

Balance Sheets after the EMU: Tricky but Manageable

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The issue

- Devaluation impact has two channels
 - trade (generally positive)
 - balance sheet (potentially quite negative)
- Experience in emerging countries
 - balance sheet effects matter
 - if big currency mismatch, positive trade effect of devaluation can be overturned
- In the eurozone (EZ): legal aspects of redenomination

Objectives

- Assess balance sheet risk in EZ
- Two scenarios:
 - single country exit
 - complete euro area break-up
- Analysis by sector and by country (core + periphery)
- Give relevant policy recommendations
 - *ex ante* limitation of exposure
 - *ex post* mitigation

Outline

- The conundrum of balance sheet redenomination
- A look at international investment positions
- Relevant debt
- Relevant net position
- Composite risk index by country and sector
- Policy recommendations

The conundrum of balance sheet redenomination

The contractionary devaluation hypothesis?

- Bebczuk et al. (2006):
 - contractionary devaluation if foreign debt composition $>84\%$ foreign currency
 - domestic dollarization worsen things
- Towbin and Weber (2013):
 - compare which exchange rate regime (floating vs fixed) better insulates from shocks
 - fixed better if foreign currency debt too high
- However, Bleakley and Cowan (2008): firms tend to match currency composition of stocks with flows
- Most results on countries experiencing “hot money”-driven crises... maybe not relevant for EZ?

Related literature: eurozone case

- Nordvig and Firoozye (2012)
 - legal analysis of redenomination issues
 - limited break-up (exit of periphery countries) manageable
 - more skeptical about full-blown break-up (even with ECU-2)
 - in any case, break-up must be accomplished all-at-once
- Amiel and Hippolyte (2015)
 - case study: market debt of large French firms
 - find significant negative impact for both financial and non-financial large corporations
 - strong devaluation overshooting hypothesis
 - do not take into account mitigation through assets

Legal aspects of redenomination

- Principle of *lex monetae*
- Importance of governing law of each instrument (domestic vs foreign)
- Example of Greek 2012 restructuring:
 - old bonds under Greek law: CAC added *ex post* by law in parliament
 - new bonds under English law: less risky for investors
- More complex in case of complete EZ break-up

Impact of foreign currency mismatch

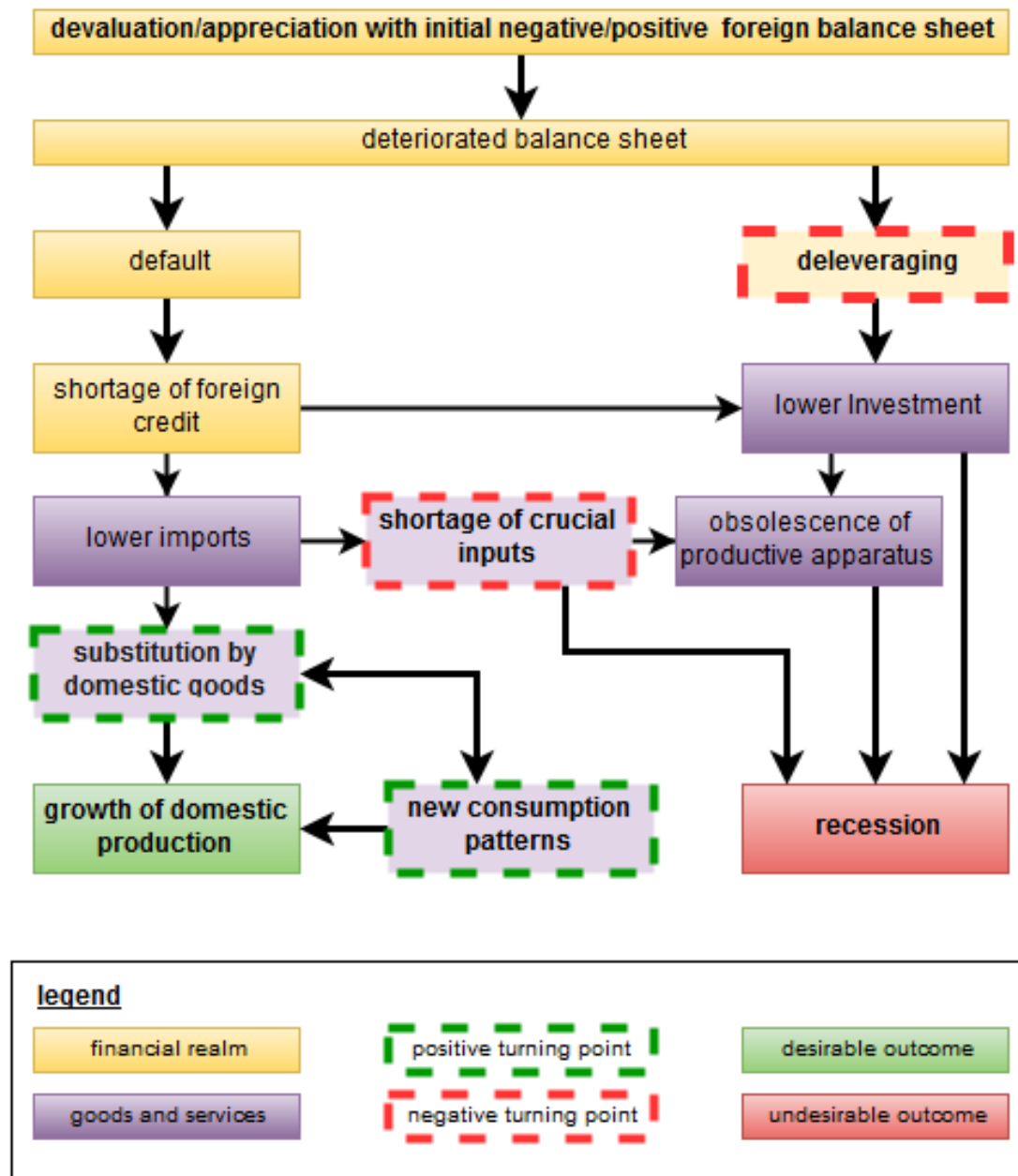
	Foreign Currency Position	
	Assets > Liabilities	Assets < Liabilities
Devaluation	+	-
Appreciation	-	+

