

ECONOMIC COMMENTARIES

Spillovers to Europe from the crisis in Russia and Ukraine

NO. 6 | 2014

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The views expressed are those of the author and do not necessarily reflect those of Norges Bank.

* I would like to thank Lene Sauvik and Claudia Foroni for useful comments.



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The IMF recently pointed to the unrest in Ukraine as a risk to global growth prospects. This article provides a short overview of transmission channels for the effects of the crisis and potential spillovers if the crisis should intensify. Most European countries will likely be little affected directly via trade and capital flows, owing to their relatively small exposure to Russia. Should Russian gas exports to Europe cease for a long period, however, the potential negative effects on growth in Europe may be substantial. The same applies if the crisis intensifies to the extent that it undermines global confidence and risk sentiment.

We focus on spillovers from Russia to euro area countries and some of Norway's proximate trading partners. Several eastern European countries with close linkages to Russia are excluded. In the following, the countries included are referred to as «Europe» or «European countries».

The Russian economy can have a direct impact on Europe through trade, capital flows and energy supply, and indirectly through confidence and risk sentiment in global financial markets. EU sanctions have been imposed on individuals and have been confined to travel restrictions and freezing financial assets.

Trade and capital flows

At firm level, the export sector in Europe has already been impacted by the crisis through weaker-than-expected demand from Russia. In 2013, Russian GDP growth was 2 percentage points lower than market projections at the beginning of the year¹. The projection for 2014 was lowered by 3½ percentage points to 0.3 percent. Exports from the euro area to Russia have declined by close to 20 percent over the same period (see Chart 1).

At macro level, the negative growth impulse to Europe has hardly been noticeable. Only a small share of European exports goes to Russia, for the euro area the share is less than 1 percent of GDP (see Table 1). The direct impact of further sanctions or a fall in Russian imports on European GDP growth is thus expected to be modest.

Whereas Europe as a whole seems fairly sheltered from a deterioration in the Russian economy, some of Russia's neighbouring countries appear to be considerably more exposed. Of the countries examined, this applies in particular to the Baltic countries and to some extent Slovakia, Slovenia and Finland. Historically, these countries have had close economic ties with Russia, and goods exports to Russia still make up between 5 and 15 percent of GDP. Compared with the euro area as a whole, export growth for these countries has been relatively weak over the past year (see Chart 2). In addition to goods exports, the tourist sector in the Baltic countries and Finland is particularly vulnerable to weaker economic developments in Russia (see Table 2).

European firms may also be impacted through dividend income from direct investment in Russia, although exposures are relatively small so that any effects are likely to be moderate (see Table 3). Banks in most European countries also have relatively small claims on Russian banks (see Table 4), with the exception of Austrian banks, that have traditionally had close eastward links. Austrian firms also have large direct investments in Russia compared with the other countries examined.

¹ Consensus Forecast from Consensus Economics

Growth impulses from Russia in a simple VAR analysis

The conclusions above are broadly in line with the results derived from a simple economic model. We estimate a VAR model that can be used to quantify growth impulses from Russia to European countries.

The model incorporates a set of global explanatory factors (global GDP, international financial conditions and commodity prices), Russian GDP and GDP for the relevant country². We estimate a model for each country examined. The following variables are used for the global explanatory factors:

- Global GDP is proxied by a weighted average of GDP in the G20 area³.
- International financial conditions are proxied by the VIX, which measures the implied volatility of US equity prices and is often seen as an indicator of global risk sentiment.
- Commodity prices are measured by *The Economist* commodity-price index. The index is deflated by the trade-weighted US dollar index to counteract swings in the US dollar exchange rate.

The model is estimated using quarterly data from 2003 Q1 to 2013 Q4. All the variables are expressed in log levels, and the model is estimated in first differences (except the VIX, which is expressed in levels) and depends on developments in the two preceding periods (i.e. two lags).

The estimation period is relatively short as quarterly GDP data for Russia is only available starting in 2003 Q1. We have therefore in addition estimated a set of models where the OECD's leading indicator for Russia (CLI) is used to construct a quarterly GDP series from 1992 Q3 to 2002 Q4. The results derived from this control model are in line with the results from the main model.

