

I. INTERNATIONAL SPILLOVERS¹

A. Introduction

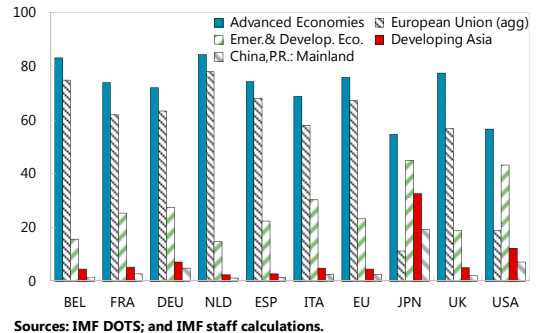
1. **Belgium is a small open and highly integrated economy particularly susceptible to external shocks.** This note sheds some light on potential spillovers to Belgium from various shocks originating in other countries. The note provides an overview of the extent of trade and financial openness of Belgium and the links to particular countries. Long-run and dynamic contributions from external sources to growth are quantified and used to forecast the potential loss to Belgian GDP from a growth slowdown in Europe in 2012. A more detailed analysis of potential sources of shocks and channels of transmission to growth is provided by assessing the potential impact of fiscal consolidation on Belgium's growth as well as the potential impact of banking sector losses on GDP from a sovereign default.

B. Trade and Financial Linkages

2. **Belgium is highly dependent on trade with a limited number of countries.** With an export to GDP ratio of 79 percent, Belgium belongs to the most open economies in Europe and also globally. Its exports are highly concentrated with a share of three quarters of total merchandise exports accounted for by the European Union (EU), close to two-thirds of which go to Germany, France, and the Netherlands. Developing countries and emerging markets account for a comparably small share of exports, despite recent export growth to Asia. Imports are broadly in line with the export patterns.

Comparison of Main Export Destinations, 2010

(Percent of total Belgian merchandise exports)

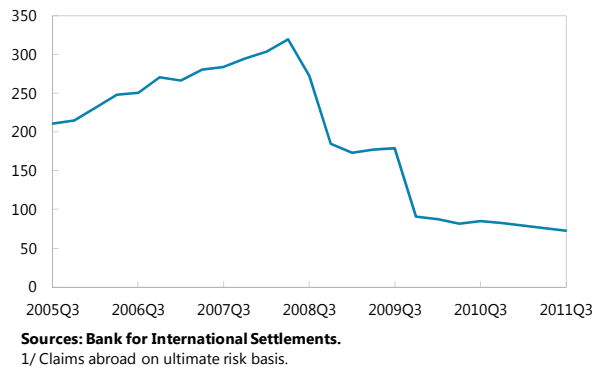


3. **The international linkages of the financial sector have declined since 2008.**

As a consequence of the financial crisis and the split of Fortis along national borders, claims abroad dropped from the initial 320 percent of GDP peak in 2008:Q2 to less than a third. A further decline can be expected after the complete split of Dexia Group along national borders. As a consequence, Belgium's exposure has dropped from one of the highest in the euro

Belgium: Banking Sector Claims Abroad 1/

(Percent of GDP)



¹ Prepared by Sebastian Weber with input from Eugenio Cerutti (RES) on bank sector spillovers.

area to an average level of roughly 73 percent of GDP, well below the current levels of France (110) and the Netherlands (164), but still above Portugal (52) or Italy (41).

Table I.1. Belgium: Trade by Regions and Countries, 2010

Origin/Destination	Balance	Exports		Imports			
	Value in millions of U.S. dollars	Value in millions of U.S. dollars	Share (%)	Change (%)	Value in millions of U.S. dollars	Share (%)	Change (%)
Total	15,059	402,833	100.0	9	387,775	100.0	10
EU	28,055	301,577	74.9	7	273,522	70.5	9
Germany	13,314	76,842	19.1	6	63,528	16.4	5
Netherlands	-24,906	49,095	12.2	12	74,002	19.1	17
France	24,547	68,552	17.0	5	44,005	11.3	7
United Kingdom	7,891	28,869	7.2	8	20,978	5.4	18
Italy	6,891	18,933	4.7	7	12,042	3.1	3
Spain	4,065	12,326	3.1	2	8,261	2.1	14
Poland	2,870	6,658	1.7	16	3,789	1.0	10
Sweden	-1,520	5,839	1.4	17	7,359	1.9	26
America	-2,689	29,711	7.4	8	32,400	8.4	6
United States	544	21,278	5.3	7	20,734	5.3	3
Developing Asia	-7,590	18,497	4.6	20	26,087	6.7	10
China, P.R.: Mainland	-9,446	6,288	1.6	4	15,734	4.1	9
Mid.East & N. Africa	-47	9,810	2.4	-1	9,857	2.5	39

Source: IMF Direction of Trade Statistics.

