OECD Economic Surveys
BELGIUM

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OECD Economic Surveys: Belgium, 2013

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Please cite this publication as:
OECD (2013), *OECD Economic Surveys: Belgium* 2013, OECD Publishing.
http://dx.doi.org/10.1787/eco_surveys-bel-2013-en

ISBN 978-926-18300-1 (print)
ISBN 978-92-64-18301-8 (PDF)

Series: OECD Economic Surveys
ISSN 0376-6438 (print)
ISSN 1609-7513 (online)

OECD Economic Surveys: Belgium
ISSN 1995-3704 (print)
ISSN 1999-0766 (online)

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This Survey *is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.*

The economic situation and policies of Belgium were reviewed by the Committee on 27 March 2013. The draft report was then revised in the light of the discussions and given final approval as the agreed report of the whole Committee on 9 April 2013.

The Secretariat's draft report was prepared for the Committee by Jens Høj and Stéphane Sorbe under the supervision of Pierre Beynet. Research assistance was provided by Sylvie Foucher-Hantala. The survey's Chapter 2 also benefited from external consultancy work done by Stef Proost.

The previous Survey of Belgium *was issued in July 2011.*

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BASIC STATISTICS OF BELGIUM, 2011

(Numbers in parentheses refer to the OECD average)[a]

LAND, PEOPLE AND ELECTORAL CYCLE

Population (million)	11.0		Population density per km²	360.9	(34.3)
Under 15 (%)	17.0	(18.4)	Life expectancy (years, 2010)	80.3	(79.7)
Over 65 (%)	17.4	(14.9)	Men	77.6	(76.9)
Foreign-born (%, 2009)	13.9		Women	83.0	(82.5)
Latest 5-year average growth (%)	0.9	(0.5)	Last general election	June 2010	

ECONOMY

Gross domestic product (GDP)			Value added shares (%)		
In current prices (billion USD)	514.7		Primary	0.7	(2.5)
In current prices (billion EUR)	369.9		Industry including construction	22.7	(27.9)
Latest 5-year average real growth (%)	1.0	(0.8)	Services	76.6	(69.5)
Per capita, PPP (thousand USD)	38.7	(35.4)			

GENERAL GOVERNMENT

Per cent of GDP

Expenditure	53.3	(44.6)	Gross financial debt[b]	101.9	(98.4)
Revenue	49.4	(37.5)	Net financial debt[b]	81.3	(59.7)

EXTERNAL ACCOUNTS

Exchange rate (EUR per USD)	0.719		Main exports (% of total merchandise exports)	
PPP exchange rate (USA = 1)	0.867		Chemicals and related products, n.e.s.	28.3
In per cent of GDP			Machinery and transport equipment	20.6
Exports of goods and services	84.3	(52.7)	Manufactured goods	17.8
Imports of goods and services	83.2	(49.7)	Main imports (% of total merchandise imports)	
Current account balance	-1.4	(-0.7)	Machinery and transport equipment	22.7
Net international investment position (2010)	76.4		Chemicals and related products, n.e.s.	22.5
			Mineral fuels, lubricants and related materials	16.4

LABOUR MARKET, SKILLS AND INNOVATION

Employment rate (%) for 15-64 year olds	61.9	(64.8)	Unemployment rate (%)	7.1	(7.9)
Males	67.1	(73.0)	Youth (%)	18.7	(16.2)
Females	56.7	(56.8)	Long-term unemployed (%)	3.4	(2.6)
Average worked hours per year	1577	(1 776)	Tertiary educational attainment 25-64 year-olds		
Gross domestic expenditure on R&D (% of GDP)[b]	2.0	(2.4)	(%, 2010)	35.0	(30.7)

ENVIRONMENT

Total primary energy supply per capita (toe)	5.1	(4.3)	CO_2 emissions from fuel combustion per capita		
Renewables (%)	4.8	(8.2)	(tonnes, 2010)	9.8	(10.1)
Fine particulate matter concentration (urban,			Water abstractions per capita (1 000 m^3, 2007)	0.6	
PM10, µg/m^3, 2008)	21.3	(22.0)	Municipal waste per capita (tonnes, 2010)[c]	0.5	(0.5)

SOCIETY

Income inequality (Gini coefficient, late 2000s)	0.259	(0.314)	Education outcomes (PISA score, 2009)		
Relative poverty rate (%, late 2000s)	16.3	(17.7)	Reading	506	(493)
Public and private spending (% of GDP)			Mathematics	515	(496)
Health care (2010)	10.5	(9.7)	Science	507	(501)
Pensions (2009)	10.0	(8.2)	Share of women in parliament (%, October 2012)	38.9	(25.3)
Education (excluding tertiary, 2009)	4.4	(4.0)	Net official development assistance (% of GNI)	0.5	(0.4)

Better life index: *www.oecdbetterlifeindex.org*

a) Where the OECD aggregate is not provided in the source database, a simple OECD average of latest available data is calculated where data exists for at least 29 member countries.
b) 2010 for the OECD.
c) 2009 for the OECD.
Source: Calculations based on data extracted from the databases of the following organisations: OECD, International Energy Agency, World Bank, International Monetary Fund and Inter-Parliamentary Union.

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Executive summary

Main findings

Belgium has weathered the global crisis quite well, notably with a relatively good unemployment performance. However, still-weak domestic demand, rapid fiscal consolidation and slow export market growth will weigh on the economic recovery. In this context, further structural reforms beyond the 2012 measures would boost competitiveness and growth, helping to secure fiscal sustainability in the face of large ageing-related spending pressures.

Fiscal consolidation is advancing well, but public debt is still high. Fiscal consolidation has already been sizeable and the government is committed to secure a structural budget balance by 2015. This is appropriate to avoid further consolidation measures in case the economy deteriorates further, which could pose a risk to growth. Looking ahead, maintaining (at least) a structural budget balance over the medium-term would ensure rapid reduction in public debt, creating room to finance part of ageing-related spending increases. The recent reform of early retirement programmes will increase the internationally low effective retirement age – a key to contain pension spending – but the system still gives insufficient work incentives to older workers. The recent reform of fiscal federalism arrangements is transferring more spending and tax responsibilities to the communities and regions. However, it does not clarify the medium-term burden sharing of fiscal consolidation efforts between government levels.

Boosting labour supply is a key driver of growth. Reforms of the unemployment benefit system and special provisions for new graduates are expected to improve the efficiency of the labour market. However, other factors still hold back the labour market, including high sectoral minimum wages, labour market traps created by the high tax wedge and the decoupling of wages from productivity.

Population ageing is boosting cost pressures in the health system. The system delivers accessible care and broadly satisfactory health outcomes. Nevertheless, its performance is reduced by practice and efficiency variation across providers, high consumption of drugs and perhaps supplier induced demand. Health responsibilities are fragmented across government levels and sickness funds have too passive a role. The strict regulation of the supply of health services risks rendering the system too inflexible as ageing changes demand patterns. Long-term care has a high reliance on care in institutions.

Transport infrastructure is well developed but close to saturation. Despite relatively dense networks of roads and railways, congestion is a significant problem around the major cities, generating costs to the economy, the environment and health. Looking forward, the system will have to change to meet new demands. Efficient selection of new projects is hampered by a lack of a national infrastructure plan and underuse of cost-benefit analyses. Subsidies for road use aggravate congestion and, in the case of diesel, contribute to air pollution. In addition, the implicit subsidies embodied in the providers' public-service obligations generate important but opaque costs. The strategy of subsidising railway services has not resolved congestion, as there are no price signals to spread peaks in the use of roads and public transport.

Key recommendations

Strengthening fiscal sustainability

- Secure sustained debt reduction by moving to an underlying fiscal balance through structural fiscal reforms. Let the automatic stabilisers operate if growth deviates from expectations.
- Introduce a robust framework for fiscal consolidation burden sharing, which should contain, for all levels of government, clear and transparent multi-year rules for spending and budget balances.
- Create stronger links between working careers and pensions in the early retirement system and subject all older unemployed to standard search monitoring and activation conditions.

Boosting labour market participation

- Reduce sectoral minimum wages to the legal level and have a more gradual phase-in of the youth minimum wage. Concentrate cuts in social security benefit contributions on low-wage workers.
- The government and social partners should consider a new wage formation process. As part of such reform, social partners should be encouraged to phase out the automatic wage indexation mechanism to avoid that the effects of negative external shocks become permanent.
- Bolster employment creation and preservation of external cost competitiveness by linking wage growth more closely to domestic productivity developments.

Securing a more cost-efficient and responsive health system

- Give sickness funds a more active role to promote cost-efficient care, by allowing them to benchmark the performance of suppliers and to experiment on a limited scale with selective contracting.
- Enhance providers' incentives and information flows by greater centralisation and co-ordination of data management on a single platform, completing the shift to pathology-based hospital budgets, and relying more on capitation-based remuneration of doctors.
- Tackle high drug spending by reinforcing procedures to stimulate rational prescription and to stop excessive prescription, regularly revising reimbursement rules and liberalising the pharmacist market.
- Once adequate incentives to control costs are in place, enable a more flexible health supply by phasing out overly prescriptive regulation on hospital supply.
- Grant long-term care patients autonomy to organise their care at home. Qualify care needs on a unified geriatric assessment and introduce dissuasive sanctions to deter overstatement of care needs.

Improving the use of transportation infrastructure

- Develop an integrated long-term infrastructure plan supported by regions and the federal government covering all types of transport and make cost-benefit analysis a standard tool for evaluating the economic value of individual projects.
- Make the costs of public service obligations (PSO) explicit and compensate service providers for the provision of these PSOs.
- Introduce a road pricing system and differentiated public transport fares to reduce congestion. For road pricing, start with congestion pricing in the largest cities before envisaging a national scheme. These measures should be carefully calibrated to avoid unintended shifts to other transport modes.

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Assessment and recommendations

Exiting the crisis with a more agile economy and better prepared for ageing challenges

The Belgian economy has been resilient throughout the crisis with a smaller increase in unemployment than in many other OECD countries. Nevertheless, the recovery has been weak. The main fiscal challenge is to reduce the high public debt and secure fiscal sustainability. Population ageing is already underway, putting increasing pressure on public finances. Restraining spending will therefore mean, among other things, curbing health care cost increases while allowing the health care system to adjust to changes in demand from an older population, as discussed in Chapter 1. Changes in living and commuting patterns may lead to more inter-regional commuting (Bisciari and van Meensel, 2012). Chapter 2 assesses whether the existing transportation infrastructure is prepared for this challenge, and for the broader challenge of handling the international flow of goods and services that underpins Belgium's place as a hub for international trade.

The recovery is hesitant

The economy experienced a small contraction in 2012, due to a continued weak growth in real disposable income, fiscal consolidation and weakening growth in Europe and the world. These factors were reflected in a contraction of household consumption and housing investment, as well as a sharp slowing of exports (Table 1). On the other hand, the housing market has proved resilient as real house prices have stabilised at a relatively high level over the past years – in contrast with the experience of many other OECD countries. Overall, a negative output gap opened up that is estimated by the OECD to have been as large as in 2009.

Fiscal consolidation, measured by the change in the cyclically adjusted budget balance, totalled nearly 2% of GDP in 2012. However, the initial budget target was missed as the cost of the recapitalisation of Dexia is being recorded as a capital transfer, boosting the deficit by 0.8% of GDP. The main emphasis in the 2013 budget is zero real growth in the public-sector wage bill and reduction of other spending as well as some revenue increasing measures. The initial 2013 deficit target was 2.15% of GDP. As economic growth subsequently deteriorated, the government decided in early 2013 to move to structural targets, implying a structural fiscal consolidation of 1% of GDP in 2013 with the aim of achieving a structural balance by 2015. As a result, the 2013 budget deficit is likely to be 2 ½ per cent of GDP. If the economy further deteriorates, it would be counterproductive to introduce new consolidation measures. Rather, the underlying consolidation measures should be implemented and the automatic stabilisers allowed to operate when growth deviate from underlying assumptions.

Table 1. **Economic indicators**[1]

	Percentage change, volume (2008 prices)				
	2010	2011	2012	2013	2014
Gross domestic product	2.4	1.8	-0.2	0.0	1.2
Private consumption	2.7	0.2	-0.6	0.2	0.9
Government consumption	0.7	0.8	0.1	0.7	0.9
Gross fixed capital formation	-1.4	4.1	-0.5	-1.8	1.1
Final domestic demand	1.4	1.2	-0.4	-0.1	0.9
Stockbuilding[2]	0.3	0.7	-0.3	-0.3	0.0
Total domestic demand	1.7	1.9	-0.7	-0.4	0.9
Exports of goods and services	9.6	5.5	0.4	0.5	3.9
Imports of goods and services	8.9	5.7	-0.1	0.0	3.7
Net exports[2]	0.7	-0.1	0.5	0.4	0.2
Memorandum items					
GDP deflator	2.0	2.0	2.1	1.9	1.7
Harmonised index of consumer prices (HICP)	2.3	3.4	2.6	1.4	1.2
Private consumption deflator	2.0	3.1	2.6	1.5	1.3
Unemployment rate	8.2	7.2	7.6	8.4	8.8
Households saving ratio, % disposable income	10.1	8.8	9.6	9.7	9.8
General government financial balance, % of GDP	-3.9	-3.9	-4.0	-2.6	-2.0
Cyclically adjusted budget balance, % of potential GDP	-3.8	-4.4	-3.7	-1.5	-0.7
Underlying budget balance, % of potential GDP	-3.7	-4.0	-3.0	-1.5	-0.7
General government debt (Maastricht definition), % of GDP	95.5	97.8	99.6	100.7	100.4
Current account balance, % of GDP	1.9	-1.1	-1.4	-1.3	-1.0
Output gap, % of potential GDP	-0.1	0.6	-0.7	-1.9	-2.1
Potential GDP	1.0	1.1	1.1	1.2	1.3

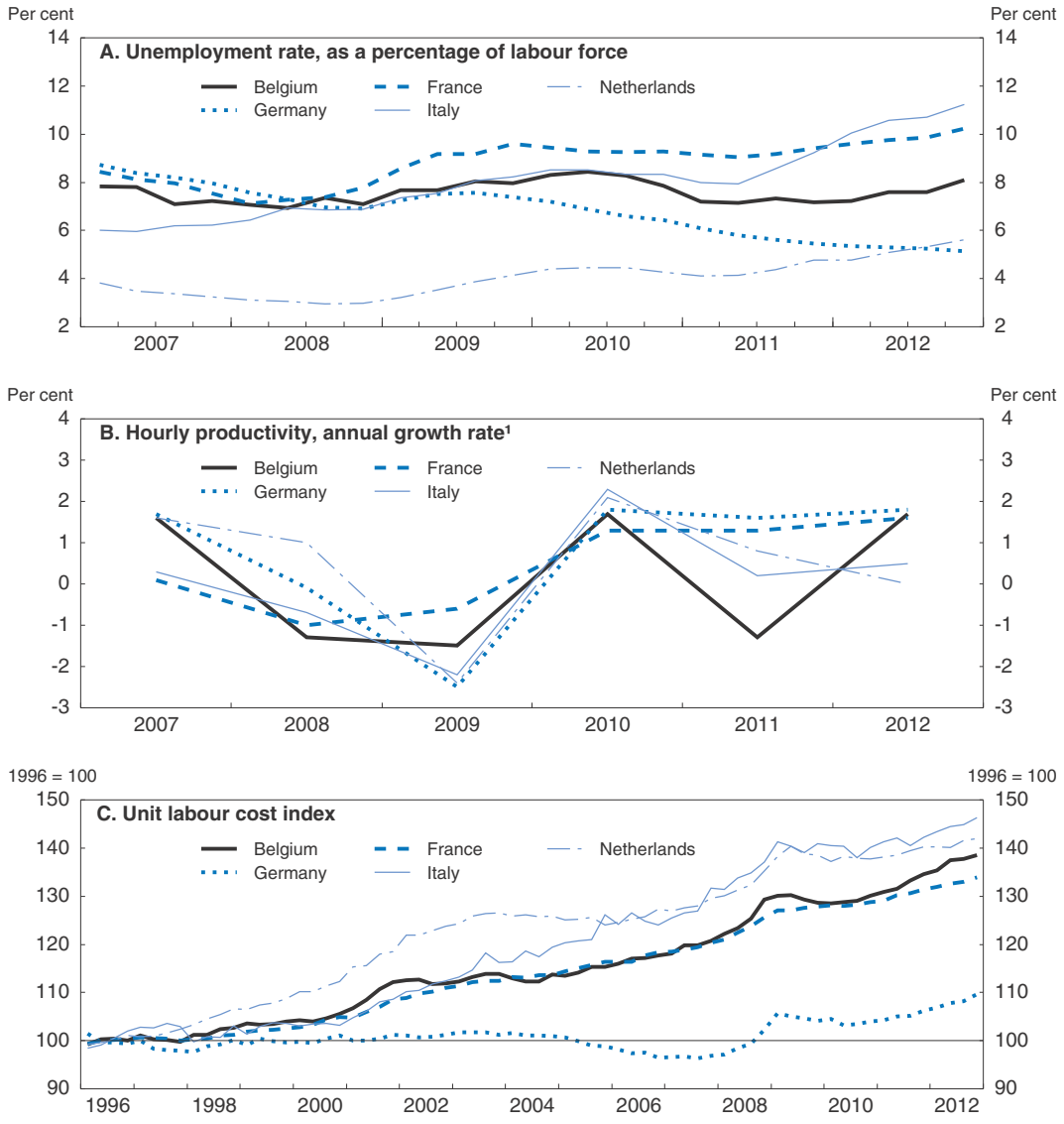
1. National accounts are based on official chain-linked data, which introduces a discrepancy between real demand components and GDP. For further details, see OECD Economic Outlook Sources and Methods at www.oecd.org/eco/sources-and-methods.
2. Contributions to changes in real GDP (per cent of real GDP in previous year).

Source: OECD (2012), *OECD Economic Outlook: Statistics and Projections* (database), November, updated for recent data.

The performance of the labour market has been relatively good. The unemployment rate increased less than in other European countries, reflecting widespread labour hoarding, in part through the large use of reduced work time schemes (Figure 1). As the economy slowed during 2012, the use of reduced work time schemes picked up again, although not to the level in 2009-10, preventing larger increases in unemployment. Nevertheless, as weak growth persists, the willingness of employers to hoard labour may diminish, which could give rise to further rises in unemployment. Moreover, longstanding structural labour market problems remain, such as high structural unemployment, low employment rates for younger and older workers and for low-skilled and immigrants; and large labour market mismatches.

Belgium has lost cost competitiveness (as measured by unit labour costs) *vis-à-vis* Germany, which has contributed to sustained losses of export market share (Figures 1 and 2) and deterioration in the current account. Real wage growth was very low over 2011-12 and the government set it to zero for 2013-14. Nominal wage growth was higher as, notably, higher energy prices boosted consumer price inflation, which the automatic wage indexation mechanism translated into higher wages. Moreover, the relatively large export market losses have taken place in relatively slowly growing markets, reflecting the focus of Belgium's exports on mature European markets, despite fast growth in exports to emerging economies in Asia over the past decade. It seems that Belgian exports are not moving up

Figure 1. **Labour market**



1. Data for 2012 are estimations.

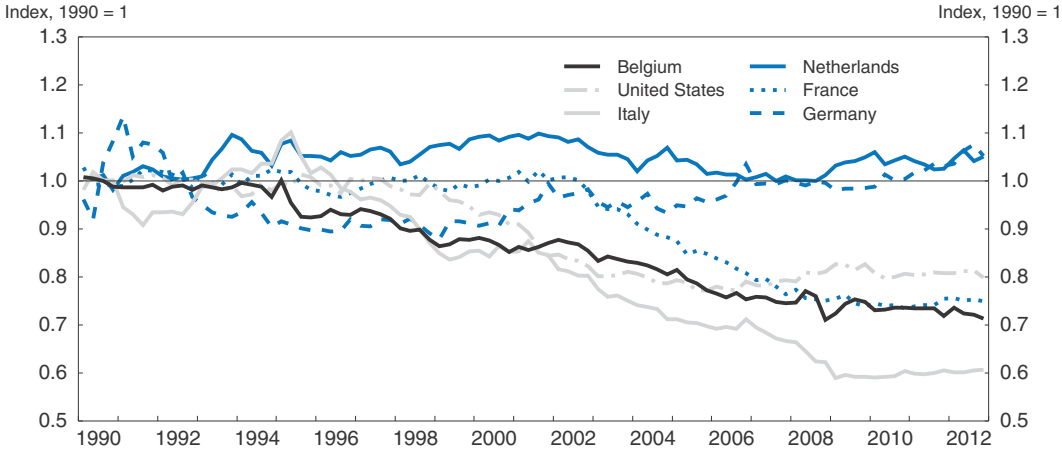
Source: OECD (2012), *OECD Economic Outlook: Statistics and Projections*, *Main Economic Indicators* (databases), October and OECD (2012), *OECD Productivity Database*, June; *www.oecd.org/statistics/productivity*.

StatLink http://dx.doi.org/10.1787/888932804168

the value-added chain due to a lack of innovative products, leaving Belgian exports exposed to relatively fierce competition from emerging economies and new EU member states (NBB, 2012a).

The economic and financial crisis has led banks to refocus their activities on the domestic market. Banks have cut their direct exposure to the euro area periphery by reducing their holdings of public debt from more than EUR 40 billion to roughly EUR 10 billion by mid-2012. The more domestic-oriented model may entail lower risks as the default rate on domestic loans remains relatively low, although some of the recent vintages of mortgages may prove riskier because of their bigger size relative to incomes (NBB, 2012b). Another stabilising factor is that Belgian banks are more reliant on deposits

Figure 2. **Belgian export market losses have been larger than its competitors**



Source: OECD (2012), *OECD Economic Outlook: Statistics and Projections Database*, November.

How to read this figure: A decline in the index represents a deterioration of the export performance of a country, in the sense that it is losing market shares on its export markets (i.e. the share of its products in the imports of other countries is declining). For example, a 20% decline in the index indicates that exports are 20% lower than if the country had maintained constant market shares.

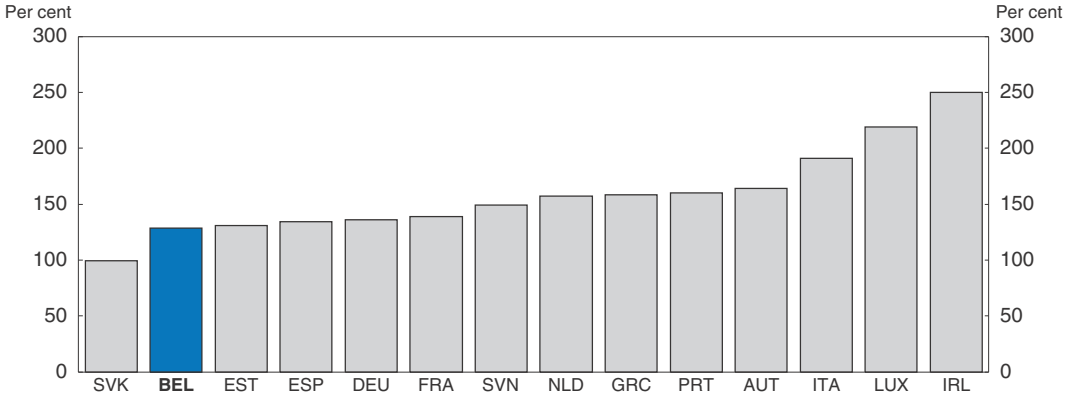
StatLink http://dx.doi.org/10.1787/888932804187

than banks in other euro area countries, and are thus less dependent on (volatile) capital markets (Figure 3). A recent legal initiative allows banks to issue covered bonds, which permits them to diversify their funding sources.

Public involvement in the financial sector remains substantial with public guarantees totalling 16% of GDP at the end of 2012, mainly concerning Dexia. Other banks, such as KBC and BNP Fortis, are reducing their reliance on government capital and guarantees as financial market conditions improve. Dexia was split in 2011 and subsequently

Figure 3. **The loan-to-deposit ratio is low within the Euro area**

Loans assets of the banking sector,[1] as a percentage of its currency and deposits liabilities, 2011



1. Domestic banking groups and stand-alone banks, foreign controlled subsidiaries and branches. Loans and receivables including interbank loans and total deposits other than from credit institutions, both in per cent of total assets.

Source: ECB (2013), "Statistics on Consolidated Banking Data", Statistical Data Warehouse, European Central Bank, January.

StatLink http://dx.doi.org/10.1787/888932804206

recapitalised for a second time. The Belgian and French banking arms were nationalised and the Belgian arm was renamed Belfius, while foreign subsidiaries were sold. The remaining illiquid assets of the group, worth roughly 75% of Belgian GDP, have remained in Dexia Holding, which has otherwise ceased commercial activity. Dexia Holding intends to hold assets, which are deemed undervalued or illiquid (notably loans to local governments and sovereign bonds across Europe), to maturity, while benefitting from government guarantees (from Belgium, France and Luxembourg) to roll over its debt. However, Dexia Holding remains vulnerable to a more substantial deterioration of the economic and financial situation in the euro area than foreseen in the bank resolution plan that was agreed with the European Commission. In such a scenario, Dexia Holding could pose an additional fiscal risk to the government.

A slow recovery is expected in 2013 as world trade growth is gathering pace and domestic demand is being stimulated by supportive euro-area monetary policy. However, needed further fiscal consolidation will have a dampening effect. Given low growth, the unemployment rate is set to rise through 2013. The recovery should accelerate in 2014 as global growth rises, which together with still favourable monetary conditions, should induce a recovery in domestic demand.

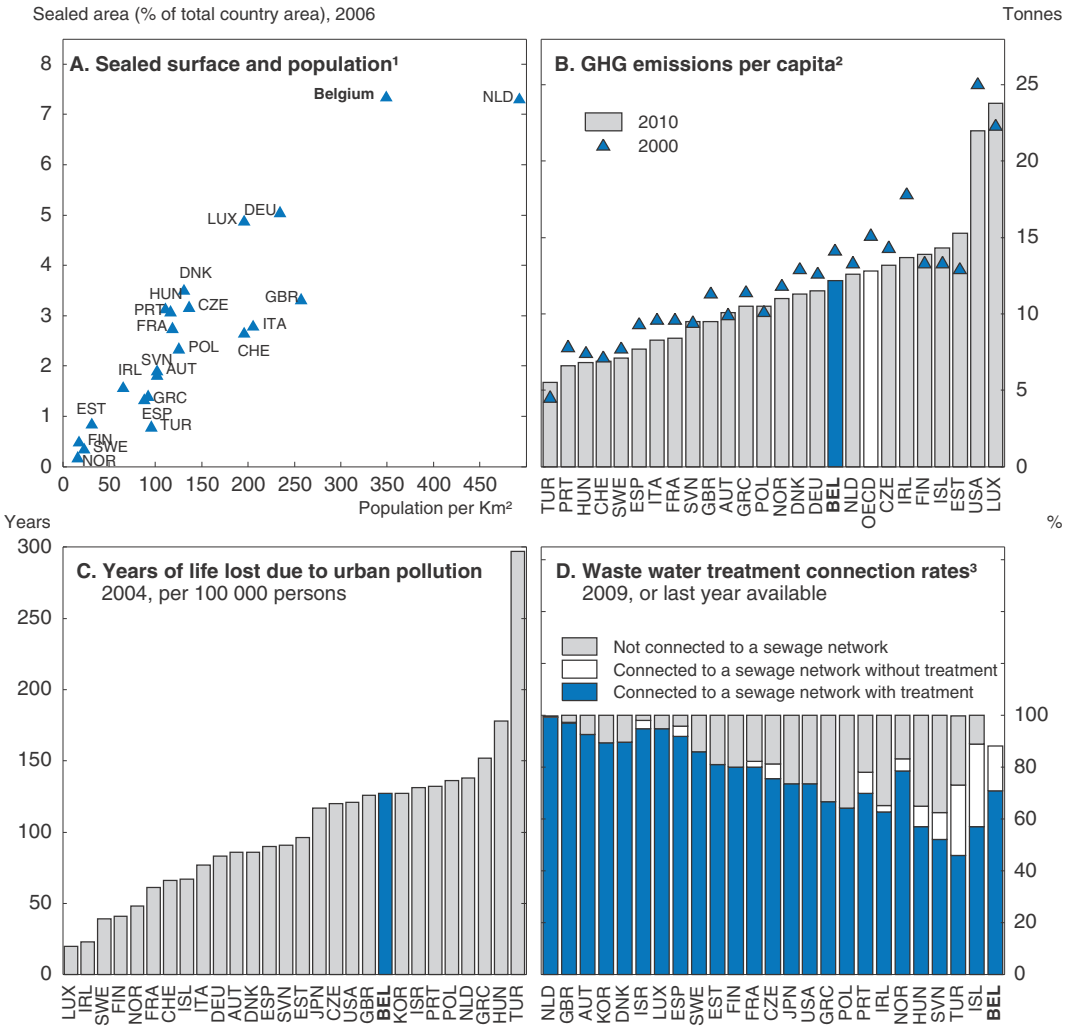
Risks are balanced. On the downside, banks may reduce access to credit to meet Basel III requirements, which could hurt the recovery and trigger a housing market correction. Likewise, a declining willingness to hoard labour could lead to higher unemployment, which could hold back private consumption. On the upside, the government's reforms of pension and unemployment benefit systems (see below) may lead to a faster than expected boost in the effective labour supply, helping growth to recover. Furthermore, a continued unwinding of the sovereign crisis in Europe could reduce interest rate differentials *vis-à-vis* Germany, benefitting domestic demand.

Longer-term growth and the environment

The OECD estimates potential growth to be around 1 ½ per cent now. However, provided substantial structural reforms of labour and product markets, it could eventually increase to as much as 2%, according to OECD's long-term growth scenario (OECD, 2012). An empirical study suggests that a broad set of structural reforms in the areas of product and labour markets (including labour taxes, pensions, employment protection legislation, unemployment benefits and activation policies) could raise potential GDP by up to 5 percentage points over 5 years and 10 percentage points over 10 years (Bouis and Duval 2011). Higher sustained growth would help fiscal consolidation and enable relatively fast reduction in the high public debt burden (see the discussion of medium-term fiscal policy below). With respect to product market reform, previous *Economic Surveys* of Belgium have emphasised the room for deregulating the retail sector and for more competitive network industries. Relevant labour market reforms were analysed in the previous *Survey* and some of the main issues are discussed further below.

Improving environmental outcomes is a prerequisite for sustained growth in GDP and more broadly in living standards. In terms of greenhouse gases, Belgium has successfully reduced its emission since 2000 (Figure 4, Panel B), but with the economy recovering, projections from the European Commission suggest that additional efforts are needed to meet its EU 2020 emission reduction targets. The largest share of emissions not covered by the European emissions trading systems comes from the housing and transport sectors as

Figure 4. **Environmental indicators**



1. Sealed area in percentage of total country area. Sealing refers to a change in the nature of soil, mainly through construction works, which renders it impermeable.
2. Gross direct emissions excluding emissions or removals from land-use change and forestry (LULUCF). OECD area excludes Chile, Israel, Mexico and Korea.
3. As a percentage of total population. Partial data only for Belgium.

Source: European Environment Agency, The World Bank, World Health Organisation, OECD (2013) Environmental data.

StatLink http://dx.doi.org/10.1787/888932804225

discussed in the previous *Economic Survey of Belgium* (OECD, 2011). The emissions from the transport sector reflect extensive commuting and a high share of tax-favoured diesel cars (as discussed in the infrastructure section below). This also boosts air pollution with negative impacts on health. Indeed, years of life lost due to particulate matter are relatively high in Belgium (Figure 4, Panel C) and exposure to ozone and NO_2 is frequently above limits defined by the EU and those considered as safe by the World Health Organisation (EEA, 2010).

Water quality standards are relatively low, reflecting relatively high usage of pesticide and nitrogen fertilisers, as well as wastewater treatment that, despite recent improvements, is less well developed than in other countries (Figure 4, Panel D) (OECD,

2007; EEA, 2010). In addition, an internationally high share of surface areas is paved (Figure 4, Panel A), reflecting high population density and urban sprawl with significant land-take for transport and housing – all factors that contribute to increasing road transport, air pollution and greenhouse gas emissions as well as higher flood risks and reduced biodiversity.

Sustainable public finances

The government is committed to achieving a balanced budget by 2015, with a roughly equal emphasis on spending and revenue measures. It is also implementing a reform of fiscal federalism arrangements to delegate more spending and taxing powers to the regions and the communities.

Looking ahead, a medium-term fiscal strategy needs to be established to secure sustainable public finances. Three interlinked issues have to be addressed. The speed of public debt reduction determines how much interest payments are reduced, which creates room for partly financing unavoidable ageing-related spending increases. At the same time, structural measures to contain ageing-related spending pressures determine the size of unavoidable increases in this area. Settling these two issues determines how much non-ageing related spending should be reduced to create the necessary budgetary room to fully finance all unavoidable ageing-related spending increases.

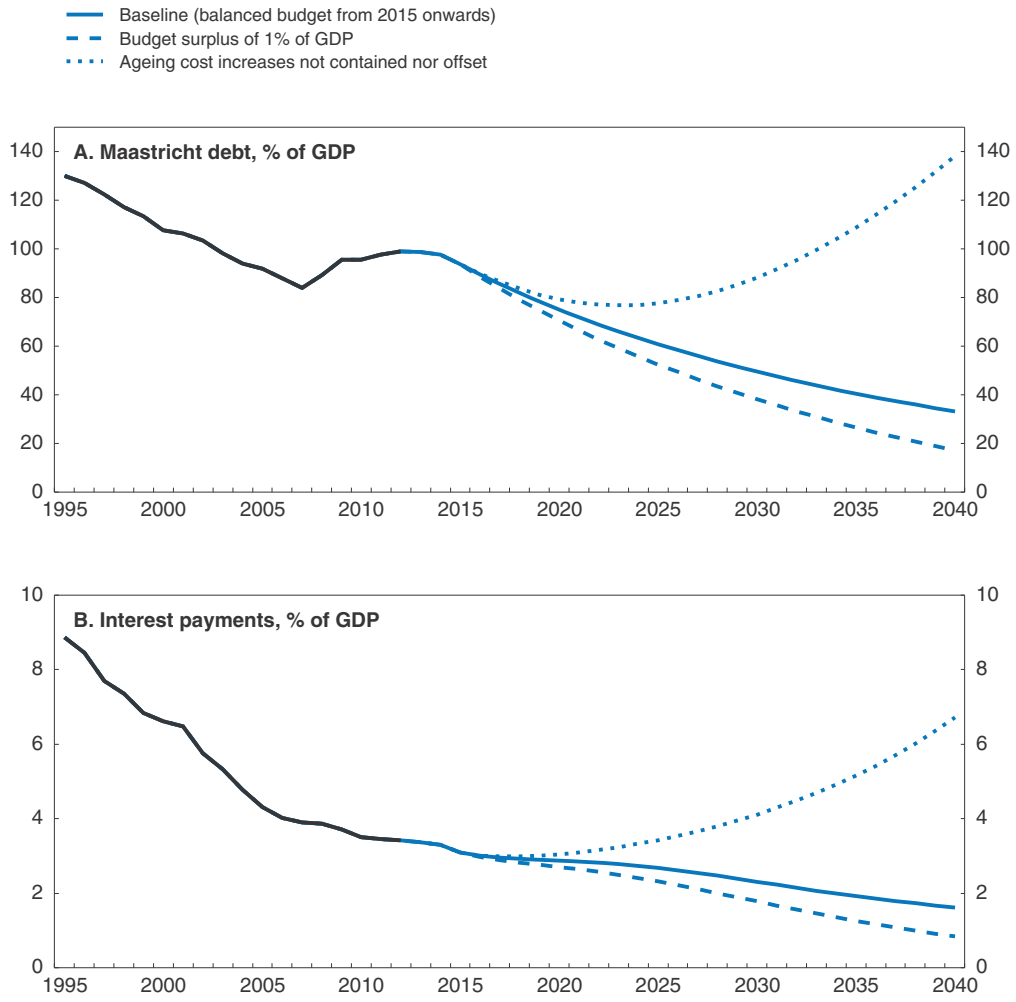
The establishment of the medium-term fiscal strategy requires the involvement of the federal government and the regions and communities. After the recent reform of fiscal federalism arrangements (which is described below) the federal government will still be responsible for most of the ageing-related spending. This implies that debt reduction may require (depending on the effectiveness of structural measures to contain ageing-related spending pressures) more federal government revenue. Regions and communities, on the other hand, will be mainly responsible for the necessary reduction in non-ageing related spending.

