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Strategic comparison of Moldova's Integration options: Deep and Comprehensive Economic Integration with the EU versus the Accession to the Russia-Belarus-Kazakhstan Customs Union

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Summary: This paper was developed for analyzing and comparing the economic impact of the two main integration options which Moldova has: 1) enhancing the economic integration with the European Union by establishing a Deep and Comprehensive Free Trade Area and 2) joining the Russia-Belarus-Kazakhstan Customs Union. The analysis is based on the results of economic simulations performed using a Computable General Equilibrium (CGE) model. The simulations performed show that enhancing trade integration with the EU is by far a more preferred option in terms of economic impact than the accession to the Customs Union of Russia-Belarus-Kazakhstan. Despite the costs related to the implementation of the sanitary and phytosanitary standards recognized by the UE, the first option provides Moldova a path for sustainable economic growth and significant welfare gains. The second option has negative effects over citizen's welfare and economic growth, undermining the efforts of technological modernization and of making full use of Moldovan economy's competitive potential. The 10% discount promised by the Russian Federation on the price of natural gas delivered does not compensate the negative economic effects caused by the increased custom duties within the Custom Union.

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FOREWORD

This paper was developed for analyzing and comparing the economic impact of the two main integration options which Moldova has: 1) enhancing the economic integration with the European Union by establishing a Deep and Comprehensive Free Trade Area as part of the EU Association Agreement and 2) joining of the Customs Union of Russia-Belarus-Kazakhstan. The analysis is based on the results of economic simulations performed by the author using a General Computable Equilibrium (CGE) model.

The paper starts by explaining the background of the analyzed problem and the overall policy implications of the two strategic options for Moldova.

Further on, a brief explanation of the CGE model and its relevance for the analytical objective is provided.

Hypotheses and scenarios simulated with the support of the CGE model are formulated in the third section.

The main results of the simulations are presented and interpreted in the fourth section.

The fifth section briefly analyzes the sensitivity of the model to changes in hypotheses supporting the simulations.

The last part draws conclusions and makes key policy recommendations.

PROBLEM'S CONTEXT

Moldova has recently seen more fervent discussions about the strategic options the country has for its long term development. As shown by the public opinion polls[1] and by political leaders' rhetoric, the Moldovan society and the national political elites are split: one half considers that Moldova should continue the European integration, ultimately pursuing the goal of joining the EU; the other half considers that Moldova should abandon its current European vector and join the Russia-Belarus-Kazakhstan Customs Union (RBK CU).

However, the disputes in which the representatives of the two opinions engage are mostly determined by ideological preferences and emotions, rather than by a clear and objective understanding of the effects these two options involve for the country's development.

In order to bring more consistency to these discussions, this paper aims to analyse and compare the economic consequences of the two main strategic options of Moldova: enhancing trade integration with the EU and joining the RBK Customs Union. Broadly, what do these two strategic options imply?

For Moldova, the enhancement of trade integration with the EU implies, first of all, a reduction to zero (even though phased) of custom duties for the imports from the EU and Turkey. It should be reminded that signing a free trade agreement with Turkey is a

[1] See the Public Opinion Barometer – April 2012, conducted by the Institute for Public Policy, http://ipp.md/libview.php?l=ro&idc=156&id=610&parent=0.

precondition set by the EU in order to create a Deep and Comprehensive Free Trade Area between Moldova and the European Union. At the same time, the UE and Turkey will cancel customs duties for imports from Moldova. This ultimately means better prices received by the Moldovan exporters on these two markets. Clearly, there are some costs which Moldovan producers should bear, especially in order to meet the relevant European standards and be able to access the market.

Moldova's joining of the RBK CU has significant implications as well. First of all, theoretically this would mean zero custom duties mutually granted among all the RBK CU members (including Moldova). However, Moldova's trade with the three RBK CU member states is already liberalized. Therefore, we should not expect any further effects as a result of further customs duties reduction, as these are already almost zero. Secondly, and much more important, the accession to the RBK CU requires that Moldova becomes part of the common customs policy of the CU members. Specifically, it will imply bringing the Moldovan custom duties in line with those of the Russian Federation, which has the main say in the RBK CU common customs policy (indeed, it is hard to imagine that after joining the RBK CU Moldova is able to impose its own views over the common customs policy). Currently, Russian customs duties are on average 2.7 times higher than the Moldovan ones.

