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Analysis of the Effects of Kazakhstan's Customs Union Accession using GTAP Model and GTAP Data Base

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Outline

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Introduction

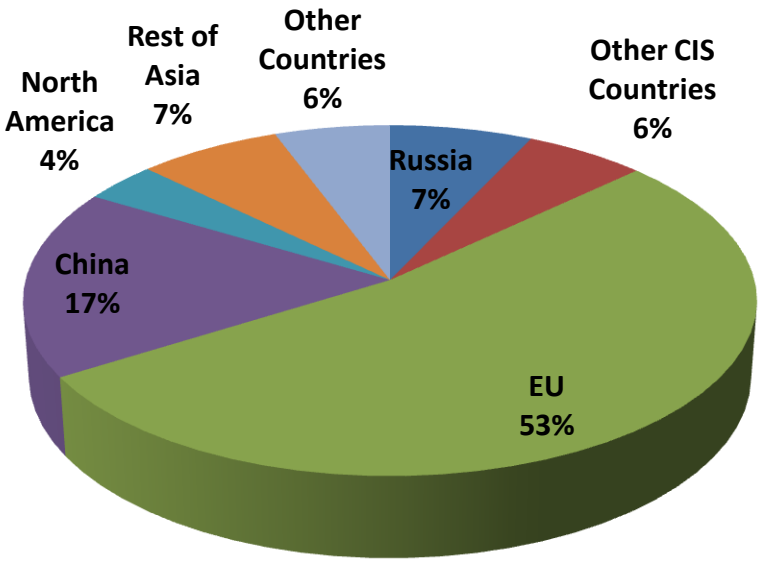
- There is an ongoing debate about the increasing preference for regional economic integration in Kazakhstan, and whether it is economically beneficial
- So far numerous trade agreements concluded with CIS countries
- Regional Trade Agreements: Customs Union, Eurasian Economic Union
- Main trade partners: China and the EU
- No RTAs with the EU or East Asia and Pacific

Research Questions

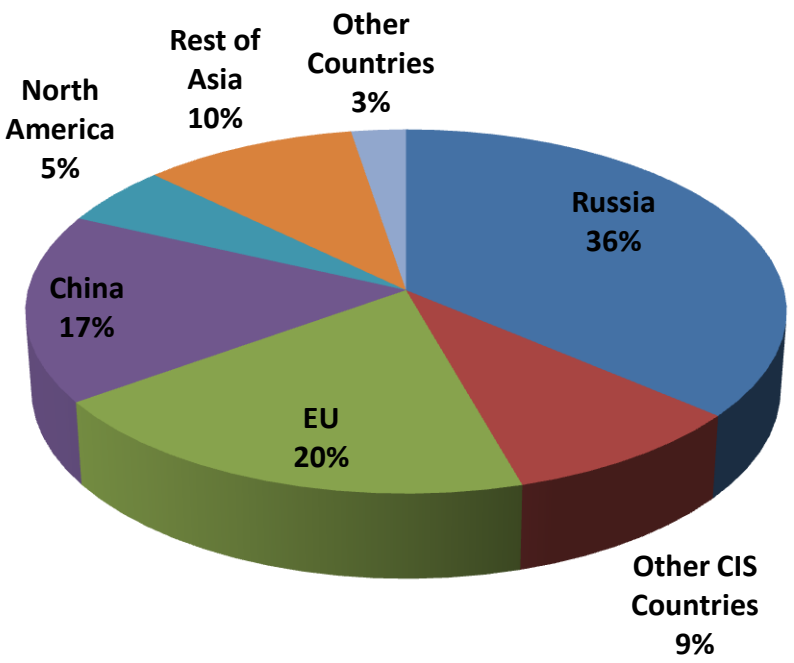
- How does membership in the Customs Union with Belarus and Russia effect the economy of Kazakhstan?
- How does the trade balance change?
- Are there trade diversion effects?

