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**Quantitative Assessment of Ukraine's
Regional Integration Options:
DCFTA with European Union vs.
Customs Union with Russia, Belarus
and Kazakhstan**

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Quantitative Assessment of Ukraine's Regional Integration Options: DCFTA with European Union vs. Customs Union with Russia, Belarus and Kazakhstan

Executive Summary

Foreign trade plays a crucial role in Ukraine's economy, amounting to over 100% of GDP in 2010. Despite this impressive number, there is still much room for expansion of foreign trade, which would in turn lead to higher economic growth and welfare. Thus, Ukraine's foreign trade policy should pursue the goal of increasing the exchange of goods and services with other countries.

While there is little discussion on the validity of this goal, the question on how to achieve this goal is much more difficult. In particular, the role of regional trade agreements is being discussed in recent years. Such a discussion is necessary, since the relevant literature as well as international experience shows that regional trade agreements can lead to more, but also to less foreign trade.

In the case of Ukraine two main options for regional integration have been discussed recently. One is the establishment of a deep and comprehensive free trade agreement with the EU and the other is joining the customs union between Russia, Belarus and Kazakhstan.

This paper makes an important contribution to this discussion by quantifying the effect of both options in terms of its impact on welfare and other economic variables. Furthermore, we provide information about the model and the data used for calculations, making results transparent and replicable by independent experts.

The results of our research are straightforward. Joining the customs union with Russia, Belarus and Kazakhstan would reduce welfare in Ukraine by 0.5% in the medium- and by 3.7% in the long-term. This result is driven by increase in tariffs in Ukraine and thus trade diversion. On the other hand, a "simple" FTA with the EU would increase welfare by 1.3% in the medium- and by 4.6% in the long-term. The deep and comprehensive FTA ("DCFTA") could boost welfare by 4.3% in the medium-, and by a massive 11.8% in the long-term.

The interpretation of the results is an easy task. In order to increase foreign trade and thus the welfare of Ukrainian people, policy makers should go for the conclusion of the DCFTA with the EU. At the same time, joining the customs union with former Soviet republics would cause trade diversion and thus make the Ukrainian population poorer.

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1. Introduction

Ukraine is a small open economy highly interested in a favourable environment which allows easy access to external markets and ensures stable trade flows. The membership in the World Trade Organisation (WTO) has significantly contributed to the achievement of this goal, ensuring a certain level of stability and transparency of trade policy in Ukraine and in partner countries. Still, a deeper regional integration provides additional opportunities for trade liberalisation and thus economic development.

Currently Ukraine has appeared in a unique situation sandwiched between two custom unions, the European Union and the Customs Union of Russia, Belarus and Kazakhstan (RBK CU) established in the EurAzEs framework.

Ukraine's has officially declared European integration as a strategic objective of its foreign policy. In 2007, the talks on Association Agreement with the EU were launched, and the negotiations regarding the establishment of deep and comprehensive FTA (DCFTA) have followed in 2008. In October 2011, the technical completion of DCFTA negotiations was announced, though the initialisation and ratification of the agreement is under risk given challenges faced in the political dialog between the partners.

The cooperation with the CIS countries has been also considered as a strategic priority of Ukraine. So far, the officials have emphasized a free trade agreement as the desired level of economic integration with post-Soviet countries. The signature of the CIS FTA Agreement is an important component of this strategy. At the same time, Russia has become increasingly active in trying to persuade Ukraine to join the RBK CU.

This study continues the economic assessment of these two major regional integration options faced by Ukrainian policy makers. The paper compliments the usual qualitative discussion with a quantitative assessment of the integration options.

The rest of the paper is structured as follows. In Chapter 2, the trade patterns of Ukraine are discussed. Chapter 3 presents a review of current trade regime in relations with the EU and the CIS countries. Chapter 4 contains discussion of major regional integration options of Ukraine, including the DC FTA with the EU and the RBK CU, while Chapter 5 provides quantification of economic impact of these options.

2. Trade patterns of Ukraine

Ukraine is a small open economy heavily relying on external trade. Exports of goods and services accounted for 50.2% of nominal GDP in 2010, while the ratio of imports to GDP was at 53.0%. Commodity trade turnover had increased by 250% between 1996 and 2010.

In line with gravity theory of international trade, Ukraine trades mostly with its neighbours, namely with the European Union and the Customs Union of Russia, Belarus and Kazakhstan.

During the last decade, these two groups of countries have accounted for about two thirds of Ukraine's total commodity turnover (Table 2.1), although their relative importance evolved over time. Initial quite strong trade orientation of the former Soviet republics has gradually changed, and trade flows reoriented towards the EU and the Rest of the world (ROW), in particular Asia. Between 1996 and 2007, the share of the EU had increased from 24.4% to 32.9% of total turnover, while the share of Russia, Belarus and Kazakhstan had reduced from 49.3% to 32.4%.

However, the geographical pattern of the country's trade has recently shifted back towards the RBK CU driven by increase in energy products prices, as well as different patterns of demand recovery after the global crisis. As a result, the EU accounted for 28.7% of total commodity turnover of Ukraine, and the RBK CU for 37.6% in 2010.

