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Russia-EU28 and Russia-China trade interdependence vs. the competitiveness of the Russian economy

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**Russia-EU28 and Russia-China trade interdependence vs. the
competitiveness of the Russian economy**

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Russia-EU28 and Russia-China trade interdependence vs. the competitiveness of the Russian economy

JEL Classification: *F14; F40; P45*

Keywords: *trade interdependence; competitiveness; competitive advantages; Russia; European Union; China*

Abstract

Research background: The actual position of a country in the international division of labour is determined by the competitiveness of its trade, the structure of which may both reveal and perpetuate the comparative advantages possessed. This is particularly true for Dutch disease economies such as Russia. Recently, economic literature has seen a growing interest in the topic of Russia's economic relations with the European Union and China. This article is meant to be the author's contribution to this discussion.

Purposes of the article: (1) to discuss the existing trade interdependence between Russia and EU28, and Russia and China; (2) to try to assess the extent to which the current structure of Russian trade with these two partners corresponds with the competitiveness of the Russian economy.

Methodology/methods: An in-depth analysis of Russia-EU28 and Russia-China trade interdependencies in 2007-2015 has been conducted, with emphasis on the categories of goods within the spectrum from low-tech to high-tech, according to the OECD classification. Furthermore, in order to analyse Russia's competitive profile with regard to the same categories of goods, Balassa's methodology of revealed comparative advantages has been applied.

Findings & Value added: In the recent years, a growing importance of China in Russian trade can be observed, being the effect of dynamic growth of Chinese economy, cooling political relations between Moscow and Brussels and the drop in petroleum prices in international markets. Sadly, the existing structure of Russian trade with EU28 and China seems likely to preserve its traditional competitive advantages in the medium-low-tech goods and petroleum, which, in turn, will only further exacerbate the negative effects of the so-called Dutch disease affecting the Russian economy.

Introduction

In today's strongly globalized world economy, the actual position of a country in the international division of labour is in practice determined by the competitiveness of its economy in terms of trade. In particular, the country's potential comparative advantages in exports are of paramount importance in this respect. On the other hand, the existing structure of the country's trade, which is the direct result of its economy's place in the international division of labour, can be (under certain conditions arising from trade agreements or the possession of resources which are in low supply worldwide) an extremely important factor perpetuating the competitive advantages already enjoyed (Falkowski, 2013). This is particularly so for Dutch disease economies, such as the Russian economy. In light of the above, it is an important and interesting research problem to identify the current trade interdependence between Russia and the European Union (EU28) as well as China – Russia's two major trade partners – and to try to answer the question as to how the existing commodity structure of Russian trade exchange with these two partners reflects the competitive profile of the Russian economy in the contemporary world.

The advisability of such a study may be confirmed by the fact that over the recent years there has been a growing number of articles on economic relations of Russia with the European Union (i.a.: Hars & Claes, 2013; Lavrov, 2013; Dragnev & Wolczuk, 2012) and China (i.a.: Simola, 2016; Unnikrishnan & Purushothaman, 2015; Sidorenko, 2014; Rautava, 2011) in international economic literature. This study is intended to be the author's contribution to this discussion.

Hereinbelow, the study puts forth the thesis that although both EU28 and China have traditionally been very important trade partners of Russia, a gradual increase of China's importance in Russian trade can be observed over the recent years. This was due to not only the dynamic growth of Chinese economy and the cooling political relations between Moscow and Brussels following the introduction of economic sanctions in 2014, but also the decline in oil prices in international markets. Furthermore, the existing structure of Russia-EU28 and Russia-China trade turnover strongly reflects the competitive profile of the Russian economy and further reinforces its traditional competitive advantages, which have for years been in medium-low-tech goods and petroleum.

Method of the Research

First, the detailed, in-depth analysis of the size and structure of Russia-EU28 and Russia-China trade in 2007-2015 has been conducted using the OECD classification of manufacturing industries based on their technological advancement (Hatzichronoglou, 1997; Organisation for Economic Co-operation and Development, 2011). Under this classification, 4 basic categories of goods have been distinguished, i.e. high-tech, medium-high-tech, medium-low-tech and low-tech goods. Additionally, for purposes of this study petroleum has been singled out for separate analysis to show its particular importance in Russian trade.

