth of primary expenditure in 2014 is naturally harder to assess, since the corresponding budgets have not yet been drawn up. The projections take account of the impact of the measures taken under the federal government agreement for 2012-2014, plus the structural savings specified in the initial budget and in the 2013 budget review. Those measures should lead to a slight fall in real federal government expenditure, but a larger increase in social security expenditure than in 2013. These movements should be smaller than the average growth recorded in the past; the same applies to the expenditure of the Communities, Regions and local authorities taken together.

CHART 8 CONSOLIDATED GROSS DEBT OF GENERAL GOVERNMENT
(in % of GDP)



Sources: EC, NAI, NBB.

5.4 Debt

At the end of 2012, Belgium's debt ratio stood at 99.8 % of GDP, an increase of 15.8 percentage points since 2007. According to the projections, public debt will come to 101.1 % of GDP at the end of 2013. In 2014, the debt will continue rising to 102.9 % of GDP.

The increase in the debt ratio in 2013 will be entirely attributable to endogenous factors. The primary balance will be insufficient to make up for the weak nominal growth of GDP. This year, exogenous factors are expected to have a neutral impact on the debt, with various transactions cancelling one another out. The loans granted under the EFSF and the capital injections in the ESM and the EIB are likely to contribute to an increase in the debt ratio, while the repayment by KBC and the sale of Royal Park Investments should counterbalance that upward effect.

In the April 2013 stability programme, the government announced its intention to keep the debt ratio below 100 % of GDP. It undertook to identify measures to achieve that before the end of June. Those measures have not yet been incorporated in the projections.

6. Risk factor assessment

While the Bank's forecasts in December 2012 were considerably more pessimistic than those of most other institutions, the current spring projections are entirely in line with them, as the other institutions revised their forecasts downwards at the beginning of 2013. Thus, the latest growth forecasts produced by the European Commission and the OECD for 2013-2014 tally almost perfectly with the Bank's estimates. In the February 2013 Economic Budget, the Federal Planning Bureau was still predicting slightly higher growth for this year, but in the Economic Outlook 2013-2018 published in May 2013, it assumes

TABLE 8 COMPARISON WITH ESTIMATES OF OTHER INSTITUTIONS
(year-on-year real GDP growth, in %)

Institution	Latest forecasts			Previous forecasts	
	Date of publication	2013	2014	Date of publication	2013
Federal Planning Bureau	May 2013 ⁽¹⁾	0.2	1.2	September 2012 ⁽²⁾	0.7
Belgian Prime News	April 2013	0.3	1.2	September 2012	0.6
IMF	April 2013	0.2	1.2	October 2012 ⁽³⁾	0.3
EC	May 2013	0.0	1.2	November 2012	0.7
Consensus Economics	April 2013	0.1	1.1	November 2012	0.4
OECD	May 2013	0.0	1.1	November 2012	0.5
NBB	June 2013	0.0	1.1	December 2012	0.0

Sources: Federal Planning Bureau, Belgian Prime News, IMF, EC, Consensus Economics, OECD, NBB.

(1) Economic Forecasts 2013-2018.

(2) Economic Budget.

(3) European Economic Forecast – Autumn 2012.

growth for 2014 only very slightly different from the Bank and the OECD's estimates, and identical with the EC and the IMF forecasts.

Yet this remarkably large convergence between the various macroeconomic forecasts must not divert attention from the prevailing great economic uncertainty, and, thus, from the significant risks surrounding those forecasts. In particular, the aforementioned recent deterioration in the economic indicators at the beginning of the spring implies a need for great caution in that respect.

Since Belgium has a very open economy, Belgian growth naturally depends primarily on developments in other countries. In that connection, the greatest risks seem to concern the euro area. For instance, it is quite possible that, owing to the ongoing process of deleveraging in several countries, the euro area may need more time to regain a growth rate comparable to the figures for other regions of the world. The recovery could also be hampered by reform fatigue and the accompanying recrudescence of uncertainty over the sustainability of the (private and public) debt burden in various countries, and by institutional developments in the euro area. In that respect, the implications of the recent delay in the consolidation of public finances are still uncertain. Although it could bolster

demand in certain cases in the short term, it also implies risks of compromising a swift return to robust growth in the medium term. Finally, various developments concerning competitiveness in the euro area may also entail certain risks. The steady improvement in the competitiveness of the peripheral countries hardest hit by the crisis could be achieved partly at the expense of the export growth of the core countries which take longer to implement their reforms. Moreover, there is still great uncertainty surrounding the global economic revival, for example in China.

At the purely national level, there is a risk that the current uncertainty and more difficult access to credit may depress domestic demand to a greater extent than is assumed in these projections. Against the background of falling employment, and despite the extremely low return on financial assets, precautionary savings could rise beyond the level assumed in the forecasts, driving the private savings ratio still higher. In view of the increased uncertainty over the outlook for demand and the difficulties of funding investment projects with loans, business investment and recruitment could also take longer to pick up than is currently expected. Conversely, more vigorous global growth could also have a more marked, positive impact on confidence, leading to a speedier revival of domestic demand.

Annex

PROJECTIONS FOR THE BELGIAN ECONOMY: SUMMARY OF THE MAIN RESULTS

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

	2010	2011	2012	2013 e	2014 e
Growth (calendar adjusted data)					
Real GDP	2.4	1.9	-0.3	0.0	1.1
Contributions to growth:					
Domestic demand, excluding change in inventories	1.3	1.2	-0.2	-0.2	1.2
Net exports of goods and services	0.7	-0.1	0.2	0.3	0.0
Change in inventories	0.3	0.7	-0.2	-0.1	0.0
Prices and costs					
Harmonised index of consumer prices	2.3	3.4	2.6	1.0	1.2
Health index	1.7	3.1	2.7	0.9	1.1
GDP deflator	2.0	2.0	2.0	1.6	0.9
Terms of trade	-1.6	-1.2	-0.2	0.2	0.1
Unit labour costs in the private sector	-0.6	2.1	4.1	1.8	-0.2
Hourly labour costs in the private sector	0.9	2.2	3.3	1.8	0.9
Hourly productivity in the private sector	1.5	0.1	-0.8	0.0	1.1
Labour market					
Domestic employment (average annual change in thousands of persons)					
	30.8	61.6	8.2	-17.7	-6.0
<i>p.m. Change during the year, in thousands of persons⁽¹⁾</i>	58.9	53.1	-8.9	-26.4	9.2
Total volume of labour ⁽²⁾	0.9	1.9	0.2	-0.2	0.0
Harmonised unemployment rate ⁽³⁾	8.4	7.2	7.6	8.3	8.7
Incomes					
Real disposable income of individuals	-1.2	-0.9	0.7	0.3	1.1
Savings ratio of individuals (in % of disposable income)	15.3	14.1	15.0	15.2	15.5
Public finances⁽⁴⁾					
Overall balance (in % of GDP)	-3.8	-3.7	-3.9	-2.9	-3.3
Primary balance (in % of GDP)	-0.4	-0.4	-0.5	0.3	-0.2
Public debt (in % of GDP)	95.6	97.8	99.8	101.1	102.9
Current account ((% of GDP according to the balance of payments)					
	1.9	-1.1	-1.4	-0.5	-0.3

Sources: EC, DGSEI, NAI, NBB.

(1) Difference between the fourth quarter of the year concerned and the fourth quarter of the previous year.

(2) Total hours worked in the economy.

(3) In % of the labour force (15-64 years), data not adjusted for calendar effects.

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

Structural dynamics of Belgium's foreign trade

E. Dhyne
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Introduction

The liberalisation of trade and financial transactions, the reduction in transport costs, and the progress made in information and communication technologies have led to a fundamental change in the international environment. Economies have become much more closely interconnected, with the result that international trade in goods and services has intensified. In that context, the types of goods and services traded have diversified and the list of trading partners has been extended.

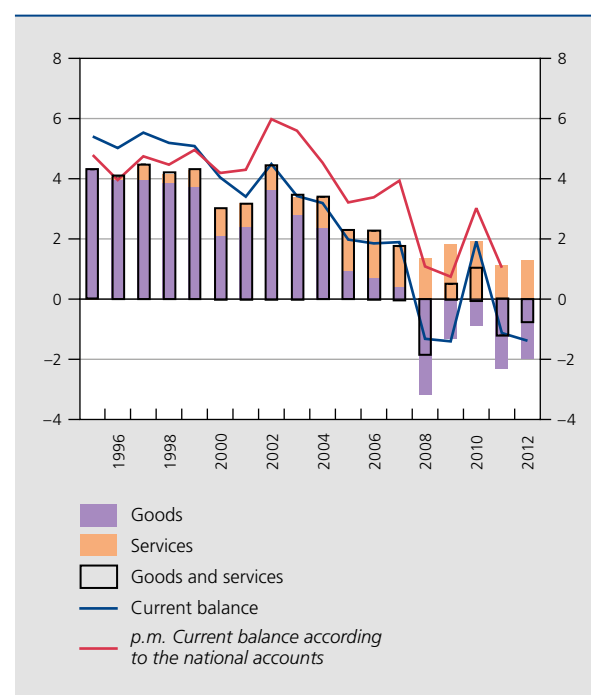
This article describes the structural dynamics of Belgian foreign trade from 1995 to 2011⁽¹⁾. The aim is twofold: to assess the structural changes of the past fifteen years and to conduct an initial analysis of the recent crisis period. The study begins with a macroeconomic approach based on examination of the aggregates traditionally used to assess the external competitiveness of an economy; after that, it examines microeconomic data which permit a more refined analysis of the dynamics at firm level.

1. Macroeconomic analysis

Since the balance on current account gives a consolidated picture of the economy, it is a relevant indicator for detecting any imbalances: a current account deficit means that a country is spending more than it produces. That may be due to domestic imbalances, such as an excessive budget deficit, excessive credit expansion, an overvalued

property market, inappropriate wage increases, etc. Imbalances of this kind become unsustainable in the long run, so they need to be corrected as quickly as possible by a policy aimed at maintaining the balance between production potential and demand from the population. Since currency devaluation is no longer available as a

CHART 1 TRADE BALANCE
(net figures, in % of GDP, according to the balance of payments)



Sources: NAI, NBB.

(1) Subject to data availability. When this article was written, the 2012 data were not generally available.

lever in a monetary union, the adjustments have to come from changes in the structural operation of the economy. Measures of that kind generally have an effect only in the medium or long term, so they need to be implemented promptly.

During the 2000s, Belgium's balance of current transactions with the rest of the world declined slowly but steadily, according to the balance of payments figures, primarily as a result of a fall in the balance of trade in goods and services. That balance declined from an average surplus of 4.3 % of GDP in the period 1995-1999 to an average deficit of 0.1 % of GDP in 2009-2012.

However, trade in goods displayed a rather different trend from trade in services. Since the value of trade in goods represents almost 80 % of Belgium's foreign trade, goods flows are the decisive factor in the fluctuations apparent in the current balance. Conversely, the balance of trade in services has been rising steadily since 1995, though that has not been enough to offset the decline in the balance of trade in goods, so that the trade balance has declined overall.

1.1 Deterioration in the goods balance

In Belgium, the decline in the goods balance is largely attributable to the rise in net imports of energy products, as movements in the balances of other types of goods roughly cancelled one another out. On the one hand, the surplus in chemicals, including pharmaceutical products, expanded between 1995 and 2012. On the other hand, there was a steep decline in the balance in machinery and transport equipment, including road vehicles, and – albeit to a lesser extent – in non-edible commodities. In the former case, the decline reflects Belgium's reduced specialisation in the car industry, while in the latter case the fall is due to increased use of imported metalliferous inputs. Finally, in the 'mineral fuels' category, the balance of foreign trade (category SITC-3), comprising oil, natural gas and electricity, deteriorated by € 15.6 billion between 1995 and 2012, causing a similar contraction in the overall goods result.

If Belgium's balance of trade in goods is compared with the better figures for Germany and the Netherlands, two significant differences emerge. First, the deficit in energy is smaller in the Netherlands than in Belgium. Second, both countries rely on exports of other types of goods to offset that negative balance in energy, particularly the export of means of transport. The Netherlands also benefits from the positive contribution to the trade balance derived from foodstuffs and – as in Belgium's case – chemicals.

In Belgium, net imports of hydrocarbons mainly concern natural gas, crude oil and petroleum products. These fuels cover the energy needs of the various sectors: household final consumption (heating, transport), support for the production of the industrial sectors (energy source), and inputs in certain industrial processes (manufacture of non-energy products in the petrochemicals sector). Natural gas is also used as a fuel for generating electricity. Processing losses occur when crude oil is refined into petroleum products.

On the basis of the energy balance it is possible to determine the quantities of gas and oil used by the various sectors and forming the basis of these imports⁽¹⁾. Thus, in 2010:

- around 51 % of gas and oil consumption concerned industrial activities:
 - 22 % was used to produce electricity, mainly from gas;
 - 12 % concerned energy consumption (use of energy – mainly gas – in production processes);
 - 18 % concerned non-energy uses (oil products used as raw materials in petrochemicals);
- 9 % was consumed by the tertiary sector, agriculture and fisheries;
- 23 % was used for transport services (impossible to distinguish between business and private transport), with international aviation accounting for 4 %;
- 16 % was used by households (mainly for heating, with gas accounting for 55 %).

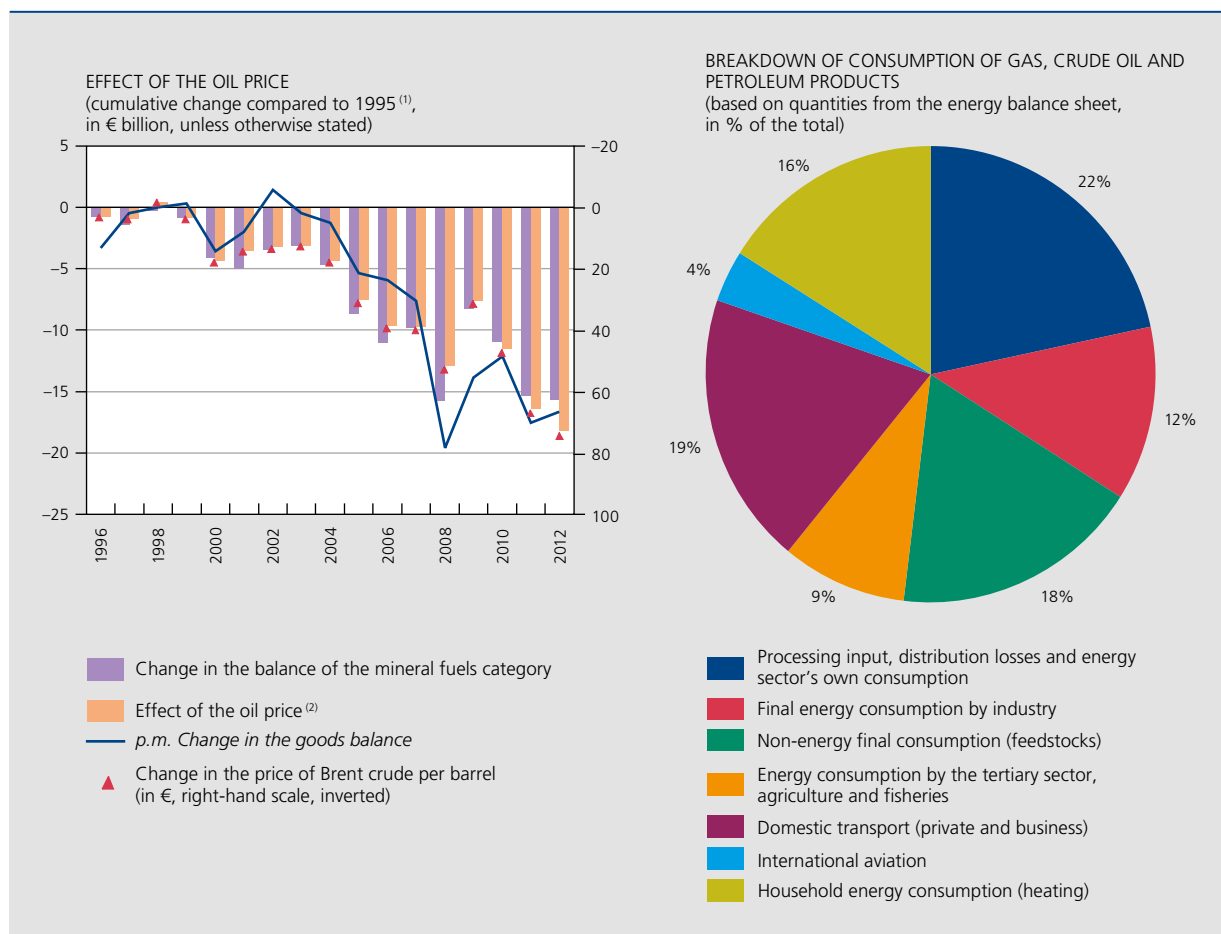
Partly as a result of the pressure of global demand on these natural resources, the relative prices of commodities have risen steeply in the past decade, especially the oil price. Evaluation of the impact of the movement in the oil price⁽²⁾ on the balance of mineral fuels and therefore on the goods balance as a whole shows that this factor is decisive in Belgium.

However, commodity prices are largely determined on the international markets. As elsewhere in Europe, those prices are therefore binding for the economic agents in Belgium; there is always the possibility that new commodity price rises could continue to exert pressure on the Belgian trade balance in the future. To alleviate that pressure and the resulting loss of income for the economy as a whole, it is necessary to improve the volume coverage ratio and limit the deterioration of the terms

(1) Primary energy supply (destined for consumption) = Production + Imports – Exports – International maritime bunkering + Change in inventories = Consumption
 Since gas and oil production is zero in Belgium, Imports – Exports – Bunkering + Change in inventories = Consumption = 43 Mtoe (million tonnes of oil equivalent).

(2) The effect of the oil price in t is calculated by a cumulative approach as follows: $\text{balance SITC}_{1995}^3 * (\text{oil price}_t / \text{oil price}_{1995}) - \text{balance SITC}_{1995}^3$.

CHART 2 NET IMPORTS OF MINERAL FUELS



Sources: IEA, NAI, NBB.

(1) Data according to the national concept.

(2) The effect of the oil price in t is calculated as follows: $\text{balance SITC-3}_{1995} * (\text{oil price}_t / \text{oil price}_{1995}) - \text{balance SITC-3}_{1995}$.

of trade. To that end, export prices need to keep in step with import prices but without detriment to the volume of exports.

This ability to adjust export prices upwards depends in particular on the type of products exported: in general, producers of highly standardised products have far less room for manoeuvre. In the case of such products, there is potential surplus supply, since it is easy to duplicate production methods. Moreover, since commodities are also used as inputs in the production of goods and services destined for export, rising commodity prices weaken Belgian producers, who also face fairly high costs in the domestic production factors. These problems are less pronounced in the case of producers of goods with a greater knowledge content, because such goods have the advantage of generally differing from those produced by competing suppliers.

There are various indicators which can be used indirectly to obtain an idea of the knowledge content of export goods. For example, on the basis of R&D expenditure and innovation rates for both processes and products or marketing, Belgium scores relatively poorly compared to Germany, the Netherlands and France, though it outperforms the average for the EU. These low innovation rates are also reflected in a smaller number of patents per million inhabitants, compared to the three neighbouring countries. Another decisive factor concerns entrepreneurship. It seems that the percentage of young or future entrepreneurs in the Belgian population is lower than in neighbouring countries and below the EU average.

1.2 Overall results for goods exports

In all, the trade balance has contracted owing to a lack of dynamism in the value of Belgian goods exports. That is also evident from the difference between the growth of the trading partners' imports and the expansion of Belgium's exports of goods, indicating a steady loss of export market shares. Although Belgium's specific geographical markets did not keep pace with the average 7.8 % per annum growth of world trade as a whole (since Belgian exporters, on average, still focus insufficiently on the fast-growing emerging markets), between 1995 and 2011 they nonetheless expanded by an average of 7.1 % a year⁽¹⁾. That growth was similar to that of the specific geographical markets for a number of European countries. However, with an average year-on-year increase of 4.8 %, Belgian exports were less vigorous, so that the loss of market share averaged 2.2 % per annum. Examination of the Belgian export figures on each of the 20 principal markets individually⁽²⁾ reveals that Belgium is losing

market share overall, except in Hong Kong, but that is the least important market.

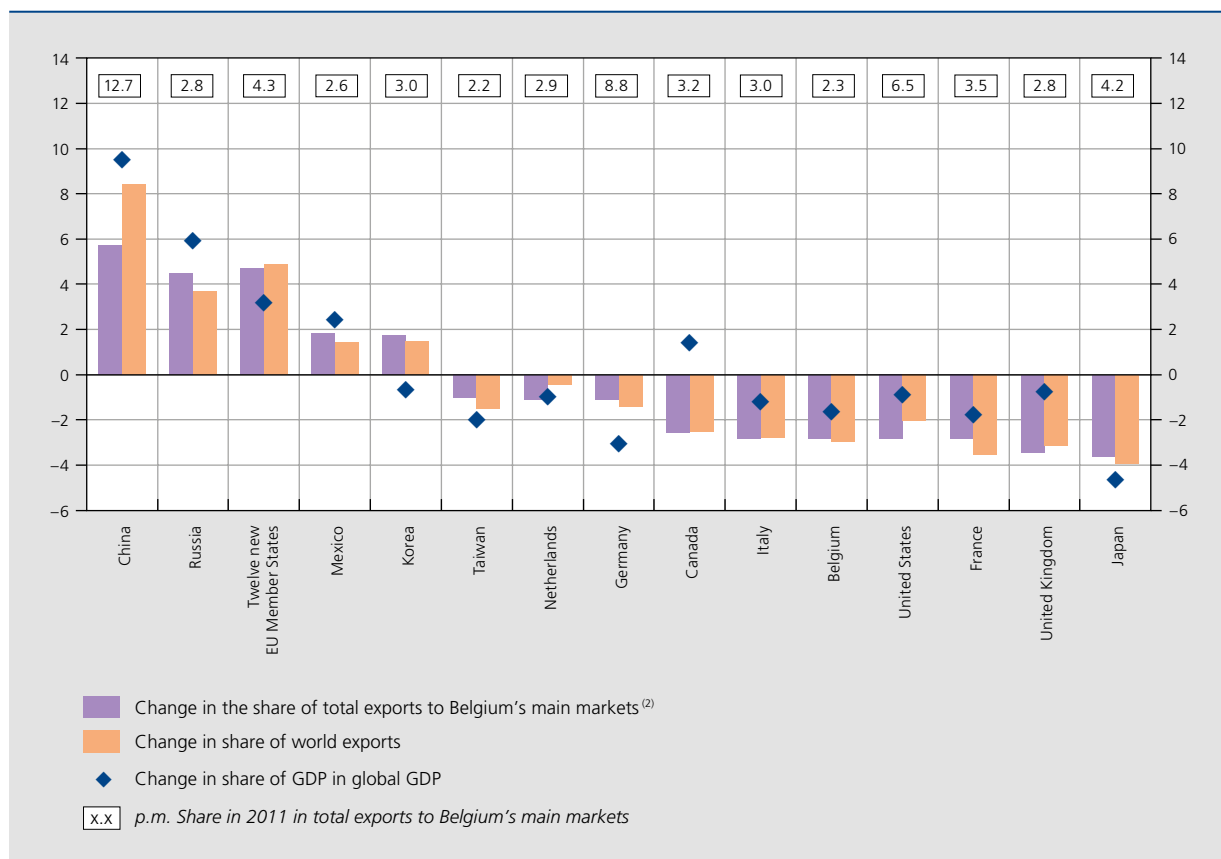
Similarly, while the average year-on-year growth of demand for Belgian exports, at 7.5 %, failed to keep pace with total world demand, it remained robust compared to that for a selection of European countries⁽³⁾. Since Belgium's geographical markets expanded by 7.1 %, Belgium's slight disadvantage has more to do with the geographical destination of its exports rather than the type of products exported. Since demand for the latter was relatively dynamic, the gap in relation to exports was wider, so that Belgium lost market shares averaging 2.6 % a year.

(1) The percentage change in the geographical markets is calculated as follows: the movement in imports in euros of ± 240 trading partners is weighted on the basis of the geographical structure of Belgian exports of goods. The markets in t are calculated according to the geographical structure in $t-1$.

(2) In order of importance: DE, FR, NL, UK, IT, US, ES, LU, IN, CH, SE, IL, PL, CN, AT, TR, JP, RU, DK and HK.

(3) The percentage change in markets by product is calculated as follows: the movement in global imports in euros of ± 260 products in the SITC nomenclature is weighted on the basis of the production structure of Belgian goods exports. The markets in t are calculated according to the product structure in $t-1$.

CHART 3 GAINS/LOSSES OF MARKET SHARES OF THE PRINCIPAL EXPORTERS
(goods⁽¹⁾, in value, annual average %, 1995-2011, unless otherwise stated)



Sources: UNCTAD, IMF, NAI.

(1) Data according to the national concept for Belgium.

(2) The 30 main markets in order of importance in Belgium's exports between 1995 and 2011.

An international comparison shows that the Netherlands and Germany have suffered smaller losses of market share on the principal markets for Belgian exporters⁽¹⁾, whereas France⁽²⁾, the United Kingdom and Japan have experienced heavier losses. Generally speaking, most economies which have long been active in international trade, including Belgium, have lost ground. Conversely, the emerging economies, and particularly China, Russia and the new EU Member States, have conquered market shares. However, these developments are in line with a more general tendency towards increasing integration of those economies in global production.

1.3 Developments concerning service exports

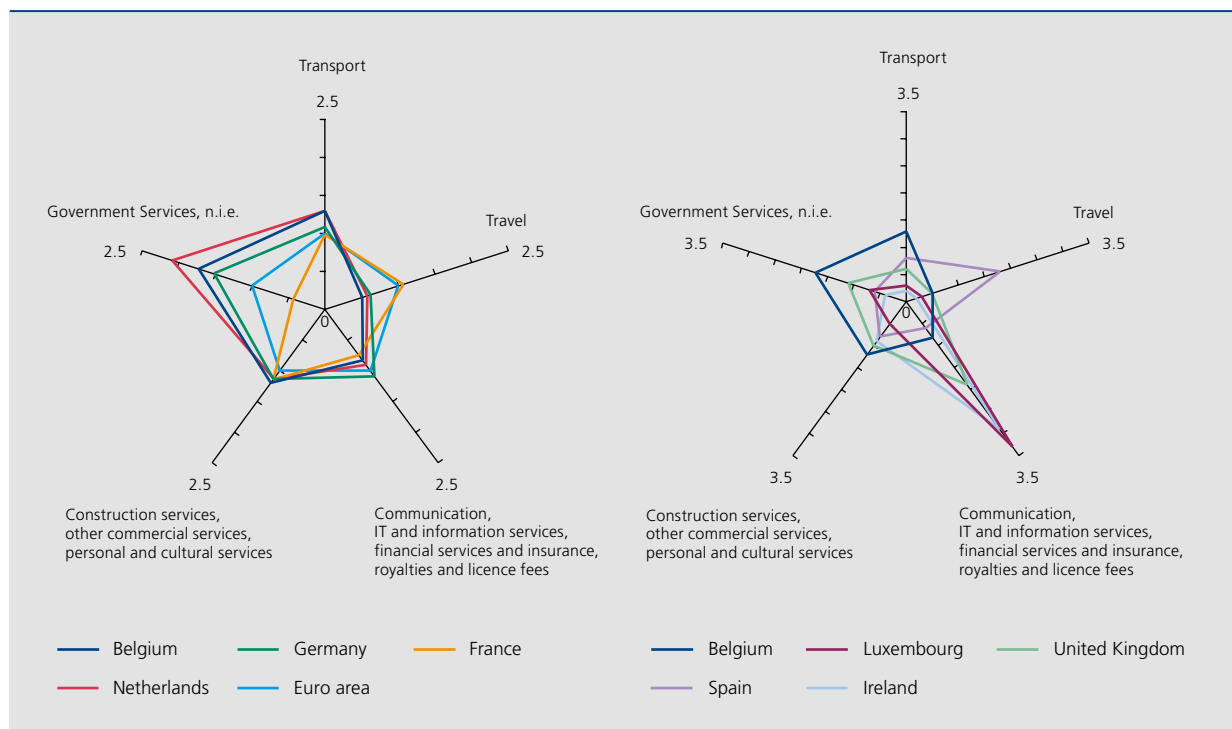
Although this movement was not enough to offset the sharp fall in net exports of goods, the balance of trade in services has risen steadily since 1995: Belgium's good performance in that respect was attributable to dynamic exports rather than weak imports. A comparison with the other euro area countries shows that Belgium has one of the highest proportions of services flows in its GDP. While

the share of Belgian goods exports in world trade declined sharply in terms of value, dropping by over a third between 1995 and 2012, the corresponding share for services remained constant at around 2.3%. During the same period, Germany's share of global service exports remained steady at around 6.5%, whereas it declined from 6.9% to 5% in France and from 3.7% to 2.5% in the Netherlands.

Belgium's central position in the European economic structure is one of the main factors underlying this good performance in regard to the export trade in services (Duprez, 2011). For one thing, Belgium can rely on its net exports of services to the international and European institutions based there⁽³⁾, and on the activities which those exports generate, particularly at the level of multinational

(1) The aforesaid 20 countries are taken into consideration here, plus PT, CZ, IE, EL, FI, BR, HU, AE, CA and NO.
 (2) It should be noted that, whereas goods transit makes up a large part of the export flows of the Netherlands and Germany (particularly via the ports of Rotterdam and Hamburg), that share seems to be small in the case of France.
 (3) It should be noted that, where the type of service provided permits, part of the services to institutions is not included in the government services category but is attributed to specific service categories so that the specialisation in that sphere is calculated a *minima* for each country.

CHART 4 SERVICE EXPORTS: REVEALED COMPARATIVE ADVANTAGES⁽¹⁾
 (average 2009-2011)



Sources: EC, NBB.

(1) The index of revealed comparative advantages compares the share of exports of a category of services in a country's total service exports with the corresponding share for a reference region, in this case the euro area. An index of more than 1 indicates specialisation in relation to the reference region: the share of exports of this category in the total is greater than in the reference region. In the case of an index of less than 1, the opposite applies.

companies. Also, this location at the heart of Europe has encouraged an intermediation role, reflected in the development of services geared to the internationalisation of trade. This has fostered the expansion of transport and logistic services, particularly as a result of the port of Antwerp's significance in flows of goods.

However, Belgium's good overall performance in services is not reflected in all categories. In particular, exports of services relating to information and communication technologies have not been particularly buoyant. Moreover, the share of services with a strong focus on innovation, such as R&D or the exploitation of patents, remains small. Yet this group of services forms a growth catalyst that could benefit the entire economy.

2. Microeconomic analysis of foreign trade

Apart from examination of aggregate trade flows, a more detailed analysis of the population of Belgian firms active on the international markets provides supplementary information about the dynamics of goods exports, particularly during the recent crisis.

Such an analysis is based on an extremely detailed information source covering all transactions by resident firms with the rest of the world per country of destination (for exports) or origin (for imports) and by type of goods. The product classification used is the HS6 classification, which divides exports into more than 5 000 categories⁽¹⁾. As in

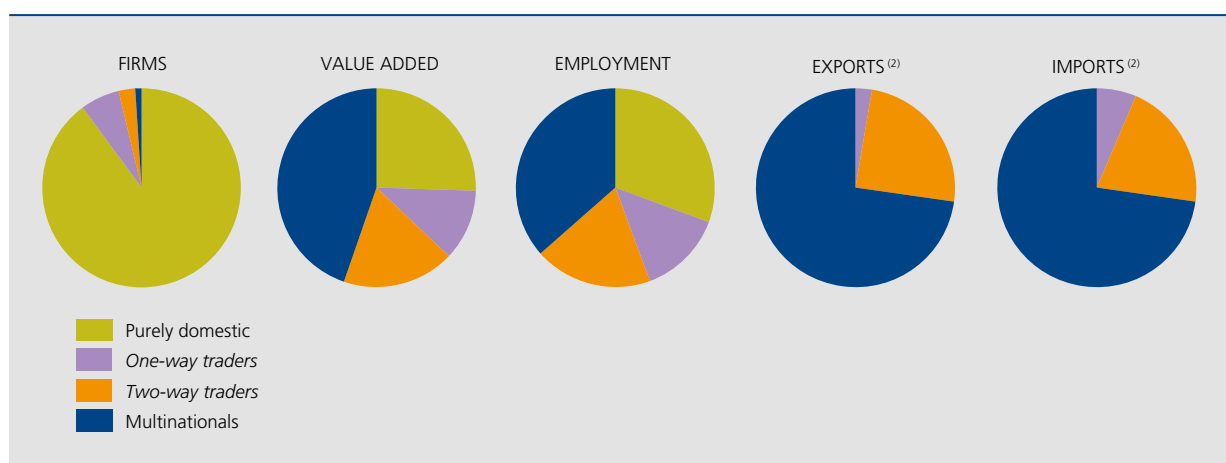
the case of the macroeconomic series presented in the previous section, the analysis only considers transactions used for the compilation of the foreign trade statistics according to the national concept, i.e. excluding transit flows and part of the quasi-transit flows. These data are obtained either from customs declarations, in the case of extra-Community trade, or from Intrastat declarations for intra-Community trade. Firms were only taken into account if their exports to the EU exceeded € 1 million at 2006 prices or if their extra-Community exports represented at least € 100 000 at 2006 prices⁽²⁾.