Reducing the public debt burden

Public debt was almost 100% of GDP in 2012, and achieving the 2015 fiscal target could return it to its 2011 level of around 98% of GDP, assuming a further acceleration of growth in 2015. Beyond that, attention should turn to sustained debt reduction to improve investor confidence, ease the negative growth effects due to high public debt, and reduce interest payments to create budgetary room for financing unavoidable ageing-related spending increases. Assuming 2% real GDP growth and 2% inflation (on average), budget balance after 2015 would reduce debt to 60% in 2025 and to 35% by 2040; a 1% surplus would imply a significantly larger fall and reduce interest payments by an additional ½ per cent of GDP in 2025 (Figure 5). On the other hand, if real GDP were to grow at 1½ per cent a year, debt would reach 60% of GDP a couple of years later.

Maintaining a balanced budget or a small surplus will be difficult as population ageing is already boosting spending pressures in the areas of health and pensions. The national authorities estimate that ageing-related spending increases will amount to a bit more than 6% of GDP by 2060. The European Commission has a higher estimate of 8½ per cent of GDP by 2060, largely reflecting less favourable labour market assumptions than for most other EU countries (European Commission, 2012a and 2012b). Both estimates are high (Figure 6). If ageing-related spending pressures are not addressed, they could lead to higher public

Figure 5. **Illustrative public debt paths**[1]



1. This figure presents the path of public debt and interest payments in three scenarios. In the baseline, the general government budget is assumed to be in balance from 2015 onwards, implying that ageing–related spending increases (notably on pensions and health) are either contained or offset by reducing other spending. The "budget surplus" scenario assumes a budget surplus of 1% of GDP after 2016 with the same implication for ageing–related spending. The third assumes that rising ageing-related spending increases are neither contained nor offset, but debt financed. It is not meant to be realistic, as the debt path is unsustainable, but it is one illustration of the magnitude of the challenge posed by population ageing. GDP growth and interest rate projections are from the *OECD Long-Term Database*. Ageing costs estimates are from the *European Commission 2012 Ageing Report*.

Source: OECD calculations.

StatLink http://dx.doi.org/10.1787/888932804244

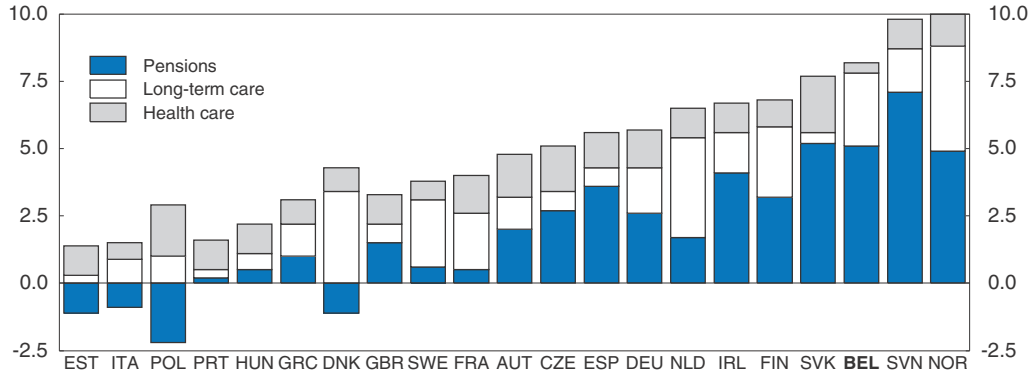
debt and interest payments from early 2020s onwards. In this context, the challenge is to contain ageing-related spending pressures through broad-based pension and health care reform, while containing non-ageing related spending to create room for the unavoidable increases in spending on pensions and health.

Reform of early retirement should improve fiscal sustainability

Belgium has one of the lowest effective retirement ages in the OECD and most of its increase over the past decade can be ascribed to higher female participation and a scaling back of very early retirement (Figure 7). The 2005 Solidarity Pact between the Generations

Figure 6. **Expected increases of ageing costs are relatively high**[1]

Percentage points of GDP, 2010-60



1. Each bar is the sum of three components of ageing-related spending under the assumptions of unchanged policy. In Belgium, population ageing is projected to induce an increase in public spending on pensions, health care and long-term care, as a share of GDP, by respectively 5.1, 2.7, 0.4 percentage points between 2010 and 2060. For Estonia, Italy, Poland and Denmark, pension spending is projected to fall relative to GDP.

Source: European Commission (2012), *Fiscal Sustainability Report 2012, European Economy 8*.

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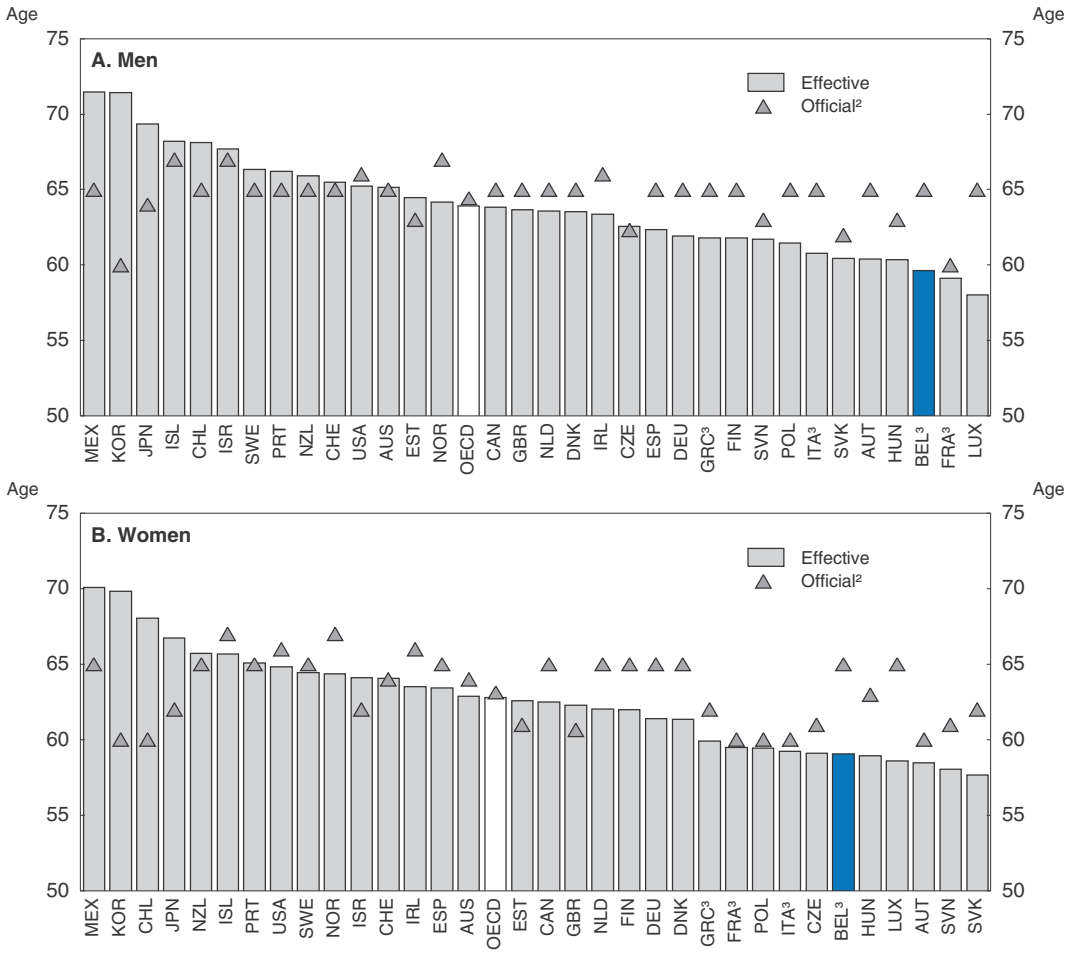
did not have the expected impact on the effective retirement age. In response, the government is reforming the early retirement and the pre-pension systems (which combine unemployment benefits and employer-paid top-ups with less stringent job search criteria) notably by raising the admission age and career length requirements, while reducing pension rights (The Belgian Government, 2012) – reforms that are important first steps to increase the effective retirement age (Box 1). At the same time, measures were introduced to improve the employment prospects of older workers, notably the obligation for larger firms to develop strategies for boosting employment of older workers.

The reforms are expected to reduce the number of pensioners by 1.7% in 2060 and increase the employment rate of older workers (over 55 years) by 5½ percentage points to 56.3% by 2060 – a level that is still low when compared with other countries today (Conseil Supérieur des Finances, 2012). This is well short of the national employment target for the age group 20-64 of 73.2% in 2020 (67% currently), which can be achieved only by further strengthening incentives to stay on the labour market. In the early retirement system, a stronger link between working careers and pensions would be created by extending the fixed amount method (where pension rights are based on a fixed sum of EUR 22 200 per year rather than on the previous salary) to enrolees in all pre-pension regimes. This should be combined with extending further the length of required working careers.

However, such adjustments will not alter the rule-based entry into early retirement, which is now irrespective of work capacity. Given the fiscal sustainability challenge, consideration should be given to replacing the current rule-based system with one based on individual assessment of work capacity. In the pre-pension system, the age-related reduction in social security contributions encourages employers to target the use of the system to older workers (Box 1). Thus, the benefit top-ups should be subject to a single social security contribution for all age groups and combined with securing similar enforcement of search incentives (see below) as other unemployed by revoking the exception for over 55 years.

Figure 7. **Average effective age of retirement versus the official age**[1]

2006-2011



1. The average effective age of retirement is defined as the average age of exit from the labour force during a 5-year period. Labour force (net) exits are estimated by taking the difference in the participation rate for each 5-year age group (40 and over) at the beginning of the period and the rate for the corresponding age group aged 5-years older at the end of the period. The official age corresponds to the age at which a pension can be received irrespective of whether a worker has a long insurance record of years of contributions.
2. Official retirement age is shown for 2010.
3. For Belgium and France, workers can retire at age 60 with 40 years of contributions; for Greece, at age 58 with 35 years of contributions; and for Italy, at 57 (56 for manual workers) with 35 years of contributions.

Source: OECD (2012), *OECD Pensions and Labour Market Statistics*, December.

StatLink http://dx.doi.org/10.1787/888932804282

Fiscal federalism reform aligns better revenue and spending responsibilities of regions and communities

In 2012, a fiscal federalism reform (known as the State reform in Belgium – a term used henceforth) was agreed and will be implemented during the Parliamentarian session. The reform gives more spending responsibilities to regions and communities (estimated to 4½ per cent of the 2011 GDP) notably in the areas of family allowance, long-term care and labour market policies. This will leave around 54% of primary spending (including most of social security spending) with the federal level, of which slightly more than two-thirds is social spending. The State reform will be complemented by a finance reform that increases

Box 1. **The 2012 early retirement reforms**

In the early retirement system, the entry age will be gradually raised from 60 to 62 years and the working career from 35 to 40 years (in the private sector) although longer careers give access as early as 60. For public sector employees, a required career length of 40 years was introduced and the pension calculations are now based on the last 10 working years, except for employees born before 1962, where the calculations remain based in the last five years. In addition, public sector employees are now allowed to work after 65.

The pre-pension system was renamed "system of unemployment with a company supplement". Enrollees receive unemployment benefits, a mandatory employer-paid top-up, amounting to 50% of the difference between the former net wage and the benefit, and in many sectors also an additional negotiated top-up. The reform raise the admission age to 60 years in 2015 (and required working careers to 40 years) and to 55 years in the special regimes for restructuring and closing firms. Moreover, the benefit top-ups will be subject to higher employer paid social security contributions with rates doubling to 95%-100% for workers younger than 55 years, to 50% for workers between 55 and 60 years, and to 25% for workers above 60 years. For restructuring firms, the rates will range from 75% to 20%, while the old rules continue to apply for closing firms.

Pension rights earned during enrolment in pre-pension are reduced, as they will not be based on the salary in the previous job until the age of 60, but rather on a fixed sum of about EUR 22 200 per year. This measure will not be applied to the special regimes. In addition, the job-search monitoring and activation of all unemployed, including pre-pensioners, will be raised to 55 in 2013 and further to 58 in 2016.

the tax autonomy of the regions to roughly cover existing spending responsibilities. The new spending tasks of communities and regions are covered by new transfers from the federal level (Box 2). The reforms better align spending and taxing powers, consistent with recommendations made in the fiscal federalism chapter in the 2009 *Economic Survey of Belgium* (OECD, 2009).

The reforms could lead to better targeted and more cost efficient policies by allowing regions to adapt policies to their needs, although some co-ordination issues may arise. For example, regions can use their new wage subsidy powers to target region-specific groups, which may induce firms and job seekers in engaging in strategic location considerations. After the reforms, both the federal government and the regions can set income tax rates and the regions can cut some social security contributions to promote employment among selected groups. In this respect, care should be taken to avoid increases in the already internationally high effective marginal tax rates to avoid aggravating existing labour market traps as described in the 2011 *Survey* (OECD, 2011).

The devolution of spending and taxing powers necessitates a stronger fiscal framework to secure fiscal sustainability (European Commission, 2012c). The burden sharing arrangement for fiscal consolidation needs to take into account an agreed medium-term fiscal consolidation strategy, where the federal government, the regions and communities determine the speed of debt reduction and lay out structural reform measures to curb ageing-related spending increases. As the federal government retains responsibility for most ageing-related expenditures, in the longer term this may involve rebalancing revenue streams towards the federal government or transferring more responsibility for ageing–related spending items to the regions and communities. One step

Box 2. **The reform of fiscal federalism (the State reform)**

The devolution of spending responsibilities to the communities and regions was embodied in the (sixth) State reform and should be fully implemented by 2015. Nearly two-thirds of the transferred spending powers go to the communities in the areas of family allowances (1.6% of GDP), long-term care and some other health tasks (hospital infrastructures, mental health services and preventive medicine) (1.1% of GDP). The regions will mostly get increased labour market responsibilities, such as special cuts in social security contributions (1% of GDP) to boost the employment prospects of younger, older and low-skilled workers and tax expenditures related to housing, energy and service vouchers (½ per cent of GDP).

The fiscal autonomy granted to the regions amounts to a quarter of all personal income tax revenues, boosting the share of self-determined tax revenues from an average of below 50% to an average of 70%, with the highest share in the Flemish Region.

The revision of the Finance act gives regions powers to set personal income tax rates independently on top of the rates set by the federal government. However, the regions' power to set rates is restrained, as tax progressiveness cannot be reduced by more than EUR 1 000 per taxpayer. Initially, the regions' share of income tax revenues (about a quarter – amounting to nearly 4% of GDP) will not change. A stated aim of the revision of the Finance act is to avoid unfair tax competition and to maintain the progressive nature of income taxation.

The new transfers are (mostly) grants shared between the regions on the basis of the personal income taxes and to the communities grants distributed according to needs in the various spending areas.

In addition, via an additional subsidy of 0.1% of GDP from 2015 onwards, the Brussels-Capital region is somewhat better compensated for the externalities of inter-regional commuter flows, the large presence of international civil servants, and appropriations for security, bilingualism, transport and education.

Furthermore, the solidarity allowance has been revised so that the previous perverse effects of having transfers reduced in case of improved economic performance are being diminished (Leibfritz, 2009).

In the first year, the State reform is budget neutral for all levels of government with the federal government providing lump-sum subsidies (and receiving lump-sum transfers) to compensate for any losses (and gains). Thereafter, the subsidies will be kept constant in nominal terms for the first decade and thereafter reduced to zero over the second decade.

Source: Bisciari, P. and L. van Meensel (2012), "Reform of the Special Finance Act for the Communities and Regions", *Economic Review,* National Bank of Belgium.

was made in this direction, with the regions and communities gradually taking a larger part of the financing of their employees' pensions (amounting to 9% by 2030). A further step in transferring the full responsibility would be to ensure that the contributions fully finance the pensions in the essentially pay-as-you-go pension system.

The short-term arrangements used to date to meet general budget objectives may not be enough to deal with the needs of long-term consolidation or the shift in spending patterns. A more robust framework for burden sharing could better take into account the medium-term fiscal consolidation strategy for securing compliance with EU rules. Such a framework should contain, for all levels of government, clear and transparent multi-year rules for spending and budget balances. In addition to the path for agreed objectives, there

should be clear rules for windfall gains. An important issue to address is establishing rules for the consequences of not meeting agreed targets – particularly in terms of breaking EU rules that may trigger EU sanctions.

Box 3. **Main fiscal policy recommendations**

Secure a sustained debt reduction by moving to an underlying fiscal balance through structural fiscal reforms. Let the automatic stabilisers operate if growth deviates from expectations.

Introduce a robust framework for fiscal consolidation burden sharing, which should contain, for all levels of government, clear and transparent multi-year rules for spending and budget balances.

Create stronger links between working careers and pensions in the early retirement system and subject all older unemployed to standard search monitoring and activation conditions.

Measures to stimulate labour supply and demand

The unemployment benefit system was reformed in 2012 to strengthen search incentives for unemployed workers. The unemployment benefit replacement rate now falls according to the length of the unemployment spell, and after between 16 and 48 months (depending on length of working careers) it is only just above social assistance (Box 4).

Box 4. **Reform of the unemployment system**

The unemployment benefit replacement rate has been increase for the first three months of unemployment (to 65% from 60%), is thereafter gradually reduced over 16 to 48 months (depending on length of working careers) to a level just above social assistance (about EUR 493/month for an unemployed in a household with another income earner) for the rest of the unlimited duration of benefits.

In the special system for school leavers and new graduates (renamed from "waiting" allowance to "insertion" allowance and with a total enrolment of nearly 100 000) the mandatory waiting period before benefits are provided has been extended by up to six months to a standard full year. In addition, the enrolee has to fulfil new active search requirements before receiving the benefit and thereafter every sixth months. Duration, previously unlimited, has been generally limited to three years.

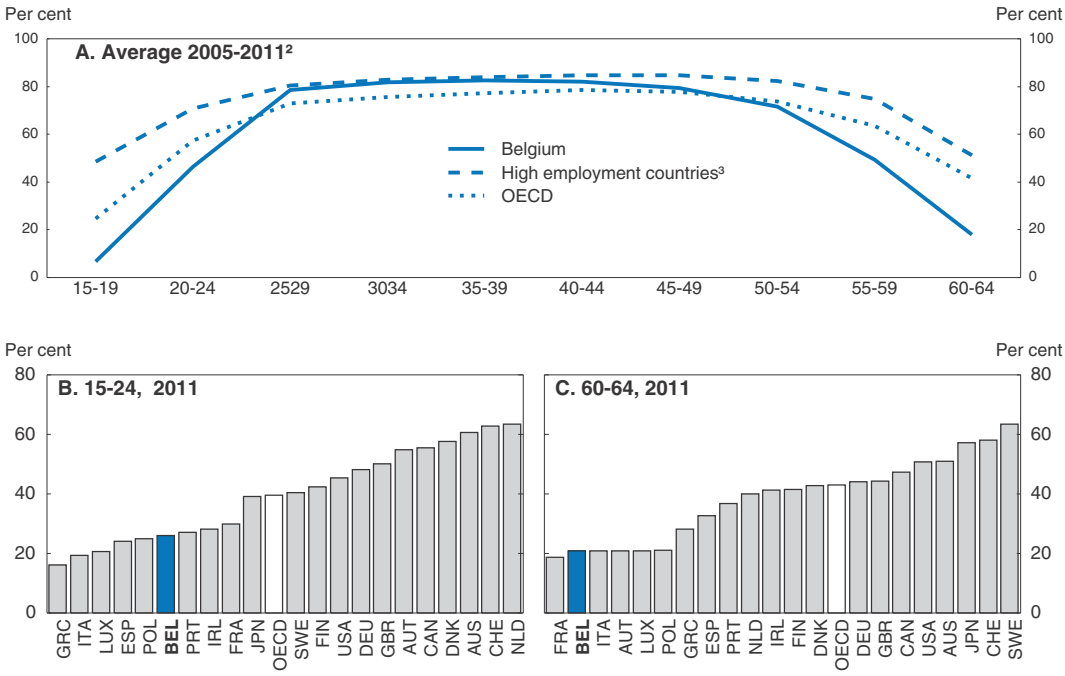
Job search monitoring will be strengthened as the federal system of periodically interviewing unemployed to evaluate their active search efforts and imposing sanction is being transferred to the regions, making the regional PES solely responsible for imposing sanctions. This should reduce time lags between infraction and sanction, leading to more effective job search monitoring. In addition, older unemployed workers will become subject to standard active job search requirements until the age of 55 (rather than 50) and until 58 in 2016.

The authorities envisage to complement the stricter search requirements with the earlier application of activation measures, by moving them forward to after 12 months of unemployment (rather than 21 months) and after 9 months for unemployed younger (rather than 25 months). An additional element in these plans is to have the first PES contact earlier (after 9 months) and even on the first day of unemployment for younger workers.

The effectiveness of the reform in stimulating the effective labour supply is somewhat reduced, as the reduction in benefits is frozen at the age of 55 (or earlier for long working careers), which effectively exempts older workers. In addition, older workers (from 55 years and later 58 years) are exempt from the standard active job search requirements. These exemptions mean that the new improved framework will not apply to the age group with one of the lowest employment rates internationally (Figure 8). Boosting the employment rate of older unemployed requires that they become subject to the same benefit rules and job search requirements as other unemployed.

Figure 8. **Belgian employment rates are age dependent**[1]

As a percentage of the population



1. Panel A presents the share of the population of all age groups that is in employment. Panels B and C present employment rates for younger and older workers.
2. A ranking was used to identify groups of OECD countries according to employment rates by age bracket.
3. Countries with the highest age dependent employment rates. Un-weighted average of Australia, Canada, Denmark, Iceland, the Netherlands, New Zealand, Switzerland and United Kingdom.

Source: OECD calculations using the *OECD 2012 Labour Force Statistics Database*.

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More generally, most unemployed manage to find new employment within the first months of unemployment, but those that do not face declining search activity and more difficult re-entry into employment. Thus, a more effective approach would be to apply activation at the moment when search activity begins to fall, for example after 6 months of unemployment, to facilitate re-entry into employment.

After the reform, the regions have weaker incentives to secure successful activations than in most other countries, as the regions benefit from higher employment, but not from the savings in unemployment benefit payments. This could be achieved by giving the regions part of the savings in unemployment benefits arising from successful activations.

Employment measures are being implemented, notably for young people, in the "plan de relance" with the creation of 10 000 training jobs ("stage de transition"). The employer pays no social security charges during the training job, and if the worker is kept on after it is over the employer's social security charges are reduced. In addition, new targeted reductions in social security contributions, notably for the first three employees in new SMEs and in the hotel and restaurant sector, aim at stimulating labour demand. These measures should improve the employment of the targeted groups and sectors, although their effect on overall employment could be limited. But the measures add to an already complicated system of social security contribution cuts to help many different groups of workers (such as older and R&D workers, to mention a few) which at times have conflicting objectives.

The measures, however, do not constitute a structural improvement in labour demand, which is necessary to successfully secure that the reforms to stimulate the effective labour supply lead to higher employment and lower unemployment. Labour demand for younger and low-skilled workers are reduced by a relatively high legal minimum wage and sectoral minimum wages that are often at least 20% higher, as discussed in the previous *Survey* (OECD, 2011). In addition, the wage formation system leads to rigid real wages, which contribute to labour market mismatches and hinder employment creation, particularly after negative external shocks.

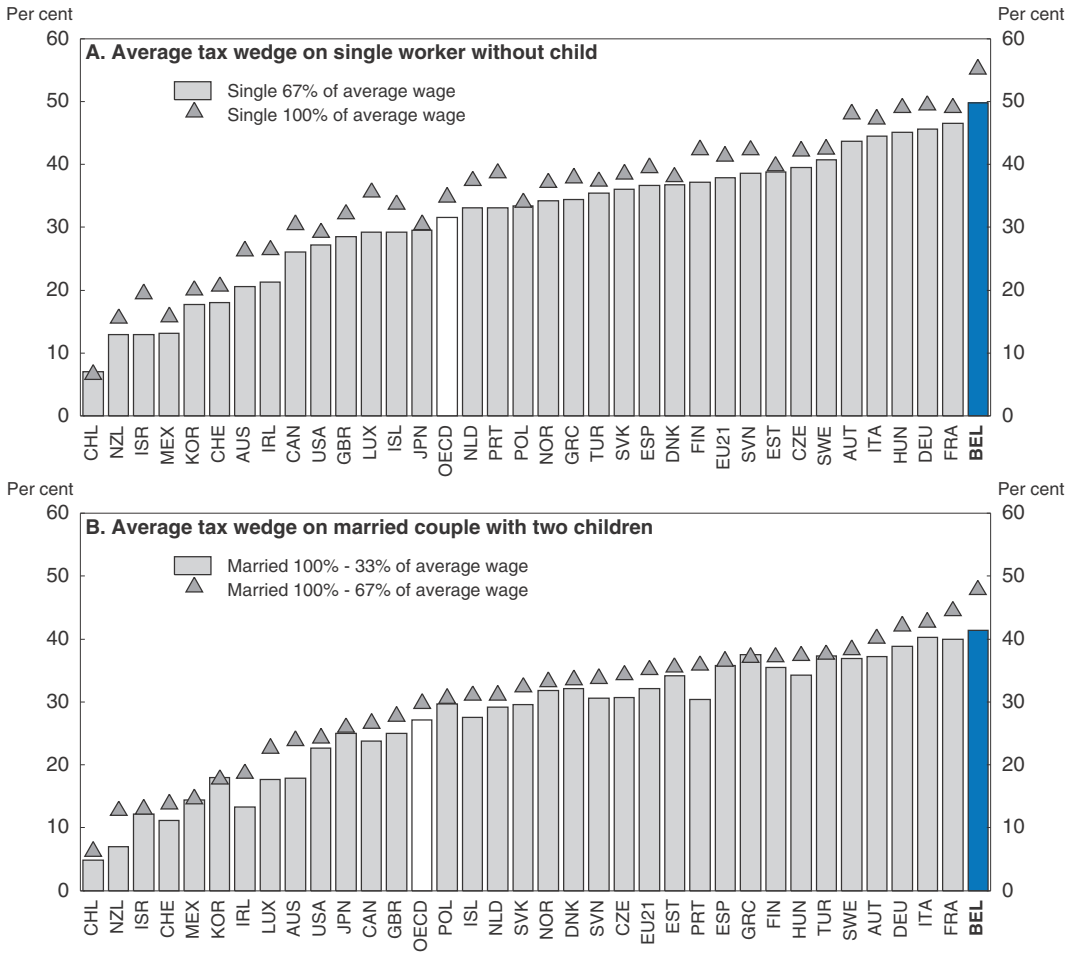
Better stimulating demand for low-skilled workers would require further concentrating of reductions in social security contributions on low-wage workers, as recommended in the 2011 *Economic Survey of Belgium* (OECD, 2011). Such an approach would help to address the numerous labour market traps that have been created by the highest tax wedges in Europe (Figure 9). Demand for low-skilled workers would also be stimulated by reducing sectoral minimum wages to the legal level, and that for younger workers through a more gradual phase-in of the youth minimum wage, as in the Netherlands and the United States.

The Belgian labour market is characterised by dual employment protection, which risks becoming stronger. A 2011 Supreme Court ruling on non-discrimination means that employment protection of blue- and white-collar workers must be aligned by July 2013. Currently, the protection of white-collar workers in terms of dismissal notice and severance pay is considerably higher than for blue-collar workers. As a first alignment measure, the dismissal notice for blue-collar workers with long tenures has been increased from 56 to 64 calendar days and slightly reduced for high-income white-collar workers. The end result could be much higher protection for blue-collar workers (potentially leading to dismissal notices of at least 21 months after 30 year careers with the same employer), which would add to labour costs and reduce labour demand, which could be particularly harmful to the employment prospects for low-skilled workers.

Labour market mismatches are roughly similar to 2007, before the crisis began. Vacancies are mostly for skilled workers but 80% of job-seekers are low – or medium-skilled workers, and about half are long-term unemployed (Zimmer, 2012). At the same time, an estimated 22% of all employees are overqualified for their work functions. This may, at least partly, be explained by a compressed wage structure. The highly co-ordinated wage formation process preserves relative wage differentials, implying that wages do not reflect emerging differences in relative labour demand and thus contribute relatively little to support ongoing reallocation of labour.

Figure 9. **Tax wedges are high**[1]

2011,[2] as a share of labour costs



1. Income tax plus employees and employer contributions less cash benefits.
2. 2010 for Greece.

Source: OECD (2012), *Taxing Wages Database*, December.

How to read this figure: The tax wedge is labour taxes (income taxes plus employee and employer social security contributions) as a percent of before-tax wage (the so-called gross wage). For example, a single Belgian worker earning 67% of the average wage has a tax wedge of 50%.

StatLink http://dx.doi.org/10.1787/888932804320

Normally, mismatches decline during economic slowdowns, but in Belgium the large-scale use of reduced working time schemes has prevented unemployment from rising and allowed firms to hold on to their best workers at a low cost, implying that vacancies would go unfilled. This development reflects a wage formation process that forces cost-cutting firms to reduce hours worked, unlike in many other European countries, where wage restraint also can play a role (De Mulder, J. and M. Druant, 2012). The government has increased employers' contributions for prolonged use of the schemes (applicable first after 110 working days) but it should be applied earlier to encourage the reallocation of (increasingly) scarce qualified workers.

The wage formation process aims at aligning wage developments with expected wage developments in the neighbouring countries and securing real wages via automatic wage

indexation (Box 5). The wage agreements for 2009-10 and 2011-12 stipulated very low real wage growth, but wage indexation led to strong nominal wage growth, which has boosted household purchasing power and to that extent sustained domestic demand (NBB, 2012a). It has, however, also translated the negative terms-of-trade shocks, notably higher energy prices, into wage inflation. This has perverse effects: a negative terms-of-trade shock reduced Belgium's income and living standards, and this ultimately must be reflected in real wages. If not, the result is deterioration in external cost competitiveness, in contrast with a key objective of the National Reform Programme (Belgian Government, 2012).

Box 5. **The wage formation system**

The wage determination process aims at preserving international competitiveness, protecting workers' purchasing power, and support employment, and was codified in 1996. Wages are determined in a highly co-ordinated wage negotiation system with a wage norm for maximal wage increases (with the upper limit determined by the expected wage developments in Germany, France, and the Netherlands) and a lower bound of expected price developments in Belgium. Agreed wage increases are subsequently implemented in sectoral wage agreements (covering more than 90% of all employees).

Ex ante, the setup should secure wage developments that are in line with trading partners. *Ex post* this is not the case, as the automatic indexation of wages to the health index (defined by the government and equal to the consumer price index less transport fuels, tobacco and alcohol items) have ensured that unexpected inflation has been translated into higher wages.

Automatic wage indexation is included in all sector wage agreements and takes place when the health index reaches a pre-determined threshold (typically applied to public wages and in some private sectors) or at fixed intervals (most private sectors).

Indexation goes beyond wages. The government uses the same health index for indexing transfer income (pensions, unemployment benefit, early retirement, family allowances and about two-thirds of other social transfers) and subsidies (such as transfers to the national railway company and post office, the service vouchers) as well as the health care sector (admission fees to hospitals and rest homes as well as doctors' fees). In addition, many firms use similar rules to link their selling prices to the movement in consumer prices, which effectively implies that some prices are partly indexed to their own price increases (NBB, 2012 – indexation in Belgium).

It also reduces downwards real wage flexibility and thus the scope for realigning productivity and hours in the case of an external shock. This is likely to increase the relative unemployment risks of low-skilled workers. Eliminating the negative effects of wage indexation requires, at a minimum, that the indexing formula be de-linked from terms-of-trade shocks. In this respect, the government has adopted a reform to slow down the transmission of world energy prices into the health index (as well as other adjustment of the index to better reflect actual price developments). The reform is part of the government's objective that wage developments gradually remove the wage gap *vis-à-vis* the neighbouring countries by 2018. Additional measures to achieve the objective include adjusting the health index to better reflect actual consumption, further reducing

employers' social security contribution, and enforcing stronger competition policies – measures that come on top of the zero real wage growth decision.

However, such measures only address a single source (international energy prices) and a single type of shock (terms-of-trade) (NBB, 2012). Other sources and types of shocks will continue to affect, through wage indexation, the economy. The current government is committed to wage indexation and the next wage negotiations, for 2015-16, will take place after the next general election. Nevertheless, the government should already now encourage the social partners to phase out the automatic wage indexation.

The automatic wage indexation is not limited to private sector wages. Many firms use indexation for output pricing, implying that some prices are partly indexed to themselves (NBB, 2012) and the government indexes public sector wages, transfers and subsidies to prices. The government should allow itself the use of non-indexation as a fiscal consolidation tool by ceasing to apply it to public wages and transfers. Such a measure would also send a strong signal to the social partners.

