

Assessing the Impact of Non-Tariff Barriers on Trade within the Eurasian Economic Union

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Research Question

- This paper studies to what extent Eurasian integration has led to trade facilitation and assesses the impact of non-tariff barriers on trade within the EAEU in 2010–2015

Research Design

- 528 company surveys and HS2012 classification of goods are used to measure the impact of non-tariff barriers;
- The empirical model draws on the model of Haveman and Thursby.

Economic Integration of Russia, Kazakhstan, Belarus, Armenia and Kyrgyzstan

2010

Customs Union:

- Free movement of goods



The Role of EAEU in the World, 2014

2012

Common Economic Space:

- Free movement of services, labor and capital
- Coordinated (common) policy
- Integrated infrastructure

	RUS	BEL	KAZ	ARM	KYR	EAEU
Share in world GDP, %	2.39	0.10	0.27	0.01	0.01	2.78
Share in world population, %	1.98	0.13	0.24	0.04	0.08	2.47
Investments, % of GDP	22.6	38.7	23.9	21.7	10.2	28.4
Investments, % in world investments	4.04	0.13	0.56	0.02	0.02	4.73
Share in world exports, %	2.54	0.19	0.38	0.01	0.01	3.1
Share in world imports, %	2.08	0.20	0.27	0.02	0.03	2.55
Share in world crude oil and oil products exports, %	11.3	0.46	2.33	0.00	0.00	14.1
Share in world natural gas production, %	17.9	0.00	1.23	0.00	0.00	19.2