Following a clean-up of the transaction data and application of the criteria defined above, the data taken into account cover between 82 and 92 % of Belgium's exports and imports of goods according to the national concept.

(1) For example, car exports and imports are divided into four HS6 categories according to the car engine size. The full list of HS6 products can be downloaded via the website http://ec.europa.eu/eurostat/ramon/index.cfm?TargetUrl=DSP_PUB_WELC.

(2) In regard to import flows, the criteria adopted are respectively € 700 000 and € 50 000 at 2010 prices for all intra- and extra-Community imports. The criteria applied to intra-Community trade are based on the European rules setting the Intrastat declaration threshold. In the case of exports, the criterion of € 1 million has applied since 2006. For imports, the criterion of € 700 000 was introduced in 2010. In order to allow for changing prices, the declaration criterion is adjusted for the movement in the GDP deflator. For Extrastat, a minimum was also applied in order to eliminate occasional small exporters/importers.

CHART 5 STRUCTURE OF THE BELGIAN ECONOMY IN 2005⁽¹⁾



Sources: individual data from the Central Balance Sheet Office combined with the foreign trade data, balance of payments data, and data from the survey of foreign direct investment.

(1) Private sector, excluding banks and insurance companies.

(2) Trade in goods and services.

2.1 Belgian firms in a globalised context

2.1.1 The situation in 2005

By way of introduction to the analysis of the pattern of goods exports, it is first necessary to define the degree to which Belgian firms are integrated into the world economy. For that purpose, in addition to the data on exports and imports of goods, the individual data on service exports and imports are used, plus the individual data from the survey on inward and outward direct investment. Those data indicate all international service transactions for every Belgian firm, and all incoming and outgoing foreign direct investment involving a Belgian firm (as the subsidiary of a foreign group or as the parent company of a multinational). All that information was then combined with the data from the Central Balance Sheet Office to determine the degree to which Belgian firms are integrated into the world economy.

In 2005, the latest year for which exhaustive data on international trade in services are available, of the 309 550 firms (excluding banks and insurance companies) which filed their annual accounts at the Central Balance Sheet Office, 90 % were active only on the Belgian market and did not form part of an international group, 6 % were one-way traders, i.e. either importers or exporters, and 3 % were two-way traders, i.e. engaged in both export and import; finally, 1 % of them formed part of an international group, either as a subsidiary of a foreign firm or as the parent company of a Belgian multinational.

The number of multinationals active in Belgium is therefore relatively small (2 979 in 2005). However, they account for almost 45 % of value added and 36 % of jobs in the private sector, excluding banks and insurance companies. Multinationals are particularly important for Belgian foreign trade since they account on their own for almost 73 % of exports and imports of goods and services.

These figures illustrate the importance of firms' external competitiveness for the Belgian economy. Though barely 10 % of them are active on the international markets, they generate 75 % of value added and 70 % of jobs in the private sector.

As shown by numerous studies, both international (e.g. Bernard and Jensen, 1995, 1999, 2004, Aw and Hwang, 1995, Bernard, Eaton, Jensen and Kortum, 2003, Bernard, Jensen and Schott, 2005, for the United States, Eaton, Kortum and Kramarz, 2004, for France, and Mayer and Ottaviano, 2007, for an analysis at European level) and Belgian (Muûls and Pisu, 2007, Dhyne *et al.*, 2010),

multinationals and, more generally, exporters and importers are large companies with higher productivity and better long-term growth prospects than purely domestic firms.

On the basis of the accounting data obtained from the Central Balance Sheet Office, almost a third of the multinationals active in 2005 had invested in intangible fixed assets in 2004 or 2005, e.g. in R&D or patents and licences, goodwill or trademarks and similar rights, whereas barely 7 % of purely domestic firms made such investments during the same period.

2.1.2 Belgian exporters – Developments over the period 1995-2011

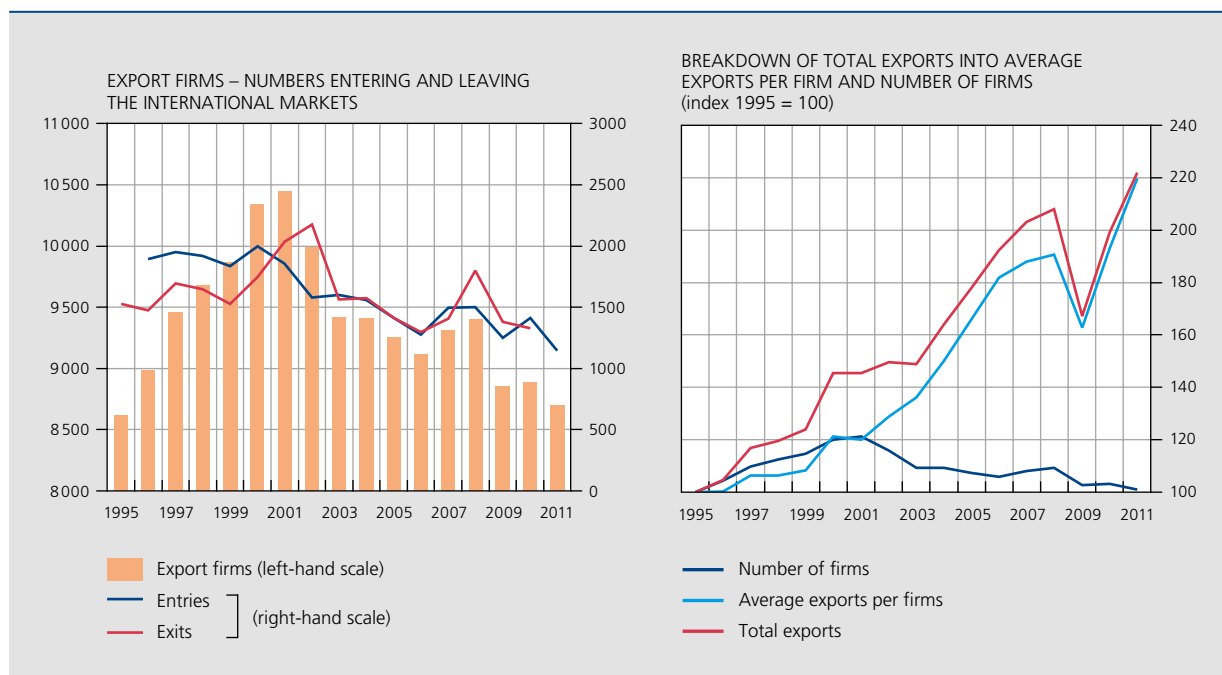
To supplement the static view presented above, an analysis of the change in the number of firms exporting goods during the period 1995-2011 reveals a steady decline in the number of exporters from 2002 onwards. While the number of exporters increased from 8 618 to 10 449 in 1995-2001, only 8 703 companies were still exporting goods in 2011. However, this fall in the number of export firms did not lead to a reduction in total Belgian exports, mainly because there was a considerable increase in the average amount of exports per exporter.

However, these net changes mask wide year-on-year variations in firms entering and leaving the international markets. In fact, from 1995 to 2011, an average of 1 635 firms entered the international markets each year, while 1 604 made their exit. New exporters evidently struggle to maintain their export business for longer than one year. After one year only 60 % of new exporters on the international markets are still exporting, and after five years that is down to 23 %.

Exporters naturally sell various products on different markets. In 1995, the average export firm exported 14.2 HS6 products. During the period considered, the number of export products increased, reaching 22.1 in 2011. In that year, 12 % of exporters dealt in only one HS6 product, and the average exporter served 14 different destinations (or four more than in 1995). Only 10 % of exporters traded with just one country, and 4 % exported a single product to a single destination.

However, Belgian exports are exceptionally highly concentrated, with a small number of very large exporters. That high concentration has actually increased in the past 16 years. In 2011, the last percentile of the distribution of exporters (87 firms) accounted for 50 % of Belgian export goods (i.e. € 105 billion), while 80 % of exporters represented only 10 % of the total.

CHART 6 NUMBER OF EXPORT FIRMS AND AMOUNTS EXPORTED



Source: individual foreign trade data, national concept.

2.2 Breakdown of export growth

While the aggregate analysis of the pattern of Belgian exports does offer an indication of the general dynamics of Belgium’s foreign trade, it cannot identify the reasons behind that pattern; the only way to do that is to analyse export flows at microeconomic level.

From a microeconomic angle, the aggregate growth of exports in $t-1$ and in t can be divided into two main components.

The first component concerns the fact that some active international trade relations in $t-1$ are no longer active in t , whereas others are newly created in t . This process whereby international transactions come and go is called the extensive margin of export growth. Exports increase (decrease) because the volume of the new transactions is greater (smaller) than the volume of the lost transactions.

The second component concerns the growth of international trade maintained between $t-1$ and t . It is called the intensive margin of export growth.

The size of the extensive margin depends on the definition of an “international transaction” used in the analysis. For this study, an international transaction is the export by a Belgian firm of a particular HS6 product to a specific

country of destination. The extensive margin of export growth may therefore have three sources: a “firm” component, a “country” component and a “product” component.

The “firm” component represents the extensive margin attributable to firms entering or leaving the international markets viewed as a whole. The “country” component represents the extensive margin attributable to existing exporters entering or leaving a country of destination in t . Finally, the “product” component corresponds to the extensive margin associated with the introduction or withdrawal of certain HS6 products by existing export firms in their various countries of destination.

In 1995, the data bank presented above recorded 366 563 individual transactions (firm x country x product). In 2011, the figure was 876 414. The rise in the number of transactions over the past 16 years demonstrates the significance of the extensive margin in the pattern of foreign trade. During that period, 89% of exporters changed their portfolio of countries of destination each year, and 90% changed their product portfolio. Only 3% of export firms rely solely on the intensive margin in order to expand on the international markets.

In order to measure the contribution of the various export growth components, the definition of export growth

between two periods is the one proposed by Davis and Haltiwanger (1992). It can be used to calculate a growth figure relating to the transactions created/destroyed. The figure is calculated by this formula :

$$\dot{X}_{it} = 2 \frac{X_{it} - X_{it-1}}{X_{it} + X_{it-1}}$$

where X_{it} represents the amount of transaction i recorded for year t and \dot{X}_{it} is the growth of that transaction between t and $t-1$.⁽¹⁾

The aggregate growth is obtained by

$$\dot{X}_t = \sum_{i=1}^N \frac{X_{it} + X_{it-1}}{X_t + X_{t-1}} \dot{X}_{it}$$

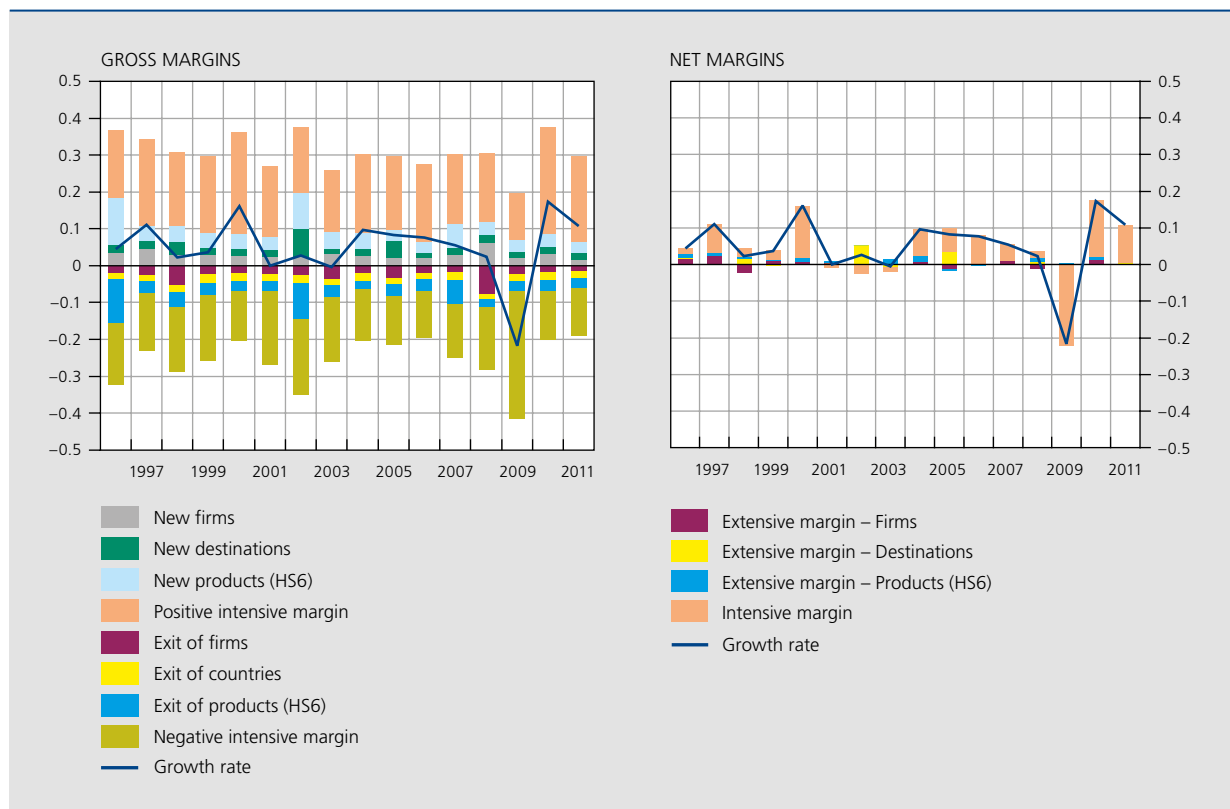
where X_t represents the total export amount for year t and \dot{X}_t is the export growth between t and $t-1$.

(1) According to this definition, the creation of a new transaction leads to a growth rate of +2, while that would be a growth rate of +∞ according to the conventional definition. If a transaction disappears, then according to this definition that would result in a growth rate of -2, compared to -1 according to the conventional definition.

If the various individual contributions to export growth are divided between the various extensive and intensive margins defined above, we observe that the net contribution of the various components of the extensive margin is fairly small, except in 2002 and 2005 when the “country” component seems to have made a major contribution to aggregate growth. Since these two substantial contributions by the “country” component are connected with exceptional events concerning a very small number of firms, they are not significant in macroeconomic terms and should therefore be regarded as purely idiosyncratic. Except in 2002 and 2005, Belgian export growth was thus due largely to the intensive component of growth, particularly since 2000. In fact, the net growth of the volume of transactions taking place accounts for 80 to 95 % of aggregate growth.

This growth breakdown also shows that the principal impact of the international trade crisis in 2009 was a reduction in amounts exported to existing markets, rather than total cessation of trade relations (see Behrens *et al.*, 2010). Since most trade relations were maintained, Belgian exporters were poised to take rapid advantage of the global demand revival in 2010. A similar growth

CHART 7 BREAKDOWN OF ANNUAL EXPORT GROWTH – EXTENSIVE AND INTENSIVE MARGINS



Source: individual foreign trade data, national concept.

profile is observed for imports by Belgian firms. That growth also originated mainly in the intensive margin.

A more detailed breakdown of the intensive margin into “intensive margin due to transactions created in the past three years” and “intensive margin due to other transactions” shows that it is mainly the recently created trade relations that contribute to intensive growth. In particular, it is notable that the pattern of the intensive margin in 2009 has a totally different structure from that in 2010. The reduction in trade flows in 2009 was attributable mainly to the “old” transactions (created before 2006), while – as stated above – half of the increase in 2010 resulted from the expansion of the trade relations created between 2007 and 2009.

The relatively small contribution of the extensive margin to export growth masks major changes in the structure of Belgian exports. As stated earlier, almost all export firms change their country and product portfolio every year. These major changes are reflected in the gross contributions of the extensive and intensive margins to growth. For instance, the extremely small net contribution of the extensive “product” margin in fact conceals large positive and negative contributions (due respectively to the introduction of new products on existing markets and the exit of products from existing markets). That indicates that Belgian exporters are adapting to international

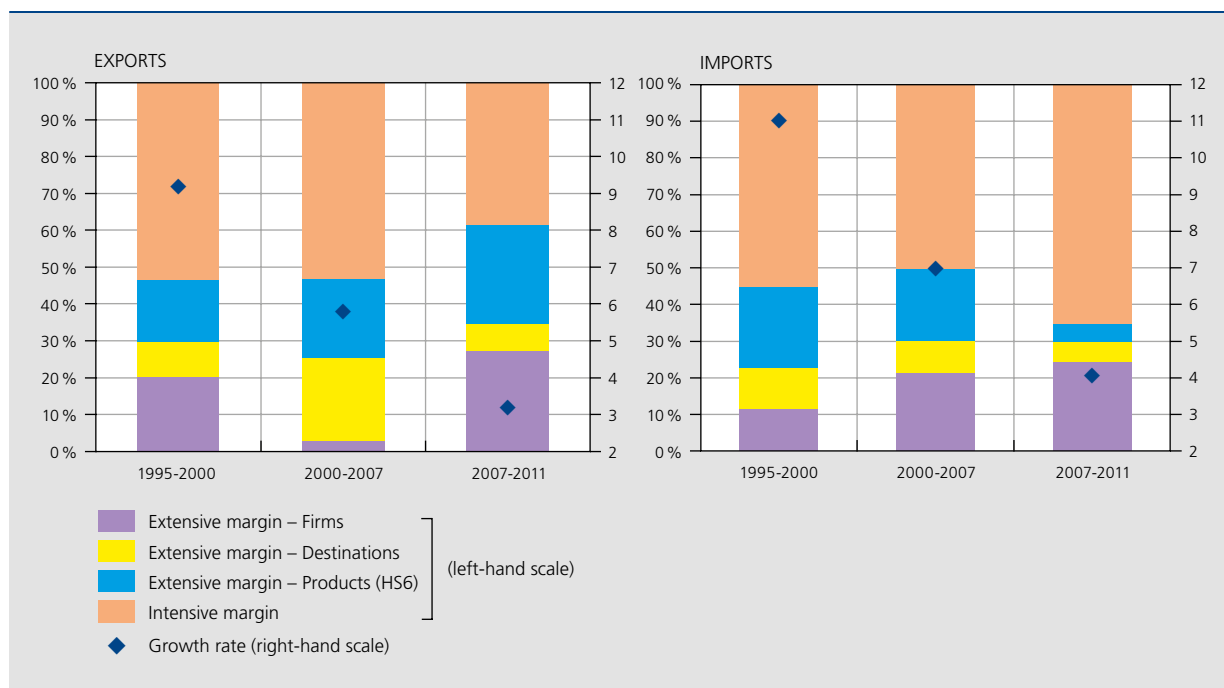
competition by regularly adjusting their product portfolio on the various markets where they operate. The gross contributions of the extensive “firm” margin likewise reflect the large changes in the composition of the population of export firms.

Analysis of export growth in the longer term also shows wide fluctuations in the relative size of the contribution of the extensive margins to growth of Belgian exports. An analysis of the contribution of the various growth margins over longer periods (1995-2000, 2000-2007 and 2007-2011) shows a considerable increase in the relative contribution of the extensive margins.

While the “country” component generally plays a fairly minor role in aggregate export growth (less than 10% of cumulative growth over the periods 1995-2000 and 2007-2011), the other two extensive components appear to be a major source of long-term export growth. During the three sub-periods analysed, the various components of the extensive margin accounted for 47-61% of aggregate growth.

As already stated, the total number of exporters increased in 1995-2000 (with an additional 1 723 export firms), so that the extensive margin “firms” contributed 20% to the cumulative growth of exports. During the second sub-period, the contribution of the extensive “firm” margin

CHART 8 BREAKDOWN OF LONG-TERM EXPORT AND IMPORT GROWTH: EXTENSIVE AND INTENSIVE MARGINS



Source: individual foreign trade data, national concept.

remained slightly positive, against the backdrop of a declining number of exporters (in this period, a net loss of 1 031 export firms was recorded). During the recent period, the extensive “firm” margin again made a substantial contribution (27 % of cumulative growth), albeit in a context of relatively weak total growth in the export volume compared to the other two sub-periods, which puts the importance of this contribution in a slightly different perspective.

One major difference in relation to the breakdown of year-on-year growth is the key role of the extensive “product” margin. In the first two periods, this component accounted for roughly 20 % of the cumulative growth. During the recent crisis period, it made a particularly substantial contribution, in excess of 27 %.

Admittedly, this larger contribution by the extensive margin during the crisis (60 % of the growth if all the extensive margins are considered) came against the background of weak cumulative growth, with the intensive margins featuring highly adverse movements which reduced the cumulative growth contribution of the intensive margin. However, this breakdown of import growth shows that the contribution of the extensive margins during the first two sub-periods was comparable with that of exports, but that the situation in the crisis period was very different, while the context of the growth was very similar to that of exports. Between 2007 and 2011 imports, unlike exports, expanded mainly as a result of the intensive margin.

The breakdown of long-term export growth during 2007-2011 therefore suggests that Belgian exporters

made radical changes to their product portfolio on the markets where they were active during the crisis. It should be noted that this larger contribution from the “product” margin is not purely down to a smaller number of firms. Between 2007 and 2011, existing firms on existing markets conducted roughly 300 000 new transactions (a product exported by one firm to one country of destination), and at the same time just over 200 000 transactions ceased. This major change in the product portfolio mainly concerned chemicals, electrical equipment and machinery. The overall picture appears to suggest that Belgian firms are repositioning themselves as exporters of high or medium-high technology products to emerging markets (Eastern Europe, China and India).

Conclusions

The analysis of both macro- and microeconomic data on Belgian foreign trade shows that the structure of Belgian exports has undergone major changes. Those structural changes have been significant factors of external growth for Belgian firms, which need to focus on high technology niche segments in order to maintain or increase their foreign market share.

The process of Belgian economic transformation is reflected in the key role that the extensive margin has played since 1995 in long-term export growth. That process actually seems to have persisted in recent times. As stated above, in the past five years Belgian export growth has been linked mainly to diversification of the product portfolio of Belgian exporters.

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Business Demography

F. Verduyn

Introduction

This article analyses the demographic evolution of Belgian companies in the period from 2001 to 2012. In the same way as, when considering the demography of a population, changes to the size and composition of a population are examined using the figures for births and deaths and migration processes, this article focuses on changes in the population of companies as a result of start-ups, bankruptcies, dissolutions and liquidations. The article deals exclusively with the dynamics of the company population and, therefore, does not address the relationship between changes in the company population and the employment situation and/or added value.

The analysis only deals with those companies which, due to their legal form, are obliged to file annual accounts with the Central Balance Sheet Office. These are Belgian companies in which the liability of shareholders or partners is limited to their investment. This gives a clear picture of the development of both SMEs and large companies without the impact of the self-employed. The results of this study thus differ from the figures published monthly by Graydon and the Federal Public Service (FPS) Economy, SMEs, Self-Employed and Energy. The Graydon figures are based on a population in which every company performs a commercial activity and thus includes both legal entities and single-person businesses. The FPS Economy, for its part, considers companies that are liable for VAT, which include both one-man businesses and legal entities that perform an activity that is subject to VAT legislation.

Any comparison of the results therefore calls for a degree of caution, not only due to the use of a different population, but also because of the difference in sources. The bankruptcy figures in this study originate from the Belgian Crossroads Bank for Enterprises (CBE) and are based on

the number of bankruptcies published in the Belgian Official Gazette. The bankruptcy figures published by the FPS Economy or by Graydon relate to the opening of bankruptcy proceedings pronounced by the commercial courts.

The above bodies receive their information directly from the courts and do not wait for publication of the figures in the Official Gazette. The fact that a bankruptcy is not always pronounced and published in the same month can lead to variations.

This article firstly considers the trends in the total number of start-ups, bankruptcies, dissolutions and liquidations between 2001 and 2012. For the purpose of recording the actual trend, these data are compared with the total number of active companies. This makes it possible to gain an impression of the business dynamics and the phase of development of the economy in a particular period. It also provides an overview of the net number of start-ups and bankruptcies and the consequences of the economic cycle for demographic developments.

As a next step, the start-ups, bankruptcies, dissolutions and liquidations are analysed on a geographical basis in order to chart the process of economic development and dynamics in a certain area. This is done at regional, provincial and district levels. The primary intention here is to identify the geographical areas in which the business dynamics are concentrated and to establish whether significant shifts have occurred over the past ten years.

Lastly, the article considers whether the year of start-up has an effect on the average survival rate of companies. A geographical and sector-based analysis should make it possible to work out whether the survival rate is higher in certain geographical areas or industries than in others,

and an age-related check explores whether companies of a certain age are more likely to go bankrupt than younger or older companies.

1. Methodology

1.1 Source

The business demography for the period 2001-2012 is analysed on the basis of the Crossroads Bank for Enterprises (CBE), which is managed by the FPS Economy. All public information from this database is archived at the National Bank of Belgium (NBB) in a separate database by the Central Balance Sheet Office (CBSO). The Crossroads Bank is a unique source of basic data on natural persons and legal entities⁽¹⁾ carrying out an economic activity in Belgium.

Apart from these basic data, the database also contains information on the date when a company started trading and also wound up, if this is the case. The closing-down date is linked to information regarding the reason for closing-down and enables a distinction to be made between companies leaving the database because they have actually ceased trading (due to liquidation or bankruptcy, for instance) and those leaving the database because of changes to their ownership structure (due, for example, to a merger, acquisition or demerger).

The CBE also offers a summary of the company's business activities. Since there is currently no uniform application of activity codes at federal government level, these codes are classified according to the administration that created them. For the allocation of the activity code, this article uses the same sequence of administrative sources as that used for drawing up the national accounts⁽²⁾.

1.2 Method

As stated above, this demographic analysis includes only companies that, by virtue of their legal form, are obliged to file annual accounts with the Central Balance Sheet Office. Some of these legal forms, however, do not concern companies in the private sector and relate instead to companies in the non-profit sector or government bodies. Since these legal forms are not companies in the real sense of the word and they could cause statistical anomalies, they are excluded. This concerns non-profit organisations, associations of co-owners, European Economic Interest Groupings in various forms and partnerships governed by public law.

Legal entities with financial reporting obligations are divided into branches of activity for the analysis of certain demographic developments. The activity classification is determined by the main activity of the registered office and is expressed by the NACE code. The companies are divided into a number of groups on the basis of the industry classification drawn up by the National Accounts Institute for the SUT tables⁽³⁾ (2008 classification).

Some companies in the Crossroads Bank for Enterprises only have an activity code for their branches and not for the registered office. Given the large number of companies involved, a decision was made to use the activity code of the branch as the main activity of the registered office for the purpose of this analysis provided all the branches conduct the same activity. If this is not the case, the company is added to the "unknown activity" group.

For the geographical breakdown of the business demography by Region, province or district, the address of the registered office is used as it appears in the Crossroads Bank for Enterprises. However, the economic activity does not always take place at the address of the registered office. Many large companies have their registered office at one location and their production facilities may be spread across the entire country. This distortion will apply less in the case of small firms, whose production facility is usually at the same location as the registered office. This should be taken into account in the interpretation of the geographical spread of the data, and a degree of caution is needed here as well.

1.3 Start-ups

The chart for the number of new companies is based on their start dates. This raises the question of whether the actual start date or the administrative start date should be used. A company registering in the Crossroads Bank in December because it intends to commence operation the following January can be included in the statistics in either December or January. The Social and Economic Council of Flanders⁽⁴⁾ recommends that figures on start-ups should be based on direct registration of the coming into existence of a company. For companies with a filing obligation, the date of start-up is the date of initial registration in the

(1) A legal entity is not necessarily a company; it may also be a not-for-profit organisation, an association of co-owners or a government service.

(2) For the activity code, the national accounts use the following sequence of administrative sources: National Social Security Office (NSSO), Provincial and Local Government Authorities (PLA), the Federal Public Service – Finance (VAT), the Registries (*Griffies*), the business advice and registration centres (*Ondernemingsloketten/Guichets d'entreprise or business counters*), the Crossroads Bank for Enterprises, and the FPS Finance for corporation tax.

(3) Abbreviation for Supply and Use Tables.

(4) The Social and Economic Council of Flanders (2009) Recommendation on sources for start-up companies (business demography). Overview and evaluation of sources for start-up companies in Flanders and Belgium, Brussels.

Crossroads Bank for Enterprises. This, in principle, is the date on which the articles of association are submitted to the commercial court registry.

1.4 Bankruptcies

The bankruptcy figures in this article originate from the Crossroads Bank for Enterprises and are based on the number of bankruptcies published in the Belgian Official Gazette. On the date of publication of the bankruptcy notice, the legal status of the company in question is changed in the Crossroads Bank for Enterprises to “opening of bankruptcy proceedings”⁽¹⁾. The bankruptcy figures published by the FPS Economy⁽²⁾ or Graydon⁽³⁾ relate to the number of bankruptcies pronounced by the commercial courts. The fact that a bankruptcy is not always pronounced and published in the same month can lead to variations.

1.5 Departures

In order to determine the size of the “departures” population, all bankruptcies (“opening of bankruptcy proceedings”) and deletions are lumped together. Deletion refers to the dissolution, liquidation or cessation of a company with a filing obligation. Exits from the population due to mergers, absorptions and demergers of companies are not counted as cessations.

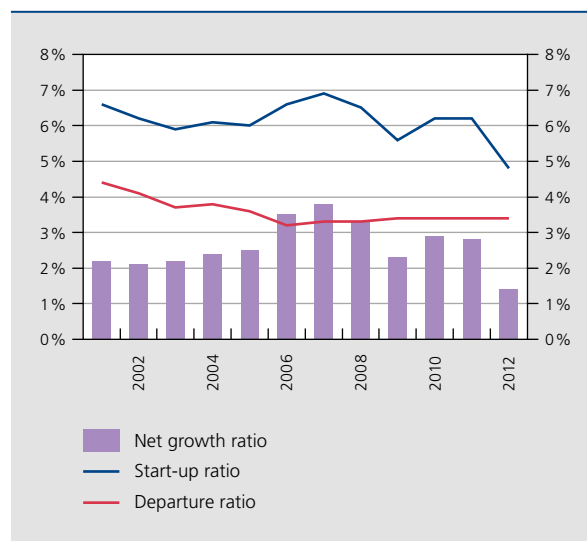
2. Effect of the economic cycle on demographic developments

2.1 Business dynamics

Chart 1 shows the trend for the start-up, departure and net growth ratios from 2001 to the end of 2012. The start-up ratio is the ratio of the number of start-ups to the number of companies operating during the previous year. The departure ratio is the ratio of the number of deletions and “opening of bankruptcy proceedings” cases to the number of companies operating during the previous year. The difference between these two indicators is the net growth ratio.

The start-up ratio of companies is seen as one of the key indicators of economic growth. The start-up of companies enhances competition, since all firms are forced to operate more efficiently as a result of the newcomers, which also thus encourage innovation and contribute to increased productivity.

CHART 1 NET GROWTH RATIO FROM 2001 TO 2012



Source: CBE.

The ratios show the actual trend for start-ups and departures, which is different from the balance of the net number of start-ups and departures. The fact that the number of companies operating between 2001 and 2012 increased each year means that the number of bankruptcies rose each year as well. In order to assess the increase in the number of bankruptcies objectively, it is therefore necessary to compare the balance of the net number of start-ups and departures with the number of active companies.

The ratios, moreover, give an impression of the business dynamics and the phase of development of the economy. A high start-up and departure ratio indicates a large number of young companies and, therefore, a young and growing economy. So, the combination of high start-up and departure ratios should not necessarily be seen as negative. This is shown in the chart for the years 2001 and 2003. In 2001, very high start-up and departure ratios were registered, at 6.6% and 4.4% respectively. These two values were lower in 2003, at 5.9% and 3.7% respectively. However, the net growth ratio in both years was 2.2%. Continuous changes in the business population as a result of new company start-ups and the departure of older firms led to rising productivity and innovation and, thus, to economic growth.

(1) “Opening of bankruptcy proceedings” is a legal status indicated in the Crossroads Bank for Enterprises by the code 50.

(2) The Federal Public Service Economy, SMEs, Self-Employed and Energy (2009), Panorama of the Belgian Economy – 2008, Brussels.

(3) Graydon publishes a monthly press release with figures on Belgian bankruptcies.

A positive net growth ratio was registered in Belgium for the entire 2001-2012 period. The lowest value for this ratio was in 2012 (1.4%). This was mainly due to the sharp decline in the start-up ratio from 6.2% in 2011 to 4.8% in 2012. There was also a significant year-on-year decline in the net growth ratio in 2009. The weaker economy in both years clearly affected the net growth ratio.

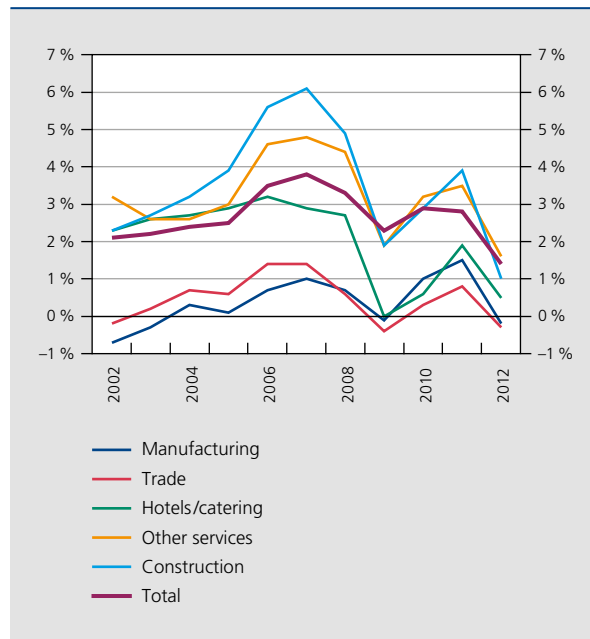
The highest level for the net growth ratio was 3.8% in 2007. This was due to the peak in economic activity that was reflected in an increase of the start-up ratio from 6.6% in 2006 to 6.9% in 2007, the year in which the highest chart was therefore achieved for the period under review. Although the number of start-ups was higher in 2011 (26 960 companies) than in 2007 (26 442 companies), the start-up ratio, at 6.2%, remained below the level seen in 2007. This can be explained by a 14.2% rise in the number of active companies.