Looking ahead, there is a risk that the wage formation system will lead to a deterioration of external competitiveness, even if wage developments are aligned with those in the neighbouring countries. The rebalancing in the euro area implies that countries with current account surpluses (such as Germany and the Netherlands) are likely to have a prolonged period with relatively high wage inflation, while the deficit countries are entering a period of relatively low inflation to regain competitiveness, implying that Belgian wages will be linked to relatively fast expanding wages. Moreover, the linking of wages to developments in neighbouring countries is effectively equivalent to linking wages to productivity developments in the neighbouring countries (NBB, 2012; Aucremanne et al., 2012). As emphasised in the last *Survey*, employment creation and the preservation of external cost competitiveness would benefit from linking wage growth only to domestic productivity development, implying a need to reconsider the highly co-ordinated wage determination process, while taking into account the need for using relative wages to reflect firm and sector differences in labour demand.

Box 6. **Main recommendations to supplement the government's labour market reform**

Reduce sectoral minimum wages to the legal level and have a more gradual phase-in of the youth minimum wage. Concentrate cuts in social security benefit contribution on low-wage workers.

The government and social partners should consider a new wage formation process. As part of such reform, social partners should be encouraged to phase out the automatic wage indexation mechanism to avoid that the effects of negative external shocks become permanent.

Bolster employment creation and preservation of external cost competitiveness by linking wage growth more closely to domestic productivity developments.

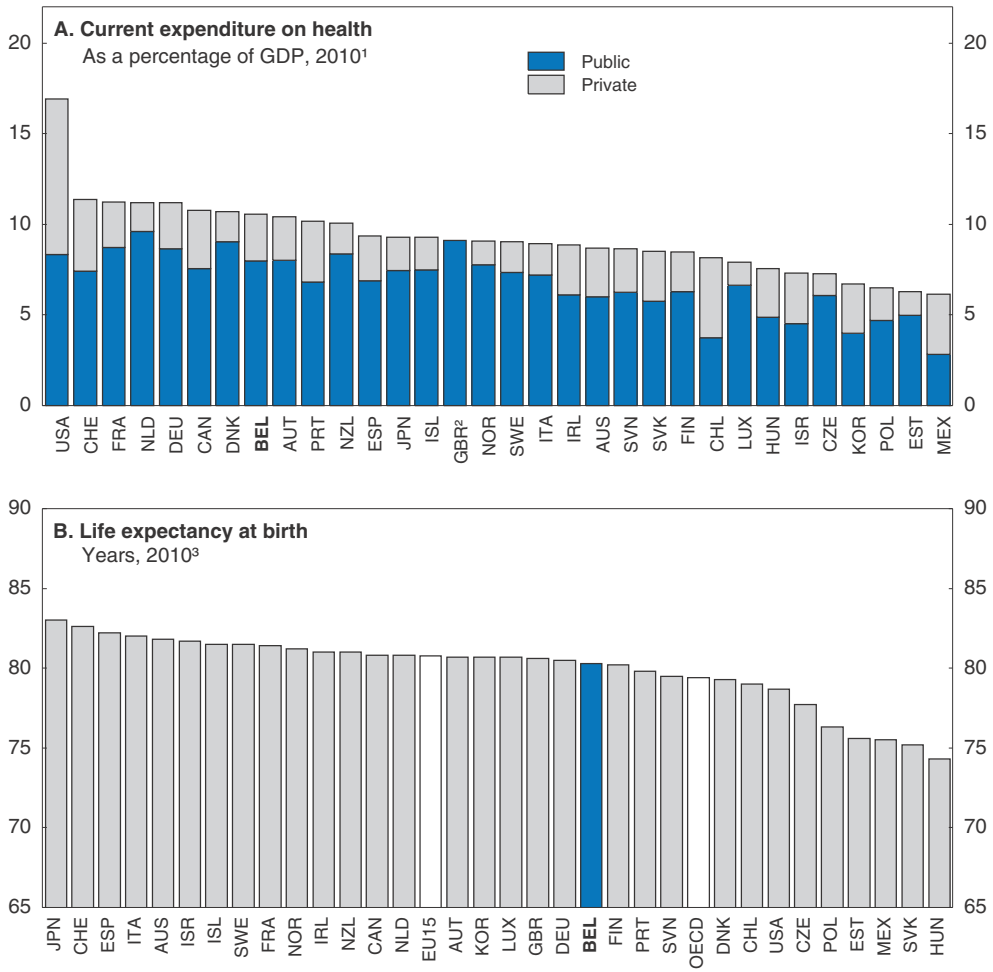
Health care needs to be provided more efficiently and flexibly in an ageing society

Health outcomes are broadly satisfactory, with a slightly shorter life expectancy than in most Western European countries, but relatively good results for a number of treatments

(Joumard et al., 2010; Vrijens et al., 2013). The shorter life expectancy may partly reflect lifestyle factors, such as a relatively unhealthy diet and low level of physical activity. In addition, the system is generally praised for its high level of accessibility, absence of waiting lists (except for long-term residential care) and patients' free choice of provider. There are indications that health inequalities among different income groups are relatively low, although rising.

The cost of the health system is high relative to many OECD countries, although not compared to neighbouring European countries (Figure 10). There are indications of areas where savings might be made. The number of hospital beds per inhabitants is somewhat higher than OECD average, notably reflecting the large number of psychiatric care beds. Beds are concentrated in large general hospitals and occupancy rates are relatively low,

Figure 10. **Health spending and life expectancy**



1. 2009 for Australia, Chile, Israel, Japan, Luxembourg and Mexico.
2. No breakdown available for United Kingdom, for which public expenditure includes private expenditure.
3. Or latest year of data available (2006-10).

Source: OECD (2013), "OECD Health Data: Health expenditure and financing", *OECD Health Statistics* (database), April and WHO (2011), Global Health Observatory Data Repository, World Health Organisation, May.

StatLink http://dx.doi.org/10.1787/888932804339

despite long hospital stays. There are more doctor consultations per inhabitant than in other countries, although the number of practising doctors is about average. In addition, the density of pharmacists is about 50% higher than the OECD average. The cost of health services is boosted by efficiency discrepancies across hospitals, the pre-dominant fee-for-service remuneration of doctors, which contributes to high volumes of services, and high drug consumption.

Looking ahead, a prime concern is to maintain the positive elements of the system and at the same time improve cost-efficiency to help to contain spending as population ageing accelerates. The complex organisation of the system and its strong emphasis on negotiations between stakeholders and government regulation also raise the concern of whether it is sufficiently flexible to adjust to large ageing-related changes in demand. A possible risk is that policies to control spending via rationing of supply leads to the emergence of waiting lists and under-treated patients. Enhancing cost-efficiency requires improving the institutional framework and taking structural measures at the provider level to improve incentives and information flows. Once sufficient progress has been made, a greater reliance on price signals and a more flexible supply of health services could help secure a faster response to new demands.

Institutional reform to improve incentives

Historically, health-care financing has evolved from employment-linked insurance into universal public insurance. Insurance is delivered by sickness funds, of which the three largest ones – Christian, Socialist and Independent – control most of the market. Hospitals are non-profit bodies traditionally linked to religious orders, universities or local governments. The main instrument to contain health spending is government control over financing, planning and regulation. In particular, the government and the sickness funds have to ensure that spending is kept within a federal budget ceiling, if necessary by jointly negotiating changes in tariffs with providers.

Since the mid-2000s, the budget ceiling has been increased annually by 4½ per cent in real terms, which is high by international standards. In practice, spending increases turned out to be well below this ceiling, which meant that the ceiling did not provide pressure for cost efficiency. This issue was addressed by lowering the level of the ceiling in 2012 and permitting real growth of 2% in 2013 and 3% in 2014. As budget ceilings are tightened, there may be more pressure to bypass them, for example by exploiting the possibility of exceptional expenses or creating new ones. To maintain spending discipline, the government will have to ensure that such mechanisms are used only for large unforeseen events. Budget transparency would also be supported by moving towards medium-term budgeting.

Most health responsibilities are federal, but some powers have been devolved to regions in the area of hospital investment, and to communities in the area of preventive and long-term care. The distribution of tasks is complex, generating administrative and co-ordination costs. At times, it also creates conflicting incentives, although procedures are in place to encourage co-ordination between government levels. For example, regions have incentives to subsidise hospital investment in that hospital running costs are covered by the federal government. Similarly, communities lack incentives to invest in preventive care, as associated savings would be reaped by the federal government.

The State reform gives communities full responsibility for prevention and a large role in organising elderly care, which may reduce the fragmentation of responsibilities in these areas. However, the reform could also deepen the problem of conflicting incentives, as the federal government continues to finance some care costs (notably home nursing). This will require increased co-ordination of policies. To facilitate co-ordination, a better alignment of incentives can be achieved by giving communities a stake in the federal care budget to avoid cost shifting, so they internalise the broader impact of their decisions. For example, communities could be made financially responsible for a part of the deviation between the federal cost of care in their community and budgeted expenses. Another possibility would be to concentrate tasks fully at a single level of government.

Sickness funds should have a bigger role in promoting cost-efficiency

Budget ceilings are blunt instruments for creating cost-efficiency. In other countries, notably Germany and the Netherlands, this role is given to health insurance funds. However, in Belgium the role of sickness funds is mostly administrative. Their financing is wholly dependent on the federal government budget and their role *vis-à-vis* providers is centred on reimbursements of services. The funds are accountable for a quarter of the discrepancy between their actual spending and budgets in a bonus/malus system. However, their only instrument to control spending, other than fighting fraud and other misuse and reducing their own administrative costs, is via collective price negotiations with providers.

Sickness funds could be given a more active role in promoting cost-efficiency, but would also need more instruments and information to influence the behaviour of care providers. A first instrument to promote cost-efficiency would be to allow sickness funds to benchmark the performance of hospitals and long-term care institutions to identify underperforming institutions and take corrective measures. In addition, funds should on a limited scale be allowed to experiment with selective contracting of care providers (particularly for chronic diseases). This would enable them to select cost-efficient providers, to which they could orient their members through reduced copayments. In the same manner, sickness funds could also experiment with vertical integration with some providers, as is the case with US "health management organisations", which appear to have reduced costs. Such reform should be carefully monitored to secure an evidence-based successful implementation. Along these new instruments, sickness funds' own incentives to control costs should be reinforced, for example by completing the existing risk-equalisation scheme to cover their whole budget, which is now partly based on historical spending.

In the much longer term, an option to be considered could be to continue such reforms with further steps in the direction of "regulated competition" between sickness funds, as recently introduced in the Netherlands and Switzerland. This would mean generalising the selective contracting of care providers and possibly making sickness funds compete on the price of a basic insurance package. As health insurers compete on several parameters, including coverage and the quality of care, such a reform has the potential, under a set of preconditions, to increase the quality of health supply and to make it more reactive to changes in demand. However, it could also lead to higher costs. The Dutch and Swiss examples should be monitored in this respect. A drawback of such an arrangement in Belgium is that, with only three important sickness funds, competition might prove too

weak. The ideal would be the entry of more funds, but if not strong regulation would be needed to curb oligopolistic behaviour.

Better information and incentives to enhance cost efficiency

The Belgian healthcare system, as those in other countries, suffers from efficiency variations and supplier-induced demand, which have their roots in asymmetric information between providers on the one hand and patients and sickness funds on the other. Supplier-induced demand cannot be easily measured. One study failed to find evidence of it (Léonard et al., 2009), but two others did (Roberfroid et al., 2008; Schaumans, 2007) and the high number of doctor consultations is another indication of it. Greater centralisation and co-ordination of the fragmented data management (with 131 health related databases in 2009) into a single platform would make it easier to identify areas of unwarranted cost differences and cases of excessive treatment or drug prescription. In this area, the common data platform developed by the sickness funds is a good step in the right direction.

Better financial incentives would also help to address these issues. The shift towards reimbursing hospitals per pathology rather than per provided service should be completed and hospital financing should be made more integrated and transparent. This would give hospitals incentives to reduce excessive treatment by physicians. Still, overstatement of pathologies could be a problem, which would require close monitoring by the sickness funds. Likewise, the predominately fee-for-service remuneration of GPs risks supplier-induced demand and does not give sufficient consideration to preventive care, among others, and therefore should be further mixed with capitation-based payments. This should be combined with measures to further encourage more efficient group practice, notably by facilitating the offloading of routine tasks to qualified nurses.

The high spending on drugs should be further addressed – in addition to existing measures such as prescription quotas for low-cost drugs – by reinforcing statistical procedures to tackle excessive prescription practices, securing up-to-date prescription guidelines and revising reimbursement rules regularly to reflect the relative effectiveness of drugs. When equivalent low-cost drugs are available, the reimbursement rate should be systematically based on their price, which is currently not the case (Vrijens et al., 2010). In addition, the number of pharmacies is internationally high and they often operate on an inefficiently small scale. To enable the emergence of larger and more efficient pharmacies, the two decade old moratorium on new pharmacies should be phased out to facilitate a restructuring of the sector. This process could be furthered by allowing pharmacies to compete on the currently regulated margin made on selling pharmaceuticals, while keeping the current regulated margin as a maximum regulation. Also, competition would be increased by allowing other distributors to sell non-prescription drugs, such as aspirin.

On the demand side, private payments are already high by international standards and there is little scope to increase them further. However, there should be more financial incentives to be referred by a GP when visiting a specialist to secure the gate-keeping role of GPs as the first line of treatment.

Flexibility of supply is needed, especially in long-term care

Once adequate financial incentives for cost efficiency are in place, the government could rely less on supply rationing and more on price signals to allocate health care resources. This would allow the system to be more responsive to changing needs. For

example, the moratoriums on hospital beds (a previous moratorium on long-term care beds was replaced by budget constraints) as well as detailed regulations on hospitals, such as the requirement that they all have at least 150 beds and be general, may facilitate cost control and address quality concerns, but they also limit health care providers' scope to adapt. In the same manner, long-term care institutions could be subject to less strict control of accommodation prices to allow diversification of supply. For-profit hospitals, which are currently not allowed, might also enhance the flexibility of the system, although this should be balanced against the risk that they might "select" patients, leaving costly cases to non-profit hospitals. To contribute to address potential shortages of GPs (notably in low-density areas) and certain specialists, remuneration should be revised more often to reflect the adequacy of supply.

The high cost of long-term care, notably reflecting a high reliance on care in institutions, is a particular concern with respect to population ageing. Giving patients more autonomy to organise their care, possibly with a system of vouchers as in the Nordic countries, would encourage private providers to develop efficiency-enhancing integrated nursing and domestic care services. Care needs are frequently assessed by future care givers of a patient, a practice that creates conflict of interests and frequent downgrades in cases where second independent assessments are performed. To address this issue, more dissuasive sanctions should be used in case of systematic overstatement of needs. The performance of the assessment procedure should be further improved by unifying the different geriatric assessment scales used to qualify care needs and updating the outdated fee nomenclature for nursing interventions to reflect actual cost of provision.

Box 7. **Main recommendations to secure a more cost-efficient and responsive health system**

Give sickness funds a more active role to promote cost-efficient care, by allowing them to benchmark the performance of suppliers and to experiment on a limited scale with selective contracting.

Enhance providers' incentives and information flows by greater centralisation and co-ordination of data management on a single platform, completing the shift to pathology-based hospital budgets, and relying more on capitation-based remuneration of doctors.

Tackle high drug spending by reinforcing procedures to stimulate rational prescription and to stop excessive prescription, regularly revising reimbursement rules and liberalising the pharmacist market.

Once adequate incentives to control costs are in place, enable a more flexible health supply by phasing out overly prescriptive regulation on hospital supply.

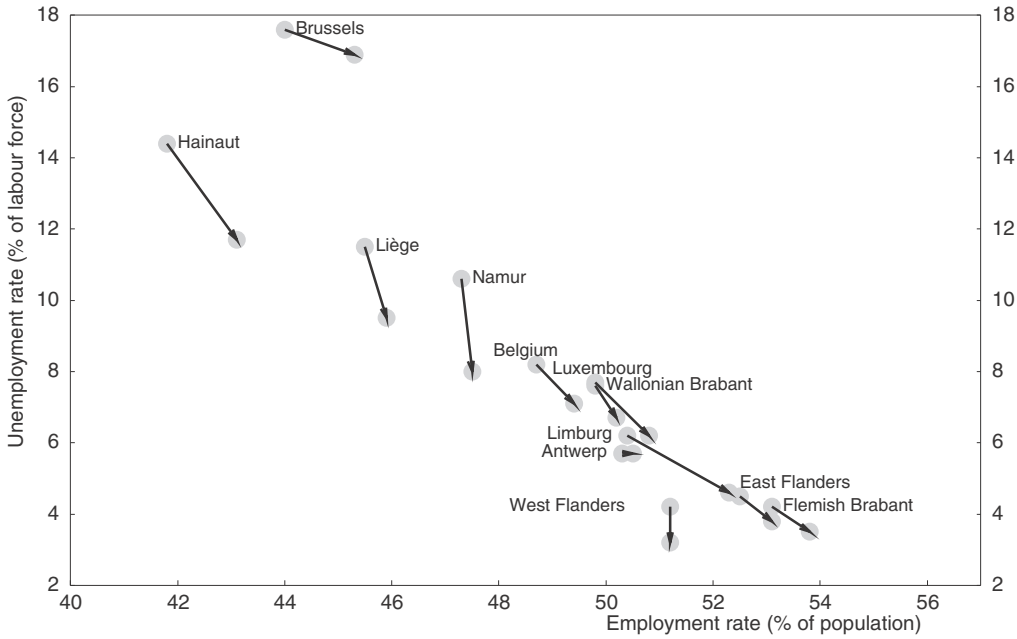
Grant long-term care patients autonomy to organise their care at home. Qualify care needs on a unified geriatric assessment and introduce dissuasive sanctions to deter overstatement of care needs.

Rationalising the use of the transport infrastructure to reduce congestion

A major challenge for infrastructures is to ensure the smooth reallocation of labour resources across the country. Labour market outcomes are unevenly distributed across and within regions, leading to the largest geographical dispersion in the EU (Figure 11). In addition, population ageing is progressing more rapidly in the north of the country, which

Figure 11. **Employment and unemployment rates have large geographical variation**

Changes between 2006 and 2011



Source: Eurostat (2012), *Eurostat Database*, November.

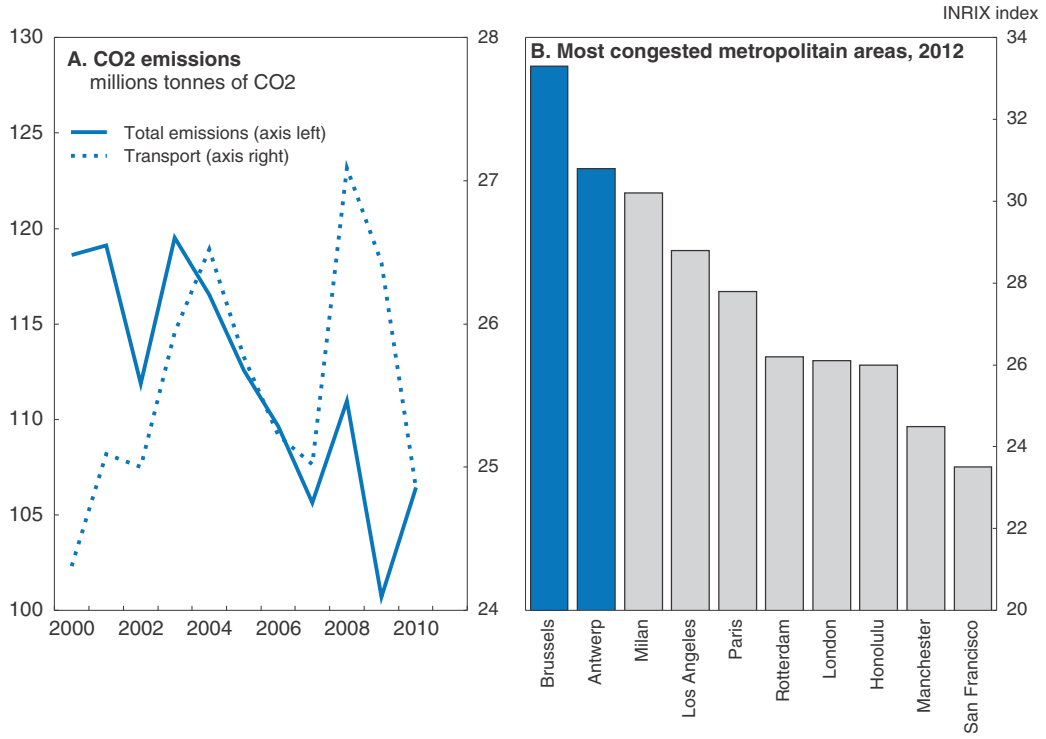
StatLink http://dx.doi.org/10.1787/888932804358

over time could add to the geographical dispersion between workplaces and homes. Together with continued urbanisation, this is likely to add pressures on transport infrastructure to adjust to new patterns of commuting and economic activity.

Infrastructure is well developed to support the predominant commuting patterns from the Walloon (132 000 commuters) and Flemish (239 000 commuters) regions coming to Brussels. Yet, Brussels, along with Antwerp, is one of the most congested cities in Europe (Figure 12, Panel B). In Brussels, the main source is commuting workers, while in Antwerp there is also freight transport servicing the port and international transit transport originating in the Dutch port of Rotterdam. In both cases, the consequences are wasted time and poor inner city air quality, with harmful effects on health (Figure 12, Panel A). More generally, CO_2 emissions from transport have been trending upwards, increasing their share of total emissions. Pressure on road capacity is growing as road traffic is projected to increase by at least 30% by 2030, which could reduce the average peak hour speed by a third (Federal Planning Bureau, 2012).

Extending the already dense road network would be costly and create additional pollution without necessarily addressing congestion. Instead, the authorities have encouraged passengers to use trains and goods to be handled through inland waterways, while continuing to heavily subsidise road commuting. This strategy is costly in terms of subsidies – for example for trains alone, they represent 0.6% of GDP per year. The introduction of stronger price signals could secure a better use of infrastructures, although such reform has to be carefully calibrated to avoid unintended shifts to other transport modes.

Figure 12. **Traffic outcomes are not promising**



Source: IEA and INRIX scoreboard.

How to read this figure: Panel B presents a measure of traffic congestion in the ten most congested metropolitan areas in the world. The index for Brussels is 33, meaning that the average travel time at peak hour is 33% higher than in the absence of congestion.

StatLink http://dx.doi.org/10.1787/888932804377

A long-term vision of future activity and commuting patterns is crucial for good infrastructure planning to secure that transport infrastructures are adjusting to new patterns of commuting and economic activity. A hurdle to planning is that responsibilities are spread across government levels, with the federal government being in charge of railways and the main airport, and regions being in charge of roads, waterways, local transport and secondary airports. This situation requires close co-ordination between stakeholders, which is not always present. For example, little headway has been made on a pricing system on the highway ring around Brussels, which goes through the three regions. Moreover, addressing congestion in one transport mode requires measures in other modes. Introducing road pricing, for example, will require measures in public transport to absorb new traffic. An integrated long-term infrastructure plan supported by regions and the federal government covering all types of transport will be needed to ensure efficient development and growth.

The use of cost-benefit analyses is uneven, which hampers effective planning. For example, regions infrequently perform cost-benefit analyses and have no common framework to select new projects for road infrastructure or local transport, despite positive international experience of such practises, such as in the Netherlands. Cost-benefit analysis for transport infrastructure must, crucially, take into account externalities, the effects of the project on living patterns and other transport modes, and the decision to

build must ultimately consider broader socio-economic factors and public-service needs. This would help decision making and increase transparency of public choices. To secure the necessary expertise and standardisation, an institute could be charged with performing such analysis and provide external evaluation of cost-benefit analysis by others, as is the case in the Netherlands.

Reducing the costs of road congestion

Reducing subsidies that raise traffic and thus contribute to congestion is a clear first step. Road commuting allowances from employers are tax-deductible for both employers and workers and are proportional to the distance from work, reducing incentives to locate closer to the workplace. In addition, despite recent tightening, the tax treatment of company cars remains generous and company cars are much more widespread than in other countries.

Diesel is tax-subsidised compared with gasoline, and represents around three quarters of Belgian cars, the highest share in the OECD. As diesel cars are more fuel efficient than gasoline ones, this contributes to reduce CO_2 emissions, but at a much higher cost – nearly EUR 900 per tonne of CO_2 – than alternative ways to cut emissions. In addition, diesel cars emit particulate matter, contributing to the poor air quality in Belgian cities. Even though the price gap has narrowed over the past years, helping to reduce the share of diesel cars in new car registrations, diesel tax advantages should be phased-out to make diesel relatively more expensive than gasoline. Similarly, the previous subsidies for hybrid and electric cars (up to EUR 9 000 per vehicle) were a very expensive way to cut CO_2 emissions.

The authorities are committed to introducing a flat kilometre charge for trucks, in line with EU rules, which is a step towards charging trucks for their negative externalities in terms of pollution, wear and tear, and congestion. However, a flat charge per kilometre is a blunt instrument to tackle congestion as it reduces traffic both at peak time and off peak. The benefits of road pricing would be considerably larger if prices were more targeted, both geographically and in time, and extended to cars. For example, higher user charges at peak hours and in congested areas would give incentives to road users to adapt their schedule, spreading demand peaks over the day, secure a shift towards sustainable types of transport, and boosting the efficient use of road capacity. As a result, congestion would be reduced with a lower cost to economic activity.

Initially, road pricing could be introduced to combat the pressing congestion problems around the main cities via tolls on the main bottlenecks or meters in every car. Ideally, user charges should be fine-tuned to reflect potential bottlenecks. Other measures, such as subsidies for carpooling, restricting parking space or increasing parking fees can be helpful, but lack the targeting embodied in a road pricing system. In terms of the political economy of such a measure, road pricing schemes are often met with heavy opposition prior to introduction, but acceptance increases as commuters experience a trade-off between higher cost of road usage and shorter commuting time.

Promoting better use of rail infrastructure

The railway network is dense. The number of passengers has grown by 40% over the last decade, much more than in neighbouring countries, which testifies to the success of the network. However, the rise in passenger rail traffic also reflects significant government subsidies. Train travel is free or almost free for civil servants and students, even at peak

hours, and pensioners enjoy reduced tariffs outside peak hours. In addition, the government pays 20% of the season pass of private sector workers if their company pays the rest, which is a frequent practice as it is favourable for tax purposes. Around Brussels, the network is now close to full capacity at peak hours.

To address congestion in the train system, the authorities have increased capacity by introducing double-deck and longer trains and are developing a new Regional Express Network of suburban trains around Brussels. A long discussed project to double the North-South tunnel crossing Brussels has been postponed by at least five years for budget and urban development reasons and the alternative of bypassing the North-South tunnel is being discussed.

In addition to increasing capacity, more efficient use of the existing infrastructure could be achieved by differentiating tariffs over time and space. Particularly, higher fares should apply at peak-time on railway lines with heavy congestion, which would promote smoother distribution of demand over the day. In the UK for example, peak prices can be four times higher than off-peak prices, but similar fare structures can be found on international passenger transport (for example the Thalys between Paris and Brussels), in France, the Netherlands and the US. In addition, employer-provided season cards are currently not subject to taxation. For a differentiated fare structure to have the intended effect, such season cards should be taxed as any other labour income. Moreover, the fare structure embodied in season cards should reflect the differentiation of tariffs over time and space. Sufficient flexibility to adjust working hours and stimulate teleworking would help to maximise the benefits of such reforms.

The railway market has been opened to competition. In 2005, the national monopoly was split into a network manager and a railway operator owned by an overarching holding company. The latter will be abolished in 2013 and the network manager and railway operator become fully independent of each other – a set-up that should ensure non-discriminatory access to the network and thus promote competition in the sector. So far, competition has materialised in freight (where new entrants' market share is only 12%) and international passenger transport. Thus, Belgium has yet to reap the full potential cost-efficiency gains associated to competition.

Public service obligations (PSO) include, notably, serving railway lines with little traffic. Such services are demanded by local government and provided by the federal train operator. Analysis should be done to exploit the possibility of fulfilling such PSOs with cheaper alternatives, such as coaches. To encourage such initiatives, the cost of PSOs should be made explicit, rather than hidden in cross subsidies within the national rail system as now, and the service provider should be financially compensated for providing PSOs. In a competitive railway market, the cost of PSOs can be reduced by subjecting them to public tendering.

Improving policy co-ordination

In local public transport, local authorities want to ensure the highest quality of service for their locality, notably by developing light rail as an alternative to bus, but the associated costs are mainly paid by the regions. This inconsistency is compounded by a lack of cost-benefit analyses and disproportionate public service obligations – for example, one is that most Flemish residents should be less than 500 or 750 meters away from public transport, depending on the area. This has contributed to low cost recovery rates. The solution is

greater participation from local authorities in the investment and operating costs of local transport, and higher user charges, which now cover less than 15% of costs in Flanders and less than 30% in Wallonia. In areas with low population density, cost-benefit analysis should be used to determine the cost of providing PSOs and the providers should be explicitly compensated for such services.

In air and water transport, public subsidies have brought mixed results. In air transport, regional subsidies and more flexible rules for night flights have led to the relocation of traffic from Brussels airport to smaller airports in Charleroi (for passengers) and Liege (for freight). The result has been less noise pollution around Brussels airport. In water transport, results have been less positive. To reduce truck traffic, the Flemish and European governments strongly subsidise (up to 80%) the quays and other inland infrastructure of firms located along canals. Partly as a result, there is considerable freight shipped on canals in Belgium, but excluding subsidies the benefits from less road traffic may not compensate for the cost of the switch back to trucks at the end of the canal trip. In terms of congestion relief, therefore, the policy may be less effective than a targeted road pricing system.

Box 8. **Key recommendations for transport infrastructure**

Develop an integrated long-term infrastructure plan supported by regions and the federal government covering all types of transport and make cost-benefit analysis a standard tool for evaluating the economic value of individual projects.

Make the costs of public service obligations (PSO) explicit and compensate service providers for the provision of these PSOs.

Abolish the favourable taxation of company cars and the tax advantages of diesel cars and of diesel as a transport fuel.

Introduce a road pricing system and differentiated public transport fares to reduce congestion. For road pricing, start with congestion pricing in the largest cities before envisaging a national scheme. These measures should be carefully calibrated to avoid unintended shifts to other transport modes.

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ANNEX A1

Progress in main structural reforms

This table reviews action taken on recommendations from precedent *Surveys*. Recommendations that are new in this *Survey* are listed in the relevant chapter.

Past recommendations	Actions taken and current assessment
A. Securing fiscal sustainability	
Design and implement a credible fiscal consolidation plan, focusing on public expenditures	
Establish a credible consolidation path to achieve at least ¾ per cent of GDP consolidation per year until 2015.	The path to a balanced budget in 2015 is presented in the Stability programme. The structural deficit was reduced by 0.8% of GDP in 2012 and improvements of 0.9% of GDP per year are envisaged for 2013-15.
Focus consolidation on reducing spending at all levels of government and broadening tax bases by removing tax expenditures.	Spending cuts represent roughly half of consolidation measures over 2012-14. Some tax expenditures have been removed (energy saving schemes) or reduced (pension savings).
Modernise social security	
Reduce and remove spikes in effective marginal tax rates and control expenditures via strict spending ceilings.	The health spending ceiling has been tightened from 4.5% real annual growth to 2% growth in 2013 and 3% in 2014. Recent reforms of early retirement, unemployment benefits and disability benefits will contribute to lower spending.
Fiscal federalism reform should also address fiscal sustainability	
Secure sufficient revenues for the federal level of government to meet the cost of population ageing and public debt service.	As part of the 6th State reform, the regions will gradually take over a larger part of the financing of their employees' pensions.
Better align expenditure and revenue responsibilities at the sub-federal level of government.	The regions will have fiscal autonomy over a quarter of personal income tax. Additional spending responsibilities of regions and communities will be covered by new transfers.
Introduce an internal stability pact to share pre-funding responsibilities and stipulate pre-agreed automatic sanction mechanisms.	No action taken.
Strengthen the fiscal framework	
Govern fiscal policy by a medium-term surplus objective and expenditure ceilings for all levels of governments.	A reform of the fiscal framework is envisaged before end 2013 to reflect new EU requirements.
Extend the tasks of the High Council of Finance to include evaluation of expenditures at all levels of government.	No action taken.
Evaluate the economic and fiscal consequences of individual policy measures at both the federal and sub-federal levels of government.	No action taken.

Past recommendations	Actions taken and current assessment
B. Labour market	
Introduce checks and balances to reduce deadweight costs of the reduced working time schemes	
Limit access to firms with a significant drop in activity. Restrict re-entry. Require parliamentary approval for continuation of the schemes.	Use of the reduced working time scheme will be subject to an additional contribution of EUR 20 per day and per worker after 110 days, increasing gradually to EUR 100 after 200 days.
Require employers to re-pay subsidies if workers are fired after enrolment. Make enrolled workers available for hiring by other firms and subject to standard job search requirements.	No action taken.

Recommendations in previous Survey	Actions taken and current assessment
Improve young people's labour market transition	
Abolish minimum hour restrictions on small hours jobs.	No action taken.
Reduce sectoral minimum wages to the statutory minimum wage and phase in more gradually the youth minimum wage.	No action taken.
Strengthen job search incentives in the system of special unemployment benefits for young school leavers (the so-called "waiting allowance"').	The insertion allowance has been limited to three years and search efforts are checked every six months with the possibility of temporary suspension of benefits. In Flanders, a programme focussed on workplace-based learning was created to improve the employability of young unqualified jobseekers. In Wallonia, support for young employed will be more personal and start earlier. In Brussels, a programme of training and internships was launched.
Enhance the labour market performance of immigrants	
Extend sufficient language teaching to all age groups. Postpone streaming in the education system and improve the possibilities for returning to a higher track. Include immigration more when allocating additional educational resources.	In Flanders, intensive language trainings have been introduced for children failing language tests in primary education. In addition, streaming is envisaged to be postponed to the age of 14 and allow return to a higher track until 16. In Wallonia and in Brussels, integration of new immigrants in schools and teaching of French are being reinforced. The socio-economic background of students is getting more weight in resource allocation.
Refocus the wage determination system on preserving and improving external competitiveness	
Make opt-out clauses and all-in agreements only subject to approval by employers and employees of the involved firm.	No action taken.
Phase out the automatic wage indexation system. A first step could be to exclude all energy components and the effects of higher indirect taxation from the health index.	The product basket of the health index was changed, with a downward effect on the index of about 0.4 percentage point. For 2013 and 2014, no wage increase above the index is allowed.
Activate other resources of under-utilised workers	
Boost work incentives for low-income spouses by reducing their effective marginal tax rates.	The fiscal "work bonus" has been reinforced, to the tune of EUR 17 per month at the gross wage level of EUR 1800.
Raise the minimum enrolment age in early retirement programmes and replace sectoral exemptions with assessments of work capacity. Enhance work incentives by taxing pensions as other income. Increase the legal retirement age and link it to further gains in longevity.	In early retirement, the entry age will be raised from 60 to 62 years and the required working career from 35 to 42 years. In the pre-pension system, the admission age will be raised from 58 to 60 years and the required working career from 35 to 40 years. In the time-credit system, the admission age will be raised from 50 to 55 except for demanding careers.
Subject older workers on unemployment benefit to standard search obligations. Tax all employer-provided top-ups similarly to other work-related income. Introduce a differential in the accumulation of pension entitlements between unemployed and employed.	Employer provided top-ups will be subject to higher social security contributions than wages. Contributions will increase with age of entry into pre-pension. A lower fictitious wage is used for calculating pension entitlements during periods of long-term unemployment, career breaks and pre-pensions. The Flemish government has launched a campaign to promote employment of older workers.
Restrict access to the disability system to prevent it being used as a route into early retirement.	No action taken.
Reform the disability system to ensure that work pays for the partially disabled.	No action taken.