In addition to cancelling old / imposing new trade barriers, the case of Moldova joining the RBK CU may involve another significant impact. As advocated by supporters of Moldova joining the RBK CU, joining this customs union may also bring a "bonus" to the price of the gas imported from the Russian Federation.

BRIEFLY ABOUT THE CGE MODELS

Computable General Equilibrium (CGE) models are (very) large linear and nonlinear equation systems describing the behaviour of an economic system. There is a wide range of potentially analyzed economic systems, starting with a household and ending with the entire world economy. Among others, this class of models is used for the quantitative analysis of the way the external shock spread through the economic system and how the analyzed economic system moves from the initial equilibrium to the new equilibrium. The given models acknowledge the fact that shocks can propagate in completely nonlinear manners, and may have unintended second round effects. CGE models do not claim to precisely forecast the way the economy will adapt to after-shock conditions. However they offer an invaluable support for the policy makers to get an educated understanding of the impact of the decisions to be adopted and to compare the policy options they have.

There are several types of CGE models. Neoclassical CGE models are grounded on the Walras's General Equilibrium Theory; within these models the firms maximize their profits, consumers maximize utility, the factors of production are utilized at their full capacity, and the equilibrium is reached by adjusting prices and wages. Structural CGE models allow for partial employment of the factors of production and for market rigidities; this class of models allows for different ways of reaching macroeconomic equilibrium and equilibrium on the factors markets. CGE models can be either static (it only compares the initial equilibrium with the final one) or dynamic (these indicate how exactly the economy evolves between equilibriums).

CGE models are implemented based on the so-called Social Accounting Matrixes (SAM). SAMs represent detailed and comprehensive data sets, in form of square matrix, which illustrate real and monetary flows between different economic agents (accounts): activities, goods, consumers, government, rest of the world. The level of disaggregation depends only on the analytical requirements and the available statistical data. Each account is represented by a column (which illustrates the expenses of that account) and a row (revenues), the sums of which are equal.

The CGE model used for the purposes of this paper represents an extended and adjusted version of the standard model described in Lofgren et all, 2002. This model is calibrated on the basis of a Moldova's SAM for 2010, developed by EXPERT-GRUP independent think tank, using statistical data provided by the National Bureau of Statistics, National Bank of Moldova, the Ministry of Finance and the Customs Services of the Republic of Moldova. The Moldova's SAM has a high level of disaggregation, including 36 types of economic activities, 35 produced goods and services, 3 types of transaction costs, 6 types of factors of production, 2 types of households (rural and urban), government, 5 types of taxes, including the custom duties disaggregated at geographical region and 5 geographical regions with which international trade is conducted.

The used CGE Model is static, meaning that: 1) it allows for the simulation of the net effects of economic shocks or policy decisions without showing how these effects evolve in time; and 2) the model can't properly consider the changes that could take place in endowment of the economy with factors of production. At the same time, these shortcomings are or little importance when we compare different scenarios and options, an objective that we have set in this study.

ANALYZED SCENARIOS

We ran three basic scenarios:

- ***DCFTA***, which assumes: a) cancelling Moldovan customs duties for imports from the EU and Turkey; b) a 5% increase in export prices for Moldovan agrifood products exported on the European market, for Moldova's industrial products the European tariffs are already zero; c) 20% increase of export prices for the agricultural products and 5% of export prices for Moldovan industrial products exported on the Turkish market[2]; d) 8% increase of agricultural sector production costs, necessary to meet the sanitary and phytosanitary European standards (EUREPGAP)[3].
- ***RBK*** scenarios involves: a) cancelling Moldova's customs duties for the RBK CU imports (even though already close to zero); b) 2.7 times increase of Moldova's customs duties for imports from all countries except RBK CU. It is

[2] Export price increases were estimated by the author grounded on the analysis of the current tarrifs applied by the EU and Turkey to imports from Moldova, then computing the effects over the prices received by exporters after cancelling these tarrifs. See a trade policy analysis of the WTO, ITCS and UNCTAD, 2011.