2.2 Net growth ratio per branch of activity

The breakdown of the net growth ratio among the five largest branches of activity shows that the ratios of the manufacturing industry and of trade fall well short of the total net growth ratio (see Chart 2). The number of departures in these branches actually exceeded the number of start-ups in 2002, 2003, 2009 and 2012, leading to a negative net growth ratio. Until the end of 2005, the ratio in accommodation and food service activities was well above the level of the branches combined ("Total" in the figure). This peaked in early 2006, and the net growth ratio in this sector then fell sharply. This was entirely due to the decline in the start-up ratio from 8.4% in 2008 to 5.8% in 2009. This meant that the number of start-ups was actually the same as the number of departures, thus producing a net growth ratio of zero. There has subsequently been a return to growth, though the net growth ratio of accommodation and food service activities has remained well below the collective level since then.

For most years in the period under review, the net growth ratio in construction and in the services sector exceeded the total. In 2009 and 2012, two years of economic contraction, the effect of the economic cycle on the net growth ratios in construction, services and accommodation and food service activities was much stronger than in the other branches. The ratios fell by between 2.5 and 3 percentage points, compared to a decline of less than 1 percentage point in manufacturing and trade in 2009 and less than 1.5 percentage points in 2012. The crisis clearly had a more serious effect on the net growth ratio in 2012 than it did in 2009. In both years, the decline in the net growth ratio was entirely due to the start-up ratio.

CHART 2 NET GROWTH RATIO PER SECTOR FROM 2001 TO 2012



Source: CBE.

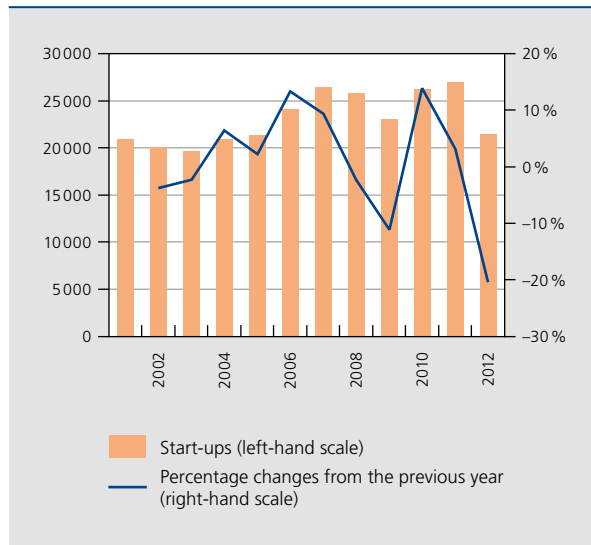
2.3 Trend for start-ups

The figures for start-ups present a different (and rather more complex) picture than the start-up ratio (see Chart 3). Although start-ups fluctuated in accordance with the economic cycle and related expectations, the number of start-ups increased by an average of 2.6% year on year between 2001 and 2011. In terms of start-ups, 2011 was the year during the period surveyed that had the highest number of start-ups (26 960). In 2012, the number of start-ups fell by 20.4% compared to the preceding year and thus returned to the level seen in 2005. Bringing average year-on-year growth for the period from 2001 to the end of 2012 to only 0.2%, this significant fall was stronger than that seen at the beginning of the crisis and was perhaps one of the consequences of a continuous flow of bleak reports, which negatively affected the economic outlook.

2.4 Trend for bankruptcies

From 2001 to 2004, registered bankruptcies increased each year without interruption, before peaking at 5 865 in 2004 (see Chart 4). From 2005 until the end of 2007, this trend reversed to some extent; after that, there were again very strong rises of 10.2% in 2008 and 10.9%

CHART 3 TREND FOR THE TOTAL NUMBER OF START-UPS
(percentage change year on year)



Source : CBE.

in 2009. However, it turned out that the bankruptcy peak had not yet been reached for the 2001-2012 period, with an absolute high of 7 554 companies declared bankrupt by the courts being registered in 2012.

The outbreak of the financial crisis during the summer of 2008 had an immediate effect on the number of registered bankruptcies. The increase is clearly expressed in the statistics for the last three quarters of 2008, each of which is a record in comparison to the figures for the corresponding period in previous years. During the first quarter of 2008, slightly fewer companies were actually declared bankrupt by the courts (1 411) than in the same quarter of 2007 (1 417). In the second, third and fourth quarters of 2008, the number of bankruptcies shot up by 10.4 %, 22.3 % and 11.2 % respectively, compared to the same periods in the previous year. And, as the problems in the financial system developed into a crisis in the real economy, more and more companies folded during the years that followed.

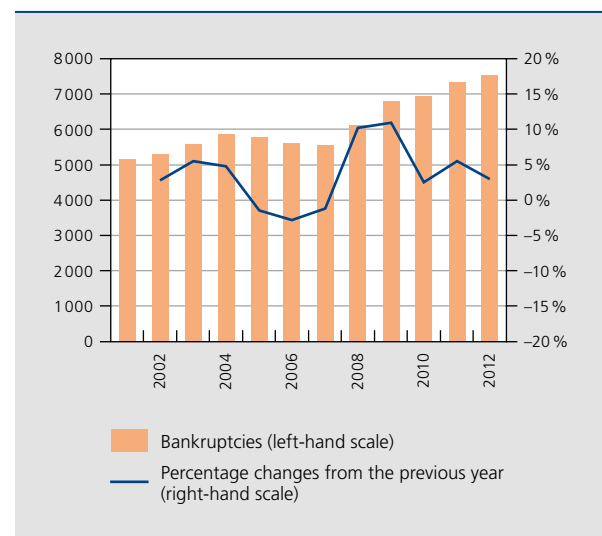
2.5 Start-ups, bankruptcies and the economy

The start-up of companies is obviously especially dependent on the state of the economy (see Chart 5). As a result of the economic downturn, the number of start-ups fell sharply in 2009 and 2012 by 11.1 % and 20.4 % respectively. Slower growth in gross domestic product was evidently immediately reflected in a decline

in the number of start-ups. The number of start-ups fell by 2.3 % in 2008, even though the economy was still showing slight economic growth of 1 %, which was less than the 2.8 % posted in the year before. The economy contracted by 2.7 % in 2009, which clearly had a disproportionate effect on the number of start-ups. The sharp fall in the number of start-ups in 2012 was striking, since gross domestic product growth was less negative in that year than it was in 2009 (-0.2 %). As stated earlier, this evidently supports the proposition that the economic outlook can also have a strong impact on entrepreneurial activity.

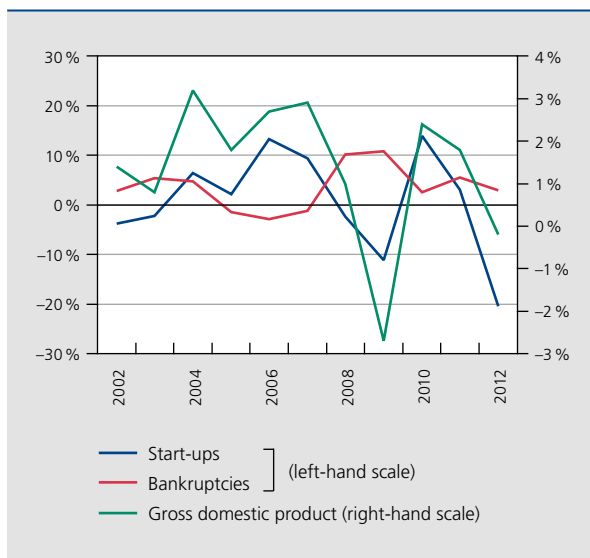
As expected, the economic cycle also affects the trend for bankruptcies, albeit slightly less markedly than it affects the trend for start-ups. The only year that is an exception to this is 2005, since economic growth in that year slowed in comparison to the preceding year. The year-on-year percentage change in gross domestic product by volume was 3.2 % in 2004 and only 1.8 % in 2005. Nevertheless, bankruptcies were down by 1.5 % compared to 2004. In the other years, the pattern of bankruptcies reflected the trend in GDP. Growth in production slowed by 1 % in 2008, and the number of firms going into liquidation soared by 10.2 %. There was also a sharp increase in the number of bankruptcies in 2009, a year of recession (up by 10.9 %). An identical trend was registered in 2012, although the rise in the number of firms going bust was less marked than in 2009 (3 %).

CHART 4 TREND FOR THE TOTAL NUMBER OF BANKRUPTCIES
(percentage change year on year)



Source : CBE.

CHART 5 TREND FOR THE TOTAL NUMBER OF START-UPS, BANKRUPTCIES AND GROSS DOMESTIC PRODUCT
(percentage changes year on year)



Sources: CBE, NBB.

3. Geographical demography: not a black-and-white picture

3.1 Demographic developments per region

3.1.1 Start-ups, bankruptcies and departures

An analysis of the demographic developments at regional level for the years 2001, 2011 and 2012 shows a degree of mutual variation (see table 1). With regard to active companies, there were no notable movements between the three Regions. The largest number of active companies were located in Flanders, with 191 211 companies in 2001 and 267 704 companies in 2012. In relation to the Belgian total, Flanders' share was 60% in both 2001 and 2012. In Wallonia, the number of active companies rose from 72 169 in 2001 to 105 562 in 2012. In relation to the total number of Belgian companies, this represented only a slight increase from 22.7% to 23.7%. In the Brussels-Capital Region, the number of companies increased from 54 623 in 2001 to 72 061 in 2012, reducing Brussels' share from 17.2% to 16.3%.

In the crisis year of 2012, the number of start-ups fell sharply compared to the previous year in all three Regions, but the greatest fall was in Flanders, where the number of start-ups was down by 23%. The declines in the

Brussels-Capital Region and Wallonia were 14.7% and 19.2% respectively. A comparison between the number of start-ups in 2001 and 2012 shows that start-ups in the Brussels-Capital Region and Wallonia increased over this period by 14.8% and 8.8% respectively. In Flanders, the level of the number of start-ups was 3.6% lower than in 2001, as a result of the economic crisis.

Aside from the start-ups, the number of bankruptcies also rose sharply. A comparison of the number of bankruptcies in 2001 and 2012 shows that the increase was much more marked in the Brussels-Capital Region (73.3%) than it was in Flanders (39.2%) and Wallonia (37.8%). It is, however, notable that the number of bankruptcies in both the Brussels-Capital Region and Wallonia fell in 2012 compared to the previous year, by 5.4% and 2.2% respectively. Only in Flanders was there an increase in the number of firms going out of business in 2012 compared to 2011, with a rise of 11.1%. The trend for both start-ups and bankruptcies confirms that Flanders has been harder hit by the current crisis.

3.1.2 Net growth ratio

The net growth ratio – the difference between start-ups and departures in relation to the number of active companies – casts a different light on the demographic developments in each region than the analysis of the numbers (see Chart 6). In 2001, the difference between start-ups and departures was greatest in Flanders at 4 153 companies, followed by Wallonia with 1 843 companies and the Brussels-Capital Region with 708 companies. The ratio of these net figures to the number of active companies during the preceding year, shows, however, that the highest net growth ratio occurred in Wallonia (2.6%), followed by Flanders (2.2%) and the Brussels-Capital Region (1.3%).

The greatest increase in the net numbers in 2012 was still found in Flanders (3 227 companies), followed by Wallonia (1 616 companies) and the Brussels-Capital Region (1 385 companies). Studying the net growth ratio, the picture was different again. Flanders had the lowest net growth ratio since 2001, at 1.2%, which shows the serious impact of the economic crisis in this Region. While the net growth ratio in Wallonia, at 1.5%, was slightly higher than the level seen in Flanders, this was also the lowest value over the entire 2001-2012 period. The Brussels-Capital Region recorded a net growth ratio of 2% in 2012. This value was higher than the growth in the period 2001-2004. The lowest net growth ratio for the Brussels-Capital Region was 1.1% in 2003. Flanders and Wallonia fared much better in that year, managing 2.3% and 2.5% respectively.

TABLE 1 START-UPS, BANKRUPTCIES AND DEPARTURES PER REGION IN 2001, 2011 AND 2012

Region	Active companies	Start-ups	Bankruptcies	Departures
Brussels				
Units				
2001	54 623	3 831	1 121	3 123
2011	71 213	5 145	2 053	3 129
2012	72 061	4 399	1 943	2 954
In %				
Δ2011/2001	30.4	34.3	83.1	0.2
Δ2012/2011	1.2	-14.7	-5.4	-5.5
Δ2012/2001	31.9	14.8	73.3	-5.4
Flanders				
Units				
2001	191 211	12 099	2 658	7 946
2011	262 845	15 154	3 331	8 219
2012	267 704	11 668	3 700	8 441
In %				
Δ2011/2001	37.5	25.3	25.3	3.4
Δ2012/2011	1.8	-23	11.1	2.7
Δ2012/2001	40.0	-3.6	39.2	6.2
Wallonia				
Units				
2001	72 169	4 939	1 380	3 096
2011	103 302	6 650	1 944	3 687
2012	105 562	5 373	1 902	3 757
In %				
Δ2011/2001	43.1	34.6	40.9	19.1
Δ2012/2011	2.2	-19.2	-2.2	1.9
Δ2012/2001	46.3	8.8	37.8	21.4

Source: CBE.

Over the whole 2001-2012 period, the three regions registered the highest net growth ratios in 2006, 2007 and 2008. In 2006, the net growth ratio in Flanders (3.8%) was higher than the Belgian ratio (3.5%). In 2007, the net growth ratio of 4.4% in the Brussels-Capital Region was much higher than the level for Belgium as a whole (3.8%). The financial crisis in 2009 brought an end to high net growth ratios in the three Regions. It is notable that Flanders, Wallonia and Brussels all posted the same net growth ratio in 2009 (2.2%), while in 2012 Flanders posted a net growth ratio of 1.2%, which was much lower than the two other Regions.

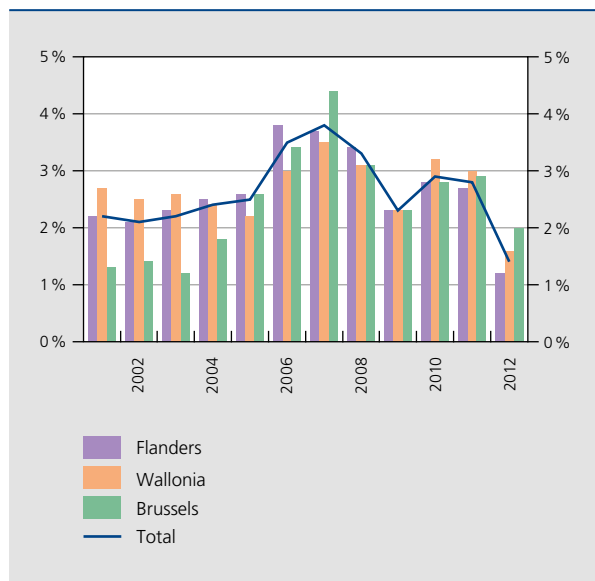
3.2 Demographic developments per province and capital region

3.2.1 Start-ups

In 2001, the province of Antwerp led the way in terms of start-ups (4 151 new companies), followed by the Brussels-Capital Region with 3 831 start-ups (see table 2). Antwerp was also the province with the highest number of start-ups in 2006, but the 13.6% growth achieved here in comparison to 2001 was lower than in the Brussels-Capital Region (17.9%). An analysis by branch of activity shows that this difference in the period before the crisis was mainly attributable to the largest industry in both sub-regions, namely wholesale and retail⁽¹⁾, in which the number of start-ups in Antwerp remained unchanged,

(1) The "wholesale and retail trade; repair of motor vehicles and motorcycles" branch is referred to in the text as "wholesale and retail"

CHART 6 NET GROWTH RATIO PER REGION FROM 2001 TO 2012



Source : CBE.

while there was an increase of 10.7 % in Brussels. Start-ups also rose faster here than in Antwerp in other sectors, such as real estate activities and the transport and storage branch, where the number of start-ups in Antwerp fell by 3.9 % and 3.5 % respectively, and increased in Brussels by 28.7 % and 62.5 % respectively. And, finally, there is

the accommodation and food service activities, in which Brussels registered a much stronger increase of 58.2 % compared to Antwerp's 16.3 %.

In 2011, the number of start-ups in the province of Antwerp stagnated at the level seen in 2006, while the Brussels-Capital Region, where the number of start-ups continued to rise, posted the highest number of start-ups with 5 145 new companies being created. As with the period 2001-2006, this was once again attributable to the largest industry group in both sub-regions, namely wholesale and retail, in which start-ups in Antwerp in 2011 were down by 10.1 % compared to 2006, while Brussels managed an increase of 10.3 %. Furthermore, start-ups in transport and storage and human health care declined in Antwerp, while they increased in Brussels. The stagnation in the province of Antwerp was all the more notable as, apart from the province of Luxembourg, the number of start-ups rose in all the other provinces between 2006 and 2011.

The strongest growth in relation to new companies in the first half of the decade was achieved in the province of Limburg. This growth was mainly concentrated in construction, wholesale and retail, and legal and accountancy services. In the second half, Walloon Brabant, Liège and Namur saw strong increases in the number of start-ups. In Walloon Brabant, this was attributable to legal and accountancy services, as well as construction. In Liège, the industries responsible were construction and human

TABLE 2 START-UPS PER PROVINCE (2001-2012) AND CAPITAL REGION

Province	Units				In %		
	2001	2006	2011	2012	Δ2006/2001	Δ2011/2006	Δ2012/2011
Brussels	3 831	4 518	5 145	4 399	17.9	13.9	-14.5
Antwerp	4 151	4 714	4 744	3 759	13.6	0.6	-20.8
Limburg	1 546	1 895	2 126	1 584	22.6	12.2	-25.5
East Flanders	2 431	2 899	3 281	2 479	19.3	13.2	-24.4
Flemish Brabant	1 888	2 190	2 336	1 861	16.0	6.7	-20.3
West Flanders	2 083	2 322	2 667	1 985	11.5	14.9	-25.6
Hainaut	1 682	1 869	2 092	1 724	11.1	11.9	-17.6
Liège	1 422	1 581	1 938	1 619	11.2	22.6	-16.5
Luxembourg	303	348	343	296	14.9	-1.4	-13.7
Namur	610	731	887	723	19.8	21.3	-18.5
Walloon Brabant	922	1 103	1 390	1 011	19.6	26.0	-27.3

Source : CBE.

health care, and in Namur the rise occurred in the same industries as in Limburg.

The number of start-ups fell sharply in all provinces in 2012 compared to 2011. However, some sub-regions were clearly less affected by the current crisis than others. The Brussels-Capital Region was the most immune, with a decline of “only” 14.5%. A sector-based analysis shows that the decline remained limited to “real estate activities” and “financial and insurance activities”. The provinces of West Flanders, Limburg and East Flanders saw the largest drop in start-ups. In these three provinces, the number of start-ups was approximately 25% below the level in 2011. In West and East Flanders, more or less all the industry groups were affected. In Limburg, the impact was felt most in financial activities and construction.

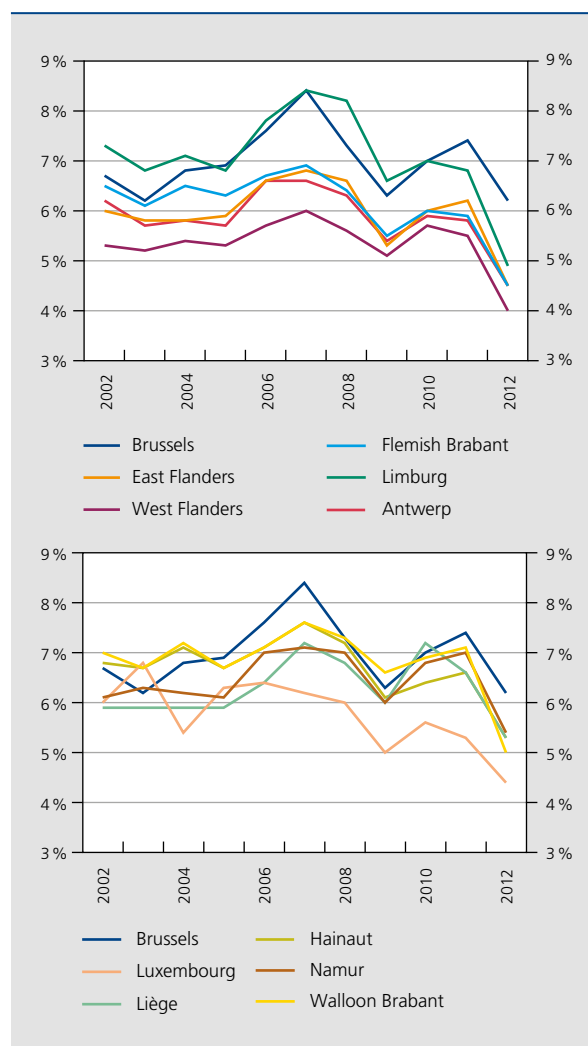
3.2.2 Start-up ratio

The start-up ratio per province shows a different trend than that of the number of start-ups (see Chart 7). For instance, the province of Antwerp certainly did not outperform the rest in terms of start-ups in the 2001-2012 period. The start-up ratio each year was lower than the average for all provinces. Over the whole period, Antwerp only managed to beat the provinces of West and East Flanders, Liège and Luxembourg.

Between 2002 and 2004, the highest start-up ratio was registered in the provinces of Limburg, Walloon Brabant and Hainaut. These three provinces were caught up by the Brussels-Capital Region in 2005, with a start-up ratio of 6.9%. Between 2005 and 2008, the start-up ratio in the Brussels-Capital Region and the province of Limburg increased much more strongly than in the other provinces. Limburg and Brussels posted average start-up ratios of 7.8% and 7.6% respectively, during this period, and thus performed significantly better than the average start-up ratio of 6.8%. After 2009, the economic crisis clearly had a heavier impact on the start-up ratio in Limburg than in the Brussels-Capital Region. From then onwards, the start-up ratio in Limburg fell away sharply and stood at only 4.5% in 2012.

It is notable that the province of West Flanders had a low start-up ratio throughout the 2001-2012 period. Only between 2009 and 2011 did it fare slightly better than the province of Luxembourg, but its start-up ratio of 4% in 2012 was once again the lowest level of all the provinces in 2012. Over the whole period, West Flanders had the lowest average start-up ratio (5.4%). The provinces with the highest average start-up ratio were Limburg (7.1%), Brussels (7%), Namur (6.8%) and Hainaut (6.7%).

CHART 7 START-UP RATIO PER PROVINCE AND CAPITAL REGION



Source: CBE.

3.2.3 Bankruptcies

The province of Antwerp also takes first place in terms of bankruptcies. There were 1 156 petitions for bankruptcy in 2001; this was followed by the Brussels-Capital Region with 1 121 petitions (see Table 3). In fact, 44.1% of all bankruptcies were concentrated in these two provinces. In the succeeding years, the number of bankruptcies increased far faster in Brussels than in Antwerp. While the ratio in these two sub-regions was more or less the same in 2001, in 2011 the number of bankruptcies in Brussels was 28% of the total, while in Antwerp it was 18.3%. The strong rise in Brussels mainly concerned construction, administrative and support services, transport and storage, and accommodation and food service activities. In addition, the number

TABLE 3 BANKRUPTCIES PER PROVINCE (2001-2012) AND CAPITAL REGION

Province	Units				In %		
	2001	2006	2011	2012	Δ 2006/2001	Δ 2011/2006	Δ 2012/2011
Brussels	1 121	1 407	2 053	1 943	25.5	45.9	-5.4
Antwerp	1 156	1 162	1 340	1 493	0.5	15.3	11.4
Limburg	274	329	523	519	20.1	59.0	-0.8
East Flanders	460	493	617	750	7.2	25.2	21.6
Flemish Brabant	377	352	402	451	-6.6	14.2	12.2
West Flanders	391	398	449	487	1.8	12.8	8.5
Hainaut	443	466	748	674	5.2	60.5	-9.9
Liège	495	513	564	613	3.6	9.9	8.7
Luxembourg	78	70	104	86	-10.3	48.6	-17.3
Namur	161	224	247	215	39.1	10.3	-13.0
Walloon Brabant	203	199	281	314	-2.0	41.2	11.7

Source: CBE.

of bankruptcies in wholesale and retail trade increased, while in Antwerp it declined.

Despite the economic crisis, the number of bankruptcies in Brussels fell in 2012. The main sectors accounting for fewer bankruptcies in 2012 than in 2011 were construction as well as wholesale and retail trade. In Antwerp, the number of bankruptcies increased by 11.4% compared to 2011, mainly in construction as well as wholesale and retail trade.

Between 2001 and 2006, the number of bankruptcies rose sharply, especially in the provinces of Namur (39.1%) and Limburg (20.1%), in both cases in construction as well as transport and storage. The increase cannot be explained directly by the fact that a large number of start-ups took place during the same period in these two provinces, since the provinces of East Flanders and Walloon Brabant also saw marked increases in start-ups but without a proportionate rise in bankruptcies.

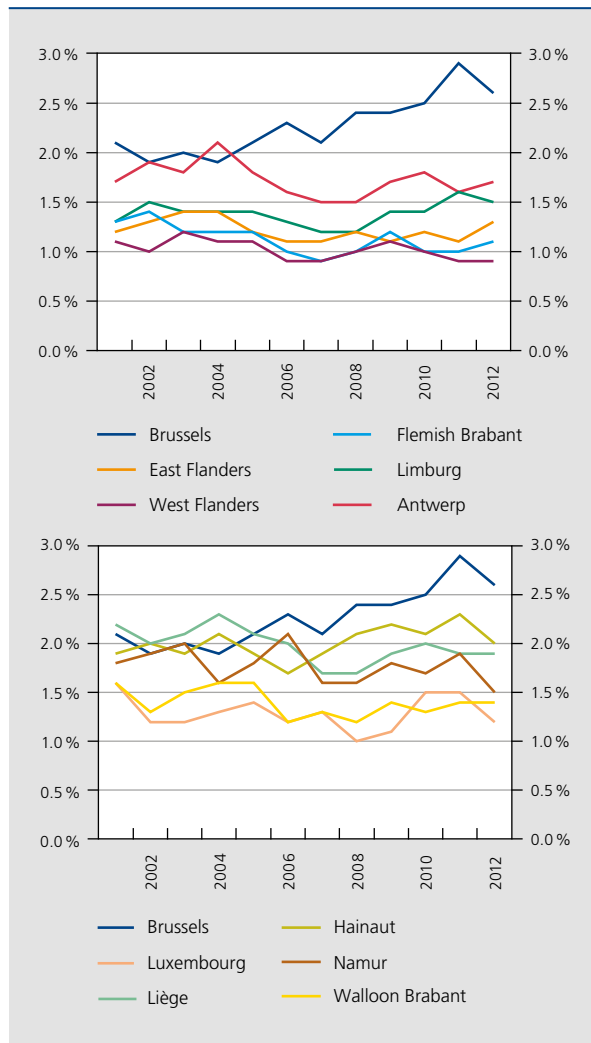
The main increases in the number of bankruptcies between 2006 and 2011 occurred in the provinces of Hainaut, Limburg and Luxembourg. In all provinces the increase occurred mainly in construction. From an economic perspective, the province of Luxembourg lagged behind because the number of start-ups declined by 1.4% during the same period. An adjustment took place for all the above-mentioned provinces in 2012 because the number of bankruptcies fell compared to the previous year.

3.2.4 Bankruptcy ratio

The bankruptcy ratio – the ratio of the number of bankruptcies to the total number of active companies – can be used to examine whether the number of bankruptcies in a particular sub-region is actually high (see Chart 8). In the period from 2002 to 2005, the highest bankruptcy ratio was registered in the province of Liège. The province of Namur posted the same bankruptcy ratio as Liège in 2003 (2.1%). The Brussels-Capital Region and the province of Hainaut had the highest bankruptcy ratios from 2005 and 2007 respectively. Indeed, Hainaut showed a rising trend, as a result of which the difference from the other sub-regions became ever greater. The bankruptcy ratio in the Brussels-Capital Region was 2.9% in 2011; in the province of Hainaut it was 2.3%. These ratios are much higher than in the province of Liège, which, at 1.9%, takes third place. There was an adjustment in 2012, and the ratio in the two provinces fell to 2.7% and 2% respectively.

Over the whole review period, the lowest bankruptcy ratios were found in the provinces of West Flanders and Flemish Brabant, with an average of 1.1%. The low bankruptcy ratio in West Flanders was definitely linked to the low start-up ratio. In Flemish Brabant, however, the high start-up ratio did not lead to a high bankruptcy ratio. The same applies to Walloon Brabant. Limburg had a high start-up ratio and a high bankruptcy ratio. Finally, there was the province of Antwerp with a high

CHART 8 BANKRUPTCY RATIO PER PROVINCE (2001-2012) AND CAPITAL REGION



Source: CBE.

bankruptcy ratio in combination with a low start-up ratio, which indicates a deterioration of the business dynamics in this province.

3.3 Business dynamics per district

Figures 1, 2 and 3 show the net growth ratio – the difference between start-ups and departures in proportion to the number of active companies in the preceding year – for each district in 2002, 2011 and 2012. Since 2012 can be regarded as an exceptional year with regard to business demography, a decision was taken to show the figures for 2011 as well in order to obtain a clear picture of the impact of the crisis.

The fact that 2012 was an exceptional year is evidenced by the fact that, apart from the district of Ath, not one district achieved a net growth ratio of more than 2.8%. In the years 2002 and 2011, 24 and 21 districts respectively, had net growth ratios of more than 2.8%. The highest net growth ratio in 2002 was 5.3% (the district of Ath); in 2011, it was 4.7% (the district of Eeklo). With the exception of the districts of Marche-en-Famenne and Neufchâteau, net growth ratios declined everywhere in 2012. The drop was more than 1 percentage point in 31 districts, and even more than 2 percentage points in 9 districts.

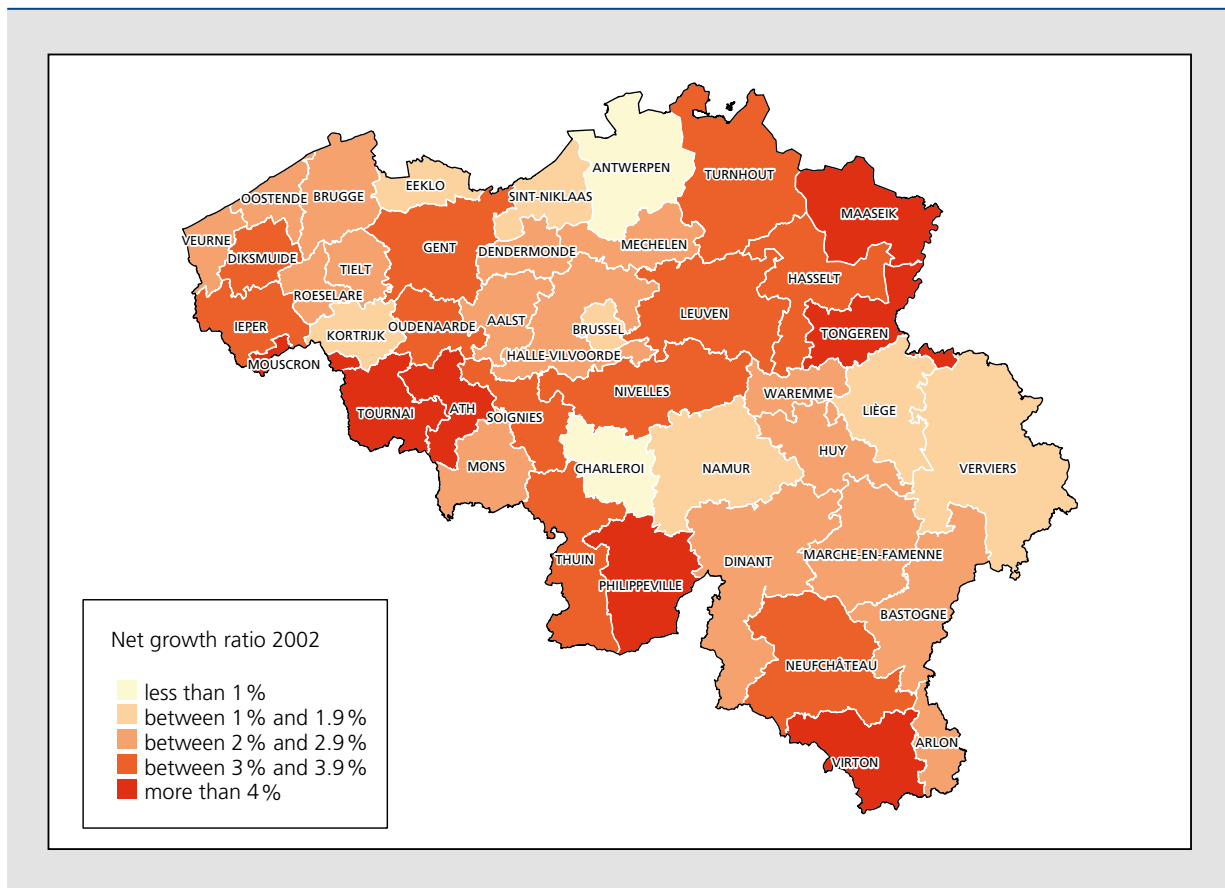
The district of Antwerp was most notable in 2002, where the number of departures exceeded the number of start-ups. Antwerp was thus the only district with a negative net growth ratio (-0.8%). The situation improved in 2011, and the number of start-ups rose above the number of departures. Even though the district of Antwerp thereby achieved the second strongest increase in 2011 and registered a ratio of 1.7%, this result was still on the low side. Only the district of Bastogne did worse, with a ratio of 1.6%. Antwerp was also in second-to-last place with a net growth ratio of 0.4% in 2012.