Secondly, to determine Russia's competitive profile in the contemporary international trade the method of analysing revealed comparative advantages (RCA) developed by B. Balassa (1965, 1989) has been applied; specifically, the study uses the logarithmised version of the original formula, which is as follows:

$$RCA_i = \ln \left(\frac{X_{ij}}{X_j} \div \frac{X_i}{X} \right)$$

where:

RCA_i – the revealed comparative advantages index of the given country in the i goods category

X_{ij} – exports of the i goods category from the given country to the j country or category of j countries

X_j – total exports from the given country to the j country or category of j countries

X_i – global total exports of the i goods category

X – global total exports

The logarithmic form of the formula ensures the symmetry of both positive and negative values of the RCA_i indicators in the region around zero, which facilitates their interpretation (Vollrath, 1991). A revealed comparative advantage in trading in a particular commodity group is only present when the value of this indicator for the given group is greater than zero ($RCA_i > 0$).

The method of analysing RCA developed by B. Balassa allows one to identify potential comparative advantages in the country's exports. Again, this analysis has been conducted using the OECD classification of manufacturing industries.

All the statistical data used for the analysis are derived from the United Nations Commodity Trade Statistics Database.

Scope and structure of trade interdependence between Russia vs. EU28 and China in 2007-2015

Over the years 2007-2015, the value of Russia's trade with other countries fluctuated markedly. While in 2007 it stood at 552 billion USD, a year later it jumped to reach 735 billion USD (an increase of 33.2% year-on-year), before shrinking to the dramatically low level of just 472.6 billion the following year (a decrease of 35.7% year-on-year) on the back of the global economic crisis, which reached its trough in 2009. In the following years (2010-2013), the value of Russian trade was increasing steadily, from 626 billion USD in 2010 to 842.2 billion USD in 2013. From 2014 onwards, however, it started to decline again, reaching just 526.7 billion USD in 2015. The reasons for this spectacular fall were mostly: 1) a decline in energy commodity prices (especially petroleum) in international markets, and 2) the sanctions imposed on Russia in connection with the annexation of Crimea and its support for separatists in eastern Ukraine. On the other hand, the counter-sanctions introduced by the Kremlin to target Western countries, which consisted, amongst others, in the introduction of an embargo on goods imported from these countries (mainly agri-food products), adversely affected Russian imports.

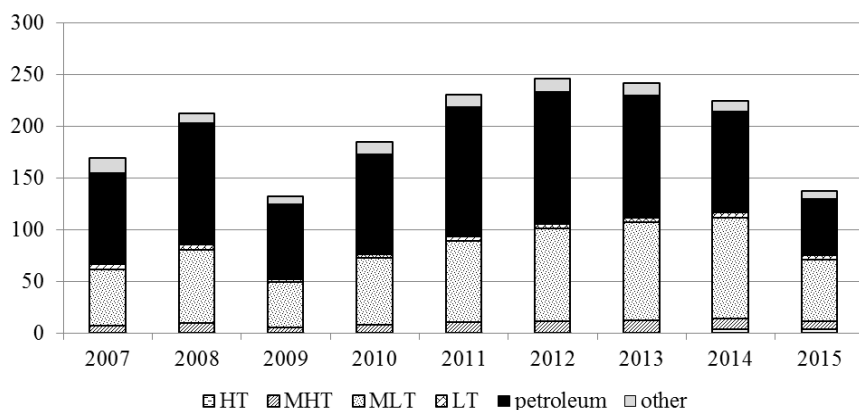
When looking at Russia's trade with EU28 and China in the analysed period, it can be observed that EU28 countries were a far more important trading partner for Russia than China. In 2015, EU28 accounted for 38.4% of the total value of Russian trade (202.2 billion USD), while China – only for 12.1% (63.5 billion USD).

Yet, a systematic rise of China's importance as Russia's trading partner is also noteworthy. In the analysed period, China's share in Russian trade total almost doubled from 7.2% in 2007 to 12.1% in 2015 while the value of total trade between the two countries jumped by 60.4% in the same period. Conversely, in the same period an opposite tendency was recorded in trade with EU28. The share of all EU28 countries in Russian trade shrank from 46.4% in 2007 to 38.4% and the value of total Russia-EU28 trade went down by 21%.