Kazakhstan Export and Import Partners

Exports



Imports



Source: Statistical Agency of Kazakhstan, 2013

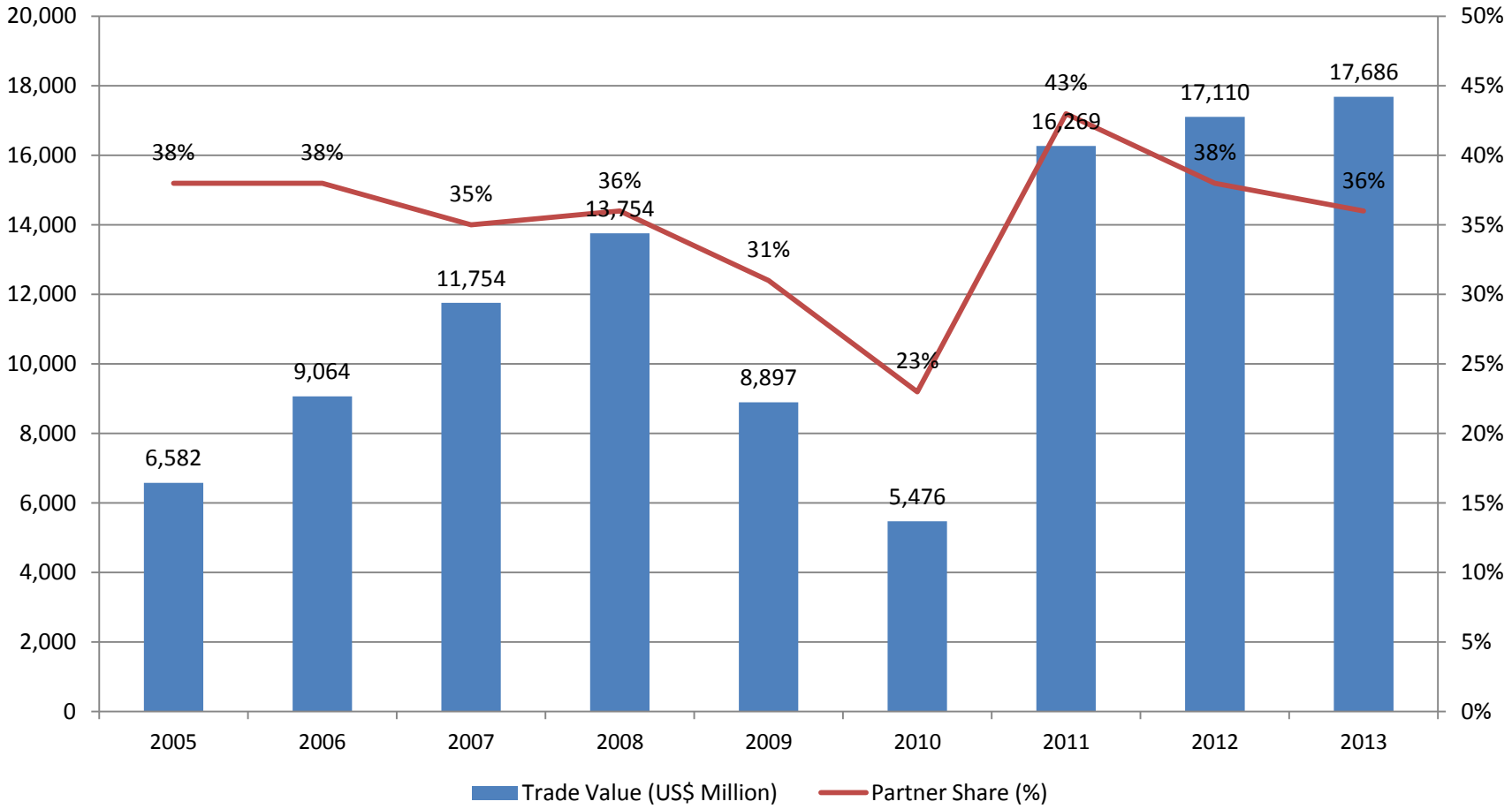
Exports and imports CIS countries - Kazakhstan, 2013

	Total Trade (mln USD)	Share in total trade (%)	Exports (mln USD)	Share in total exports (%)	Imports (mln USD)	Share in total imports(%)
Kyrgyzstan	1,028	0.8	677	0.8	351	0.7
Tajikistan	569	0.4	497	0.6	73	0.1
Uzbekistan	2,115	1.6	1,145	1.4	970	2.0
Belarus	757	0.6	58	0.1	698	1.4
Russia	23,847	17.9	5,875	6.9	17,972	36.8
Armenia	8	0.0	805	0.0	7	0.0
Azerbaijan	438	0.3	364	0.4	74	0.2
Moldova	83	0.1	45	0.1	38	0.1
Turkmenistan	397	0.3	177	0.2	219	0.4
Ukraine	4,311	3.2	2,041	2.4	2,270	4.7
Total CIS countries	**33,554**	**25.1**	**10,881**	**12.8**	**22,672**	**46.5**