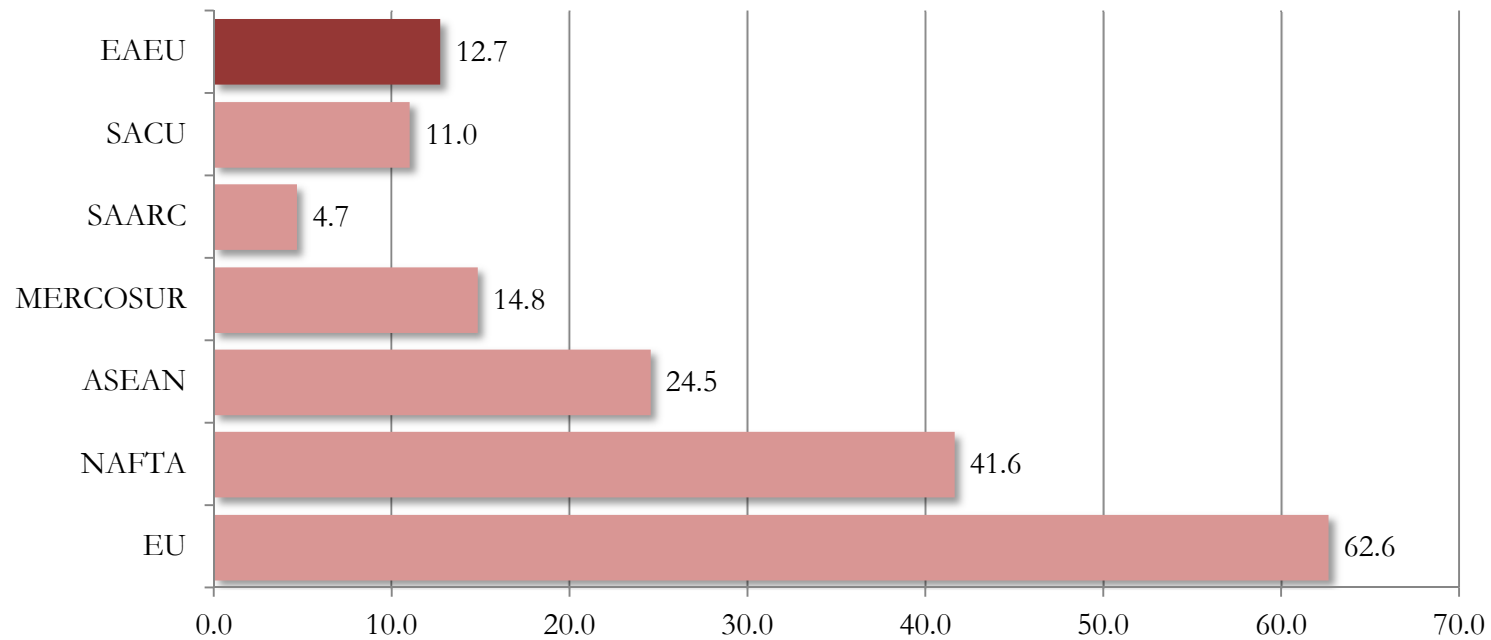
2015

Eurasian Economic Union



EAEU Intra-Regional Trade

The scale of intra-regional trade in the various integration unions
(average for 2001-2014),%



Note: SACU – Southern African Customs Union.

Source: UNCTAD/WTO (Trade Map)

Eurasian Economic Union: The Treaty

The main goal is to **cancel all existing exemptions** from free trade between the members of the EAEU.

Key novelties in the EAEU:

1. Creating single market of goods, services, capital and labor, including liquidation of all remaining barriers to free movement
2. Legal harmonization
3. Coordinated (if necessary common) policy in the key areas
4. Integrated infrastructure in all economic spheres
5. EAEU as an international organization with legal personality
6. Other measures for efficient work of the EAEU

Main integration “crossroads”

<p>Free movement of goods</p>	<ul style="list-style-type: none"> - Movement toward cancellation of residence principle - Integration of procedures for collecting import duties - Improving customs regulations - No exemptions and restrictions for free movement of: crude oil, oil products, natural gas, alcohol, tobacco, medicines and medical products, automobiles, fish - Developing common trade regime for third countries 	<p>Since 1 January 2016 – single market of medicines and medical devices</p> <p>Since 1 January 2015 – single market in 23 sectors of services</p> <p>Since 2019 – single electricity market</p> <p>Since 2025 – single market of oil and gas</p>
<p>Free movement of services, including financial</p>	<ul style="list-style-type: none"> - Creating single market of services with mutual recognition of authorization documents (43 sectors) - Gradual liberalization of most service sectors, excluding those connected with national security (mass media, exploration of uranium fields, etc.) - Introducing “best practices” for investment protection 	
<p>Free movement of labor</p>	<ul style="list-style-type: none"> - No migration cards for 30-day visits inside the EAEU - Social package for labor migrants from EAEU countries and their families 	

The Data for Non-Tariff Barriers

- The main problem — absence of variation in NTB measures both in space and in time
- We use data from Vinokurov E. et al. (2015) about NTB between Belarus, Kazakhstan, and Russia

Total value of non-tariff measures' impact on trade within the CU by industry, % of the cost of exported goods

Industry	Belarus		Kazakhstan		Russia	
	Kazakhstan	Russia	Belarus	Russia	Belarus	Kazakhstan
Agriculture, forestry and fisheries	16.7	10.7	27.2	15.7	75.0	31.7
Food products, including beverages and tobacco	15.5	17.8	28.8	47.3	29.5	29.8
Chemical industry	6.8	9.2	156.3	152.9	44.3	25.4
Metal products	24.3	14.3	12.7	99.0	17.6	41.4
Machines and equipment	46.3	57.9	60.0	85.4	106.9	144.0
Transport means and equipment	1.8	12.0	41.7	25.1	20.0	26.6
Average	22.0	23.4	48.2	58.3	37.7	42.4

The Model Description

We estimate the following type of equations:

$$\ln(Im_{i \rightarrow j}^{k,t}) = \alpha_k + \lambda_t + \beta_1 \ln(GDP_{i,t}) + \beta_2 \ln(GDP_{j,t}) + \gamma \ln(import_price_{ij}^{k,t}) + \delta \ln(distw_{ij}) + \theta \ln(1 + NTB_{ij}^k) + \varepsilon_{ij}^{k,t}$$

where $Im_{i \rightarrow j}^{k,t}$ — import from country i of the CU (Russia, Belarus and Kazakhstan) to another country j of the CU;

α_k — fixed effects on a particular product segment;

$GDP_{i,t}$ — GDP of an export-country;

$GDP_{j,t}$ — GDP of an import-country;

$import_price_{ij}^{k,t}$ — the import price of product k , imported from country i to country j in year t ;

$distw_{ij}$ — average weighted distance between countries i to country j ;

NTB_{ij}^k — non-tariff barrier for delivering product k from country i to country j .