Impact of instruments (devaluation case)

	EXTERNAL ASSETS	EXTERNAL LIABILITIES
FOREIGN DIRECT INVESTMENT	POSITIVE	NEUTRAL
PORTFOLIO INVESTMENT (EQUITY)	POSITIVE	NEUTRAL
BONDS (LONG TERM)	POSITIVE	NEGATIVE
LOANS (LONG TERM)	POSITIVE	NEGATIVE
BONDS (SHORT TERM)	POSITIVE	HIGHLY NEGATIVE
LOANS (SHORT TERM)	POSITIVE	HIGHLY NEGATIVE
CROSS-BORDER DEPOSITS	POSITIVE	NEUTRAL
DERIVATIVES	NOT CONSIDERED	NOT CONSIDERED
RESERVE ASSETS	POSITIVE	NEUTRAL

LEGEND	NEUTRAL	NOT CONSIDERED
POSITIVE	NEGATIVE	HIGHLY NEGATIVE

The case of the productive sector



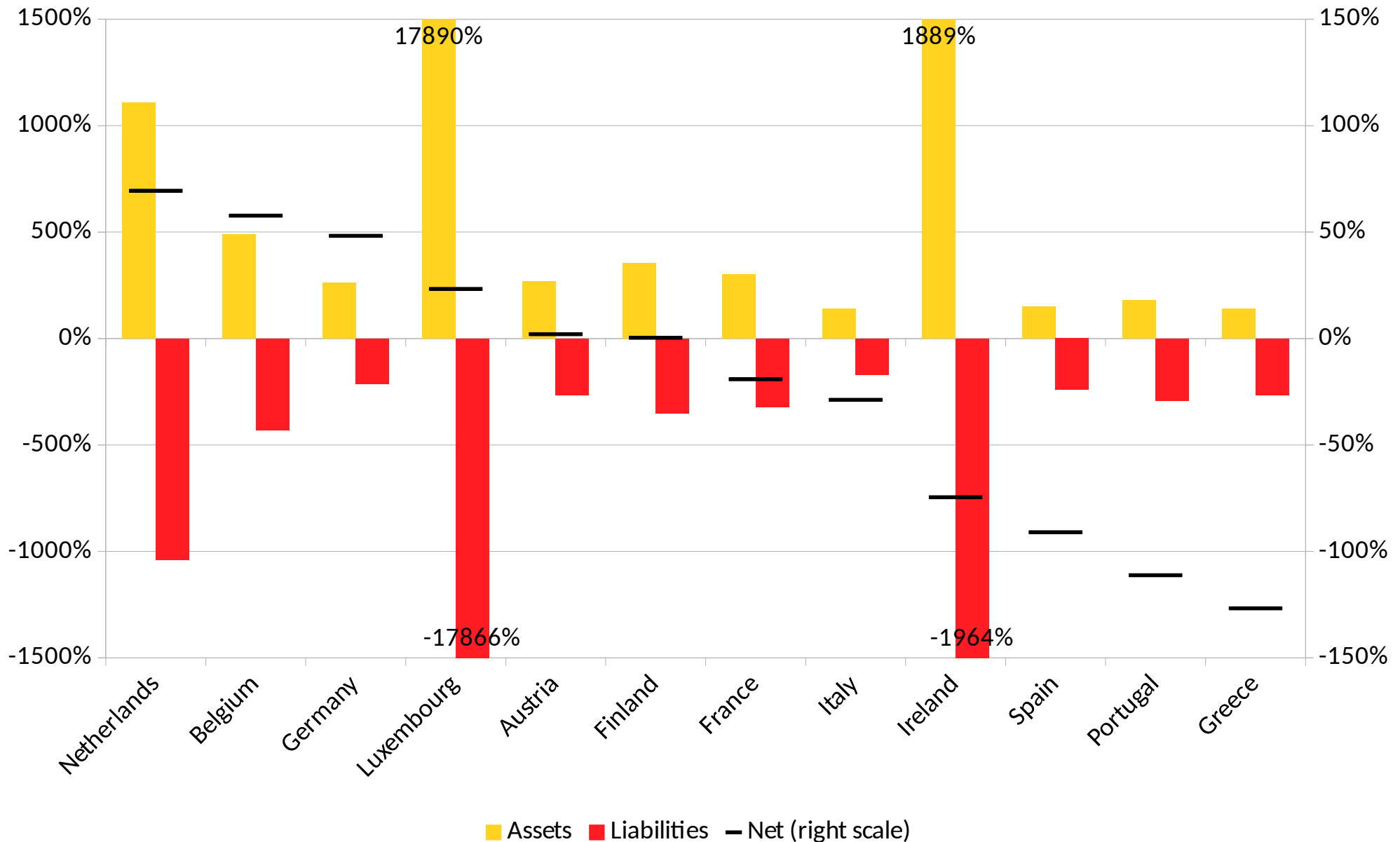
A look at international investment positions

International investment position

- Aggregates financial instruments with non-resident counterparty
 - liabilities of residents to non-residents
 - assets of residents over non-residents
- Distinct from relevant net position (*i.e.* foreign currency pos.)
 - some liabilities to non-residents won't be redenominated (*e.g.* equity, deposits in domestic banks)
 - some assets not in IIP (*i.e.* involving 2 resident parties) will be redenominated (*e.g.* some bonds under foreign law)
- However, good 1st order approximation and informative by itself

