

China-Russia Trade Relations and Their Impact on Europe

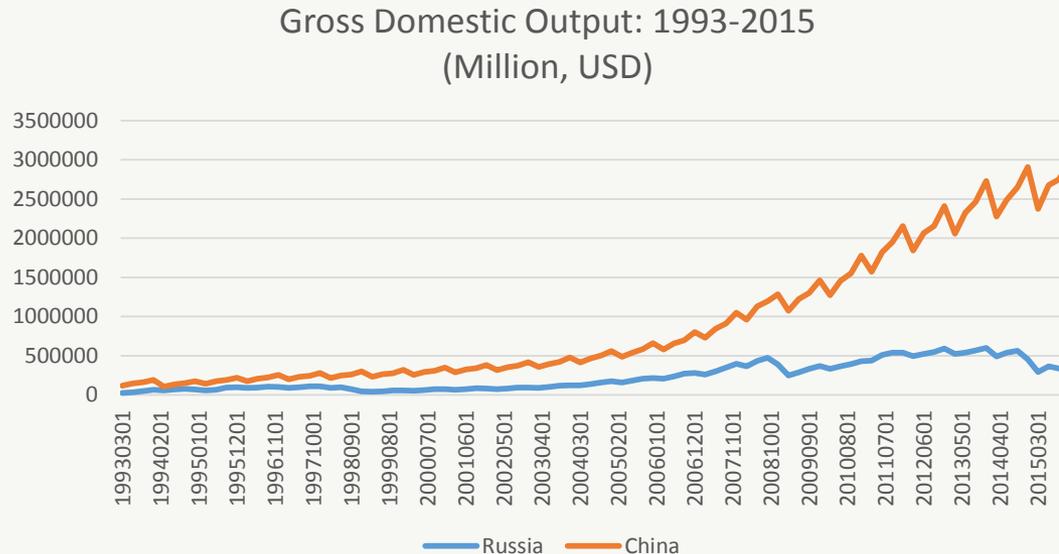
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Outline

- Background
- Reflection on EU's Competition with China and Russia
- Empirical Analysis
- Conclusions

Background: Why China-Russia Relations Matters

- China and Russia are key strategic partners for Europe.
 - Russia's largest trading partner.
 - China's major economic competitor in terms of export capacity.



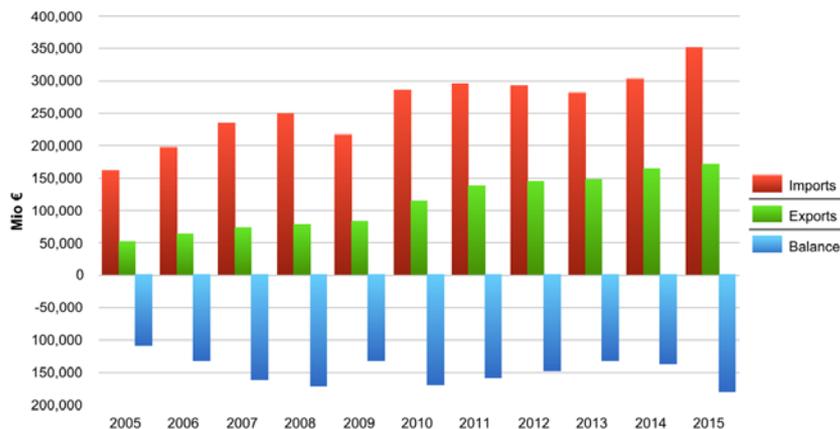
EU Relations

- EU-Russia v.s. China-Russia relations
 - The EU-Russia relations are challenged by Russia-Ukraine gas dispute and Russia's annexation of Crimea in 2014.
 - China-Russia has increased their economic collaborations over the past years.