4. **However, exposures to selected countries remain significant.** Notably claims on the U.K., the U.S., France, and the Czech Republic amount to between 6 and 13 percent of GDP. Belgium has one of the highest exposures to the three European IMF-program countries, with claims amounting to more than 5½ percent of GDP (Figure 1), although mainly on non banks in Ireland (4¾ percent of GDP). The banking sector holds debt of high spread countries in the euro area exceeding 14 percent of Belgian GDP.² Non-performing loans of foreign subsidiaries have risen in some markets and write-downs have increased, putting pressure on Belgian banks to deleverage. Based on a territorial principle, banks active in Belgium provide more liquidity to banks abroad than they receive. This is due to intra-group flows, for which claims by banks in Belgium largely exceed liabilities, reflecting the comfortable deposit base in Belgium and the large operations of Belgian banks' abroad, as for instance in Eastern Europe or Ireland. However, on a non intra-group basis, banks active in Belgium are net debtors to other countries.³ This is also reflected in the consolidated net position based on the ultimate risk basis, which indicates that Belgian banks (as opposed to banks active in Belgium) are net debtors to foreign countries.⁴ The sector's total foreign

² High spread countries include all countries with spreads above 200bs to the 10-year German Bund as of 2011Q1.

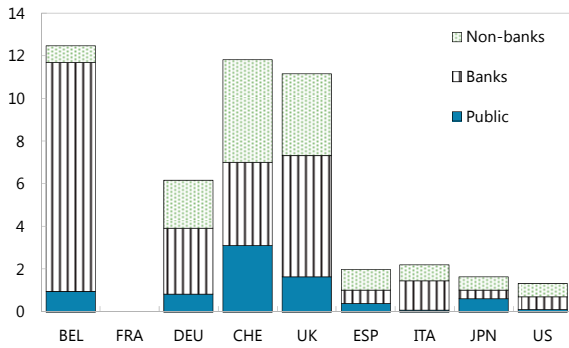
³ See also NBB, Financial Stability Review 2011, pages 41–42.

⁴ However, the possibility that foreign liabilities include some liabilities of foreign banks' subsidiaries in Belgium cannot be excluded, as data tend to be limited.

liabilities (on ultimate risk basis) equal broadly GDP and are predominantly toward France (46 ½ percent of total foreign liabilities), and the Netherlands (24¾ percent). The high liabilities create upstream risk, as there are mismatches between debtor and creditor banks in Belgium and countries to which debts exceed claims and to which the contrary is the case. Upstream risk is measured by a country’s potential rollover need through both direct cross-border lending by banks, and the domestic lending operations by foreign affiliates that are funded by their parent bank.⁵ Belgium belongs to the euro area countries with the highest upstream risk when measured against the domestic GDP.

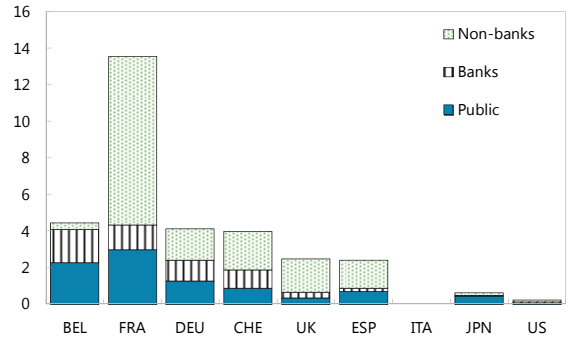
Figure I.1. Belgium: Consolidated Claims by Sector and Country

Consolidated Foreign Claims on France
(Percent of own GDP)



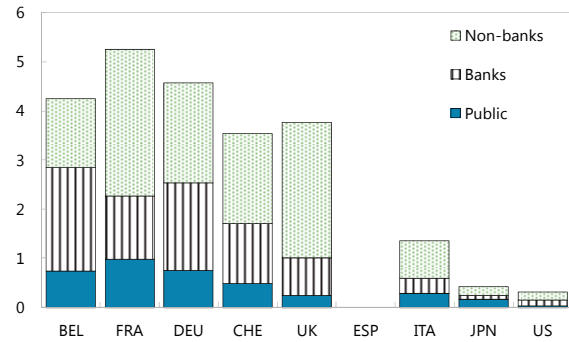
Sources: BIS; and IMF staff calculations.

