The discussions on current oil and gas prices once again show how much the world economy depends on the problem-free supply of these raw materials.

There is strong demand in the European Union for these energy types, and because the EU has insufficient resources of its own, it is very dependent on imports.

A recent study\(^1\) of the Vienna Institute for International Economic Studies examined which countries among the EU-15 are most vulnerable to possible oil or natural gas shocks.

European vulnerability

In terms of gas consumption per GDP unit, this is highest in the Netherlands, the UK, Belgium, Italy and Luxembourg. The high level of demand does not necessarily mean that all these countries are also directly highly vulnerable, as the Netherlands and the UK have substantial gas reserves of their own. This is not the case with the other countries, making Belgium, Italy and Luxembourg the largest importers of natural gas. Conversely, Sweden, Greece and Portugal have the lowest gas consumption levels among the EU-15 countries. Consumption of petroleum products per GDP unit is highest in Luxembourg, Belgium and Portugal, and lowest in Italy, the UK and Denmark.

These findings are to be seen in a macroeconomic context. The study arrived at the following conclusions in regard to specific industries: if one differentiates between industries and countries it is possible to identify the country-specific industries which would be most affected by an oil or gas shock. These are above all metal production and metalworking in Ireland and Luxembourg, the production and processing of glass and of stone and earthen goods in almost all of the EU-15 countries, mining and the extraction of stones and earths in Denmark and Greece, and the chemical industry in Austria and Spain.

"Growing dependence"

Most of the EU-15 countries are very dependent on imports of oil and gas (between 80 % and 100 %). As the oil and gas reserves of Denmark and the UK are virtually depleted, the import dependence of these two countries is moreover likely to rise sharply by 2015 from almost 0% at present. This shift will lead to a considerable rise in overall EU demand for oil and gas imports. In 2005, the EU-15 imported 80 % of its oil. In 2015, this would amount to about 97 % (assuming that the reserves of the two aforementioned countries are by then entirely depleted). The EU-15 imported 55 % of its gas in 2005. This would rise to 78 % by 2015 under the above assumptions. Russia is the EU-15’s most important exporter of oil and gas. The country accounts for 26 % of the EU-15’s total oil imports and 33 % of gas imports. Russia is followed by Norway, with a share of 19 % and 25 %, respectively. In third place come Saudi Arabia and Libya (oil), and Algeria and Nigeria (gas).

Whilst the EU-15 has a well-diversified structure of oil-exporting countries, many member states are highly dependent on a small number of source countries. Leaving aside Norway’s reserves, Finland and Sweden

\(^1\) Oil and Gas Dependence of EU-15 Countries, WIIW
are the least diversified countries by source country, while Spain and France have the highest level of diversification.

"Austria is also vulnerable in the case of gas"

The study also includes fuel intensity indicators linking energy intensity to dependence on imports and the degree of diversification (by source country). The indicators show that Finland, Belgium and Greece are the EU-15 countries which are the most vulnerable in regard to oil products. The most vulnerable countries in respect to natural gas are Finland, Austria and Italy.

The countries least vulnerable in regard to both energy types are primarily those with substantial North Sea reserves: the UK, Denmark and (gas only) the Netherlands. Aside from these countries, whose resources, as already mentioned, will soon be depleted, Spain and France are the least vulnerable to oil imports. Vulnerability to gas imports is highest in France and Ireland. In the medium term, France has the best position in regard to energy security.

The long arm of the Kremlin

Russia is at the heart of the EU debate on energy security, as is Gazprom, Russia's export monopolist, in the case of gas. The EU's dependence on Russian energy is today already fairly high, and will continue to increase given current trends. EU demand for oil and gas imports will grow further in view of the rapid depletion of North Sea reserves, and Russia appears to be the natural choice for business partner, especially for gas.

However, the Kremlin makes no secret of the fact that it views Gazprom as an important economic and political instrument for asserting its influence in the world. Russia's interventions in specific neighbouring countries have moreover raised concern. And Gazprom's very active expansion strategy – in downstream markets within the EU and in upstream production sources in central Asia – has further heightened the EU's energy security concerns.

It is in the EU's interest to pursue a policy of diversification of energy sources. This includes current efforts to create an energy corridor between the Caspian Sea and Europe. However, Russia is trying to thwart these plans, which has raised concern in the EU.

The EU will (and should) nevertheless continue its policy of diversification. This strategy could for example result in increased imports of liquefied natural gas (LNG). The achievements of the diversification policy are likely to be moderate, however. From a long-term perspective, it would appear to be desirable, and in practical terms also inevitable, that Russia will remain a very important supplier for the EU in light of its vast natural gas reserves (the largest in the world).

A very different problem that is also part of the debate on energy security relates to Russia’s short to medium-term ability to fulfil all its supply obligations. The reserves are there. The problem is that the investments so far made in production capacity do not guarantee sufficient production volumes. While Russia’s own consumption of natural gas is rising, there is also growing export demand. This has raised concerns that the situation might lead to a shortage of natural gas in the future. There is relatively little the EU can do about this, but it is a problem which it should bear in mind.

Gazprom's close ties to the Russian state and its vast market powers have led to a growing sense of unease in the EU over the group's rising market shares within the Union's distribution and storage networks. Russia has moreover refused to change Gazprom's legal status in respect to its export monopoly and the Russian distribution network.

"Brussels is waking up ..."

The European Commission originally wanted to see a fully liberalised single energy market, established by measures such as separating production and distribution. In September 2007, the European Commission responded to the “Gazprom challenge” by establishing a link between these two factors. This was achieved by
means of a proposal for an EU Directive requiring both EU and non-EU energy companies to separate production and distribution. The Directive would of course also affect Gazprom (in regard to its activities within the EU). In addition, the Commission would have the right to veto any participation of a non-EU company in energy distribution networks in the EU.

The Directive drafted by the Commission is, from an economic perspective, the best response to the energy security challenges facing the EU today. It would limit Gazprom's market penetration capabilities while contributing to a more competitive single energy market.

The Commission's approach furthermore leaves the door to Russia open. Within the framework of its bilateral energy relations with the EU, Russia can choose between a best possible solution and a second-best solution. If both sides decide to liberalise the energy market, both partners can make investments in the energy markets of the other, resulting in greater economic efficiency and more security for both parties. If Russia should not be in favour of liberalisation and opt for the second-best solution, the Commission could restrict Gazprom's operations in the EU single energy market.

"... but the game is still undecided"
There is the risk, however, that the planned separation process may be blocked by important EU member states, especially Germany and France, for EU internal reasons. If this were the case, it is still not clear how the Commission could limit Gazprom's penetration of the market by other means. But it is likely that it will try to impose restrictions of one kind or another. An alternative measure could for example be the use of golden shares.

The debate is still open. Russia should probably respond in clearer terms to the draft of the EU, as should also the EU member states. The governments and institutions involved are therefore expected to take a firm stand on the matter in the coming months.