European Union, Trade with China

Total goods: EU Trade flows and balance, annual data 2005 - 2015

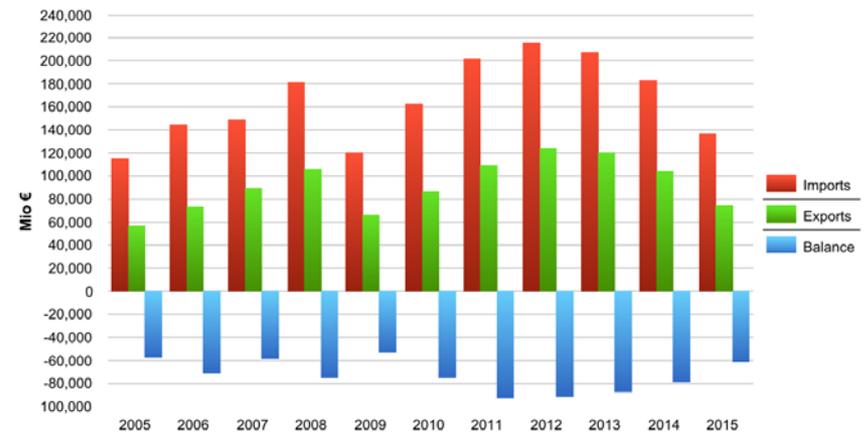
Source Eurostat Comext - Statistical regime



European Union, Trade with Russia

Total goods: EU Trade flows and balance, annual data 2005 - 2015

Source Eurostat Comext - Statistical regime 4



A Brief History of China-Russia Relations

- Pre-1991: Sino-Soviet Relations
- 1992 - Russian President Boris Yeltsin made first official visit to China.
- 1994 - 1996, from “Constructive partnership” to “strategic partnership of coordination”.
- 1998, Following China Prime Minister Li Peng’s visit to Moscow, Russia and China issued a joint communique pledging to build an ‘equal and reliable partnership’.
- 2001, Formalization of the Treaty of Good-Neighborliness and Friendly Cooperation, a twenty-year strategic, economic, and – controversially and arguably – an implicit military treaty.
- 2004, a proposed pipeline from Eastern Siberia to the Pacific and increase oil export.
- 2009, the 60th anniversary of established diplomatic relations, coincided with the signing of over 40 contracts worth roughly \$3 billion.
- 2013, China proposed the belt and road initiative, with Russia being an important partner.