The district that registered the lowest net growth ratio in 2012 was Ostend. The number of start-ups was the same as the number of departures, and the net growth ratio was thus zero. The business dynamics in Ostend gradually weakened during the review period. In 2002, the net growth ratio was still 2.6%, and 14 other districts posted lower ratios. In 2011, the net growth ratio fell to 1.7%, and as such Ostend was only able to outperform Antwerp and Bastogne. In 2012, the business dynamics in Ostend were the weakest of all the districts.

The district of Charleroi also had a very low net growth ratio in both 2002 and 2011, at 0.7% and 1.7% respectively. Charleroi managed to outperform only Antwerp in 2002, and beat Bastogne, Antwerp and Ostend in 2011. The business dynamics in Charleroi were apparently less affected by the economic crisis than in the other districts in 2012. The district posted a net growth ratio of 1.1%, ahead of 13 other districts.

One district that did very well in the three years studied in terms of business dynamics was Ath. Ath's net growth ratio of 5.3% in 2002 was the highest of all the districts. This ratio declined slightly in 2011 to 4.2%. Only Eeklo, Ypres and Waremmes did better than this. In 2012, Ath registered 3.7% and thus once again produced the highest net growth ratio of all the districts. The level was not only just 0.4% lower than in the previous year, it was also nearly 1 percentage point higher

FIGURE 1 NET GROWTH RATIO PER DISTRICT IN 2002



Source : CBE.

than the ratio achieved in the district of Tournai, which came second.

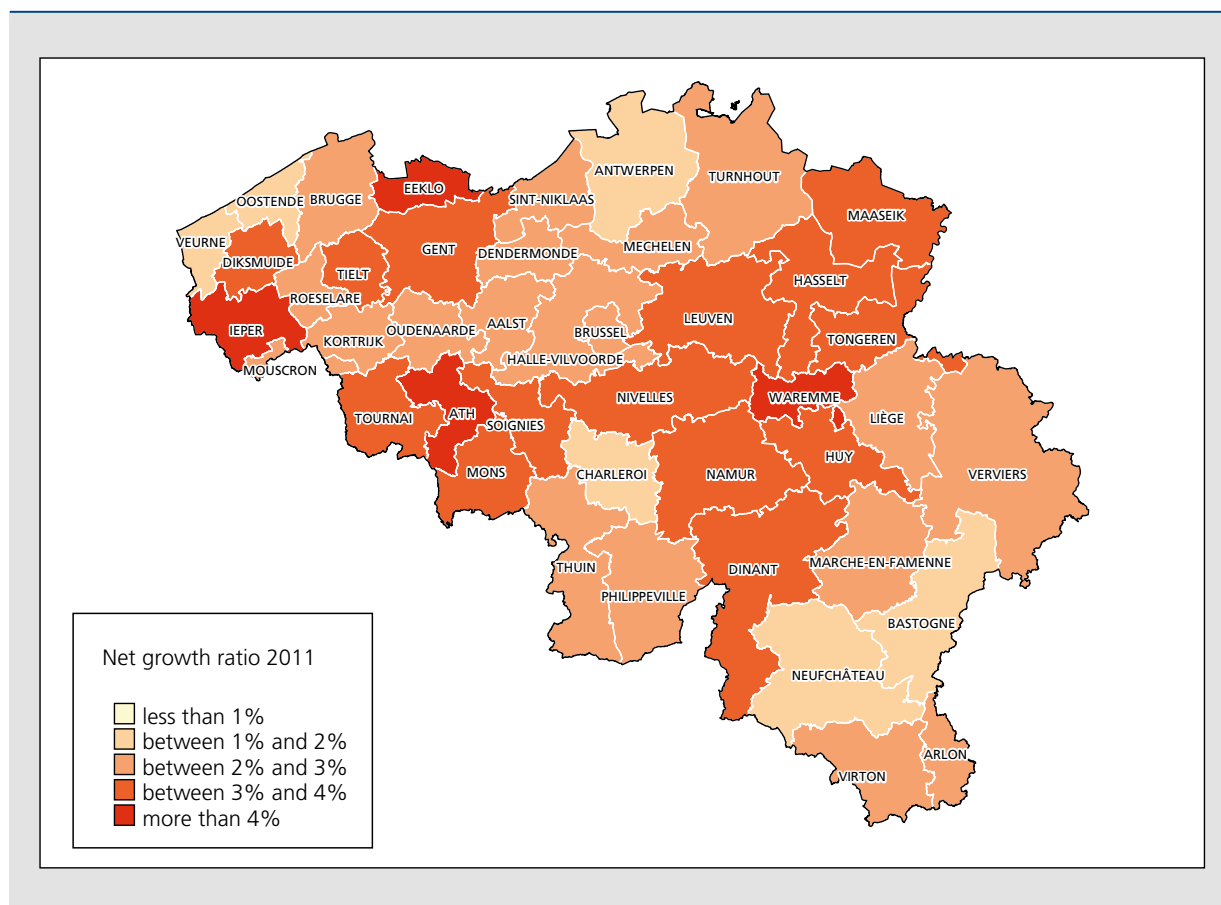
The greatest progress made between 2002 and 2011 took place in the district of Eeklo, where the net growth ratio was 1.2 % in 2002 and 4.7 % in 2011. Only the districts of Antwerp, Charleroi and Verviers had lower ratios in 2002, and Eeklo achieved the highest net growth ratio in 2011. In 2012, the district of Eeklo was clearly heavily affected by the economic crisis, and its net growth ratio fell by 2.4 percentage points. Districts that suffered worse than this were Mons and Ypres, both of which saw their net growth ratio decline by 2.7 percentage points, and Soignies, where the ratio fell by 2.5 percentage points.

The districts of Mouscron and Philippeville produced net growth ratios of 5.2 % and 4.2 % respectively, in 2002. Mouscron thus took second place after Ath. Both districts saw their ratios fall heavily by more than 2 percentage points in 2011, to 2.6 % and 2.1 % respectively. The

deterioration continued in 2012, with Mouscron posting a ratio of only 1.3 %. The business dynamics in Philippeville were virtually non-existent, with a ratio of 0.6 %, and this district accordingly fell to third-last place. Other districts posting net growth ratios of less than 1 % in 2012 were Sint-Niklaas, Aalst, Mons, Arlon and Bruges.

This analysis confirms that the business dynamics in Brussels-Capital improved strongly in the period from 2002 to 2012. The Brussels-Capital district registered a net growth ratio of 1.4 % in 2002, and was thus only ahead of the districts of Antwerp, Charleroi, Verviers, Eeklo, Kortrijk and Sint-Niklaas. In 2011, Brussels-Capital registered a net growth ratio of 2.9 % and outperformed 23 other districts. Finally, Brussels-Capital posted a net growth ratio of 2 % in 2012, thus showing better business dynamics than 31 other districts.

FIGURE 2 NET GROWTH RATIO PER DISTRICT IN 2011



Source: CBE.

3.4 Survival rate

3.4.1 Survival rate according to year of start-up

Table 4 shows the total number of departures five years after the year in which a company was incorporated and the survival rate calculated on this basis. Of the companies incorporated during the period from 2001 to the end of 2007, an average of 87.6% were still active after five years and therefore 12.4% had ceased trading. The lowest number of start-ups was in 2003 (19 633), and the highest number occurred in 2007 (26 411). Although 34.5% fewer companies were incorporated in 2003 than in 2007, this had little or no effect on the number of departures five years later, when 87.2% of companies were still trading. This suggests that the number of departures is correlated to the number of start-ups and that years in which many companies are incorporated are also years with many departures. This finding seems to support the theory

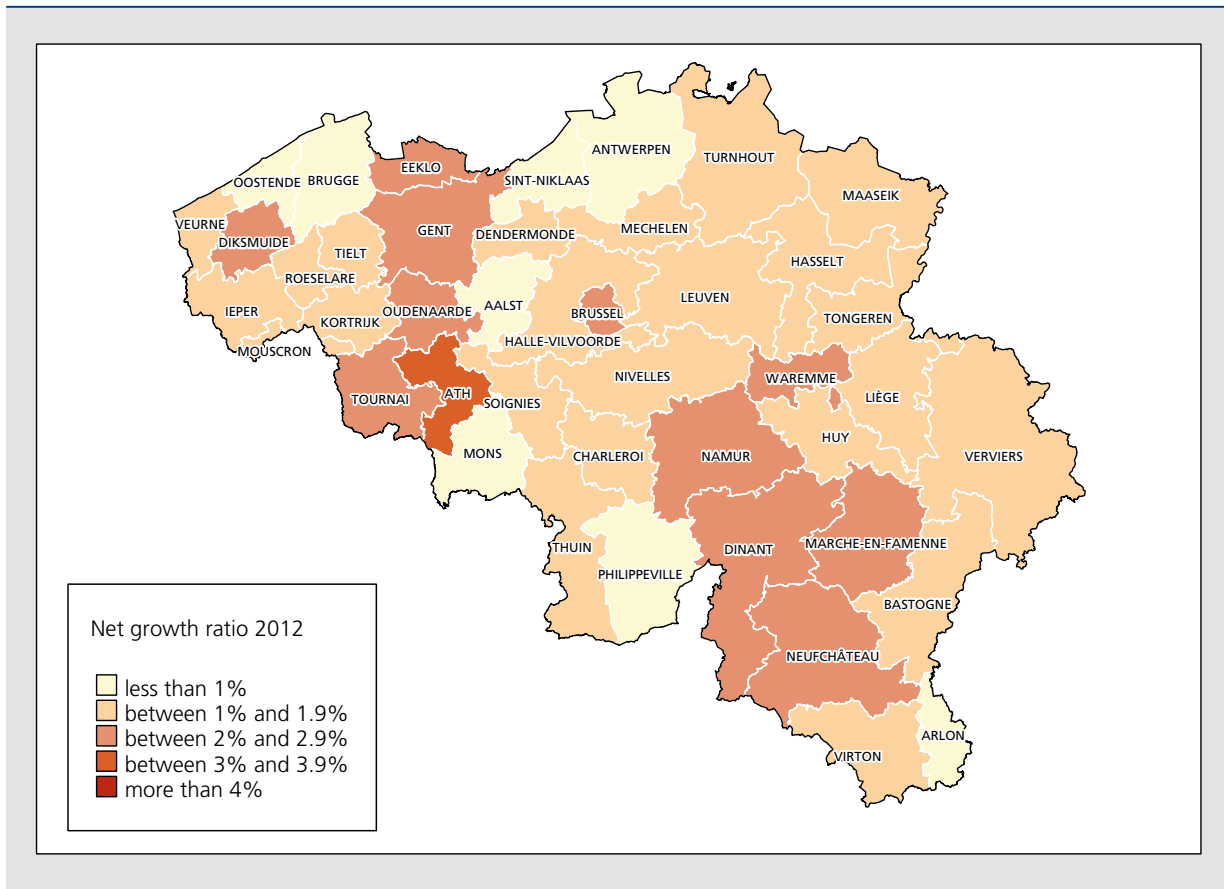
that better-performing new companies drive uncompetitive companies out of the market.

TABLE 4 SURVIVAL RATE OF START-UPS AFTER FIVE YEARS

Year of start-up	Number of start-ups	Departures	Survival rate
2001	20 877	2 700	87.1
2002	20 090	2 446	87.8
2003	19 633	2 381	87.9
2004	20 886	2 488	88.1
2005	21 343	2 690	87.4
2006	24 172	2 932	87.9
2007	26 441	3 382	87.2

Source: CBE.

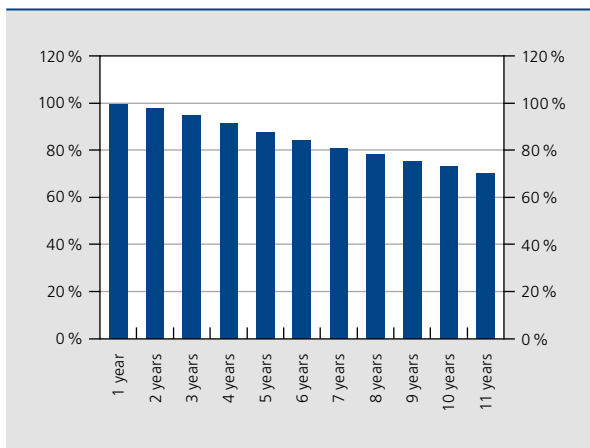
FIGURE 3 NET GROWTH RATIO PER DISTRICT IN 2012



Source : CBE.

Table 4 shows that the survival rate after five years does not vary significantly according to the year of start-up.

CHART 9 AVERAGE SURVIVAL RATE OF START-UPS ACCORDING TO YEAR OF START-UP



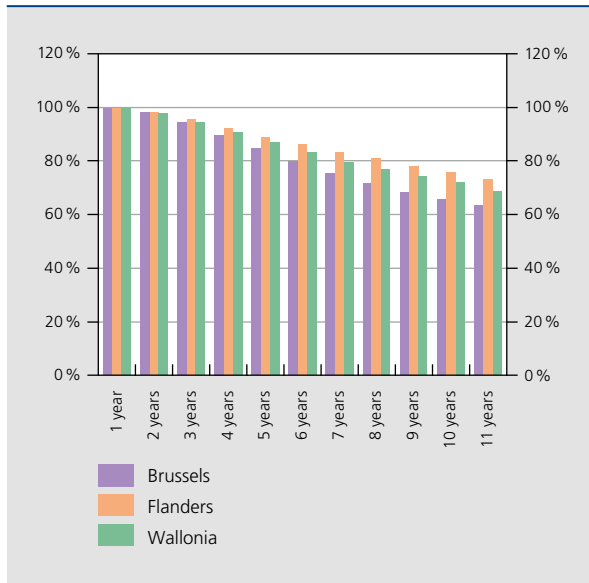
Source : CBE.

The average survival rate according to the year of start-up from 2011 to the end of 2012 is presented in Chart 9. This shows that only 5.1% of the companies were dissolved, were liquidated or folded during the first three years after start-up. In the four years after this, the number of departures rose strongly each time, by 3.6%, 3.7%, 3.4% and 3.3% respectively. After that, the number of departures declined slightly, but did not fall below 2.4%.

3.4.2 Survival rate per geographical area

A geographical analysis shows that the average survival rate in the Flemish Region was higher than in the other regions (see Chart 10). In the first three years after the year of start-up, the difference between the Flemish, Walloon and Brussels-Capital Regions was 0.1%, 0.3% and 0.9% respectively. From the fourth year onwards, the survival rate declined faster in the Brussels-Capital Region than in the Walloon Region. This meant that eleven years after the year of start-up, the survival rate of a start-up company in the Flemish, Walloon and Brussels-Capital Regions was 73.1%, 68.7% and 63.4% respectively.

CHART 10 AVERAGE SURVIVAL RATE OF START-UPS BY REGION



Source: CBE.

An analysis of the survival rate after five years of companies incorporated in 2001 at provincial level shows that the provinces of West Flanders (90.5%), Flemish Brabant (90.1%) and Luxembourg (90.1%) have the highest survival rates (see table 5). More than nine out of ten

TABLE 5 SURVIVAL RATE OF START-UPS AFTER FIVE YEARS PER PROVINCE AND CAPITAL REGION
(base = start-up in 2001)

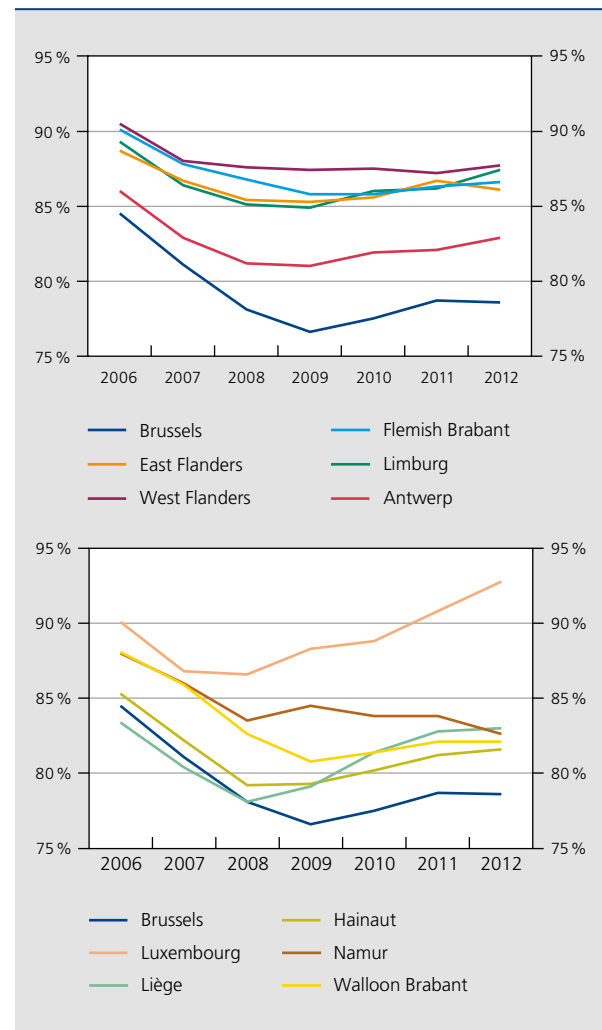
Province	Number of start-ups	Number of departures and bankruptcies	Survival rate
Brussels	3 831	592	84.5
Antwerp	4 151	580	86.0
Limburg	1 546	166	89.3
East Flanders	2 431	274	88.7
Flemish Brabant	1 888	186	90.1
West Flanders	2 083	198	90.5
Hainaut	1 682	248	85.3
Liège	1 422	236	83.4
Luxembourg	303	30	90.1
Namur	610	73	88.0
Walloon Brabant	922	110	88.1

Source: CBE.

start-ups survive the first five years in these provinces. The provinces of Limburg, East Flanders, Walloon Brabant and Namur also exceed the Belgian average of 87.5%. The lowest survival rates are found in the province of Liège and the Brussels-Capital Region, at 83.4% and 84.5% respectively.

An analysis of the survival rate after five years for companies incorporated in the period from 2001 to the end of 2007 shows a very distinct trend for this percentage for some sub-regions (see Chart 11). Until 2009, the survival rate in most provinces declined, with the exception of the provinces of Luxembourg, Namur and Liège. The province of Luxembourg, which achieved one of the best results for companies incorporated in 2001 (90.1%), did even better for companies incorporated six years later (92.8%).

CHART 11 SURVIVAL RATE OF START-UPS AFTER FIVE YEARS PER PROVINCE AND CAPITAL REGION
(2006 to the end of 2012)



Source: CBE.

Luxembourg thus outperformed the province of West Flanders, where the survival rate declined from 90.5 % in 2006 to 87.7 % in 2012. The province of Liège, which in 2006 fared worse than the Brussels-Capital Region, saw its survival rate improve from 2009, reaching a percentage of 83 % in 2012. This province therefore outperformed the Brussels-Capital Region (78.6 %), Hainaut (81.6 %), Walloon Brabant (82.1 %), Namur (82.6 %) and Antwerp (82.9 %).

3.4.3 Survival rate per industry group

The average survival rate also varied between the industry groups in the period from 2001 to the end of 2012 (see Chart 12). In the hospitality industry, in particular, the survival rate declined much faster each year than in the other industries. Of all the companies incorporated in the hospitality industry, only around half were still trading after 11 years. The survival rate in this industry fell on average by 4.4 % each year.

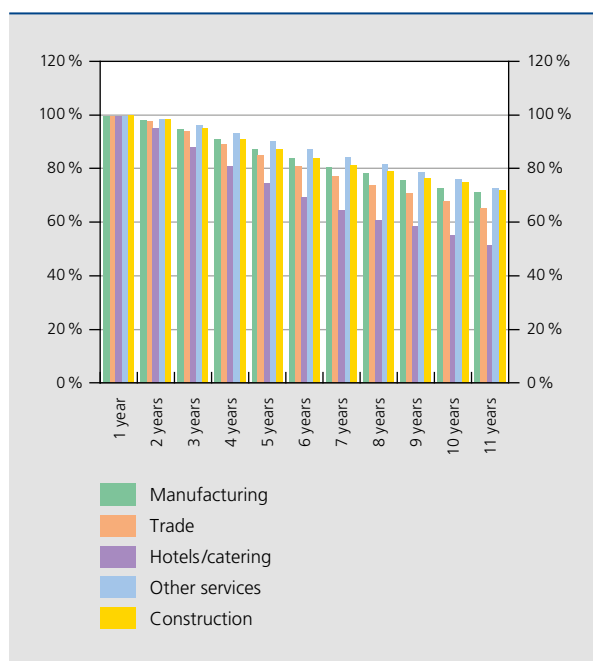
The survival rates in the other branches were more or less the same. 11 years after start-up, 72.7 % of the companies in the other services sector were still trading, as were 71.7 % in construction and 70.9 % in the manufacturing industry. Only the "trade" branch (wholesale and retail;

repair of motor vehicles and motorcycles) posted a slightly lower rate of 65.3 %.

3.4.4 Age at time of bankruptcy

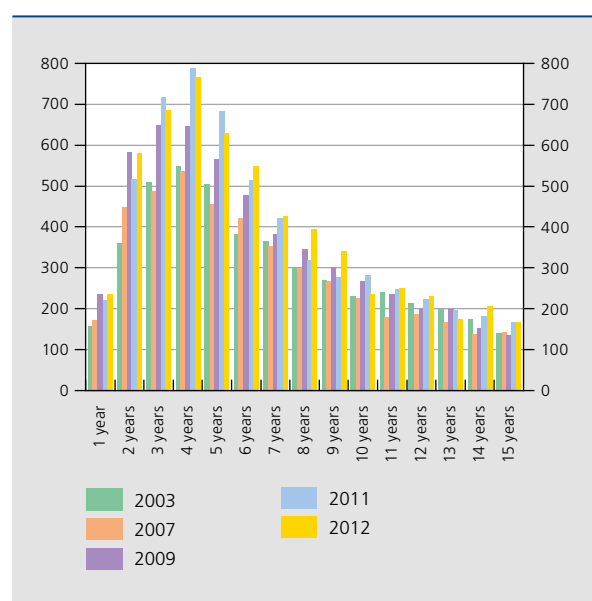
The survival rate according to age has already revealed that companies of a certain age are more likely to go bankrupt than younger or older companies. In order to check this, Chart 13 – for the years 2003, 2007, 2009, 2011 and 2012 – shows the number of companies according to age (from 1 to 15 years) that file for bankruptcy in a particular year. It is mainly young companies that have been around for between three and five years that file for bankruptcy. This is even more the case during years of economic crisis. Compared to 2007, the number of companies going bankrupt that had been trading for three to five years was approximately 50 % higher in 2011 and 40 % higher in 2012. The impact of an economic downturn is also felt by older companies, albeit to a lesser extent. The number of firms going bankrupt after eight and nine years of trading in 2011 was 6.7 % and 4.5 % higher, respectively, than in 2007. There was a sharply contrasting development in 2012, as the number of companies going bankrupt after eight or nine years' trading was approximately 30 % higher than in 2007. These findings suggest that the continuing economic crisis is affecting the survival chances of older businesses.

CHART 12 AVERAGE SURVIVAL RATE OF START-UPS BY INDUSTRY GROUP



Source : CBE.

CHART 13 NUMBER OF COMPANIES PETITIONING FOR BANKRUPTCY IN 2003, 2007, 2009, 2011 AND 2012 ACCORDING TO AGE



Source : CBE.

Conclusion

This article started with a detailed description of certain aspects of methodology. It was noted that caution needed to be exercised in comparing published figures, since these can vary significantly depending on the statistical sources used. The explanation for this lies mainly in the date of registration and the fact that the activity codes used are not consistent.

Contrary to normal practice in the regular media publications and the analyses conducted by the European Commission and others, this analysis focused exclusively on the demographic trend for companies. The reason for this is that the structural impact of these developments, in other words the innovation and productivity of an economy, is largely determined by company developments. Moreover, it appears that the demographic trend that companies undergo is not necessarily the same as that of the self-employed. The focus of the research is therefore slightly different; it is assumed that company dynamics are mainly determined by earnings potential and competitive strength, while other factors may also play an important part in the analysis of the self-employed, such as unemployment and changes in the labour force, etc.

It was also noted, from a methodological perspective, that the developments have to be interpreted in both relative and net terms in order to gain an understanding of the business dynamics. A large number of bankruptcies offset by a relatively large number of start-ups is actually more often a sign of innovation and strengthening of competitiveness than it is of crisis.

As one might expect, the demography of companies is determined by the state of the economy. It is clearly the case that this effect is most apparent in the area of start-ups, with slower growth in gross domestic product immediately reflected in a more than proportionate decline in the number of start-ups. In this respect, the considerable drop in the number of start-ups in 2012 was significant. This correlation is less obvious with regard to bankruptcies, since these may be delayed for various reasons. The effect of the economic cycle is more noticeable in some sectors than in others. The construction industry and the other services sector show the greatest business dynamics, as they are highly cyclical sectors. The accommodation and food services sector is a special case, because it is often cited in connection with its high risk of bankruptcy. Until the end of 2005, this sector had a net growth ratio that was clearly higher than that of the other branches of activity. The situation has changed since 2006 as a result of a decline in the start-up ratio, and the net growth ratio in this branch has fallen sharply. The trend for the net

growth ratio in the manufacturing industry and trade was less clear-cut than in the other sectors, but it is notable that here, too, the negative development in 2012 was more pronounced than in 2009.

The analysis considered geographical aspects. The demographic developments at geographical level show that a cautious approach should be adopted when drawing generalised conclusions. There may be very diverse developments within a geographical area or region that mean that an average score gives an incomplete and misleading impression.

At regional level, Flanders had the lowest net growth ratio of Belgium's three Regions in 2012, as it did in the period 2001-2012. This was purely due to the sharp decline in the number of start-ups, which was 23% lower than in 2011 and shows that Flanders was particularly badly affected by the economic crisis. Although the net growth ratio in Wallonia was slightly higher than in Flanders, this was the lowest value during the analysis period for this Region as well. Only the Brussels-Capital Region managed to achieve a net growth ratio that was higher in the crisis year of 2012 than in the period 2001-2004.

At provincial level in Flanders, the start-up ratio in the provinces of West Flanders and Antwerp, in particular, was very low. Since in the province of Antwerp, contrary to West Flanders, this was accompanied by a high bankruptcy ratio, the conclusion can be drawn that the present crisis is significantly affecting the business dynamics in Antwerp. In terms of the start-up ratio, the province of Limburg is performing somewhat better than the other Flemish provinces. Until 2008, it was either Limburg or the Brussels-Capital Region that boasted the highest start-up ratio. For Limburg, this came to an end with the economic crisis, although Limburg continued to be the province with the highest net growth ratio in Flanders between 2001 and 2012. The less favourable position of Antwerp is confirmed at district level. In 2001, this was actually the only district with a negative net growth ratio. Despite a slight improvement in 2011 and 2012, the district of Antwerp did not manage to rise above second-to-last place in terms of net growth ratio, while Ostend was the district that experienced the sharpest fall in its net growth ratio in 2012.

The business dynamics in the Brussels-Capital Region have been rising strongly since 2001. The notable feature here is that the net growth ratio was due to a very high start-up ratio combined with a very high bankruptcy ratio. The analysis at district level also shows the strong position of Brussels and the greater ability of this Region to withstand the economic crisis.

The highest start-up ratios over the whole period between 2001 and 2012 in Wallonia were in the provinces of Walloon Brabant and Hainaut. In Wallonia, the province of Walloon Brabant had the highest net growth ratio as a result of a high start-up ratio and a low bankruptcy ratio. The province of Hainaut had a high bankruptcy ratio and therefore a lower net growth ratio, while the province of Luxembourg showed very low start-up, bankruptcy and net growth ratios and thus posted the lowest score in the Walloon Region. At district level, the district of Ath is notable in that it had a consistently high net growth ratio in all the years reviewed. Even in the crisis year of 2012, Ath had the highest net growth ratio of all the districts.

The analysis of the survival rate shows that the year of start-up has little or no effect on the risk of bankruptcy. In years featuring a high number of start-ups, many departures were also registered. This would appear to be consistent with theoretical assumptions. From a regional perspective, companies have a greater chance of survival in Flanders than in Wallonia, and certainly in the

Brussels-Capital Region. An analysis at provincial level, however, shows that the chances of survival can vary dramatically within the three Regions. The industry in which a company operates is more important than the geographical area in which it is situated. As expected, accommodation and food service activities have the lowest chance of survival. A company's age is also significant; young businesses aged between three and five years are the most vulnerable to bankruptcy.

Both the geographical and the general analysis of the demographic developments show that caution and qualification are needed when drawing conclusions. The business dynamics and thus the future of an economy are largely determined by start-ups, which in turn depend on earnings potential and other expectations. An excessive and unqualified focus on the trend for bankruptcies not only gives a false picture of the real state of health of an economy, it also negatively affects sentiment. This can cause the number of start-ups to decline and prolong the crisis.

Size and dynamics of debt positions in Belgium and in the euro area

A. Bruggeman
Ch. Van Nieuwenhuyze

Introduction

The current financial crisis has once again shown that our economic system may be prone to financial cycles with pro-cyclical lending which in an upward phase or a boom may trigger escalating debt ratios or leverage. If the debt ratio has risen so high as to become unsustainable, that will generally prompt a process of deleveraging or debt reduction during a financial bust, usually preceded by a financial crisis. Empirical research based on historical recessions in a large group of advanced countries has shown that recessions which follow such a financial crisis are usually much more deeper and protracted (see for example IMF (2009) or Jordà *et al.* (2011)). The scale of the preceding boom also seems to play a key role in this connection.

However, credit expansion does not automatically culminate in a financial crisis. In some cases the credit expansion may be structural, e.g. on account of structural or institutional changes, and leads to expansion and/or deepening of the financial markets (financial deepening). It is therefore vital to distinguish between 'beneficial' and 'dangerous' credit expansions, both from the point of view of welfare and for macroprudential policy reasons. In this context, a number of policy initiatives were taken to map any imbalances relating to excessive credit growth or debt ratios, so that risks to financial and macroeconomic stability can be identified in time. Examples of policy initiatives in Europe include the MIP (macroeconomic imbalance procedure) under which the European Commission monitors the debt position and debt accumulation of

the non-financial sectors, and the total liabilities of the financial sector.

Against that backdrop this article reviews the latest developments concerning debt levels and the associated risks, both in Belgium and in the other euro area countries. The debt situation is interpreted in the context of the financial cycle. The central question in this analysis is whether the deleveraging process – with its adverse macroeconomic consequences – has already begun in the euro area. This question is considered both from the point of view of the various non-financial sectors (households, non-financial corporations and general government) and from the point of view of the various countries⁽¹⁾. For that purpose, the article (i) examines the accumulation of debt over the past decade, when the debt ratio of the non-financial sector in the euro area climbed rapidly to an historically high level (from 173 % of GDP in the first quarter of 1999 to 233 % of GDP at the end of 2012); (ii) conducts a multidimensional analysis of the debt sustainability on the basis of a number of key indicators; and (iii) analyses the supply and demand aspects of deleveraging in the euro area.

The remainder of the article is divided into four sections which examine these developments in more detail. Section 1 considers debt developments from a more theoretical angle, focusing on how financial cycles operate and how the resultant leveraging/deleveraging cycles affect economic growth. Section 2 shows that the debt positions in the euro area countries are very heterogeneous in terms of level, accumulation and sectoral composition. Section 3 investigates whether the current debt positions in the euro area are excessive, by reference to a heat map based

(1) The cut-off date for the data used in this article was 3 May 2013.

on a number of sustainability indicators. Section 4 looks at the latest debt developments and examines to what extent the euro area countries have already embarked on a process of deleveraging or debt reduction. Points considered here include the scale of the deleveraging process in the various countries and sectors, and the role played in that process by both demand and supply factors concerning lending. Finally, the conclusion sums up the main findings and sets out a number of policy conclusions.

1. Debt dynamics and impact on the real economy

There is mounting empirical evidence of the existence and macroeconomic relevance of financial cycles driven by a small number of mutually reinforcing factors. Although the specific details differ from one cycle to another, a financial boom typically features an optimistic view of valuation and risk, low risk aversion, easy credit (in terms of both prices and non-price components) and less stringent financial supervision. During a boom, these factors lead to a rising debt ratio, escalating valuations of financial and real assets, and a positive impact on economic growth. However, the current financial crisis has once again shown that the inherent pro-cyclicality of lending can lead to excessive debt accumulation or leverage⁽¹⁾. Such unsustainable debt positions generally prompt a process of balance sheet repair via deleveraging or debt reduction during the financial bust. If such a process is preceded by a financial crisis, the result will be a substantial fall in the debt ratio and a deep, protracted recession. In practice, debt (in terms of both level and growth rate) is therefore a two-edged sword, with an impact on economic activity that depends very much on the specific circumstances.