Recommendations in previous Survey	Actions taken and current assessment
C. How to achieve greener growth in the Belgian Federation	
Reduce greenhouse gas emissions and air pollutants in a cost-efficient manner	
Introduce a carbon tax for the sectors not subject to the EU Emission Trading Scheme. Speed up the introduction of auctioning of the ETS permits.	No action taken.
Unify green certificates (GC's) across the country. Consider scrapping the minimum prices for various types of renewable energy.	No action taken.
Encourage investment in renewable energy by removing regulatory obstacles and publishing credible paths for the minimum requirements in the energy mix.	A new legal framework will be introduced to promote bio-fuels at the federal level. The Brussels Region renewable energy stimulation includes green certificates to guarantee a minimum return on investments. Wallonia is revising regulatory frameworks for windmills and biomass energy.
Realign excise taxes on fuels with environmental marginal externalities.	No action taken since 2011.
Implement country-wide road pricing for freight, extend the scheme to company cars and passenger cars.	The architecture of a country-wide road pricing system (fixed kilometre charge) for trucks was agreed in 2012. Implementation should start by 2016.
Phase out the numerous subsidies to private transport. Focus the commuting allowance on persons otherwise at risk of dropping out of the job market.	No action taken.
Increase the attractiveness of public transport through better co-ordination among regions and the federal train system, lower entry barriers, public tendering and the possibility for operators to propose new routes.	Regions will be represented in the management of the railway companies. Entry barriers will be lowered by the introduction of European signalling and control standards (ETCS). A structure was created to facilitate dialogue between the Flemish region and the railway operator.
Drastically reduce the numerous subsidies for energy efficiency investment in housing and for industry. Improve the energy efficiency awareness among households.	The PIT tax credit for energy saving schemes is abolished and most tax incentives for energy saving investment in housing were reduced in 2012. Consumer awareness is promoted via a new federal communication programme (notably online) and other initiatives in the Walloon region.
Phase out the social energy tariffs and VAT reductions and replace them with income subsidies for low income households.	No action taken.
Improve water quality	
Delegate water policies to an independent national authority or river-basin authorities.	No action taken.
Ensure polluters pay the full marginal costs of water pollution. Encourage more competitive provision of wastewater treatment.	In Flanders, Wallonia and Brussels, the wastewater levies for industry are being adapted to take into account the pollution level of the wastewater.
Introduce a pesticide tax. Consider a country-wide fertiliser management scheme.	In Flanders and in Wallonia, several regulations are being introduced that will result in lower use of pesticides.
The organisation of environmental policies needs to promote cost-efficiency	
Increase the reliance on taxation of environmental externalities to implement environmental policies.	In Flanders, a new registration tax for cars takes into account the environmental performance of the vehicles.
Reconsider the division of environmental responsibilities in the federation to ensure that the responsible bodies have the most cost-efficient tools	In Wallonia, waste and water management are increasingly managed by inter-communal structures instead of municipalities.
Introduce compulsory cost-benefit analysis for major investment projects and policies. Follow up with ex post analysis.	In Flanders, the scope for cost-benefit analyses has been broadened to more infrastructure projects and to better reflect environmental externalities.

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Chapter 1

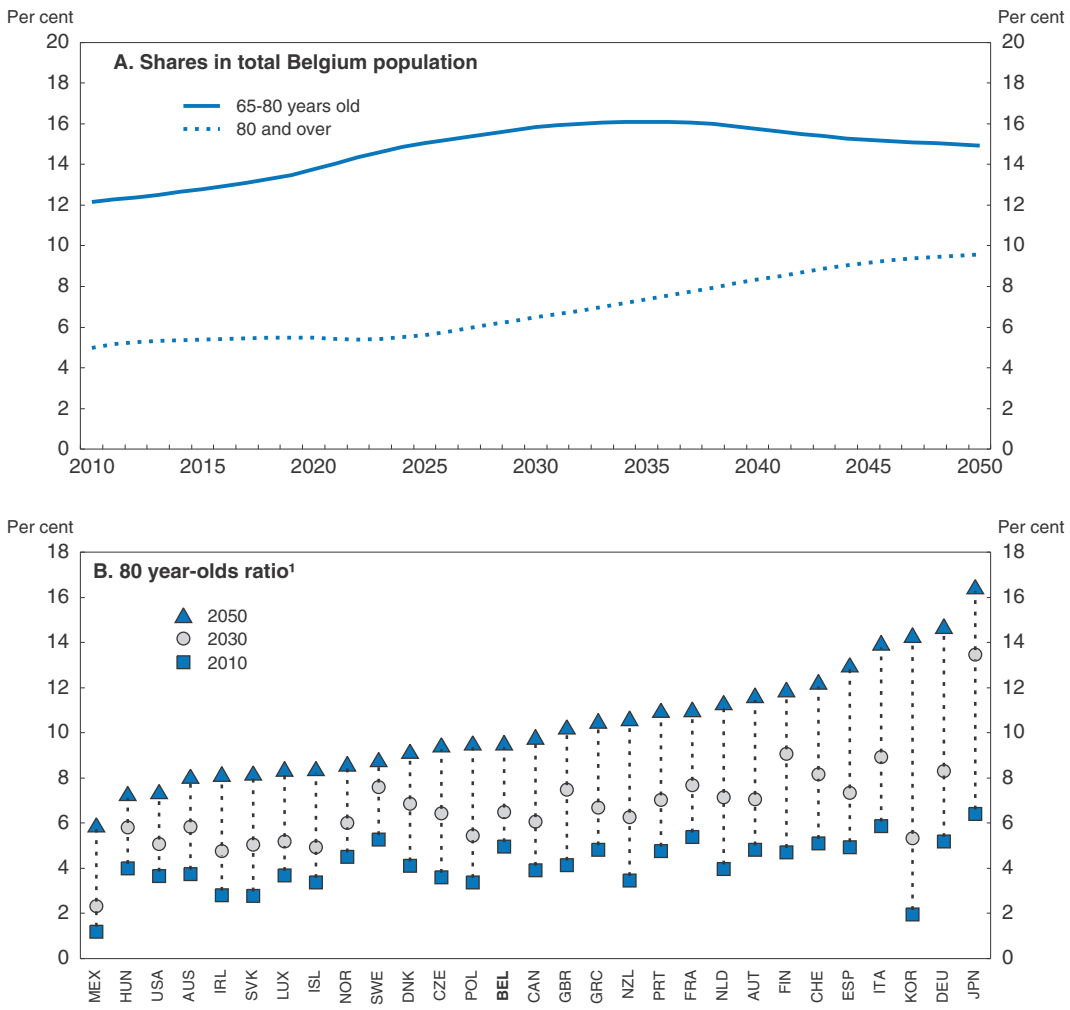
Enhancing the cost efficiency and flexibility of the health sector to adjust to population ageing

Belgium has a good record in delivering accessible care, but adaptation to population ageing will be complicated by the fragmentation of responsibilities in the healthcare system and a strong reliance on government regulations. The organisation of the system could be rationalised by giving sickness funds a more active role as promoters of cost-efficiency, better aligning the incentives of the different levels of government and focussing on medium-term budgeting. At the level of care providers, better information flows and incentive structures could facilitate addressing practice and efficiency variations and supplier-induced demand. This notably involves completing the shift to pathology-based budgets in hospitals, more capitation in the remuneration of doctors and measures to tackle the high spending on drugs. Once incentives for cost-efficiency are in place, a shift towards a more demand-driven system could be encouraged by phasing out over-prescriptive hospital regulations. In addition, relative remunerations of doctors should be revised regularly to ensure an adequate supply per specialty. In long-term care, home care, which is generally cost-efficient, could be further encouraged by giving more autonomy to patients to organise their care.

Population ageing poses considerable challenges

Population ageing has started and will accelerate in the mid-2020s. The number of people over 80 – the biggest recipients of health and long-term care – will double to 10% of the population in 2050 (Figure 1.1). This leaves little time to prepare the health system. The main challenge will be to contain the upward pressure on public spending while maintaining accessible and quality care. This will be complicated by future changes in demand being difficult to anticipate, requiring a sufficiently flexible health supply to adapt timely (Box 1.1).

Figure 1.1. **Population ageing**



1. Population 80 years and over divided by total population.

Source: OECD (2012), *Historical Population Data and Projections Database* (1950-2050).

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Box 1.1. **Future health and long-term care demand is difficult to anticipate**

There is great uncertainty about future health and long-term care needs, as illustrated in the large differences in projected spending under different sets of assumptions (Table 1.1). In addition to demographic and economic trends, health spending will depend on:

- More or less healthy ageing, i.e. how much of the life expectancy gains will be spent in good health, which will notably depend on the nature of medical progress. OECD projections in Table 1.1 assume fully healthy ageing, while the European Commission (in its "reference" scenario) assumes only "half healthy" ageing.
- The effect of technological progress on the cost of health care services, both in terms of lowering the price of existing services and creating new (costly) services. The latter has been predominant over the past decades, contributing to higher spending. The European Commission leaves aside this effect in its projections, explaining its relatively lower projected spending increases on health care.
- The elasticity of health demand to rising incomes, i.e. by how much an extra 1% of income will increase health spending. There is no consensus in the literature (Box 2 of European Commission, 2012) and OECD projections assume a lower elasticity (0.8) than the European Commission (1.05 on average over the projection period).
- The tendency of wages in the health sector, as in other service sectors, to grow as fast as in the rest of the economy despite slower productivity gains, leading to relative price increases for health care services (the so-called Baumol effect).
- Societal changes, such as evolutions in the willingness of family members to provide informal long-term care to their relatives.

Table 1.1. **Projected increase in public health spending, 2010-60**[1]

% of GDP

		Health care	Long-term care
OECD	Cost-containment scenario	1.9	0.8
	Cost-pressure scenario	5.8	1.3
European Commission	Reference scenario	0.4	2.7
	Risk scenario	0.8	3.5
Belgian High Council of Finance		3.0 (total)	

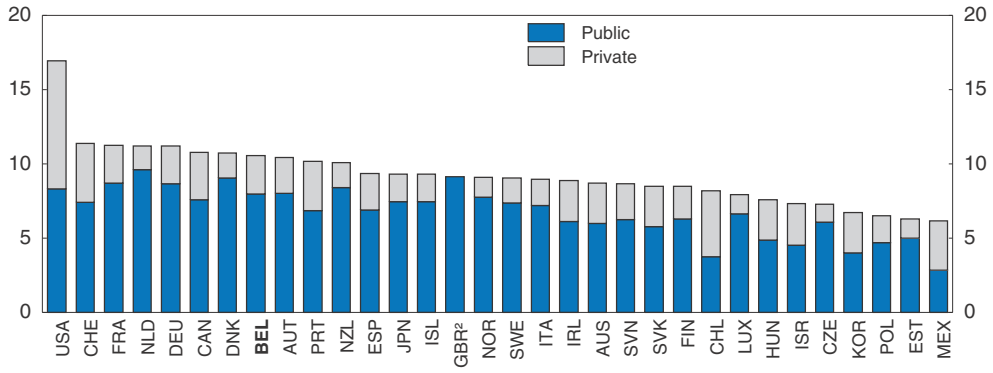
1. For OECD, increase between the average of 2006-10 and 2060; For Belgian High Council of Finance, increase between 2011 and 2060.

Source: De La Maisonneuve C. and J. Oliveira Martins (2013), Public spending on health and long-term care, a new set of projections (OECD Economics Department, *Working Papers*, forthcoming), European Commission (2012), *Ageing Report*; Conseil Supérieur des Finances (2012), Comité d'Études sur le Vieillissement, *Rapport Annuel*.

The health system delivers accessible care. Health supply is ample, as illustrated by the absence of waiting lists in hospitals, but there are risks of future shortages as the workforce of general practitioners (GPs) is ageing and there are already waiting lists in nursing homes in certain areas. The rapid spending increases of the past decade have brought Belgium into the group of high health spenders (Figure 1.2). Cost-containment and adaptation to change are complicated by tasks being distributed across many stakeholders: the federal, regional and community governments, the sickness funds in charge of the public health insurance and non-profit hospitals with diverse historical backgrounds. These stakeholders sometimes have conflicting incentives, which complicates

Figure 1.2. **Current expenditure on health**

As a percentage of GDP, 2010[1]



1. 2009 for Australia, Chile, Israel, Japan, Luxembourg and Mexico.
2. No breakdown available for United Kingdom, for which public expenditure includes private expenditure.

Source: OECD (2013), "OECD Health Data: Health expenditure and financing", *OECD Health Statistics Database*, April.

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co-ordination and the establishment of good financing mechanisms and information flows to promote cost-efficient behaviours by care providers and tackle the high spending on pharmaceuticals. The fragmentation of responsibility may also slow adaptation to changes in demand, especially as health supply is largely shaped by government regulation.

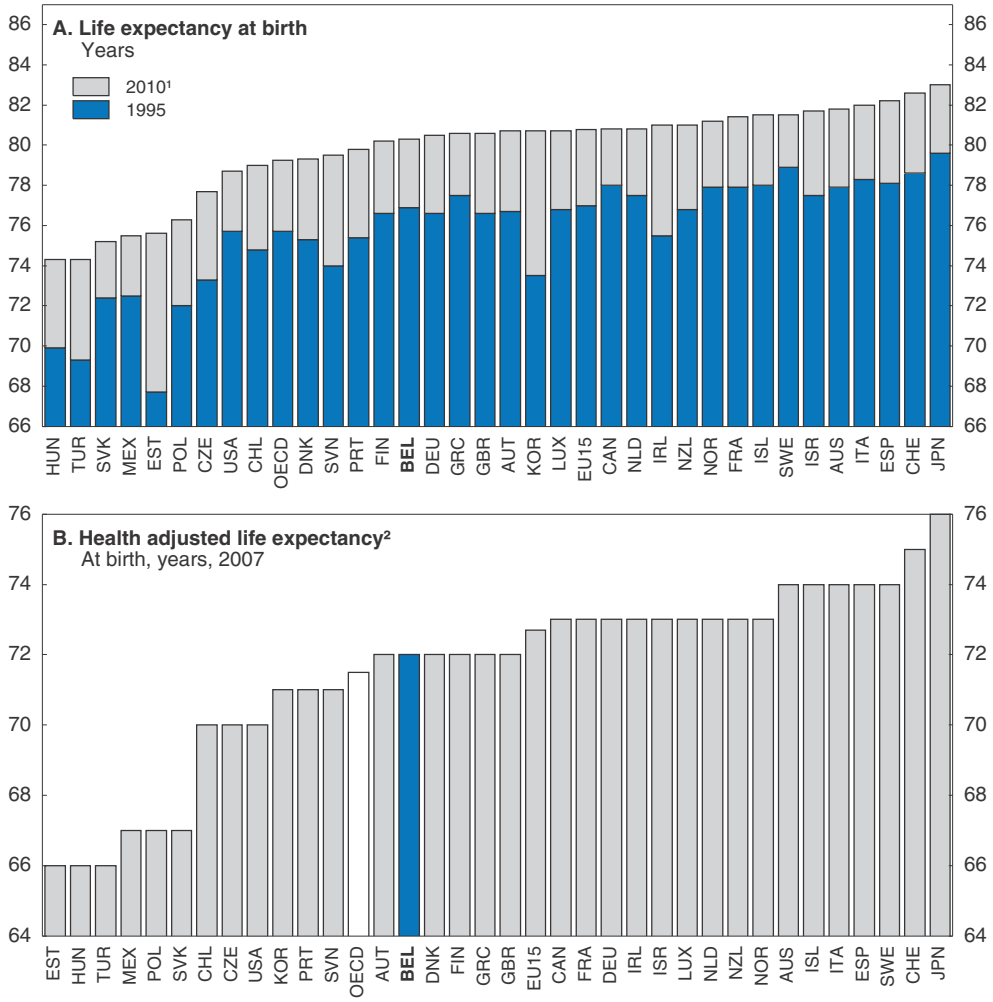
Performance of the health system

Health outcomes are broadly satisfactory

Life expectancy is above OECD average but slightly below Western Europe average (Figure 1.3), although more detailed indicators, such as survival rates after five years for certain cancers, are relatively good (Vrijens et al., 2013). In the same manner, (self-reported) morbidity rates are relatively low, and rates of mortality by main non–communicable diseases and infant mortality are lower than OECD average (Table 1.2). Also positive is the indication that health inequalities are lower than in other European countries, although they may have increased, possibly reflecting increasing inequalities in lifestyle and relatively high patient payments (Mackenbach et al., 2008; van Oyen et al., 2010). Leaving affordability aside, public satisfaction with the health and long-term care system is internationally high, in terms of the quality and accessibility of care (Eurobarometer, 2007; Eurobarometer, 2012). According to another survey, 95% of Belgians are satisfied with their GP, which may notably reflect that patients value their large freedom to choose their care provider (Meeus and van Aubel, 2012).

An insufficiently healthy lifestyle is likely to reduce life expectancy, suggesting room for better health promotion. The Belgian diet is rather caloric, with a relatively high consumption of sugar and fat and a still relatively low consumption of fruits and vegetables (Figure 1.4). As in other countries, self-reported levels of obesity have increased. Given the diet, a significant share of the population would benefit from more frequent physical activity (Box 1.2). Taxing sugar (or fat) could be a complementary way to tackle obesity, although recent international experience suggests that implementing such taxes can be complex and have side effects on equity (OECD, 2012a). Another negative lifestyle factor is the still substantial consumption of alcohol, notably beer, on which excise taxes

Figure 1.3. **Life expectancy**



1. Or latest year of data available (2006-10); see source database for detail of country coverage.
2. Number of years expected to be lived in what might be termed the equivalent of ''full health''.

Source: OECD (2013), "OECD Health Data: Health Status", *OECD Health Statistics Database*, April and WHO (2011), Global Health Observatory Data Repository, World Health Organisation, May.

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Table 1.2. **Mortality rates of infants and mortality by leading causes**

2010 or latest year available[1]

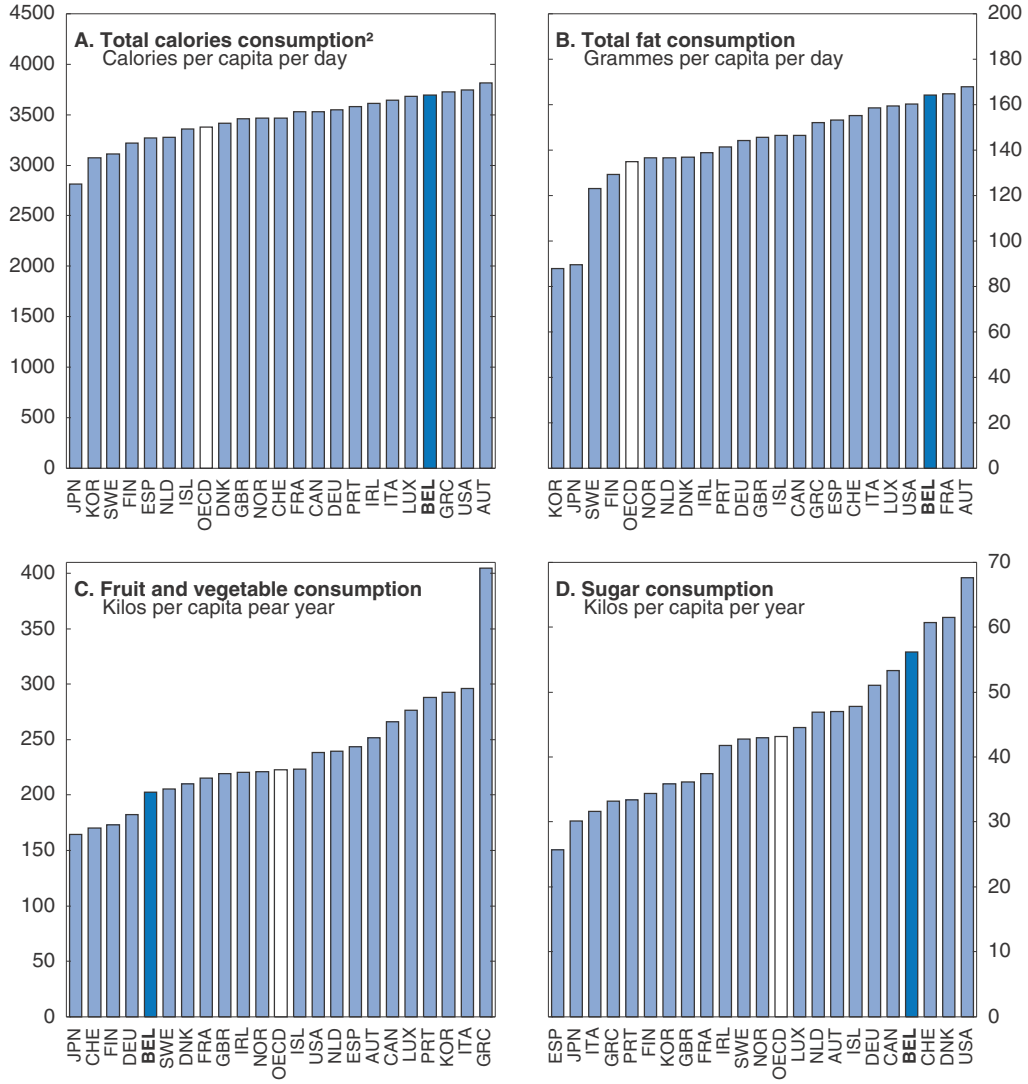
	Infant mortality (deaths per 1 000 live births)	Leading causes of mortality (deaths per 100 000 population)				
		Ischemic heart disease	Cerebrovascular disease (stroke)	Lung, trachea, bronchus cancer	Other types of cancer	Liver diseases and cirrhosis
Belgium	**3.5**	**88**	**64**	**54**	**167**	**10**
OECD average[2]	4.1	128	74	44	171	14
OECD highest	14.1 (MEX)	404 (SVK)	137 (SVK)	76(HUN)	220 (HUN)	44 (HUN)
OECD lowest	2.2 (ISL)	39 (JPN)	41 (ISR)	13 (MEX)	108 (MEX)	2(ISL)

1. The latest year varies from 2007 to 2010 for infant mortality and from 2006 to 2010 for causes of mortality.
2. Unweighted average of latest year of data available. See source database for detail of country coverage.

Source: OECD (2012), "OECD Health Data: Health Status", *OECD Health Statistics Database*, October.

Figure 1.4. **The Belgian diet is caloric**[1]

2007



1. The OECD aggregate is an un-weighted average.
2. Data from Belgian national sources (2004 Belgian Food Consumption Survey), based on another methodology, indicate a much lower calories intake.

Source: OECD (2013), "OECD Health Data: Non-Medical Determinants of Health", April.

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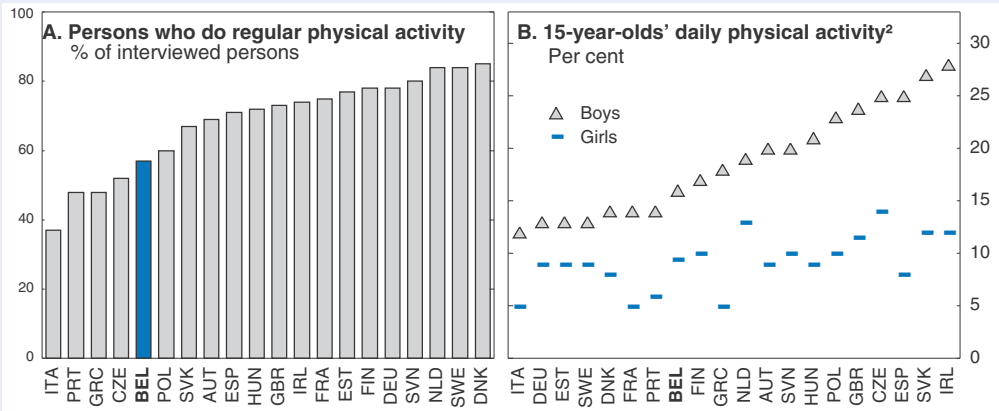
Box 1.2. **Physical activity and health**

Physical activity tends to improve people's physical and mental health by reducing the risks of many non-communicable diseases and increasing social interaction (Cavill et al., 2006). In addition, the fact that poorer people generally practice less physical activity than richer ones contributes to health inequalities. Relatively few Belgians regularly engage in any physical activities in a large sense, such as walking or gardening (Figure 1.5). According to another study, only 25% of the population practices sufficient activity, a rate 6 percentage points lower than the average of European countries considered (Sjöström et al., 2006). Activity levels among teenagers are also lower than in many other European countries (Figure 1.5).

Box 1.2. **Physical activity and health** *(cont.)*

Figure 1.5. **Health and activity**

2010 or latest year available[1]



1. The latest year varies from 2006 to 2010; see source database for detail of country coverage.
2. Daily moderate-to-vigorous activity, reported for 2009-2010 years. Moderate-to-vigorous physical activity refers to exercise undertaken for at least an hour each day, which increases the heart rate and leaves the child out of breath sometimes.

Source: OECD (2013), "OECD Health Data: Non-Medical Determinants of Health", April and *Health at a Glance: Europe 2012*.

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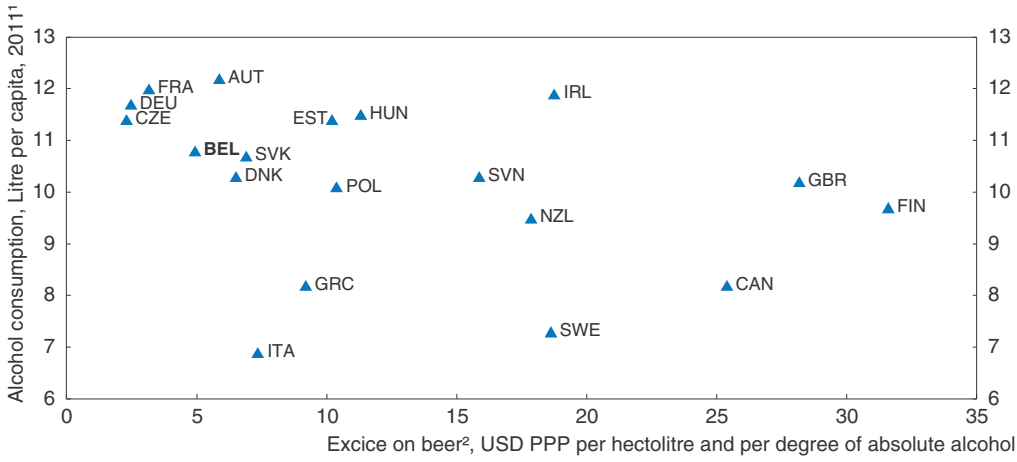
are low in international comparison (Figure 1.6). Tobacco consumption is only slightly below OECD average and the significant air pollution may also contribute to the relatively high incidence of lung cancer (Kożluk, 2011, Chapter 2). Finally, suicide rates are 50% higher than the OECD average and mortality by transport accidents is also high (OECD, 2012b).

Figure 1.6. **Alcohol consumption and taxation**



1. 2011 or latest year available. Per capita refers to over 15 year-olds.
2. Position as at 1 January 2012.

Source: OECD (2012), *Consumption Tax Trends 2012: VAT/GST and Excise Rates, Trends and Administration Issues* and OECD (2013), "OECD Health Data: Non-Medical Determinants of Health", February.

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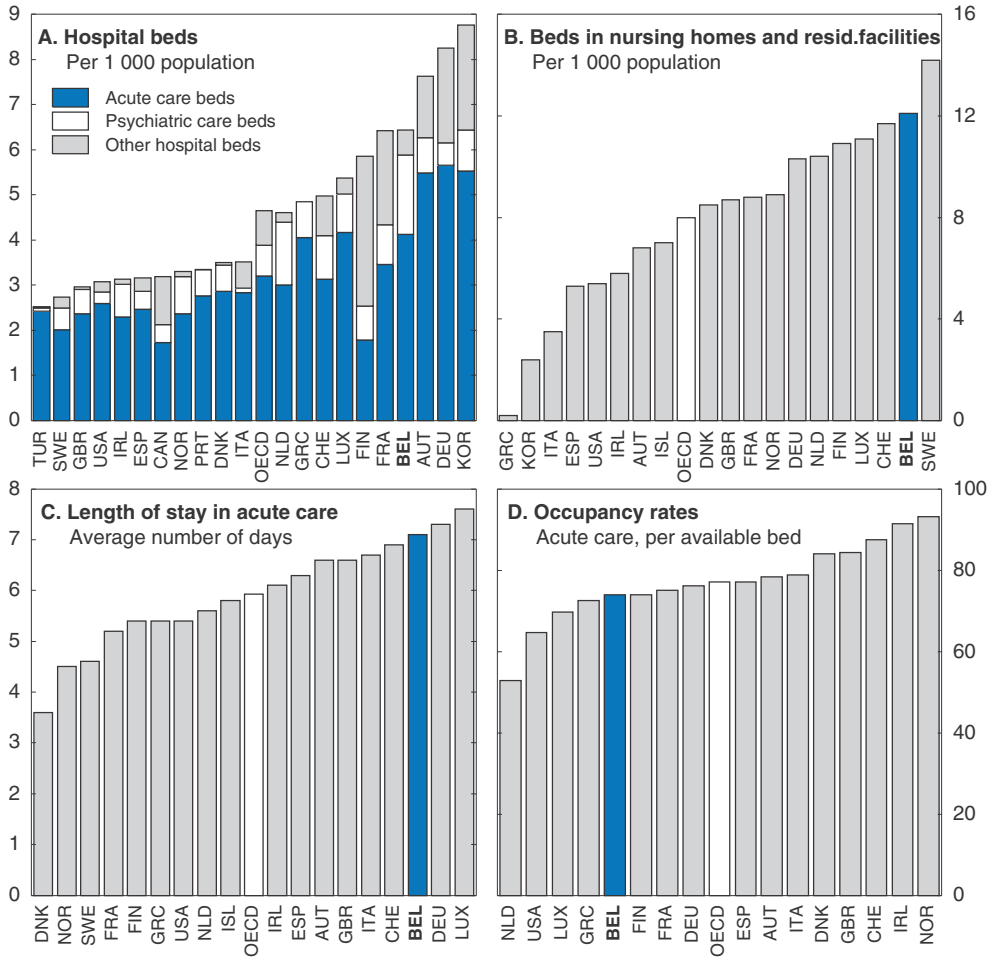
There is a large potential for cost-efficiency gains

There is an abundance of health resources. The number of hospital beds is high, especially in psychiatric care, and the combination of slightly below average occupancy rates and long stays (Figure 1.7) suggests potential for cost-efficiency gains (HOPE, 2011; Joumard et al., 2010). There are also many long-term care beds in institutions (nursing homes and homes for the elderly), suggesting room to further develop nursing care at home. The number of practising doctors per inhabitant is in line with OECD average, but Belgian doctors are more active than their peers, a tendency encouraged by their essentially fee-for-service remuneration. Indeed, the Belgians consult a doctor on average 8 times per year, among the highest in the OECD. In addition, the density of practising pharmacists is 50% higher than OECD average and the density of nurses is relatively high (OECD, 2011).

Figure 1.7. **Health care resources and their use**

2010 or latest year available[1]



1. The latest year varies from 2005 to 2010.The OECD aggregate is an un–weighted average of data available.

Source: OECD (2013), "OECD Health Data: Health Care Resources and use databases, April" and OECD (2013) "OECD Health Data: Long-Term Care Resources and Utilisation database, April".

StatLink http://dx.doi.org/10.1787/888932804510

Empirical analysis suggests that bringing the efficiency of the Belgian system to the level of the OECD top performers could generate life expectancy gains of 3 years with no budget costs (Joumard et al., 2010). This number should be treated with caution, however, as life expectancy, on which the analysis is based, is only one aspect of health outcomes and can be influenced by factors external to the health system. Nevertheless, the figure possibly underestimates potential gains as the analysis leaves aside within-country efficiency variations, which in many cases are greater than cross-country variations. Important variations in medical practice exist within Belgium, notably in terms of drug prescriptions, preventive care and non-urgent surgical operations. Practice and efficiency variations across hospitals are also important (Mertens et al., 2005; Jacques et al., 2006; van De Sande et al., 2010).

Improving the organisation of the health system to enhance cost-efficiency

International experience suggests that no specific organisation of health care provision and financing performs systematically better in delivering cost-efficient services (Joumard et al., 2010). Nevertheless, there is generally scope for improvement within each kind of health system to reach the efficiency level of the best performers. This is the case for Belgium, which is identified as the worst performer in terms of cost-efficiency in the group of countries having the most comparable institutional settings: Australia, Canada and France – these countries share with Belgium a public insurance system and a heavy reliance on market mechanisms at the provider level (Joumard et al., 2010).

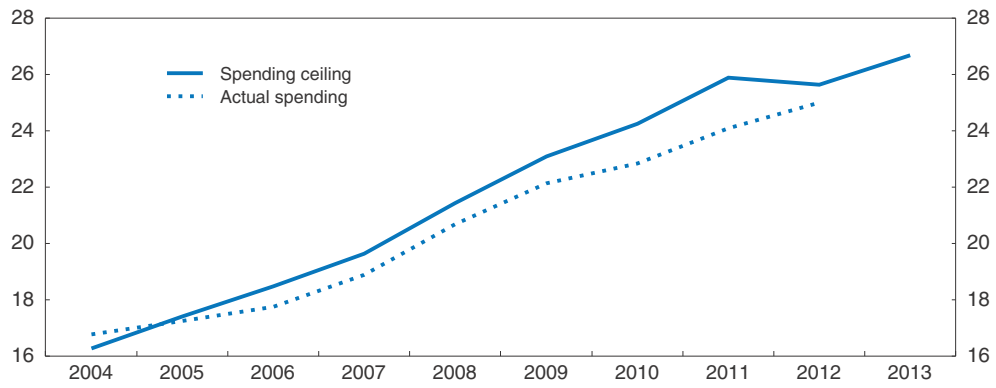
There is room to further improve the health budgeting system

A well functioning health budgeting system is a first condition for securing a cost-efficient provision of health services. The current system is based on an annual ceiling for total federal spending on health and sub-ceilings for some subcategories of spending. The government and the sickness funds have to ensure that spending is kept within the ceiling, if necessary by jointly negotiating changes in tariffs with providers. Until recently, the main issue was too rapid increases in the ceiling, giving insufficient pressure for cost-efficiency. Over 2005-11, the ceiling was allowed to grow by 4½ per cent per year in real terms to a level of 7.0% of GDP, up by 1½ percentage point in only half a decade. Actual spending grew substantially more slowly, resulting in a widening gap below the ceiling and in overspending of the budget of subsectors no longer being restrained by the overall ceiling (Court of Auditors, 2011). To address this issue, the ceiling was lowered in 2012 to a level close to actual spending, while lower real growth rates were chosen for the following years, of 2% in 2013 and 3% in 2014 and thereafter (Figure 1.8).