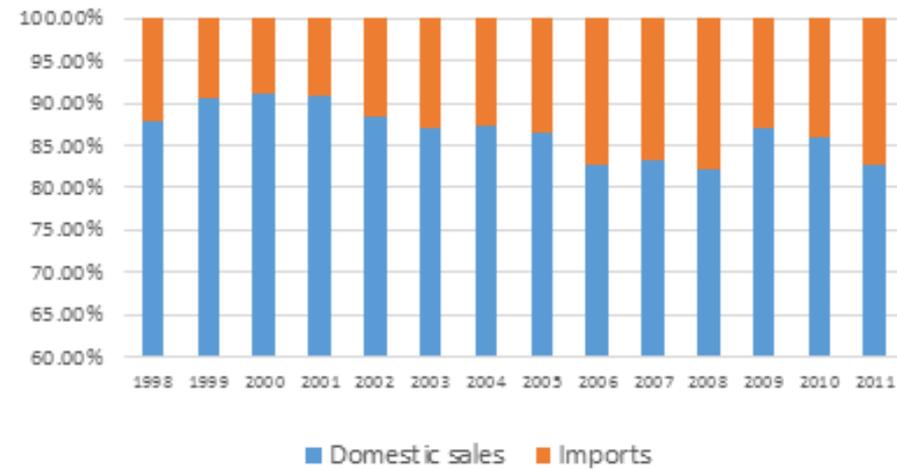
Comparison of China and Russia

Figure 1: China and Russia's exposure to globalization

Domestic sales v.s. Imports in China



Domestic sales v.s. Imports in Russia



Import Competition from EU and Russia in China

Figure 2: Import share of EU and Russia in China

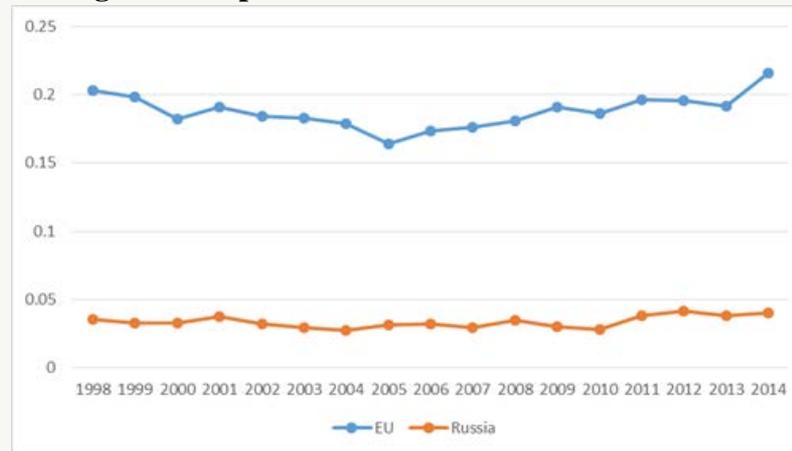
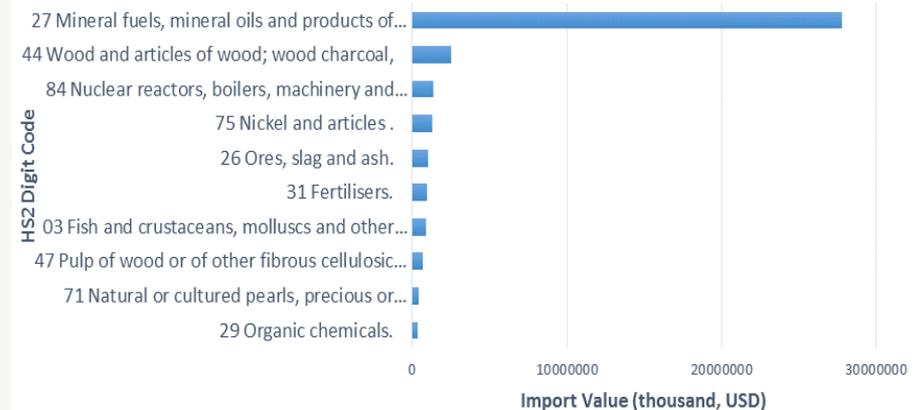