1.1 Debt accumulation and its impact on the real economy

In principle, the option of (non-excessive) debt financing via financial intermediation or via the capital markets leads in the long term to faster growth and lower macroeconomic volatility (see for example Levine (2005) for a summary of the empirical literature). One factor here is that debt financing enables economic agents that are budget-constrained to make expenditure which is then financed by resources obtained from other players who have a budget surplus. This means that investment decisions can be taken independently of income flows, and the available capital can be used more efficiently, boosting the economy's growth potential. In addition, debt financing makes it possible to spread the impact of temporary negative (positive) income shocks over time, avoiding an

immediate reduction (increase) in the expenditure of the various institutional sectors. Above all, this reduces the volatility of economic activity and thus enhances welfare because there is less uncertainty. Finally, debt financing enables governments to pursue a counter-cyclical policy, either via the automatic stabilisers or by an active stimulus policy, which should moderate the negative shocks affecting the incomes of the other sectors.

However, there is still the risk that the pro-cyclicality inherent in lending may lead to excessive debt accumulation or leverage. The pro-cyclicality referred to here is linked to the financial accelerator whereby, during a boom, a mutually reinforcing interaction is created between lending and the valuation of (real or financial) assets of the non-financial private sector. During the financial boom, which generally corresponds to relatively strong GDP growth, optimism prevails, and that is reflected in particular in higher asset prices and lower financing costs. Consequently, lending expands, providing further support for the economy. Although this leads to an increase in the debt ratio of the non-financial private sector, since the value of the underlying collateral also increases and economic activity flourishes, the general risk perception remains favourable. That reinforces the widespread optimism, and lending continues to provide support, generating second-round effects.

However, the non-financial private sector debt ratio eventually reaches such a high level that the sector becomes very sensitive to certain shocks, leading to substantial deleveraging. Those shocks may come, for example, from a significant change in market sentiment and in the attitude to risk, a sudden asset price correction, financing problems within the banking sector, or a recession that puts pressure on expected income flows and therefore on the repayment capability of the various sectors. These shocks usually reinforce one another, and the excessive debt ratio which accumulated during the financial boom becomes a forcing variable, necessitating balance sheet repair in the private sector, with potentially serious consequences for the real economy. Such balance sheet recessions are generally deeper and longer than a typical recession (see Koo, 2011).

1.2 Deleveraging and the impact on the real economy

The deleveraging pressure during the financial bust may take various forms. Doubts about the solvency of the non-financial private sector may lead to both falling demand

(1) Kindleberger (1978) and Minsky (1982) describe in detail how the inherent instability of financial intermediation and financial markets may lead to excessive debt accumulation, triggering a financial crisis and drastic debt reduction.

for loans (voluntary balance sheet repair or demand-driven deleveraging) and greater reticence on the part of banks to grant easy credit (supply-driven deleveraging). Such deleveraging driven by supply may also degenerate into an actual credit crunch if the solvency of the financial sector in turn comes under severe strain, in the context of a financial crisis.

The bust phase brings a reversal in market sentiment: owing to the increased debt ratio of the private sector and possible overvaluation of the collateral (assets) covering this debt, credit risks are repriced. The financial accelerator which had fuelled the boom begins to work in the opposite direction. The slowdown in lending and reappraisal of the risks, together with the heightened risk of defaults which may lead to fire sales, depress asset prices, further reinforcing the adverse perception of the non-financial private sector's solvency. In a context of slackening economic activity, there is a real danger that this may lead to further demand-driven deleveraging, as the non-financial private sectors try to compensate for their loss of net wealth by saving more or by repaying their debt faster, and/or to further supply-driven deleveraging as the banks tighten their lending criteria. If such adjustments take place on a sufficiently large scale, they trigger a downward spiral of asset devaluation, tightening of lending criteria, and deleveraging which may lead to a deep recession (see below).

The financial sector's reticence to lend in response to the increased debt ratio of the non-financial private sector may be further reinforced by the problems facing the financial institutions themselves. In so far as the banking sector has engaged in excessive leverage during the boom, that also impairs its perceived solvency and it is therefore likewise confronted by rising financing costs. Since the maturity of financial institutions' liabilities is much shorter than that of their claims (maturity transformation), their interest margin and profitability come under pressure, particularly in the case of institutions with high leverage. That further exacerbates the adverse influence on banks' willingness to grant new loans⁽¹⁾. If the State no longer forms a credible backstop for any problems in the resident banking sector, banks in difficulty will even be unable to raise funding

on the market and will be forced to scale down their activities, either by selling off (financial) assets – which will put further downward pressure on prices – or by cutting back their lending⁽²⁾.

The forms of deleveraging described above not only lead to a vicious circle of slackening lending and falling asset prices, but they also have an adverse impact on economic activity. Empirical studies, such as the one by Jordà *et al.* (2011) based on a sample of 223 business cycles in 14 advanced countries over the period 1870-2008, show that recessions which follow a financial crisis are very different from ordinary recessions. First, they feature more pronounced negative GDP growth and they persist for several years. In addition, the (negative) impact on GDP growth is greater the stronger the increase in lending to the private sector during the preceding expansion phase. In a follow-up study, Taylor (2012) concludes that the severity of a financial recession also depends on the level of the public debt ratio.

1.3 Main transmission channels

The main channels through which deleveraging by the non-financial private sector affects the real economy are presented in chart 1. On the one hand, deleveraging may result from a drop in demand for loans following voluntary balance sheet repair – intended to offset the decline in net wealth – or a rise in borrowing costs. On the other hand, deleveraging may be supply-driven, with the financial sector restricting its supply of loans, possibly in response to a deterioration in its own solvency or that of the government⁽³⁾.

1.3.1 Government⁽⁴⁾

If government solvency comes under strain, investors will demand a higher risk premium for holding public debt securities. Moreover, Ardagna *et al.* (2007) illustrate that the link between the level of the public debt and the CDS premium on the public debt is nonlinear. This increase in the interest rate on government bonds primarily means that governments will have to pay higher interest charges, and that will reduce their scope for other expenditure. Although part of the increased interest charges will be paid to the domestic private sector, possibly underpinning private consumption and investment, there will nevertheless be a net adverse impact on GDP growth in so far as the higher interest charges are paid to other countries or to domestic agents with a lower marginal propensity to consume and/or invest than the government (see also Eggertsson and Krugman, 2012). In addition, the government will likewise

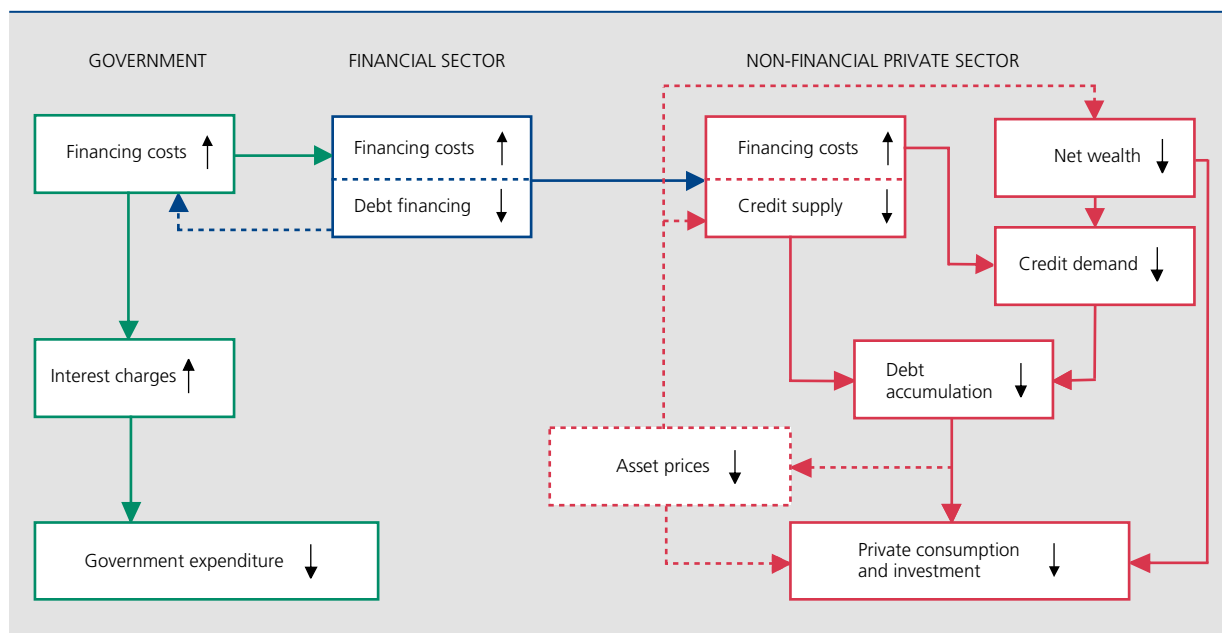
(1) The banks' reticence to lend may also be due to the regulations, e.g. in anticipation of the stricter capital and liquidity requirements under Basel III, or in connection with the restructuring plans that some banks have to implement on account of the aid which they received from the State.

(2) The contagion effects also occur in the opposite direction: governments which had to support their banking sector during the current crisis have seen their debt ratio soar, creating problems for them as well in turn.

(3) The exchange rate channel is disregarded. According to this channel, the slowdown in economic activity would lead to an exchange rate depreciation, increasing the value of the debt contracted in foreign currency and thus adding to the deleveraging pressure.

(4) Although this article concentrates on the non-financial private sector, it does consider the government here. Since the economic effects of the public debt have already been discussed in detail in Nautet and Van Meensel (2011), only the main channels that also affect the private sector will be examined here.

CHART 1 MAIN TRANSMISSION CHANNELS



have less latitude for pursuing a counter-cyclical fiscal policy, and that will heighten the impact of a negative income shock (e.g. a recession) on private sector activity.

An increase in the interest rate on government paper will also drive up financing costs for the other sectors. The government bond rate in fact often serves as the benchmark for the pricing of other contracts, such as bank loans to households and non-financial corporations (see for example Cordemans and de Sola Perea, 2011). Moreover, private sector risk premiums are influenced by the government risk premium (sovereign risk channel). For example, according to Harjes (2011), half of any increase in the sovereign CDS premium in the euro area, on average, is reflected in the CDS premiums of large private enterprises (banks and non-financial corporations). Corsetti *et al.* (2013), confining their analysis to non-financial corporations, show that the CDS premium of such enterprises is much higher in countries where the sovereign CDS premium has also risen steeply since mid-2010, and estimate that this sovereign risk channel reinforces the impact of shocks affecting aggregate demand unless the central bank is able to compensate for that by cutting interest rates.

1.3.2 Households

All other things being equal, heavily indebted households devote a larger proportion of their income to debt repayments. They are therefore more sensitive to a fall in income, a rise in interest rates or a reduction in asset

prices, shocks which are not unusual in a bust phase. The income and interest rate shocks will increase the cost of repayments and will therefore depress private consumption. Similarly, the asset price correction will lead to a fall in household consumption, because households will try to make up for the decline in their net wealth by saving more or by repaying their debt more rapidly (see for example Koo, 2011). Furthermore, it is mainly the less solvent households that will be less likely to apply for a new loan, or will borrow a smaller amount. Overall, households will therefore scale down their consumption or investment plans on account of voluntary balance sheet repair.

When the (perceived) repayment capacity of households declines too sharply, not only will their financing costs increase, but there will also be a volume effect. The banks will not only try to attenuate their risk exposure by increasing their margins, but they will also tighten the other lending conditions, e.g. by cutting the loan-to-value ratio or shortening the maturity of the loan, so that the less solvent households will find it harder to gain access to these loans. According to the Eurosystem's Bank Lending Survey, such supply-driven deleveraging has indeed taken place in the euro area. Between the first quarter of 2008 and the second quarter of 2009, the net percentage of banks tightening their loan criteria on account of an increased risk perception concerning house prices or economic activity in general came to over 14%, and that tightening continued thereafter, though to a lesser extent. In Belgium, that was much less the case.

According to the two channels – demand-driven and supply-driven deleveraging – the scale of the net effect on GDP will depend on the relative differences between the propensity to consume/invest of the borrowers (whose scope for consumption or investment in housing will decline) and of the lenders (whose scope for consumption or investment will increase). As stated by Tobin (1980), “debtors have borrowed for good reasons, most of which indicate a high marginal propensity to spend from wealth or from current income or from any other liquid resources they can command”, which implies that a process of deleveraging will generally have a negative impact on demand (see also Eggertsson and Krugman, 2012).

Overall, deleveraging during a bust phase will therefore depress both private consumption and investment in housing. In its April 2012 World Economic Outlook, the IMF analyses a sample of 99 periods between 1980 and 2011, in 24 OECD countries and Taiwan, in which house prices recorded a marked fall. According to this analysis, the impact of the bust depends very much on the scale of the preceding boom. Where bust phases were preceded by substantial debt accumulation (high-debt busts), they had a particularly negative impact on private consumption, owing to the combination of greater deleveraging and a steeper fall in house prices. Investment in housing also declined more sharply in high-debt busts, but these estimates are less accurate since not all countries publish data on investment in housing.

1.3.3 Non-financial corporations

In the case of non-financial corporations, the channels involved are mostly the same as for households, with a few adjustments. In the case of heavily indebted non-financial corporations, the debt servicing cost absorbs a large part of their free cash flow, so that they have fewer internal resources for funding any investment, in whole or in part. Moreover, these firms are more sensitive to a decline in their cash flow or a rise in credit interest rates. Smaller firms are generally more affected by these shocks and will have fewer alternative sources of funding, so that they are obliged to reduce their debt ratio more and scrap certain investments. In the case of large firms, it is more difficult to ascertain the extent to which demand-driven deleveraging will apply. There are two major theories concerning the optimum capital structure of firms, the trade-off theory and the pecking order theory, but only the first one sees scope for demand-driven deleveraging. According to this trade-off model, firms define their optimum capital structure by weighing up the marginal costs and benefits of extra debt financing against one another. So long as the advantages (e.g. the tax benefits of debt financing) outweigh the cost of distress (e.g. in the form of a higher risk of payment

default) firms continue to fund their viable investment projects with additional borrowings. However, if the economic situation deteriorates and/or the debt ratio threatens to exceed the optimum level (in other words, if the perceived cost of distress exceeds the benefits of higher debt), firms will begin a demand-driven deleveraging process. According to the alternative pecking order theory, however, there is no scope for demand-driven deleveraging because, owing to the problem of asymmetric information, firms have a clear preference in regard to sources of funding, independent of their debt ratio. As far as possible, firms prefer to fund their investment in the first place by using internal resources. After that, they prefer debt financing, and only in the last resort do they issue shares. However, the empirical literature does not offer a convincing answer to the question which of these two theories prevails, and the conclusion is that, even in the case of large non-financial corporations, account must be taken of the possibility of demand-driven deleveraging which will depress business investment.

While supply-driven deleveraging certainly applies to non-financial corporations just as it does to households, the impact on business investment will probably be less. If the debt ratio of non-financial corporations becomes excessive, lenders will react not only by increasing the margins but also by tightening the other lending criteria: for example, they may decide to limit the maturity or size of the loan, or require more collateral from firms, thus causing a decline in lending. This reduction in the credit supply will more particularly depress SME investment, since – like households – SMEs have very little choice regarding sources of finance. Conversely, the impact on the investment of larger and stronger non-financial corporations will probably be less as they can resort to bond or share issuance, especially if the credit contraction is due mainly to a banking crisis, so that the banking sector is the primary cause of the credit crunch.

Finally, the fall in share prices during the bust phase will also have a more direct negative influence on corporate investment since it will then be more advantageous to buy up firms rather than establish new ones (Brainard and Tobin, 1968).

It is harder to find general empirical evidence of the impact of deleveraging on business investment. For the euro area, Buca and Vermeulen (2012) find indirect evidence of a bank credit crunch in 2009. They conclude that it was mainly firms more dependent on bank credit that cut their investment in 2009: on average, the investment ratio of small and medium-sized firms declines by 4.6 percentage points if the bank debt ratio rises by 10 percentage points, given a constant overall debt ratio. For Italy, Gaiotti (2013)

concludes that firms facing a restricted credit supply cut their investment by an average of 10 to 15 %. However, during a recession, that effect is almost twice as great, since firms then have a more limited choice of other funding sources.

2. Development and size of the overall debt

2.1 Debt dynamics in Belgium and in the euro area

2.1.1 Historical overview

On the basis of long-term series, most euro area economies have exhibited a marked accumulation of debt and a significant rise in the debt ratio over the past three decades. Chart 2 illustrates this trend from 1980 for Belgium and from 1999 for the euro area. In the euro area as a whole, the total consolidated debt⁽¹⁾ of the non-financial private sector and public sector increased from 173 % of GDP at the beginning of 1999 to 233 % of GDP at the end of 2012, bringing it to its highest level since the creation of EMU. The gross debt of the non-financial sector as a whole in Belgium (249 % of GDP at the end of 2012) is also at a historically high level.

The strong rise in the aggregate debt in recent decades is not specific to the euro area economies, but is also evident internationally. For a group of 18 advanced economies, Cechetti *et al.* (2011) find that, on average, the total debt ratio has virtually doubled since the beginning of the 1980s. Nevertheless, the exact debt path and the breakdown between the private sector and the public sector vary from one country to another.

In Belgium, there has been a general increase in the debt ratio compared to 1980 for both the public sector and the non-financial private sector. However, the rise in the debt ratio has not been continuous, and periods of increase have alternated with periods in which either the private sector debt ratio stabilised or the public sector debt ratio decreased. In the past decade, the main debt build-up occurred in the private sector. The Belgian non-financial private sector debt ratio increased significantly from 1980 onwards, by around 65 percentage points of GDP, the rise taking place essentially in two phases: an increase of 25 percentage points of GDP in the 1990s and a second phase, mainly in the latter half of the 2000s, when the debt ratio climbed by 40 percentage points of GDP to a peak of 149 % of GDP at the end of 2012. Following a long period of public debt reduction from the peak of

138 % of GDP at the end of 1993 to 84 % of GDP at the end of 2007, the financial crisis caused the public debt to resume an upward trend, to reach 99.8 % of GDP at the end of 2012. The most recent period (since the start of the financial crisis in 2007) has thus brought a rise of both private and public debt.

In the euro area, for which data are available only since 1999, it is evident that – as in Belgium – the debt accumulation has mainly concerned the non-financial private sector in the past decade. That sector's debt ratio has climbed by more than 40 percentage points of GDP since 1999, rising from around 100 % of GDP to a peak of 144 % of GDP in mid-2010. However, unlike in Belgium, there has since been a slight downward trend in the non-financial private sector debt ratio, while the public sector debt ratio has continued to rise. This pattern, with a financial crisis being followed by a process of gradual deleveraging in which the private sector is the first to reduce its debt – often at the expense of public sector debt accumulation – with the public sector only embarking on deleveraging in a second phase, is not unusual (McKinsey Global Institute, 2012). Since the financial crisis, the public debt has risen considerably, just as it has in Belgium, notably because of the effect of the automatic stabilisers, a series of counter-cyclical measures and support for the financial sector during the crisis. The public debt ratio of the euro area thus increased by 26 percentage points of GDP, rising from 66.4 % of GDP at the end of 2007 to 92.7 % at the end of 2012⁽²⁾.

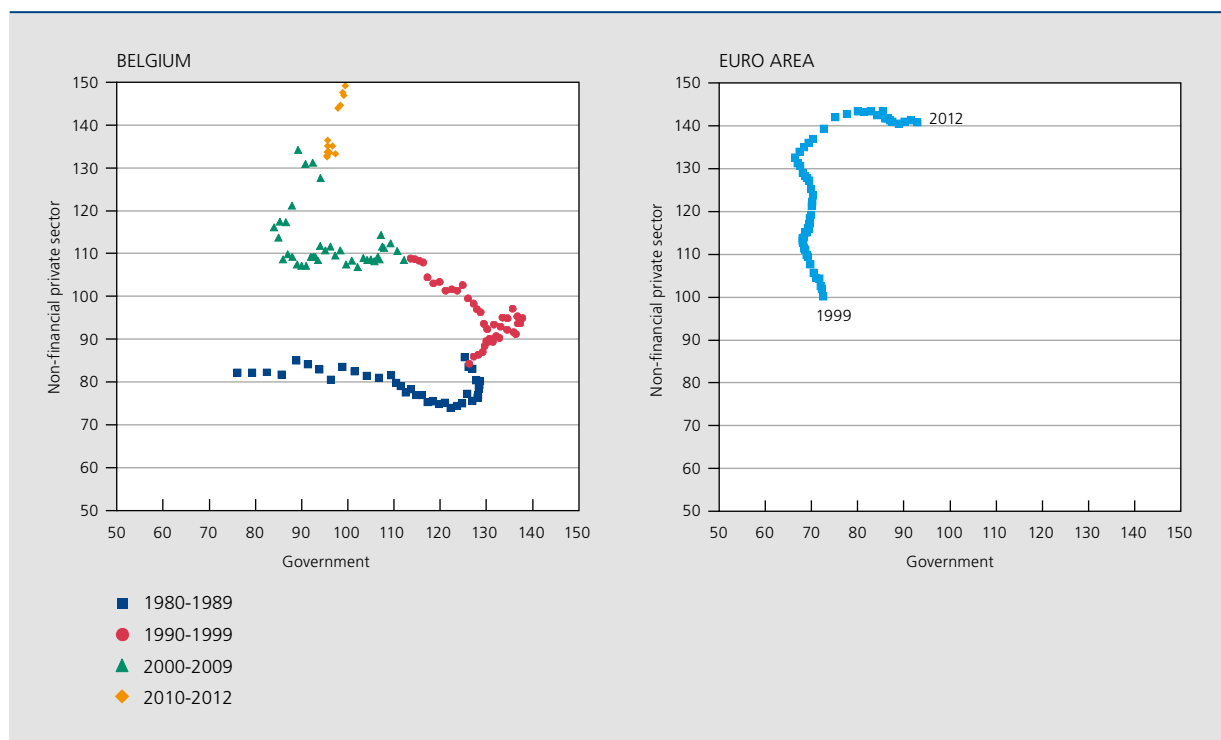
A factor often cited to explain the upward trend in the debt ratio in most economies during recent decades is easy access to credit, stimulated by financial innovations. Moreover, the debt has accumulated against the backdrop of rather low risk premiums and a downward trend in real interest rates, raising the ability to take on new debt. Finally, certain fiscal factors have also played a role, as a more favourable treatment of interest charges was adopted over the years by some governments for both businesses and households, especially in the case of mortgage loans.

(1) Unless otherwise stated, this article uses the consolidated gross debt ratio for each country and for each institutional sector, calculated as the consolidated gross debt expressed as a percentage of annual nominal GDP (for more information, see box 1).

(2) This figure is also influenced by the expansion of lending between the various central governments in the euro area during the financial crisis. Eurostat also publishes a figure for the euro area aggregate from which that financing is deduced (90.6 % of GDP at the end of 2012). In this article, the public debt of the euro area includes financing between Member States in order to ensure comparability with the public debt figures of the Member States and with the debt aggregates of the other institutional sectors of the euro area for which there is equally no consolidation between Member States.

CHART 2 DEBT PATH IN BELGIUM AND IN THE EURO AREA

(consolidated gross debt ratio, in % of GDP)



Sources: EC, ECB, NBB.

2.1.2 Accelerating debt accumulation in the euro area

Although the debt level in Belgium and in the euro area in the past decade has maintained a rising trend which had set in at an earlier stage, the pace of debt accumulation accelerated considerably in the second half of the 2000s, essentially in the non-financial private sector. Nonetheless, the scale of this acceleration varied greatly from one country to another. Chart 3 illustrates the increase in the debt ratio of the public and private sectors during the period from 2005 to mid-2010. After that, debt accumulation diminished for the euro area as a whole, thanks to the private sector, which actually recorded a reduction in its debt ratio, as explained in section 4 of this article.

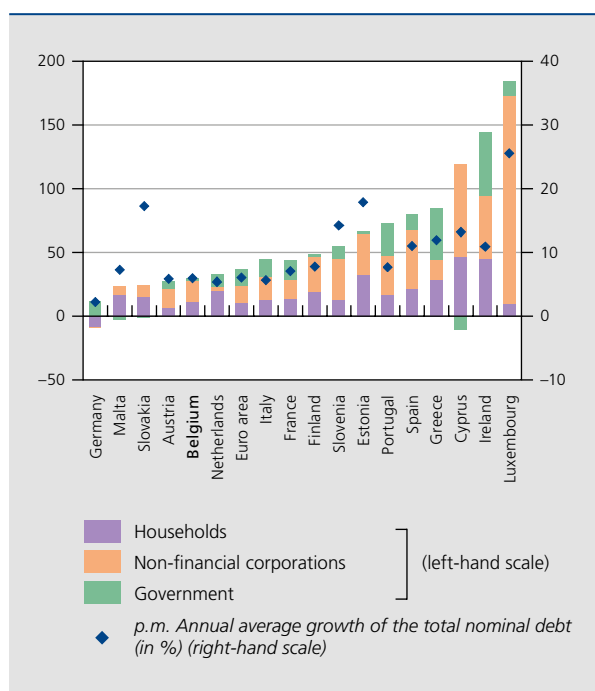
The rapid rise in the debt ratio during the period from 2005 to mid-2010 is attributable to “active” accumulation, i.e. the growth rate of the nominal debt significantly outpaced nominal GDP growth. On average, the total nominal debt increased by 6.1 % per annum in the euro area, compared to nominal GDP growth of 2.5 %. This period therefore represents a strong upward phase in the financial cycle, with most euro area economies recording a substantial rise in the debt ratio. For households and

non-financial firms, the active debt accumulation occurred in a context of attractive lending conditions, financial innovations, and rising house prices accompanied, in some cases, by favourable fiscal and institutional factors.

The debt accumulation was supported, particularly in the run-up to the financial crisis, by strong expansion of bank lending, further promoted in a low interest rate environment by the effect of the financial accelerator (see section 1). Together with other factors, the rise in property prices fuelled lending to households, in terms of both supply and demand. On the demand side, the need to cope with soaring prices caused borrowers to take on ever larger loans. This was facilitated on the supply side by a contraction of margins, relaxation of the loan-to-value ratios, and longer maturities, as is evident from the Bank Lending Survey in the euro area during this period (on the importance of lending criteria for credit growth, see Hempell and Kok Sørensen, 2010). In addition, rising property prices to some extent masked the relative increase in the debt compared to total assets, so that the debt was able to continue accumulating without any strong rise in risk premiums. Lending to companies was influenced by similar factors, and particularly by favourable estimates of economic activity and real collateral.

CHART 3 DEBT ACCUMULATION BETWEEN 2005 AND MID-2010⁽¹⁾

(change in the consolidated gross debt ratio, in percentage points of GDP, unless otherwise stated)



Sources: EC, ECB, NBB.

(1) Countries are ranked according to the change in the total consolidated gross debt ratio of the non-financial sector.

It is generally in the peripheral countries that the biggest debt accumulation was recorded in the period from 2005 to mid-2010, considerably increasing their vulnerability to shocks. In this connection, various empirical studies (e.g. McKinsey Global Institute, 2010) show the importance of the pace of debt accumulation, particularly because a rapid rise in the debt level heightens the risk of acquiring assets of poorer quality and generally coincides with a climate of easy credit (increasing leverage in the financial sector) and/or unstable capital flows.

With the exception of Germany, the increase in the debt in the euro area during this period mainly occurred in the non-financial private sector (+24 percentage points of GDP); in the public sector the rise was smaller (+13 percentage points of GDP) and debt accumulation did not take off until the end of the period. On average for the euro area, the rise in the debt ratio of the non-financial private sector between 2005 and mid-2010 was more or less evenly distributed between households and non-financial corporations. In Belgium, over the same period, non-financial corporations recorded a slightly higher rise in debt levels than households.

Belgium likewise experienced accelerating debt accumulation: for both households and non-financial corporations, the increase was even a little higher than in the euro area. Apart from developments on the property market and lending criteria, a series of specific fiscal and institutional factors also played a role in the rising debt levels in Belgium.

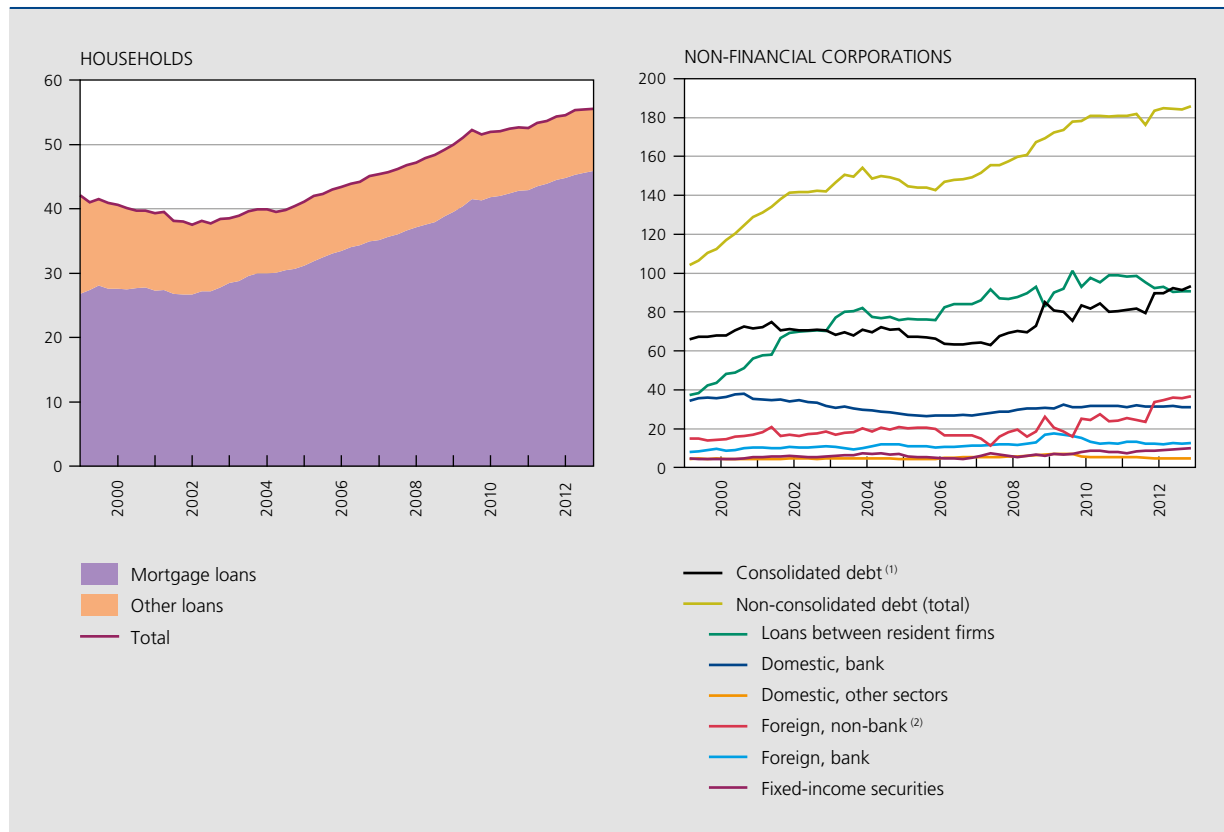
In Belgium as in the euro area, the debt accumulation of households (see chart 4), particularly from 2005, is attributable essentially to the strong rise in mortgage lending and house prices. Moreover, that increase coincided with the introduction of a number of tax reforms (stimuli). A new tax treatment of mortgage loans, introduced in 2005, has since led to a more transparent advantage, the “housing bonus”. Moreover, from 2009, under the “recovery plan”, a number of tax incentives were introduced to encourage energy-saving investments (“green loans”). From 2009 to 2011 inclusive, when these measures largely ended, this led to a notable rise in the number of loans for renovation purposes. However, the household debt ratio continued to increase after this period, as did house prices.

In other countries, too, institutional and fiscal factors to some extent determine the debt accumulation and debt levels. For instance, the considerable rise in Dutch household debt in the run-up to the crisis is attributable partly to advantageous tax rules for owners/borrowers⁽¹⁾.

The debt accumulation of Belgian firms (see chart 4) is also determined partly by various specific factors attributable to the tax environment. For instance, in Belgium there are considerable funding flows between non-financial corporations, on account of the activities of non-financial holding companies and finance companies of multinationals based in Belgium. These companies were previously attracted by the tax concessions available to coordination centres and, since 2006, by the “notional interest” allowance. Although that mainly affects the non-consolidated debt concept (via the effect of financing between resident non-financial corporations, which is included in the concept of non-consolidated debt and was estimated at 93 % of GDP at the end of 2012), it also

(1) In the Netherlands, interest charges on mortgage loans are tax-deductible over a period of up to 30 years. In addition, in 2010, more than half of current mortgage loans in the Netherlands were “interest only” loans (*aflossingsvrije hypotheek*) (DNB, 2011), i.e. during the term of the loan the borrower only pays the interest charges, and does not have to repay the principal until the loan expires. Moreover, the Dutch market offered the option of home equity withdrawal, permitting additional borrowings equivalent to a rise in the value of the home resulting from house price increases. However, some of these schemes have been abolished since the crisis. For instance, in the April 2012 Stability Programme for the Netherlands, it was stipulated that, from 1 January 2013, the interest allowance would be restricted to mortgages repaid in full, at least by an annuity scheme, i.e. mortgages providing for regular fixed repayments, covering both capital and interest.