Consolidated Foreign Claims on Italy
(Percent of own GDP)



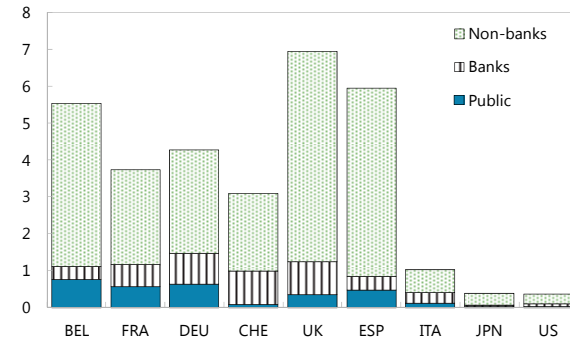
Sources: BIS; and IMF staff calculations.

Consolidated Foreign Claims on Spain
(Percent of own GDP)



Sources: BIS; and IMF staff calculations.

Consolidated Foreign Claims on GRC, IRL and PRT
(Percent of own GDP)



Sources: BIS; and IMF staff calculations.

Note: Claims based on ultimate-risk basis. Claims as of end-September, 2011.

⁵ In addition, the upstream exposure measure also includes the credit commitments (not used yet) that a borrower country has secured from BIS reporting banks.

Table I.2. Belgian Bank Claims Abroad
(As of end-Sep. 2011)

	Billions of U.S. dollars	Share (percent)
All countries	363	100
Europe	233	64.2
France	62	17.2
Netherlands	23	6.4
Germany	16	4.5
United Kingdom	38	10.5
Switzerland	2	0.4
Austria	2	0.7
Sweden	1	0
GRC, IRL, ITA, ESP, PRT	71	19.7
Italy	22	6.1
Spain	21	5.9
Ireland	23	6.4
Greece	1	0.4
Portugal	3	0.9
Other developed countries	31	8.5
Japan	1	0.2
Australia	2	0.5
United States	27	7.6
Developing countries	94	25.9
Czech Republic	49	13.4
Hungary	15	4.1
Poland	16	4.4
Offshore centres	5	1.3

Source: BIS, on ultimate risk basis.

Table I.3 Belgian Bank Liabilities Abroad
(As of end-Sep. 2011)

	Billions of U.S. dollars	Share (% of all claims on Belgian banks)	Share (% of countries total claims abroad)
All countries	494	100	2
Europe	440	89	2
France	230	47	8
Netherlands	122	25	9
Germany	35	7	1
United Kingdom	18	4	0
Switzerland	11	2	1
Austria	3	1	1
Sweden	3	1	0
GRC, IRL, ITA, ESP, PRT	16	3	3
Italy	5	1	1
Spain	7	1	0
Ireland	4	1	1
Greece	0	0	0
Portugal	0	0	0
Other developed countries	0	0	0
Japan	16	3	1
Australia	1	0	0
United States	33	7	1
Developing countries			
Czech Republic			
Hungary			
Poland			
Offshore centres			

Source: BIS, on ultimate risk basis.

5. **Foreign direct investment (FDI) in Belgium is dominated by the neighboring countries, the U.K., and the U.S.** France, Germany, the U.K., and the U.S. have higher investment position in Belgium compared to the investment position of Belgium in the respective country. France's FDI stock in Belgium (158 billion EUR) is larger than the combined FDI stock of the Netherlands, Luxembourg, and Germany. Similarly, Belgium's FDI is concentrated in France (42.2 billion EUR, the Netherlands (72.8 billion EUR), and Luxembourg (76 billion EUR).

Table I.4. Foreign Direct Investment Positions (billions of euros)
(2010, or latest available)

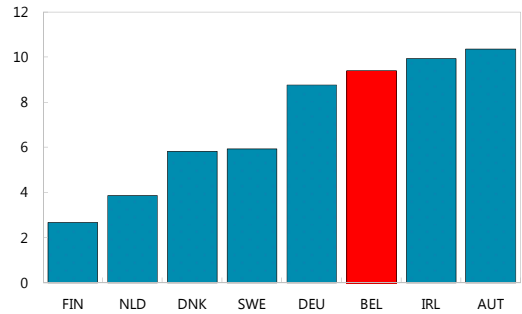
	by Belgium in:	in Belgium by:	Net position
France	42.2	158.0	115.9
Netherlands	72.8	70.2	-2.6
Sweden	0.7	15.2	14.6
Spain	9.5	6.1	-3.4
Luxembourg	76.0	36.3	-39.7
Germany	6.5	30.9	24.4
Ireland	4.4	6.6	2.1
United Kingdom	13.0	47.9	35.0
Italy	11.2	13.6	2.5
Poland	3.5	0.0	-3.5
Czech Republic	3.6	0.0	-3.6
Switzerland	3.7	8.4	4.7
Hungary	3.8	0.0	-3.8
Finland	0.4	22.3	21.8
United States	12.6	48.4	35.8
Japan	0.3	10.0	9.7

Source: Eurostat, as reported by source country

6. **Belgium has a relatively high share of migrants which are predominantly from the EU.** The share of non-citizens registered in Belgium account for close to 10 percent of the total population. Compared to other European countries, Belgium has one of the lowest non-EU migrant population relative to the total migrants. The high share of total migrants and the bias toward EU citizens is partly explained by the presence of several EU institutions in Belgium.