Figure 2A: Top 10 imports from EU in China



Figure 2B: Top 10 imports from Russia in China



Import Competition from the EU and China in Russia

Figure 3: Import share of EU and China in Russia

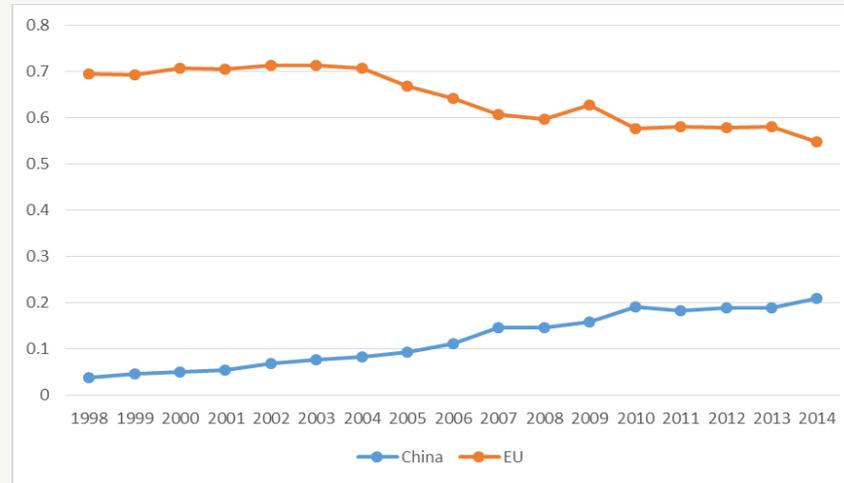


Figure 4A: Top 10 imports from EU in Russia

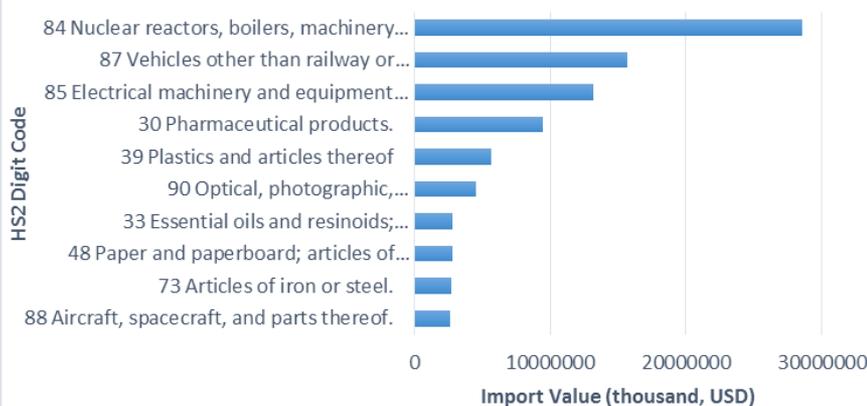
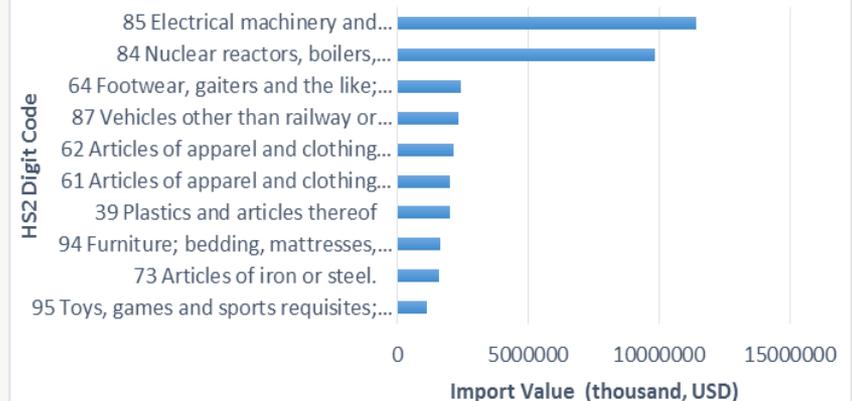


Figure 4B: Top Imports from China in Russia



Estimates of Elasticity: Method

- Following Diewert(1976) and Feenstra(2003), we choose a translog expenditure function to estimate the elasticity of substitution in Allen-Hicks sense.

$$\ln(E_i) = \ln(U_i) + \alpha_{0i} + \sum_j \alpha_j \ln(p_{ji}) + \sum_j \sum_k \lambda_j \ln(p_{ji}) \ln(p_{ki})$$

- With some reasonable assumptions it is possible to show that

$$s_{mj} = \alpha_m + \sum_k \lambda_{km} \ln(p_{kj})$$

- The elasticity of substitution can be retrieved from the parameters along with the market share value. See technical details in the appendix of the paper.

Two Key Results

- I. The EU and Russia are complementary in the Chinese market as shown by the negative and significant elasticity.
- II. China and EU countries are competitive in the Russian market as shown by a positive and significant elasticity.