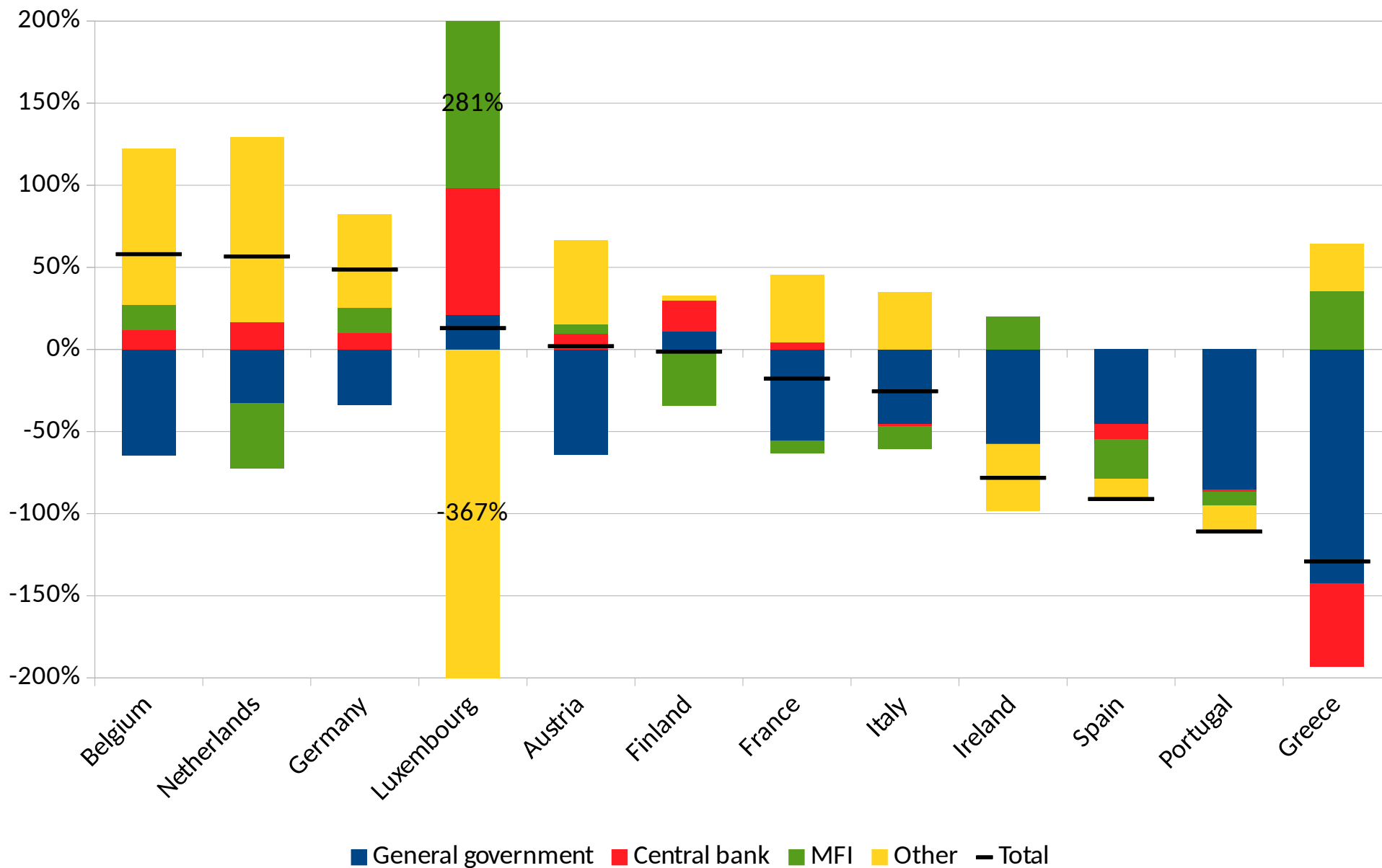
Overall International investment position

% of domestic GDP, Q3 2015



IIP sectoral decomposition

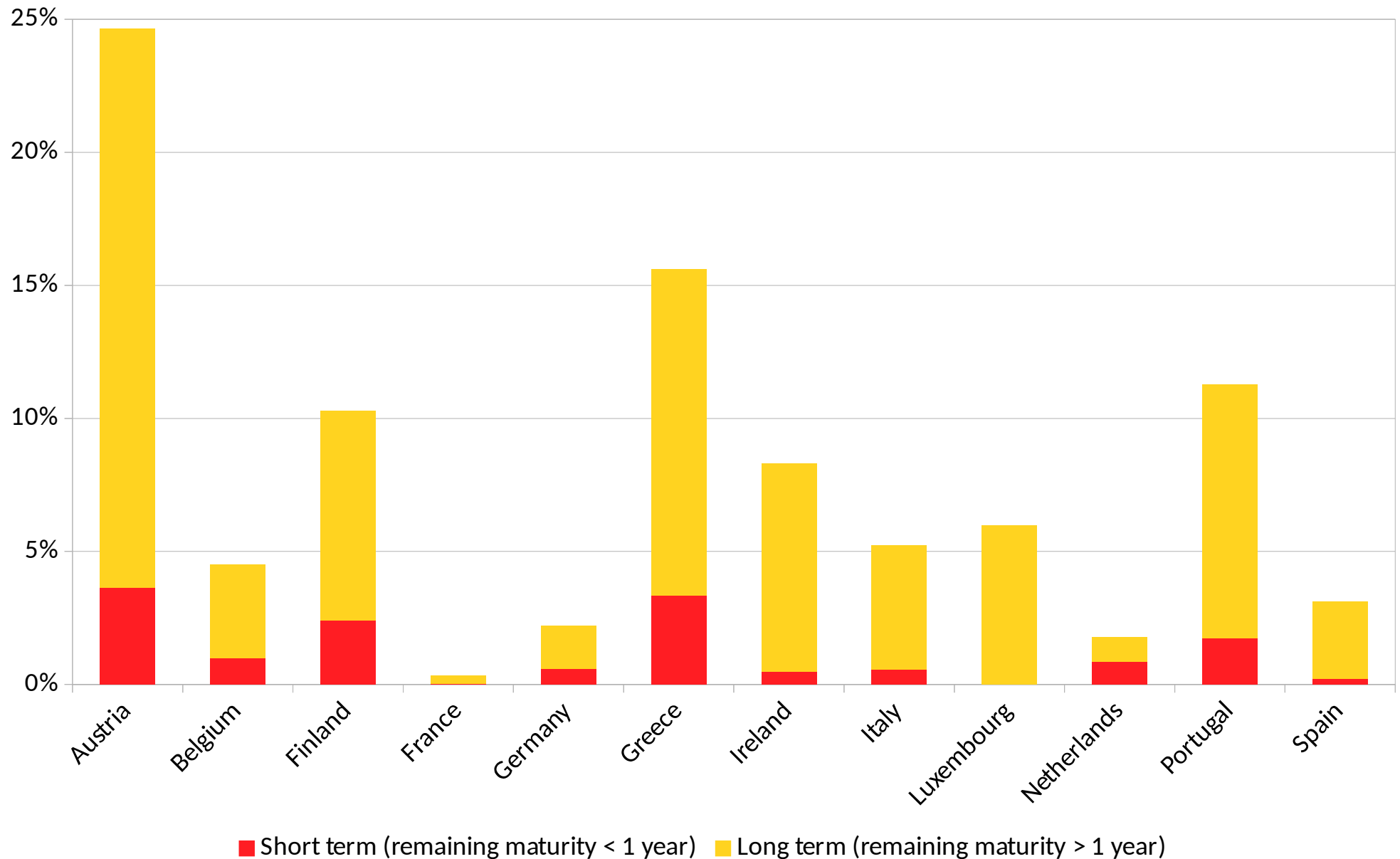
Excluding financial derivatives, % of domestic GDP, Q3 2015