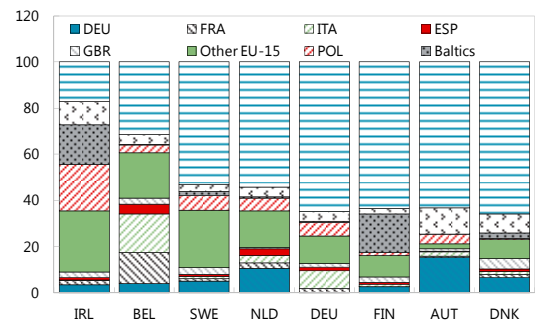
7. **Belgium's international linkages are, thus, dominated by France, the Netherlands, Germany and the U.S.** The most important trade and financial ties are with France, followed by Germany, the Netherlands and the U.S. Trade and financial linkages to Belgium appear equally important for France and Netherlands, respectively. Ties to Germany are biased toward trade linkages, while ties with the U.S. are more reliant on FDI and banking sector linkages. Other countries are relevant for particular linkages, such as Luxembourg for FDI and the Czech Republic for banking sector linkages. Linkages with Greece and Portugal are very limited, but financial linkages to Ireland, Italy, and Spain are substantial, jointly exceeding those to Germany or the Netherlands. Migrants are largely from the EU-27, reflecting Belgium's particular role in the EU institutional landscape.

Belgium: Share of Non-Citizens, 2009
(Percent of total population)



Source: Eurostat.

Belgium: Share of Non-Citizens by Nationality, 2009
(Percent of total non-citizens)



Source: Eurostat.

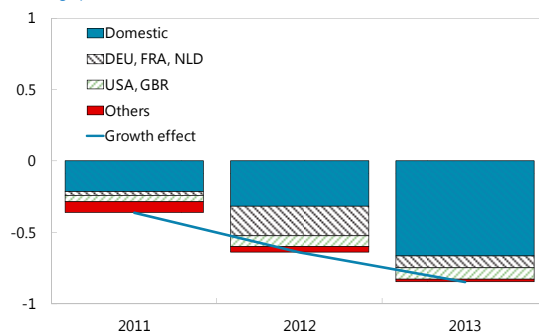
C. Fiscal Spillovers

8. **The concentration of exports makes Belgium particular sensitive to the envisaged fiscal consolidation efforts in trading partners.** With more than three quarters of exports destined to the EU, Belgian exports are vulnerable to faltering demand in European countries. Belgium's main trading partners—France, the Netherlands, and Germany—are projected to tighten their structural fiscal balances by 1 percent of the respective countries GDP in 2012 and ½ percent in 2013. This could imply a marked reduction of demand for Belgian exports which potentially translates into non-negligible effects on overall GDP growth.

9. GDP growth could slow notably due to projected fiscal consolidation. We

simulate for 2011–13 the effect of Belgian and global fiscal consolidation on Belgium’s output growth, allowing for carry-over effects from fiscal changes in the previous period to current GDP growth, using a model based on the national accounting framework.⁶ Estimates are based on the cyclically adjusted revenue and expenditure changes of 20 countries which cover about 70 percent of world GDP and more than 80 percent of Belgian exports. We find that *overall* growth could be lower by about ½ percentage points in 2011 and 2012 and ¾ percentage points in 2013, due to fiscal consolidation. The simulation results indicate that the *domestic* effect of fiscal consolidation in Belgium reduces output by ¼ percentage points in 2011, driven largely by carry-over effects from the consolidation in 2010. The impact of domestic consolidation on growth will be felt in 2013 due to the significant planned consolidation efforts in 2012 and 2013.

Contribution to Growth from Global Fiscal Consolidation
(Percentage points)



Source: IMF staff estimates.

The simulation results indicate that the *domestic* effect of fiscal consolidation in Belgium reduces output by ¼ percentage points in 2011, driven largely by carry-over effects from the consolidation in 2010. The impact of domestic consolidation on growth will be felt in 2013 due to the significant planned consolidation efforts in 2012 and 2013.

