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WILL SANCTIONS AGAINST RUSSIA BE SUCCESSFUL: WILL RUSSIA FALL BEFORE UKRAINE?

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Abstract. Current study aims to analyse the Russian-Ukrainian conflict and related economic and political sanctions in the framework of game theory, debate the possible outcomes and to suggest the measures, which could contribute to the successful solution of the conflict. “The chicken dilemma” and “the dollar auction game” have been selected among various models for deeper analyse as matching the starting criteria and possible rational options for conflict endgame. The criteria of success and predicted success scenarios are seen different, but as the authors see it, in theory both Russia and the EU could be motivated to “pull back”. However, their willingness not to “lose the game” is determined in real terms by the “breaking points” that both parties to the conflict would like to avoid.

Keywords: sanctions, game theory, Russia, Ukraine, the EU, positive conditionality.

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1. Introduction

The conflict in the Eastern Ukraine and related sanctions between Russia, on the one hand, and the European Union (EU) and its allies on the other, have created a complicated security situation in Europe. The current situation is particularly challenging due to the confronting interests and expectations of the parties of the conflict. It would be in the primary interests of Russia to continue the destabilization of eastern Ukraine, because “lasting longer” than Ukraine would give Russia tactical advantage in terms of conflict outcome and regional power balance. The EU and its allies would, however, like both to help Ukraine to achieve positive outcome of regional economic stand of with Russia. Long-term scenario with sanctions implemented longer than years, causing economic stagnation to Russia, but unable to force Russia to return Crimea and liberate East-Ukrainian territories, will not satisfy neither the western countries nor Ukraine. Current study is not only aiming to analyse which side has longer prospects to survive the effects of conflict and sanctions, but aims to map and analyse the Russian-Ukrainian conflict in the light of the game theory strategies and to suggest measures, which could be used to stabilize the situation in Ukraine. Additionally, the current study aims to deliver new insights to the discussion by exploring the possibilities and thereby making suggestions how the conflict could be potentially resolved using the game theory tools. Thus, the game theory models that best describe the policy choices of the parties to the conflict will be discussed and analysed in the context of strategic interests of the players. In detail, the study describes “gains” and “losses” of both influential parties to the conflict, identifies the time horizon of the resolu-

tion of the conflict and makes some suggestions on further measures which should be used to resolve the conflict.

Methodologically, current study uses comparative method with analytical descriptive approach. The authors combine qualitative approach with quantitative analysis of the main macroeconomic indicators for Ukraine and Russia. As regards the contribution of the current study to the debate, the article gives a new insight to the discussion by making suggestions how the conflict could be potentially resolved using game theory tools. As the authors see it, earlier studies on this topic such as Cowen (2014) and Ericson & Zeager (2015) rather focus on the most likely scenario during the conflict, but not on the measures, which contribute to the resolution of the conflict.