Table 2.1 Geographical patterns of Ukraine's commodity trade, 1996-2010

	<i>Structure of trade, % of total</i>				<i>Growth rates, % per period</i>	
Exports						
	1996	2000	2007	2010	1996-2010	2000-2010
EU-27	23.3	33.1	28.2	25.4	289.3	170.7
RBK CU	44.2	26.4	31.8	32.3	161.3	333.1
ROW	32.5	40.5	40.0	42.3	364.6	268.0
<i>World</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>257.1</i>	<i>252.9</i>
Imports						
	1996	2000	2007	2010	1996-2010	2000-2010
EU-27	25.2	30.0	36.7	31.4	330.4	356.4
RBK CU	53.5	48.9	33.0	42.0	171.2	274.0
ROW	21.3	21.1	30.4	26.5	329.5	447.1
<i>World</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>245.0</i>	<i>335.2</i>
Turnover						
	1996	2000	2007	2010	1996-2010	2000-2010
EU-27	24.4	31.6	32.9	28.7	312.7	256.9
RBK CU	49.3	37.4	32.4	37.6	167.2	295.3
ROW	26.3	31.0	34.7	33.7	349.0	327.6
<i>World</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>250.5</i>	<i>293.2</i>

Source: UN Comtrade, authors' estimates

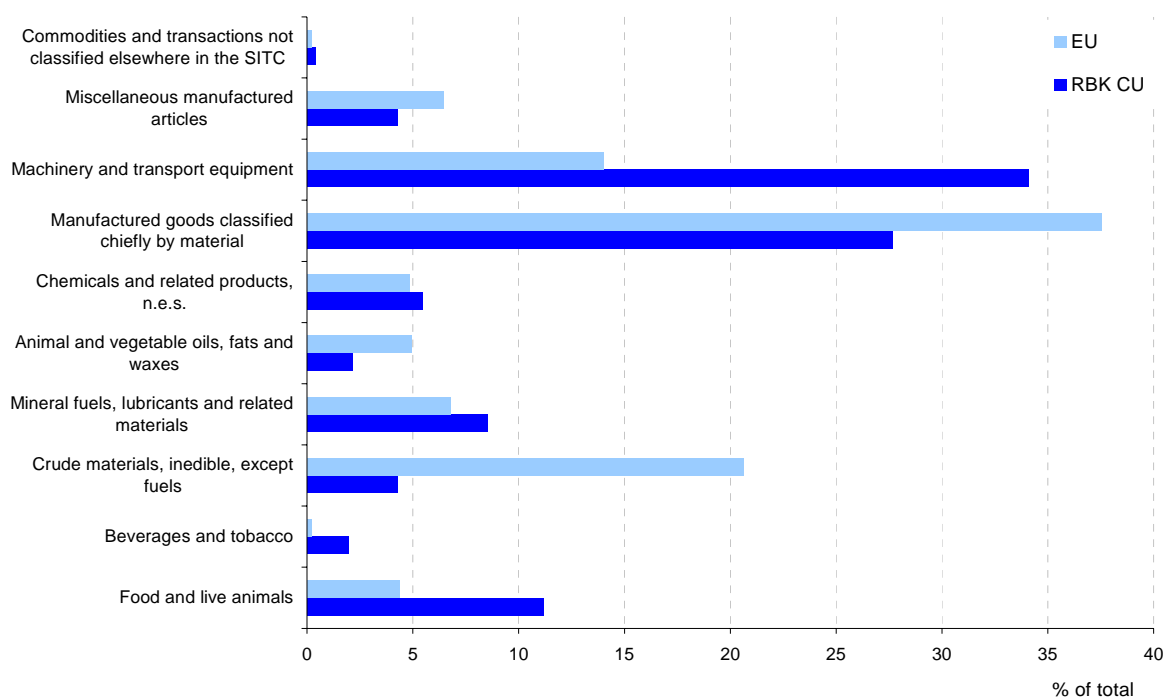
Commodity baskets have been distinct in trade with the EU and the RBK CU. In exports, Ukraine sells more machinery and transport equipment to the RBK CU than to the EU, largely due to production links inherited from the Soviet times. In particular, about 41% of Ukraine's machinery exports to the RBK CU were railway vehicles and associated equipment (code 791, SITC Rev.3). Ukraine's exports to the EU consist largely of metals and products thereof, as well as of crude materials like iron ore, seeds and woods.

At the same time, exports of Ukraine's high-technology products have been distributed more smoothly. The share of the EU and the RBK CU in the country's high-technology exports are almost equal at 36.8% and 37.8%, while the ROW consumes other 25%.

Imports structure has been particularly different for Ukraine's commodity trade with the EU and the RBK CU. In 2010, Ukraine imported mostly mineral fuels from the RBK CU (66.2% of total), while imports from the EU has been much more diversified consisting of machinery and transport equipment, chemical products and other manufacturing products. Ukraine imports 40.2% of high-technology products from the EU, and 23.9% from the RBK CU.