To identify the structural parameters of the model, a set of restrictions must be specified. We assume that the more exogenous variables of the model precede the endogenous ones⁴: first, global explanatory factors; second, Russian GDP; and finally GDP for the relevant country. The model thus enables us to distinguish between the effects on GDP for the relevant country from global factors and effects from economic activity in Russia.

The model confirms that spillovers from Russian GDP growth are largest for countries with the largest export exposures to Russia. Chart 3 shows the effects on quarterly GDP growth of a negative shock to Russian GDP growth of one standard deviation (i.e. 1.3 percentage point shock to Russian GDP growth).

The spillovers are largest for Latvia, Lithuania, Slovakia, Slovenia and Finland. For Latvia and Lithuania, the shocks have a substantial direct impact over three to four quarters. For the other three countries, the impact of the shock occurs with a lag, with the most pronounced impact occurring after two to three quarters and the impact fully dissipating after around four quarters.

² Mainland GDP for Norway. The model is structured in the same way as *IMF WP/12/145*

³ Weighted using purchasing-power-parity-adjusted GDP. Saudi Arabia is not included owing to data constraints.

⁴ I.e. standard Cholesky decomposition. This is a restriction on potential contemporaneous impact. Each variable may only contemporaneously affect the variables listed after it. In our model this means that Russia has a contemporaneous impact only on the relevant country, while the relevant country does not have a contemporaneous impact on any other variables. All variables may affect each other with a lag.

For the euro area as a whole, variations in Russian GDP growth have a limited impact. The same applies to Poland, the UK, Sweden and Denmark. The VAR analysis supports the conclusion above that the Russian economy has relatively limited direct effects on growth rates in most European countries.

The model with a short estimation period shows what appears to be a substantial spillover from Russia to Norway, likely reflecting the impact of a factor common to both countries; the petroleum sector. If the estimation period is extended, the spillover from Russia to Norway becomes considerably smaller. As the petroleum sector was less important for both countries in the 1990s, this is in line with the interpretation above.

Energy exports from Russia

Russian energy exports account for large share of energy supplies for many European countries. About 25 percent of euro-area oil and gas is imported from Russia (see Table 5). An interruption in Russian energy exports to Europe may have substantial spillover effects at regional and global level. Regarding access to energy, Europe is likely most vulnerable to an interruption in gas exports as oil, unlike gas, can be transported and traded globally. In addition, higher energy prices will be felt by Europe and the rest of the world.

For the euro area as a whole, gas imports from Russia account for a little more than 7 percent of total energy consumption. The scale of the economic effect of an interruption in Russian gas exports will depend on several factors such as the length of the interruption and to what extent alternative energy sources can be used (price and volume will play a role). An interruption spanning several months through a cold winter will have the largest impact. At the other end of the scale is a much smaller impact from a short interruption in the summer. The effects will also depend on European gas stocks. At present, stocks are relatively high after an unusually warm winter (see Chart 4).

At country level, the impact will be largest for those countries that are most dependent on Russian gas. Based on import data, the countries with the highest dependence are Lithuania, Latvia, Slovakia and Austria. The degree of dependence should be adjusted down somewhat, however, to account for the share of imported gas that is re-exported to other countries. Countries that do not import Russian gas directly will also be affected through higher demand and prices for alternative gas and energy sources in Europe.

The economy that will feel the greatest adverse impact of a full interruption in Russian gas exports to Europe will nevertheless be Russia. This will put a constraint on how long it is possible to maintain an interruption. In the meantime, close trading partners will also feel adverse second-round effects through lower Russian import demand.

Indirect effects through global risk sentiment

A pronounced intensification of the crisis in Ukraine and Russia may undermine global confidence and risk sentiment. This may lead to higher funding costs in countries that are perceived as risky. In Europe, these countries are primarily in eastern and central Europe, but a shift in investor preferences towards risk-free assets may result in higher funding costs in vulnerable euro area countries (i.e. Spain, Italy, Greece, Portugal and Ireland).

The most dramatic event so far was the annexation of Crimea. The episode did not, however, have any significant impact on risk sentiment (see Chart 5), and it would thus seem that there is a very high threshold for effects on global financial markets from Russia and Ukraine.

