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The Transatlantic Trade and Investment Partnership and Crude Oil and Distillate Trade between the US and EU: Implications for Poland

As a result of the ‘shale revolution’, the US production of crude oil, as well as consumption of oil and distillates, is on the rise. Since 2010 imports of oil have dropped by around 100 million tons and this trend will continue. US refineries use mainly heavy and sour grades of oil, including oil imported from Canada and Venezuela. Unconventional oil, which is expected to account for over 50 percent of domestic production in the years ahead, is light. As a result, there is the high possibility of a strong oversupply of light and sweet oil on the North American market.

The situation in Europe is different situation. Most of the oil produced in the North Sea and Norway is light and sweet. Oil production and consumption are steadily dropping, as are imports, which are currently at roughly 500 million tons. Refineries are undergoing a transformation; some plants have closed (over 30 between 2009 and 2014, taking with them a total capacity of ca. 120 million tons), some have re-configured to produce biofuels, and some are used as storage facilities. There are no signs indicating that this trend will reverse.

From a technical point of view, any lighter (higher API gravity) or sweeter (lower sulfur content) oil may serve as a substitute for heavier and more sour types. However, from an economic point of view, this may not be feasible. It is easier to produce more gasoline from light oil, but if there is an abundance of gasoline on the market then the oversupply of light oil cannot be used optimally. Therefore, projecting trends on the basis of aggregate data (net imports and exports of oil) may lead to false conclusions and the analysis must include various types of oil in trade.

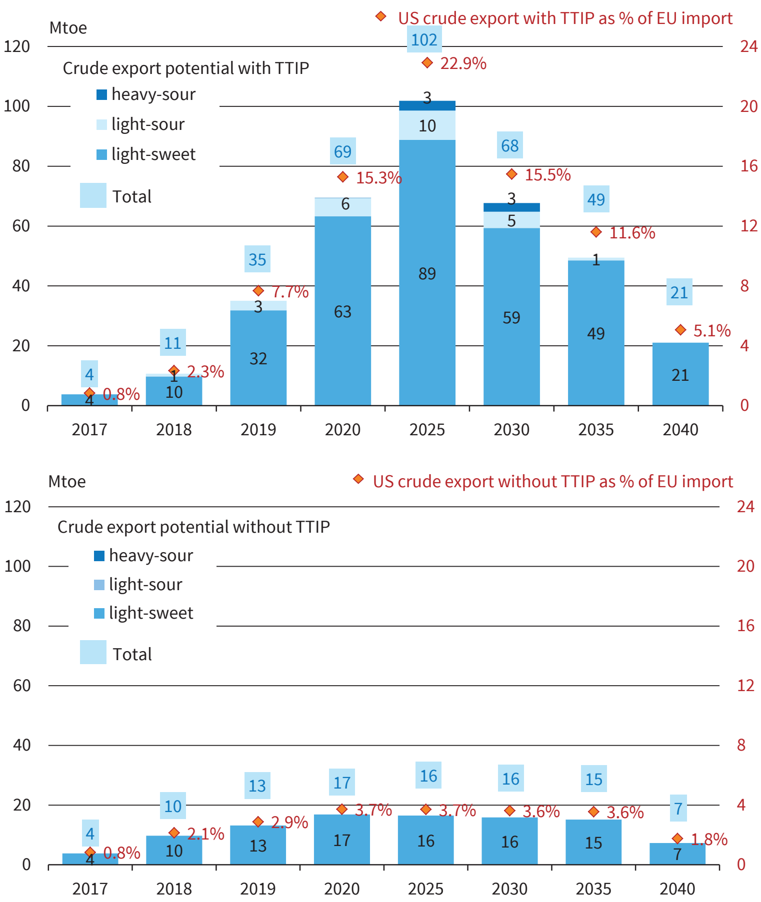
The United States will remain an importer of oil (heavy grades), but exports of light grades will continue to rise. There is the potential for future crude oil exports from North America to Europe, which may start in 2017. Their volume will depend on the situation with the US domestic market, prices and the availability of adequate types of oil for exports. TTIP can primarily contribute by lifting export restrictions in the United States. This potential flow would largely reflect a shift of exports destined for other markets (in particular, to Latin America).

In the most optimistic scenario, potential exports of oil from the United States to Europe may peak (in 2025) at more than 100 Mtoe, which may constitute ca. 23 percent of the total demand of European refineries for imported crude oil (see Figure 1). According to our estimates, in 2020–2030 the maximum potential should be around 70 Mtoe (15 percent of Europe’s imports) and in 2040 there will be a drop to around 21 Mtoe (5 percent). In such a scenario, in 2020-2030, the United States could become at least equally important as Russia, Kazakhstan, the Arab Gulf countries (jointly) or African countries (jointly).

In the short and medium term, US oil exports would be dominated by light and sweet types, while one should expect larger quantities of sour types after 2020, both light and medium. Canadian oil will also enable US exports of crude oil, as well as distillates.

Figure 1

Projections of potential oil exports from the US and Canada to the EU after TTIP is signed



Source: Authors' own computation.