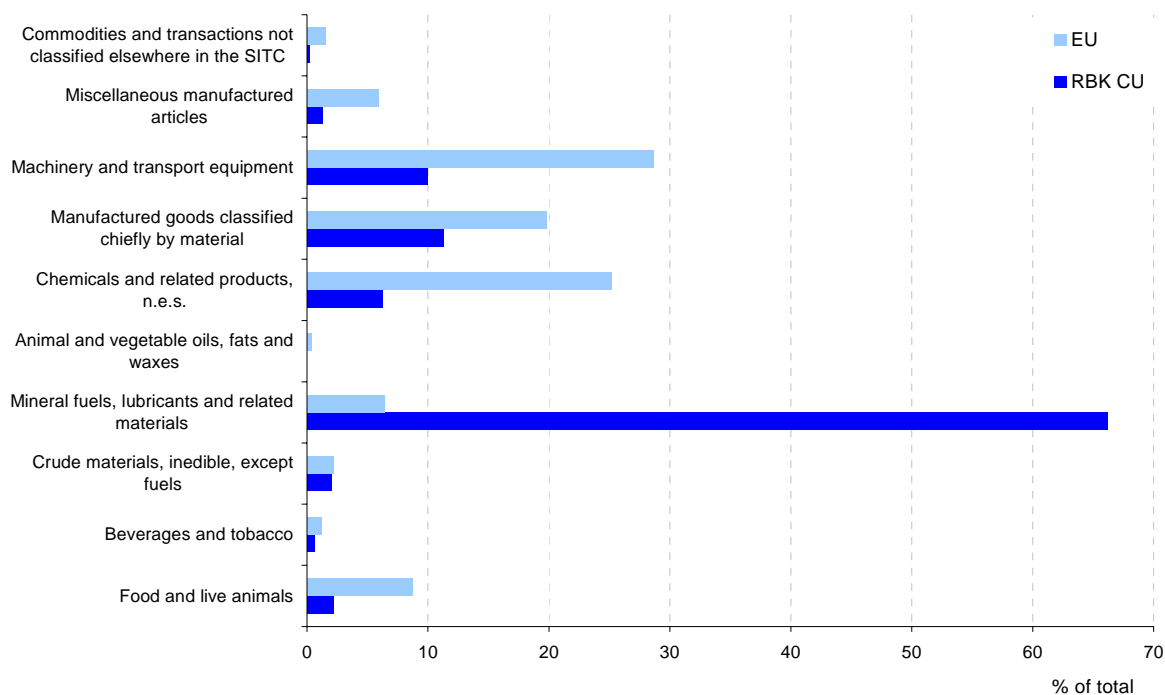
In service trade, the shares of the EU and the RBK CU trade turnover were almost equal in 2010, amounted to 35.5% and 36.3% respectively. However, patterns of trade in services were different. In exports, trade with the RBK CU dominated (45.7% of total service exports) thanks to important role of pipeline transit services. In imports, the EU was the largest partner (54.0% of total service imports) supplying mostly financial services, and other business, professional and technical services.

Figure 2.1 Structure of commodity exports to the EU and the RBK CU



Source: UN Comtrade, authors' estimates

Figure 2.2 Structure of commodity imports from the EU and the RBK CU



Source: UN Comtrade, authors' estimates

In capital flows, the EU has remained the major investor into Ukraine's economy, accounting to 78.8% of total inward FDI into Ukraine (USD 35.2 m).¹ The share of Russia increased from 6.4% in the end of 2009 to 7.6% in the end of 2010.

¹ According to the State Statistics Service of Ukraine

3. Current trade regime

3.1 Trade regime with the EU

In commodity trade, Ukraine's access to the EU market is less preferential than for many other countries. According to the Partnership and Cooperation Agreement (PCA),² the countries trade under the most favoured nation (MFN) regime. In addition, Ukraine is a beneficiary under the Generalized System of Preferences (GSP)³ since 1993. The GSP allows for lower duties than the MFN rates on over 6,000 products. Currently there are two categories of products covered by the scheme: non-sensitive, for which duties are suspended, and sensitive, for which rates are reduced. The scheme allows high proportionate reduction for most industrial products, but relatively low proportionate reductions for agricultural products. At present, the EU applies the GSP+ and Everything But Arms⁴ regimes for some countries, but Ukraine is not entitled to use them⁵.

According to CARIS (2010)⁶, Ukraine features rather high level of GSP utilization (about 85%). However, the country faces higher level of protection than other countries involved in the Eastern Partnership project initiated by the EU. It encounters the highest share of non-zero tariffs under the GSP preferences among these six countries, and the highest share of trade under MFN except for Belarus (Table 3.1).

Table 3.1 EU Generalized System of Preferences, 2008

	Ukraine	Moldova	Belarus	Georgia	Armenia	Azerbaijan
Share of trade with EU under MFN, %	80.85	27.01	99.63	64.62	45.33	99.76
including						
= 0 tariff rates	73.11	19.82	91.54	58.32	43.20	99.60
> 0 tariff rates	7.74	7.19	8.09	6.30	2.13	0.16
Share of trade with EU eligible for GSP/GSP+ %	18.41	15.80	0.00	34.31	54.66	0.23
including						
= 0 tariff rates	9.54	15.71	0.00	34.31	53.74	0.19
> 0 tariff rates	8.87	0.09	0.00	0.00	0.92	0.04
Total share of zero-tariff trade	82.65	89.15	91.54	92.63	96.94	99.79
Level of preference utilization, %	84.89	90.78	0.00	92.52	96.21	71.25

Source: CARIS (2010)

² The Agreement on Partnership and Cooperation between the European Union and Ukraine was signed on June 16, 1994

³ Council Regulation (EU) No 732/2008 of 22 July 2008: see details at <http://ec.europa.eu/trade/wider-agenda/development/generalised-system-of-preferences/>

⁴ The Everything But Arms regime grants duty-free access to imports of all products from least developed countries, except arms and ammunitions, without any quantitative restrictions (with the exception of bananas, sugar and rice for a limited period). - <http://ec.europa.eu/trade/wider-agenda/development/generalised-system-of-preferences/everything-but-arms/>

⁵ Movchan, Giucci and Kutsenko (2010) "Trade policy in Ukraine: Strategic aspects and next steps to be taken", Policy Paper 02, April 2010. Available at: www.ier.com.ua

⁶ CARIS (2010) Mid-term Evaluation of the EU's Generalised System of Preferences. Available here: http://trade.ec.europa.eu/doclib/docs/2010/may/tradoc_146195.pdf

In 2005, the EU granted Ukraine a market economy status. This status ensures that possible anti-dumping investigations against Ukrainian exporters to the EU are conducted applying normal value of exports based on the prices paid or payable in Ukraine, and not in the third country, as it is required for non-market economies. However, this decision did not eliminate the use of the commercial defence instruments between trading partners. As of October 2011, there have been six anti-dumping measures in the EU against the products originated from Ukraine. In turn, there have been one anti-dumping measure against products from selected EU countries, and one anti-dumping investigation against Bulgaria and Poland. Moreover, two safeguard measures concerning all trade partners including the EU has been applied, and two investigations – against passenger cars and petroleum products – has been recently launched.