2. The sanctions and countermeasures of opposing sides

The political tensions between Russia and Ukraine in 2013 have culminated in the violation of territorial integrity of Ukraine and the annexation of Crimea in March 2014 and military conflicts in the eastern part of Ukraine forced by Russia from 2014 on. To force the conflict towards peaceful solution, the EU and its partners have decided in March 2014 to use targeted sanctions to put pressure on Russia. The scope of individuals and entities subject to the Western sanctions has been widened in April (Council of the European Union 2014a), May (Council of the European Union 2014b; Council of the European Union 2014c) and July 2014 (Council of the European Union 2014d; Council of the European Union 2014e). Russia responded with introducing retaliatory measures against high-ranked officials of the EU, USA and Canada in March 2014. On 30 July, 2014, the EU announced new sector-specific sanctions against Russian military industry and its financial and energy sector (Council of the European Union 2014f), which restricted country's access to the international capital markets and placed an embargo on trade of arms and sector-related materials and technologies. As a countermeasure, on 6th August, 2014 the Russian president Vladimir Putin signed a decree "On the use of specific economic measures", which mandated the one-year embargo on the large number of agricultural products from the Western countries. The ordinance of the Russian government was adopted and published with immediate effect, which specified the banned items like fruits, vegetables, meat, fish, milk products and dairy products. Also, the countries of provenance were specified in the decree, such as the United States, the EU, Norway, Canada and Australia (Government of Russia 2014a; Government of Russia 2014b). In September 2014, the leaders of the EU and the US have agreed on additional sanctions, forbidding state-controlled Russian oil and defence companies from raising money in European capital markets and cutting off foreign investments (Council of the European Union 2014g). Further additions to the list of persons, organizations and companies under sanctions have been made in November 2014 (Council of the European Union 2014h; Council of the European Union 2014i). On 22 June, 2015, the EU Council extended economic sanctions against Russia until 31 January, 2016. This decision followed the agreement reached at the European Council in March 2015 that the sanctions against Russia should be directly linked to the complete implementation of the Minsk agreements, which is foreseen by 31 December 2015 (Council of the European Union 2015b). The Council of the European Union also stressed that the EU remains ready to reverse its decisions and re-engage with Russia when the country starts to contribute to the solution of the Ukrainian crisis actively and without any ambiguities. Russia responded with additional sanctions in 24 June 2015 and with additional legal and economic measures to integrate Crimea on 15th July 2015 (President of Russia 2015). In July 2015, both the leaders of the European Union and the US have agreed on additional sector-specific sanctions against Russia (Council of the European Union 2015c). In terms of expected policy change and criteria the sides have been less precise. The EU and its allies have stressed the importance to fulfil Sevastopol and Minsk treaties and respect Ukrainian territorial integrity, while Russia has stressed that countermeasures are there because of anti-Russian sanctions and can be ended when the sanctions are lifted. While the sanctions have had changing aims especially from the EU side, current study evaluates the success based on three scenarios. First, western sanctions can be rated effective when Russia will respect Minsk and Sevastopol treaties, will withdraw from East-Ukrainian territories and will respect the Ukrainian territorial integrity. Russian approach can be rated successful both in cases when Crimea and Eastern Ukraine will not be returned under Ukrainian governance or when Ukrainian economy will completely collapse by causing public riots and political instability. Accordingly, when Ukraine and the EU need for success actual change in terms of territorial integrity, Russia can also be satisfied with existing status quo.

3. The “sanctioning war” in the framework of game theory and strategic thinking

In theory, the outcome of mutual sanctions or sanctions answered with countermeasures imposed during the current Ukrainian-Russian conflict could be associated with strategic behaviour and game theory scenarios. In the economic theory, game theory is applied to discuss the strategic behaviour of individuals. However, it also focuses on individuals' expectations, distribution of information, design of economic institutions, and the balance between equilibrium and efficiency (Roth 1991, 107). The early modern game theory dates back to the 1920s and 1940s, when John von Neumann and Oskar Morgenstern published their works focusing on zero-sum games with two players. However, the more recent research on strategic thinking such as the works of the Nobel prize winner John F. Nash and his followers from 1950s on, and the more recent research by also Nobel prize winners Robert E Lucas Jr, John C Harsanyi, Erik S Maskin and others, have broadened the scope of game theory by introducing various game theory models dealing with dynamic interactions, incomplete information and non-zero-sum games (Turocy & von Stengel, 2002).

Related to Ukrainian-Russian conflict the discussion is focused on the question, what would be the most likely scenario during the conflict and what would be the expected best scenario. Cowen (2014) analyses the strategic logic of threats and the credibility in the context of the current conflict. The article discusses the conflict in the framework of theoretical debates over deterrence both as regards the theoretical “nuclear deterrence debate” and the “market deterrence”, the different equilibrium levels of the conflict and the issues related to the credibility of the parties to the conflict. He concludes that it is unlikely that Russia will reverse the political course. Ericson and Zeager (2015) use the theory of moves (Willson 1998) to derive policy alternatives and equilibrium states under various assumptions. Based on the game theory models, they suggest that the short-term equilibrium for most of the scenarios is the situation where “Russia destabilizes Ukraine, creating a “frozen conflict” while the West settles into a stable configuration of ongoing sanctions against Russia” (Ericson & Zeager 2015, 153–154). In the long-term, the EU and its partners “return to business as usual with Russia”. It is also an option that Russia has deliberately provoked conflicts because the country either believes that it will lead to concrete gains that could never be realised through negotiations, or the adversarial clash with the West is the goal in itself.

However, the current study aims to deliver new insights to the discussion by exploring the possibilities and thereby making suggestions how the conflict could be potentially resolved using the game theory tools. Two game theory models, the chicken model and the dollar auction game, have been selected and combined in the model proffered. The choice is based upon the assumption that theoretical models should reflect the current conflict where “players” with relatively equal power are involved and the solution is not pre-determined by dominance. In the initial phase of the Russian-Ukrainian conflict, neither Russia nor the EU and its partners did know each other's strategies. Thus, the conflict has initially followed the so-called chicken dilemma where opponents do not know each other's strategic preferences and none of them is influential enough to resolve the situation. However, during the escalation of the crisis both parties to the conflict could observe the strategy of the other player which makes the situation similar to the dollar auction game model, where game is repeated over a number of periods and players can observe the strategies of other players before making their own moves.