- Low share of trade with Central Asian countries

Source: Statistical Agency of Kazakhstan, 2013

Imports from Russia to Kazakhstan, 2005-2013



Source: World Integrated Trade Solution, World Bank 2014

Kazakhstan: Trade Policy

- WTO Accession negotiations since 1996
  - Issues with final accession due to the Kazakhstan's membership in the CU
- No trade agreements with EU or East Asia and Pacific
- Preference for regional integration
  - Bilateral FTAs with other CIS countries
  - FTA → Customs Union→Single Economic Space → Eurasian Economic Union

Kazakhstan: Trade Policy

- CU created by Belarus, Kazakhstan and Russia in 2007
    - Armenia, Kyrgyzstan and Tajikistan plan to join
- Common customs code, rules and external tariffs implemented in 2010
- Eurasian Economic Commission -supranational regulatory body of the CU and SES
- January 2012 creation of Single Economic Space (SES) by Belarus, Kazakhstan and Russia
    - Free movement of goods, capital, services and labor
- May 2014 creation of Eurasian Economic Union (EEU), implementation in 2015

Tariffs Kazakhstan

	2008	2010	2011	2012
Simple average %	4.48	7.56	7.43	7.51
Trade weighted average %	2.22	4.4	3.2	3.75

Source: TRAINS WITS, GTAP Nomenclature, HS3. Data for year 2009 is missing

- Kazakhstan had lower tariffs level, than Belarus and Russia before CU
- CET adjusted to Russia‘s import tariffs
- Kazakhstan had to increase most of its tariffs
- Possible trade diversion effects in Kazakhstan

Methodology: Literature Review

- Several studies on CU effects on Kazakhstan
  - Estimates differ depending on the methodology, data and assumptions used
- De Souza (2011) – CU has a welfare reducing effect. GDPs of Belarus and Kazakhstan decrease
- The World Bank (2012) – in Kazakhstan many import tariffs increased, the macroeconomic effects are mostly negative. Only Russia is gaining.
- Wiiw (2012) negative GDP effects (-2.6%) for Kazakhstan due to the CU
- Other studies such as the effects of Ukraine accession to the CU
  - Ukraine‘s membership will reduce negative economic effects of CU on Kazakhstan

Methodology: CGE models

- CGE offers theoretical logic and consistency
- CGE used extensively in the analysis of RTAs
  - enables to analyse benefits of various integration scenarios
  - enables to determine winners and losers of the policy change
- Quantitative estimates of trade policy changes using CGE models are valuable not so much for specific numerical results, but for the degree of the impact of these changes on the economy of the country

Methodology: GTAP Model

- GTAP (Global Trade Analysis Project) Model: Static multi-region, multi-sector CGE model
- Two sets of non-linear equations
  - Accounting relationships equations
  - Behavioral equations
- Perfect competition in all markets, utility and profit maximizing behavior of producers and consumers