Furthermore, China is a much more important trade partner of Russia in imports rather than in exports, which is reflected in Russia's negative trade balance with that country. China's share in total Russian imports reached 19.3% in 2015 (against 12.2% in 2007), whereas in the exports it was 8.2% (4.3%, respectively). In 2015, the value of Russian imports from China reached 28.3 billion USD, up by staggering 86.2% on 2007, while the value of exports to China was 35.2 billion USD, i.e. 44.3% more than in 2007.

In contrast, unlike with China, Russia has traditionally recorded a positive, albeit declining, trade balance in its trade with EU28. While in 2007 EU28's share in total Russian exports stood at 47.9% and in imports – at 43.6%, in 2015 the respective figures were only 39.8% and 35.8%. The value of total Russian imports from EU28 went down by 25% and its exports to EU28 dropped by 18.9%.

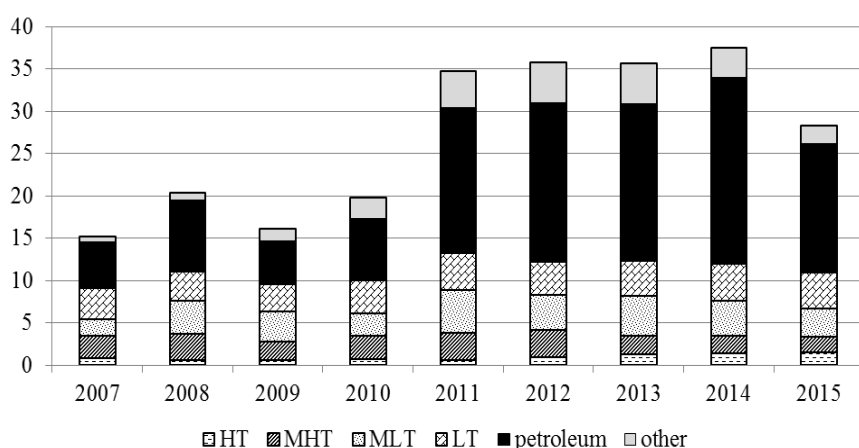
Figure 1. Goods structure of Russian exports to EU28 in 2007-2015 (billion USD)



HT – high-tech goods, MHT – medium-high-tech goods, MLT – medium-low-tech goods, LT – low-tech goods (here and in the following figures)

Source: Own elaboration based on United Nations Commodity Trade Statistics Database.

Figure 2. Goods structure of Russian exports to China in 2007-2015 (billion USD)



Source: as above.

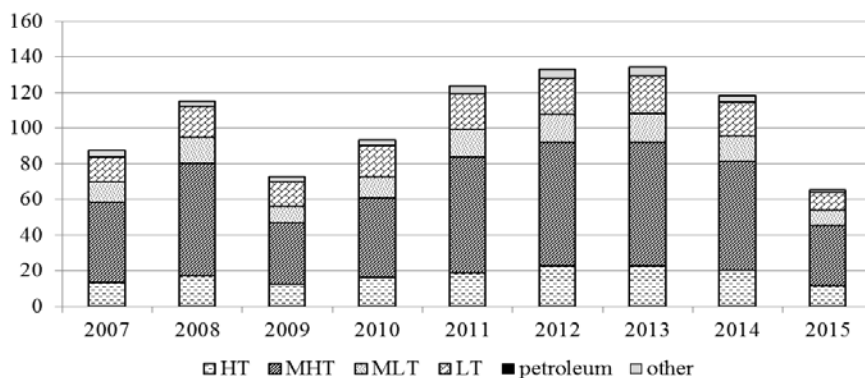
When analysing the goods structure of Russian exports to EU28 and China, one cannot but notice the enormous importance of petroleum. In case of exports to EU28, the value of trade in this commodity over the analysed period ranged from 87.7 billion USD in 2007 to 127.6 billion USD in 2012, with the exception of 2009 (71.8 billion USD) and 2015 (only 54 billion USD), which was caused by a significant fall in prices of this raw material in international markets. In relative terms, the share of petroleum in total Russian exports to EU28 exceeded 50% between 2007 and 2012, only to gradually decrease in the following years to 48.9% (2013), 43.7% (2014), and 39.5% (2015).