[3] According to international proof, the application of sanitary and phytosanitary standards initially implied cost growth for the multiyear production by 0.5-5%, thereafter by 1-3% (World Bank, 2005). For caution simulations, the author has chosen the upper limit of the interval which sums up the two cost components.

assumed that it is not necessary to invest additionally in order to meet the technical standards of the RBK CU as Moldova and countries composing the Customs Union use the same standards.

RBK_GAS: an important element is added to the second scenario (RBK), a 10% discount to the import price Moldova pays for natural gas from Russia. According to unofficial reports, this discount was proposed to Ukraine by Russia in order to either take over control of the Ukraine's gas transportation system or for Ukraine to join the RBK CU.[4]

The same macroeconomic and factors market closure rules apply to all three scenarios. Particularly, it is assumed that: 1) there is a free-floating exchange rate for the external balance, while the trade deficit is fixed; 2) for savings-investment balance it is considered that savings adjust to the given level of investment; 3) for the budget balance, it is considered that there is a stable fiscal policy, while the budget deficit adjusts. Regarding factors of production, it is assumed that these factors are not used to their full capacity and they are mobile across sectors.

SIMULATION RESULTS

The three scenarios have different effects, which are overall positive for the DCFTA scenario (a more intense trade integration with the EU) and strongly negative for the RBK scenario (joining the RBK CU). Combined with cheaper natural gas imported from Russia, Moldova joining the RBK CU – the RBK_GAS scenario – has a less negative impact than the RBK scenario. Main simulations results are included in Table 1. Next to customs duties impact, these effects are set in motion by two essential changes taking place in the economic fundamentals.

For the DCFTA scenario (trade integration with the EU) the real exchange rate of the Moldovan currency depreciates by around 2.1%, having a positive impact on national exports. RBK scenario results in a 7.4% appreciation of the exchange rate, while the RBK_GAS (joining the RBK CU plus 10% cheaper natural gas imported from Russia) the national currency appreciates by 6.4%, in both cases making Moldovan exports less competitive. At the same time, the model predicts that producer prices will not increase in the DCFTA scenario (+0.02%), while increasing by 1.3% in the RBK scenario. Cheaper imported natural gas diminished the impact of RBK scenario on prices, however pressures over production costs are positive (+1%).

Decrease of producer prices in case of DCFTA is reflected by the essential decrease of consumption goods prices: -9% for apparel (but prices grow 26% in the RBK scenario), - 3.3% for textiles (+6.6% in RBK), -7.1% for oils and vegetal fats and animals (+8.6% RBK), -3.4% for fruits and vegetables (+5.7% RBK), -2.1% for alcoholic and non-alcoholic drinks (+5% RBK). The RBK_GAS scenario includes a smaller increase in consumption prices than in case of RBK scenario, but it is nevertheless positive.

[4] „Н.Азаров: Газпром предложил Украине скидку на газ в 10%", http://top.rbc.ru/economics/02/03/2012/640261.shtml.

As a result, the overall welfare (estimated as total absorption level) amplifies in the first scenario (+5.0%) and worsens in case of the second scenario (-9.6%). Cheaper gas does not compensate enough the negative effects arising from the RBK scenario on welfare (the latter still decreases by 6.6%). At the same time, the private consumption demand of DCFTA scenario increases much more (7.5%) than absorption per economy. As a result of joining RBK CU the urban households' consumption decreases more dramatically (-18.8%) compared to rural ones (-9.3%). Natural gas 10% cheaper is not able to compensate welfare losses.