Relevant debt

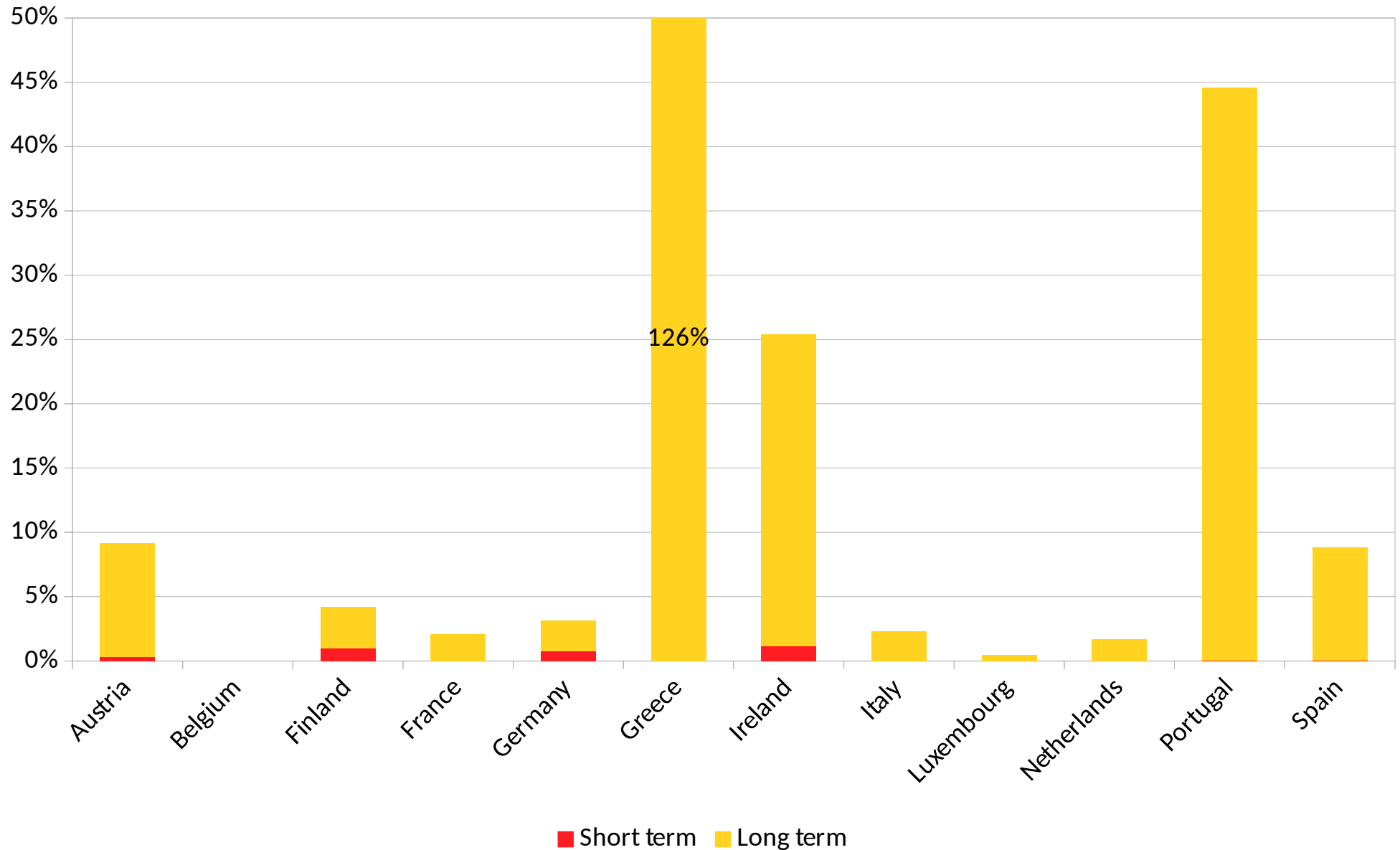
Intl debt securities of general government