CHART 4 DEBT OF HOUSEHOLDS AND NON-FINANCIAL CORPORATIONS IN BELGIUM, BY TYPE
(in % of GDP)



Source: NBB.

(1) Non-consolidated debt minus financing received from resident firms in the form of loans or fixed-income securities.

(2) Comprises loans granted by foreign firms to Belgian firms.

influences the consolidated concept in so far as the finance is provided by a non-resident firm for a resident firm. Since 2005, the loans granted by related foreign firms to firms based in Belgium have risen by 17 percentage points of GDP to 37 % of GDP at the end of 2012, accounting for much of the rise in the consolidated debt ratio, up by 26 percentage points of GDP during that period.

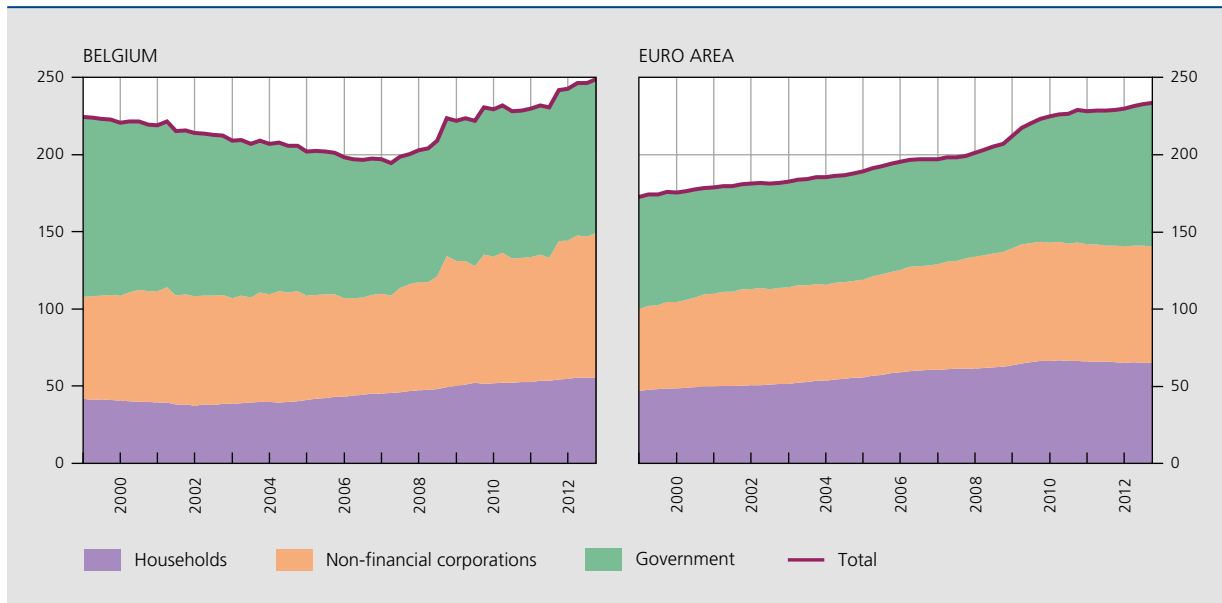
Rather than being due to an actual demand for funding on the part of firms, that debt accumulation therefore originates from financial flows aimed at optimum tax efficiency. It is therefore preferable to estimate the underlying movement in the debt on the basis of a debt concept which is influenced little, if at all, by these specific financing transactions between firms, e.g. on the basis of bank lending. Since 2005, that lending has risen by only 6 percentage points of GDP to 44 % of GDP, while the non-consolidated and consolidated debt ratios of non-financial corporations have risen respectively by 41 and 26 percentage points of GDP, to 186 and 93 % of GDP.

2.2 Debt level and heterogeneity within the euro area

Owing to the increase in debt in the non-financial private sector, and subsequently also in the public sector, the aggregate debt ratio in the euro area and in most of the Member States has reached a historic peak (see chart 5). The overall debt ratio of the non-financial sector climbed from 173 % of GDP at the beginning of 1999 to 233 % at the end of 2012 in the euro area, and from 224 to 249 % of GDP in Belgium. However, as in the case of the debt accumulation, the debt level varies considerably, both between countries and between sectors.

An international comparison shows that the debt ratio of the non-financial private sector exhibits widely varying values (see chart 6). At the end of 2012, the ratio ranged from 73 % of GDP in Slovakia to 311 % in Cyprus. The breakdown of the debt ratio between firms and individuals is also divergent. As in the euro area, the household

CHART 5 CONSOLIDATED GROSS DEBT RATIO OF THE NON-FINANCIAL SECTOR⁽¹⁾: DEVELOPMENT
(in % of GDP)



Sources: EC, ECB, NBB.

(1) Data up to the fourth quarter of 2012. Quarterly data for the non-financial private sector debt ratio. Annual data for the public debt ratio (end of period) interpolated linearly on a quarterly basis.

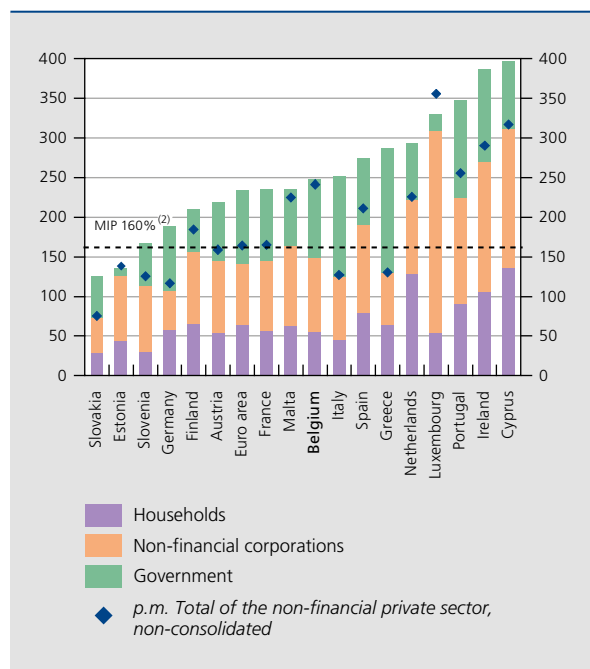
debt ratio is lower than that of non-financial corporations in most countries. However, in the Netherlands and Germany, household debt exceeds corporate debt. In Belgium, the household debt ratio is below the average for the euro area, and that of non-financial corporations slightly exceeds it.

At the end of 2012, the consolidated debt ratio of the non-financial private sector in Belgium (149 % of GDP) was close to the euro area average (141 % of GDP), in an international context.

However, the private sector's debt level depends very much on the definition applied. For instance, Belgium in particular records a significant difference between the non-consolidated (241 % of GDP at the end of 2012) and consolidated debt ratio (149 % of GDP) of the non-financial private sector. That difference is also substantial in the case of Luxembourg. As explained above, the difference essentially reflects the scale of financing between resident firms. Box 1 explains the concept of consolidated debt used in this article, and specifies how it differs from other definitions.

If the government debt level is added to that of the private sector, the conclusion is still that there are wide variations between countries. At the end of 2012, the total debt ratio ranged between 125 % of GDP in Slovakia and 397 % in

CHART 6 CONSOLIDATED GROSS DEBT RATIO OF THE NON-FINANCIAL SECTOR: INTERNATIONAL COMPARISON⁽¹⁾
(in % of GDP, end-2012)



Sources: EC, ECB, NBB.

(1) The countries are ranked according to the total consolidated gross debt ratio of the non-financial sector.

(2) Threshold used by the EC in the MIP to assess the non-consolidated debt level of the non-financial private sector.

Cyprus. Compared to the ranking of countries according to their private debt, several countries – including Belgium – see their relative position deteriorate if their high public debt is taken into account. The countries with a substantial public debt are sufficiently well known. In the euro area, the countries with the highest public debt ratio at the end of 2012 were Greece, Italy, Portugal, Ireland and Belgium. Only 5 of the 17 Member States (Estonia, Luxembourg, Slovakia, Finland and Slovenia) had a public debt ratio below the Maastricht criterion of 60 % of GDP.

The country ranking shows that the countries which proved vulnerable during the financial crisis are generally also among those with the highest aggregate debt ratios. Countries considered stable during the crisis, such as Germany and Finland, have a modest debt ratio. However, the gross debt ratio is not necessarily sufficiently discriminating, as a country's financial vulnerability – and hence the sustainability of its debt – also depends on a range of other factors, as explained in section 3 of this article.

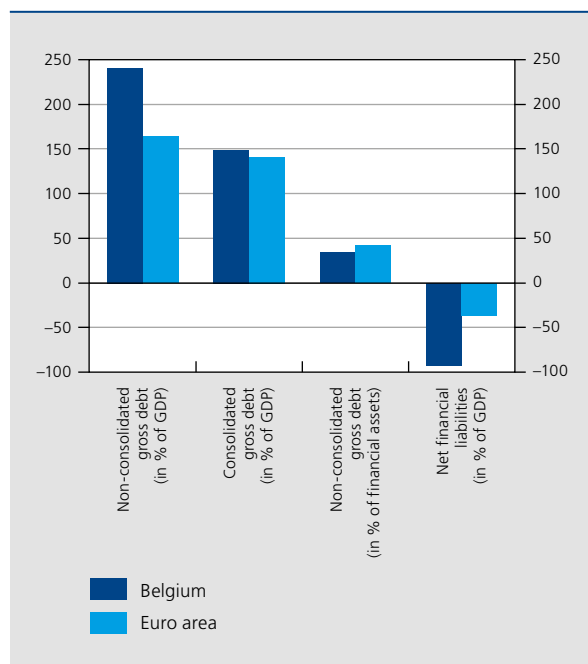
Box 1 – Debt concepts and definitions

The level of the debt ratio depends very much on the definition used. The same applies to a country's relative position, and the associated policy messages, as is shown by a comparison of the debt level of the non-financial private sector between Belgium and the euro area, based on four criteria:

- non-consolidated gross debt, in % of GDP;
- consolidated gross debt, in % of GDP;
- non-consolidated gross debt, in % of financial assets;
- net financial liabilities, in % of GDP.

DEBT LEVEL OF THE NON-FINANCIAL PRIVATE SECTOR⁽¹⁾ ACCORDING TO VARIOUS DEFINITIONS

(end-2012)



Sources: EC, ECB, NBB.

(1) Households and non-financial corporations.



On the basis of the debt indicator most commonly used in international analyses, namely the non-consolidated gross debt in % of GDP, the financial position of the Belgian non-financial private sector appears fragile: the debt ratio came to 241 % of GDP at the end of 2012, compared to 164 % of GDP in the euro area, and is thus well above the threshold of 160 % of GDP, beyond which – according to the MIP – there are signs of a macroeconomic imbalance.

However, on the basis of the consolidated gross debt ratio, the debt of the Belgian non-financial private sector is comparable to that of the euro area (149 and 141 % of GDP respectively). The difference between the non-consolidated debt ratio and the consolidated figure corresponds to financing between entities in the same resident institutional sector (lending between firms). That financing is particularly high in Belgium (93 % of GDP), notably on account of the strong presence of non-financial holding companies and finance companies of multinationals. In the euro area, the difference between the two debt concepts was only 23 % of GDP at the end of 2012. Although the consolidated debt ratio is not shown in the MIP scoreboard of eleven indicators, it acts as an “alternative” indicator that the European Commission uses among other criteria for making its final assessment. In its latest in-depth review of Belgium (EC, 2013), the European Commission therefore does not consider the private sector debt position to be unbalanced.

If the non-consolidated gross debt is expressed as a percentage of the total financial assets, Belgium actually does better than the euro area. The reason is that the volume of private sector financial assets is much greater in Belgium (719 % of GDP) than in the euro area (389 % of GDP). Apart from a structurally bigger savings flow, the size of these non-consolidated assets is largely due to reciprocal claims between resident non-financial corporations (218 % of GDP in Belgium). Once again, it is therefore a question of financial links between firms. An increase in the liabilities (either via debt or via equity) caused by these links inflates the claims of the corporate sector in the redistribution of these flows to other firms or to the parent company (e.g. in the form of loans). This leverage figure therefore applies a sort of consolidation (since part of the financial links between firms appear in both the denominator and the numerator). However, this measurement is generally more volatile than debt ratios expressed as a percentage of GDP, taking account of financial asset price fluctuations.

According to the net debt figure, the financial position of the Belgian private sector is much sounder overall than that of the euro area, in stark contrast to the conclusion based on the non-consolidated gross debt⁽¹⁾. The net debt is calculated here as the difference between the total financial liabilities (including shares; the concept is therefore broader than debt) and the financial assets. This indicator is negative for the private sector, corresponding to positive net financial assets. In Belgium that is attributable to the impressive net financial assets of households, amounting to € 806 billion at the end of 2012, or 214 % of GDP, the highest figure in the euro area.

Apart from the debt position of the non-financial private sector, i.e. households (S14 and S15 according to the national accounts terminology) and non-financial corporations (S11), this article also examines the debt position of the general government (S13). It should be noted that the distinction between the various debt concepts is less relevant here. Taking account of the small scale of reciprocal claims and financial assets held by governments, the differences between the consolidated and non-consolidated debt concepts⁽²⁾ and between gross and net debt levels are less marked than for the private sector.

Finally, it must be said that the total debt of the economy is defined in this article as relating to households, non-financial corporations and general government, and that this aggregate therefore does not include the debt of the financial sector. Since the latter is solely an intermediary, its debt does not in fact result from its own final

(1) On the economic importance of the net debt ratio compared to the gross debt ratio, see Van Nieuwenhuyze (2013).

(2) As in the case of the consolidated debt ratio of the other sectors, the consolidation of the public debt is applied with respect to the national resident sector. In regard to the aggregation at the level of the euro area as a whole, this article does not consolidate the mutual loans between the various Member States. The public debt of the euro area therefore includes financing between the various central governments.



investment but from that of the other sectors. However, as the crisis demonstrated, the balance sheet position of the financial sector is of great importance for macroeconomic developments. On the one hand, governments of many countries proceeded with capital injections to strengthen the balance sheet position of the banks, and that augmented the public debt. Also, the balance sheet position of the financial sector, via its impact on financial intermediation, may have a considerable influence on the debt development of the non-financial sectors, as explained by section 4 of this article concerning deleveraging.

3. Debt sustainability

In view of the rapid rise in the debt ratio and its historically high level, a long and significant deleveraging process has become more likely in the euro area. The financial crisis in fact shows that the sustainability of the accumulated debt has been undermined; as explained in section 1, that may lead to various forms of deleveraging (driven by supply and/or demand). The heterogeneity of the debt positions of the various countries and sectors in the euro area, illustrated in section 2 of this article, reveals that debt sustainability (and hence the likelihood of deleveraging) varies from one country to another and from one sector to another.

This section therefore assesses the sustainability of the current debt position for each country (on the basis of data up to the end of 2012) for the three non-financial sectors, namely households, non-financial corporations and the government, both separately and jointly. That analysis also yields an indication of the countries and sectors most urgently in need of balance sheet repair.

Sustainability is a complex concept and there is no consensus regarding its definition and measurability (see Wyplosz, 2007). In particular, there is no uniform definition of the equilibrium level of the debt ratio, particularly for the private sector. It is therefore advisable to adopt a multidimensional approach to sustainability, using multiple variables⁽¹⁾. The study by McKinsey Global Institute (2010) identifies a number of sub-indicators charting the sustainability of the debt:

- The level of the debt ratio and its components: a high debt ratio compared to similar countries or sectors, or in relation to an absolute threshold, may point to an excessive debt level. For example, for the non-financial private sector the MIP is based on a threshold of 160 %

(1) It should also be noted that the sustainability of the public debt forms the subject of regular analysis (see in particular ECB (2011) and the annual assessments by the EC (2012)), unlike the private sector debt. Balassone *et al.* (2011) review various methods which may be applied to the public debt.

(2) Thus, the non-financial private sector in Belgium and Luxembourg can tolerate a relatively high non-consolidated debt ratio because the consolidated debt ratio is much lower.

of GDP for the non-consolidated debt ratio (this is one of the eleven indicators for identifying macroeconomic imbalances): above that threshold, the debt level is considered excessive. In the case of the government debt ratio, the threshold applied since the Maastricht Treaty is 60 % of GDP. The existence of these – not necessarily identical – thresholds for the debt ratio of the non-financial sectors is also proposed in a number of empirical studies (e.g. Cecchetti *et al.* (2011)). However, as pointed out in box 1 for the specific case of the Belgian private sector, these values must not be over-generalised (see also Egert, 2012). It is preferable to take account of institutional and structural factors as well when comparing the debt ratios of each country to these thresholds⁽²⁾.

- The rise in the debt ratio: particularly strong growth in relation to the historical trend or in comparison with similar countries (e.g. Jordà *et al.*, 2011) may indicate an excessively rapid credit expansion, implying a risk of acquiring poorer quality assets.
- Composition of the debt: the sectors' sensitivity to their debt position also depends on the structure of the debt in terms of maturities (long or short), fixed or variable interest rates, counterparties and currencies. Long maturities are generally considered less risky than a large volume of short-term debt (roll-over risk). The same applies to fixed interest rate contracts, which reduce the sensitivity to interest rate fluctuations in comparison with variable interest rates; it is also true for debt denominated in the country's own currency, limiting the exchange rate risk. Finally, a large proportion of foreign-held debt in a context of volatile, unstable capital flows may be considered a disadvantage (risk of sudden stops).
- The repayment capability of the sectors: repayment capability is measured in relation to disposable income and/or profit. The repayment burden can be analysed on the basis of total capital repayments and interest due (debt service burden) expressed as a percentage of income. In view of the incomplete data on capital repayments, the analysis is often confined to the interest charges (interest rate burden).

- The vulnerability of the sectors and framework conditions: vulnerability can be measured according to changes in income or changes in financing conditions. Sectors with relatively low volatility in their income and/or substantial reserves of liquid assets are less sensitive to recessions or to other general situations involving loss of income. Sectors with considerable financial reserves or large net financial assets are therefore able, in general, to maintain a higher gross debt level.

The heat map presented in table 1 summarises the results of the sustainability analysis. The analysis was conducted for the respective non-financial sectors by means of various key indicators measuring sustainability: the level of and change in the consolidated gross debt ratio, the breakdown of the debt position into short-term debt (up to one year) and long-term debt (over one year), the interest payable compared to disposable income for households, and compared to the gross operating surplus for firms⁽¹⁾ and the net financial assets of institutional sectors. The heat map in table 1 identifies for each sustainability indicator the four countries with the best results (in green) and the four countries with the worst results (in orange), and ranks the countries on the basis of a general assessment according to all the sustainability indicators.

Table 1 shows that the sustainability risks in the household sector usually coincide with those of non-financial corporations. It also emerges that the government sector situation is generally decisive for the overall ranking. Despite the government's high net financial liabilities, Belgium is among the stronger euro area countries, mainly thanks to the relatively favourable financial position of households and firms. The sustainability analysis shows that these sectors do not face any immediate problems and do not need deleveraging. In particular, the household sector achieves a good score⁽²⁾. In the non-financial corporations sector, Belgium's position is relatively unfavourable in terms of the proportion of short-term loans in bank loans to non-financial corporations (and in their total debt). However, that large proportion is to a great extent due to the activities of the cash management companies based in Belgium, which generally operate on the basis of short-term finance.

The general ranking of the euro area countries makes sense at first sight in view of the vulnerability of the various countries during the crisis. Germany and Austria top the ranking, while Portugal, Ireland, Greece and Cyprus come bottom. The weakest countries present sustainability risks in both the non-financial private sector and the public sector. In those countries there is therefore a relatively high probability of general balance sheet repair.

In some cases, the multidimensional analysis reveals risks that would not be apparent from examination of the debt level alone. For instance, a large proportion of Greek household debt consists of short-term debt (15.5% of the total), indicating that, although Greek households have a relatively low debt level, there could be serious liquidity and interest rate risks. Conversely, Dutch households have a relatively high debt ratio but a substantial volume of financial assets, that reduces their insolvency risk.

As in the Netherlands, the sustainability of the non-financial private sector's debt position in Belgium improves considerably if the analysis is based on net financial assets (see also box 1), particularly for households⁽³⁾. The significance of net financial assets as an indicator of sustainability and financial fragility is likewise evident at the level of the economy as a whole. Along with the Netherlands, Germany and Finland, Belgium is among a small group of euro area countries with a net creditor position in relation to the rest of the world, while countries such as Greece, Ireland, Cyprus, Portugal and Spain have substantial net financial liabilities.

However, the sustainability analysis based on the heat map has the drawback of being merely a snapshot view which takes no account of the trend in the underlying indicators. Moreover, it is based on macroeconomic aggregates which may mask fragile segments. For instance, a low household debt ratio for the sector as a whole may be accompanied by a significant number of risky individual debt positions, e.g. if some households obtained loans with a high loan-to-value ratio, or if the loan repayments take up a large proportion of their disposable income. In addition, the heat map identifies potential risks on the basis of a country's situation in relation to other countries, without assessing the general risk level.

In this context, it should be noted that, in contrast to the trend in the debt level in most countries, a number of sustainability indicators have improved since the financial crisis. Almost all the euro area countries have seen an improvement in the financing structure of both households and firms, since they are making greater use of long-term

(1) For governments, the interest burden (ESA definition) is expressed as a percentage of GDP. The proportion of short-term debt is not considered to be an indicator of sustainability for governments since the public debt generally comprises a predominance of long-term debt.

(2) However, this assessment takes no account of factors exogenous to the financial situation, such as housing market developments, which could be detrimental to the financial situation in the case of a turnaround.

(3) However, distribution aspects are key factors here. The more financial assets are concentrated among households with low or zero debt, the less they contribute to the sustainability of the sector's debt ratio. Moreover, it is questionable whether assets can serve as the basis for financing debt, particularly in a period of financial crisis or fire sales (Tirole, 2011), as the latter lead to a marked reduction in asset values. Nonetheless, the assets are a key factor in a sustainability analysis, and it should be noted that the most illiquid assets held by households (property) are disregarded in this analysis, and that a large proportion of the financial assets of Belgian households comprises liquid deposits.

TABLE 1 DEBT SUSTAINABILITY OF THE NON-FINANCIAL SECTOR: HEAT MAP⁽¹⁾

	Households					Non-financial corporations					Government				
	Debt level (in % of GDP, 2012Q4)	Change in the debt level (in percentage points of GDP, 2005Q1- 2012Q4)	Share of short-term debt ⁽²⁾ (in %, 2012Q4)	Interest charges ⁽³⁾ (in %, 2011)	Net financial assets (in % of GDP, 2012Q4)	Debt level (in % of GDP, 2012Q4)	Change in the debt level (in percentage points of GDP, 2005Q1- 2012Q4)	Share of short-term debt ⁽²⁾ (in %, 2012Q4)	Interest charges ⁽³⁾ (in %, 2011)	Net financial assets (in % of GDP, 2012Q4)	Debt level (in % of GDP, 2012Q4)	Change in the debt level (in percentage points of GDP, 2005Q1- 2012Q4)	Interest charges ⁽³⁾ (in % of GDP, 2012)	Net financial assets (in % of GDP, 2012Q4)	
DE	59	-12	4.7	2.8	128	49	-4	16	12	-54	82	15	2.5	-51	
AT	54	3	8.6	1.7	115	92	14	23	11	-77	73	9	2.6	-51	
MT	63	19	8.0	-	173	101	9	21	-	-106	72	3	3.2	-52	
SI	30	13	11.1	1.7	71	83	28	32	21	-120	54	27	2.1	-8	
FR	57	16	3.3	1.9	140	88	21	19	24	-116	90	25	2.6	-70	
BE	56	15	3.2	1.7	214	93	26	36	19	-121	100	6	3.5	-82	
ES	80	14	3.8	2.9	84	111	31	20	17	-129	84	39	3.0	-61	
EE	44	19	2.1	2.1	53	82	19	9	16	-140	10	5	0.2	33	
NL	128	20	2.8	6.5	191	94	3	30	15	-38	71	19	1.8	-42	
SK	29	19	9.0	1.5	38	45	7	37	6	-72	52	12	1.9	-25	
FI	65	21	6.1	1.7	56	93	23	13	21	-104	53	9	1.4	55	
IT	45	14	8.5	0.9	171	80	16	38	8	-110	127	23	5.4	-113	
LU	55	10	4.0	2.4	75	254	180	37	55	-160	21	15	0.4	46	
CY	136	53	9.6	3.5	113	175	85	24	9	-164	86	15	3.2	-54	
EL	64	33	15.5	2.2	63	65	16	40	6	-82	157	58	5.0	-102	
IE	106	31	3.7	3.1	84	163	51	28	13	-97	118	89	3.6	-84	
PT	91	14	3.9	3.0	134	132	33	27	27	-169	124	60	4.4	-78	

Sources: EC, ECB, NBB.

(1) The ranking of the countries in the table is based on a ranking for each variable, each country being given a score ranging from "low risk" (=1) to "high risk" (=17), corresponding to its position in the ranking. The 4 countries with the lowest scores are marked in green, and the 4 countries with the highest scores are marked in orange. Next, the countries were ranked in ascending order on the basis of (i) the number of orange values, and (ii) the average score over the variables available for each country. The table reflects the actual value of the variables and not the score.

(2) This concerns the proportion of short-term liabilities (< 1 year) in the total gross debt of households and in the outstanding loans granted by resident banks to non-financial corporations.

(3) The interest charges concern interest payments over the whole year 2011, the latest figures for all countries, expressed respectively as a percentage of the gross disposable income of households and the gross operating surplus of non-financial corporations for the year in question. In the case of governments the 2012 figures are available, and interest payments (ESA definition) are expressed as a percentage of GDP.

loans. In addition, there has been an improvement in interest charges, particularly for the non-financial private sector. However, that is due mainly to the relaxation of monetary policy since the end of 2008, so that, if the policy were to be tightened, there is a risk that sustainability might weaken again. Moreover, the improvement is not as marked in all countries owing to the current fragmentation in the transmission of monetary policy, and hence in the interest rates applied by the banks.

Greece is a notable exception to this improvement. The household interest burden expressed as a percentage of disposable income displays a steep upward trend. Apart from a less favourable movement in interest rates than in most other euro area countries, that deterioration is due to the absence of economic growth, which has seriously eroded the disposable income of both households and firms.

4. First signs of deleveraging ?

There is little doubt that some euro area countries will need to cut their total debt ratio (further) in the coming years, as is evident, for instance, from the sustainability analysis in section 3. Furthermore, analyses of historical episodes of deleveraging reveal that such processes are often triggered by a financial crisis. These analyses also offer a reference framework for comparing recent developments in the euro area. Thus, McKinsey Global Institute (2010) found that, out of the 32 deleveraging episodes examined which had been preceded by a financial crisis, half could be described as belt-tightening, with the debt rising more slowly than nominal GDP over quite a long period averaging six to seven years⁽¹⁾. During these periods, the annual growth of lending dropped to an average of 2% (compared to 21% in the ten years preceding the start of deleveraging), and the total debt ratio declined, on average, by 40 percentage points of GDP. In particular, the experiences of Sweden and Finland in the 1990s suggest that it is initially only the private sector debt ratio that declines, whereas the public debt continues to grow in the context of very weak GDP growth. However, once growth subsequently picks up, the public debt ratio also declines (McKinsey Global Institute, 2012).

For the euro area as a whole, the first phase of deleveraging seems to have started already in the private sector, in line with the Scandinavian experience. At the end of 2012, the non-financial private sector had a debt ratio which was about 3 percentage points of GDP below the mid-2010 level. However, that contraction is still dwarfed by the 24 percentage points of GDP increase in the debt ratio recorded between the first quarter of 2005 and

the second quarter of 2010. Unlike the debt ratio of the non-financial private sector, the government debt ratio is still rising, partly as a result of the automatic stabilisers, a number of counter-cyclical measures and the support given to the financial sector during the crisis.

To provide a clearer picture of recent developments, the movement in the debt ratio is analysed for each of the three sectors in the individual euro area countries, and the overall change is also broken down between the change in the nominal debt and the change in nominal GDP. The debt ratio falls not only if the outstanding debt is reduced (active deleveraging), but also if the debt rises more slowly than nominal GDP (passive deleveraging). Conversely, the debt ratio may continue to rise even as the nominal debt contracts, if nominal GDP declines faster.

In Ireland, Spain, Portugal, Greece and Estonia, households have already greatly reduced their outstanding debt since mid-2010 (dark bars in chart 7). As a result, if nominal GDP had remained unchanged, their debt ratio would have fallen by 11, 7, 6, 6 and 3 percentage points of GDP respectively. In Ireland, Spain and – above all – Estonia, nominal GDP growth also gave a further boost to the decline in the debt ratio, whereas that did not happen in Greece and Portugal. In Greece, nominal GDP actually fell so sharply that the household debt ratio continued to rise despite the nominal debt reduction. In Cyprus and the Netherlands, where the level of the debt ratio and the share of interest charges in household disposable income according to the heat map discussed in section 3 point to an increased risk, debt reduction has not yet started although the relatively dynamic nominal GDP growth in those countries has curbed the further rise in the debt ratio, and actually prevented it in the Netherlands. Finally, there has been no debt reduction in Belgium either, although the household debt ratio has risen more slowly than in the period from 2005 to mid-2010.

In the case of non-financial corporations, there are fewer signs of active deleveraging. At the end of 2012, only Spanish, Greek and Slovenian firms had considerably lower outstanding debt than in the second quarter of 2010, though the nominal debt also declined slightly in Portugal and Italy. However, in Greece and Portugal, the impact of the active debt reduction was totally negated by a fall in nominal GDP, so that the debt ratio of non-financial corporations remained stable in Greece and rose further in Portugal. In Luxembourg, Cyprus and Ireland, where the heat map indicates relatively high risks concerning the sustainability of the debt position of non-financial

(1) During the other periods, the fall in the debt ratio was due essentially to very high inflation (eight episodes), mass payment defaults (seven episodes), or very strong real growth (one episode).

corporations, the nominal debt continued to outpace the rise in nominal GDP. Belgian non-financial corporations also allowed their debt ratio to rise. As described in section 2, however, this was due mainly to an increase in loans by related foreign non-financial corporations, whereas bank loans remained more or less stable.

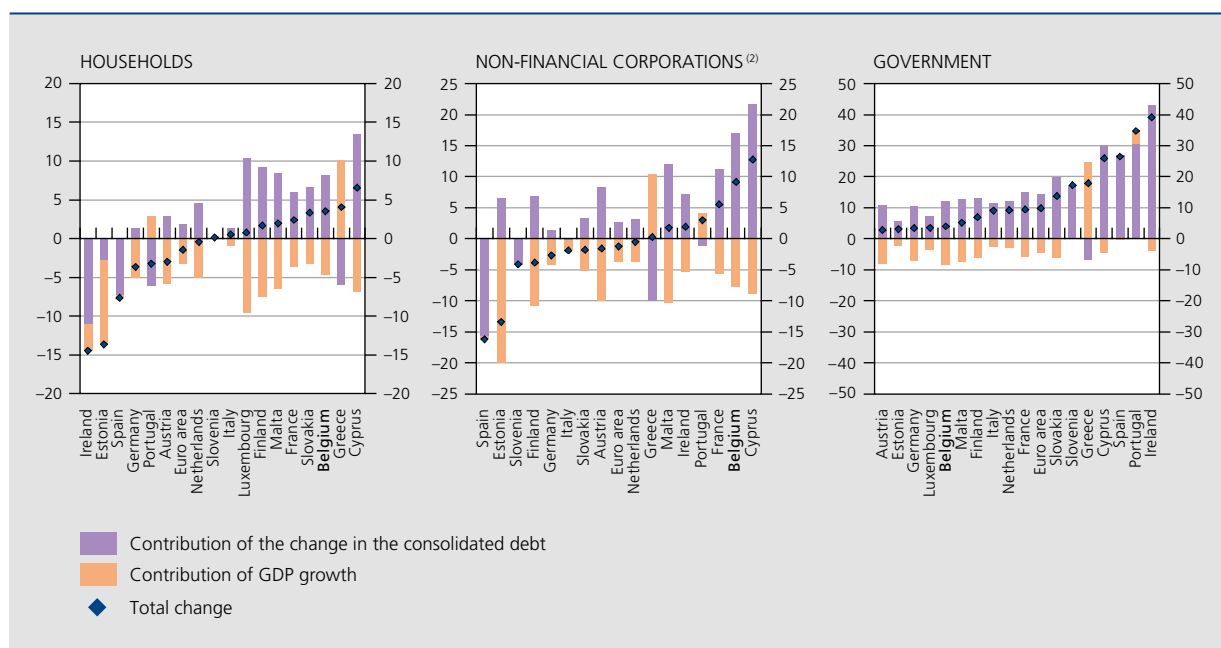
In regard to the government debt ratio, the picture is more uniform. With the exception of Greece, the nominal public debt continued to rise in all the euro area countries. In some countries, nominal GDP growth did counterbalance that to some extent, but in ten countries the rise in the debt ratio still exceeded 9 percentage points of GDP. In Greece, the nominal public debt continued rising in 2010 and 2011, but that growth was more than offset in 2012 by the voluntary bond exchange (private sector involvement – PSI), imputing substantial valuation losses to the private sector, and by the government bond buy-back operation. However, the debt ratio continued to climb throughout the period in question as a result of severely negative GDP growth.