Methodology: GTAP Model

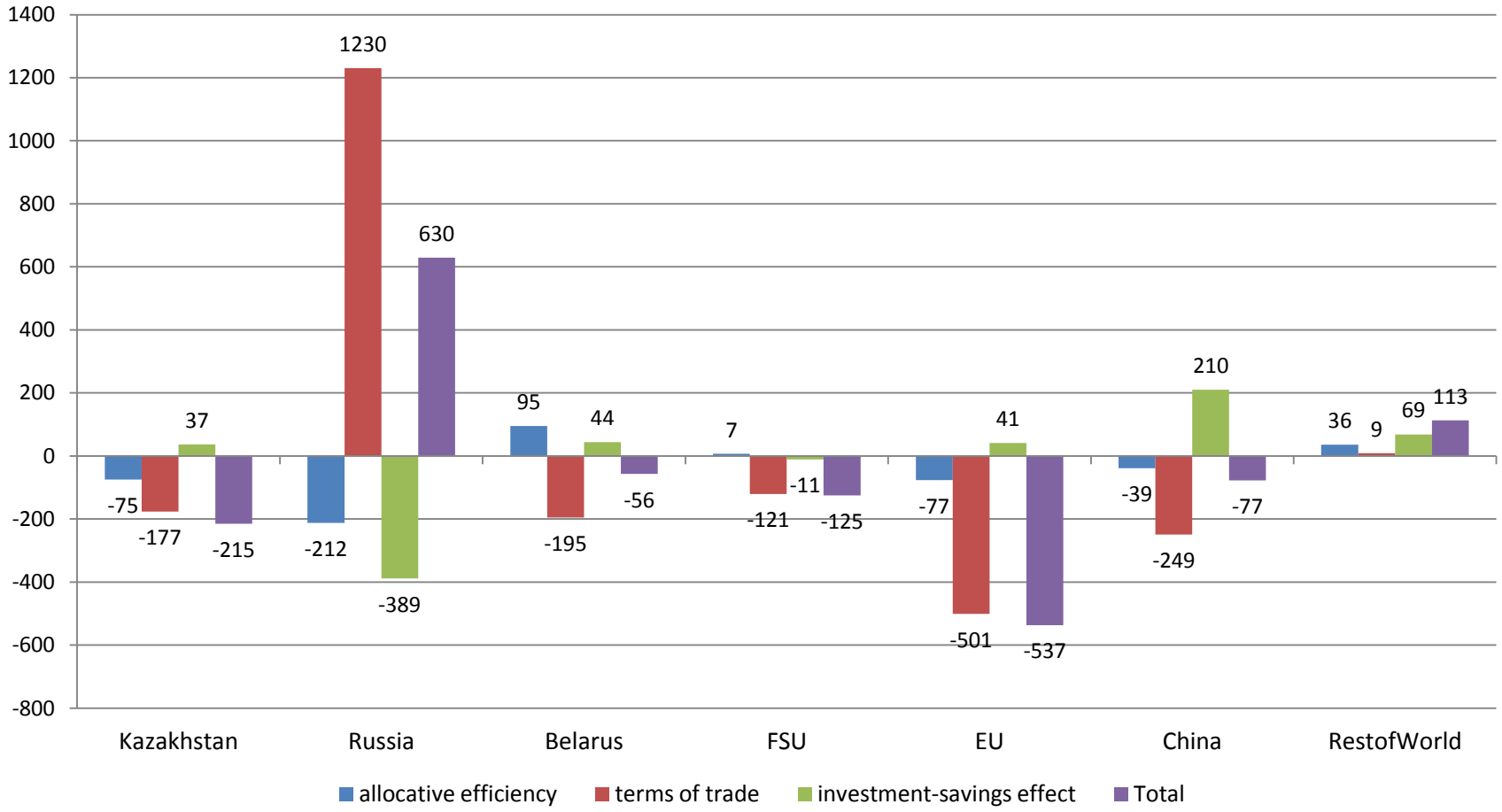
- Demand side: regional household consists of representative consumer
  - Regional income distributed through private households, government and savings
- Production behavior: a nested structure that combines factor endowments (land, labor, capital) and intermediate inputs to produce final good
  - Assumes constant returns to scale and perfect competition
- Trade flows are modelled using Armington approach
  - Armington assumption: the degree of substitution between imported and domestic products

GTAP Data Base Aggregation

- GTAP Data Base 8.1
  - 137 countries
  - 57 sectors
  - Many CIS countries included (Belarus, Kyrgyzstan, Kazakhstan, Ukraine, Russia, Armenia, Azerbaijan, Georgia)