In contrast, the general trend was quite the opposite in trade with China. Until 2011 (except for 2008), the value of exports of Russian petroleum to China did not exceed 40% of the value of all exports, rising to over 50% of total exports from 2011 onwards. The record value was achieved in 2014, when the relevant share was 58.7%. In absolute terms, however, the value of trade in this raw material with China was not as high as that with EU28, the main buyer of Russian petroleum, fluctuating between 5.4 billion USD in 2007 and 22 billion USD in record-breaking 2014.

Next, if we look at the significance of other goods in Russian exports, it is clear that in the analysed period Russian exports to EU28 were mostly from the medium-low-tech category (Figure 1). Their share in total Russian exports to EU28 ranged from 32.3% in 2007 to 43.7% in 2015. Exports of coke, refined petroleum products and nuclear fuel played the most important role in this category. The significance of medium-high-tech and low-tech goods was very low (for example, in 2015 their shares were 5.7% and 3.2% respectively), and of high-tech goods – dramatically low. In 2007, the latter's share was barely 0.4%, but then it gradually increased year by year, eventually reaching 2.4% in 2015.

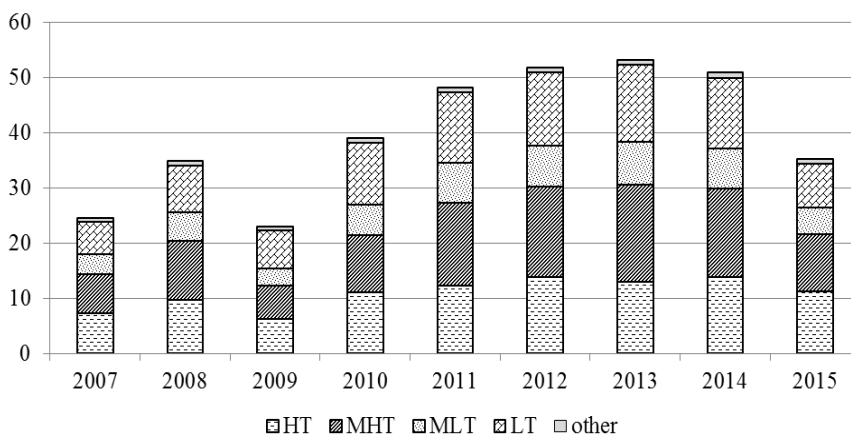
On the other hand, during the analysed period the most important (besides petroleum) in the structure of Russian exports to China were low-tech goods (Figure 2), although their share in total Russian exports to China went down from 23.7% in 2007 to 15.1% in 2015. Russia's absolute export hits in this category were wood, paper, paper products, and – to a much lower degree – food and beverages. Interestingly, the share of high-tech goods in total Russian exports to China was significantly higher than to EU28 and ranged from 1.5% in 2011 and 5.2% in 2015. The most important goods from this category were planes and other aircraft.

Figure 3. Goods structure of Russian imports from EU28 in 2007-2015 (billion USD)



Source: as above.

Figure 4. Goods structure of Russian imports from China in 2007-2015 (billion USD)



Source: as above.

As for Russian imports to EU28, they have traditionally been dominated by medium-high-tech goods (Figure 3). In the analysed period, nearly half of total Russian imports were from this category. The highest share of these goods in Russian total imports of 50.9% (33.3 billion USD) was recorded in 2015. The most important goods in this category were machinery and equipment, n.e.c. as well as motor vehicles.