Intriguingly, there is a fundamental weakness of the game theory: assuming that all the “actors” in the international arena hold complete information on the other participants' preferences and make rational choices, sanctions should be never imposed according to the game theory. The risk that sanctions might be imposed is already sufficient to prompt the target country to change its behaviour, and the sanctioning country would never impose sanctions without being sure that the sanctions will change the behaviour of the target country (Lacy & Niou 2004, 27). However, in real terms the opponents might not know each other's moves and strategies or are not influential enough to resolve the situation, which makes the outcome of sanctions highly questionable. The complexity of a situation is described in the chicken game model where, figuratively speaking, two players are driving straight towards each other. At a certain moment, both players simultaneously have to decide whether to yield to the other or to swerve out of the way, whereas the decision is irrevocable and must be made in ignorance of the other player's decision (Poundstone 1992, 198). If one of the players or both players decide to swerve out of the way to avoid the crash, their costs are relatively marginal, because the only cost is related to the risk that the player will be labelled “the chicken”, whereas the costs caused by the crash would be rather fatal for both

players. Thus, both opponents assume that it would be rational for the other to swerve out of the way.

Furthermore, it would be mutually beneficial for both players to choose the opposite strategies, whereas even for the one who swerves out of the way and “loses the game”, the final outcome will be a far better choice as it would be the outcome of crashing to each other (Harrington 2008, 89–116). Under these circumstances, the chicken game has two Nash-equilibrium points or strategies where one of the players swerves and the other drives straight forward (Poundstone 1992; Stone 2001). Therefore, as regards mutual sanctions, it would be rational and still beneficial for both sides if one of the players would lift the sanctions against the other player, in comparison to the situation where both players continue to use sanctions which drive both players to ruin. The outcome becomes more unpredictable if game is played over a number of periods and they know each other’s strategies. Among the various game theory models, the dollar auction game is particularly interesting as regards the Russian-Ukrainian conflict. In the model, the auctioneer auctions off a dollar bill which goes to a highest bidder with the understanding that both the highest bidder and the second-highest bidder have to pay the amount of their last bids. Whereas the highest bidder wins the game and gets the dollar bill, the second-highest bidder gets nothing in return, but still has to pay (see Shubik 2003, 109–110). Under purely rational circumstances (such as there exists a potential profit and players are not forced to make a bid), the outcome of the game could turn out to be completely “irrational”. The critical zone for the auctioneer occurs if one of the players bids 55 cents, since despite further biddings the auctioneer receives profit as the sum of the two highest bids is larger than a dollar bill. The critical zone for the bidders occurs if one of the players has bid one dollar. Assuming that the game has no specific termination point, beyond this point both players will be ultimately losing, but are still motivated to raise the bid rather than to lose money with certainty. In practice, the game could lead to the completely irrational bids where in total between 3 and 5 dollars will be paid for a dollar bill (Shubik 2003, 11; Poundstone 1992, 1). As stipulated by Shubik (2003, 111), “there is no neat game theoretic solution to apply to the dynamics of the Dollar Auctions, or to the escalation between two nations *in abstracto*”. In a particular context, Poundstone (1992, 1) has suggested that the problem might stem from the difficulties in drawing a line between a rational bid and an irrational one. Thus, if the choice is between losing everything or raising the bid, irrational choices are likely to be expected. The same logic applies to the abovementioned chicken game model in a situation if one of the players with less negotiating power is still strongly motivated to “drive straight forward”, whereas the more influential player is less motivated to win. The rational choice would be to cooperate and to find a solution which partially satisfies both parties of the conflict. However, in practice the non-cooperative behaviour which follows the dollar auction model is highly likely under these circumstances.

To sum up, based on the chicken dilemma, it would be rational and still beneficial for both sides of the conflict if one of the players would lift sanctions against the other player, in comparison to the situation where both players continue to use sanctions which drive both players to ruin. However, questions remain whether either Russia or the EU are willing to “swerve out of the way” in real terms, which leads us to the question whether the conflict has already reached that certain moment in time where it is too costly for both parties to pull back. The understanding of the “gains” and “losses” of both parties to the conflict could help to answer the question whether either Russia or the EU is potentially going to be a “chicken”. The identification of the circumstances when “the bid becomes irrational” could contribute to the further discussion on what is the time horizon to find a solution to the conflict.