% of domestic GDP, Q4 2015



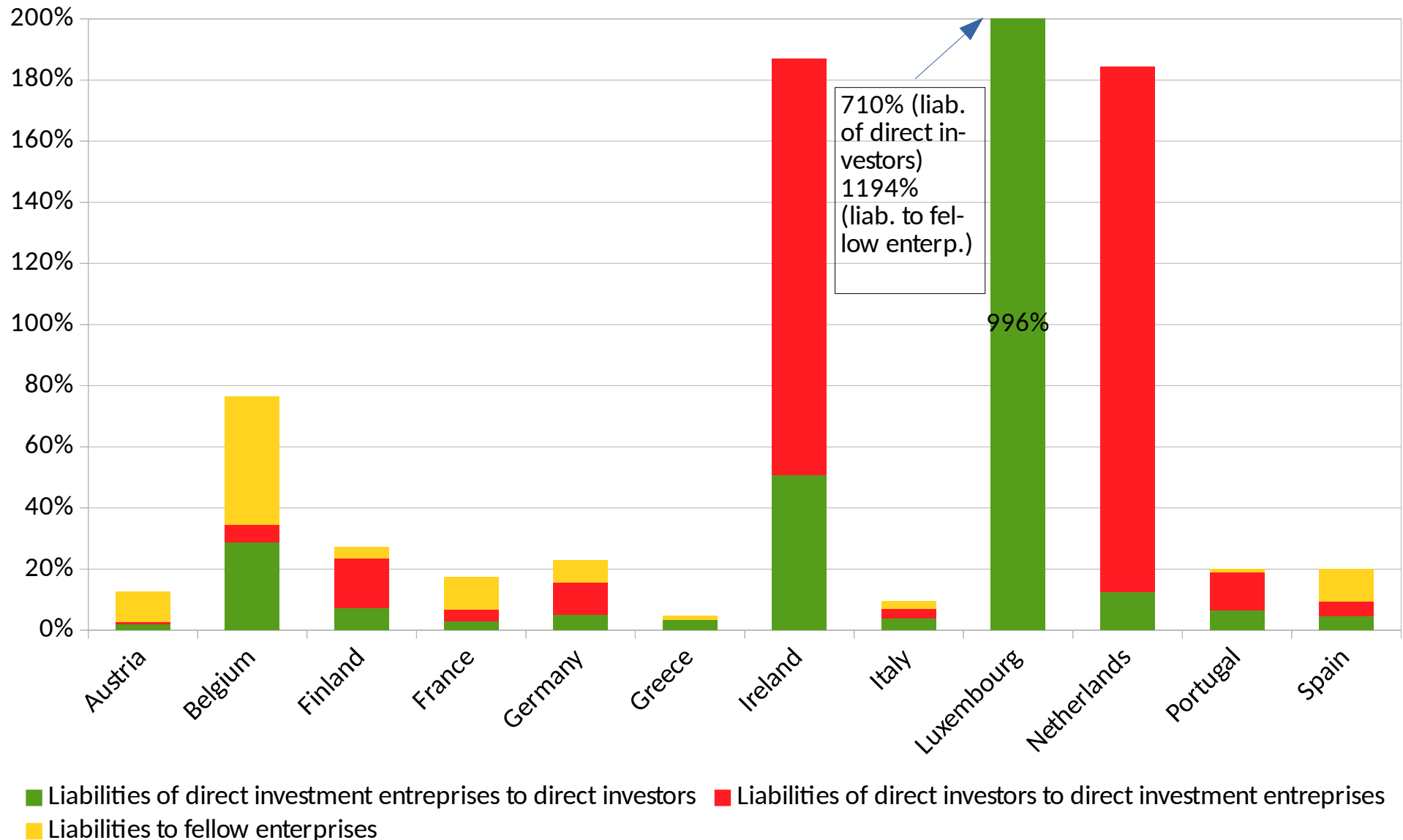
Foreign loans of general government

% of domestic GDP, Q3 2015



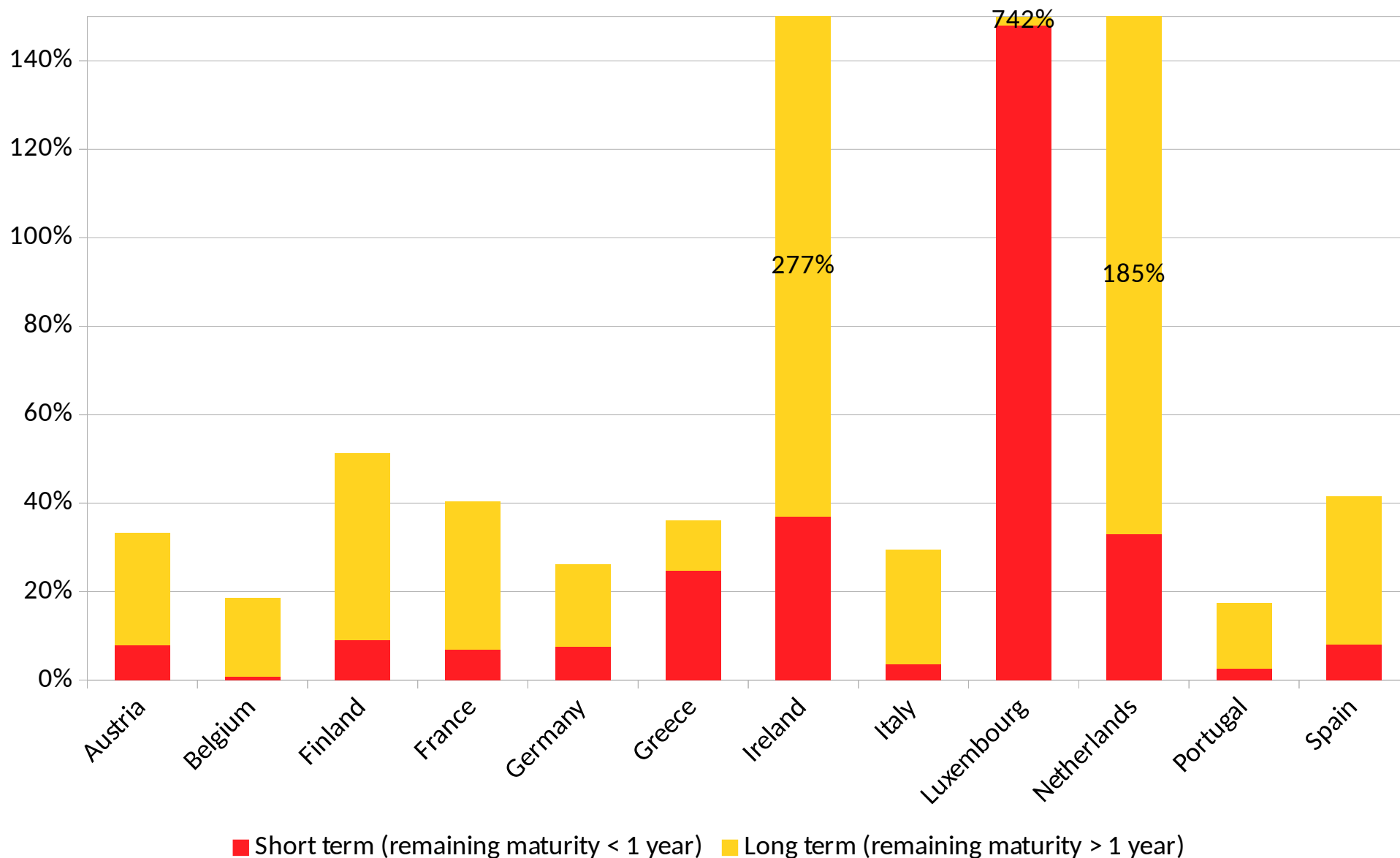
Foreign direct investment: debt component