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**ECONOMIC
COMMENTARIES**

NO 6 | 2014

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RUSSIA AND UKRAINE

Conclusion

For Europe as a whole, the economic effects of lower demand from Russia or further trade sanctions against Russia seem to be small as most European countries have relatively limited exposure to Russian exports. An interruption in Russian gas exports may, on the other hand, give rise to more pronounced effects also for countries that do not import Russian gas directly. Relatively large European gas stocks and lower energy demand in summer will nonetheless limit the impact of a short interruption in energy supplies. The largest impact on Europe will naturally occur in the event of a pronounced intensification of the conflict, through worsening global risk sentiment, trade contraction and energy supply interruptions.

For the Baltic countries, Finland, Slovenia and Slovakia, even a mild intensification of the crisis could have an impact through lower exports and probably through the confidence channel too.

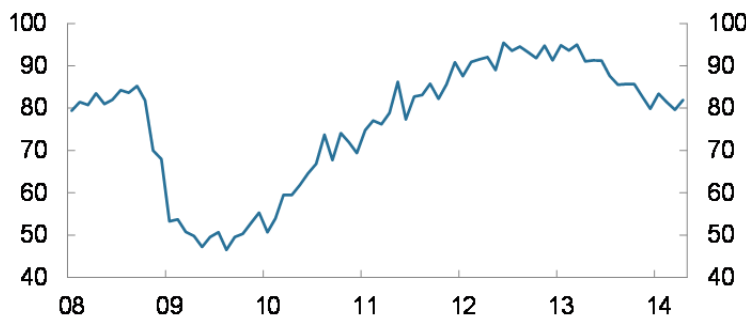
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ECONOMIC COMMENTARIES
NO 6 | 2014