4. Who will fall first? Analysing the strategic choices of the parties to the conflict

The Russian-Ukrainian conflict and the “sanctioning war” constitute the chicken dilemma in many aspects. If the opponents would decide to “drive straight forward” such as Russia to continue the destabilization of the situation in eastern Ukraine, and the EU to further extend or to strengthen sanctions against Russia, both parties to the conflict are risking with serious consequences. On the one hand, the ongoing political destabilization of Ukraine could potentially lead to the economic collapse of the country, which is both sharing the common border with EU member states and is clearly interested in the EU-membership perspective. On the other hand, the extension or strengthening of international sanctions against Russia combined with the global economic developments could seriously hamper the economic outlook for Russia for years, but this would not be in the interest of the Russian political elite, since economic recession could exacerbate social problems in Russia.

What makes the current situation unpredictable is the collision of interests of conflicting parties. The persistency of the Russia's military pressure in eastern Ukraine substantially increases the risk that Ukraine is close to the economic collapse. However, it would be in the primary interests of Russia to continue the destabilization of eastern Ukraine since "lasting longer" than Ukraine would give Russia a tactical advantage to get a "better deal" in the "negotiations" with the EU. The EU and its allies would, however, like both to help Ukraine as quickly as possible and to prevent future violations of territorial integrity of sovereign states by Russia. Since Ukraine is currently on the brink of the economic collapse, it would be in the interest of the EU and its allies if Russia would be unable to adapt to the international pressure in the short-term, but not to fall into the chaos, as it would destabilize the overall security situation in Europe.

In this light one might ask what could be the motives for both parties to the conflict to "swerve out of the way" such as for the EU to lift sanctions against Russia, and for Russia to stop the destabilization of the eastern part of Ukraine. For the EU, lifting sanctions against Russia could constitute an alternative solution to the current situation. Today, the EU-sanctions against Russia have not produced the desired results in eastern Ukraine and the country is still facing both military conflicts in the eastern Ukraine and risking with the economic collapse in the future. However, although the impact of the Russian sanctions on the growth perspective of the EU and euro zone has been estimated as rather limited (Vanden Houte 2014, 1). The legitimate question is whether other measures and international resources should be mobilized which support the Ukraine's own abilities to resolve the conflict. Drawing hereby historical parallels, sanctions imposed to alter military activities and to force the target country to withdraw its troops from border skirmishes have not been successful. Measures used after the World War II, in 1970–1980s particularly as regards the Turkish invasion to Cyprus in 1974 and Soviet occupation of Afghanistan in 1980s, and more recent sanctions against Syria serve as good examples of that. The view that the outcome of sanctions is unclear and highly case specific is supported also by a large number of theoretical studies (Groves 2007; Kamper & Lowenberg, 2007).

For Russia, the strategy of "swerving out of the way" could be driven by the country's wish to avoid the loss of competitiveness in the international arena. Russian economy is stagnating due to the permanent structural problems, weak investment climate and international sanctions. It is also difficult to imagine what benefit the collapse of the Russian economy could bring to the EU, as the country's economic degradation would create threats to the stability in Europe in many ways. The risks are mainly stemming from the economic relations that could backfire on the EU member states, but Russia's economic collapse would also threaten the European energy security, make the immigration situation more strained and so on. In the broader context, it would also send a signal to the international community that both the partnership and cooperation agreements concluded between Russia and the EU, and the EU Eastern Partnership have failed in ensuring security and safety in the region.

Thus both influential parties to the conflict could assume that to some extent it would be rational for the other party to "swerve out of the way". At this stage of the conflict, intriguingly nothing more or less is demanded from Russia than to stop supporting separatists in Donetsk and Lugansk, since sanctions against Russia are to a large extent associated with the full implementation of the Minsk agreement (see Merkel in RT 2015, 1). Russia's power elite has despite the ample evidence to the contrary consistently stipulated that Russia is not involved in the conflict, but only the "guarantor" of the Minsk agreement. Thus, "swerving out of the way" means for Russia that Russia formally needs to do nothing, but just in real terms to stop sending military forces to eastern Ukraine. For the EU, lifting the sanctions against Russia would be nothing new compared to the union's previous practice. The EU has been often ready to ease sanctions after the target has taken some credible steps towards satisfying the demands of the EU (Biersteker & Portela 2015, 3). Furthermore, compared to the Russian-Georgian conflict in 2008 where the EU preferred to take the role of the neutral mediator and not to impose sanctions against Russia, during the Russian-Ukrainian conflict in 2015 the EU has already shown to its partners that the union has done more of what could have been expected based on the previous experience. It could be intriguingly argued that "swerving out of the way" would mean for both parties to the conflict also a loss of credibility in the international arena, but as the authors of the current article see it, harm has already been done with Russia's decision to violate the territorial integrity of sovereign national states, and the EU's decision to give a relatively weak response to the Russia's actions in 2008 and in 2015.