% of domestic GDP, Q3 2015



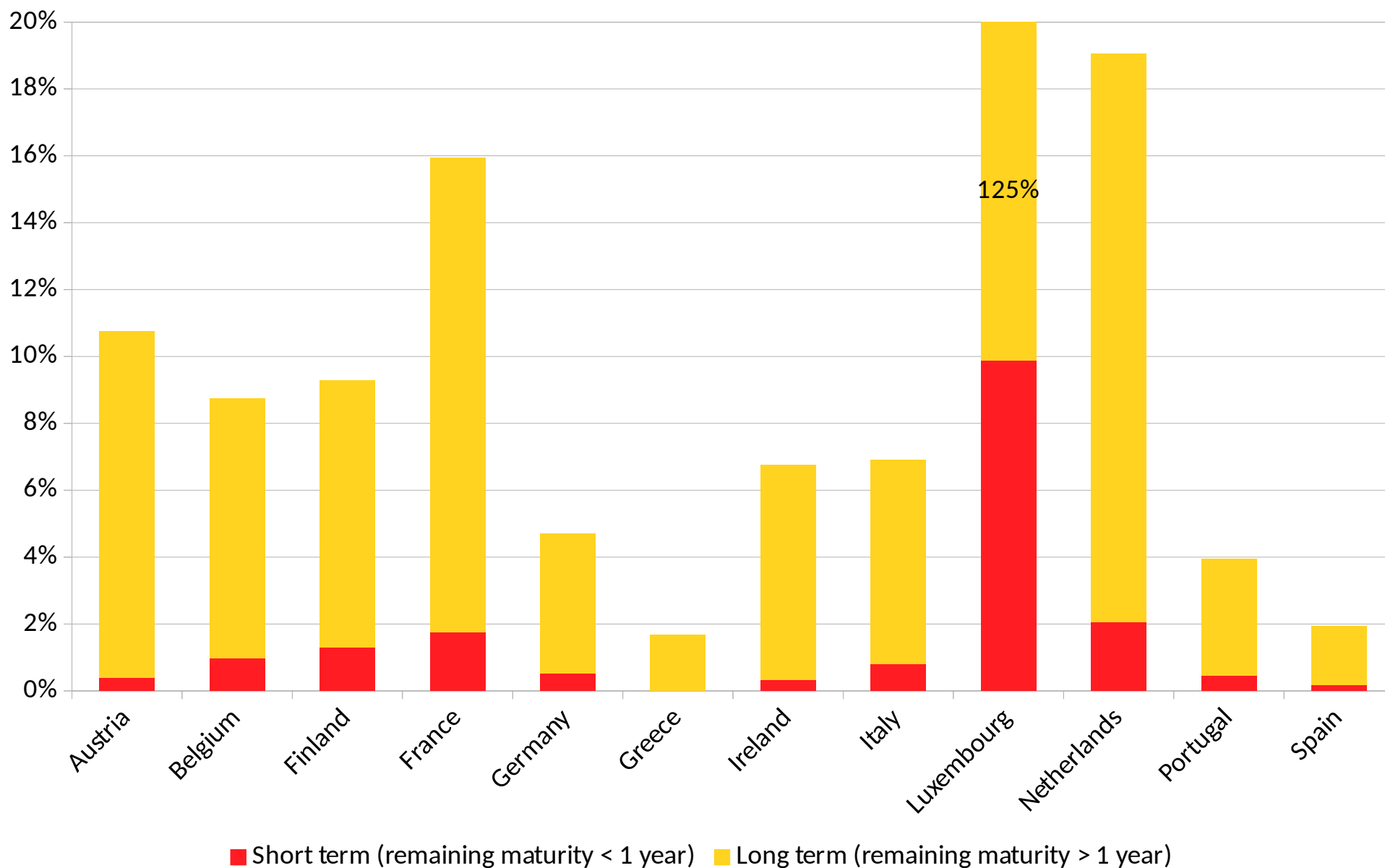
Intl debt securities of financial corporations