The three scenarios have different implications on the state budget. In particular, in case of the DCFTA scenario we could expect an essential budget revenues growth (over 1.6%), while the RBK scenario leads to a significant drop in budget revenues (-6.5%) mainly due to decreasing consumption (VAT and excises making up about 70% of the total budget revenues). A 10% decrease in the price of the natural gas imported from the Russian Federation does not compensate the budget revenue losses caused by the RBK CU accession, as the revenues still go down by 2.4%. As expected, in case of the DCFTA scenario the fiscal burden (estimated as share of the direct and customs incomes in the GDP) decreased by 1.1%, while in the case of RBK and RBK_GAS, conversely, the fiscal burden increases by 1.9%. At the same time, it is important to mention that the decrease of revenues and welfare levels could trigger an increased demand from the part of the population for additional social assistance that could finally lead to an even higher budget deficit.

The terms of international trade improve in case of the DCFTA scenario (export prices increase by 3.0% on average, while import prices by 0.8%). At the same time, for some imports, prices drop: -2.3% for beverages, -0.7% for "other food products," -0.3% for agricultural sector products. Obviously, these decreases in prices for imported products generate greater competitive pressure on local producers. As expected, in the DCFTA scenario exports grow stronger towards EU and Turkey destinations, but less for other destinations. Under this scenario, imports also increase strongly in all directions and for all products. Overall, in the DCFTA scenario exports grow by 11.2%, while imports – by 6.1%. In case of RBK, although the prices of imports decrease (-4%), export prices decline even more (-7.4%), worsening the terms of trade. In this case, exports decrease by equal proportions on all destinations and for all products, while the volume of imports from other destinations decreases stronger than imports from Russia, Belarus and Kazakhstan. Total exports drop by 22.2%, imports - by 11.1%. The third scenario also has a negative net impact on international trade conditions, although of lower magnitude than the second scenario: total exports decline by 17%, while imports - by 7.6%. In result of competitive gains, in case of DCFTA scenario trade deficit decreases by 2.6%, while in the RBK_GAS and RBK scenarios the export competitiveness decreases, while the trade deficit widen by 3.3% and 2.4% accordingly.

Final domestic demand, which grows strongly in case of the DCFTA and decreases under the other two scenarios, is paralleled by evolution of sectors' activity. In case of the DCFTA, the output levels increase by rates varying between 1.9% (constructions) and 21.3% (apparel and shoes production). In case of joining the RBK CU, the situation is entirely opposite, production decrease from 3.7% in case of constructions to 36% in case of apparel and shoes

production. Cheaper gas mitigates the negative impact of the previous scenario, but not enough to maintain a positive growth rate of the production.

Table 1. Variation of the main economic indicators, % change against the base equilibrium

	DCFTA	RBK	RBK_GAS
Producers Price Index	0.0	1.3	1.0
REER – Real Exchange Rate (negative sign indicates MDL appreciation)	2,1	-7.4	-6,4
GDP	6,4	-13.2	-9,7
Absorption	4,9	-9.6	-6,6
Households consumption expenditures, total	7.8	-14.8	-10.2
Rural	3.9	-9.4	-6.7
Urban	10.6	-18.8	-12.8
Exports	11.3	-22.2	-17.0
Imports	6.1	-11.1	-7.9
Factors of production income			
Low skilled labour	5.9	-12.0	-8.8
Medium skilled labour	6.5	-12.7	-9.3
High skilled labour	4.4	-8.7	-6.2
Capital	6.9	-14.1	-10.1
Agricultural self-employment	5.9	-14.2	-10.2
Non-agricultural self-employment	7,0	-13.3	-9.5
State budget revenues	1.6	-6.5	-2,4
Investment /GPD	-1.4	2.7	1,8
Savings / GDP	4.6	-7.4	-4.8
Trade Deficit / GDP	-2.6	3.3	2.4
Budget Deficit / GDP	-1,1	3.1	1,5

Source: simulation results on the basis of CGE model

At the same time, developments in the production level are accompanied by corresponding changes in the demand for the factors of production: in case of enhancing trade integration with the EU, labour force demand increases by 4.4% (decreases by 8.7% in case of joining RBK CU) for the high skilled labour, by 6.5% for medium-skilled labour and by 5.9% for the low skilled one (demand for medium and low skilled labour force decreases by 12.6% if Moldova joins the RBK CU). In case of DCFTA scenario demand for capital increases by 7%, while decreasing by 14% in case of joining the RBK CU. Third scenario has negative implications for the factors of production, even though these are less than in the second scenario.