The Model Description

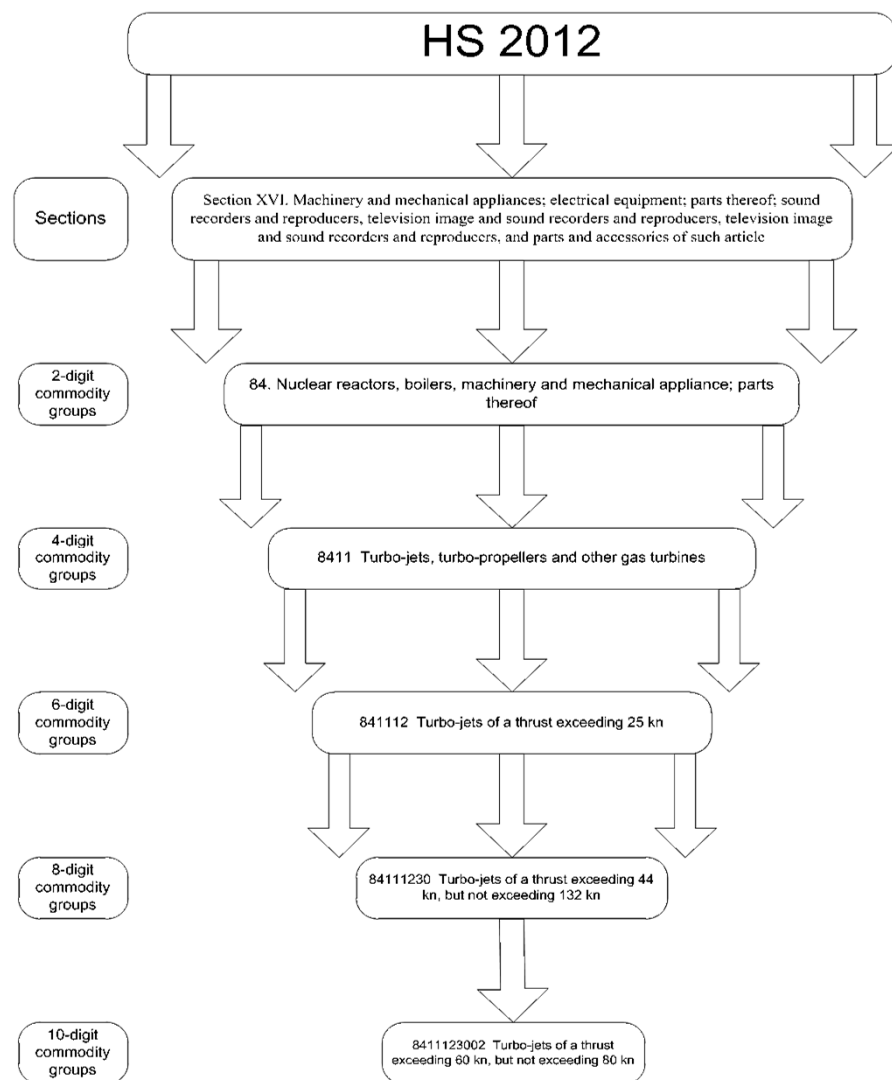
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We should note that this specification shows that if a barrier's value is decreased to 0, in other words:

- ✓ if non-tariff measures are fully eliminated from trade among the EEU member states, then trade can grow on average **$(1 + NTB)^{-\theta}$ times**
- ✓ while if 50% reduction of non-tariff barriers (that is seen to be more realistic) takes place, then we should expect trade to grow **$[(1 + NTB)/(1 + NTB/2)]^{-\theta}$ times**