Country Pair	China Market	Russia Market
EU-Russia Substitution	-0.15** (complement)	--
EU-China Substitution	--	1.30** (substitute)
EU-ROW Substitution	0.73 (substitute)	1.24 (substitute)

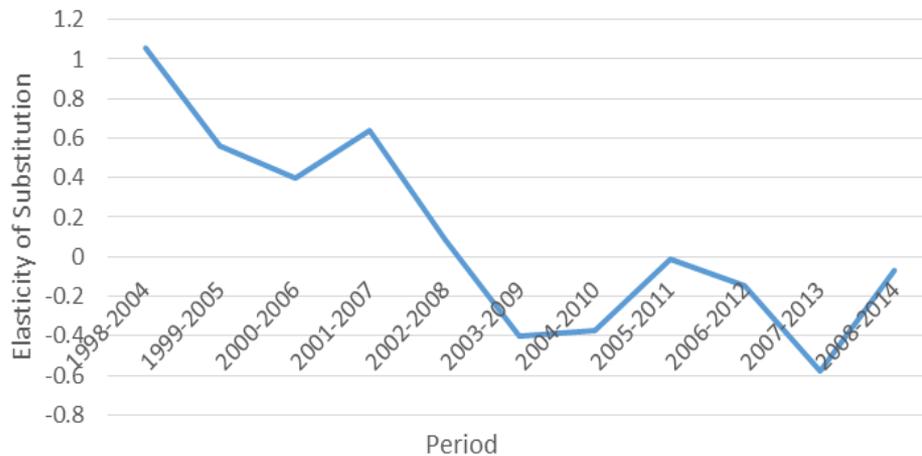
Product-level Analysis

- The competition between countries are more pronounced within each sector, as shown that the within-sector substitution for the three areas are positive for most sectors.
- The complementarity between Russia and EU in the Chinese market is driven by cross-sector complementarity.

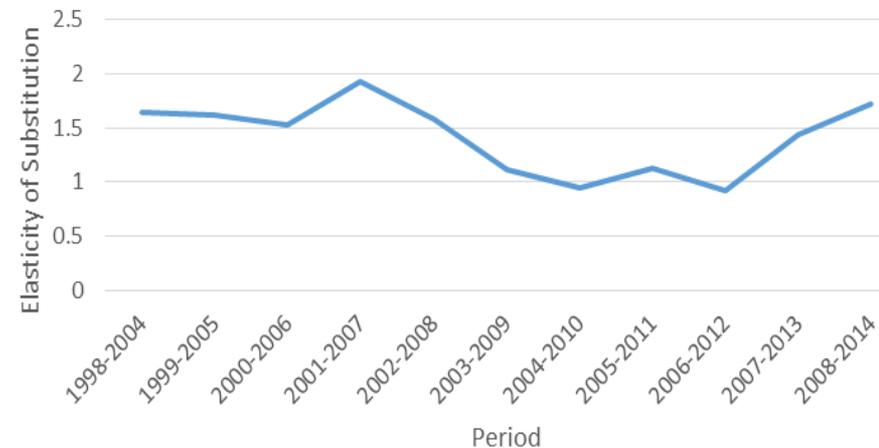
Evolution of the Elasticity of Substitution

- The elasticity of substitution between the EU and Russia in China has experienced a dramatic decline over the past years.
- The EU and China have maintained a competitive relations in the Russian market, but the elasticity has increased during the last three years when EU-Russia relations sharply deteriorated.

The Substitutability of EU and Russia Competition in China



The Substitutability of EU-China Competition in Russia



Stimulating the Impact for Europe

- Scenario simulation:
 - Assuming that a closer economic relations implies a reduction in China-Russia bilateral exporting prices of 20%.
 - Interacting the effect of the substitution in Russia and the effect of complementarity in China, we show that there will be a reduction of 4% of EU exports to Russia and China.
- Three issues concerning the simulation:
 - ceteris paribus assumption
 - the possible deterioration of EU-Russia relations
 - slowdown of China and Russia economy

Conclusions

- By estimating the elasticity of substitution, we show that:
 - Russia and EU countries are complementary on China's market and this is increasingly the case over time.
 - China and EU economies compete in Russia's market and increasingly so in more recent years.
- Simulation results indicate that a 20% reduction in bilateral exporting price between China and Russia would reduce EU exports to these two countries by 4%, with most of the negative impact born by exports to Russia.