Among the stumbling blocks in Ukraine-EU trade, standards regulation has been the most important. According to the State Committee for Technical Regulation and Consumers Protection, as of the end of 2010, there have been only about 25% of national standards harmonized with the EU and international standards.⁷ Implementation of sanitary and phyto-sanitary standards harmonized with the EU norms is also an issue, and many Ukraine's husbandry products cannot be exported to the EU due to standards mismatch.

Summing up, the current trade concessions between Ukraine and the EU are rather limited. It could be expected that the successful implementation of the DCFTA would bring important gains both in terms of the access to the EU market, increase in trade and investments, and also better access to the third-countries market.

3.2 Trade regime with Russia, Belarus and Kazakhstan

The trade regime within the CIS has been established as a network of bilateral free trade agreements signed in the 1990th. In particular, Ukraine signed a FTA with Belarus in 1992, with Russia in 1993, and with Kazakhstan in 1994.

These agreements have been focused on commodity trade, and aimed at the establishment of duty-free trade, while allowing for some exemptions. For instance, sugar, tobacco products, and several other commodities are exempted from duty-free regime between Ukraine and Russian Federation.⁸ In addition, reciprocal exemptions are applied as an answer to export duties set by a trading partner. Currently, the list of Russian export duties applied to products exported from the territory of the RBK CU – and thus exempted from free trade regime – include 359 positions in 26 commodity categories, including fishery products, mineral products, fertilizers, some nonferrous metals, metal scrap etc.⁹ Ukraine applies export duties to several products, including sunflower seeds, skins, and metal scrap.

It is important that none of these bilateral FTA's cover service sectors or other trade-related topics including intellectual property rights protections. Even a new CIS FTA Agreement signed in October 2011 by majority of the CIS countries including Russia, Belarus and Kazakhstan, as well as Ukraine has not covered services and most other trade-related topics.¹⁰ Largely, it has preserved status-quo in actual trade barriers applied in commodity trade among participating countries, though postulated that the trade in goods within the CIS would be governed on the WTO principles and practices.

⁷ Movchan V. (2010) "Reform of Technical Regulation in Ukraine: what has been done and what should be done". Materials for the round table "Problems of quality control and product safety and conformity", the Verkhovna Rada of Ukraine Committee on Industrial and Regulatory Policy and Entrepreneurship. Kyiv

⁸ Protocol on amendments in Protocol on free trade regime exemptions in Agreement between the Government of Ukraine and the Government of the Russian Federation, signed June 24 1993

⁹ Available at:

http://www.rusimpex.ru/Content/Custom/readlist_out.php3?par=/Content/Custom/readlist_out.php3&group=81

¹⁰ According to unofficial text available at:

<http://www.pravda.com.ua/files/5/a/5a007cd-dogovir.doc>

Trade protection measures have been actively applied both by Ukraine, and by the RBK CU. According to the Ministry of Economic Development and Trade of Ukraine, as of October 2011, Ukraine applied five anti-dumping measures against imports of Russian commodities, and two against Belarusian. Moreover, two anti-dumping investigations against Belarusian product were launched in 2011, and another two against Russian products. In addition, two safeguard measures concerning all trade partners including the RBK CU has been applied, and two investigations – against passenger cars and petroleum products – has been recently launched.

In turn, the RBK CU launched one safeguard investigation against Ukraine in August 2011, and another one has been opened by Kazakhstan in 2010. There have been three anti-dumping measures in force on the territory of RBK CU against Ukrainian products, and one in the Russian Federation. In addition, the RBK CU applies two safeguard measures, Russia applies one measure and Kazakhstan applies one measure in trade with Ukraine.

Standards have been a lesser problem in trade with the RBK CU countries than with the EU due to initially common standards dataset inherited from the Soviet Union. However, all CIS countries have been gradually modifying standards with their economic and security needs and harmonizing them with international practices. As a result, a share of common standards among the CIS countries has been gradually diminishing. The new CIS FTA Agreement has envisaged that technical regulation within the CIS FTA would be based on the WTO Technical Barriers to Trade (TBT) Agreement and cooperation in this sphere would be ensured, thus stimulating new phase of TBT convergence within the CIS on the basis of international, including European, practices.

Summing up, the framework of trade relations between Ukraine and the RBK CU is officially more favourable than between Ukraine and the EU. The recent conclusion of the CIS FTA Agreement has once again confirmed the interest of the CIS countries in free trade in goods, although retained majority of existing exemptions. These exemptions make actual trade regime less certain, and thus less attractive than could be otherwise.

4. Description of regional integration options

4.1 DCFTA with the EU

Upon approval by the WTO General Council of the package on Ukraine's accession on 5 February 2008, the EU and Ukraine commenced talks concerning an agreement on a deep and comprehensive FTA. These followed preliminary consultations between the parties which had begun much earlier. Within the framework of the future Association Agreement, the FTA should deepen Ukraine's access to the European market and promote further European investment in Ukraine.

The FTA will be an integral part of the future Association Agreement. This FTA is supposed to become the first of a new type of 'deep and comprehensive' trade agreement involving the EU, covering a wide range of trade-related matters and aiming to remove barriers to trade not only related to 'behind the border' obstacles to trade, but also to provide for deep regulatory rapprochement, thus partially opening the EU's internal market to Ukraine. The agreement must be compatible with the rules of the WTO and take the possible results of the WTO Doha Round into consideration.

The DCFTA has one distinctive feature as compared to the FTA agreements in the framework of the CIS, namely strong regulatory and institutional character. While the CIS FTA Agreement would cause hardly any regulatory adjustments in the country, the DCFTA with the EU should result in significant harmonisation of Ukraine's regulatory practices to European rules and norms in trade-related spheres.