	Fiscal Contribution to Growth ¹								
	(In percentage points)								
	2011			2012			2013		
	Total growth impact	Of which:		Total growth impact	Of which:		Total growth impact	Of which:	
		domestic effect	spillover effect		domestic effect	spillover effect		domestic effect	spillover effect
Belgium	-0.4	-0.2	-0.1	-0.6	-0.3	-0.3	-0.8	-0.7	-0.2
of which:									
- current year	-0.2	0.1	-0.2	-0.5	-0.4	-0.1	-0.5	-0.4	-0.1
- carry over prev. year	-0.2	-0.3	0.1	-0.2	0.1	-0.2	-0.4	-0.3	-0.1
PPP weighted average	-0.2	-0.1	0.0	-0.3	-0.3	-0.1	-0.4	-0.3	-0.1
Simple average	-0.5	-0.4	-0.1	-0.7	-0.5	-0.1	-0.4	-0.3	-0.1

Source: IMF staff estimates.

1/ Financial sector support recorded above-the-line was excluded for the calculation of growth impact for Ireland (2.5 percent of GDP in 2009 and 5.3 percent of GDP in 2010) and the US (2.5 percent of GDP in 2009, 0.4 percent of GDP in 2010, and 0.1 percent of GDP in 2011 and 2012). Financial sector support is not expected to have a significant impact on demand. For Russia only non-oil revenues are assumed to have an impact on growth. Values need not add up due to rounding.

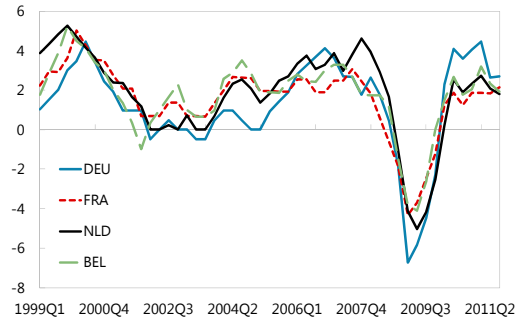
10. Negative growth spillovers from global fiscal consolidation are likely to be relatively high in 2012/13. The negative growth effect from *global* fiscal consolidation could amount to about ¼ percentage point in both 2012 and 2013. More than 50 percent of the spillovers are from the three main trading partners. The U.S. and the U.K. account for another 25 percent and the remaining 25 percent are accounted for by the other countries in the sample. Belgium’s trade openness and export exposure to countries with relatively high consolidation efforts imply that spillovers to Belgium are about twice the average spillovers in the sample of 20 countries.

⁶ For a detailed description see Ivanova and Weber (2011).

D. Growth Spillovers

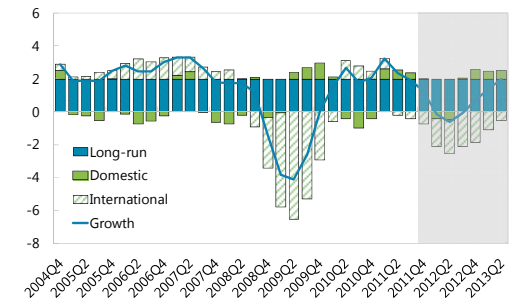
11. **Belgian GDP growth co-moves strongly with GDP growth in its three main trading partners.** The strong co-movement is potentially due to Belgium being hit by similar common shocks as its main trading partners, the spillovers of domestic shocks from the main trading partners to Belgium, and the spillovers from Belgium to its main trading partners. Given its economic size and openness to trade, the latter is less likely. A simple regression of the Belgian quarter-on-quarter GDP growth rate on the (contemporaneous) quarter-on-quarter growth rates of the four largest euro zone members—France, Spain, Italy, and Germany—reveals that close to 50 percent of the variation in Belgian GDP growth can be explained by those four countries. The average fraction explained by the four countries for other euro zone members is about half that amount. Thus, Belgium reacts potentially more strongly to a growth slowdown in the euro zone.

Output Growth Co-Movement
(Percent)



Source: IMF WEO.

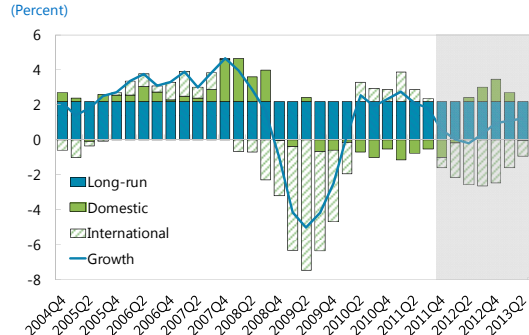
Growth Contribution: Belgium
(Percent)



Sources: IMF WEO; OECD; and Poirson and Weber (2011).