SPILLOVERS TO EUROPE FROM THE CRISIS IN RUSSIA AND UKRAINE

Chart 1: Euro Area export of goods to Russia

Goods. Annualized. Billions of euros. January 2008 – April 2014

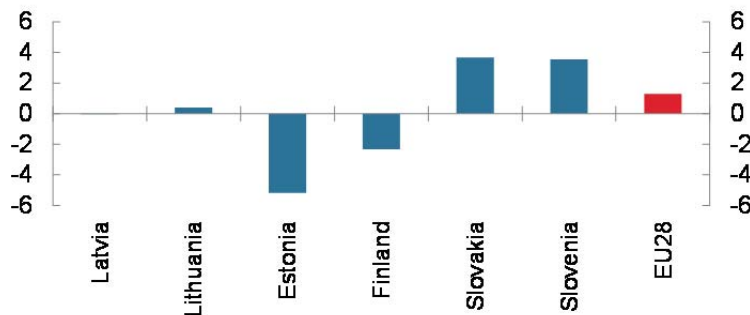


Source: Thomson Reuters



Chart 2: Total exports of goods

Twelve-month change, February – April 2014 compared to same period previous year



Source: Thomson Reuters



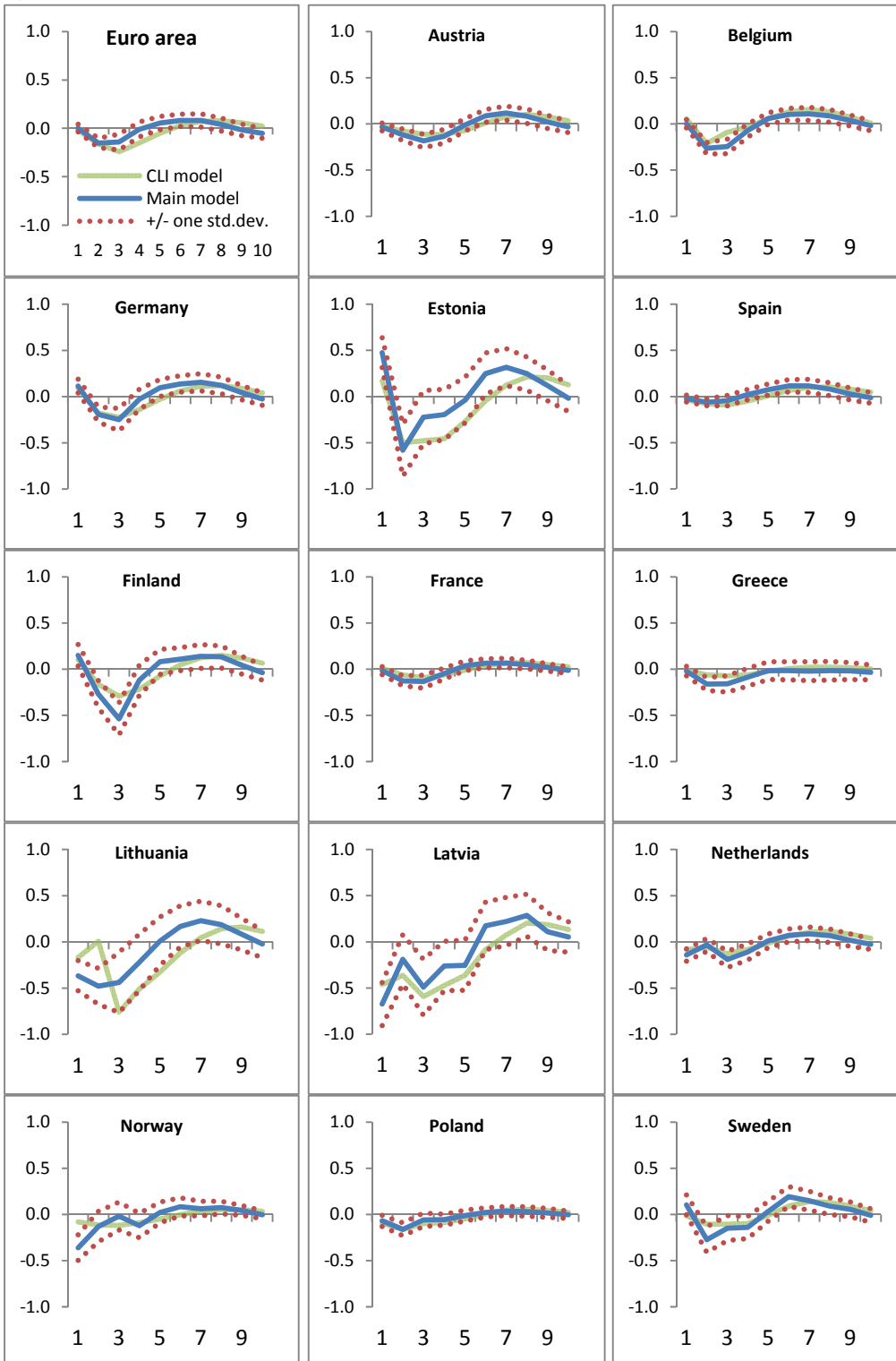
Chart 3: VAR analysis.

Percentage point change in quarterly GDP growth from one standard deviation shock to Russian GDP (one standard deviation equals 1.3 percentage points). The horizontal axis shows time measured in quarters; the shock takes place in Q1.

NORGES BANK

ECONOMIC COMMENTARIES
NO 6 | 2014

SPILLOVERS TO EUROPE FROM THE CRISIS IN RUSSIA AND UKRAINE



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SPILLOVERS TO EUROPE
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RUSSIA AND UKRAINE