According to available information, major clauses of the DCFTA envisage the following trade regime between the EU and Ukraine:¹¹

- Duty free exports to the EU for industrial products starting the date when the Agreement comes into force;
- Significant quotas on duty-free exports of selected agricultural products, including dairy products, grain and cereals, and sugar, to the EU;
- Transition periods for tariff liberalisation in Ukraine;
- Duty free imports of majority of EU agricultural products in Ukraine;
- Special regimes for imports of motor vehicle (HS code 8703) and for second-hand clothes in Ukraine;
- Abandonment of EU agricultural exports subsidies in trade with Ukraine;
- Gradual elimination Ukraine's export duties, but introduction of temporary surcharges on exports of sunflower seeds, nonferrous metal scrap, and cattle skins under so called "bilateral protection measures";
- Further service trade liberalisation.

In addition, the DCFTA envisages significant adjustment of Ukraine's regulations in such spheres as competition policy, state aid, public procurement, sanitary and phyto-sanitary measures, technical regulation, protection of intellectual property rights, sustainable development (ecological issues, labour and social issues) etc. At the same time, the EU committed to provide technical assistance to ensure implementation of necessary changes.

The implementation of the DCFTA with the EU would bring important benefits including:¹²

- **Improved welfare of Ukrainian people** through better access to higher variety of products, stricter safety requirements for products on domestic market, and higher incomes thanks to new business opportunities and improved domestic resource allocation;
- **Duty-free access to the largest world market** for vast majority of Ukrainian products creating considerable opportunities for exports. The EU GDP measured in purchasing power parity (PPP) reached USD 14.8 trillion in 2010, while same indicator for the RBK CU was USD 2.5 trillion, while potential economic gains from any regional integration project are positively correlated with the size of the market with which this integration occurs;
- **Improved access to markets of the third countries** through harmonization of standards with the EU and thus acquisition of internationally acceptable standards;
- **Better domestic investment climate** as the adjustment to the EU regulations would mean changes in national legislation. In turn, these changes would result in transparent set of rules familiar to foreign investors that would make domestic environment more attractive for them providing higher economic growth potential.

These gains would come at important costs that include:

- **Increased domestic competition** due to elimination of tariff barriers and a significant reduction of non-tariff barriers resulting in market restructuring and reallocation of factors of production. Although higher competition is definitely

¹¹ Interview with Valeriy Pjatnitsky, Authorized Government Representative in European Integration Issues, to newspaper "Dzerkalo Tyzhnya", 26 October 2011 Available at: http://dt.ua/POLITICS/valeriy_pyatnitskiy_duzhe_hochetsya_schob_tsya_ugoda_vidbulasya-90518.html

¹² Gains and costs are partly discussed in Movchan, Giucci and Kutsenko (2010) "Trade policy in Ukraine: Strategic aspects and next steps to be taken", Policy Paper 02, April 2010. Available at: www.ier.com.ua

beneficial for the country in the medium-term, short-term effects of reallocations could be painful;

- **Higher costs of standard obedience**, as the EU standards are generally more stringent and thus compliance with them would require more efforts and expenses. The experience of Poland shows that higher standards could even drive some business out of specific market segments;
- **Spending associated with legal and administrative adjustments** taking into account that immediate costs could be rather high (establishment of independent regulatory bodies, introduction of new – likely technologically more advanced – procedures, etc.).

Summing up, the DCFTA with the EU seems to have important medium- to long-term benefits, but is likely to bear some short-term costs. However, some of these costs are likely to be shared with the EU as it is ready to provide necessary technical assistance. Quantitative assessment of medium- and long-term economic impact of the DCFTA with the EU on Ukraine's welfare and other macroeconomic parameters is discussed in Chapter 5.

4.2 Customs Union with Russia, Belarus and Kazakhstan

The establishment of the RBK CU occurred within the Eurasian Economic Community (EurAsEC) integration process. The EurAsEC agreement signed in Astana in October 2000 was designed to function as a regional international organization recognized by the United Nations. It is managed through the Inter-State Council, the Integration Committee, the Inter-Parliament Assembly, and the EEC Court. However, actual co-operation within the EurAsEC remains largely virtual and politicised. Although a free trade zone has been implemented in the EurAsEC, it operates with exemptions and not to the fullest possible extent.¹³

Since 2008 the EurAsEC top priority has become the establishment of a Customs Union – first of all within the framework of Russia, Belarus and Kazakhstan. A supranational body of the customs union – the EurAsEC Customs Union Commission – was established on December 12, 2008. The Customs Union members (Kazakhstan, Belarus and Russia) reached an agreement on a unified customs tariff in June 2009 and endorsed a schedule for creating a unified customs territory.

The formation of the RBK CU started on January 1, 2010 with the implementation of the common tariff scheme. The next major step took place on July 1, 2010, when the Customs Code of the Customs Union came into force,¹⁴ the Commission of the Customs Union became active, and customs clearance of goods originated in countries-members were abolished. Finally, in mid-2011, a common border control in the Customs Union has been established.

Apart from common tariff policy, the CU has envisaged unification of non-tariff measures in commodity trade, including development of common technical regulations, and sanitary and phyto-sanitary standards, extension of anti-dumping and safeguard measures applied by any country-member of the CU to the entire CU, unification of customs procedures and customs valuation, statistics etc.

It should be emphasized that this customs union is focused on trade in goods primarily, leaving aside trade in services and other trade-related issues. Further harmonisation of regulatory issues has been envisaged at the next stage of regional integration of Russia, Belarus and Kazakhstan.