12. **A multi-country VAR analysis is used to assess the risk to GDP growth in Belgium from a decline in domestic demand in other high government bond spread countries.** The assumption underlying the scenario is a ½ standard deviation reduction in the growth rate of the domestic growth component of Italy, Spain, Greece, Ireland and Portugal for each quarter in 2012 compared to the implied growth rates under the Spring 2012 WEO projections. The decomposition and forecasts under this scenario are constructed using the VAR approach described in Poirson and Weber (2011), which allows decomposing the growth rate into a long-run, a dynamic domestic and a dynamic foreign component. After decomposing growth into the three components, the domestic components for the five countries are adjusted and the new growth rates

Growth Contribution: Netherlands
(Percent)



Sources: IMF WEO; OECD; and Poirson and Weber (2011).

OLS Regression for Belgian Growth, 1960:Q3-2011:Q3
(quarter-on-quarter, in percent)

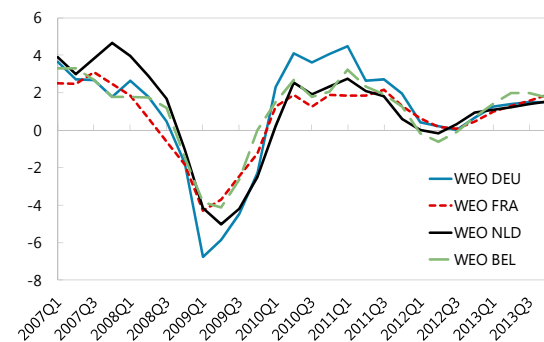
Variable	Coefficient	Std. Error	Prob.
BEL (-1)	0.32	0.06	0.00
DEU	0.14	0.04	0.00
FRA	0.08	0.04	0.04
ITA	0.16	0.04	0.00
ESP	0.13	0.04	0.00
Constant	0.10	0.05	0.06
Durbin-Watson	2.11	Adj. R2	0.53
Number of obs.	203		

for all 17 countries in the sample are computed, holding all other domestic components unchanged (thus results underestimate the impact). The approach has the advantage that it takes third country effects—e.g. the impact of the fall in Italian domestic demand channeled via Germany on Belgium—into account and is thus estimating the impact consistently across the 17 countries in the sample.⁷

13. Belgian growth is largely explained by foreign shocks, reflecting the openness and interconnectedness of the economy. Estimation results suggest that Belgium’s GDP dynamics are largely dominated by spillovers from domestic shocks in other economies. Long-run growth is estimated at just below 2 percent. More than 70 percent of the long-run growth is accounted for by long-run growth in other economies. Similarly, close to 70 percent of the variance of the dynamic component is explained by the variation in the international component. Unlike in the Netherlands, for instance, the boom period prior to the crisis was largely accounted for by positive growth spillovers from abroad. The recent recovery was supported by increased external demand and was followed by a revival of domestic demand. Both are expected to drag down GDP in the coming quarters under the baseline WEO projections.

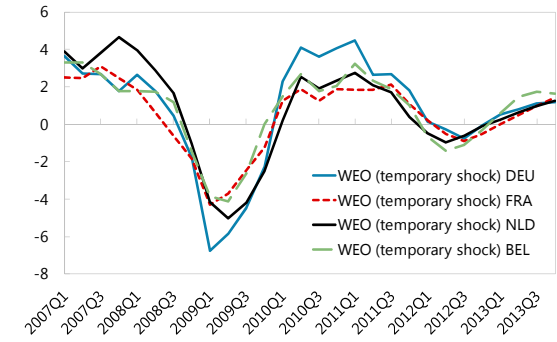
14. A shock to domestic demand in the high spread countries in 2012 could cause an output contraction in Belgium in 2012 and lower growth by about ½ percentage points in 2013. The response is stronger than in France and Germany, but in line with the response in the Netherlands. The output reduction is caused primarily by lowered support from Italy and Spain to growth in Belgium, and would lower growth by $\frac{3}{4}$ percentage points in 2012. The combined contribution of Portugal and Ireland is contained to below 0.2 percentage point in any quarter. There are no notable negative spillovers from the growth slowdown in Greece.

Output Growth Comparison: Baseline
(Percent)



Sources: IMF WEO; OECD; and Poirson and Weber (2011).

Output Growth Comparison: 2012 Shock Scenario
(Percent)



Sources: IMF WEO; OECD; and Poirson and Weber (2011).