Two further steps are needed to enhance the effectiveness of the spending ceiling: putting more focus on the medium-term and closing potential escape routes. The current system is focused on annual budgets. Introducing a detailed medium-term budget framework would encourage the strategic reflexion over the desired level of spending and the balance between cost-control and accessibility concerns. A medium-term framework would also be particularly useful to reflect transparently the effect of new measures, which can take several years to materialise. It would replace the current awkward system where all measures are assumed to take full effect on the first day of the budget year, even when the actual date of effect is planned to be different, sometimes by more than a year (Court of Auditors, 2011).

Figure 1.8. **The gap below the spending ceiling has been reduced**

Billion euros



Source: Belgian authorities.

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In the current context of tighter budget ceilings, political pressure risks increasing to bypass the ceilings, for example through "exceptional expenses". These expenses were a common budget escape route in the late 1990s (Court of Auditors, 2006), a period of tight ceilings in the run up to the euro, and they have not been used in the last few years only because of the rapid growth in the ceiling. They regroup heterogeneous spending posts that are excluded from the ceiling, such as innovative drugs and services, vaccination and screening programmes and subsidies to the supplementary pensions of doctors. In addition, there are few obstacles to the creation of new exceptional expenses by the government. For example, in the 2013 budget, an additional envelope of EUR 40 million was created outside of the ceiling to finance a higher remuneration of nurses. To enhance the respect of budget ceilings, the legal base for exceptional expenses should be limited to really exceptional cases, such as large unforeseen epidemics.

Better aligning the incentives of the different government levels is possible

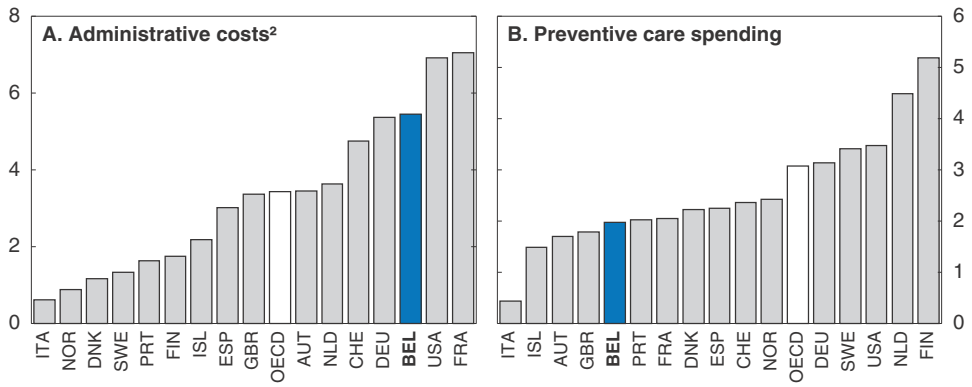
The complex distribution of tasks across government levels, which results from successive decentralisations since the 1980s, is a potential source of inefficiencies. Broadly speaking, acute care remains primarily a federal responsibility, while preventive care and long-term care are increasingly a responsibility of the three linguistic communities. Regional and local authorities also have smaller roles. Along these broad lines, responsibilities are complexly intertwined. For example, long-term care is partly organised by communities, but nursing long-term care services are federally financed. Similarly, communities are responsible for preventive care, but federal authorities also run or co-finance vaccination and screening campaigns. Hospital financing is another area of overlap as most day-to-day financing is federal, while regions subsidise hospital investment, although with possible federal top ups.

This distribution of tasks poses several problems. *First*, its complexity generates administrative and co-ordination costs that are notably reflected in the abundance of committees meant to facilitate co-ordination (Figure 1.9). Complexity is particularly high in the Brussels region, where two communities are jointly responsible for organising services. *Second*, the distribution of tasks entails responsibility overlaps but may also leave certain areas insufficiently covered (De Maeseneer, 2011). *Third*, the incentives of the different

government levels may not always be aligned because decisions by communities and regions can have significant externalities on federal care costs, despite procedures to encourage co-ordination between government levels. For example, regions may have excessive incentives to subsidise investment in hospital beds, as they do not bear the associated running costs. Similarly, communities lack incentives to invest in preventive care as they do not enjoy the associated benefits in terms of lower acute care costs (Figure 1.9). Another related issue is the conflict of interest created by local public authorities owning some hospitals (around one third, the remainder being traditionally related to religious orders and universities). As they are liable for potential deficits, local authorities have incentives to maximise (federal) care costs in these hospitals.

Figure 1.9. **Health administrative costs and preventive care spending**

As a% of total health spending, 2010 or latest year available[1]



1. The latest year varies from 2006 to 2011; The OECD aggregate is an unweighted average of data available.
2. Health administration and health insurance, public and private.

Source: OECD (2013), "OECD Health Data: Health expenditure and financing", *OECD Health Statistics Database*, April.

StatLink *http://dx.doi.org/10.1787/888932804548*

The ongoing fiscal federalism reform (the so-called sixth State reform) gives communities more responsibilities in preventive and long-term care and in the "Impulseo" subsidies to attract GPs in low-density areas. The reform may contribute to some extent to a more rational distribution of tasks by concentrating more preventive and long-term care responsibilities at a single government level. However, it does not address the issue of conflicting incentives between government levels, as the federal government will continue to finance curative care costs as well as some long-term care costs, notably in the area of nursing services at home. In this area, an implication of the reform is that communities will get incentives for shifting costs by moving patients from community-funded institutions to federally-funded nursing care at home, independently of the optimal solution for the patient. Another issue is that communities will have the full responsibility over new initiatives in preventive care, leaving less scope to the federal government to offset potential underinvestment. To mitigate these risks, the reform foresees the creation of an "Institute for the Future" to facilitate strategic co-ordination between the different government levels.

In the short term, better aligning the incentives of the different government levels could be achieved by giving communities (and possibly regions) a stake in federal care costs to avoid cost shifting. This would help them internalise the broader impact of their decisions. For example, a community running a successful prevention campaign or promoting efficient

long-term care for elderly people would reap the associated benefits in terms of lower medical care costs. Similarly, a community providing insufficient supply of nursing homes, leading elderly people to stay unnecessarily long in geriatric hospital care, would pay the price for it. In practice, communities could be made financially responsible for a share of any deviation between the federal cost of care in their community and prospective budgets reflecting the risk profile of their inhabitants, as proposed by Schokkaert and van de Voorde (2011). Although potentially complex, such a mechanism would also present the benefit of better associating communities to the fiscal risks of population ageing, leading to a more balanced distribution of ageing risks across government levels.

In the longer term, another possibility would be to concentrate tasks fully at a single government level. This level (federal, regional or community) should be chosen consistently with potential reforms of the sickness funds discussed below. In particular, the combination of active and competing sickness funds with decentralised health care responsibilities should be avoided as it would risk giving certain sickness funds a dominant position on the relatively small regional or community markets (Schokkaert and van de Voorde, 2011).

Sickness funds should be more active in promoting cost efficiency

For historical reasons, the health system is centred around sickness funds, which originate from the progressive merger of the corporatist worker funds created in the 19th century (Companje et al., 2009). There are six sickness funds, but the three largest ones – respectively Christian, Socialist and Independent – control most of the market. Their main role is to deliver the broad public health and long-term care insurance package that now covers virtually all the population. They receive budgets from the federal government to reimburse the medical expenses of their members. However, their role is largely administrative, as they are all required by law to offer the same basic insurance package at the same price, paid to the government in the form of social contributions and taxes. They slightly differentiate themselves on their offer for complementary insurance, which covers services such as optic and dental care and alternative medicines, and supplementary insurance, which covers certain copayments, mainly in hospital. Patients seldom change fund (Thomson et al., 2013).

Reflecting this administrative role, sickness funds have only marginal instruments to control their spending and promote cost-efficiency. This is because patients enjoy a free choice of care providers, while sickness funds negotiate tariffs of medical services only collectively and alongside the government. Sickness funds can question the reimbursement of care services only in cases of fraud, and thus can only marginally tackle issues such as excessive drug prescription. In addition to fighting fraud, sickness funds can run their own preventive campaigns (in addition to government-run campaigns) and reduce their operational expenses. However, this can only have a small influence on total spending. Consequently, sickness funds' financial incentives to contain costs – a bonus/malus system introduced in 1995 that rewards spending control – are unlikely to have a significant effect (Schut and van Doorslaer, 1999).

To promote cost-efficiency, sickness funds should be given more instruments. They should be allowed to benchmark the performance of hospitals and long-term care institutions in terms of costs and the quality of care. To enhance the performance of these institutions, sickness funds should be given power, in the most problematic cases and alongside the government, to force institutions to change organisation or practices.

In addition, sickness funds should be allowed, on a limited scale, to experiment with selective contracting of care providers. This would enable funds to select cost-efficient providers, to which they should be allowed to orient their members through reduced copayments. In the same manner, funds could experiment with vertical integration with providers, as is the case with US "health management organisations" (HMOs), which appear to have reduced costs. A possible application of selective contracting and integration is the treatment of chronically ill patients, where sickness funds could organise "care paths" integrating efficiently the different care providers involved in the treatment – pilot projects have illustrated the potential gains from such care paths. In Germany, selective contracting has recently been introduced in specific areas, such as care paths. A potential risk of selective contracting and vertical integration, though, is that the different funds could end up offering different services and coverage, undermining the system's philosophy of universal and egalitarian coverage. This would justify starting with pilot projects on a limited scale and monitoring carefully the results to secure an evidence-based successful implementation.

To enhance the effectiveness of these measures, sickness funds' own incentives for cost-control should be reinforced. The share of their budget that is determined by their historical spending, currently two thirds, should be further reduced. Their large reserves of bonuses, accumulated in the period of generalised budget underspending in the late 2000s, could also undermine funds incentives for cost-control as funds could use them to offset future overspending (Court of Auditors, 2011). A potential downside is that reinforced financial incentives could increase funds' incentives to "select" members to lower costs, which are currently low because of the low level of financial risk borne by the sickness funds (Thomson et al., 2013). This should be countered by reinforcing the risk-equalisation scheme that adjusts funds' budgets for the risk profile of their members (for example, funds with older members receive larger budgets) but which only covers one third of their budget.

In the much longer term, an option to be considered could be to move further in the direction of "regulated competition" between sickness funds, as Switzerland and the Netherlands have been doing over the past decade (OECD/WHO, 2006; Hurst, 2010; Schut, 2011; Schut et al., 2013). This would mean generalising the selective contracting of care providers and possibly making sickness funds compete on the price of a basic insurance package. Such a reform may increase the overall quality and flexibility of health supply, but its success requires many preconditions, notably in terms of information flows (van de Ven et al., 2013) and it could also lead to higher costs. Before taking further steps, the lessons from the Swiss and Dutch reforms should be monitored in this respect. In the Belgian case, such a reform would also require encouraging new entries on the insurance market as the current situation where only three funds control most of the market would favour oligopolistic behaviours.

Improving information flows and incentives at the level of care providers and patients

To be fully effective, these institutional changes should be combined with improved information flows and stronger incentive structures at the level of care providers and patients. Measures should notably aim to tackle the information advantage of doctors which may allow them to generate additional demand or to overcharge for their services. Such "supplier–induced" demand is difficult to measure, although the internationally high volume of doctor consultations is an indication of it. One empirical study finds no clear evidence of supplier-induced demand (Léonard et al., 2009). Another study finds evidence

of it in all specialties, but not in general practice (Roberfroid et al., 2008). A third study suggests that even GPs may be concerned (Schaumans, 2007). A related issue is practice variation, i.e. the fact that similar illnesses are treated differently (and at a different cost) in different geographic areas. For example, there is empirical evidence of large and persistent variations for the handling of different non-emergency surgical operations (Jacques et al., 2006). Supplier-induced demand and practice variation probably contribute to the important cost-efficiency discrepancies across hospitals.

Making better use of data

Data on the quality, effectiveness and costs of care are collected and analysed at different levels: sickness funds, several federal government bodies, regional and community governments, hospitals and doctors' associations. This fragmentation is reflected in the existence of as many as 131 health-related databases in 2009 (Gerkens and Merkur, 2010). The joint exploitation of these databases is hampered by the lack of consistency in their design and quality, the lack of a unique patient identification and burdensome administrative procedures. Despite the abundance of databases, there is also a lack of good quality data in a number of areas, such as outpatient care, chronic care, psychiatric care, long-term care institutions, complementary insurance and the quality of care in general (van de Sande et al., 2006; Paulus et al., 2012). Nevertheless, some progress in centralising data has been made in the past few years, in the form of more pooling of data by sickness funds, developing the databases of the social security administration (NIHDI) and the creation of an "E-health" platform that facilitates access and sets common standards (Devlies et al., 2010).

Further centralising and co-ordinating management into a single platform would enable a better use of these data. This platform should be made responsible for developing adequate indicators and setting common standards to harmonise existing databases. It should also ensure that the relevant data is accessible for users, such as public authorities, sickness funds, independent researchers, patients, and care providers themselves to stimulate benchmarking. Rather than creating a new institution, such tasks could be given to the "intermutualistic" agency regrouping the sickness funds, or to the Belgian Health Care Knowledge Centre (KCE), an independent public institute created in 2002, with a staff of around 30 experts, which already has a pivotal role in data analysis.

The KCE produces reports and non-prescriptive recommendations aimed to improve the health care system. Recommendations are endorsed by the main healthcare stakeholders, which are represented on the institute's board of directors. To enhance their impact, the good practice initiated by this government that the Minister of Health reports yearly in front of the Parliament on the follow-up on KCE recommendations should be continued by formalising the practice into law.

An area where information could be used more effectively is the statistical monitoring of doctor practices. A framework has been in place for several years to identify inappropriate practices such as excessive prescription of drugs (which contributes to excessive consumption). If identified, providers are placed under monitoring and may ultimately incur sanctions, such as administrative fines. The framework covers a very broad field, both in terms of care providers (hospitals, GPs, specialists and nurses) and services (drug prescriptions, medical biology, medical imaging and surgical procedures). However, its effectiveness remains limited because of insufficient clinical guidelines and long lags in procedures that make sanctions insufficiently dissuasive. Sanctioning procedures can last up to three years, notably because of insufficient co-operation between

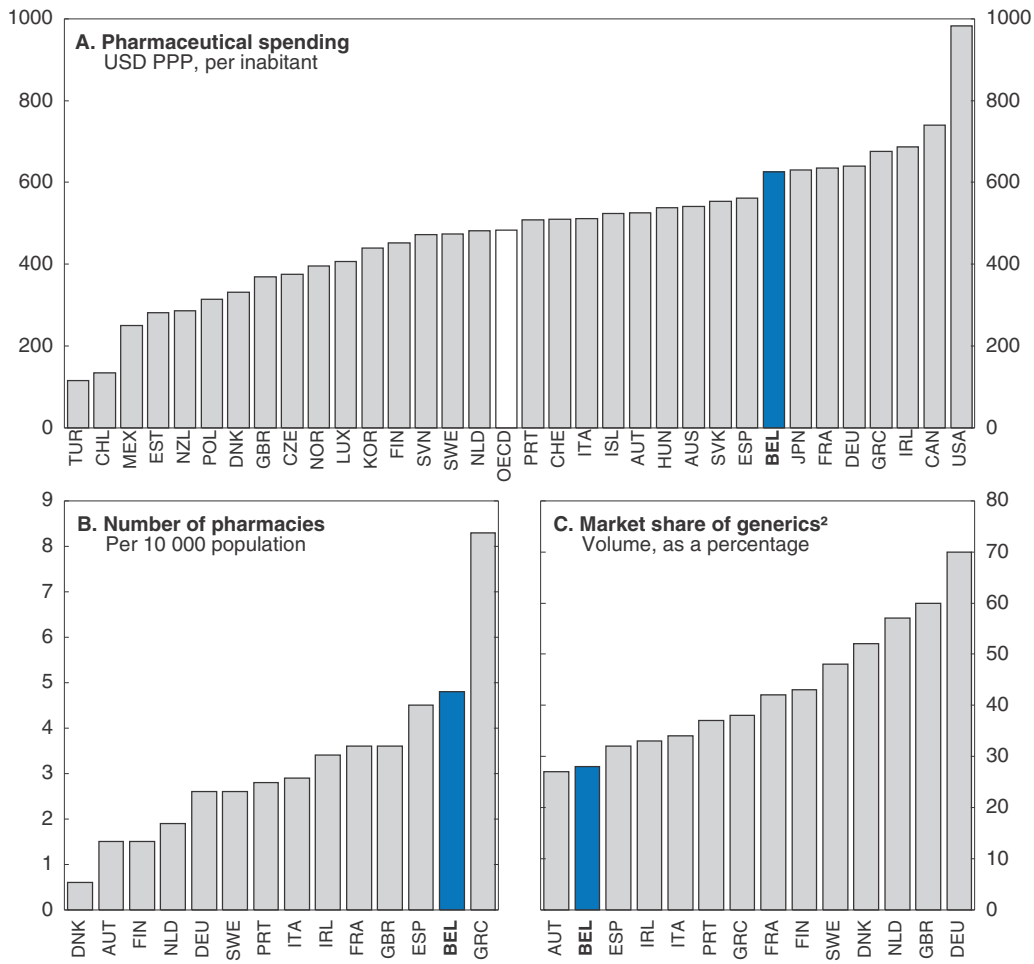
the government and the sickness funds, while doctors' associations have been little inclined to sanction their members. To enhance the effectiveness of the framework, clinical guidelines should be reinforced and procedures should be shortened, for example by establishing clearer deadlines and clarifying the distribution of tasks between the government and the sickness funds.

Reducing the high spending on pharmaceuticals

A more effective monitoring framework would contribute to reduce the high spending on pharmaceuticals. The high spending reflects excessive consumption, notably of antibiotics and antidepressants, and to a smaller extent relatively high prices as the penetration of generic drugs remains lower than in most countries (Figure 1.10, Panels A

Figure 1.10. **Pharmaceuticals**

2010 or latest year available[1]



1. The latest year varies from 2009 to 2010The OECD aggregate is an un–weighted average of data available.
2. Does not include "low-cost" non generics drugs.

Source: OECD (2013), "OECD Health Data: Health Resources", *OECD Health Statistics Database*, April and European Commission (2012), "Cost-containment policies in public pharmaceutical spending in the EU", *Economic Paper* No. 461, September.

StatLink http://dx.doi.org/10.1787/888932804567

and C). It may also be an indirect consequence of the "claw-back" tax on pharmaceutical companies, a tax that is automatically levied to offset (part of) budget overruns on pharmaceuticals, facilitating budget control in the short-term but potentially discouraging more structural measures by the authorities to control spending and entailing a risk of strategic behaviour by pharmaceutical companies to increase profit, potentially to the detriment of patients (Box 1.3).

Box 1.3. **The "claw-back" tax on pharmaceutical companies**

As a number of other European countries (*e.g.* Italy, France), Belgium has introduced a "claw-back" tax on pharmaceutical companies as a way to control the pharmaceutical budget. The tax is levied on the turnover of pharmaceutical companies to offset 75% of potential budget overruns on pharmaceuticals, up to a maximum of EUR 100 million per year. The tax presents clear short-term benefits in terms of budget control, but it may be detrimental in the longer term as it discourages structural reforms to tackle excessive drug consumption.

The tax also creates uncertainty for pharmaceutical companies, the more so as its design has changed several times in the past decade. Nevertheless, pharmaceutical companies across Europe tend to like such taxes, because they allow them to maintain relatively high drug prices where such taxes exist (indeed, abolishing the tax would allow governments to negotiate lower prices) and also – less justifiably – in neighbouring countries as price negotiations are frequently based on international price benchmarking (Carone et al., 2012). Another issue with the tax is the risk of strategic reaction of pharmaceutical companies if they anticipate a budget overrun on pharmaceuticals. In such a case, companies would have incentives to reduce their tax base by reducing sales of products on which they make low profits, which could lead to rationing of cheaper drugs and penalise patients.

To further tackle excessive consumption, drug reimbursement rules, which are almost never revised, should be reassessed regularly to reflect new evidence on their effectiveness as well as societal changes (Le Polain et al., 2010). To reduce prices, several measures have been introduced over the last decade, such as a 31% to 41% reduction in drug reimbursement rates when cheaper alternatives exist and minimum quotas of low-cost drug prescriptions (about 50% for GPs). As a result, low-cost drugs, which include both generics and "cheap" original drugs, now represent more than half of the consumption, up from 17% in 2004. However, some of the associated savings may have been offset by the strategic reaction of pharmaceutical companies, in the form of new marketing strategies and oligopolistic behaviour that reduce price competition (Fraeyman et al., 2012).

To further reduce drug prices, the reimbursement rate of pharmaceuticals for which cheaper alternatives exist should be systematically lowered down to the price of these alternatives, instead of the current minimum 31% reduction from the original price, which is unique in an international perspective (Vrijens et al., 2010; Carone et al., 2012). For example, Australia bases reimbursement rates on the price of the cheapest equivalent drug, and Denmark on the average of the two cheapest. This measure should be combined with allowing and encouraging pharmacists to substitute cheaper drugs to expensive ones unless explicitly prohibited by the prescriber, which is currently the case only for a few categories of drugs such as antibiotics.

More competition in the pharmacist sector would also put downward pressure on spending. Pharmacies have an exclusive right to distribute drugs (even non-prescription ones, such as aspirin) and a moratorium on new pharmacies has been imposed since 1994. This has left the sector fragmented, with a large number of pharmacies operating at an inefficiently small scale (Figure 1.10, Panel B). By preventing new entries on the market, the moratorium has in effect created rents, reflected in the high prices to buy existing pharmacies (Gerkens and Merkur, 2010). These rents notably reflect the difference between the regulated selling price of drugs to patients and their actual cost for pharmacies, which is often lowered by discounts from pharmaceutical companies competing for market shares (Puig-Junoy, 2010; Carone et al., 2012). To enable a rationalisation of the sector and the emergence of larger and more efficient pharmacies, the moratorium should be phased out and pharmacies should be allowed to compete on the currently regulated margin made on selling pharmaceuticals (a regulated fixed fee per box plus a regulated percentage of its price). To ensure that prices do not increase for patients, the current regulated margin should be kept as a maximum. In addition, other distributors, such as supermarkets, should be allowed to sell non–prescription drugs as a way to enhance accessibility and drive prices down.

Completing the shift to pathology-based hospital budgets

Better financial incentives would contribute to address efficiency discrepancies across hospitals. In 2002, a reform of hospital financing has shifted the focus from reimbursement of costs to reimbursement per pathology, basing hospital budgets on their pathology mix and on a normative average length of stay per pathology. This system, where only so-called "justified beds" are financed, gives hospitals incentives to contain costs. It has indeed lowered average lengths of stay, although they remain higher than in many other countries. However, the shift to reimbursement per pathology has been only partial and sometimes non transparent as financing rules are complex and often changed (van de Sande et al., 2010).

A large number of medical services, such as specialist consultations or medical imaging, are still reimbursed under a fee-for-service system. Consultation fees go directly to doctors, who redistribute a share of them to hospitals in exchange for using their facilities, meaning that hospitals have no incentive to tackle supplier-induced demand by their doctors. To address this shortcoming, a complementary mechanism was introduced in 2006 to identify and penalise hospitals where doctors' total fees exceed the national average by more than 10% on 34 standard interventions. However, the scope of this mechanism, which the government envisages doubling, remains limited, as illustrated by the relatively small penalties collected from hospitals (INAMI, 2011).

To further tackle efficiency discrepancies, the shift towards reimbursement per pathology should be completed, including for doctors' fees. This would push the less efficient hospitals to catch up with best performers and give hospital managers incentives to tackle supplier-induced demand. In such a system, hospitals and doctors would negotiate arrangements at the hospital level to share the new pathology-based budgets. To enhance the effectiveness of the reform, the budgets per pathology should also be updated. For example, there is no reason why the same treatment should be reimbursed differently depending on whether the patient stays overnight or not (van de Sande et al., 2012). In addition, budgets should take into account international best practices and not just national averages (Koechlin et al., 2010, Vrijens et al., 2009). A downside of pathology-based budgets is the risk that care providers will overstate pathologies to receive more funding or cut costs at

the expense of the quality of care. To counter such risks, better information management and more active sickness funds are needed to prevent pathology overstating, while indicators should be developed to monitor the quality of care. Preliminary simulations suggest that a shift towards full pathology budgets would result in substantial changes in the budget of numerous hospitals, confirming the diagnosis of large efficiency disparities and suggesting that a progressive transition may be required (van de Sande et al., 2010).

The remuneration of doctors should be more capitation based

A full shift towards pathology-based budgets would change doctors' remuneration in hospital. In extramural care as well, doctors' remunerations should evolve further to reward activity less. Fee-for-service still represented 88% of GP revenues in 2010, although this share has declined over the past decade (Meeus and van Aubel, 2012). In this area, an increasing number of countries, such as Norway, Denmark, and the Netherlands, have adopted a mix of capitation payments (a fixed annual budget per patient whatever the number of consultations) and fee-for-service, at least for GPs. The idea is to balance the risks of excessive activity associated to fee-for-service and the risks of insufficient activity and "selecting" patients associated to capitation payments (Paris et al., 2010). In Belgium, increasing the share of capitation payment would reduce incentives for supplier-induced demand and could also increase doctors' focus on preventive care. It may also make it easier for GPs to practice in groups, often a cost-efficient arrangement. Another benefit is that it would give doctors incentives to practise in low-density areas, mitigating potential shortages.

Improving incentives and information of patients

On patients' side as well, there is scope for better incentives without increasing the level of their out-of-pocket payments, which is relatively high. For example, the standard rate of patient copayment for GP consultations is 25% and it can reach 40% for specialist consultations. Payments can be much higher for doctors that do not adhere to the negotiated fee schedule, which represent a minority but an increasing share of doctors, notably in gynaecology, ophthalmology and dermatology. Out-of-pocket payments are particularly high in hospital, where patients have to pay an admission fee of EUR 31, a flat rate of EUR 14 per day of hospitalisation and copayments on the medical services they receive. Vulnerable groups, such as poorer households, enjoy lower copayment rates and, since 2002, total annual copayments on "necessary" care have an annual income dependent cap (for example, EUR 1 000 for a family with a net income of EUR 30 000). In addition, the government has recently prohibited doctors from charging more than the negotiated fees to patients in double hospital rooms – such supplements were already banned for patients in larger rooms and remain authorised in single rooms. Overall, private payments represent about a fifth of total care costs, a relatively high level that is justified by the need to control demand in a system where patients enjoy a free choice of care providers.

A number of chronically ill people face relatively high out-of-pocket payments. Knowing in advance that they will reach the annual cap on copayments may influence their behaviour and lead them to consume more care, although an empirical study finds only limited evidence for this phenomenon (Schokkaert et al., 2008). These patients could be offered copayment-free treatment for certain services or up to a certain illness-specific limit, as a way to reduce the probability of reaching the cap. This would reduce their financial burden while also aligning their marginal copayment rate with that of other patients. The difficulty is in designing a well-targeted scheme for a sufficiently

homogenous group of patients. The authorities intend to introduce elements of such a scheme in 2014 by offering copayment-free GP consultations to chronically ill patients, identified mainly on the basis of high past consumption of health services. After assessing the effect of the measure, the authorities should consider extending it to other services or refining it by identifying patients on the basis of pathologies.

GP gate-keeping in the access to specialist care is not in place as there is only a very small financial incentive to be referred by a GP. Being referred reduces the copayment on the specialist consultation by only EUR 5, while the GP visit needed to receive the reference implies a copayment of roughly that amount. This financial incentive should be strengthened to reinforce the role of GPs as the first line of treatment. Simulations suggest that such stronger gate-keeping would likely generate efficiency gains, especially in areas like psychiatrics, paediatrics and dermatology, where patients rely excessively on specialists for routine contacts (Schaumans, 2010). More generally, copayments should be more differentiated across medical services to better reflect their different societal value and to encourage good medical practices, such as care paths (Cleemput et al., 2012). As discussed, sickness funds could be given a more active role in this area.

To promote a cost-efficient use of the system, patients should also be better informed. Patients are currently relatively well informed about the aim and nature of medical interventions and their degree of urgency, but less so in terms of the quality of care, related costs and potential alternatives, notably in hospital (Gerkens and Merkur, 2010). Transparency of the price of extramural care could also be improved. In addition, patients could have a bigger role in informing care providers, the government and sickness funds about their experience of the system and how to improve it. In this area, the authorities have launched an interesting initiative to collect the feedback of chronically ill patients. In the same manner, sickness funds could experiment with gathering information from their members as a way to identify good practices or indications of supplier-induced demand.

Enabling adaptation to changing demand patterns in an ageing society

Population ageing will induce large changes in demand patterns, making it crucial that the healthcare supply can adapt rapidly. As discussed, a Dutch-like model of competing sickness funds could contribute to such an outcome, although with the risk of higher costs. In the current government-controlled system, several measures could also help enabling a more demand-oriented system where the supply of hospital care, doctors and long-term care would react more endogenously.

The supply of hospital care is too dependent on government planning

The supply of hospital care largely reflects government planning. The government shapes hospital supply through a moratorium on the number of hospital beds and subsidies for hospital investment in infrastructure and heavy medical equipment. In addition, the hospital sector is tightly regulated with an aim to control costs as well as to promote the quality of care. For example, hospitals are required by law to have at least 150 beds per site and to offer at least three kinds of services plus emergency services, radiology and clinical biology, which in effect rules out specialised hospitals. Hospital equipment is also subject to strict regulations. The tight government control was necessary at a time when hospitals were directly reimbursed for their costs as there was no other mechanism to force them to be cost efficient. However, in a system increasingly based on budgets per pathology, such direct control is no longer needed and risks hampering the

flexibility of hospitals to organise themselves efficiently (Joumard et al., 2010). For example, it is possible that small specialised hospitals would provide more cost-efficient treatment for certain pathologies. Thus, once incentives for cost efficiency are fully in place (such as pathology-based budgets with mechanisms guaranteeing the quality of care) overly prescriptive hospital regulations should be eased.

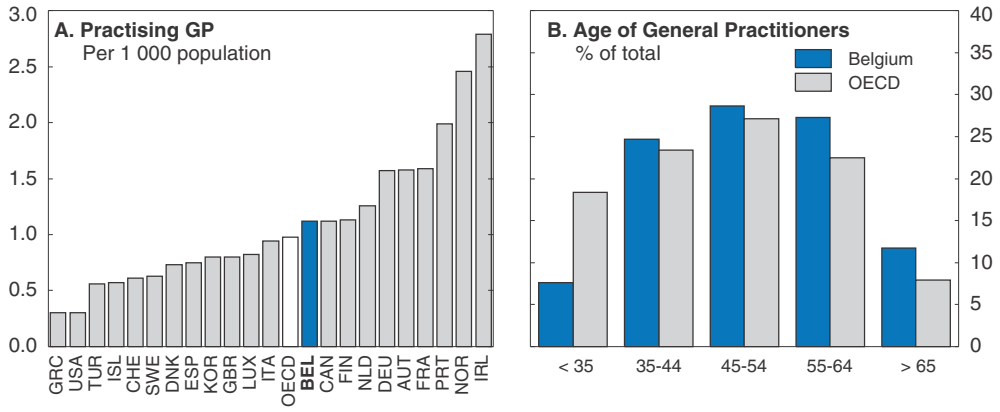
In addition, the creation and closure of hospitals should be facilitated. On the creation side, the moratorium on hospital beds could be phased out – as above – once adequate financing mechanisms promoting cost-efficiency are fully in place to prevent an oversupply of beds. Also, agreement procedures for new hospitals should be shortened as a full agreement-construction cycle can now take up to a decade. Additionally, for-profit hospitals could be allowed to enter the market, although the gains in terms of a more competitive supply should be weighed against the risk that these hospitals "select" patients, leaving costly cases to non-profit hospitals. There is no legal barrier to the closure of inefficient hospitals, but it has happened only exceptionally in the past. In this area, more auditing of hospitals would be useful to identify potential financial difficulties early on. There should also be more transparency about the implicit federal subsidies involved in keeping costly hospitals open, for example in low-density areas. In such cases, the local authorities interested in keeping a hospital open could be made to participate to its financing.

An ageing GP population points to potential shortages

The ageing of the GP population and projected increases in demand risks leading to future shortages (Figure 1.11; Roberfroid et al., 2008). These worries are compounded by quotas of new GP graduates generally not being filled over the past decade, in contrast to most specialties – with a few notable exceptions such as child psychiatry, acute medicine and emergency medicine. In addition, an increasing number of licensed GPs are leaving practice before retirement age (Lorant et al., 2008). Potential shortages would also be aggravated by the uneven distribution of GPs across the country (Meeus and van Aubel, 2012).

Figure 1.11. **The GP population is ageing**

2011 or latest year available[1]



1. The latest year varies from 2006 to 2011. The OECD aggregate is an un-weighted average of data available.

Source: OECD (2012), "OECD Health Data: Health Care Resources", *OECD Health Statistics Database*, October.

StatLink *http://dx.doi.org/10.1787/888932804586*

To address potential shortages, the authorities are raising the quotas of new medical graduates by 60% over 2011-15 and aim to make the GP profession more attractive in terms

of working conditions, remuneration and image. Over the past decade, the remuneration of GPs aged 45-54 has risen by an average 8% per year, more rapidly than most other health professionals, although the remuneration gap with specialists remains internationally high (Table 1.3). In addition, financial incentives have been introduced to encourage GPs to move to low-density zones. For example, as part of the Impulseo I initiative, GPs moving to areas of low GP density can receive up to EUR 35 000 of direct subsidies and interest-free loans, as well as free administrative assistance for the first 18 months of activity. The subsequent Impulseo II initiative gives GPs financial incentives to practice in group in doctor houses and hire an administrative assistant.

Table 1.3. **Specialist remuneration, as ratio to GP remuneration in each country**
2011[1] (or latest year available)

	Salaried	Self-employed
Australia (2009)		2.6
Austria (2007)		1.6
Belgium (2009)		**2.6**
Canada (2009)		1.5
Czech Republic (2008)		1.0
Denmark (2008)	1.0	
Estonia	1.3	
Finland (2010)	1.5	
France (2010)		1.7
Germany (2006/2007)	1.0	1.4
Hungary (2010)	1.2	
Iceland[2]	1.0	
Ireland[3]		
Italy		
Mexico (2010)	1.2	
Netherlands (2009)	1.7	2.1
New Zealand (2007)	1.4	
Slovak Republic		
Slovenia (2010)	1.1	
Spain (2010)	1.1	
Turkey (2010)	2.0	
United Kingdom (2009)	1.4	

1. No data means that either GP or specialists are mostly not salaried or not self–employed in this country.
2. Many specialists working in hospitals also earn incomes from private practices, which are not included.
3. Data for self-employed GPs include practice expenses resulting in an over-estimation.