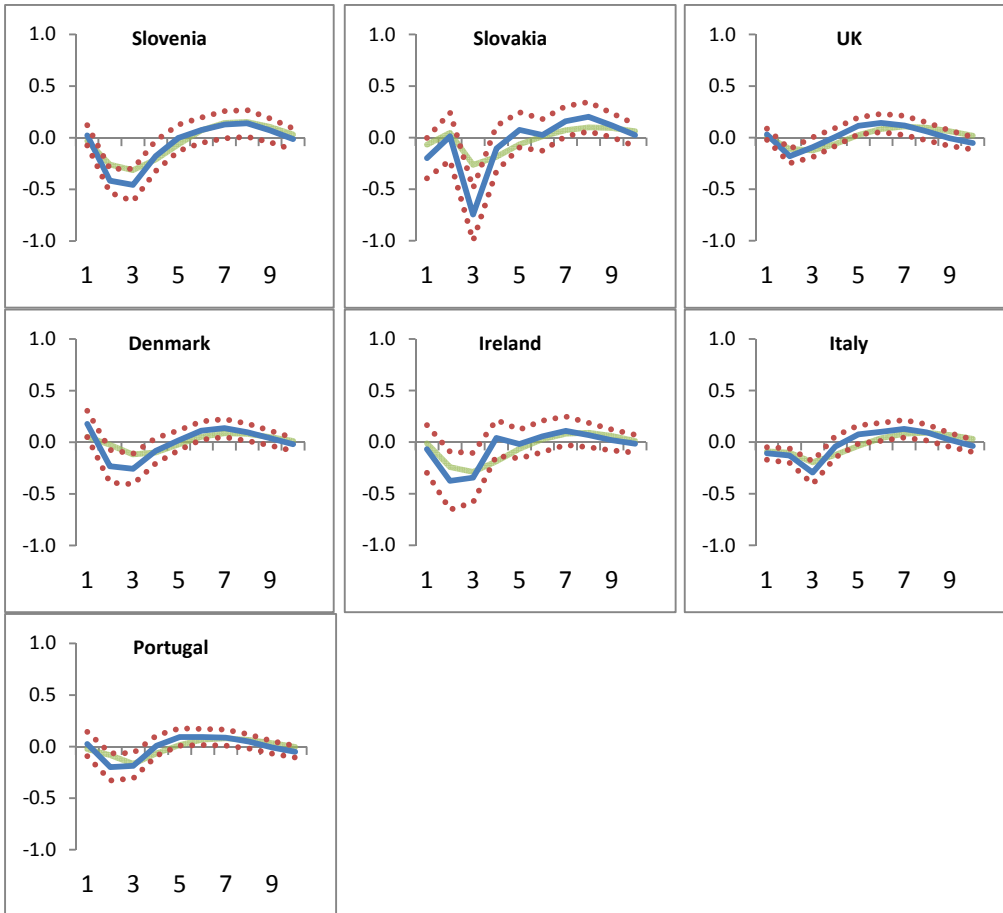
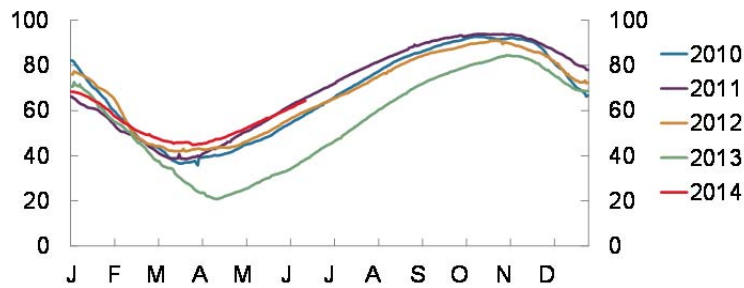