⁷ The international component includes also three exogenous shocks: a dummy for the oil shock in 1979, a dummy for the oil shock in 1990, and a dummy for the recent financial crisis. The sample extends from 1975Q1 to 2011Q3. The country sample includes: Austria, Belgium, Canada, Finland, France, Germany, Greece, Ireland, Italy, Japan, the Netherlands, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States

E. Banking and Sovereign Stress Spillovers

15. The diminished foreign exposure of the aggregate banking sector since the onset of the financial crisis has reduced the potential loss from a default in other countries.

Building on the RES/MFU Bank Contagion Module, a spillover analysis is conducted to simulate the *direct* effects of losses on Belgian bank claims abroad.⁸ A scenario of 50 percent losses on sovereign exposures to Greece implies a manageable *direct* loss to the *aggregate* banking sector of Belgium. Even a scenario in which Irish and Portuguese sovereign exposures would register similar loss rates would imply a relatively mild direct loss of ½ percent of GDP for Belgian bank lenders. However, the analysis is performed at the aggregate level and thus hides potentially larger losses at individual bank levels. The latter may cause a knock on effect to other banks. Similarly, deleveraging needs are computed based on the tier 1 capital ratio of the *aggregate* banking sector and thus hide potential deleveraging needs of individual banks. Using individual bank data would potentially imply different deleveraging needs also at the aggregate level. Thus aggregate results should be interpreted with care.

Shock Originating From	Magnitude 1/	Deleveraging Need 2/	Belgian Lenders' Losses (percent GDP)	Impact on Credit Availability (percent of GDP) 3/
Greece	50	0.0	0.2	-0.1
Greece, Ireland, Portugal	50	0.0	0.5	-0.3

Source: RES/MFU Bank Contagion Module based on BIS, ECB, and IFS data.

1/ Magnitude denotes the percent of sovereign on-balance sheet claims that default.

2/ Deleveraging need is the amount (in percent of Tier I capital) that needs to be raised through asset sales in response to the shock in order to meet a domestic banking sector Tier I capital asset ratio of 8 percent, expressed in percent of total assets and assuming no recapitalizations.

3/ Reduction in foreign banks credit on Belgium due to the impact of their shock in their balance sheet, assuming a uniform deleveraging across domestic and external claims.

16. **Risks remain with respect to creditor banks' exposures to high spread countries and the associated potential impact on credit availability in Belgium due to lending by French and Dutch creditor banks.** Exposures of Belgian foreign lenders to losses in Greece, Ireland and Portugal are primarily on the non-bank private sector. Extending the default scenario to include these sectors—but reducing the haircut to 30 percent—implies a more significant loss to Belgian foreign bank lenders which exceeds 2 percent of GDP. Potential losses to individual country shocks are the largest with respect to the U.S., the U.K., and France. A haircut of 10 percent on exposures to the U.S., the U.K., or France could generate a *direct* loss of between 1.2 to 2.2 percent of GDP to the Belgian bank lender. The required adjustment in affected banks and the associated impact on credit availability in Belgium is particularly high in the case of a default in the Netherlands and France, as these countries have significant cross-border exposures to Belgium. However, it should be noted that the *direct* effects in such a scenario are likely to be less relevant than the *indirect* effects

⁸ See Cerutti et al (2011) and Tressel (2010) for methodological details.

Spillovers to Belgium from International Banks' Exposures as of March 2011

Shock Originating From	Magnitude 1/	Deleveraging Need 2/	Belgian Lenders' Losses (percent GDP)	Impact on Credit Availability (percent of GDP) 3/
Greece	30	0.0	0.1	-0.1
Greece, Ireland, Portugal	30	0.0	2.1	-1.3
Italy	10	0.0	0.6	-0.9
Spain	10	0.0	0.5	-0.9
France	10	0.0	1.7	-13.6
Germany	10	0.0	0.8	-8.0
Netherlands	10	0.0	0.9	-25.7
UK	10	0.0	2.2	-6.7
European Countries 4/	10	100.0	9.2	-95.7
US	10	0.0	1.2	-3.9

Source: RES/MFU Bank Contagion Module based on BIS, ECB, and IFS data.

1/ Magnitude denotes the percent of on-balance sheet claims (all borrowing sectors) that default.

2/ Deleveraging need is the amount (in percent of Tier I capital) that needs to be raised through asset sales in response to the shock in order to meet a domestic banking sector Tier I capital asset ratio of 8 percent, expressed in percent of total assets and assuming no recapitalizations.

3/ Reduction in foreign banks credit to Belgium due to the impact of the analyzed shock in their balance sheet, assuming a uniform deleveraging across domestic and external claims.