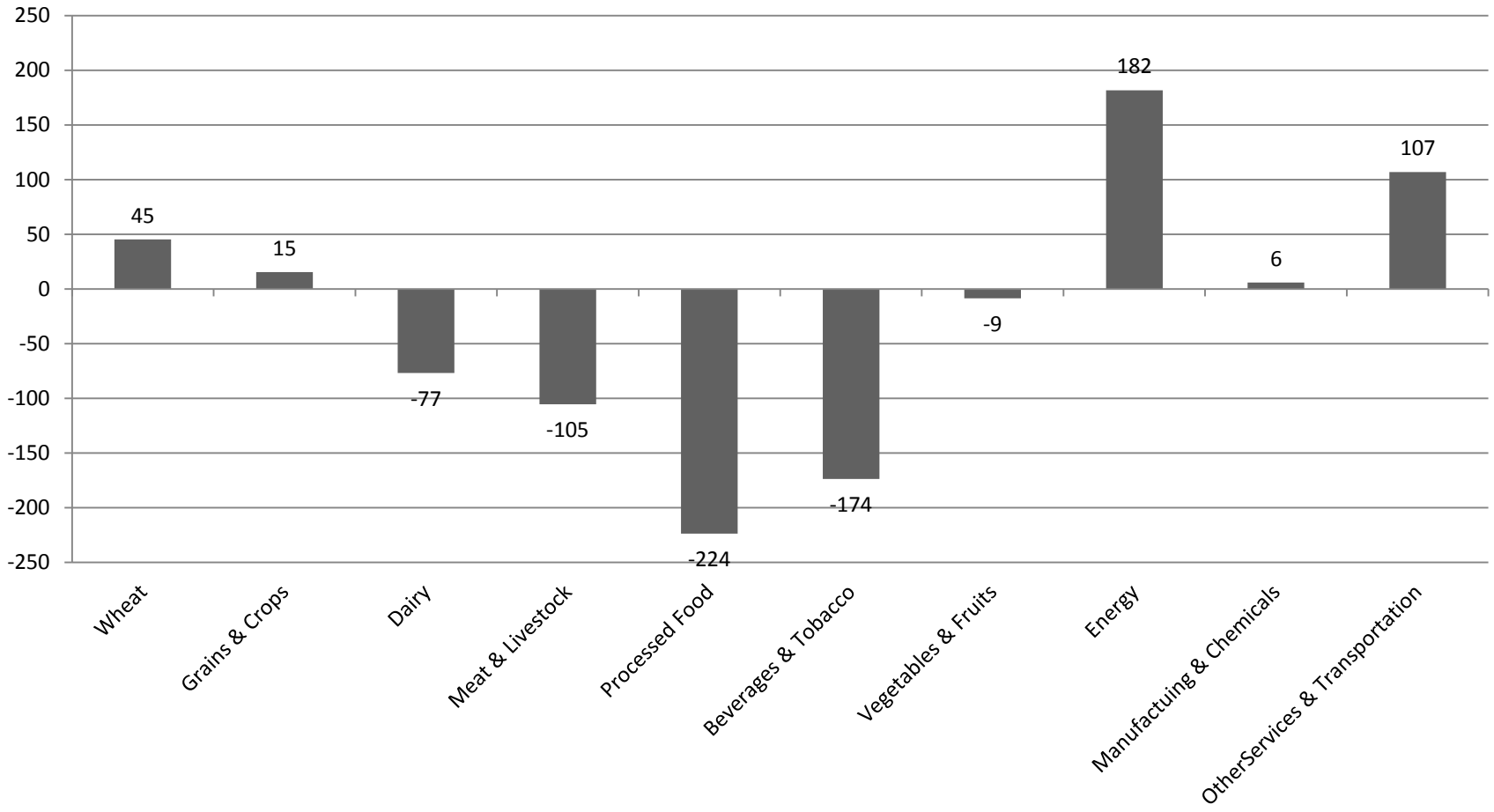
Sectoral Aggregation	Regional Aggregation	Production Factors
Wheat	Kazakhstan	Land
Grains & Crops	Russia	Unskilled Labor
Dairy	Belarus	Skilled Labor
Meat & Livestock	FSU (except Baltic States)	Capital
Processed Food	EU	Natural Resources
Beverages and Tobacco	China	
Vegetables and Fruits	RestofWorld	
Energy		
Manufacturing and Chemicals		
Other Services and Transportation		

Results: Welfare Decomposition (EV, Million US$)



Source: Author‘s Calculations Based on GTAP model

Results: Trade Balance (Million US$)



Total Change in Trade Balance -234 USD Mio.

Source: Author‘s Calculations Based on GTAP model

Results: Exports Changes from other regions to Kazakhstan (Million US$)

	Russia	Belarus	FSU	EU	China	RestofWorld
Wheat	0,07	-0,00	-0,00	-0,03	-0,00	-0,01
Grains & Crops	8,49	0,00	-1,77	-0,93	0,98	-6,16
Dairy	75,97	19,10	-18,57	-3,36	-0,26	-0,72
Meat &Livestock	141,30	0,93	-10,85	-8,69	-0,57	-18,28
Processed Food	331,96	16,01	-80,37	-29,47	-13,93	-19,25
Beverages & Tobacco	206,05	-0,07	-26,77	-21,17	-0,11	-3,15
Vegetables & Fruits	12,50	-0,00	-0,58	-0,82	1,20	-2,35
Energy	327,24	1,81	-67,54	-32,08	-21,71	-14,54
Manufacturing & Chemicals	3357,77	102,55	-118,87	-1417,01	-1154,66	-692,32
Other Services & Transportation	-7,32	-0,19	-0,10	-40,77	-2,00	-35,04
Total	4454,04	140,13	-325,43	-1554,34	-1191,06	-791,83

Source: Author‘s Calculations Based on GTAP model

Conclusions

- Overall negative economic effects for Kazakhstan
  - Decreasing welfare
  - Trade diversion effects (more imports from Russia, less from China and EU)
- Other effects
  - Hinders global integration (WTO) and integration with non-CIS countries
  - Impedes export products diversification
  - Kazakhstan becoming more volatile to the changes in the Russian economy (for example, changes in exchange rate of ruble)

Policy Implications

- Little justification for Kazakhstan to pursue regional integration
- If CU liberalizes trade the trade agreement could be eventually beneficial for Kazakhstan
- At this point in economic development, Kazakhstan should first focus on global integration, rather than focus on integrating with other CIS countries

Thank you for your attention!