The Data Description



- We used UN Comtrade import data for three member states of the EAEU.
- The import price is calculated for each six-digit commodity group that is equal to the ratio of import cost to physical volume.
- In the study we use the purchase price as a proxy for domestic (foreign) price of an imported commodity

Estimation of equations (1)

$$\ln(Im_{i \rightarrow j}^{k,t}) = \sum_{k=1}^{13095} \alpha_k + \sum_{t=2010}^{2015} \lambda_t + \beta_1 \ln(GDP_{i,t}) + \beta_2 \ln(GDP_{j,t}) + \gamma \ln(import_price_{ij}^{k,t}) + \delta \ln(distw_{ij}) + \theta \ln(1 + NTB_{ij}^k) + \varepsilon_{ij}^{k,t}$$

$$\ln(Im_{i \rightarrow j}^{k,t}) = \sum_{k=1}^{13095} \alpha_k + \beta_1 \ln(GDP_{i,t}) + \beta_2 \ln(GDP_{j,t}) + \gamma \ln(import_price_{ij}^{k,t}) + \delta \ln(distw_{ij}) + \theta \ln(1 + NTB_{ij}^k) + \varepsilon_{ij}^{k,t}$$

Estimation of equations (1)

Depended variable:	Physical volume of trade	
	Presence of time effects	Absence of time effects
Log of importer GDP	0.220*** (0.00750)	0.227*** (0.00731)
Log of exporter GDP	0.670*** (0.00728)	0.677*** (0.00713)
Log of weighted distance	-2.72*** (0.0283)	-2.72*** (0.0283)
Log of import price	-1.11*** (0.00567)	-1.10*** (0.00565)
Log of NTB barrier	-1.66*** (0.106)	-1.71*** (0.105)
Number of observations	164095	164095
Number of ten-digit trade groups	13095	13095
Period of estimation	2010–2015	2010–2015
R ² -within	0.31	0.31

Robustness standard errors in parentheses. *** — significance at 1% level; ** — significance at 5% level; * — significance at 10% level.

The Possible Impact of Non-Tariff Barriers Reduction on Different Trade Directions within the EAEU

Trade direction (exporter— >importer)	NTB mean for trade direction	Trade growth from 50% NTB reduction $[(1 + NTB_{mean}) / (1 + NTB_{mean} / 2)]^{-\theta}$	Trade growth from full NTB elimination $[(1 + NTB_{mean})]^{-\theta}$	Share of trade direction in total trade between Belarus, Russia, and Kazakhstan
Average value	13.8%	11.1%	24.3%	100%
RUS—>BLR	8.7%	7.1%	15.0%	39%
BLR—>RUS	13.7%	11.0%	24.1%	23%
KAZ—>RUS	11.9%	9.6%	20.8%	10%
RUS—>KAZ	12.5%	10.1%	22.0%	26%
KAZ—>BLR	15.9%	12.7%	28.2%	0.20%
BLR—>KAZ	36.7%	27.5%	69.4%	1.30%

Source: Authors' calculations, based on θ estimation results .

Estimation of equations (2)

$$\ln(Im_{i \rightarrow j}^{k,t}) = \sum_{k=1}^{13095} \alpha_k + \sum_{t=2010}^{2015} \lambda_t + \beta_1 \ln(GDP_{i,t}) + \beta_2 \ln(GDP_{j,t}) + \gamma \ln(import_price_{ij}^{k,t}) + \delta \ln(distw_{ij}) + \sum_{h \in H} \theta_h \ln(1 + NTB_{ij}^k) + \varepsilon_{ij}^{k,t}$$

$$\ln(Im_{i \rightarrow j}^{k,t}) = \sum_{k=1}^{13095} \alpha_k + \beta_1 \ln(GDP_{i,t}) + \beta_2 \ln(GDP_{j,t}) + \gamma \ln(import_price_{ij}^{k,t}) + \delta \ln(distw_{ij}) + \sum_{h \in H} \theta_h \ln(1 + NTB_{ij}^k) + \varepsilon_{ij}^{k,t}$$

where $H = \{\text{agriculture and food industry (sections HS I–IV); energy products (section HS V); partially processed products (chemical industry, clothes, materials, wood, non-precious metals) (sections HS VI–XV); machines and equipment and other goods with high degree of processing (sections HS XVI–XXI)}\}$ — is a selected allocation of product categories.