Active debt reduction may originate both from the sector concerned (demand-driven deleveraging), with households and firms themselves wishing to reduce their debt, and from the financial sector (supply-driven deleveraging)

which has a major influence on the movement in the debt of the other sectors via its credit policy. By analogy with Cuerpo *et al.* (2013), this article analyses the relative importance of these two forms of active deleveraging on the basis of a radar chart incorporating a number of key indicators.

This article uses six indicators to compare the degree of demand-driven deleveraging between countries. In the first place, this concerns two variables relating to the business cycle and hence the way in which households and non-financial corporations perceive their repayment capability. The downward pressure on demand for loans will increase as unemployment rises, or as the EC's harmonised Economic Sentiment Indicator (ESI) shows an erosion of confidence in the economy. In addition, demand-driven deleveraging also frequently results from a decline in the net wealth of the sector concerned. That is why the movement in house prices and the total debt ratio of the non-financial private sector are also examined. Finally, two variables are used which try to obtain a more direct measurement of demand for loans on the part of the non-financial private sectors, namely the net percentage of banks that, in the Eurosystem's Bank Lending Survey, report a fall in demand for mortgage loans or corporate loans over the past three months.

CHART 7 ACTIVE AND PASSIVE CHANGE IN THE DEBT RATIO OF THE NON-FINANCIAL SECTORS⁽¹⁾
(change during the period 2010Q2-2012Q4, in percentage points of GDP)



Sources: EC, ECB, NBB.

(1) The countries are ranked on the basis of the total change in the consolidated gross debt ratio of the sector in question.

(2) For non-financial corporations, the data for Luxembourg are not included in the chart, because the quarterly data are highly volatile.

Six indicators are also selected in relation to supply-driven deleveraging – via the banking sector’s credit policy. The most direct measure of the banks’ credit policy is the net percentage of banks that, in the Eurosystem’s Bank Lending Survey, state that they have tightened the credit conditions for mortgage loans or business loans over the past three months. Here, too, the total debt ratio of the non-financial private sector is included, but this time as an indicator of the risk perceived by the banks. In addition, the movement in the balance sheet total and the deposit base of the banking sector is also considered, because the probability of supply-driven deleveraging increases as banks see their sources of funding expand more slowly. Finally, the sovereign CDS premium is selected as well; there are two ways in which this premium can influence the reticence of financial institutions to grant credit. First, an increase in the CDS premium points to a higher risk of valuation losses for financial institutions, which traditionally invest heavily in the bonds issued by their government. Second, the CDS premium may rise so high as to create the perception that there is no longer any fiscal backstop, so that financial institutions will find it harder to finance their activities (see also section 1).

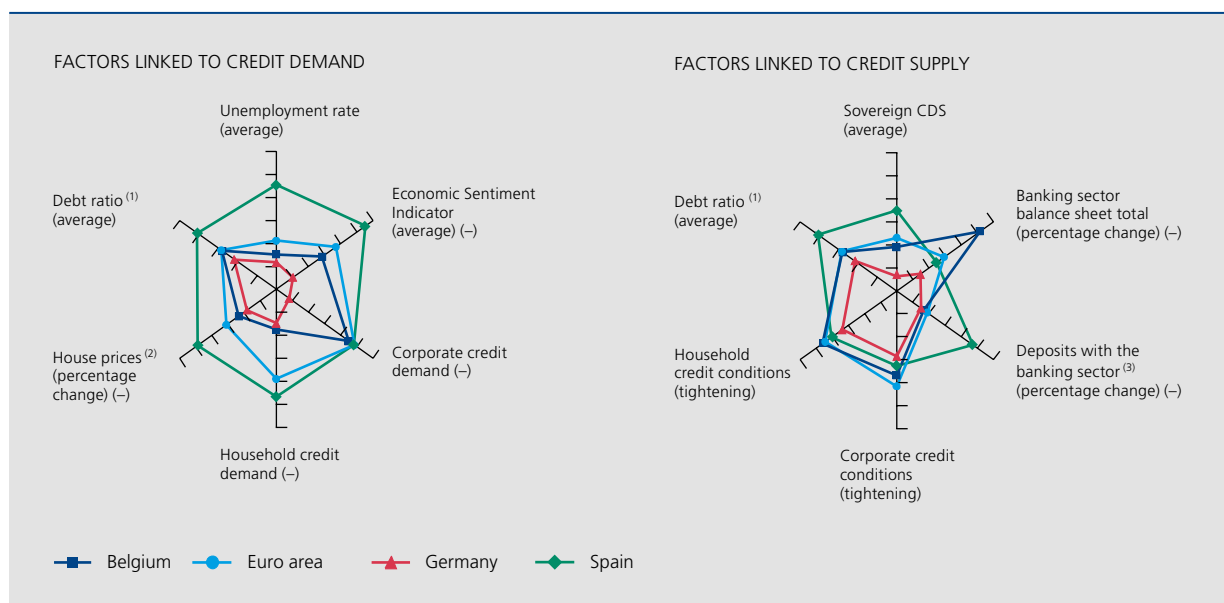
The relative importance of each of these indicators can be compared between countries by means of a radar chart⁽¹⁾. The farther the value of an indicator from the origin, the

more likely it is to trigger deleveraging. For simplicity, chart 8 compares the situation in Belgium with just two large countries, namely Spain, where deleveraging is already in progress, and Germany, where the debt position does not seem excessive so that the pressure should be very slight, and with the euro area as a whole.

This presentation covering the period from mid-2010 to the end of 2012 shows that the factors which may account for demand-driven deleveraging generally had the greatest effect in Spain, followed by the euro area as a whole, Belgium and Germany. It is primarily the variables relating to the business cycle that exert significantly greater pressure in Spain. For Belgium, and especially Germany, most indicators suggest that the pressure to reduce debt positions is less than in the euro area as a whole. For the indicators which specifically refer to household demand for credit, Belgium’s score roughly equals that of Germany, but for firms the pressure is relatively greater according to the indicator used here. According to the latest results of the Eurosystem’s Bank Lending Survey, since the beginning of 2012 demand for loans in Belgium has nevertheless declined more sharply than the euro area

(1) In such a radar chart, the scale on which each variable is represented is determined by the minimum and the maximum of the four countries considered. These scales are therefore not mutually comparable, so this presentation cannot be used to assess the relative size of the different variables within a country.

CHART 8 DEMAND-DRIVEN AND SUPPLY-DRIVEN DELEVERAGING OF THE NON-FINANCIAL PRIVATE SECTORS
(average over the period 2010Q3-2012Q4 or percentage change over the period 2010Q2-2012Q4)



Sources: EC, OECD, ECB, NBB.

(1) Consolidated gross debt ratio of the non-financial private sector (households and non-financial corporations).

(2) For Belgium and the euro area, the latest reading relates to the third quarter of 2012.

(3) Deposits of the non-banking sector excluding those of the central government.

average, indicating that demand-driven deleveraging has increased recently.

For the factors which may account for supply-driven deleveraging, the pattern is less clear than on the demand side. In general, supply-driven deleveraging nevertheless appears to have applied mainly in Spain, followed by Belgium and the euro area, and to a much lesser degree in Germany. On the basis of the movement in the balance sheet total of the banking sector, the pressure on the credit supply was by far the greatest in Belgium; however, that gives a distorted picture of the assessment of lending to the domestic sectors, since the Belgian banks have mainly disposed of foreign assets. The fact that the Belgian banks have a high score for attracting deposits from the non-banking sector also confirms that conclusion, certainly in the current context in which the Spanish banks, for example, have seen part of their funding base disappear. Conversely, during the period in question, a relatively large number of Belgian banks tightened their mortgage lending criteria. That caused the expansion of mortgage lending to slow down, though it remains considerably higher than in the euro area.

Conclusion

An important conclusion to be drawn from the current financial crisis (and from most of its predecessors) is that the inherent pro-cyclicality of lending may give rise to financial cycles. During a financial boom – a self-reinforcing process of rising asset prices, easy credit and growing leverage – such large imbalances build up so that a financial bust ensues in the form of a vicious circle of falling asset prices, stricter lending policy and deleveraging. An excessive debt ratio or debt accumulation will frequently play a crucial role in such a reversal. The turnaround is often accompanied by a financial crisis that not only jeopardises financial stability but also leads to a deep and protracted recession.

Against that background, this article analyses the size and dynamics of the debt ratios in the euro area countries. As a result of the significant debt accumulation by both the private and the public sector in the past decade, the total debt ratio of the non-financial sector in the euro area has reached its highest level since the creation of EMU. However, the debt accumulation – which was driven largely by easy access to cheap finance, rising house prices and booming investment in fixed capital – varies widely

between countries and between sectors. At the end of 2012, households in Belgium still had a lower debt ratio than those in the euro area, though the gap has narrowed in recent years. The consolidated debt ratio of Belgian non-financial corporations has also risen faster than the euro area average, but most of that increase is due to lending by related foreign non-financial firms, a phenomenon that is linked to the strong presence of non-financial holding companies and finance companies belonging to multinationals. Belgium's score in terms of public debt is not so good: though the debt ratio has not risen steeply, it still exceeds the euro area average.

However, the sustainability of the debt depends not only on the level of the debt ratio and the speed of the debt accumulation, but also on many other factors such as the proportion of short-term debt, the scale of the interest charges, and the value of the financial assets held by the sectors in question. Such a multidimensional analysis identifies Portugal, Ireland, Greece and Cyprus as the most vulnerable countries, which need a general balance sheet repair the most. Since mid-2010, there has been some deleveraging by households, and to a lesser extent by non-financial corporations, in some of those countries and in Spain. Although that is in itself a good thing, such balance sheet repair generally has a negative impact on growth in the short term, an impact which may be so severe as to negate the efforts of the various sectors to improve the sustainability of their debt, as is currently the case in Greece and Portugal.

There is little doubt that a number of euro area countries will need to cut their debt ratio (further) in the coming years. In view of the potentially serious implications for economic growth in those countries, and the danger of a financial bust, it is important for this deleveraging process to take place gradually, to restrain the operation of the financial accelerator. In the current context, that is an important point because there is little if any scope for offsetting the negative impact on GDP growth by a more expansionary monetary policy, a strongly counter-cyclical fiscal policy, or more dynamic foreign demand. In view of these limitations, safeguarding and/or boosting the structural growth potential of the economy remains the principal option, as the driving force behind a trend towards controlled, passive deleveraging propelled by higher GDP growth. It is therefore vital for the euro area to endeavour to improve competitiveness, eliminate financial fragmentation (e.g. via the banking union), and restore confidence.

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Real estate wealth by institutional sector

Gh. Poulet *

Introduction

Often, when economists analyse a country's economic situation, journalists report on a country's situation, or politicians seek to manage a country's situation, they refer to the gross domestic product, government deficit or even the trade balance, all of which are flow variables. Stock variables, with the exception of the public debt, are cited less often; admittedly, they inherently fluctuate less rapidly than flows and so do not lend themselves as well to debate. Wealth comprises the stock of accumulated assets. For the man in the street, this idea is certainly easier to grasp than that of GDP. It is also a topic of renewed interest of late in areas such as taxation, disclosure or the distribution of wealth.

Wealth is accumulated in two principal forms: financial assets and other assets. Without going into too much detail about the ESA 95 classification of these other assets, by far the largest category is real estate assets. Data on financial assets are well known because they are published every quarter in the financial section of the national accounts. Breakdowns by type of financial instrument, by sector of ownership and by debtor sector are available. However, the same is not true of real estate assets, which are still often ignored statistically.

The primary goal of this article is to provide estimates of the value of these assets. It describes the data sources and methodology used, before presenting the current state of the stock of real estate and estimating wealth using a variety of breakdowns, including a breakdown of ownership by institutional sector. One section is devoted to a more detailed review of individuals' real estate holdings, notably the relationship of these assets to total wealth, and the distribution of assets among individuals. There is a discussion of trends, but in the form of

commentary rather than an in-depth analysis, which remains to be done.

1. Data sources

With no way to directly observe the value of each asset, two types of data were needed to estimate real estate wealth: volume data and price data.

The "volume" of assets is drawn from the files of FPS Finance, and more specifically from the General Administration of the Patrimonial Documentation, or GAPD (*Administration générale de la Documentation patrimoniale*), which was created by the merger of the former cadastral and registry departments. It is this service that updates the database daily, on an ongoing basis, to reflect any changes to the cadastral map of Belgium or changes in the ownership of individual parcels. At the end of each year, the database is frozen and determines the tax situation of each of the parcels. Thanks to the goodwill of the FPS and the collaboration with the GAPD, the Bank's General Statistics Department obtained two cadastral files extracted from this year-end situation: an aggregate file of the characteristics of assets held by all individuals and a detailed file of the assets owned by each legal entity. This detail is absolutely necessary to categorise these legal entities according to the ESA 95 sector classification, which makes it possible to link the results directly or indirectly to the national accounts.

The asset price data come from the FPS Economy. The Directorate General for Statistics and Economic Information (DGSEI), using data supplied by the FPS

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Finance registry departments, compiles statistics on the selling prices of real estate assets.

1.1 Cadastral data

The aggregate file compiles the characteristics of assets held by individuals divided into several categories: resident individuals, non-resident individuals, and individuals who are undivided co-owners with legal entities. The detailed file lists the characteristics of all the assets held by each legal entity. Each of the legal entities is identified by its registry number if it is a resident entity or by a code including the ISO code for the country of residence if it is a foreign entity.

Real estate assets are broken down by the Region where they are located and by the nature of asset (house, flat, plant, land, etc.). The regional breakdown only deals with the geographic location of the assets. As for the nature of asset, it must be pointed out that the cadastral classification is only updated sporadically when there is a duly reported sale or change in ownership. It includes 415 different types of assets, around 60 of which pertain to land and the rest of which refer to buildings. This historical classification system is in some cases obsolete, as it includes codes for kiosques, chapels, windmills, etc. The cadastral data are exhaustive but do not always match reality. For example, a flat constitutes a separate parcel when it has been involved in a distinct transaction, but a flat in a house that has always exchanged hands as a house is not recognised by the cadastral service and thus is not shown separately in the file.

Three variables are provided for each category of region/type: the number of parcels noted, the corresponding surface area in square metres, and the cadastral income (CI). The surface area is that of the parcels of land with or without buildings. A 200 m² plot of land may have a villa (detached house) with 400 m² of living space or a 50 m² house. Apartments and car parks do not have a surface area, as they are attributed to “building common areas”, which constitutes another type of asset. The CI is the non-indexed cadastral income for the reference year 1975.

The cadastral files are yearly files that show the state of assets at 1 January every year. To align these data with the other statistics, the data at 1 January in year (n) are considered in the results (and again later in this article) as being at 31 December in year (n-1).

The files used show the situation at year-end 2005 to 2011. Owing to a change in the FPS Finance computer system in 2005, earlier data are not available.

1.2 Price data

The DGSEI compiles statistics on the prices of real estate transactions in Belgium by type of asset and by Region using files that notaries provide to registry services.

An average price, prices by quartile (the prices that demarcate the 25 % 50 % and 75 % least expensive assets; the price that separates the 50 % least expensive from the 50 % most expensive is called the median price), and prices by the top and bottom decile (the 10 % most expensive and the 10 % least expensive) are calculated for each type of asset and region. We note that the unit price is used for buildings, whereas for land, the price per square metre is used. These prices are published for the four most common types of property (houses, villas, flats and construction land) and are a topic of discussion in the press. Prices also exist for 21 other types of property: 12 types of buildings and 9 types of land.

Prices are available by town, province, Region and for the entire country. Because the 21 other types of asset are less common, only prices by Region are frequent enough to be representative. It is these regional prices that are used for wealth estimates.

2. Methodology

Real estate wealth by sector is estimated in two stages: first an estimate of total real estate wealth, and then a breakdown of total wealth by sector.

2.1 Total real estate wealth

The methodology used to estimate total real estate wealth is simple: first calculate the value by category of assets by multiplying the volume of assets by their average price, and then add together all of the category values. To keep them consistent with prices, volumes are expressed in units for buildings and in square metres for land.

Given that price statistics are available for only 25 types of assets, estimates are made based on 75 categories (25 asset types and three Regions). Prior to the calculation, with the help of a concordance table matching “nature” codes and “type” codes, the assets in the cadastral files are aggregated according to the 25 types used by the DGSEI (see box 1). For information, the picturesque properties cited in the previous section are classified under “Other buildings and buildings not yet classified”.

Box 1 – Asset types

Residential buildings

- ordinary houses
- rental houses
- villas, bungalows, country houses
- apartments, flats, studios
- unit in a residential building

Non-residential buildings

- commercial space
- hotels, hostels
- commercial unit (part of a building)
- office buildings
- other commercial buildings
- industrial buildings
- other buildings and buildings not yet classified
- farmhouses
- farm properties
- horticultural properties

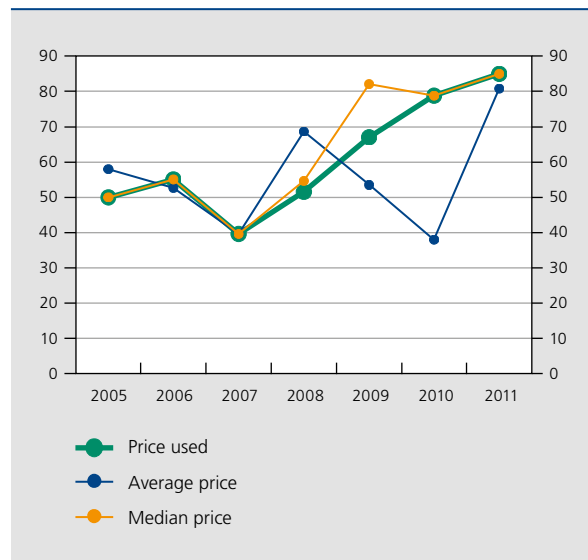
Land

- construction land
- farm land
- pasture
- orchards
- mixed-use farm land
- industrial land
- forest
- non-arable land
- small parcels
- unclassified and other land

This article is generally limited to three groups of assets: residential buildings, non-residential buildings and land, the sub-categories of which are also in the above box.

Despite the aggregation, and owing to the small number of transactions and heterogeneity of assets, average prices for certain categories can fluctuate significantly from one year to the next. Two steps have been taken to reduce the volatility of our wealth estimates: the median price, which is statistically more stable than the average price, is used and, where necessary, the annual change capped at 30% (to the upside or downside). Chart 1 illustrates this process as applied to industrial land in Flanders.

CHART 1 INDUSTRIAL LAND PRICES IN FLANDERS
(euros/m²)



Source: FPS Economy.

Furthermore, in certain categories, there may not have been any transactions in a given year, or they may have been so rare that they became for all intents and purposes confidential, and the prices were not published. This is mainly true of some types of land in the Brussels area. In these cases, it is necessary to fill in the missing prices by basing an estimate on the price trends of similar assets. Fortunately, this is rare, with such cases representing less than 1% of estimated wealth.

2.2 Sector breakdown

The detailed file compiles assets held by legal entities identified by the company number, which is assigned a sector code in accordance with ESA 95 methodology. This makes it possible to pool assets by ownership sector and by category for the three variables used (number of assets, surface area and CI). Box 2 lists the ESA 95 classification of institutional sectors, the sector codes and the composition of the main sectors cited in this article.

This pooling by category is also done for the aggregate file for individuals: residents are classified as households (S14) and non-residents are in the foreign sector (S2), whereas properties held by individuals in undivided co-ownership with a legal entity are counted half in S14 or S2, depending on whether or not the individuals are residents.

Box 2 – ESA 95 institutional sectors

Total economy	S1		
Non-financial corporations	S11		} Corporations
Financial corporations	S12		
Central bank		S121	
Other monetary financial institutions		S122	
Other financial intermediaries		S123	
Financial auxiliaries		S124	
Insurers and pension funds		S125	
General government	S13		} Government
Central government		S1311	
State government		S1312	
Local government		S1313	
Social security funds		S1314	
Households	S14		} Individuals
Non-profit institutions serving households	S15		
Rest of the world	S2		} Foreign
European Union	S21		
Other countries and international organisations	S22		

In so doing, we arrive at the sector breakdown for the three variables and for all asset categories. The estimated value of wealth by category is split among the sectors, not on the basis of the volume data (number of assets or surface area), but of the CI of assets held by sector.

This choice stems from the following observation: given that there is only one price per category, calculating a breakdown by volumes is tantamount to assuming that all of the assets in a category are valued at this same price. For example, all of the office buildings in Brussels would have the same value, from a small two-storey building owned by a self-employed person to a 20-storey office complex belonging to an insurance company. A breakdown proportional to CI helps to remedy this oversimplification. We work from the assumption that the CI contains information about the asset's value. Obviously, this assumption is not without its drawbacks, as CIs were created in 1975 in order to estimate properties' rental

income and not their value. However, there is evidence that within a category of assets, there is sufficient positive correlation between an asset's value and its CI.

3. Real estate wealth

Before we present our estimates of the value of real estate wealth, it may be helpful to point out some basic information that makes it easier to define the stock of Belgian real estate and how it has changed in recent years.

3.1 Real estate stock

Land in Belgium is divided into cadastral parcels. Each represents a distinct property asset, whether built or not. Table 1 shows the number of cadastral parcels in Belgium, broken down by type of asset and by Region.

TABLE 1 NUMBER OF PARCELS
(in thousands)

	By type of asset			
	Residential	Non-residential	Land	Total
2005	4 283.2	933.7	4 428.3	9 645.2
2006	4 404.8	933.3	4 415.6	9 753.8
2007	4 513.0	932.8	4 399.0	9 844.8
2008	4 612.9	932.9	4 382.7	9 928.5
2009	4 703.0	933.3	4 370.9	10 007.3
2010	4 800.2	933.3	4 358.1	10 091.6
2011	4 895.8	932.7	4 351.6	10 180.1

	By Region			
	Flanders	Wallonia	Brussels	Total
2005	5 232.1	3 965.8	447.3	9 645.2
2006	5 301.2	3 989.9	462.6	9 753.8
2007	5 355.5	4 010.3	478.9	9 844.8
2008	5 406.9	4 028.8	492.8	9 928.5
2009	5 454.8	4 045.6	506.8	10 007.3
2010	5 514.7	4 059.2	517.7	10 091.6
2011	5 570.7	4 078.4	531.0	10 180.1

Source: FPS Finance.

The number of parcels rose steadily over the period, from 9.65 million in 1995 to 10.2 million in 2011, an increase of 535 000 units in six years, or 1.2 % annually.

This increase is entirely attributable to residential buildings, the number of which grew by more than 613 000, whereas the number of parcels with non-residential buildings was stable. Land parcels decreased by 77 000 units and are now less numerous than residential buildings.

Sub-divisions of property and new construction were responsible for the trend. Building a 10-unit block of flats on one parcel of land reduces the number of land parcels by 1 and increases the number of building plots by 10.

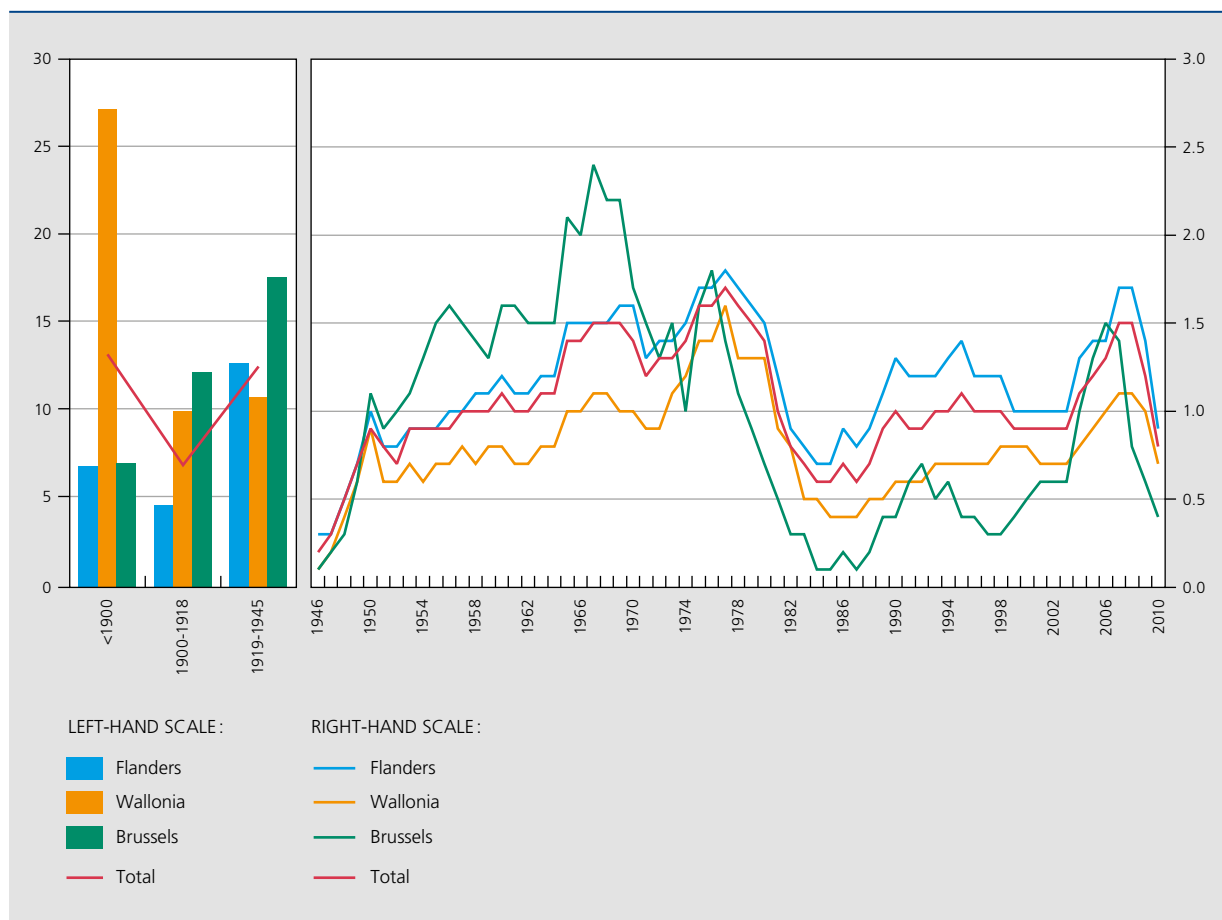
The second part of the table shows that the number of parcels increased in every Region to different extents: +1.1 % in Flanders, +0.5 % in Wallonia and +2.9 % in Brussels. As we note at the national level, in each Region, the decline in the number of land parcels is biggest where the increase in the number of residential parcels is strongest. The dividing of houses into flats is another

phenomenon that explains the substantial increase in Brussels.

The explosion in the residential sector in recent years is reflected in the distribution of residential units by year of construction (see chart 2).

The housing stock in Wallonia is much older than in the other two regions: 48 % of homes there were built before 1945, compared with 24 % in Flanders and 36 % in Brussels. The immediate post-war period saw a lot of residential construction and rebuilding in all the Regions. The expansion in Brussels took place in the 1950s and 1960s, with the construction of numerous blocks of flats, which went hand in hand with the demolition of older houses. Traditional single-family homes, as well as the introduction of blocks of flats, have supported construction in Flanders since the mid-1970s. These trends are attributable to demographics and, above all, to the more independent lifestyles that shrank the size of households. The crisis of the 1980s is evident in the data for each Region: it was over fairly quickly in Flanders, but it took

CHART 2 DISTRIBUTION OF RESIDENTIAL BUILDINGS BY YEAR OF CONSTRUCTION



Source : FPS Finance.

until recently (from 2004) for residential construction to get its spark back in the Brussels and Wallonia Regions. The improvement proved short-lived, as the financial crisis

took the steam out of construction in all three Regions. The division and renovation of older buildings into flats is a recent phenomenon in Brussels, which explains why the

TABLE 2 RESIDENTIAL BUILDINGS BY SECTOR OF OWNERSHIP
(in thousands)

	Corporations	Government	Individuals	Foreign	Total
2005	383.9	19.1	3 858.2	22.1	4 283.2
2006	419.0	22.6	3 941.7	21.6	4 404.8
2007	447.8	22.6	4 021.2	21.4	4 513.0
2008	470.3	22.9	4 099.9	19.9	4 612.9
2009	490.2	23.2	4 170.4	19.3	4 703.0
2010	506.5	23.1	4 253.5	17.2	4 800.2
2011	529.6	23.6	4 325.2	17.4	4 895.8

Source : FPS Finance.

sharp increase in residential units has not translated into a commensurate increase in new construction.

The breakdown of residential properties by sector of ownership (see table 2) shows that individuals (sectors S14 + S15) own the vast majority (4.3 million out of 4.9 million at end-2011). What is surprising is that their share is only 88 %, and that other sectors' ownership of dwellings is not negligible (600 000 units at end-2011, or 12 % of the total). It is mostly corporations that own residences (530 000, or 11 %), whereas the government (S13) and foreign (S2) sectors together only own 1 % of the total.

It should be noted that the number of residential buildings owned by corporations is rising steadily. Over the period reviewed, corporations' share increased from 9 % to 11 %. Conversely, that of individuals fell from 90 % to 88 %. Of the 100 000 residential properties built each year, around one-quarter are bought by corporations.

3.2 Estimates of real estate wealth

The value of real estate wealth in Belgium at end-2011 is estimated at € 1,384 billion, or 374 % of GDP (see table 3). The value was only € 950 billion in 2005 (313 % of GDP). Real estate wealth thus grew by 46 % of the period, easily outpacing GDP growth in value terms (+22 %). Wealth grew in every year except 2009, when it declined slightly (–€ 7 billion, or –0.6 %) as a result of non-residential assets.

In Belgium, real estate wealth is concentrated in residential buildings, which represented € 1 025 billion at end-2011, or 74 % of the total value (this estimate includes the value of land on which residential buildings are built and which covers around 8 % of all land in the country). This share increased marginally over the period studied, from 72 % to 74 %. Apart from 2009, when a drop in prices resulted in a minor fall of 0.1 %, the value of residential property rose every year. At end-2011, the value of non-residential buildings was € 178 billion. Their share of

TABLE 3 ESTIMATES FOR REAL ESTATE WEALTH
(in € billion)

	By type of asset				
	Residential	Non-residential	Land	Total	Total (in % GDP)
2005	684.1	138.4	126.9	949.4	312.9
2006	777.0	151.8	138.8	1 067.6	334.8
2007	862.3	178.2	151.9	1 192.3	355.1
2008	911.7	174.7	152.3	1 238.6	357.6
2009	911.0	167.1	153.3	1 231.5	361.4
2010	977.5	174.2	170.9	1 322.6	371.4
2011	1 025.8	178.3	179.7	1 383.8	374.2
	By Region				
	Flanders	Wallonia	Brussels	Total	
2005	628.5	224.6	96.3	949.4	
2006	708.7	250.7	108.2	1 067.6	
2007	791.0	277.6	123.7	1 192.3	
2008	817.0	295.5	126.2	1 238.6	
2009	813.1	296.1	122.3	1 231.4	
2010	876.0	312.2	134.3	1 322.6	
2011	917.5	323.2	143.0	1 383.8	

Sources: FPS Finance, FPS Economy, NBB calculations.

the total fell from 14.5 % in 2005 to 13 % in 2011. This relative decline was accompanied by a decline in absolute terms in 2008 and 2009 (–€ 11 billion, or –6 %) because the prices of these assets are more sensitive to economic trends, which weakened considerably in 2008 as a result of the financial crisis. The value of vacant land at the end of the period was similar to that of non-residential buildings (€ 180 billion). The estimated value of land rose each year, even during the crisis years. Even though their number (see table 1) and surface area fell steadily, land parcels' share of real estate wealth was stable at around 13 %, which implies a more favourable price trend than that of building assets.

Looking at the location of property assets, the value of real estate wealth can be estimated for each of the three Regions. At the end of 2011, wealth in Flanders was estimated at € 917 billion, that of Wallonia at € 323 billion, and that of Brussels at € 143 billion, or respectively 66.3 %, 23.4 % and 10.3 % of national real estate wealth.

The Regions' wealth increased each year with the exception of the crisis year, 2009, when they declined marginally in Flanders (–0.5 %) and a bit more in Brussels (–3.2 %) owing to the large share of wealth linked to non-residential properties in the capital. Despite their different compositions and price trends, the proportions of wealth in the Regions remained quite stable over the period, varying by 0.6 % at most.

Unsurprisingly, individuals are the principal sector for real estate ownership in Belgium, with wealth amounting to € 1 070 billion at end-2011, or more than 77 % of the total (see table 4). Over the period studied, their

wealth increased by 45 %, but this was weaker than the overall increase of 46 %, causing their share to drop somewhat.

At the end of 2011, corporations owned € 272 billion worth of real estate assets in Belgium. The value of these holdings rose 51 % between 2005 and 2011, lifting their share of total real estate wealth from 19 % in 2005 to 20 % at the end of the period.

General government holdings of real estate were worth an estimated € 37 billion at end-2011, or just under 3 % of the total. Estimates for this sector must be taken with a grain of salt, because the government owns many unique buildings for which the average price and CI used are probably not meaningful. Non-residents own only a small share of Belgium's real estate wealth (€ 6 billion in 2011), and their share declined over the period from 0.5 % to 0.4 %. All sectors saw their real estate wealth decline marginally in 2009, except for corporations, whose wealth shrank more notably (–2 %) owing to their holdings of non-residential assets.

Table 5 shows the breakdown of estimated sector wealth by type of asset. Individuals' wealth is discussed in greater detail in the following section.