% of domestic GDP, Q4 2015



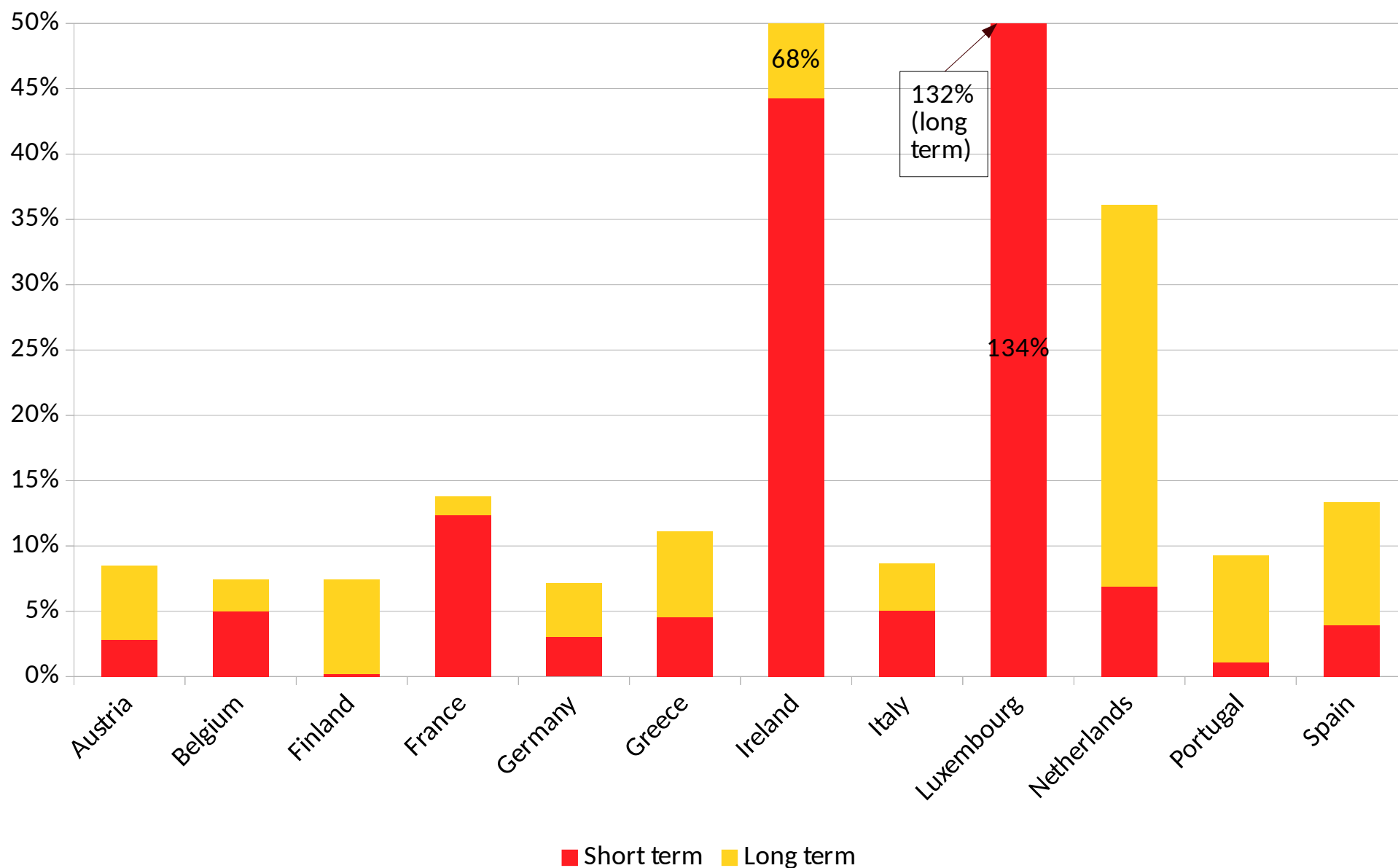
Intl debt securities of non-financial corps

% of domestic GDP, Q4 2015



Foreign loans of “other” sector

% of domestic GDP, Q3 2015



Relevant debt estimates (1/2)

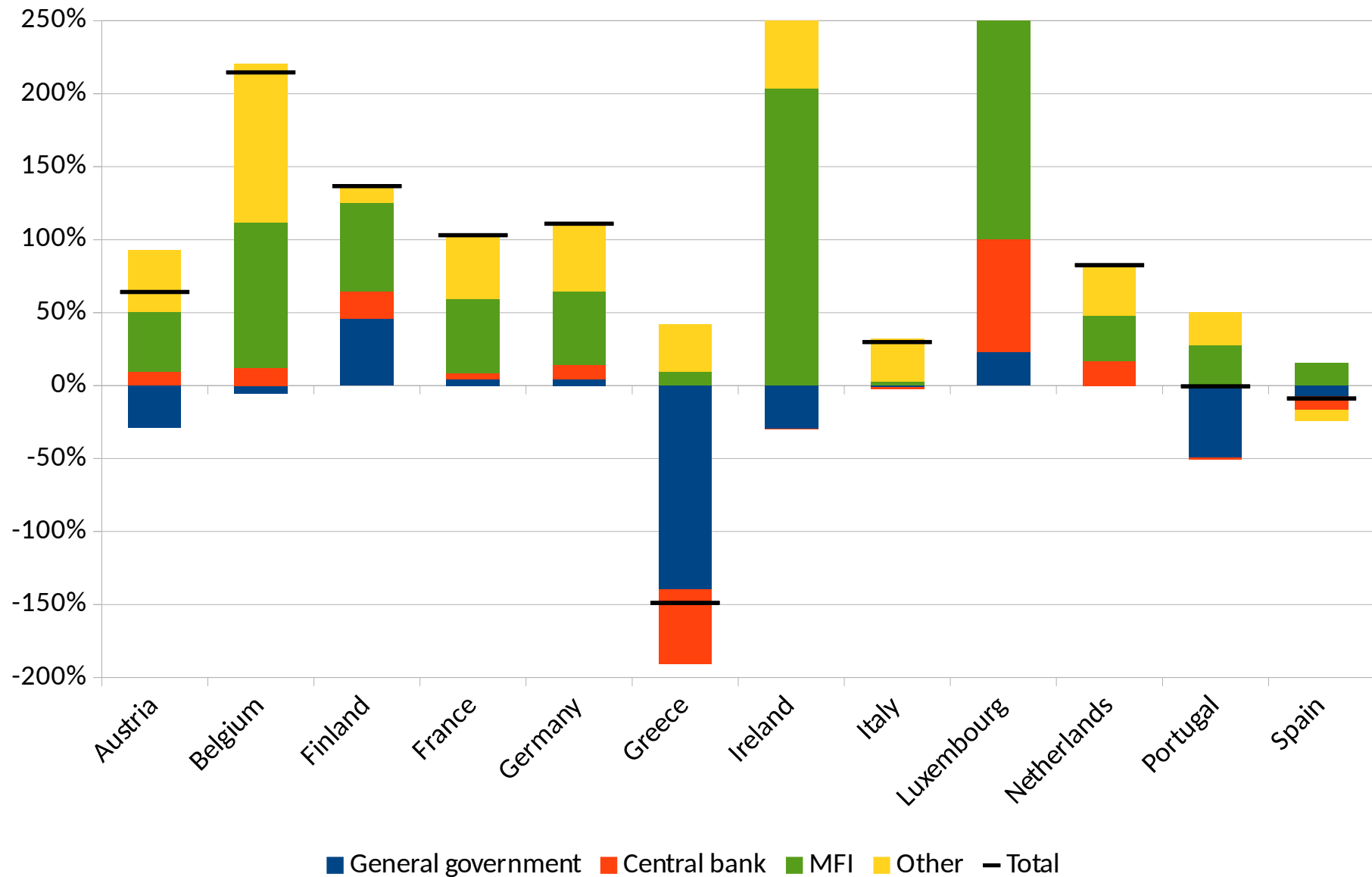
% of GDP	Greece	Italy	Portugal	Spain	Ireland	France
General government	142%	8%	57%	12%	35%	2%
<i>incl. short term</i>	<i>3%</i>	<i>1%</i>	<i>1%</i>	<i>0%</i>	<i>2%</i>	<i>0%</i>
Financial corporations	42%	30%	18%	43%	395%	42%
<i>incl. short term</i>	<i>29%</i>	<i>4%</i>	<i>2%</i>	<i>8%</i>	<i>98%</i>	<i>8%</i>
Non-financial corporations	13%	18%	20%	15%	312%	33%
<i>incl. short term</i>	<i>5%</i>	<i>8%</i>	<i>8%</i>	<i>4%</i>	<i>53%</i>	<i>17%</i>