Estimation of equations (2)

Depended variable:	Physical volume of trade	
	Presence of time effects	Absence of time effects
Log of importer GDP	0.236*** (0.00753)	0.242*** (0.00734)
Log of exporter GDP	0.688*** (0.00733)	0.694*** (0.00718)
Log of weighted distance	-2.82*** (0.0287)	-2.82*** (0.0287)
Log of import price	-1.11*** (0.00567)	-1.10*** (0.00564)
Log of NTB barrier, Agriculture & food	-5.83*** (0.245)	-5.94*** (0.245)
Log of NTB barrier, Mineral products	-0.912 (1.20)	-0.868 (1.21)
Log of NTB barrier, average degree of processing products	-1.15*** (0.113)	-1.20*** (0.113)
Log of NTB barrier, Machinery, Vehicles	-2.40*** (0.195)	-2.44*** (0.195)
Number of observations	164095	164095
Number of ten-digit trade groups	13095	13095
Period of estimation	2010–2015	2010–2015
R ² -within	0.32	0.31

Source: Authors' calculations. Robustness standard errors in parentheses. *** — significance at 1% level; ** — significance at 5% level; * — significance at 10% level.

The Estimates of Potential of Non-Tariff Barriers Reduction for Different Aggregated Trade Groups

Trade group	NTB mean for trade group	Trade growth from 50% NTB reduction $[(1 + NTB_{mean}) / (1 + NTB_{mean} / 2)]^{-\theta_h}$	Trade growth from full NTB elimination $[(1 + NTB_{mean})]^{-\theta_h}$	Share of trade group in total trade between Belarus, Russia, and Kazakhstan
Total	13.8%	11.1%	24.3%	100%
Agriculture & food (I–IV HS sections)	12.9%	41.5%	105%	14.9%
Mineral products (V HS sections)	12.3%	5.1%	10.9%	34.4%
Average degree of processing products (VI–XV HS sections)	11.8%	6.5%	13.9%	30.7%
Machinery, Vehicles (XVI–XXI HS sections)	17.7%	20.7%	48.1%	20.1%