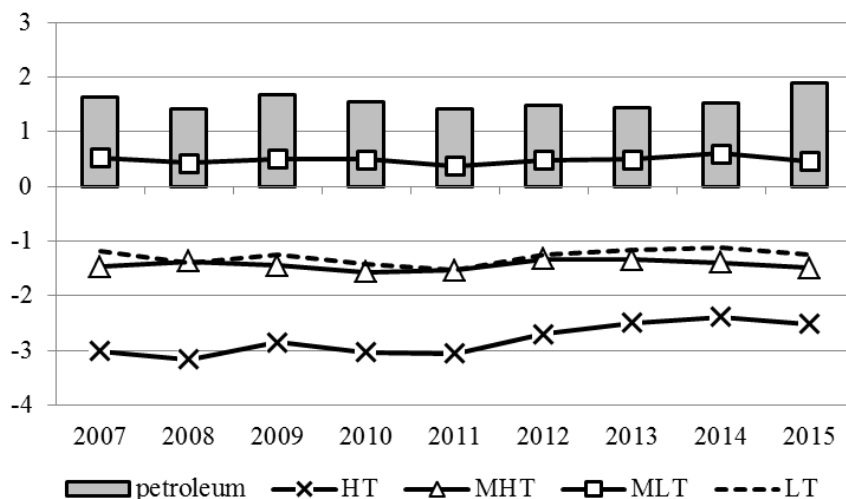
In contrast, in the analysed period almost equally important in Russian imports from China were goods from high-tech, medium-high-tech and low-tech categories (Figure 4). Their share in total Russian imports ranged from 24.3% (2013) to 26.1% (2011); from 22.6% (2015) to 31.8% (2015);

and from 33.2% (2013) and 30.2% (2009), respectively. The most important role in the imports was played by the following subcategories: radio, TV and communications equipment (high-tech category); machinery and equipment, n.e.c. (medium-high-tech category) and textiles, textile products, leather and footwear (low-tech category).

Competitive profile of the Russian economy in international trade in 2007-2015

The analysis of potential comparative advantages in Russia's trade in 2007-2015 conducted using B. Balassa's method of analysing revealed comparative advantage clearly shows that the competitiveness of this country is very low and, in practice, is only limited to raw materials and their derivatives as exemplified by positive (and relatively stable) RCA values for the low-tech category in the analysed period (Figure 5). Within this category, Russia's strongest relative comparative advantages have traditionally been in trade in non-ferrous metals (mainly copper, tin, zinc, aluminium), refined petroleum products, non-metallic mineral products and ferrous metals. These are mainly raw materials and low-value-added goods, which best reflects the actual competitive profile of the modern Russian economy.

Figure 5. Dynamics of comparative advantages (RCA) in Russian trade in 2007-2015



Source: as above.

In the remaining categories of goods, Russia did not have any comparative advantages in international trade during the analysed period. In particular, a difficult, if not dramatic, situation could be observed in the category of high-tech goods in total. This does not mean that Russia does not possess any competitive advantages in this category, being a respected and competitive worldwide exporter of aviation equipment and aircraft, including spacecraft, as well as some types of arms.

On the other hand, the most uncompetitive Russian goods in international markets, as far as high-tech, medium-high-tech and low-tech goods are concerned, have for years been pharmaceuticals, computing and office machinery, motor vehicles and R&D apparatus, as well as textiles and textile products.

Conclusions

The analysis of the scope and structure of the existing Russia-EU28 and Russia-China trade interdependence has shown that the most important goods in Russian exports to these countries are those in which Russia enjoys strong competitive advantages, i.e. raw materials, especially petroleum and petroleum products (low-added-value and low technologically advanced goods). In contrast, Russian imports from these countries are dominated by goods in which Russia does not have any competitive advantage at all – for imports from EU28, these are medium-high-tech and high-tech goods (in 2015, they accounted for as much as 68.8% of total Russian imports from EU28), whereas, in case of imports from China, high-tech, medium-high-tech and low-tech goods absolutely dominate (83.9% of total Russian imports from China in 2015). It is clear from the above that Russia-EU28 and Russia-China trade structure is in line with the competitive profile of the Russian economy.

What is more, the goods structure of Russia-EU28 and Russia-China trade has nothing but further "reinforced" the country's competitive profile, as a direct result of extensive economic growth. Worse still, it is difficult to find any qualitative changes in the Russian economy in terms of utilizing existing production resources (not just raw materials), which could serve as a foundation for stable growth independent of cyclical developments in international commodity markets.

At the end of the day, the biggest problem affecting modern Russia is the co-called "Dutch disease", i.e. the overexploitation of natural resources (mainly the energy ones) as a relatively easy source of budget revenue, which in turn leads to a decline across the rest of the Russian economy (Mironov & Petronevich, 2015; Dülger *et al.*, 2013). Unfortunately, the

existence of large markets for Russian energy, mainly petroleum and natural gas, in EU28 and China only further exacerbates the negative effects of that disease for the Russian economy.

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