¹³ Shynkaruk K. (2010) Overview of the Customs Union of Russia, Belarus and Kazakhstan // IER (2010) Ukraine's trade policy choice: pros and cons of different scenarios. Report commissioned by the World Bank

¹⁴ Available at: http://tsouz.ru/news/Documents/Custom_Union_Glaziev1.pdf

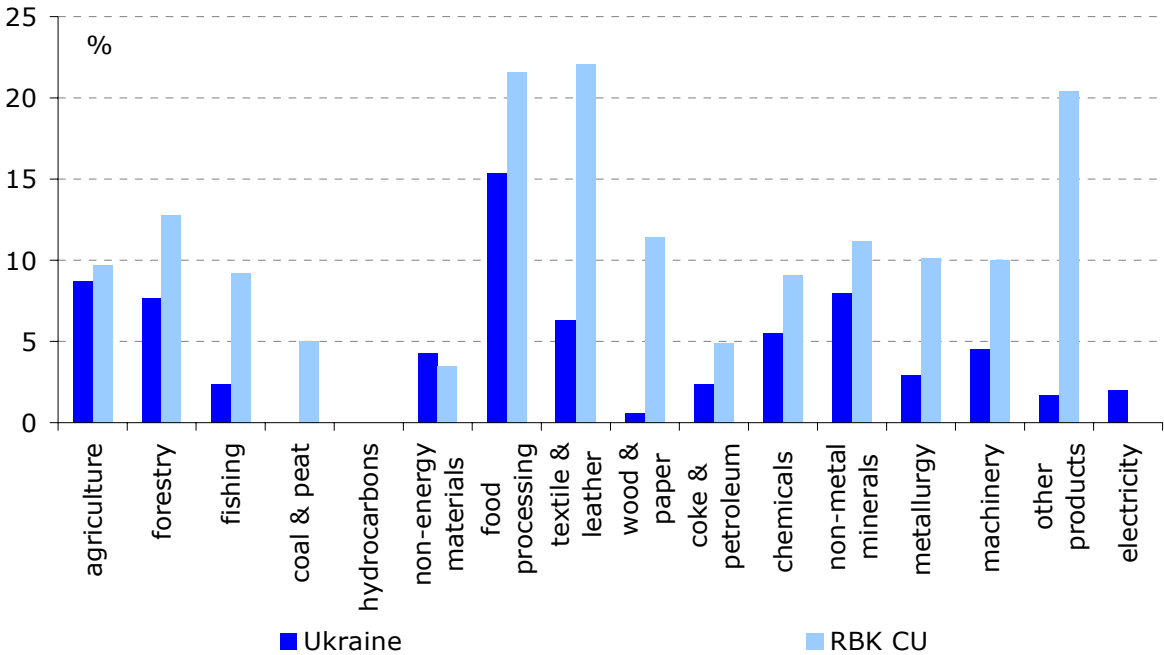
Currently, the countries declared their intension to establish the Single Economic Space since January 1, 2012. This level of integration is expected to encompass common policies in such spheres as macroeconomic policy, competition policy, state aid, protection of intellectual property rights, exchange rate policy, migration policy, etc.

Participation of Ukraine in the RBK CU would impose important costs¹⁵ including:

- **Lost of independence in trade policy**, including right to negotiate free trade agreements with other countries, like the DCFTA with the EU. The Commission of the RBK CU is entitled to conduct new foreign trade related negotiations on behalf of the member states. Thus, Ukraine would forego all efforts devoted to the EU FTA talks and lose opportunity to obtain privileged access to largest world market;
- **Slower pace of modernisation** as increased tariffs on investment imports from the third countries, including the EU, would hamper renewal of fixed assets and imports of new technologies and know-how; and
- **Burden of renegotiations and compensations within the WTO** as Ukraine’s bound import tariffs has been generally lower than in the RBK CU (Figure 4.1). The revision of these commitments is theoretically possible, but costly as other member countries have a right to request compensation or impose additional duties on Ukrainian goods or services to compensate for the losses caused by the change in commitments.

The latter two statements are based on the assumption that Ukraine accepts the tariff schedule of the RBK CU.

Figure 4.1 Imports tariffs of Ukraine and of the RBK CU



Sources: Ukraine bound import tariffs schedule (www.wto.org), RAKURS (2011)¹⁶

What could the RBK CU offer Ukraine to compensate these current and future losses? Ukraine has been proposed to have cheaper energy, elimination of customs control, and stronger bargaining power.

¹⁵ Discussion of gains and costs is partly based on "Between two customs unions" by Veronika Movchan. MEMU No. 4 (126), April 2011. Institute for Economic Research and Policy Consulting, www.ier.com.ua
¹⁶ RAKURS (2011) Indicative level of Tariff Protection in Kazakhstan: Before and After the Customs Union (Part I)." Discussion Paper #5.3, March 2011. RAKURS Centre for Economic Analysis

- **Cheaper energy.** It would have important short-term impact, but stable long-term energy price discounts are highly questionable. Russia plans to deregulate internal market, and thus its domestic prices will go up. Moreover, world energy prices are soaring, and fossil fuels stocks are finite. Increase in energy efficiency and supply diversification would be sounder economic strategy than a search for short-term price discounts;
- **Elimination of customs control.** This step would result in lower trade costs, but comparable cost reduction could be achieved by simplification of customs procedures in the FTA framework. Moreover, in case of customs reforms, trade with all partners would be boosted, causing no trade diversion effects likely to occur in the case of joining the CU;
- **Stronger bargaining power.** As the CU member Ukraine would face multi-stage bargaining process. It would need to balance its interests with interests of other members of the CU, and not only with interests of the third countries, involved in the FTA talks with the CU. It is questionable that resulting FTAs would be more beneficial to Ukraine.

Summing up, benefits offered to Ukraine in case of joining the CU could be achieved with current level of regional integration, namely the FTA, while the costs of the CU would be quite significant. Quantitative assessment of medium- and long-term economic impact of joining the RBK CU on Ukraine's welfare and other macroeconomic parameters is further discussed in Chapter 5.