Source: OECD (2012), *Health at a Glance Database*, October.

Such group practice is increasingly popular, but remains less widespread than in other countries (Table 1.4). It should be further encouraged as it has the potential to improve the quality of services, working conditions and productivity by allowing GPs to offload some tasks to other professionals, such as nurses and administrative assistants (Bourgueil et al., 2007; Lorant et al., 2008). In Belgium, there is notably room for a bigger role of nurses in the follow-up of diabetic patients and in pain management (Delamaire and Lafortune, 2010). To facilitate this process, this "advanced" role of nurses in tasks so far reserved to doctors should be officially recognised, as in the United States, Canada and more recently Australia and Ireland. In turn, certain tasks of nurses could be delegated to nursing assistants, notably in long-term care, as a way to prevent a shortage of nurses.

Table 1.4. **Majority settings for general practice per country**

As a percentage of practitioners in the majority settings

Solo practice	
	Austria
	Belgium (69%)
	France (52%)
	Czech Republic (90%)
	Germany
	Greece (60% of spending)
	Korea (79.9%)
	Luxembourg
	Switzerland (63% of consultations)
Group practice	
Doctors only	Canada (47.7%)
	Italy (65%)
Doctors with other care practitioners (e.g. nurses) in private centres	Australia (92.2%)
	Denmark
	Ireland
	Netherlands (54%)
	New Zealand (52%)
	Norway
	Poland[1] (76% of spending)
Doctors with other care practitioners in public centres	Chile (30.4% of spending)
	Finland (88% of spending)
	Iceland (95%)
	Israel
	Mexico (78% of consultations)
	Portugal (100% of institutions)
	Slovenia (67% of consultations)
	Spain (97% of institutions)
	Sweden
	United Kingdom (100%)

1. Non-public primary care clinics staffed by physicians and other health professionals in Poland.
Source: OECD Survey on Health system characteristics 2012 (forthcoming).

Giving a bigger role to price signals to allocate doctors across specialties

Quotas of new medical graduate, introduced in 1997, have been the government's preferred instrument to regulate the supply of doctors – both GPs and specialists. At that time, quotas were meant to address a perceived oversupply of doctors, identified as a source of supplier-induced demand. However, international experience shows that quotas are an imperfect tool that commonly under or overshoots its goals because of the large uncertainties about future demand and supply and the time lags in doctors' education (Roberfroid et al., 2009; Stordeur and Léonard, 2010). The effectiveness of quotas is also undermined by the increasing cross-borders flows of doctors and students, especially since a European directive guarantees their free movement within the EU. An increasing number of foreign doctors, notably from Eastern Europe, practice in Belgium, with inflows representing 12% of new physicians in 2006. In the Belgian case, the functioning of quotas is also complicated by the Flemish- and French-speaking communities having implemented different and frequently evolving systems to select the right number of medical students.

A more promising approach to regulate the supply of doctors is to give a bigger role to price signals. Indeed, shortages in certain specialties (paediatrics, emergency medicine,

geriatrics) and in general practice reflect to some extent the low remuneration *vis-à-vis* other specialties. The relative fee schedule (so-called "nomenclature"), first introduced in the 1960s, has not fully kept up with medical innovations and still gives excessive rewards to technical activities over consultations with patients, despite efforts to reduce the gap over the past decade (van der Oever and Volckaer, 2008; Stordeur and Léonard, 2010). This is because negotiations on doctors fees, which take place annually between doctors' associations, sickness funds and the government, focus more on across-the-board tariff changes than on changing relative fees per service or per specialty. To enable a better allocation of doctor supply, the relative fee schedule should be adjusted regularly to reflect costs and the adequacy of supply per speciality.

Demand for long-term care will increase sharply

In long-term care, large increases in demand are looming as population ages. Under current policy, demand for care in institutions is projected to increase by 30% by 2025 and accelerate in subsequent years as ageing intensifies (van Den Bosch et al., 2011). An issue in this respect is that the supply side is slow to adapt to changes, as reflected in the existence of substantial waiting lists in some areas (Willemé, 2010). This rigidity notably reflects strict government planning and lags created by the fragmentation of responsibilities across government levels (Box 1.4). Fragmentation is also an obstacle to an integrated and patient-centred approach to care, resulting in inefficiencies and welfare losses (Arnaert et al., 2005). Measures are needed to enable a more endogenous reaction to changes in demand. This would enhance accessibility but may also increase costs, requiring significant measures to contain spending, such as better targeting and more focus on home care, which is often cheaper than institutional care (at least for the less severely dependent) and also more patient-centred.

Box 1.4. **The Belgian long-term care system**

The federal health insurance system covers long-term care in institutions and at home, while non-medical home services (*e.g.* help with domestic activities) are provided by communities. Institutions can be public or private and for-profit or not. They are financed by sickness funds according to their residents' assessed dependency level in addition to payments from patients for accommodation and boarding, of an average EUR 1 200 per month (Colombo et al., 2011). The latter are not covered by health insurance, but copayments for nursing services, both in institutions and at home, are relatively low and subject to the annual cap on health copayments.

Long-term care responsibilities are complexly distributed across government levels, reflecting the position of long-term care at the intersection of personal care, a community responsibility, and health care, mainly a federal one. The federal government is in charge of the financing of care (with the exception of non-medical home services), the ceiling on the total number of institutional beds (until it expired in 2012) and negotiating fees with providers' organisations. The federal government and the communities are co-responsible for certification, monitoring and quality control of care institutions. Communities are responsible for the organisation of home care, but both federal and community institutions co-ordinate the provision of home care between GPs, nurses and paramedical staff. Reflecting the complexity of the distribution of tasks, several working groups are necessary to co-ordinate policy objectives between the federal government and communities. The State reform will increase the responsibilities of the communities in organising care, but the financing of nursing care services at home is likely to remain federal.

Box 1.4. **The Belgian long-term care system** *(cont.)*

Long-term care patients are eligible for several cash benefits independently of their use of "in-kind" care. Elderly people are entitled an "Allowance for Assistance to Elderly Persons" that can vary between EUR 900 and 6 100 per year depending on dependency level, income and assets. In addition, Flemish dependent people receive a non means-tested allowance of EUR 1 560 per year from their community. Disabled people can also benefit from a yearly allowance to employ a home helper. In addition, social and psychological support is increasingly in place for informal caregivers at the local level and facilities for temporary (respite) care as well.

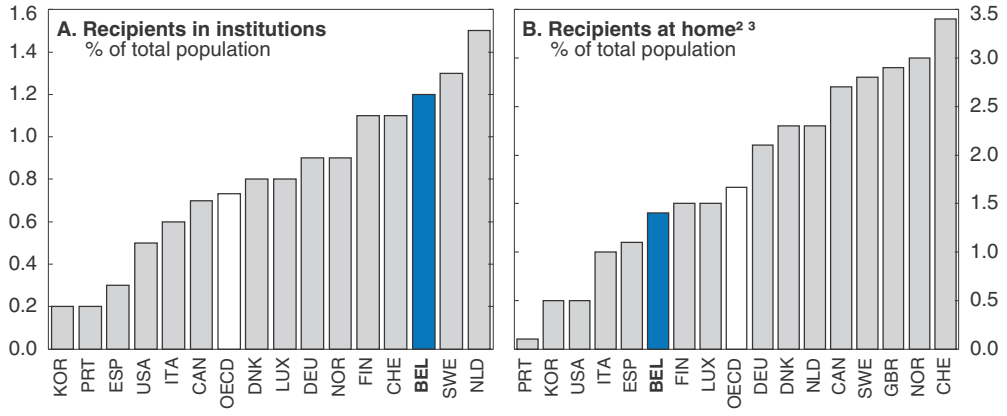
Source: Willemé (2010), "The Belgian long-term care system", *Federal Planning Bureau*, *Working Paper* 7-10.

Further encouraging home care by giving more autonomy to patients

Home care for elderly people has expanded rapidly over the past decade, especially in Flanders. However, the high institutionalisation rate suggests room for further development of home care (Figure 1.12). The recent development of home care reflects a number of initiatives by the authorities (*e.g.* more flexible and adaptive forms of long-term care provision, such as temporary care facilities), but also the rationing of institutional care induced by a moratorium on institutional beds – the moratorium expired at the end of 2012, but budget constraints at the level of communities will be the new method to limit the number of institutional beds. However, this rationing is a double-edged sword as people waiting for admission in a nursing home can either stay at home, which is cheaper as long as they need less than 2½ hours of care per day, or in geriatric hospital care, which is more expensive. The latter solution is apparently used to some extent as the average length of stay in hospital for dementia and Alzheimer's disease is close to one month and exceeds OECD average by more than a half (Colombo et al., 2011).

Figure 1.12. **Long-term care**

2010 or latest year available[1]



1. The latest year varies from 2006 to 2010.The OECD aggregate is an un-weighted average of data available.
2. Data on the number of home care recipients only concern care for "Activities of Daily Living" (ADL), such as nursing care, but not "Instrumental Activities of Daily Living" (IADL), such as domestic support.
3. Survey data from another source (Survey of Health Ageing and Retirement in Europe) suggests an internationally higher proportion of formal home care use in Belgium.

Source: OECD (2013), "OECD Health Data: Long-term Resources and Utilisation", *OECD Health Statistics Database*, April.

StatLink *http://dx.doi.org/10.1787/888932804605*

To further encourage home care, patients should be given more autonomy to organise their care, which would enable the emergence of more integrated care services. Currently, the nursing part of care is delivered by nurses contracted by the federal health insurance system. In contrast, help for domestic activities is organised by communities, which contract small non-profit companies, often local monopolies, to provide care. A good alternative would be to entitle patients with vouchers to purchase care from qualified professionals, which would give them the possibility to organise their own care, a system successfully adopted by Nordic countries (Colombo et al., 2011). The free choice of provider would enhance patients' welfare as well as competition across providers. In such a system, providers would be encouraged to develop integrated services for nursing and domestic activities, as patients would probably favour them. To enhance the effectiveness of the system, patients should receive information and counselling by actors with good knowledge of the local context, such as municipalities.

Updating the financing system for nursing interventions would also encourage a more efficient home care supply. Nursing interventions at home are financed under a dual system: fee-for-service for technical interventions and a lump-sum payment depending on the patient's dependency level for less technical support (*e.g.* help with bathing). However, the fee schedule ("nomenclature") is obsolete, complex and does not reflect relative costs of interventions (Sermeus et al., 2010). For example, some common interventions are absent, while some interventions may be counted (and thus reimbursed) twice. Thus, the fee schedule should be updated.

In psychiatric care as well, there is still a tendency to rely excessively on too medicalised settings, such as psychiatric hospitals. Less medicalised facilities have been developed, such as psychiatric nursing homes and sheltered living initiatives, which have potential to enhance cost-efficiency and patient welfare. However, their supply remains too limited as reflected in long waiting lists (Eyssen et al., 2010). Another obstacle to a cost-efficient psychiatric care is the difficulty to provide care in an integrated way, i.e. to ensure good co-ordination between the different professionals involved. Several pilot projects have taken place since the early 2000s and a broader reform was launched in 2010, although progress remains hampered by a lack of information and the fragmentation of responsibilities across government levels. In addition, there is room to better promote the employment of the mentally-ill, notably though better integration of health and employment services and a more active role of the sickness funds (OECD, 2013).

Towards a more independent and integrated assessment of long-term care needs

Better targeting would also contribute to lower long-term care costs. This requires improving assessment procedures as well as toughening the relatively lenient criteria for access to institutional care (Paulus et al., 2012). The assessment of care needs is generally performed by patients' regular GP or a local nurse. This creates a conflict of interest, as these professionals may be involved in delivering subsequent care. Indeed, when ex-post controls are performed, care needs are revised downwards 40% of the time, but overstatement of care needs is not sanctioned. Controls are complicated by the coexistence of as many as five different scales to qualify dependency levels, which also adds to administrative costs (Sermeus et al., 2010). Several scales are in use for different purposes, such as in-kind care or cash allowances, both at the federal and community level. A project ("BelRAI") is underway to harmonise geriatric assessment, but will initially only concern care planning. As envisaged, the authorities should adapt and use the new harmonised

assessment for financing purposes as well. In addition, dissuasive sanctions should be put in place for systematic overstatement of care needs. An alternative would be to delegate the assessment to a single dedicated independent authority.

Making long-term care supply more responsive to changes in demand

To control long-term care spending, the government has relied until the end of 2012 on a federal moratorium on the number of long-term care beds per community. Communities then decided on the allocation of beds. The end of the moratorium has made the communities responsible for the number of institutional beds. Despite the existence of waiting lists for admission in care institutions, permits to build new beds can take up to 10-15 years to be realised. This reflects long administrative procedures and the fact that care institutions are allowed, at least in the Flemish community, to store their permits for up to eight years and sell them to other institutions instead of building rapidly the associated beds. A consequence of waiting lists is that patients have less latitude to choose their institution as they generally enter the first one where they are accepted. In addition, admission policies of institutions do not always target the most in need for care (Paulus et al., 2012).

The authorities should rely more on price signals to shape an efficient and reactive long-term care supply. To this end, the relative budgets per dependency level (similar to hospital pathology budgets) should be revised regularly to reflect the adequacy of supply in the different categories of beds (more or less care intensive). The moratorium on long-term care beds should not be reinstated and new institutions and initiatives should be allowed to respond to unmet demand, enhancing competition across institutions and facilitating the emergence of alternative solutions, such as day-care centres. Institutions could also be given more freedom to set the price of accommodation and boarding, which is currently controlled by the government. To ensure that such reforms do not generate unnecessary costs or affect the quality of care, the focus should be put on gathering information on the quality and cost of care, while encouraging sickness funds to benchmark the performance of institutions.

Box 1.5. **Main recommendations to give an ageing population an efficient health sector**

Improving the general organisation of the system to enhance cost-efficiency

- Improve the budgeting system by increasing the focus on the medium term and closing potential budget escape routes by limiting the scope of the "exceptional expenses".
- Better align the incentives of the different government levels by giving communities (or regions) a stake in federal health care spending in their community to avoid cost shifting.
- Give sickness funds a more active role in promoting cost-efficient care by allowing them to identify underperforming hospitals and long-term care institutions and force corrective action when needed, and to experiment on a limited scale with selective contracting of providers.

Box 1.5. **Main recommendations to give an ageing population an efficient health sector** *(cont.)*

Improving information flows and incentives at the level of care providers and patients

Data management and use

- Enhance data quality by greater centralisation and co-ordination of data management into a single platform.
- Reinforce the statistical framework to tackle inappropriate medical practices (such as excessive prescription of drugs) by improving clinical guidelines and shortening sanction procedures.

Pharmaceuticals

- Further tackle spending on pharmaceuticals by revising reimbursement rules regularly to reflect the relative effectiveness of drugs.
- Enhance competition on the pharmacist market by phasing out the moratorium on pharmacies, allowing pharmacies to compete on prices and allowing other distributors to sell non-prescription drugs.

Financing of care providers

- Complete the shift towards pathology-based budgets in hospital financing to address efficiency discrepancies across hospitals.
- Increase the share of capitation-based (as opposed to fee-for-service) remuneration of doctors.

Patients

- Offer copayment-free treatment to the chronically ill for certain services or up to a certain limit to reduce their financial burden and align their marginal copayment rate with other patients.
- Reinforce financial incentives to be referred by a GP when visiting a specialist to secure the role of GP as the first line of treatment.

Enabling adaptation to changing demand patterns in an ageing society

Hospitals and doctors

- Once adequate mechanisms to control costs are in place, ease overly prescriptive hospital regulations.
- Further encourage group practice by doctors by facilitating the offloading of tasks to qualified nurses.
- Update the relative fee schedule to let remuneration of GPs and specialists reflect adequacy of supply.

Long-term care

- Qualify care needs on a unified geriatric assessment and introduce dissuasive sanctions to deter overstatements of care needs.
- Further encourage home care by giving patients autonomy to organise their own care, possibly under a system of vouchers, to stimulate the emergence of competitive integrated care services.
- Update institutions' budgets per dependency level and allow new institutions and initiatives to respond to unmet demand.

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Chapter 2

Better use of infrastructures to reduce environmental and congestion costs

Transport infrastructures are well developed, but growing traffic commuter and freight volumes are putting them under increasing pressure, leading to some of the worst peak time congestion in the OECD and declining air quality in inner cities. Investments to address bottlenecks would benefit from more systematic cost-benefit analysis, which is currently under used. Investment choices would also benefit from better co-ordination between the federal government, in charge of railways, and regions, in charge of roads, ports and inland waterways. Increasing the size of infrastructure, however, could be only part of the answer. Traffic volumes are boosted by large commuting subsidies and a cost-efficient policy would be to develop congestion pricing in both road and railway transport to reduce congestion and address negative externalities in terms of environmental impact and cost to the economy. Extensive public service obligations also contribute to low cost-recovery ratios and should be subject to more systematic evaluation. Investments in inland waterway infrastructures have aimed at shifting freight transport from roads and rail. Nevertheless, road freight transport is contributing to congestion and a more ambitious road-pricing scheme than the one currently planned for trucks is necessary.

The transport system is well developed

Transport has a fundamental role in a well-functioning economy, particularly in terms of providing geographical labour mobility and of its environmental impact. In Belgium, a rigid housing market (as in the Netherlands) poses barriers for individuals to move closer to their work place. Language may also be an issue. As a result, transport infrastructure plays a major role in labour mobility, but at an increasing cost in terms of congestion and environment.

The transport network is among the best developed in the OECD (Figure 2.1). The motorway network is the most extensive in the OECD and the railway network is more extensive than in most other countries.

In terms of the modal split of passenger transport, private car transport is nearly four times more important than public transport for passengers (Figure 2.2). With respect to public transport, buses and coaches have become relatively more important over the past decade. In freight transport, inland waterways play a larger role than railways, although the predominant mode remains road transport (Figure 2.3).

Infrastructure use is expected to keep rising rapidly

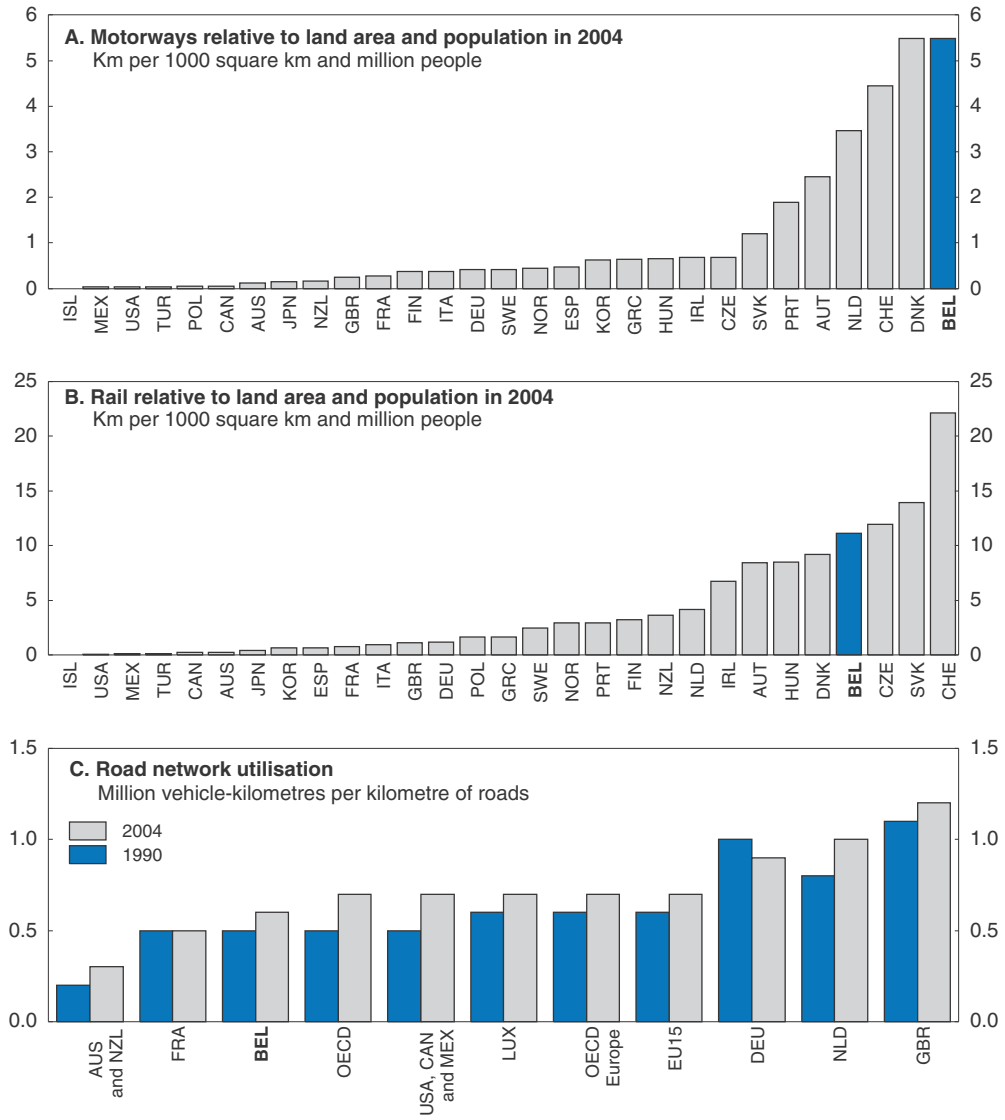
Overall, passenger transport has grown substantially over the past 20 years, reflecting among others a population increase of 10% (Figure 2.4). In the 2000s, growth in road passenger transport (measured in passenger kilometres) has flattened out, while rail passenger transport has maintained strong growth (and much faster than in the neighbouring countries) allowing the sector to gain solid market shares. Local public transport (buses and trams) has also seen strong growth, particularly in the Flanders region (Figure 2.5).

Looking ahead, transport flows are expected to continue to increase by an annual rate of 0.8% over the next couple of decades, assuming unchanged transport policies and economic growth of 1.6% per annum, and passenger road transport will remain the dominant transport mode (Table 2.1). In addition, there will be a relative shift in transport modes as rail passenger transport is projected to expand faster than road passenger transport (FPB, 2012). The main sources of growth in railways traffic are expected to be home-to-school and other non-work transport motives.[1]

The volume of road traffic (measured in vehicle kilometres a year) is projected to increase substantially by 2030 (+25%), under the assumptions that the economy expands by 1.6% annually, no new policy measures are adopted, and no further agglomeration of economic activity takes place (Table 2.2).[2] These assumptions are likely to be relatively conservative, implying fairly benign projections.

Beyond demographic or economic reasons, another cause of the increase in transport volume is the widespread use of subsidies. Substantial subsidies are in place to support commuting by private cars and by public transportation (Table 2.3). In addition, non-work public transport traffic, such as for pensioners and students, is subsidised via very low

Figure 2.1. **The transport network is well developed**



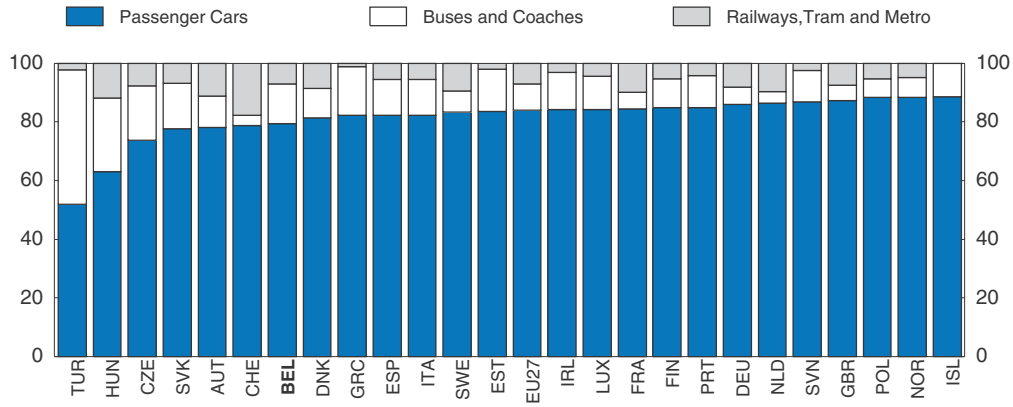
Source: OECD Environmental Statistical Compendium, Eurostat, International Transport Forum.

StatLink http://dx.doi.org/10.1787/888932804624

prices. More generally, fares are below their cost-recovery level as they are set below marginal costs of provision (that again are below average cost because of the economies of scale in the sector). For example, the fares for local public transport are set so low that the cost recovery rate – the share of total operating costs that is covered by revenues from passenger transport – varies from only 14% in Flanders to 55% in Brussels. In addition, many commuters hardly pay for their season passes as government employees receive free passes, and some private sector employees enjoy free season passes, paid 80% by their employer (an expense that is tax deductible) and the rest by the government. Other private sector employees can deduct their passes from their personal income taxes. In terms of freight transport, the authorities have counted on subsidising a modal switch from road to rail and inland waterways.

Figure 2.2. **Cars remain relatively popular**

Modal split of passenger transport on land in 2010 (passenger-km)

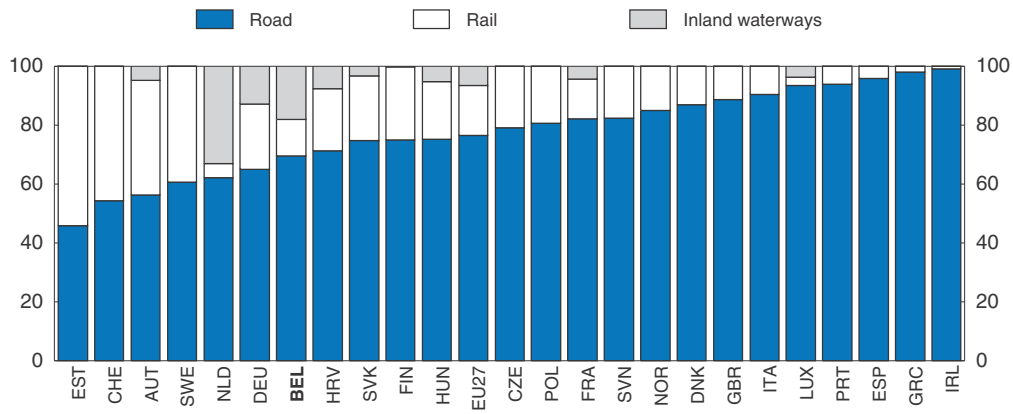


Source: Eurostat (2013), online database.

StatLink http://dx.doi.org/10.1787/888932804643

Figure 2.3. **Inland waterways play an important role in freight transport**

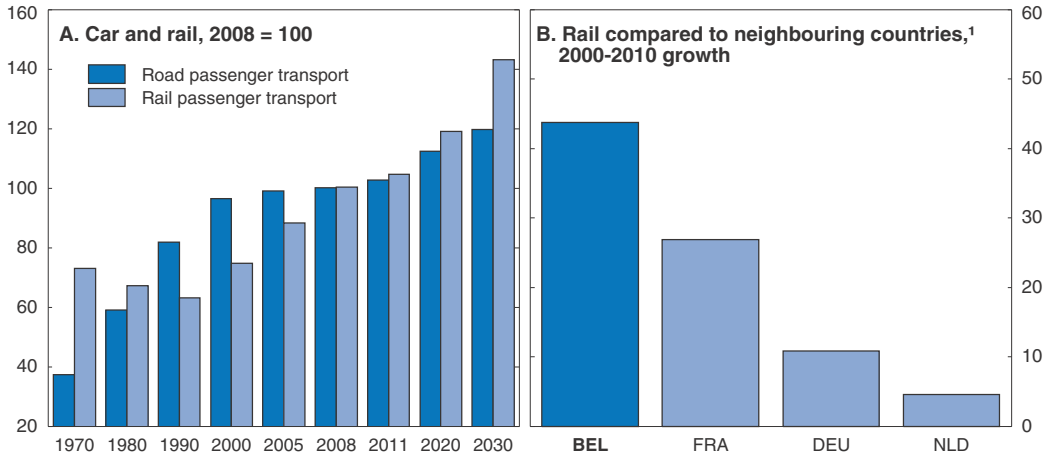
Modal split of freight transport in 2010



Source: Eurostat (2013), online database.

StatLink http://dx.doi.org/10.1787/888932804662

Figure 2.4. **Growth in passenger kilometre**



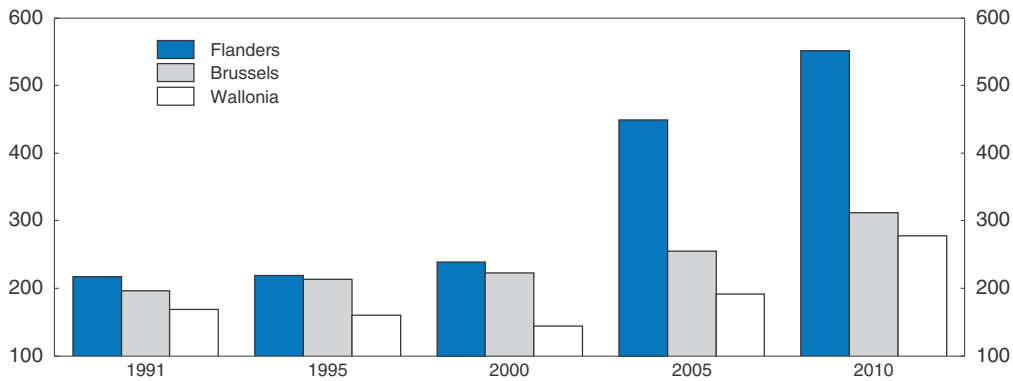
1. Incumbents in the reported country, which are NMBS/SNCB in Belgium, SNCF in France, DB (Deutsche Bahn) in Germany, NS (Nederlandse Spoorwegen) in the Netherlands.

Source: Observations 1970-2011 (NMBS), scenario 2011-30 (FPB) and NMBS (2012), Annual Report.

StatLink http://dx.doi.org/10.1787/888932804681

Figure 2.5. **Local public transport has increased strongly**

Million passenger trips per year, by regions



Source: Annual reports of MIVB, De Lijn, TEC.

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Table 2.1. **Expected passenger road transport flows by mode in Belgium**

Billion passenger kilometres

	2008	2020	2030
Car + motorcycle	100.46	112.49	119.74
Rail	8.95	10.67	12.83
Bus	7.69	6.90	6.29
Tram + metro	1.53	1.75	1.92
Bicycle + walk	3.38	4.53	5.70
Total	122.01	136.33	146.47

Source: Computed on basis of Table 24 in FPB forecasts, September 2012.

Table 2.2. **Expected road transport flows**

Billion vehicle kilometres

	2008	2030	% difference
Cars	74.5	93.1	22.5
Vans	10.6	18.2	81.5
Trucks	8.4	12.9	59.0
Other	2.0	2.35	21.4
Total	95.5	126.6	31.7

Source: Computed on basis of Table 34 in FPB forecasts, September 2012.

Table 2.3. **Commuting subsidies**

Lump sum benefits	Distance based benefits
Public transport	
The total cost refunded by the employer is treated as non-taxable income.	The employee can receive 0.15 EUR/km as non-taxable income (home-work distance limited to 100 km per day). Employers can deduct 100% from CIT.
The employer can treat this as a cost (100% deductible from CIT).	
A 20% subsidy on the ticket price if the employer pays the rest (100% for civil servants).	

Table 2.3. **Commuting subsidies** *(cont.)*

Lump sum benefits	Distance based benefits
Collective transport (organised by employer)	
Non-taxable income up to the price of a first class train ticket on the home-work route.	The employee can receive 0.15 EUR/km as non-taxable income (home-work distance limited to 100 km per day). Employers can deduct 120% of costs from CIT.
Employer can deduct 120% of costs from CIT.	
Car transport	
A fixed non-taxable benefit of EUR 380 per year to cover the costs of commuting. Employer can deduct 100% from CIT.	The employee can receive 0.15 EUR/km as non-taxable income (no limit on the home-work distance).
	Employers can deduct 100% from CIT.
Other modes (bicycles)	
A fixed non-taxable benefit of EUR 350 per year.	The employee can receive 0.20 EUR/km as non-taxable income. He can also receive a bicycle or a refund of bicycle costs.
Employer can deduct 100% from CIT.	Employers can deduct 120% costs from CIT.

Note: The employers and employees have to choose between the distance-based and the lump-sum allowances.
Source: Conseil Supérieur des Finances (2009) and Federal Government.

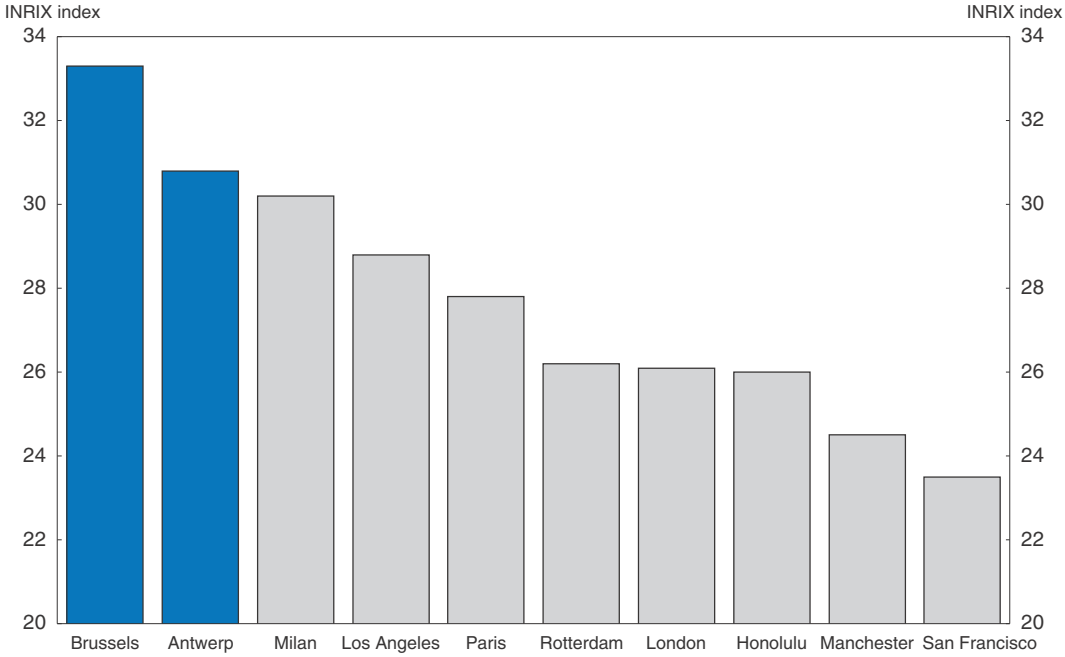
High transport volumes raise congestion and environmental costs

The small size of the country, continued urbanisation, and a high volume of commuting have given rise to severe congestion. Therefore, despite the dense road (in particular motorway) and rail networks, the transportation system is often clogged during peak hours, leading to reduced productivity and negative environmental impacts. Congestion is particularly marked in and around Brussels and Antwerp, which are among the most congested cities in Europe (Figure 2.6). As a result, commuters spend relatively long time getting to work and a relatively high share uses more than one hour a day in transportation (Box 2.1). The long commutes may have many explanations, such as differences in commuting distances, urbanisation patterns, and a rigid housing market. Nonetheless, the time spent on commuting is strikingly high for such a relatively small country.