For corporations, quite naturally, non-residential assets make up the biggest share of their real estate wealth (€ 115 billion in 2011, or 42 % of the total). However, we note that residential assets represent a growing share of corporations' wealth, rising from 32 % (€ 58 billion) in 2005 to 35 % in 2011 (€ 98 billion). Detailed figures show that villas owned by non-financial corporations are on average larger than those owned by individuals. It is likely

TABLE 4 ESTIMATED WEALTH BY SECTOR OF OWNERSHIP
(in € billion)

	Corporations	Government	Individuals	Foreign	Total
2005	180.3	24.6	739.8	4.6	949.4
2006	202.0	30.7	829.7	5.2	1 067.6
2007	237.6	33.6	915.2	5.9	1 192.3
2008	237.0	34.1	961.6	5.9	1 238.6
2009	231.8	33.2	961.0	5.4	1 231.4
2010	252.9	36.8	1 027.4	5.4	1 322.6
2011	271.9	36.7	1 069.7	5.5	1 383.8

Sources: FPS Finance, FPS Economy, NBB calculations.

TABLE 5 DETAILED ESTIMATES OF WEALTH BY SECTOR OF OWNERSHIP
(in € billion)

	Corporations	Government	Individuals	Foreign	Total
Residential assets					
2005	58.1	3.7	619.1	3.2	684.1
2006	67.3	4.9	701.3	3.5	777.0
2007	76.4	5.4	776.7	3.8	862.3
2008	80.9	5.6	821.3	3.9	911.7
2009	81.5	5.7	820.1	3.8	911.0
2010	89.7	6.1	878.1	3.6	977.5
2011	96.3	6.4	919.4	3.8	1 025.8
Non-residential buildings					
2005	85.0	8.0	44.6	0.7	138.4
2006	93.3	9.5	48.1	1.0	151.8
2007	112.5	10.5	54.0	1.3	178.2
2008	109.5	10.9	53.1	1.2	174.7
2009	104.2	10.3	51.7	0.9	167.1
2010	109.0	11.9	52.2	1.1	174.2
2011	114.6	10.7	52.1	1.0	178.3
Land					
2005	37.2	12.9	76.1	0.7	126.9
2006	41.4	16.4	80.3	0.7	138.8
2007	48.8	17.8	84.6	0.8	151.9
2008	46.6	17.7	87.2	0.8	152.3
2009	46.1	17.3	89.3	0.7	153.3
2010	54.2	18.8	97.2	0.7	170.9
2011	61.1	19.6	98.3	0.8	179.7

Sources: FPS Finance, FPS Economy, NBB calculations.

that more and more sole proprietors and managers live in a home purchased by a corporation under their control in order to take advantage of certain tax benefits.

The real estate wealth in the government sector is principally in the hands of local authorities. Their holdings consist mostly of land (€ 20 billion at end-2011) and non-residential buildings (€ 11 billion).

Foreigners' real estate holdings consist nearly 70 % of residential assets, which is due to the fact that the vast majority of non-resident owners are individuals.

4. Individuals' real estate wealth

Table 6 shows more comprehensive detailed information on the real estate assets owned by the biggest sector of owners, individuals.

Residential assets are the largest component: € 920 billion in 2011. Their share of the total increased steadily over the period, from 84 % to 86 %. Houses were the biggest source of residential real estate wealth (€ 400 billion in 2011), followed by villas (€ 330 billion) and other dwellings (€ 190 billion), which comprise chiefly flats, but also rental

TABLE 6 INDIVIDUALS' REAL ESTATE WEALTH
(in € billion)

	By type of asset							Total (in % GDP)
	Residential			Non-residential	Land		Total	
	Houses	Villas	Other dwellings		Construction land	Other		
2005	273.9	242.2	102.9	44.6	30.1	46.0	739.8	243.8
2006	310.7	265.9	124.7	48.1	33.0	47.3	829.7	260.2
2007	342.3	292.2	142.2	54.0	36.4	48.2	915.2	272.5
2008	362.2	304.1	155.0	53.1	38.2	49.0	961.6	277.6
2009	363.9	293.4	162.8	51.7	42.0	47.3	961.0	282.0
2010	382.0	314.5	181.5	52.1	45.4	51.8	1 027.4	288.5
2011	397.6	328.0	193.8	52.1	45.3	53.0	1 069.7	289.1

	By Region where asset is located								
	Flanders			Wallonia			Brussels		
	Residential	Other	Total	Residential	Other	Total	Residential	Other	Total
2005	410.5	85.3	495.7	149.7	30.1	179.8	58.9	5.4	64.3
2006	462.9	91.4	554.3	171.1	31.5	202.7	67.2	5.5	72.7
2007	511.4	98.7	610.1	190.4	33.0	223.4	74.9	6.9	81.8
2008	539.4	99.6	639.1	202.5	34.6	237.1	79.4	6.0	85.4
2009	539.6	99.9	639.5	201.5	34.4	235.9	79.0	6.6	85.6
2010	579.2	106.2	685.4	212.8	36.1	248.8	86.1	7.1	93.2
2011	607.3	106.4	713.7	221.4	36.9	258.4	90.6	7.0	97.6

Sources: FPS Finance, FPS Economy, NBB calculations.

houses. While the share of houses was constant over the period, we note that the share of villas dropped by 2 % and that of other dwellings rose 4 %, reflecting the real estate market trend one could call “fewer villas, more flats”.

The value of individuals' non-residential buildings was € 50 billion on 2011, or 5 % of the total. This share fell by 1 percentage point over the period.

The value of land belonging to individuals was € 100 billion, or 9 % of the total. It was split evenly between construction land and other land. The latter category, which includes mainly farm and forest land, saw its share decline over the period, unlike construction land.

The figures do not take into account the real estate wealth that individuals hold abroad. At this point, there are no reliable figures for those holdings.

Considering where the assets are located, individuals' real estate wealth is concentrated principally in Flanders (€ 714 billion in 2011, or 67 % of the total). Wallonia represents € 258 billion and Brussels, € 98 billion, or respectively 24 % and 9 % of the total. Brussels' share increased marginally (+0.5 %) over the period due to the increase in the number of dwellings resulting from stronger demographic trends in the Region. The share of dwellings is, moreover, preponderant in Brussels (93 % against 85 % in the two other Regions).

4.1 Regional breakdown of owners

The regional breakdown in table 6 is based on the location of assets and not on that of owners. Additional information provided by the GAPD made it possible to identify the Region in which owners of the CI of assets in

each Region are located.⁽¹⁾ Identifying the owner's Region is easy when there is only one owner. Unfortunately for the statistician, numerous assets belong to multiple owners. To simplify matters, assets are assigned to the Region where the principal owner resides. The tax authority has a system for identifying an asset's principal owner. It assigns ownership to the person or married couple that owns the largest share of a property held as an undivided asset. When the rights to a property are divided into bare ownership and usufruct, the principal owner is the one with usufruct. Thus, the regional breakdown of ownership is not perfect, given that it does not take into account all of the ownership stakes in an asset's value. However, the approximation only comes into play when the joint owners live in different Regions. These cases are probably rare and

more or less balance each other out, so there is reason to believe that the exact regional breakdown is not that different from the one in table 7.

The results show the regional distribution of the value of real estate assets (horizontal line) according to the region where the principal owner lives (column) at the end of 2010. The breakdown does not include non-resident principal owners, but this category represents less than 0.5 % of the total.

Naturally, we see that the highest figures (in bold) form a diagonal, which means that most of the assets in a region are owned by residents of that Region. In the case of residential assets, more than 98 % of homes in Flanders belong to Flemish residents. The proportion is virtually identical in Wallonia (97 %), but lower in Brussels, where only 82 % of homes are owned by Brussels residents. The rental market, which represents a sizeable share of the housing stock in Brussels, has attracted individuals from Flanders (10 %) and Wallonia (7 %). Conversely, Brussels

(1) The allocation method does not distinguish CIs by asset type. To be fully comparable with the estimates (see table 6), one must assume that the breakdown by asset type in each Region is the same regardless of the Region where the owner resides.

TABLE 7 BREAKDOWN OF WEALTH BY REGION OF THE PRINCIPAL OWNER
(in %, end 2010)

Region of the asset	Owner			
	Flanders	Wallonia	Brussels	Total
Residential buildings				
Flanders	98.3	0.8	0.8	100
Wallonia	1.2	97.6	1.1	100
Brussels	10.3	7.2	82.5	100
Total	60.6	28.5	10.8	100
Other assets				
Flanders	97.7	1.0	1.1	100
Wallonia	2.8	94.7	2.5	100
Brussels	18.8	9.5	71.7	100
Total	57.3	34.1	8.6	100
Total				
Flanders	98.3	0.9	0.9	100
Wallonia	1.4	97.3	1.3	100
Brussels	11.0	7.4	81.6	100
Total	60.3	29.1	10.6	100

Sources: FPS Finance, NBB calculations.

residents own only a small proportion of dwellings in Flanders (0.8 %) and Wallonia (1.1 %).

For other assets, local ownership is less prevalent, although still preponderant, at respectively 98 %, 95 % and 72 % for Flanders, Wallonia and Brussels. Holdings in this asset category, which includes non-residential buildings and land, are partly investments. Residents of Flanders, which is home to more entrepreneurs and self-employed persons – especially in the area surrounding Brussels – own (and in some cases use) a significant share of these types of assets located in Brussels (19 %). This is also true of Wallonia, but to a lesser extent (9 %). Residential assets account for almost all of individuals’ real estate wealth, so the regional breakdown of the total wealth is very similar to that of residential assets.

Overall, individuals in Flanders own 60 % of the real estate assets owned by individuals in Belgium, those in Wallonia, 29 %, and those in Brussels, 11 %. We note that these figures are in line with the regional distribution of the Belgian population. Real estate wealth per capita is thus equitably spread among the Regions.

4.2 Distribution of real estate wealth

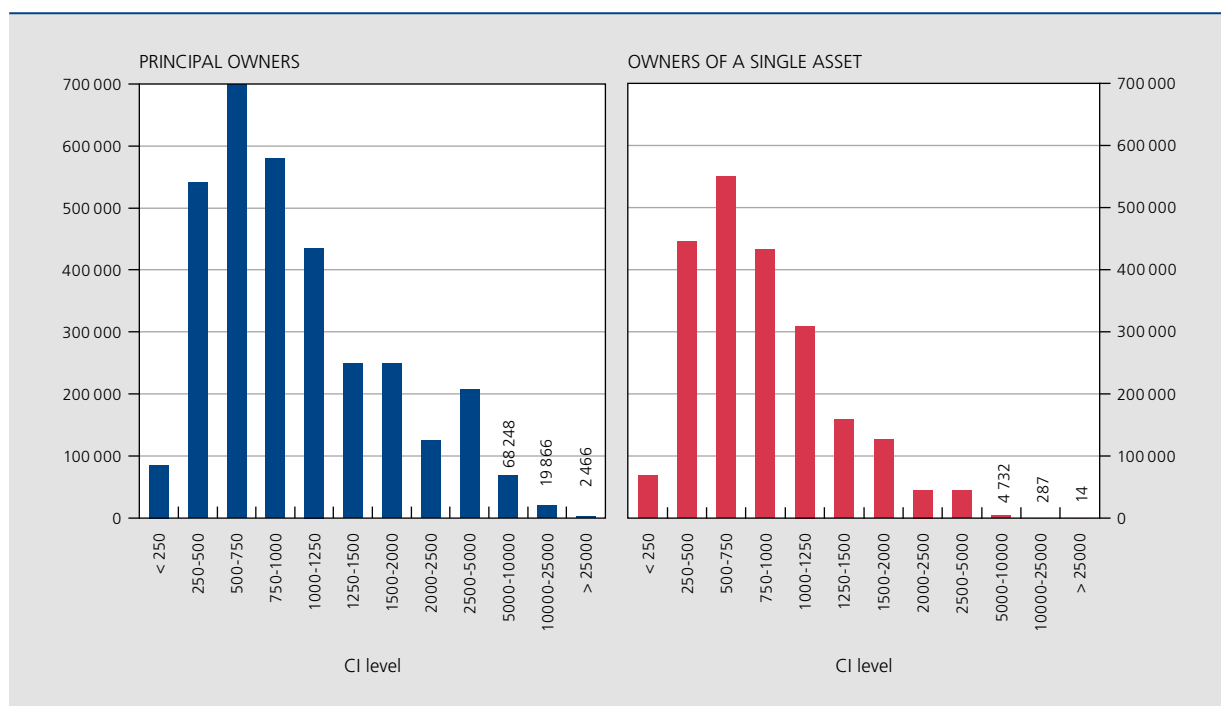
Whereas the distribution of real estate wealth among the Regions is equitable, it is not equitable among individuals. Data on the distribution of wealth, whether real estate or financial, are very sensitive and never fail to spark controversy. In Belgium, there are data on the distribution of income, but not on the distribution of wealth. Work has been done to remedy this shortcoming. However, the results must be interpreted with caution, because this is a complex subject matter and calculations require making a number of assumptions.

Determining a distribution requires detailed processing of all of the individual data. For reasons of confidentiality and practicability, the processing and calculations in this section were performed entirely by FPS Finance staff.

We run into several sticking points when we talk about the distribution of real estate wealth :

- Detailed data are descriptive but not well suited to the task because it involves comparing apples and oranges : for example, is a real estate portfolio that includes two car parks in Brussels and a studio in Leuven worth more than a portfolio comprising a villa in Ghent?

CHART 3 DISTRIBUTION OF RESIDENTIAL PROPERTY OWNERS AT END-2010



Source : FPS Finance.

- A single asset may be owned by multiple individuals, in equal parts or not, as undivided co-owners or separated into usufruct and bare ownership.

To determine a precise distribution, it is necessary to estimate each asset separately. But we only have the average or median price by town and by asset type (the price of a flat in a coastal town takes into account both the penthouse on the sea front and the studio at the back of a building three blocks back from the shore). In addition, the value must be allocated in accordance with the share that each individual possesses in the asset, and then each individual's holdings in Belgium must be added together. That kind of work cannot be done in a reasonable amount of time with limited resources. Thus, approximations have been made to arrive at a workable solution.

One option consists of limiting the calculation to residential property assets that make up a major share of individuals' wealth, calculating a distribution of CIs rather than asset values (see discussion at the end of section 2), and, lastly, considering only the asset's principal owner by assigning him or her the entire CI. The left-hand side of chart 3 shows the distribution calculated using the CI category of residential property owners at end-2010.

The characteristics of ownership of residential real estate assets, which covers some 3 260 000 individuals, are as follows:

- the distribution is asymmetrical on the left (the lowest CIs are more concentrated and the highest CIs are spread out);
- the modal category (the most numerous) is that of CIs between € 500 and € 750⁽¹⁾;
- the median CI is € 880 and the average CI is € 1 310;
- 10 % of owners have residential assets with a total CI of over € 2 390 and 1 % have assets with a total CI of over € 9 250;
- half of residential asset CIs are held by 18 % of owners;
- 1 % of owners possess 11 % of residential asset CIs.

To correctly interpret the results, it must be kept in mind that the decision to assign the entire CI to the principal owner artificially concentrates wealth in the hands of the principal owners and under-estimates that of the other undivided co-owners. This choice intuitively seems to increase the inequality⁽²⁾.

(1) In reality, the most numerous category, which does not appear on the chart, is that of non-owners.

(2) In theory, it is hard to know how this option affects the distribution of all owners. Imagine there are three assets, each with a CI of 100. Let us assume that owner A owns 40 % of the first, second and third asset; owner B owns 60 % of the first asset; owner C owns 60 % of the second; and owner D owns 60 % of the third. The decision to attribute wealth of 100 to owners B, C and D does not take into account owner A, who is actually the wealthiest, with 120. In this particular case, the inequality is under-estimated.

To avoid this drawback, a second option was chosen, i.e. to limit the exercise to owners possessing a single residential asset. In this case, given that the wealth of owners of multiple properties was excluded, the distribution clearly under-estimates inequalities.

The distribution of owners of a single residential asset covers 2 190 000 individuals and presents the following characteristics (right-hand side of chart 3):

- the distribution is asymmetrical on the left. It is less unequal than the previous one (the highest CIs are less spread out) because it only looks at owners of a single home. Because there is only one owner per asset, it also shows the distribution of CIs of owned homes;
- the modal category (the most numerous) is that of CIs between € 500 and € 750;
- the median CI is € 770 and the average CI is € 900;
- 10 % of owners possess a residential asset with an CI of over € 1 516 and 1 %, an asset with an CI of over € 4 054;
- half of residential asset CIs are held by 29 % of owners;
- 1 % of owners possess 4.5 % of residential asset CIs.

All of these figures are lower than in the previous distribution because the owners of the assets with the highest CIs often own multiple properties and are not included here. This distribution also fails to accurately measure inequality.

4.3 Individuals' total wealth

Adding real estate wealth to net financial wealth gives us a figure for individuals' total wealth (see table 8). This figure increased from € 1 442 billion at end-2005 to € 1 819 billion at end-2011, representing growth of 26 % over the period. Real estate wealth increased faster (+46 %) than financial wealth (+7 %), causing its share of the total to climb from 51 % at the start of the period to 59 % at the end of the period.

Expressed as a percentage of GDP, individuals' wealth represented 492 % at end-2011, or nearly five times GDP, of which 202 % for financial wealth and 290 % for real estate wealth. We note that, according to this measurement, net financial wealth declined relative to its 2005 level and has only partly recovered the ground lost in the financial crisis, whereas growth in real estate wealth has easily outpaced GDP growth year after year. Overall, despite the sense of crisis, individuals' wealth grew by 3.5 % more than GDP over the period.

Financial wealth is the difference between financial assets and financial liabilities. The principal financial liability among individuals, mortgage debt, is also related to real

TABLE 8 INDIVIDUALS' TOTAL WEALTH

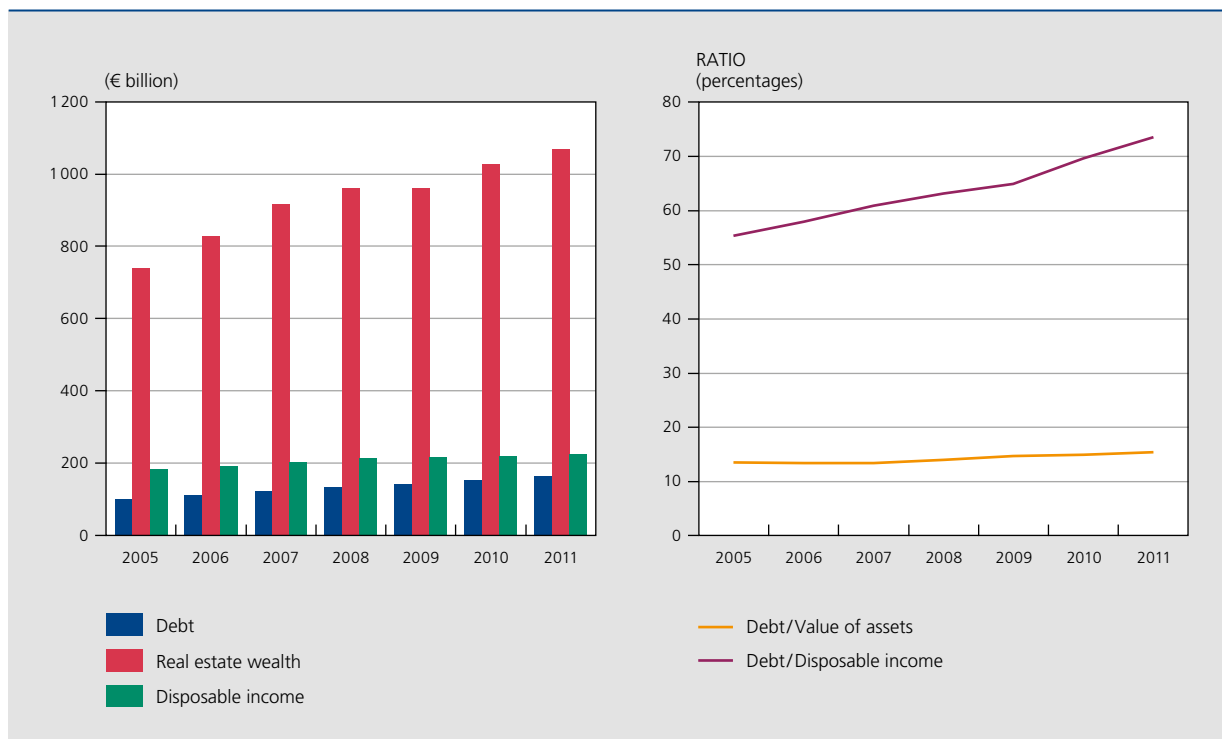
	In € billion			In % GDP		
	Net financial	Real estate	Total	Net financial	Real estate	Total
2005	702.7	739.8	1 442.5	231.6	243.8	475.4
2006	729.0	829.7	1 558.6	228.6	260.2	488.9
2007	726.3	915.2	1 641.6	216.3	272.5	488.8
2008	652.5	961.6	1 614.1	188.4	277.6	466.0
2009	717.1	961.0	1 678.1	210.4	282.0	492.4
2010	729.4	1 027.4	1 756.8	204.8	288.5	493.3
2011	749.0	1 069.7	1 818.7	202.5	289.2	491.8
2012	806.5			214.0		

Sources: NAI, NBB.

estate. Chart 4 shows that debt increased steadily over the course of the period, jumping from € 100 billion to € 165 billion. This 65 % increase was stronger than the growth in individuals' real estate wealth. The ratio of wealth to debt increased during the period, rising from 13 % to 16 %, which remains very reasonable.

Individuals' debt increased substantially more than their gross disposable income did (+24 %). The ratio between the two figures rose from 55 % in 2005 to 74 % at the end of the period. The increase in the ratio is not necessarily a sign of financial difficulty, because lower mortgage interest rates and longer loan terms have limited the debt

CHART 4 MORTGAGE DEBT



Sources: NAI, NBB.

repayment burden, which probably encouraged individuals to take on more debt. From a macroeconomic perspective, these figures indicate that excessive mortgage debt is not a problem in Belgium. However, this overall observation does not mean that certain individual borrowers are not defaulting.

5. Conclusion

The total value of Belgian real estate wealth exceeded € 1 384 billion at end-2011, or 3.7 times GDP. Despite this impressive size, there are few statistics available on the topic. This shortcoming has been partially remedied, but there is still room for additional research.

The breakdown of this estimate by asset type shows that residential real estate assets account for the lion's share. Estimates by sector confirm that Belgian individuals are the principal ownership sector. The results show that home ownership is extremely popular in Belgium, with residential real estate accounting for most of the population's wealth. However, individuals are not the only ones interested in owning these assets, as demonstrated by the meaningful and rising share of houses owned by corporations.

The regional breakdown of both real estate wealth and its individual owners reflects the relative size of the Regions. Real estate wealth is unequally distributed. This article has touched on its distribution among individuals, but more work needs to be done in this area.

Summaries of articles

Economic projections for Belgium – Spring 2013

The Bank's new macroeconomic projections for 2013 and 2014 were produced in a low-key international context featuring wide variations in performance between the main economic regions and an apparent disconnect between the real economy and the financial sphere. On the one hand, a vigorous recovery has been taking place since the end of 2012 in emerging markets and activity in the US is picking up as well, while, on the other hand, activity has remained hesitant in the euro area, with some Member States continuing to record a sharp contraction in activity and very high unemployment rates. According to the Eurosystem's projections, GDP is set to contract again in 2013 in the euro area, by around 0.6%, and to record modest growth of around 1.1% in 2014. Inflationary pressures should decline sharply: inflation in the euro area is projected to fall to 1.4% in 2013 and 1.3% in 2014, in a context of moderating import prices and weak economic activity.

The projections for Belgium show zero activity growth in 2013 – the same as in the forecasts published in December 2012 – and a modest growth of 1.1% in 2014. Regarding the short-term activity profile, a gradual recovery is still expected for the second half of the year, after a stagnation in the first half.

In 2013, only net exports will contribute positively to activity growth, as all the components of domestic demand – except public consumption – will remain unchanged or record negative growth in volume terms. However, the positive contribution from foreign demand is due to the weakness of imports rather than the dynamism of exports, which is expected to remain relatively anaemic. Private consumption is likely to remain stagnant in 2013, against the background of the meagre growth of households' disposable income, and some rise in the savings ratio, fuelled by anxiety over short- and medium-term income prospects. Low capacity utilisation levels and thin order books are likely to continue to depress business investment this year. In 2014, however, the domestic demand components are set to expand again, and should become the main engine of activity.

As a result of the adverse economic conditions and the fall in public employment, domestic employment is set to continue falling by 26 000 units in the course of 2013, and expected to rise only very slightly in 2014, by barely 9 000 units. In the face of the protracted crisis which has weakened their financial position, and the tightening of conditions for access to the system of temporary unemployment, firms can no longer afford to retain excess workers in relation to their sales volume and will therefore need to implement speedier redundancies. Consequently, the unemployment rate is forecast to continue rising from 7.6% in 2012 to 8.7% in 2014.

Inflation is forecast to decline sharply over the projection horizon, coming down from 2.6% in 2012 to 1% in 2013 and 1.2% in 2014. That picture is attributable to the expected fall in oil prices on

the international markets, and to the changes seen on the gas and electricity markets, where various suppliers implemented substantial cuts in tariffs at the beginning of 2013. Domestic pressure on costs – notably labour costs – is likely to remain restrained, taking into account the freeze in real collectively agreed wages in the private sector.

After having reached 3.9% of GDP in 2012, the Belgian government deficit is expected to fall to 2.9% of GDP in 2013, before rising again to 3.3% of GDP in 2014 as a result of the disappearance of one-off factors. The government debt ratio, which came to 99.8% of GDP at the end of 2012, is forecast at 101.1% of GDP at the end of 2013 and 102.9% of GDP at the end of 2014.

JEL codes: E17, E25, E37, E66

Key words: Belgium, macroeconomic projections, Eurosystem

Structural dynamics of Belgium's foreign trade

The liberalisation of trade and finance, the reduction in transport costs and progress in the field of information and communication technologies have brought about profound changes in the international environment. As a result, the interpenetration of economies has increased sharply, and this has been reflected in the growing intensification of international trade in goods and services. Against this background, there has been considerable diversification of the type of goods and services traded across national borders and the list of trading partners has lengthened. This process of transformation is mirrored in the importance of the role played by the extensive margin in long-term growth of Belgian exports since 1995. The changing pattern of exports associated with new markets opening up or existing ones being abandoned, to which this extensive margin refers, even seems to have intensified during the recent recession. The growth of Belgium's exports over the last five years has in fact largely had its roots in the diversification of Belgian exporters' product portfolios. They seem to have repositioned themselves in market segments with higher technological content, in expanding markets like eastern Europe, China and India so as to safeguard or boost their market share abroad.

JEL codes: F01, F10, F14

Key words: international trade, extensive and intensive margins, Belgian export structure

The demography of companies

The article looks at the demographic evolution of Belgian companies in the period from 2001 to 2012. The analysis concerns only those companies which, due to their legal structure, are obliged to file annual accounts with the Central Balance Sheet Office. These are Belgian companies in which the liability of shareholders or partners is limited to their investment. This approach makes it possible to obtain a clear picture of the evolution of both SMEs and large companies, excluding the impact of self-employed persons.

First, the study looks at the trends in the total number of establishments, bankruptcies, dissolutions and liquidations between 2001 and 2012. These data are then compared to the total number of active companies in order to establish the actual evolution. This also makes it possible to gain an impression of business dynamics and of the development phase of the economy in a particular period. In addition, it provides an overview of the net number of establishments and bankruptcies and the influence of the economic cycle on demographic developments.

This is followed by a geographical analysis of the establishments, bankruptcies, dissolutions and liquidations, in order to chart the process of economic development and dynamics in a certain region. The study is carried out at local, provincial and district levels, chiefly in order to establish the regions in which business dynamics are concentrated and to identify whether significant shifts have occurred during the past ten years.

Lastly, the article considers whether the year of establishment has an effect on the average survival rate of companies. A regional and sector-based analysis should make it possible to see whether the survival rate is higher in some regions or sectors than in others, and an age-related check explores whether companies of a certain age are more likely to go bankrupt than younger or older companies.

JEL codes: D21, D60, J11, R11

Key words: business demography, economic trends, regional analysis

Size and dynamics of debt positions in Belgium and in the euro area

The current financial crisis has once again shown that the inherent pro-cyclicality of lending can trigger financial cycles with a potentially substantial impact on the real economy. Against that background, the article analyses the size and dynamics of the debt ratios of the various non-financial sectors in Belgium and in the euro area. This reveals wide differences between countries, particularly in regard to the size, dynamics and composition of the debt positions. Next, the sustainability of those debt positions is assessed on the basis of a number of key indicators to identify those countries and sectors where balance sheet repair is most needed. Finally, the authors examine to what extent the deleveraging process has already begun, and the role performed in that by demand and supply factors affecting lending.

JEL codes: E44, F34, G01.

Key words: financial cycle, balance sheet recession, indebtedness, debt sustainability, deleveraging

Real estate wealth by institutional sector

The goal of the article is to provide estimates on the value of real estate assets in Belgium. Data sources and methodology are described in detail.

In addition to overall estimates, the article breaks down holdings by region, type of property and type of owner using a classification system that is consistent with the European system for national accounts. Properties owned by individuals, the largest segment of owners, are analysed in greater detail, notably according to the owner's region of residence. Two efforts to map real estate ownership distribution among individuals are also presented. The share of real estate in the total assets of individuals is also examined, and the article looks at levels of mortgage debt. The authors limit their observations to recent trends rather than conducting an in-depth economic analysis.

JEL codes: D140, D310, R310

Key words: housing, non-financial assets, households

Abstracts from the Working Papers series

240. On the origins of the Triffin dilemma: Empirical business cycle analysis and imperfect competition theory, by I. Maes, December 2012

Robert Triffin became famous with his trenchant analyses of the vulnerabilities of the Bretton Woods system. These are still at the center of many discussions today. This paper argues that there is a remarkable continuity in Triffin's work. From his earliest writings, Triffin developed a vision that the international adjustment process was not functioning according to the classical mechanisms. This view was based on thorough empirical analyses of the Belgian economy during the Great Depression and shaped by a business cycle perspective with an emphasis on the disequilibria and the transition period. His doctoral dissertation on imperfect competition theory and his Latin American experience further reinforced this basic view.

241. The Influence of the Taylor rule on US monetary policy, by P. Ilbas, Ø. Røisland, T. Sveen, January 2013

The authors analyze the influence of the Taylor rule on US monetary policy by estimating the policy preferences of the Fed within a DSGE framework. The policy preferences are represented by a standard loss function, extended with a term that represents the degree of reluctance to letting the interest rate deviate from the Taylor rule. The empirical support for the presence of a Taylor rule term in the policy preferences is strong and robust to alternative specifications of the loss function. Analyzing the Fed's monetary policy in the period 2001-2006, we find no support for a decreased weight on the Taylor rule, contrary to what has been argued in the literature. The large deviations from the Taylor rule in this period are due to large, negative demand-side shocks, and represent optimal deviations for a given weight on the Taylor rule.

Conventional signs

e	estimate
e.g.	for example
i.e.	id est
p.m.	pro memoria

List of abbreviations

Countries or regions

BE	Belgium
DE	Germany
EE	Estonia
IE	Ireland
EL	Greece
ES	Spain
FR	France
IT	Italy
CY	Cyprus
LU	Luxembourg
MT	Malta
NL	Netherlands
AT	Austria
PT	Portugal
SI	Slovenia
SK	Slovakia
FI	Finland
CZ	Czech Republic
DK	Denmark
HU	Hungary
PL	Poland
SE	Sweden
UK	United Kingdom
AE	United Arab Emirates
BR	Brazil
CA	Canada
CH	Switzerland
CN	China
HK	Hong Kong
IL	Israel
IN	India
NO	Norway
JP	Japan
RU	Russian Federation

TR	Turkey
US	United States

Others

CBE	Crossroads Bank for Enterprises
CBSO	Central Balance Sheet Office
CDS	Credit default swap
CI	Cadastral income
DGSEI	Directorate General for Statistics and Economic Information Belgium
DNB	De Nederlandsche Bank
EC	European Commission
ECB	European Central Bank
EDP	Excessive deficit procedure
EIB	European Investment Bank
EFSF	European Financial Stability Facility
ESA	European System of Accounts
ESI	Economic Sentiment Indicator
ESM	European Stability Mechanism
ESR	European System of Accounts
EMU	European Monetary Union
EU	European Union
FPS	Federal Public Service
GAPD	General Administration of the Patrimonial Documentation
GDP	Gross domestic product
HICP	Harmonised index of consumer prices
HS6	Harmonised System of Product Classification
IEA	International Energy Agency
IMF	International Monetary Fund
ISO	International Organization for Standardization
IT	Information technology
MIP	Macroeconomic Imbalance Procedure
NACE	Nomenclature of economic activities in the European Community
NAI	National Accounts Institute
NBB	National Bank of Belgium
NEO	National Employment Office
NSSO	National Social Security Office
OECD	Organisation for Economic Cooperation and Development
OLO	Linear bonds
OMT	Outright Monetary Transactions
PLA	Provincial and Local government Authorities
PMI	Private Manager Index
PSI	Private sector involvement

R&D	Research and development
SITC	Standard International Trade Classification
SME	Small and medium-sized enterprise
S&P	Standard and Poor's
SUT	Supply and Use Tables
UNCTAD	United Nations Conference on Trade and Development
USD	US dollar
VAT	Value added tax

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