5. Quantification of regional integration options

5.1 Scenarios

To quantify economic impact of two major regional integration options faced by Ukraine – the establishment of the DCFTA with the EU vs. joining the RBK CU – the CGE model for Ukraine has been applied.¹⁷

In the framework of this study we consider the following three scenarios:

Scenario 1a: Simple FTA with the EU: Mutual elimination of import tariffs.

Scenario 1b: DC FTA with the EU: Mutual elimination of import tariffs + 2.5% reduction in border dead-weight costs on exports to EU + 2.5% reduction in border dead-weight costs on imports from EU. Reductions in dead-weight costs are associated with approximation of regulatory framework in Ukraine and improvement of customs and other procedures

Scenario 2: RBK CU: Ukraine's import tariffs vis-à-vis EU and ROW reach RBK CU level.

Below we present the results of our modelling exercise.

5.2 Discussion of results

Before discussing results, several important notices should be made:

- **Time horizon:** Time is not explicitly fixed in the model. Tentatively, we refer to *medium-term horizon* in case when factors reallocate and thus full adjustment of the economy to the shock occurs, but no changes in factor endowment are modelled (static model). We refer to *long-term horizon* when steady-state

¹⁷ The model used in the paper has been developed in the framework of the project "Analysis of the Economic Impact of Ukraine's WTO Accession" conducted by Copenhagen Economics, Denmark; Institute for East European Studies Munich, Germany; and Institute for Economic Research and Policy Consulting, Ukraine, in 2005 by Copenhagen Economics *et al.* (2005) and later modified by Veronika Movchan.

formulation of the model is applied, and complete factors reallocation is complemented by capital stock adjustment to the new equilibrium.

- **Trajectory:** Results do not give indications concerning the adjustment path from benchmark to the new equilibrium.
- **Shock separation:** The results present economic impacts of pre-specified shocks and don't take into account any other economic developments that might occur in the country at the same time.

The modelling of two key scenarios of Ukraine's regional integration (Table 5.1) reports net welfare gains for Ukraine in case of FTA between Ukraine and the EU, with increase in gains in the case of the DCFTA. At the same time, joining the RBK CU and adopting their trade barriers results in net losses of welfare. Specifically, the establishment of simple FTA with the EU the total welfare of Ukraine will increase by 1.3% in the medium run and by 4.6% in the long run *ceteris paribus*, while for the DCFTA welfare increase would be 4.3% and 11.8% respectively. In case of joining the RBK CU, Ukraine would lose 0.5% in aggregate welfare in the medium run and 3.7% in the long run.

Table 5.1 Economy-wide effects of different RTA scenarios, % cumulative change

	Simple FTA EU (Scenario 1a)		DCFTA EU (Scenario 1b)		RBK CU (Scenario 2)	
	static	steady state	static	steady state	static	steady state
Aggregate welfare						
Change in welfare	1.3	4.6	4.3	11.8	-0.5	-3.7
Trade						
Change in imports	1.0	2.4	2.6	5.9	-2.9	-4.3
Change in exports	1.0	2.5	2.8	6.3	-3.1	-4.6
Returns to mobile factors						
Change in the unskilled real wage	0.5	2.5	1.2	5.7	-0.9	-2.8
Change in the skilled real wage	0.4	2.3	1.2	5.5	-0.9	-2.8
Change in the rental return to capital	1.2	0.1	2.2	-0.4	-0.6	0.6
Factor adjustments						
Unskilled labor adjustment	2.3	2.5	2.9	3.5	0.5	0.5
Skilled labor adjustment	0.8	0.9	1.0	1.3	0.2	0.2
Capital adjustment	0.8	0.4	0.9	0.2	0.2	3.2
Capital in steady state						
Capital stock change		3.6		8.1		-3.4

Source: Ukraine model, authors' estimates

Gains in trade and returns to labour (wage) and capital are also observed only in case of the EU FTA scenarios. The RBK CU will lead for losses in trade volumes and decreases in

wages of both skilled and unskilled labour and return to capitals in medium and long runs (except for return to capital in medium-run).

The results are also comparable with other studies of the impact of trade regime changes in Ukraine. According to CEPS (2006),¹⁸ the simple FTA results in negligible welfare gains, while for the deep FTA, gains constitute 4-7%. Also, CASE (2007)¹⁹ concluded that the positive welfare effects are largest in the extended FTA between Ukraine and the EU. They estimated that the integration leads to 2% increase in welfare for Ukraine using static model formulation.

6. Conclusions

The results of the quantitative assessment confirm our analytical findings and show advantage of the FTA with the EU over the RBK CU integration. The establishment of a DC FTA with the EU would clearly be in the economic interest of the country. Ukraine's exporters would have a better access to a large and stable market and, at the same time, Ukrainian companies would be able to import advanced capital goods at lower prices, thus improving their competitive position. The participation of Ukraine in a customs union with Russia, Belarus and Kazakhstan would bring only limited advantages, since Ukraine already enjoys free trade with the CIS countries.

Moreover, higher import tariffs in customs union mean that Ukraine in case of joining would face higher costs of imports and thus changes in regional trade patterns towards Russia, Belarus, and Kazakhstan, causing trade diversion. Taking into account that the EU is the major supplier of investments and durable goods in Ukraine, more expensive imports from the EU would cause slower modernization and hamper long-term economic development.

In addition, the membership in the customs union with Russia, Belarus, and Kazakhstan would be hardly compatible with Ukraine's WTO commitments and with the DC FTA with the EU, as the customs union has its own Commission that is entitled to conduct new regional integration on behalf of the union member states.

Summing up, from the economic point of view it seems unreasonable for Ukraine to become a member of the customs union, joining Russia, Belarus, and Kazakhstan in this regional integration initiative. Consequently, the strategic decision regarding Ukraine's future trade and regional integration policy should be clearly in favour of establishing a DC FTA with the EU.