The cost of congestion includes time lost in traffic jams and behavioural changes, such as lower labour mobility and supply as workers narrow their geographical area of job search, accept less suitable jobs (adding to skill mismatches on the labour market) or do not take up a job at all (Braconier et al., 2012). An additional cost is that road users tend to shift away from their preferred departure times and accept additional schedule delay costs in order to reduce queuing costs – often doubling costs (Arnott et al., 1993). Moreover, business is faced with productivity losses from the increased duration and unreliability of transport. As a result, welfare and long-term growth are reduced – effects that are further amplified by a rigid housing market that hampers the geographical relocation to an attractive job. In addition, congestion has environmental costs as it leads to higher emissions per kilometre driven and concentration of local pollution (such as particles). The cost of congestion is difficult to estimate, but is typically estimated to be between 1% and 2% of GDP (van Essen et al., 2011).

Figure 2.6. **Belgian cities are among the most congested in the OECD**

2012 average



Source: IEA and INRIX scoreboard.

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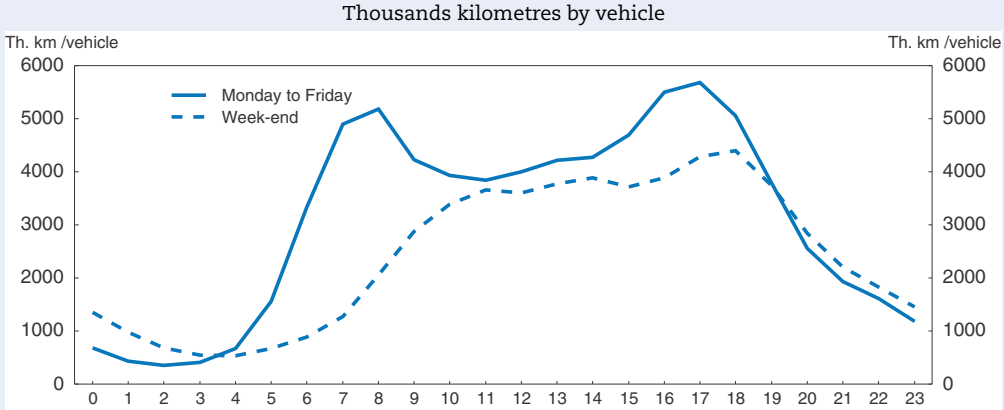
Box 2.1. **Congestion in Belgium**

Congestion levels are measured most accurately on motorways, where an elaborate electronic counting system is in place. This data shows that the motorways surrounding Brussels and Antwerp are most prone to congestion and the problem is concentrated during morning and evening peaks on weekdays (Figure 2.7). The congestion on other roads is thought to be worse than on motorways: Maerivoet and Yperman (2008) used mobile phone data to estimate the traffic speeds on the other roads and found congestion to be four times worse than on motorways, but centered around Brussels and Antwerp, and to a lesser extent in Ghent and Liege.

Figure 2.7. **Time profile of traffic on motorways**

Thousands kilometres by vehicle



Source: Maerivoet and Yperman (2008), "Analyse de la congestion routière en Belgique".

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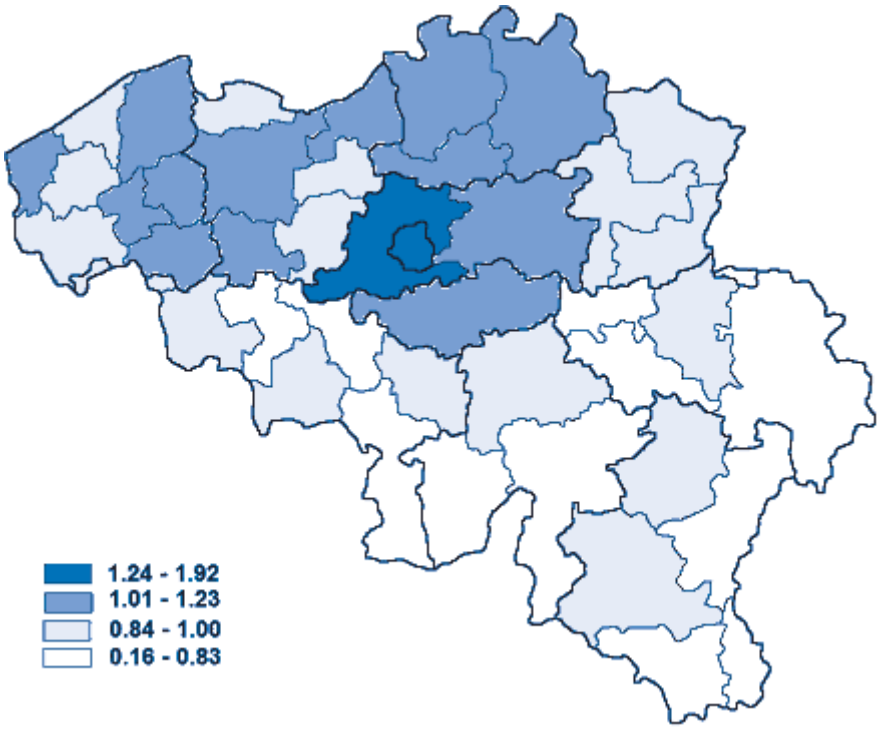
Congestion may increase over time

Looking ahead, congestion pressures on infrastructures are likely to increase, as the trend of concentration of economic activity (particularly around Brussels) is expected to continue as in other countries (Figure 2.8) (Thisse and Thomas, 2012; Glaeser, 2008). Moreover, congestion is not limited to roads, as railway services are at full capacity during peak hours (with the network being among the most utilised in Europe) (CBS, 2008). This also means that policy measures in one transport mode to combat congestion will have spill-over effects on the other mode. Indeed, the introduction of a road-pricing scheme could expand rail passenger transport by 7% (FPB, 2012). Loading more traffic on the same infrastructure generates more congestion in a non-linear manner, as once full capacity is approached speed tends to fall rapidly, with the implication that congestion is projected to increase strongly with an associated steep decrease in average and peak hour speed (Table 2.4) (FPB, 2012).

Figure 2.8. **Growth of economic activity per capita**[1]

By arrondissement, 1995-2007, Index 1 = Belgium growth



1. Belgium has 43 "arrondissements", which are mainly used as statistical units.
Source: Thisse and Thomas (2010) based on NBB data.

Table 2.4. **Expected decrease in average speed on the national road network**[1]

2008	In km/h	% decrease in speed by 2030
Peak period	38.0	-29.3%
Off peak period	72.3	-16.1%

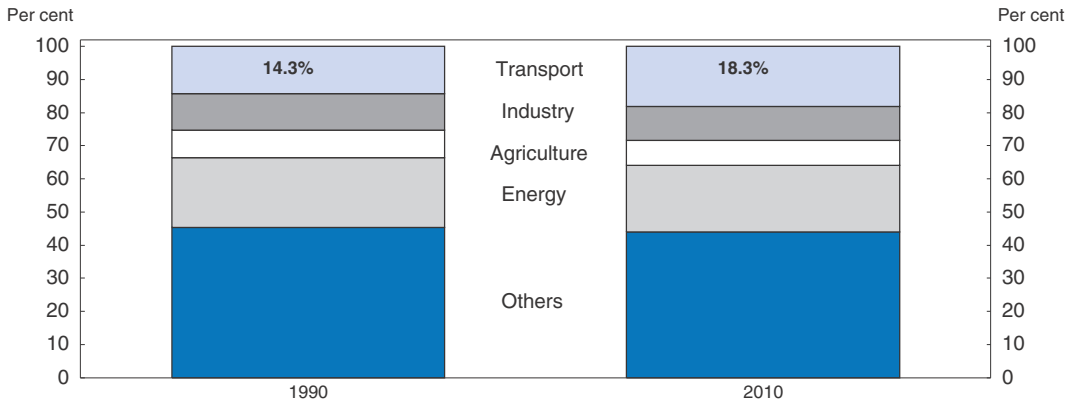
1. Peak traffic represents about 30% of total traffic volume and off-peak about 70%.
Source: Computed on basis of Table 35 in FPB forecasts, September 2012.

Environmental costs are high

As transport has expanded, the sector has increased its share of CO_2 emissions (Figure 2.9) although this has not prevented Belgium in broadly achieving its Kyoto objectives. There is, nonetheless, a risk that emissions will pick-up once the economy recovers. Belgium is committed to reduce its emissions from sectors that are not covered by the European Emission Trading System (ETS) by 15% in 2020 as compared with 2005. As transport is one of the largest sectors outside the ETS, emissions from this sector will be important for meeting abatement objectives.

Figure 2.9. **Greenhouse gas emissions in Belgium, by sector**

As a percentage of total emissions



Source: United Nations Framework Convention on Climate Change (2012), "National Greenhouse Gas Inventory Data for the period 1990-2010".

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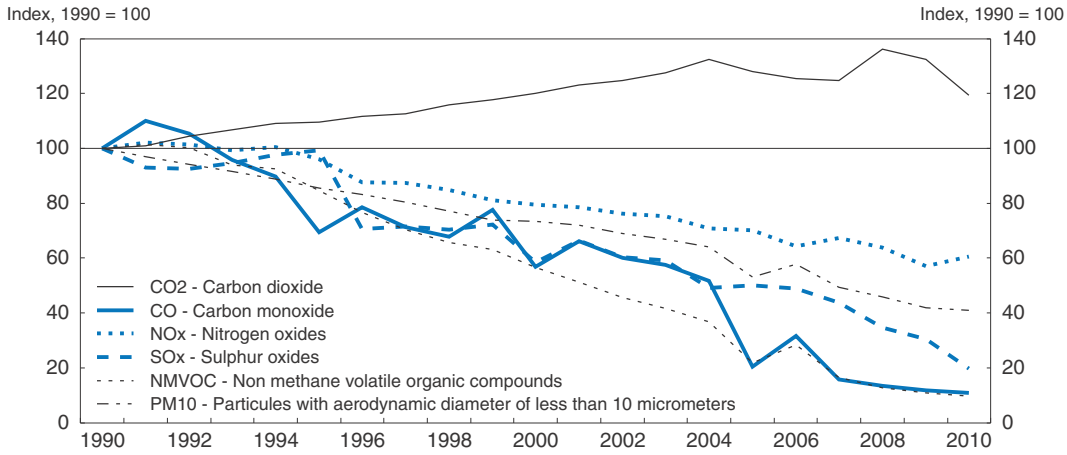
Measures to improve inner city air quality

Several areas in Belgium do not comply with the European air-quality regulations, as a result of a relatively large emission of particulates – one of the most dangerous pollutants – from (diesel driven) road transport. Considerable progress has been made in reducing car and truck emissions due to stricter European vehicle and fuel emission quality regulations (Figure 2.10). Nevertheless, poor air quality remains an issue in inner cities as a consequence of a high reliance on diesel cars.

A relatively easy way to improve inner city air quality is to ban the most polluting cars from inner cities. In Germany, the non-attainment of EU air quality standards led more than 50 cities to implement measures to improve air quality, ranging from better public transport and building ring roads, to forbidding certain polluting cars to enter the city centre (Wolff and Perry, 2011). The experiences from these policy efforts have shown that the introduction of Low Emission Zones (LEZ) in city centres, where cars that do not comply with the latest EU emission regulation are not allowed or have to pay an entry fee, can be a particularly effective measure with substantially higher benefit/costs ratios than other strategies. Another lesson is that extending public transport does not lead to a measurable improvement of local air quality (Wolff and Perry, 2011). In Belgium, there are no LEZ zones and most Belgian cities have counted on expanding public transport.

Another problem for inner city air quality is the high share of diesel vehicles (Figure 2.11). Until 2011, diesel cars were promoted by smaller excise taxes on diesel and

Figure 2.10. **Expected emissions by the transport sector in Belgium**



Source: European Environment Agency (2013), National emissions reported to the Convention on the Long-Range Transboundary Air Pollution "CLRTAP" and European Environment Agency(2013), National emissions reported to the UNFCCC and to the EU Greenhouse Gas Monitoring Mechanism.

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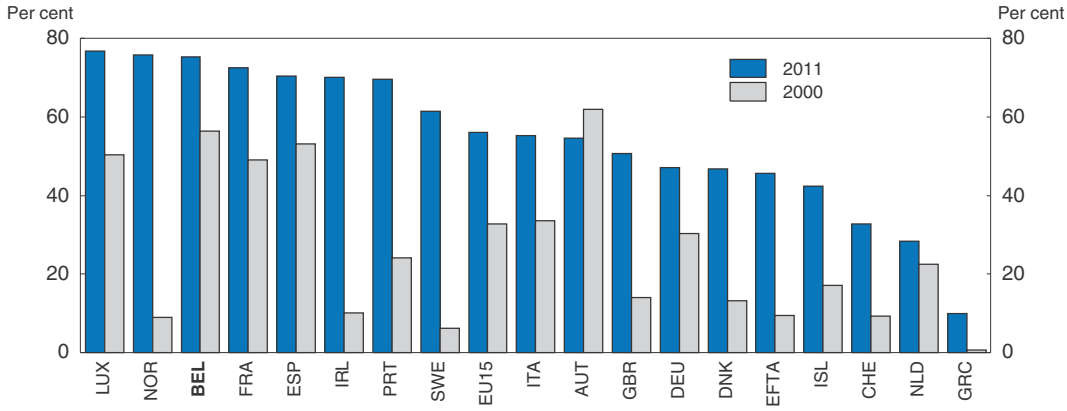
Figure 2.11. **Share of diesel in new passenger car registrations**

As a percentage



Source: ACEA, Diesel penetration by country, *www.acea.be/images/uploads/files/20101003_Diesel_1008.pdf*.

StatLink http://dx.doi.org/10.1787/888932804795

subsidies for more fuel-efficient cars (despite that the greater fuel efficiency of diesel cars is internalised by the owner).[3] Diesel cars are more fuel efficient than gasoline cars, but are more damaging to health and raise less tax revenues per kilometre. Disregarding behavioural effects, taxing diesel on the same rate as gasoline in energy terms could raise up to ½ per cent of GDP in additional tax revenues (OECD, 2012c).

Comparing the full social costs of the same car model (VW Golf -77 kW) equipped with a diesel or with a gasoline engine (in Flanders, as the car registration tax is a regional competence) illustrates that (for the consumer) diesel cars are still tax-favoured. Favouring diesel is a costly way to reduce carbon emissions (Table 2.5). On an annual basis, the tax loss (for the government) on a diesel car is EUR 101, but the total social costs are twice as large, when taking that the tax loss must be covered by increases in other taxes and of the larger pollution of diesel cars. The associated reduction in CO_2 emissions amounts to

Table 2.5. **Implicit cost per tonne of CO_2 emission reduction (euro/tonne) when a gasoline car is substituted by a diesel car**

Difference (EUR/year) with gasoline version for mileage of 15 000 km/year (gasoline-diesel)	Resource cost before taxes (fuel, car, maintenance)	Taxes + additional cost of public funds (50%)	Total air pollution costs	Cost per tonne CO_2 saved (diesel saves 0.225 tonne CO_2 per year)
	EUR 141	– EUR 101 and – EUR 51	+EUR 9	EUR 893[1]

1. Other assumptions for the computation are: car is used 9 years, rate of interest 4%.
Source: Adapted from Mayeres and Proost (2012).

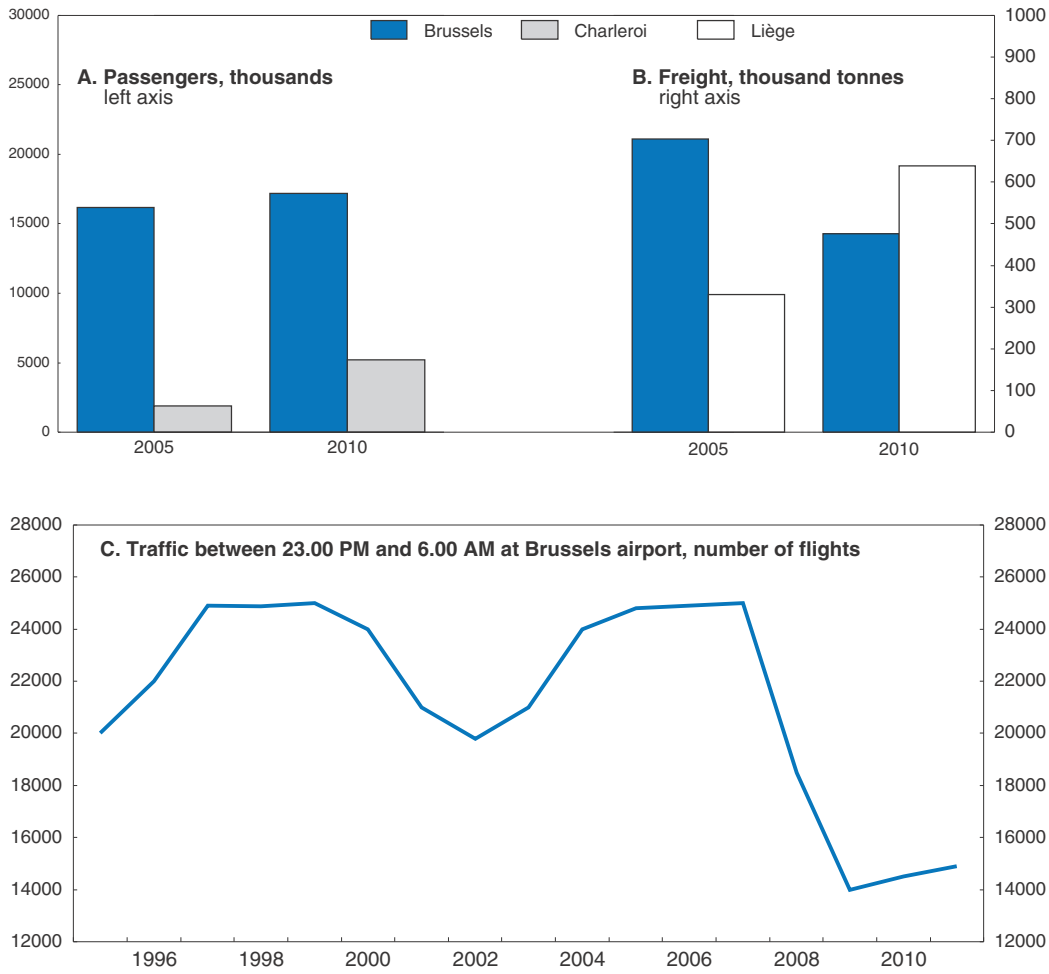
How to read this note: Before taxes, the diesel version is EUR 141 more expensive on an annual basis. After accounting for EUR 101 less taxes on diesel than on gasoline fuel, the price difference is reduced to EUR 40/year after taxes. The cost in terms of higher labour taxes to finance the loss in diesel taxation adds another EUR 51 (assuming a marginal cost of public funds of 1.5, leading to an additional efficiency cost of 50% times EUR 101). In addition, there are non-CHG pollution costs of EUR 9. Total annual social costs thus add up to EUR 201.

0.225 tonne per year, implying abatement costs of EUR 893 per tonne of CO_2 as compared with a cost of EUR 10-20 per tonne of CO_2 in the European emission trading system. Additional steps to secure tax neutral treatment of cars include increasing the registration tax for diesel cars as well as revising the tax regime for company cars.

Hybrid and electric cars were also promoted with a 30% subsidy (up to EUR 9 000 per vehicle) until early 2012, when the subsidy was discontinued, while electric cars continue to pay no fuel excise tax. In addition, the Walloon region maintains its bonus/malus system for purchasing cars based on CO_2 emission with a maximum value of +/– EUR 2 500. The problem with the subsidy was that despite the fact that an electric car saves some 2 tonnes of CO_2 emissions per year, the high subsidy mades it a very expensive way to reduce pollution and much less cost effective than new cars with modern small gasoline engines (Proost and van Dender, 2011). In addition, electric cars remain very expensive even after the subsidies, implying that only high-income earners can afford them. In the long term, hybrid cars and electric cars may become much cheaper as technologies improve.

On the positive side, negative externalities from air transport have declined. The airports consist of the national airport Zaventem (Brussels) and the smaller regional airports in Charleroi, Liege, Ostend and Antwerp. The major trend in air traffic has been away from Brussels and to regional airports. Charleroi has seen strong growth in passenger traffic on the back of the success of the low-budget carrier Ryanair (Figure 2.12).[4] In addition, Liege has gained airfreight as the airport has fewer restrictions on night flight than Brussels. The expansion of activities in regional airports has relocated a significant amount of negative externalities (noise of airplanes, congestion on access roads) away from very densely populated Brussels to less densely populated areas. In addition, customers have benefited from an extra range of services (lower prices and new destinations) and better terms for express freight (particularly dependent on night flights). Overall, developments in the sector have enhanced consumer welfare and increased competitive pressures on airport.

Figure 2.12. **Traffic in Belgian airports**



Source: NBB (2011), Economic importance of air transport and airport activities in Belgium Report 2009, *Working document* No. 218.

StatLink http://dx.doi.org/10.1787/888932804814

Reducing road congestion should be a priority

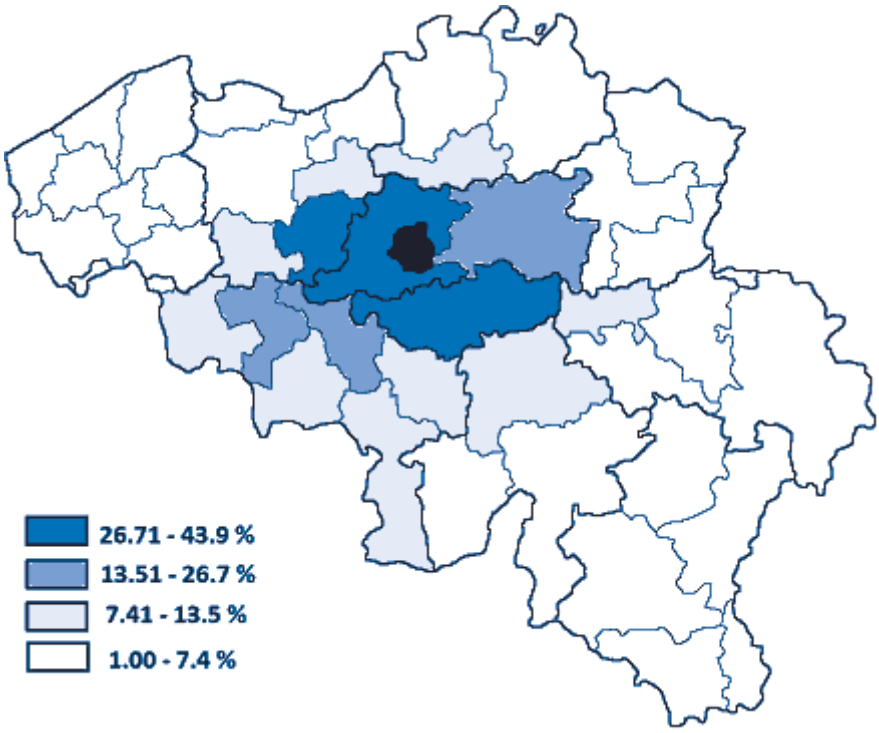
A long-term vision for the whole country to combat congestion is crucial for good infrastructure planning, which should address current issues as well as those arising from the on-going concentration of economic activity and future changes in commuting patterns. For example, faster population ageing in Flanders may induce increased South-North commuting to mitigate labour shortages in the North or relocation of economic activity. Moreover, co-ordination between policy responsibilities does not always suffice to secure policy initiatives, with for example little progress introducing a road pricing system on the ring road around Brussels (that is located at the border of the three regions). Thus, an integrated long-term infrastructure plan supported by regions and the federal government covering all types of transport will be needed to ensure efficient development and growth.

Reducing local bottlenecks through more investment would be of limited help

One solution to congestion could be to extend further (the already dense) road and rail infrastructures. However, such investments have to be concentrated in heavily populated urban areas, making them relatively costly and disruptive to build. Moreover, additional capacity may not alleviate congestion for long as the initial reduction in congestion will attract new traffic, eventually leading to a situation where congestion remains unchanged, but pollution has increased. Furthermore, a general extension of the road network would lead to a decline in the average use of infrastructure, as the main problems are bottlenecks – notably in the ring roads around Antwerp and Brussels, and for trains going through Brussels. A more general problem in this area is that the regional planning of road, local public transports, and inland waterways is done independently as well as of planning of railways (a federal responsibility).

A better approach to alleviate pressure on the transport system would be to target investments in bottlenecks and alternative transport modes. While the average use of the road network is relatively low, transport tends to be concentrated around Brussels and Antwerp. The concentration of traffic in Brussels reflects that the dominating commuting patterns are from Wallonia and Flanders to Brussels, involving 132 000 commuters from Wallonia and 239 000 from Flanders per day (Figure 2.13). An important share of the commuters to Brussels uses (peak hour) trains, which also have to carry a considerable amount of students. The lack of traffic elsewhere reflects the limited commuting between Wallonia and Flanders – about 50 000 from Wallonia to Flanders per day (nearly the same as the number of foreign commuters) and about half that level in the other direction (Zimmer, 2012). The geographical concentration of traffic in Antwerp includes commuting

Figure 2.13. **Share of the workforce commuting to Brussels region in 2007**



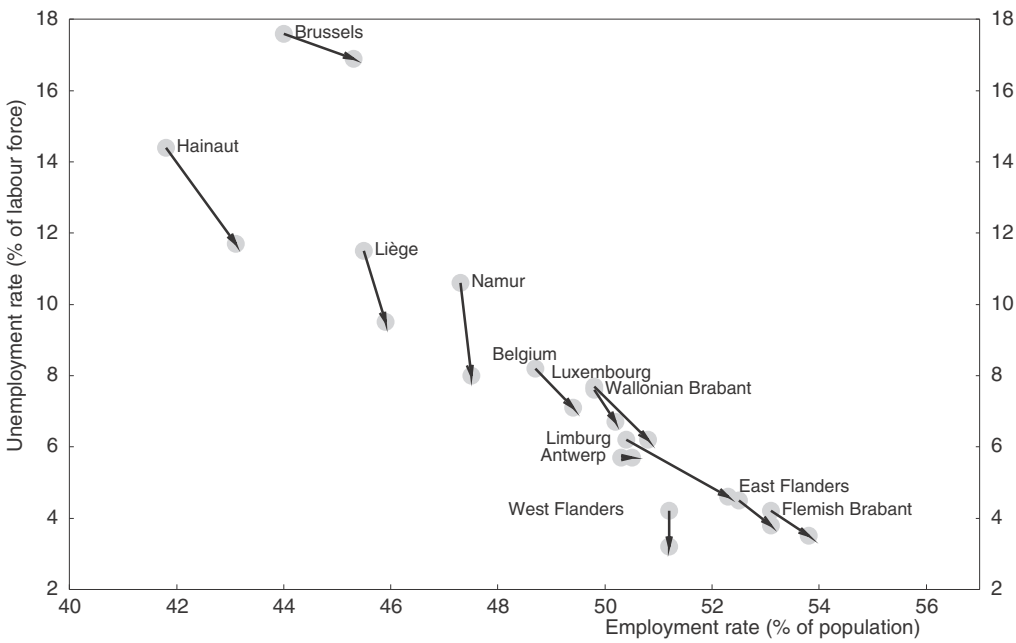
Source: Thisse and Thomas (2010).

and international goods transport, including transit traffic originating from ports in the Netherlands.

The limited commuting between Flanders and Wallonia is surprising, given the fact that Belgium has one of the largest geographical dispersions of unemployment and employment in the EU (Figure 2.14) and that both regions have persistently high vacancy rates. It is particularly surprising given that commuting is supported by substantial commuting subsidies and a rigid housing market that discourages residential mobility (Box 2.2). In addition, language barriers may reduce relocation incentives.

Figure 2.14. **Employment and unemployment rates have large geographical variation**

Changes between 2006 and 2011



Source: Eurostat (2012), *Eurostat Database*, November.

StatLink *Note:* To download the data corresponding to this graph, refer to *Figure 11*.

Box 2.2. **A rigid housing market generates additional commuting**

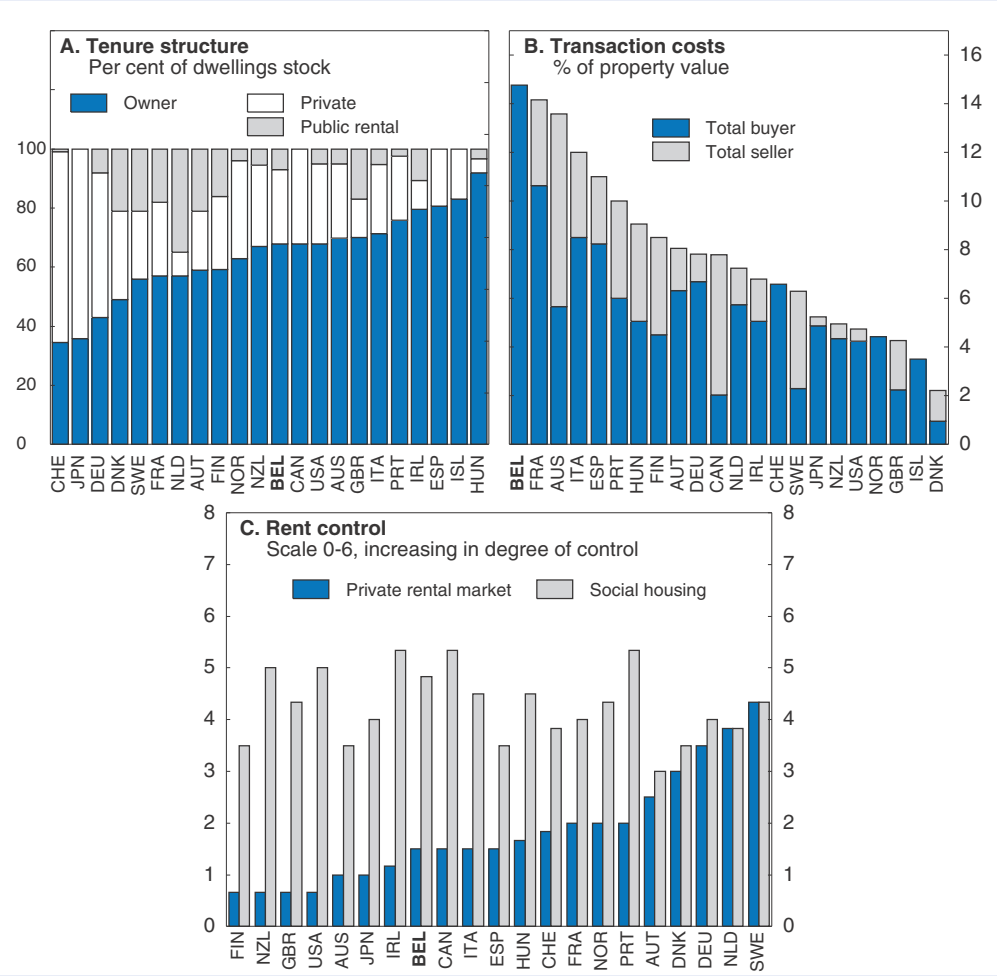
Housing mobility, measured by the share of households that has changed residence within the last two years, is relatively low and almost half that of the Nordic countries. At the same time, the housing stock is small compared with other European countries (Andrews et al., 2011). Moreover, the stock is also relatively old, reflecting the slowest rate of expansion since 1980, despite the fact that Belgium has had one of the largest and most sustained increases in real house prices over the past three decades (Caldera Sánchez and Johansson, 2011). Thus, one factor behind the low housing mobility is that new supply is contributing less than in other countries.

Box 2.2. **A rigid housing market generates additional commuting** *(cont.)*

The tenure structure is dominated by owner-occupied housing, like in many other OECD countries (Figure 2.15, Panel A). Mobility in this segment is reduced by the highest transaction costs in the OECD – in contrast with the relatively lenient tax treatment of real wealth (Figure 2.15, Panel B). The small social housing segment is subject to strict rent regulation in contrast with the larger private rental sector, which has fewer restrictions on rent setting and increases than in most other European countries (Figure 2.15, Panel C). Indeed, tenants in the more flexible private rental sector have a higher probability of changing residence than tenants in owner-occupied housing and social housing.

Figure 2.15. **Housing market**

2009



Source: OECD (2011), D. Andrews, A. Caldera Sánchez and A. Johansson, "Housing markets and structural policies in OECD countries", *OECD Economics Department Working Paper* No. 836.

StatLink http://dx.doi.org/10.1787/888932804852

Effective planning and project selection is complicated by the fact that regions (responsible for road transport and local public transport) infrequently perform standardised cost-benefit analysis to select new projects for road infrastructures or local

transport solution.[5] For example, in Antwerp, there is a proposal to build a second toll tunnel or bridge over the river Scheldt, in addition to the existing non-toll Kennedy tunnel, and to complete the ring road around Antwerp. However, it is unlikely that the benefits of the tunnel outweigh the costs. The estimated costs of the project have doubled over the past five years (to reach EUR 3 billion). Moreover, the existing Kennedy tunnel remains non-tolled, which makes it doubtful whether the new toll tunnel would attract sufficient traffic to solve congestion. Such a development would repeat the experience with the more remote toll Liefkenshoek tunnel from 1991 (van der Loo and Proost, 2010). Another example is the case of Brussels, where the Flemish Region plans to increase the capacity of the ring road, mainly the most congested Northern and Eastern segments. However, this project may only relocate congestion to other parts of the connecting motorway network as private cost of using these motorways generates additional traffic that may end up lowering average speed despite the additional infrastructure – the so-called Braess-paradox (Braess et al., 2005). Assessing the full environmental, social and economic costs and benefits of infrastructure projects requires standard use of cost-benefit analysis and often an integrated land-use (for example to take into account auto-based urban sprawl) and transport infrastructure planning (Ang and Marchal, forthcoming).