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Light and sweet oil from the United States would flow mainly to West Europe and will meet import demand to a certain extent. European imports will continue to be dominated (up to 60-65 percent, or a total of 250–280 Mtoe) by light and medium sour types mainly from Russia, Kazakhstan and the Arab Gulf states. This is mainly due to demand for intermediate refined oil products, which, from an economic point of view, are best produced from medium-sour types. The share of light types, imported mainly from Africa (Libya, Algeria, Nigeria and Angola) and the Caspian region, constitutes less than a third of the import needs (130–150 Mtoe).

Until recently, small amounts of crude oil were exported from Europe (i.e. mainly Norway) to the United States. These exports will gradually be phased out. As of 2017, the trend is most likely to be reversed, initially to the order of 15–17 Mtoe (an amount used by a medium-sized refinery like the one in Płock, Poland).

As for refined products, Europe will remain a net importer, particularly of medium distillates, jet fuel and LPG while the United States will become an exporter, particularly of diesel oil and, to a lesser extent, of LPG and naphtha. We estimate that in the period 2015–2040, the potential profits of US exporters from the lifting of duties on distillates will be much larger than that of European exporters. The US profits would total 16.123 billion US dollars (mainly for LPG), while for the EU it would be 2.371 billion US dollars (mainly gasoline). TTIP will not generate a new substantial flow of distillates since the current prices and duties already render such trade profitable. However, lifting duties will increase the profits. Since the duties are much higher in Europe (usually in the range 3.5-4.7 percent *ad valorem*) than in the United States (0.052–0.52 USD/bbl, which is 0.1–0.5 percent at the current price), US exporters' benefits would be larger. Should competition pressure reduce the price, then some of the benefits would be shared by consumers, in this case mainly in Europe.

The potential for a collision of interests, as well as a challenge for European refineries, lies in gasoline. Gasoline was the main distillate exported from Europe to the United States. The United States traditionally had a deficit of gasoline, which was largely met by imports from Europe. High gasoline production in Europe is expected to be maintained. However, due to an oversupply of light oil in the United States, the situation in the market will become balanced, or an oversupply will even emerge. European refineries may need to look for new markets for their gasoline if they want to continue this level of production.

The consumption of medium fuels (diesel and heating oil) has dropped in Europe and the United States as a result of the economic crisis. Traditionally, Europe had a deficit of diesel fuel, which was imported from Russia and Belarus, for example. Should US fuels become competitive and relations with Russia remain strained, we may expect a flow from the US to the European market. The impact would consist mainly of the displacement of fuels produced using Russian oil, especially in Central and Eastern Europe.

As regards naphtha, both markets are balanced and we do not envisage any major flows between them. Neither will the jet fuel trade be affected. Europe needs over 12 million tons annually, but its imports are not from the United States, which has a balanced market and, therefore, will not become a significant exporter.

As far as heavy fuels are concerned, we envisage a drop in consumption due to environmental restrictions. There seems to be no perspective for greater trade between Europe and the United States.

Due to the small volume of exportable medium sour- and sour-oil types, the potential for US trade with Poland is limited (at most, ca. 1.5 Mt). Sweet oil constitutes only roughly 10 percent (the remaining part being mainly heavy and sour Russian oil) of the total crude oil processed by the Polish refineries in Płock and Gdańsk (in 2014, 24.2 Mt). It is usually bought on spot markets in small quantities. These refineries can work with US light oil, but this is not economic. In view of a possible drop in the supply of Russian Urals oil (as an effect of sanctions and lack of investments in the upstream sector) in the medium and long term, a need to increase imports from other countries may arise, perhaps also from North America.

Potential imports of cheaper light oil to Western Europe do not constitute an important challenge for Polish refineries. Currently, around 80–90 percent of domestically produced distillates in Poland are destined for the domestic market. Imports are mainly from refineries in neighbouring countries (Belarus, Slovakia, Germany, Czech Republic and Lithuania), which all use the same Russian oil.

We assume that, regardless of TTIP, the US government will sooner or later liberalize exports of oil.[1] The US energy companies, its economy and society stand to gain more from a liberalized exports regime than from a ban, given the current large oversupply of oil on international markets and technological progress in the upstream sector. Today, the situation in the energy markets is very different than when the ban was introduced in the Energy Policy and Conservation Act of 1975 and the subsequent Export Administration Act of 1979. However, for the foreseeable future, a long-term solution will probably still involve some administrative procedures, perhaps resembling those for LNG.

Most of the scenarios presented above will take place regardless of TTIP. As a result of the shale revolution, all important international benchmarks in the oil sector are set by US companies and the situation in the US market. This has a positive impact on the stability of international oil markets and reduces speculation and uncertainty, which were common features of these markets in recent years.

Even if this potential is not fully used, then imports of oil from the United States will increase diversification and security for Europe, contributing to the goals

1 On 18 December 2015, the former President Barack Obama signed a bill lifting the ban on oil exports.

of the Energy Union. The potential impact could consist of some substitution of European imports from third countries (as a general principal of all free-trade areas). A positive effect would be stronger competition in the European market, implying increased pressure to lower the price for consumers. Due to the current European tariff regime, US exporters of distillates stand to gain more than European exporters.