Chart 4: Gas stocks

EU-28. Development through year. Percent of full capacity

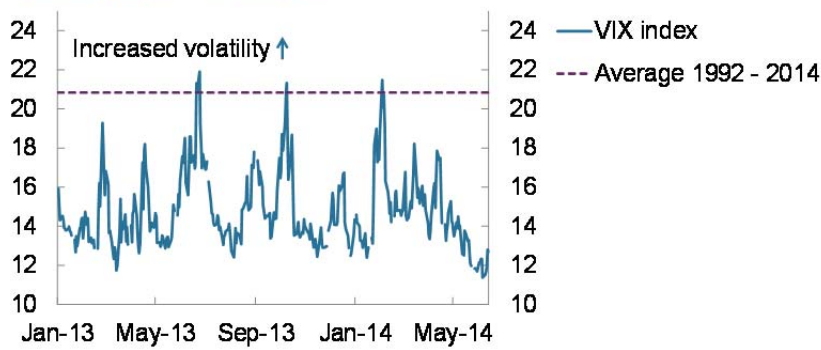


Source: Thomson Reuters



Chart 5: VIX index

1 January 2013 – 13 June 2014



Source: Thomson Reuters



Table 1: Exports of goods to Russia in 2013

	In billions of EUR	Percentage of GDP
Euro area	86.8	0.9
Austria	4.3	1.4
Belgium	5.1	1.3
Estonia	1.4	7.6
Finland	5.4	2.8
France	7.7	0.4
Greece	0.4	0.2
Ireland	0.6	0.4
Italy	10.8	0.7
Latvia	1.8	7.6
Netherlands	8.0	1.3
Portugal	0.3	0.2
Spain	2.8	0.3
Germany	36.1	1.3
Denmark	1.6	0.6
Lithuania	4.9	14.1
Norway	1.0	0.4
Poland	8.1	2.1
Slovakia	2.6	3.5
Slovenia	1.2	3.4
United Kingdom	4.7	0.2
Sweden	2.7	0.6

Source: European Commission

Table 2: Number of overnight stays by Russian citizens in 2013

	Percentage of total number of overnight stays
Euro area	
Austria	1.4
Belgium	0.7
Estonia	10.7
Finland	7.4
France	0.7
Greece	5.6
Ireland	0.1
Italy	1.6
Latvia	16.6
Netherlands	0.4
Portugal	1.1
Spain	2.2
Germany	0.6
Denmark	0.3
Lithuania	10.8
Norway	0.7
Poland	1.0
Slovakia	1.4
Slovenia	3.7
United Kingdom	0.4
Sweden	0.4

Source: European Commission

Table 3: Direct investment in Russia, level in 2012

	In billions of EUR	Percentage of GDP	Percentage of total direct investment
Euro area	173.3	1.8	1.7
Austria	8.5	2.8	5.3
Belgium	0.3	0.1	0.1
Estonia	0.3	1.5	5.7
Finland	3.2	1.7	2.8
France	12.3	0.6	1.0
Greece	0.0	0.0	0.1
Ireland	0.2	0.1	0.1
Italy	8.0	0.5	2.0
Latvia	0.0	0.1	3.8
Netherlands	5.4	0.9	0.7
Portugal	0.0	0.0	0.0
Spain	1.2	0.1	0.2
Germany	19.0	0.7	1.6
Denmark	1.0	0.4	0.5
Lithuania	0.1	0.3	5.7
Norway	0.4	0.2	-
Poland	1.1	0.3	2.5
Slovakia	0.0	0.0	0.4
Slovenia	0.3	0.9	5.8
United Kingdom	7.6	0.4	0.6
Sweden	5.6	1.4	1.9

Source: European Commission

Table 4: Claims on Russian banks, 2013 Q4.

	In billions of USD	Percentage of total bank assets
Euro area	-	-
Austria	16.9	1.3
Belgium	0.5	0.0
Estonia	-	-
Finland	-	-
France	49.2	0.4
Greece	0.4	0.1
Ireland	-	-
Italy	29.2	0.5
Latvia	-	-
Netherlands	17.2	0.5
Portugal	0.2	0.0
Spain	1.3	0.0
Germany	19.3	0.2
Denmark	-	-
Lithuania	-	-
Norway	-	-
Poland	-	-
Slovakia	-	-
Slovenia	-	-
United Kingdom	17.1	0.2
Sweden	9.3	0.7

Source: BIS

Table 5: Energy imports from Russia in 2012

	Gas imports as a percentage of gas consumption	Gas imports as a percentage of total energy consumption	Oil imports as a percentage of oil consumption
Euro area	25.0	7.2	25.6
Austria	98.4	26.8	12.6
Belgium	0.0	0.0	36.7
Estonia	100.0	11.0	-
Finland	100.0	10.9	88.4
France	15.1	2.8	14.0
Greece	55.3	9.0	33.3
Ireland	0.0	0.0	-
Italy	24.1	11.2	12.4
Latvia	113.8	37.5	-
Netherlands	6.4	3.2	29.2
Portugal	0.0	0.0	3.4
Spain	0.0	0.0	13.8
Germany	39.2	10.6	36.9
Denmark	0.0	0.0	0.0
Lithuania	100.1	46.3	98.2
Norway	-	-	-
Poland	0.0	0.0	94.3
Slovakia	90.7	29.3	102.7
Slovenia	41.9	5.2	-
United Kingdom	0.0	0.0	9.6
Sweden	0.0	0.0	42.9

Source: European Commission