The impact on the GDP is ultimately the most important aspect to be considered when comparing the three options. Thus, DCFTA has a sizeable positive impact on economic growth, +6.4%, while the RBK scenario reduces Moldova's GDP by 13.2%. Even if the Russian Federation offer Moldova an energy bonus (RBK_GAS scenario), the overall impact of the RBK CU accession remains negative, with the GDP set to decrease by 9.6%. The CGE model indicates that in order to fully compensate the GDP losses caused by increased customs duties after joining the RBK CU, the price reduction on gas imported from Russia should be around 30%.

SENSITIVITY ANALYSIS AND MODEL'S RISKS

As general rule, the CGE models are sensitive to variation of the elasticity coefficients included in equations. Some of these coefficients include substitution elasticity coefficients for the factors of production, elasticity of substitution of domestic products with the imported goods, elasticity of technological transformation of goods sold on domestic market in export goods and others. However, the comparative analysis ran in this paper remains valid regardless of the values of most elasticity coefficients, since the variation in these coefficients causes the same impact for all simulations.

The model is more sensitive to mechanisms of macroeconomic and markets equilibriums. Considering the equilibrium on the factors of production market, the model suggests that if Moldova is not able to respond to the increasing demand for production factors, then the positive impact of DCFTA diminishes significantly and even turns into negative. Even though the impact on the welfare remains marginally positive (0.24%), the GDP decreases insignificantly (0.05%). At the same time, some sectors will be more sensitive to the reduction of the customs duties, especially the agriculture whose output could fall by 3%. Under the assumption that all factors are fully used and sector-specific, the RBK scenario is neutral in terms of welfare and impact on GDP, while the RBK_GAS scenario ensures a bit more significant increase of welfare (+0.3%), however it associates with a GDP 0.1% lower than the basic balance.

At the same time, the model suggest that if Moldova had a fixed exchange rate, the economic effects of Moldova's joining of the RBK CU may in short term exceed those of DCFTA. However, in practice, it would be extremely difficult for Moldova to maintain such an exchange rate for long term. Indeed, such a regime significantly increases the country's external vulnerability, both because of the Moldova's low stock of hard currency reserves which makes the declared exchange rate regime less credible for strategic investors but very attractive for speculative investors and also because this regime would be totally against the current inflation targeting strategy adopted by the NBM.

CGE model suggests that RBK and RBK_GAS scenarios could have been more beneficial for Moldova if Ukraine would already be a member of the RBK Customs Union. Nevertheless, it is hard to believe that Ukraine would give up on its European integration vector and would be tempted by the idea of joining RBK CU. As recent economic research shows (Movchan and Giucci, 2011), the effects of Ukraine joining of the RBK CU on the Ukrainian economy are strongly negative and totally contradicting economic and political interests of Ukraine.

CONCLUSIONS AND POLICY RECOMMENDATIONS

The General Equilibrium Model of Moldova's economy convincingly shows that out of the two integrationist options Moldova has – 1) a stronger trade integration with the EU by creating a Deep and Comprehensive Free Trade Area; and 2) joining the Russia-Belarus-Kazakhstan Customs Union – in economic terms the first one is by far the most optimal choice for Moldova, while the second is likely to result in adverse economic consequences for the country.

Enhancing trade integration with the EU implies several important elements: diminishing Moldovan custom duties for the imports from EU and Turkey, and obtaining better prices for Moldovan exports. Regarding the costs involved, Moldova should undertake the costs related to the application of European standards to the exported products, especially for the agricultural ones. International researches show that the application of the sanitary and phytosanitary standards may lead to a 1.5%-8% growth in production costs of the agricultural producers. To be on the safe side an 8% growth of the production costs has been simulated in the model. Even considering these costs, the CGE model proves that the net balance of costs and benefits is positive for Moldova. The overall welfare of citizens increases, as well as output. Moldovan exports will be more competitive for all geographical directions, while trade diversion effects are relatively limited. At the same time, reduced customs duties may generate long-term dynamic effects; these have not been quantified in the present model. In particular, one should expect an increased volume of foreign investment and a more intense technological transfer from developed countries to Moldova, thus closing the gap in labour productivity. An interesting fact is that the model suggests relatively rather modest negative effects for Moldova's agriculture sector as a result of trade liberalization with the EU and Turkey. These results correlate with the fact that at the current level of costs, Moldovan producers are more competitive than the European and Turkish ones. FAO statistics convincingly shows that the agricultural producers' prices in Moldova are 60% lower than prices of Turkish producers and about 36% lower than average prices in EU countries (except pork and poultry)[5]. Decreased transportation costs by liberalizing international transportation services and aligning the standards will further enhance the competitiveness of Moldova's agricultural producers.