¹⁸ CEPS (2006). *The Prospect of Deep Free Trade Between the European Union and Ukraine*. Report prepared by Centre for European Policy Studies (CEPS), Brussels; Institut für Weltwirtschaft (IFW), Kiel; International Centre for Policy Studies (ICPS), Kyiv

¹⁹ CASE (2007). *Global Analysis Report for the EU-Ukraine TSIA*. Ref: TRADE06/D01. Concept Global Analysis Report prepared by ECORYS and CASE

Annex A. Model overview

The model used in the paper has been developed in the framework of the project "Analysis of the Economic Impact of Ukraine's WTO Accession" conducted by Copenhagen Economics, Denmark; Institute for East European Studies Munich, Germany; and Institute for Economic Research and Policy Consulting, Ukraine, in 2005 by Copenhagen Economics *et al.* (2005)²⁰ and later modified.²¹ This model is, in turn, heavily based on the model developed by Jensen, Rutherford & Tarr (2007)²² for analysis of the WTO membership impact on Russia's economy.

The production side of the economy is summarized in 38 sectors following Ukraine's input-output data. Production in each sector requires the use of intermediate inputs of goods and services as well as the primary factors capital and labour, the latter distinguished by two skill levels. With the exemption of the capital stock in coal mining, all production factors are assumed perfectly mobile. This assumption implies that the results of the model present the economic adjustments to the shock over medium-term horizon.

Aggregate output can either be exported to several different regions or sold on domestic markets. Together with imports from all trade partners, it forms the total aggregate of goods and services available for domestic consumption.

To sufficiently reflect the technical characteristics of Ukraine's economy, production is divided into perfectly and imperfectly competitive sectors following Jensen, Rutherford & Tarr (2007).

The model distinguishes between public, investment and intermediate consumption as well as final household consumption. Consumers treat imported and domestically produced goods as imperfect substitutes while producers regard sales on domestic markets or exports as imperfect alternatives (Armington (1969) assumption). Exports and imports are disaggregated into different trading partners and modelled with constant elasticity of transformation and substitution.

The government receives income from public capital endowments and collects a variety of taxes. Total government revenue is used for public investments and the provision of public goods. The balanced budget is achieved via lump-sum transfers from households in case the state revenues decrease.

The model uses two closure procedures. First, on the macroeconomic level, total investments must equal the sum of depreciation, public and private savings and the current account balance. Second, on the government level, fiscal revenues are to be equal to expenditures. This is achieved through adjustment of the level of lump sum transfers to/from households.

The CGE model is based on the social accounting matrix (SAM) for Ukraine, constructed using statistical information provided by the State Statistics Service of Ukraine in input-output tables, and national accounts. Also, labour and trade statistics has been used to disaggregate skill types and trade flows.

²⁰ Copenhagen Economics *et al.* (2005) "Analysis of the Economic Impact of Ukraine's WTO Accession". Report prepared for the Ministry of Economy of Ukraine within the framework of the project conducted by Copenhagen Economics, Denmark; Institute for East European Studies Munich, Germany; and Institute for Economic Research and Policy Consulting, Ukraine, World Bank Grant N° TF 050270

²¹ Movchan V., Shpotyuk V. (2010) "Non-Tariff Measures and Country Welfare: Analysis with the CGE Model for Ukraine" EERC Working Paper (forthcoming)

²² Jensen, J., T. Rutherford, and D. Tarr (2007). The Impact of Liberalizing Barriers to Foreign Direct Investment in Services: The Case of Russian Accession to the World Trade Organization. *Review of Development Economics*, 11(3), 482-506

Table A1 Aggregate SAM for Ukraine with base year 2008, UAH m

	Activities	Commodities	Factors	Households	Government	Savings-investments	Changes in inventories	Rest of the World
<i>Activities</i>		2333576						2333576
<i>Commodities</i>	1483351			589739	169163	250504	14379	444859
<i>Factors</i>	831274							18983
<i>Households</i>			840217	0	179998			-10039
<i>Government</i>	18951	97831	10040	245217	0			-625
<i>Savings-investments</i>				175220	22253			67410
<i>Changes in inventories</i>						14379		
<i>Rest of the World</i>		520588		0	0	0		
Total	2333576	2951995	850257	1010176	371414	264883	14379	520588

Source: State Statistics Service of Ukraine, constructed by authors

A key issue for the study is information about current trade barriers between Ukraine and the EU on the one hand, and between Ukraine and Russia, Belarus, and Kazakhstan on the other, as well as assumptions and estimates how these barriers will change under Ukraine's different regional integration options. Estimates of imports tariffs are in Table A2.

Table A2 Imports duties of Ukraine, the EU, and the RBK CU, %

	Ukraine import duties after WTO accession	CU-RBK import duties	EU import duties for Ukraine
Agriculture, hunting	5.5	9.7	6.1
Forestry	0.6	12.8	0.2
Fishing	1.6	9.2	6.0
Mining of coal and peat	0.0	5.0	0.0
Production of hydrocarbons	0.0	0.0	0.0
Production of non-energy materials	2.7	3.5	0.0
Food-processing	10.7	21.6	0.3
Textile and leather	8.8	22.1	14.3
Wood, furniture, paper, publishing	0.4	11.4	6.6
Production of coke	1.0	4.9	0.3
Petroleum refineries	0.0	4.9	0.1
Chemicals, rubber and plastic	5.5	9.1	0.7
Non-metallic mineral products	7.0	11.2	1.0
Metallurgy and metal processing	0.7	10.1	0.7
Machinery and equipment	2.5	10.0	1.2
Other products	4.8	20.4	0.0
Electricity	2.0	0.0	0.0

Sources: Ukraine Customs Tariff, RAKURS (2011), Market Access Map, authors' estimates

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