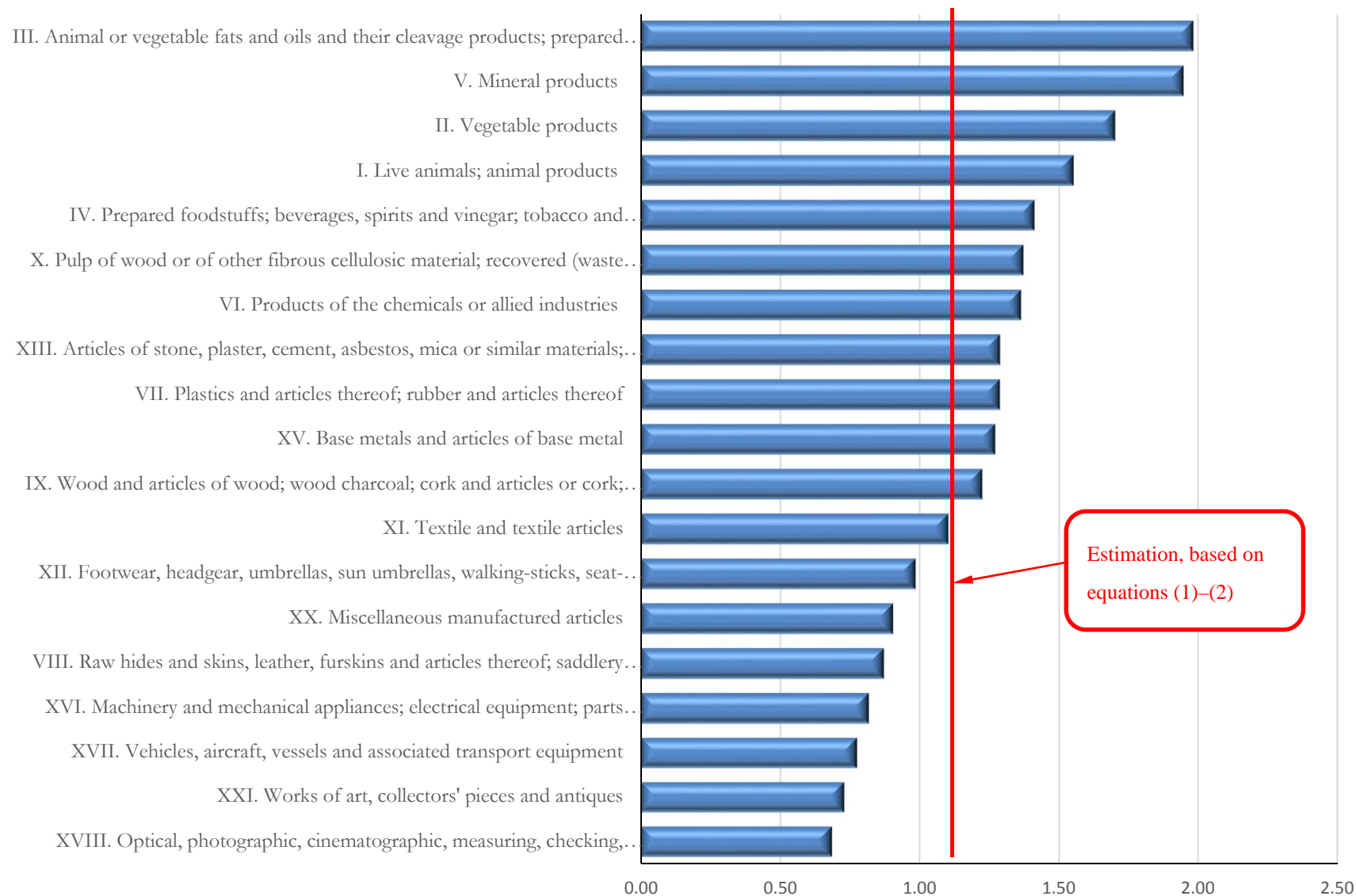
Source: Authors' calculations, based on θ_h estimation results .

Estimation of Equations (3)

$$\ln(Im_{i \rightarrow j}^{k,t}) = \sum_{k=1}^{13095} \alpha_k + \sum_{t=2010}^{2015} \lambda_t + \beta_1 \ln(GDP_{i,t}) + \beta_2 \ln(GDP_{j,t}) + \sum_{l=I}^{XXI} \gamma_l \ln(import_price_{ij}^{k,t}) + \delta \ln(distw_{ij}) + \theta \ln(1 + NTB_{ij}^k) + \varepsilon_{ij}^{k,t}$$

Estimates of this equation allows to analyze to what extent price changes impact trade in different segments of trade groups. The sections XIV (natural or cultured pearls, precious or semi-precious stones, precious metals, etc.) and XIX (arms and ammunition; parts and accessories thereof) have been excluded from estimation due to lacking data for these trade groups.

Estimation of Equations (3)



Source: Authors' calculations, based on estimation results .

Conclusions

- We used 10-digit trade groups for the period 2010–2015. According to the results, the coefficients of the base variables match our hypothesis: a negative impact of the price of delivered goods and weighted distance between trading economies along with a positive impact of the size of economies
- Potential growth in a particular trade item depends largely on a trade flow (e.g. Kazakhstan-Russia) and aggregated trade group to which this item belongs
- As regards trade by aggregated trade groups, agriculture and food industry (15% of total trade) have the highest potential (40% growth under 50% reduction of NTBs and almost 100% growth under full elimination of NTBs)
- The results show that the efforts to eliminate non-tariff measures have been limited



Thank you for attention!