On the other side, Moldova's accession to the Customs Union of Russia-Belarus-Kazakhstan, associated with a threefold increase in customs duties, would lead to national currency appreciation, rising production costs and worsening of the Moldovan exports competitiveness. In this scenario, the general welfare decreases, paralleled by a significant drop in output. There will be serious trade consequences, manifested as exports and imports falling to / from all geographical directions. Higher customs duties will compromise the technological modernization efforts of Moldova's economy. Few economic sectors may benefit of the higher level of "trade protection," as consumers' penchant to spend will drastically fall. At the same time, the model used did not account for a key consequence of joining the RBK CU: Moldova is a member of the World Trade Organization, meaning that a more oppressive trade policy towards members outside of RBK CU would surely involve additional political and economic costs, which are more difficult to quantify with the model used. According to WTO regulations, it would be perfectly legal for the non-RBK countries which are members of the WTO to respond with similar protectionist measures against Moldova, further undermining the competitiveness of Moldova's exports. Another culprit, Moldova can be certain that joining RBK CU would be immediately followed by EU cancelling all trade preferences unilaterally granted to Moldova.

The third scenario, which combines Moldova joining the Customs Union with a 10% discount on the natural gas prices imported from Russia, does not compensate even half of the negative economic effects of joining the Customs Union. Moreover, the promised discount

[5] FAOSTAT, http://faostat3.fao.org/home/index.html#DOWNLOAD.

on the natural gas price is highly implausible, due to at least three reasons. First, the Russian Federation is increasingly less motivated to use energy subventions in order to compensate its allies' loyalty. Belarus's example is eloquent in this regard: even if Belarus is probably the most faithful partner of the Russian Federation in the Customs Union, Russia was not shy to use the energy weapon in order to obtain from Belarus a series of economic and political concessions. Secondly, as part of its WTO membership negotiations, Russia has committed to align the price of natural gas delivered on the domestic market with the export prices. This will fundamentally limit Russia's margin of generosity regarding its trade partners. Thirdly, according to the International Agency for Energy, in the near future the natural gas from traditional resources may see a fiercer competition on the European market, in particular, with the natural gas obtained from non-conventional sources in Canada, USA and Poland. Thus, Moldova has little chance to obtain the promised energy bonus, and it would actually be extremely unwise for Moldova to seek obtaining advantages which are both doubtful and unsustainable.

Taking into account the results of this analysis, key recommendations for Moldovan authorities are as follows:

- Enhancing efforts of trade integration with the EU, as well efficiently negotiating a free trade agreement with Turkey;
- Ensuring a fundamental reform of professional education system across all levels, so that Moldova is able to make full use of the new advantages created by a deep and comprehensive trade integration through an adequately skilled labour;
- Ensuring an encouraging investment climate for domestic and foreign investment alike; without this, it would be impossible for Moldova to see the advantages of the DCFTA fully materialized;
- Ensuring good trade relations with the RBK CU countries, including by eliminating all contentious political issues and freeing trade relationships of any political flavour;
- Providing support for Moldovan producers in order to gradually adopt the European and international sanitary and phytosanitary standards, and to mitigate the shocks created by the transition to these standards;
- Ensuring actual liberalization of the international transportation services and revise policies and existing infrastructure projects, so that Moldova's producers could enjoy the costs advantages they posses;
- Informing the Moldovan public in a truthful way about the balance of costs and the benefits of integration options Moldova has.

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