More generally, there is a problem of project selection as the regions have elaborate and lengthy procedures for Environmental Project Assessments. However, none of the regions uses a well-documented and standardised cost-benefit analysis procedure for road project selection and ranking, which internationally has been shown to be useful for avoiding inferior projects and to improve selected projects (Annema et al., 2007).

A more efficient approach to targeted investments would be evaluate alternative transport infrastructure projects for their environmental, social and economic costs and benefits, using systematic cost-benefit analysis with common parameters and that is sufficiently broad to include all relevant socio economic aspects (such as public service obligations). An independent institute could be in charge of securing uniform cost-benefit analyses, by building up in-house expertise and evaluating third-party analyses, as in the Netherlands.

Alternatively, public sector activities could be relocated away from Brussels and Antwerp. However, such a decision would have to balance the positive effects of agglomeration and returns to scale in public transport against the cost of congestion, which is difficult in the absence of correct pricing of all externalities of transport. A perhaps more viable solution could be increased reliance on teleworking, although prices and capacity of high-speed networks are far from the best performers in Europe, making this solution relatively costly (Box 2.3).

Box 2.3. **A more competitive telecom market could stimulate teleworking**

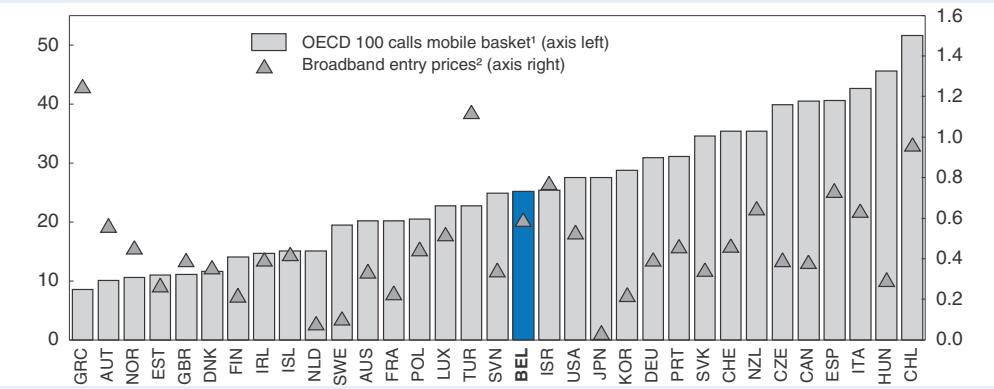
Teleworking, as an alternative to commuting, can mitigate the pressure on transport infrastructures. Teleworking is relatively popular in Belgium, as 13% of people report teleworking at least a quarter of the time, almost twice the EU average (European Foundation for the Improvement of Living and Working Conditions, 2010). Nevertheless, there may be scope for further development as teleworking remains focused on high-educated males working in the information and communication technologies (ICT) sector (Taskin and Vendramin, 2004).

Box 2.3. **A more competitive telecom market could stimulate teleworking** *(cont.)*

A competitive telecom market can contribute to the development of teleworking by lowering prices and increasing service quality. In this area, there is room to improve Belgian performance, which is about average. The price of mobile telephone and internet provision is around or slightly above OECD average and significantly higher than in best performing countries (Figure 2.16) (OECD, 2011). The average Internet-connection speed is relatively good in a European perspective, although the very low penetration of (high-capacity) optic fibre points to a risk of falling behind relatively to other countries in the medium-term.

Figure 2.16. **Telecommunication prices in the OECD**

USD PPP



1. Per month in August 2012, including VAT.
2. Broadband prices per megabit per second of advertised speed with line charge, in September 2012.

Source: OECD (2013), *OECD Communications Outlook*, forthcoming.

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The average performance reflects a telecom market that is not very innovative as competition is not very fierce (European Commission, 2012). The internet provision market is dominated by two large operators, controlling more than 90% of the market. New entries may be hindered by the low number of unbundled local telephone lines (only 3% of all lines in 2009), suggesting room for more effective unbundling procedures. A consequence of the relatively low competitive pressure is that packages with a cap on traffic (e.g. 100 gigabytes per month) are still relatively widespread, unlike the unlimited capacity generally offered in more competitive markets. The unlimited offer reflects that wholesale traffic prices have fallen to very low levels.

In the mobile telecom market, several recent developments have enhanced the (relatively low) competitive pressures, contributing to a further 5% fall in mobile prices since mid-2012. A fourth operator (Telenet) has bought a 3G license in 2011 to enter the market, although it still has to develop its own network and currently only operates as a virtual operator (MVNO). In addition, 4G licenses have been auctioned in 2012 to four companies, including the three existing 3G operators and a fourth foreign-owned company, although very strict environmental regulation currently hampers the deployment of the 4G network in Brussels. Also positive for competition is a new law passed in 2012 that allows consumers to change operator at no cost after six months, which should increase the relatively low mobility between operators. Finally, the call termination charges, which used to be high in a European perspective, have been reduced around 40% in 2011, although they remain higher than in low charge countries, such as France, Israel and Sweden. High termination rates penalise the use of telephony, fixed lines and smaller operators as well as new service development (OECD, 2012a; IBPT, 2011).

Measures to combat congestion have been insufficient

Apart from expanding infrastructure, the main policies to combat congestion have focussed on encouraging passengers to use trains via subsidies. This strategy is costly (for example train subsidies amount to 0.6% of GDP per year) and has reached its physical limits as infrastructures are saturated at peak hours around the main traffic hubs. An additional policy to counter congestion has been the implementation of technical measures to better organise traffic flows through improved signalling, monitoring, variable speed limits, and others typically easy-to-implement small investments in ICT. In the short-term there seems to be limited scope for further improvements in this area. The introduction of stronger price signals could secure a better use of infrastructures, although such reform has to be carefully calibrated to avoid unintended shifts to other transport modes.

Other measures include the regional governments providing special carpooling parking along the motorways and asking larger companies to implement a company-commuting plan (as already in place for larger companies in Brussels). In addition, traffic-calming measures, such as increasing parking fees and reducing the capacity of access roads by reserving part of the lanes for dedicated bus and tramlines, are put in place, which can reduce traffic volumes, but also tend to displace congestion (Proost and van Dender, 2001).

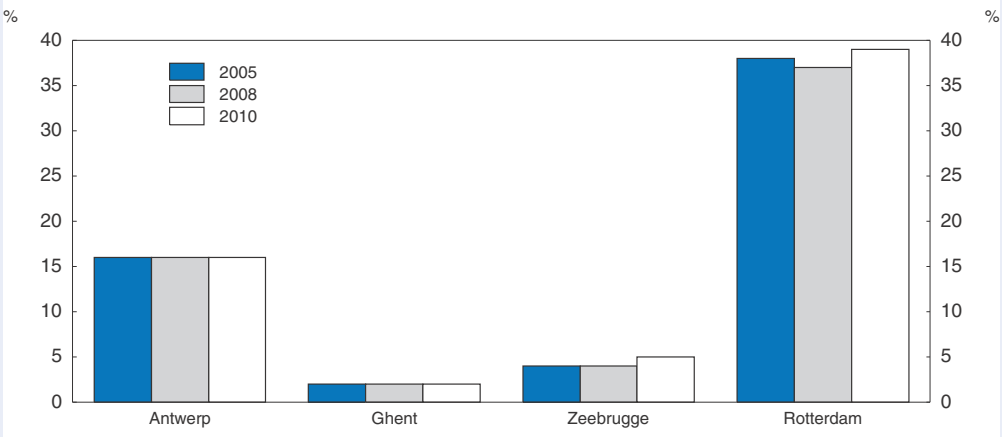
Another strategy has consisted of investing in inland waterways and promoting the handling of goods through this mode to ease road congestion. This is in particular a key issue to better connect ports with the rest of the infrastructure network (Box 2.4). The ports have in general good road, rail and inland waterway connections (the notable exemption is Zeebrugge's lack of inland waterway connections) and together generate 5% of the direct value added in Belgium (NBB, 2012). Initially, a substantial share of freight arriving in ports (more than half of the largest port) is handled by inland waterways to bring the freight to inland waterway ports for being reloaded to trucks. The use of inland waterways has been strongly promoted (up to 80% of the quay infrastructure of firms located along the inland waterways is subsidised) as a way to decrease congestion on the motorways as a large barge (1 500 tonnes) can transport the equivalent of 60 to 70 trucks.

Box 2.4. **Port activity in Belgium and their connection to the infrastructure network**

Antwerp, and to a lesser extent, Zeebrugge, Ghent and Ostend, are important seaports competing with other ports in the northern Europe Le Havre – Hamburg range. Antwerp is specialised in containers and general cargo, Ghent in dry bulk traffic and Zeebrugge in liquefied national gas (LNG), containers and roll-on-roll-off traffic. Ports are a regional competency, which extends to inland port and waterways activities. Internationally, Antwerp is the second largest port in the Le Havre-Hamburg range after Rotterdam (Figure 2.17). The ports in the range compete for the same international loads (mainly from Asia), which in a situation with ample port capacity means margins of port operations will remain thin for the foreseeable future, implying little need for significant capacity extensions.

Box 2.4. **Port activity in Belgium and their connection to the infrastructure network** *(cont.)*

Figure 2.17. **Belgian ports market share in the Hamburg-Le Havre range**



Source: Calculations based on NBB (2012), Economic importance of Belgian ports WP 225, July.

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Over the last 10 years, there have been important investments in the port capacities. Antwerp has deepened the river Scheldt and doubled container capacity handling through the new Deurganck dock. Gent and Zeebrugge have also received additional capacity investments. To avoid (national) overinvestment in port capacity, all port projects have to pass a cost-benefit test. There is a clear division of roles in the funding of the different types of port investments (EP, 2011). The regions are responsible for investments in sea access (deepening and dredging of rivers). Port authorities are responsible for investment and operation costs for terminal related infrastructure (docks and quays) and private operators are responsible for investment and operation of the superstructures (handling of goods by cranes, etc.).

The division of roles is in line with European state-aid regulations (EP, 2011). However, this division of responsibilities does not fully take into account the effects on the road network of increased port activity. The planned truck road pricing system will charge the external costs to trucks, but the lack of differentiation between peak and off-peak periods means that trucks will not change their scheduling and thus continue to contribute to peak problems. As a result, strategies to boost port activity via additional public investment may be self-defeating because of increased congestion. In contrast, strategies that are focused on securing higher margins, by for example differentiate port dues to attract the type of traffic where Belgian ports have a handling advantage, would have a smaller impact on traffic (De Borger et al., 2008).

However, freight transport on inland waterways is economically only viable for certain categories of goods (typically long-distance transport of low value bulk goods). Partly for this reason, a considerable amount of the inland waterway freight is reloaded relatively close to the ports. Thus, the strategy is not cost-efficient in terms of motorway congestion relief. A more promising strategy is to introduce time and spatial differentiated congestion charges for trucks and cars, which in turn would reduce the need for subsidies to inland waterways.

Congestion problems are best addressed via price signals

The large amount of commuting subsidies has effectively removed most of the price signals that otherwise would encourage commuters to adapt their commuting and residential patterns. Indeed, heavily subsidised public transport and low taxation of road transport mean that transport costs are well below the cost of associated negative externalities. External costs or benefits of transport can be a motive for taxes and subsidies, but in an economy with already high labour taxes the cost of public funds needs to be taken into consideration to get a global assessment of the value of different taxes and subsidies. Subsidies for transport modes are politically easy to implement, but may be costly for the economy, as the total cost includes the direct cost of the subsidy as well as the cost of raising the additional tax revenue in a high labour tax environment, adding to labour market distortions (Box 2.5) (Kleven and Kreiner, 2006).

Box 2.5. **The full cost of public funds in transport decisions**

The full cost of public funds is the cost to the economy of raising an additional Euro of tax revenue. The concept can be used to determine the least costly way of raising public revenues. In addition, the full cost of public funds is also determining the level of benefit that is required for the associated public spending decision to be efficient.

For example, the marginal cost of raising public funds (MCPF) via higher labour taxes comprises the direct cost to tax payers of raising additional labour tax revenue and the indirect cost of lost tax revenues in terms of the efficiency loss arising from lower hours worked and participation. In high labour tax countries, such as Belgium, MCPF is typically equal to or higher than 1.5, where the part above 1 represents the efficiency loss (Kleven and Kreiner, 2006). When it comes to a negative tax like transport subsidies, then the evaluation has to consider the impact of commuting on the labour supply and distributional effects.

The net economic benefit of different transport taxes and subsidies to finance different investments or spending measures vary greatly.

Levying a tax on commuting (i.e. reducing subsidies on commuting) to finance a given spending measure will generate benefits in terms of reduced congestion (and environmental externalities) as well as a possible improvement in the geographical allocation of the labour force in addition to the benefits arising from the measure. However, as a commuting tax has a negative impact on the labour supply, the benefits must be rather large to achieve a positive net benefit from such a tax. This result holds even if the project is a new road, although the cost of the environmental externalities may increase. If the commuting tax is used to reduce labour taxes, then the negative impact on the labour force is countered and it is much easier to achieve a positive net benefit. In contrast, the current policy of providing subsidies to commuting or other transport motives financed by higher labour taxes only lead to additional congestion and worse geographical allocation of the labour supply (Parry and Bento, 2002; van Dender, 2003; and Calthrop et al., 2009).

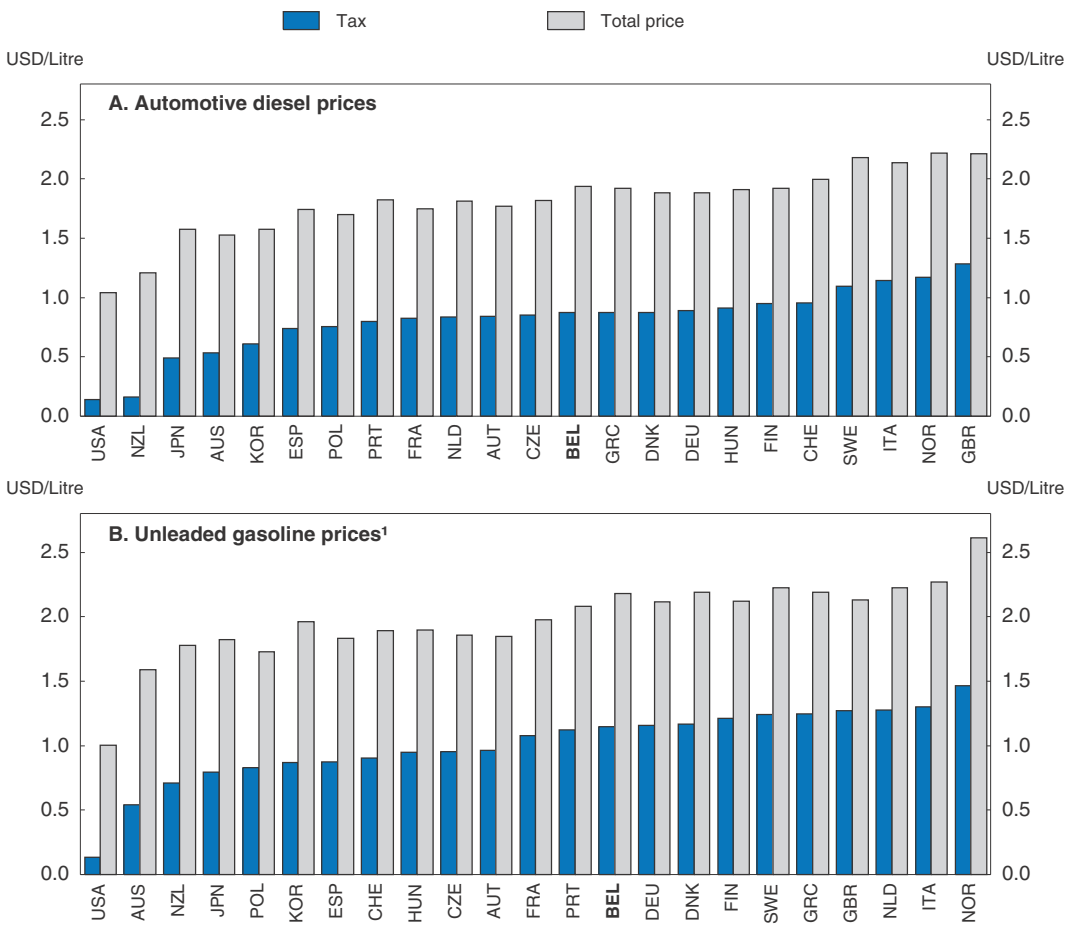
Moreover, transport subsidies are often poorly targeted, supporting peak as well as off-peak transport. Furthermore, subsidies that initially reduce congestion tend to induce new demand as new road users are attracted by smoother traffic flows – some studies for the United States even found no long-term effects on road congestion (Duranton and Turner,

2011). Thus, as a first step to introduce price signals, there should be a substantial reduction in subsidies and they should be concentrated on low-income workers who would otherwise withdraw from the labour market.

The main economic instruments for pricing road use are excise taxes on fuels and the different types of vehicle taxes. Transport fuel prices are somewhat above those in neighbouring countries, reflecting high pre-tax prices and relatively high taxation. The scope for increasing fuel taxes more is probably limited without losing revenues via cross-border trading (Figure 2.18). On the other hand, diesel taxation should take into account all negative environmental effects, including particles and other non-CO_2 emissions. Even though the price gap between diesel and gasoline has narrowed over the past years, helping to reduce the share of diesel cars in new car registrations, remaining diesel tax advantages should be phased-out to make diesel relatively more expensive than gasoline. In addition, Belgian vehicle taxation is much lower than some other EU countries, such as Denmark, Ireland, and the Netherlands (De Tijd, 2012). The effects of the tax treatment of transport fuels are countered by the subsidisation of car usage. This includes the tax

Figure 2.18. **Transport fuel prices**

Q3 2012



1. Regular unleaded for Australia, Canada, Japan, Korea, Mexico, New Zealand and the United States, premium unleaded 95 for all other countries.

Source: IEA (2012), *Energy Prices and Taxes, Quarterly Statistics, fourth quarter 2012.*

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deductibility of commuting trips and the tax treatment of company cars as a low taxed (distance independent) fringe benefit for employees (a recent reform leaves annual taxation for a high-end executive business car close to EUR 2 000) which yields the third largest tax subsidies to company cars in the OECD. In addition, the low taxation of company cars relative to wage income leads to foregone tax revenues of ½ per cent of GDP (OECD, 2012b).

Removing the distorting effects of car usage subsidies, by taxing company cars as other wage incomes and limiting the tax value of deducting commuting expenses, could bring some congestion relief by boosting incentives to find employment closer to home and reconsider housing decisions. Negative effects on the labour supply could be offset by reducing labour taxation. For example, abolishing the tax advantages of company cars and the associated free parking and using the revenue gains to reduce labour taxes would generate welfare benefits in form of lower congestion and a larger effective labour supply (De Borger and Wuyts, 2011).[6]

For trucks, the current system of vignettes (an annual road toll) will be replaced by a kilometre-based road pricing schemes, as in Germany, with a levy differentiation according to the size and the environmental characteristics of the trucks. In addition, the levies will be calibrated (as required by EU regulation) so that revenues match the trucks' infrastructure costs. The truck road-pricing scheme can be seen as a first step to make foreign trucks (two-thirds of all truck traffic) pay for their usage of infrastructure. In terms of congestion, however, the effects will be small due to the lack of spatial and time differentiation. A vignette system for cars is under consideration, but has the same spatial and time shortcomings as the truck road-pricing scheme.

Direct economic measures to address congestion aim at increasing the cost of using the roads during periods of congestion. The success of such measures depends on their ability to price congestion accurately, requiring real-time pricing of congestion. In practice, this means the application of "fine" tolling, where prices vary within the peak period in order to affect departure times and is more effective at reducing traffic during peak periods than is flat tolling, as transport demand is spread over the day and shifted towards sustainable types of transport, boosting the efficient use of road capacity. In addition, fine tolling produces a larger number of beneficiaries, as fine tolling spreads out the peak time period and allocates available road capacity to those users that value it most, leading to larger revenue. Within a simple bottleneck model with a demand elasticity of 0.2, fine tolling yields 4 to 8 times larger efficiency than flat tolls (Arnott et al., 1993). Similarly, using a similar model for the Scheldt crossing in Antwerp shows that fine tolling yields 5 times more efficiency gains than a flat toll (De Borger and Proost, 2009).

A relatively simple approach would be to install systems (with fine tolling) that can address the key congestion areas around Brussels and Antwerp and with the option of subsequently expanding the system to cover the whole country. Internationally, different road pricing schemes to ease local congestion have been implemented, providing important insights into the practical implementation of such schemes (Box 2.6).

A striking experience of road pricing schemes is that in many cases surveys show an ex ante majority against road pricing, but *ex post* a majority in favour emerges (Transport for London, 2004; Winslott-Hiselius et al., 2009). The main reason is that while on average such schemes makes road usage more expensive for car drivers, the schemes also save many car drivers time because of the reduction in congestion. In addition, a number of car

Box 2.6. **Road pricing in practice**

In Belgium, road pricing would be an obvious choice to address traffic problems in Brussels and Antwerp. Internationally, congestion problems in larger cities have been addressed through the introductions of road pricing schemes in several European cities, including London, Milan and Stockholm (Table 2.6).

London and Milan use "zonal" systems (but price differentiation only between day and night) which means that everybody using a car or a truck inside the zone pays the toll. A zonal system is superior to a cordon toll in that all vehicle activity within the zone (and not just entering it) is charged. However, it tends to be relatively costly because the system requires monitoring and identification of all traffic within the zone, using camera recognition technology. Stockholm uses a cordon toll with fine tuned time zones, where all cars entering the zone from outside pay a toll (implying that residents using their car within the zone do not pay the toll). A comparison of the systems shows that London was the most expensive to implement and has a large annual cost, while Stockholm generated the largest net benefits due to relatively cheap implementation and more refined time differentiation.

Table 2.6. **Urban road pricing in Europe**

City (extend of tolled zone)	London zonal toll (22 km^2)	Stockholm cordon toll (30 km^2)	Milan cordon Ecopass (8 km^2)
Congestion			
Traffic volume	-34% cars, +22% taxi, -12% all vehicles	-22% passing through cordon; -16% within cordon	-12.3% within zone; -3.6% around the zone
Travel times	-30% congestion (2005)	Congestion minus ⅓ to ½ on arterials; smaller decrease within cordon	
Accidents	-2 to -5% accidents with victims	-5 to -9% victims -3.6% accidents	-20.6%
Emissions PM10	-12%	-13%	-19%
Public Transport trips	+30% in zone	+4.5% on cordon roads	+7.3%
Benefits and costs[1]			
Gross benefits	345	102	30
Total annual costs	245	31	15
Net benefits	100	71	16
Implementation costs	256	206	7

1. Million euro (respectively of 2005, 2006 and 2008).

Source: Anas, A. and R. Lindsey (2011), "Reducing urban road transportation externalities: Road pricing in theory and in practice".

The technology of tolling is advancing fast. The toll systems of London, Stockholm and Milan use gantries with cameras for number plate recognition combined with transponder systems (electronic tags on windshield). GPS type technologies allow on-board units to track vehicle movements to assess payments for using tolled roads, like the German system for trucks. The on-board units are still relatively expensive, which can be justified for trucks, but less easily for cars. The advantage of GPS technology is that it can be used for real-time pricing of all roads and made compatible with systems in other countries, addressing the current lack of harmonisation of the tolling systems across countries. A downside of the technology is the substantial privacy issues, as every car is tracked continuously.

Experience shows that for such systems to relieve congestion efficiently, three conditions need to be satisfied: the systems have to cover all vehicles, they need to have time differentiated tolls; and they should cover secondary roads to avoid tolls on primary roads moving traffic to secondary roads.

Another solution that is popular in North America is the use of "Pay" lanes or High Occupancy lanes, where one or two lanes of the motorway are reserved for cars paying the toll or for cars with more than two occupants. Such systems generate relatively small efficiency gains compared with pricing schemes (Small, K. and E. Verhoef, 2007).

drivers switches transport modes or alters departure times to avoid the cost increase. Thus, prior the implementation of road pricing, most car drivers are uncertain about their possibilities to change transport habits and therefore use average loss estimate for all drivers. The implication is that even drivers that will benefit to a limited degree from road pricing will be against such a scheme, preventing the formation of a majority in favour (De Borger and Proost, 2011). The experiences in London, Milano, and Stockholm have shown that good communication, documentation and strong political leadership are essential for making road pricing happen.

Rail transport has been growing in importance

Belgium has a very dense rail network. In 2005, the incumbent railway company was reorganised in connection with market liberalisation into three national companies: an infrastructure manager, an operator and an overarching holding company. European rail regulation stipulates separation between the operator and the infrastructure manager, but Belgium decided on a more complex structure to secure shared services, such as IT, corporate finance, and human resource management – the latter also preserved the same salary conditions for all rail employees. The organisational structure is to be revised with the planned abolition of the holding company, leading to a system with an infrastructure manager and a service operator that are independent of each other. The new structure is an important step towards removing explicit and implicit subsidies to the (freight) operator as well as assuring non-discriminatory access to the infrastructure for other service providers – necessary framework conditions for introducing more competition in the sector. A long-term contract governs the activities and the subsidies of the national rail companies, including a specification of different government subsidies and the qualitative and qualitative targets for the railway company (including public service obligations). The previous contract covered 2008-12 and a new contract covering post-2012 still has to be concluded.

The increase in passenger train services has happened on the background of a marked increase in productivity, reflecting more than a doubling of passenger kilometres and a halving of the work force over the past 30 years. This positive development could enter more actively in the railway company's long-term contract, by partly basing performance objectives on international benchmarking. In addition, assessments of the role of liberalisation, privatisation and outsourcing for outcomes could be used to determine performance objectives in the contract. Moreover, the performance contract has to address the problem of increasing congestion on the commuting networks to Brussels as well as how to reduce the high subsidy burden. In addition, the government has to address the issue of how to introduce the competition in domestic passenger train transport (currently a monopoly) following the adaptation of the 4th railway package. In this respect, the performance contract should be designed such that it does not hamper the introduction of competition in domestic passenger train transport. In particular, the contract should be suitable for competitive tendering.

Train congestion

The low cost of commuting combined with a good and reliable quality of services have been major factors behind the strong growth in passengers over the past 10 years. The success has also led to growing congestion on the peak hour trains to Brussels – a problem that is aggravated by the physical bottleneck in the main train tunnel, connecting the

northern and southern parts of the railway system. The bottleneck problem has been addressed by increasing the capacity per train (double deck trains, longer trains and longer platforms) and relocating some trains to (new) lines (part of the new Regional Rail Express Network, which will also mitigate congestion when fully completed) west and east of the North-South tunnel. No capacity additions to the North-South tunnel are foreseen in the 2013-18 investment plan, although the alternative of bypassing the tunnel is being discussed (Box 2.7).

Box 2.7. **Pricing and investment in public transport**

The right choice of public transport supply and the correct pricing is becoming more important in times of increasing congestion and increasing scarcity of public funds.

The economies of scale in public transport are such that on transport corridors with less than 1 million users per year the more cost efficient solution is buses, while for higher density of users, the preferred solution is rail (metro, railways, and light rail lines, such as trams). The two solutions carry vastly different investment costs with light rail solution being 10 to 30 times more expensive to build than dedicated bus lanes (Grimaldi et al., 2010 and Tirachini et al., 2010). In addition, maintenance costs for rail solution are much higher and such investments seldom have alternative use. Because of these factors, the ex-ante assessment of rail investments is crucial, despite a bias towards overly optimistic assumptions when such project assessment is carried out (van Wee, 2007).

Determining the capacity of such railway projects, however, is linked tightly to pricing, particularly as the presence of economies of scale implies that marginal cost pricing would only cover part of the average costs. The capacity of such projects is normally based on peak demand. However, as peak prices are largely determined by capacity costs, prices for peak usage should be higher than the average costs. At the same time, off-peak prices can be lower as they only have to cover the marginal operating costs. Furthermore, other considerations may affect the optimal tariffs for public transport. When lower rail fares in areas with high road congestion attract 50% or more car users, low fares can be justified because they provide relief for road congestion – although targeting may be poor as low fares also attract non-commuters. On the other hand, such low fares may be difficult to justify when there is a high cost of public funds (i.e. in the presence of high labour taxes) (Parry and Small, 2009, Proost and van Dender, 2008).

Using fares to address problems of train congestion requires that fares are differentiated over time and geography to reflect that train congestion mostly appears at peak hours around the larger cities. Differentiation between peak and off peak fares already exists in many countries: in the UK, peak prices can be 4 times as high as off peak prices, while smaller differentiation can be found in the Thalys and Eurostar (international) lines, in France, the Netherlands and several other countries. Introducing such fares in Belgium would imply that the current uniform fare structure would be supplemented with a top-up fare during peak hours, where a differentiated top-up could reflect time and geographical concentration of congestion. Such a fare structure would give employers an incentive to adjust working time arrangements and give students incentives to influence lecture scheduling. Sufficient flexibility to adjust working hours and stimulate teleworking would help to maximise the benefits of such reforms.

Train subsidies hide the real cost of service provision

Time and geographical differentiation of fares may be difficult to accept as commuters are used to fares that are structured per kilometre. However, such fares do not reflect the real cost of supplying railway services. The short-term marginal cost of allowing an additional passenger is low when trains are empty, justifying a low fare, but trains with few passengers have high fixed costs, and are not environmentally friendly. These considerations have led the railway company to start closing stations and abolish trains with low passenger loads. In 2011, the railway operator wanted to abolish 302 trains, where revenues did not cover energy costs. Following discussions with the regions, the end-result was to stop 170 trains with an average of 17 passengers per train. In fact, including the variable cost of running a train (personal and rental costs of the train and tracks) and its environmental cost per passenger, would have justified considerably more train stoppages than originally proposed by the operator.

The problem is that services with few passengers are provided by the federally-owned national railway company and demanded by local governments on public service obligations (PSO) grounds. This conflict can be solved by using cost-benefit analysis to establish the cost of provision and the benefits of the PSO. Such analysis should also include investigation of using alternative provision of services, such as by (regionally organised) buses. Importantly, the provider should be compensated for the cost of providing PSOs. Alternatively, local governments could become responsible for the associated financing – a policy that has been adopted in other countries, such as France and Germany. In competitive railway markets, such public service obligations could be subject to public tendering.

Extensive local public transport is highly subsidised

Local public passenger transport is organised by the regions, which pursue different strategies in terms of pricing and supply with different outcomes. The Flemish company (De Lijn) serves densely populated areas (Antwerp, Ghent) with metros, trams and buses, while rest of the region is mostly served by buses. The strong growth in passengers reflects low fares and a "basic public transit right" that guarantees the supply of a public transport service at a given frequency for most inhabitants at a maximum distance of 500 or 750 metres (location dependent) from their home. This has contributed to low cost recovery of 14% in Flanders, which is much lower than in the Brussels Capital Region (55%), Wallonia (27%) or in regions in neighbouring countries (between 30% and 65%). The Walloon Company (TEC) offers services to the least densely populated region with buses and a small metro in Charleroi. The Brussels Company (STIB-MIVB) serves the most densely populated area with metro, light rail and bus services. Its relatively high cost recovery reflects high load factors and relatively high prices. A justification for low bus fares could be to attract car users, although that is difficult. In Hasselt, for example, buses were made free in 1996 and the number of passengers increased 10 fold, but only 16 % of them were former car users (Goeverden et al., 2006).

Local public transport services are largely financed by the regions, giving incentives for local political representatives to lobby strongly for a high quality service in their own locality, explaining the pressures for replacing bus services with light rail services (Glazer and Proost, 2010). The Flemish Region is planning more than 60 light rail projects, requiring a doubling of the investments in local public transport, and without all lines having the sufficient number of passengers to justify such investment on cost-efficiency grounds

(De Lijn, 2009). The provision of overly costly and inefficient local public transport services can be avoided by having those that request such services (local communities) paying for the additional quality of services. In addition, demand should be constrained through the introduction of larger user fees. The combination of these measures should rely on a standard cost-benefit analysis of all local public transportation projects, which should include cost assessments of the public service obligation element, as in the Netherlands and Sweden.

Box 2.8. **Policy recommendation to secure a more effective use of infrastructures**

- To secure a coherent development of infrastructure to meet future changes in demand, an integrated long-term infrastructure plan supported by regions and the federal government covering all types of transport should be developed.
- Cost efficient planning and project selection should be promoted by subjecting all new projects to cost-benefit analysis with common parameters. The analysis should be sufficiently broad to include all relevant aspects (such as public service obligations) and evaluate alternatives. An independent institute should be in charge of securing uniform cost-benefit analyses by building up in-house expertise and evaluating analyses produced by others.
- Reduce road congestion and improve poor inner city air quality by introducing a road pricing system with prices differentiated geographically and over time. Begin with congestion pricing in the largest cities before envisaging a national scheme.
- Employer paid subsidies to commuting should be taxed as other wage income. In particular, the favourable taxation of company cars should be abolished. Moreover, taxation of diesel cars and diesel transport fuel should be raised to reflect their negative externalities, particularly with respect to inner city air quality.
- Road pricing should be accompanied by the introduction of differentiated fares in public transport to reflect usage to secure that public transport can cope with an additional inflow of passenger. The careful calibration of differentiated road pricing and public transport fares is necessary to avoid unintended shifts to other transport modes. Sufficient flexibility to adjust working hours and stimulate teleworking would help to maximise the benefits of such reforms.
- Public service obligation should be subject to cost-benefit analysis to explicitly reveal the involved costs and the providers of such services should be compensated for the cost. Alternatively, local governments could become responsible for financing of such services.

Notes

1. Rail freight is not experiencing increasing market shares despite the liberalisation of the market (where new entrants have gained a market share of around 12%). Freight is dominated by the activity of the ports with a particularly important corridor from Antwerp to the Ruhr area. No particular infrastructure problems exist in freight.
2. The expected growth in car use is lower than in the past because car ownership tends to stabilise, partly related to the increasing costs of using a saturated road network. An important part of the increase is due to other transport motives than work or school. The use of vans and trucks continues to increase strongly, reflecting increasing internationalisation and specialisation of the European economy.

3. From an individual point of view, the abolishing of the subsidies implies that for private consumers diesel cars have lost their advantage for medium mileage consumption.
4. The expansion of Ryanair's activities has lead to complaints about unfair competition because of regional airport subsidies and non-payment of social security charges as Ryanair personnel is registered abroad.
5. In Flanders, a standard method for socio-economic analysis has been developed and a pilot test is currently in place to evaluate the method.
6. For Europe, company cars generate a total welfare loss of 0.1-0.3% of GDP and generate tax revenue losses of some 0.5% of GDP (Copenhagen Economics, 2010).

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Volume 2013/10
May 2013

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ISSN 0376-6438
2013 SUBSCRIPTION (18 ISSUES)
ISSN 1995-3704
SUBSCRIPTION BY COUNTRY

ISBN 978-92-64-18300-1
10 2013 10 1 P