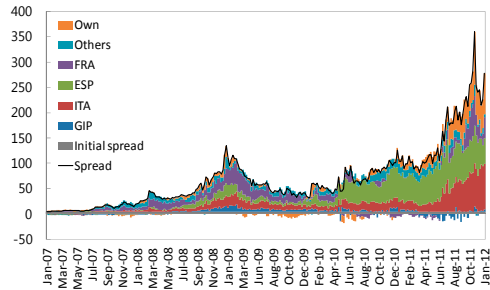
4/ Greece, Ireland, Portugal, Italy, Spain, France, Germany, Netherlands, and UK

17. **Estimates indicate potential weaknesses from specific exposures, but values should be treated with care, as indirect channels, associated with a default in any country, are likely to be much larger.** Although the simulations take into account second round deleveraging effects, the results abstract from the effects on confidence, asset prices, the implication of a potential default by a sovereign or bank for the functioning of the interbank market, and more importantly the banks' deleveraging would impact GDP, which could also translate into further bank losses through an increase in non-performing assets. These effects could potentially be much more damaging than the direct spillover effect. Additionally, off-balance sheet items are not taken into account, which implies a likely underestimation of the direct effect.

18. **The public support to the banking sector and the increased risk aversion of investors to sovereign debt contributed to the sharp rise of Belgian government bond spreads.** The high debt burden, the exposure of the banking sector to high spread countries, and the increase in contingent liabilities due to the government guarantees have contributed to the increased sensitivity of the Belgian government bond yields to foreign factors. A VAR analysis is used to assess the domestic factors and the contribution from various countries' spreads to the Belgian government bond spread, using a sample of 14 countries.⁹

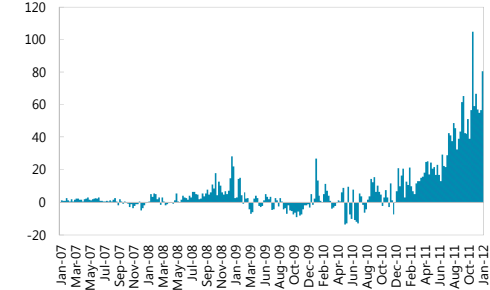
⁹ The approach is similar to Poirson and Weber (2011). The countries in the sample include: Austria, Belgium, Denmark, Finland, France, Greece, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, Switzerland, and United Kingdom. Spreads over the German Bund are measured at weekly frequency. Results are based on the average estimates from 46 different Choleski identification schemes. Excluding the non-euro area countries leaves the main findings unaltered.

Belgium: Contribution to Government Bond Spread
(Basis points above German 10-year Bund)



Sources: Bloomberg; and IMF staff estimates.

Belgium: Domestic Factor of Government Bond Spread
(Basis points above German 10-year Bund)



Sources: Bloomberg; and IMF staff estimates.

19. **Most of the variation in the Belgian government bond spread appears to be associated with external factors.** In early 2007, the increase in Belgian bond spreads was driven by the co-movement with the spreads of Portugal, Ireland and Greece. Throughout 2008 and 2009, the increase in the spread was associated with an increase in the French and Italian spread. In May 2010, spreads jumped up due to the developments in Greece while the French contribution declined. Throughout 2010, first the contribution of Spain and then, in 2011, the contribution of Italy started rising. By end 2011, a co-movement with France can be detected as the spread over the Bund for Belgian bonds reached a record high.

20. **There are two distinct episodes in which domestic factors played a relevant role in the increase of the spread.** In late 2008 and early 2009, domestic factors accounted for an average of 15 percent of the increase in the spread reflecting the concerns around the banking sector and the needed capital injections by the state, which was already under strain due to the elevated debt level. In late 2009 and 2010, the contribution of the domestic factors to the spread receded almost completely. However, as a result of the continued deadlock of the government creation in Belgium, contagion fears started pushing the spread further up by the end of 2010 and the renewed concerns around Dexia Group supported the high domestic contribution throughout 2011. The domestic contribution dropped from its 105 basis points peak to 60 basis points, when the new budget deal was announced clearing the way for the government formation at the end of November 2011.

F. Conclusion

21. **Belgium remains a highly integrated economy sensitive to foreign shocks, although financial cross-border linkages have declined strongly since 2008.** The problems in the Belgian banking sector have caused one of the strongest reductions in foreign exposures in the European banking sector landscape. Thus, less direct transmission of external shocks via financial channels can be expected in the future. The high degree of trade openness has helped Belgium recover quickly in 2010 through a strong contribution to growth from net trade. However, the flip-side of the trade openness and the trade-linkages with countries that have embarked on significant fiscal consolidation is that Belgium is particularly susceptible to a growth slow-down in the region. Falling foreign demand is therefore likely to exert a notable drag on GDP in 2012–13. The strong co-movement with other countries' government spreads is another source of risk, as heightened interest rates and debt servicing costs hamper economic growth.