Relevant debt estimates (2/2)

% of GDP	Germany	Netherlands	Austria	Luxembourg	Belgium	Finland
General government	6%	5%	35%	7%	10%	17%
<i>incl. short term</i>	<i>2%</i>	<i>2%</i>	<i>4%</i>	<i>0%</i>	<i>2%</i>	<i>6%</i>
Financial corporations	28%	225%	35%	876%	22%	59%
<i>incl. short term</i>	<i>9%</i>	<i>36%</i>	<i>8%</i>	<i>135%</i>	<i>1%</i>	<i>17%</i>
Non-financial corporations	20%	66%	23%	910%	23%	20%
<i>incl. short term</i>	<i>5%</i>	<i>18%</i>	<i>6%</i>	<i>385%</i>	<i>13%</i>	<i>4%</i>

Relevant net position

Relevant net position estimates



Composite risk index

Constructing the risk index

- Three index components
 - total debt change after €-exit
 - short term component of the latter
 - net balance sheet effect
- Computed by multiplying:
 - foreign currency debt / net position
 - with anticipated exchange rate movements
- Thresholds to determine risk by country/sector
 - short term debt burden: <1% GDP low risk, >2% high risk
 - total debt / balance sheet burden: <5% low risk, >10% high risk
 - positive balance sheet movements can partially offset negative debt effects

Exchange rate hypotheses after €-exit

Country	Exchange rate adjustment
Belgium	-17%
Germany	+14%
Ireland	-6%
Greece	-38%
Spain	-10%
France	-11%
Italy	+1%
Luxembourg*	+14%
Netherlands	+15%
Austria	+15%
Portugal	-14%
Finland	-18%

Source: OFCE calculations in iAGS (2016), based on 2014 data.

* Exception for Luxembourg: peg of its new currency to Germany.

Composite risk index

	Public sector	Financial sector	Non-financial private sector
Austria	Green	Yellow	Yellow
Belgium	Yellow	Green	Yellow
Finland	Green	Orange	Yellow
France	Green	Green	Yellow
Germany	Green	Yellow	Yellow
Greece	Red	Red	Yellow
Ireland	Yellow	Red	Orange
Italy	Green	Green	Green
Luxembourg	Yellow	Red	Red
Netherlands	Green	Green	Yellow
Portugal	Orange	Yellow	Yellow
Spain	Yellow	Yellow	Yellow

Policy recommendations

Ex ante limitation of exposure

- Cross-country exposure already reduced by EZ crisis
- Further reduction is good planning given uncertain EZ future
- First best: diminishing stocks by rebalancing flows, *i.e.* current accounts (through higher inflation in core)
- Otherwise: discourage exposure of firms to international debt markets and foreign banks...
- ...though segmented financial markets somewhat contradictory with single currency

Ex post mitigation (1/2)

- Provide clear legal framework for redenomination
- Avoid devaluation overshooting
 - clearly define new parity objective and defend it
 - temporary capital controls may be needed
- Liquidity provisioning to productive sector
 - expansive monetary policy
 - requires private bank restructuring (nationalization, good/bad banks split)
 - network of public investment banks may help
 - hard foreign currency delivered in priority to importing firms

Ex post mitigation (2/2)

- Solvency issues
 - public recapitalization if needed
 - ideally, financed by redistribution between winners and losers (but technically difficult)
 - opportunity for industrial policy and definancialization

Conclusion

- Internal devaluation strategy \Rightarrow debt deflation = balance sheet effect (within €-area)!
- Limited overall risk of €-exit or break-up
- But some specific vulnerabilities:
 - Default on Greece's public debt and TARGET2 unavoidable; Portugal at risk
 - High risk for financial sector in Greece, Ireland, Luxembourg; medium in Finland
 - Non-financial sector more exposed in Ireland (though may be artifact of non-bank financial firms)
- Potential for negotiation because core countries also impacted

Future work

- Spill-overs from defaults
- Intra-country redistributive impacts
- Country case studies
- Technical aspects:
 - Disentangle financial non-bank from rest of private non-financial
 - Disentangle € and extra-european currencies
 - Deal with financial derivatives

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