5. How close is the conflict to a moment, where “bid becomes irrational”?

However, the question remains which factors limit the willingness of either Russia or the EU to “drive straight forward” or to “swerve out of the way” in real terms. In the view of the authors, the potential solution to the conflict should be discussed in extremely limited timeframe. The comparison of macroeconomic indicators for Russia and Ukraine (see Figures 1(a)-1(f) in Appendix 1) clearly indicates that the pressure on the international community to find a solution to the conflict derives from the risk that Ukraine’s economy could collapse in the coming months which makes “further bids irrational” at least from the perspective of the EU. The comparison of the GDP annual growth rates for Russia and Ukraine (see Figure 1(a) in Appendix 1) indicates that Ukraine has lost one fifth of its economic size since the beginning of the crisis in the first quarter of 2014, whilst Russia has showed only minor negative growth rates from the first quarter of 2015 on. Ukraine has for already 1.5 years faces an economic recession which is comparable to the deepest recession period during the recent economic crisis from the first to the third quarter of 2009, when the Ukraine’s economy contracted by 19.6%, 17.3% and 15.7% (Ukraine GDP... 2015, 1). The current economic decline in Russia has been -2.2% in the first quarter of 2015 (y-o-y basis; Russia GDP... 2015, 1). According to the most recent forecasts of the IMF and the OECD, the country is expected to be in the recession also in 2015 (decline by -3.4 percent according to the forecast of the IMF and -3 percent according to the estimations of the OECD) and to face modest annual economic growth in 2016 (projected growth rate is less than 1 percent according to the estimations of the OECD forecast)(OECD 2015; IMF 2015a). However, the current economic recession in Russia is still not comparable with the economic recession during the recent global financial crisis, when Russia’s economy declined by almost 10%. However, the medium-term growth projections of the Russia’s economy (IMF 2015,1) are still significantly below the pre-crisis level.

As regards the value of the national currencies, the Ukrainian national currency – hryvnia – has lost approximately 60% of its value since the escalation of the conflict from July 2014, which is twice higher than the loss of the value of Russian rouble (see Figure 1(b) in Appendix 1). In the beginning of the conflict, the exchange rate of the Ukrainian currency was 15 UAH/EUR, the hryvnia reached its lowest level in February 2015 with 37UAH/EUR and stabilized at 24/UAH/EUR in the second quarter of 2015. The exchange rate of the Russian rouble jumped from 46 RUB/EUR in December 2014 to the level of 85 RUB/EUR but stabilized again at the level of 60RUB/EUR in July 2015 having lost roughly one third of its value in Euro within one year. The weakening of the currencies has caused high inflation both in Russia and in Ukraine. Inflation remained within single digits in Russia in 2014, but picked up substantially from the beginning of 2015. Since then, prices have stayed at a level of around 15–16 percent, compared to a year earlier. At the beginning of the year 2015, the prices for food have increased for almost 30% in Russia. However, this is not particularly high compared to the inflation that Ukraine has experienced during the conflict, such as 60.9% in April 2015 and close to 60% in May and June 2015 (see Figure 1(c) in Appendix 1). The Russian Central Bank had to spend remarkable amounts of national reserves in support of the rouble which have helped to somewhat stabilize the inflation in Russia since April 2015 (see Figure 1(d) in Appendix 1).

The inflationary environment may be still more harmful to Russia as it may seem at the first sight. According to the opinion poll conducted in Russia in summer 2014, 59% of the respondents described high inflation in Russia as the most serious concern the country is facing (Ostroukh 2014, 1), and at that stage of the conflict, inflation in Russia did not reach even its peak which arrived in March 2015. Although in Russia, the overall inflationary pressure has eased somewhat in recent months and the Russian Central Bank has stated that inflation is slowing “faster than expected” (Bloomberg 2015, 1), the inflation remains substantially higher than central bank’s mid-term inflation-target which is 4% for 2017. Paradoxically, as the increase in food prices in Russia is directly associated with the countersanctions imposed on the agricultural and food products originating from the Western countries and that Russians consider high inflation as the most dangerous problem for the country’s economy, one could expect that local pressure is put on the Russian political elite to lift countersanctions. Logically, if Russia decides to extend the sanctions on import of agricultural and food products from the Western countries, inflation should increase even further which in turn should increase the dissatisfaction of Russians with the current situation. The comparison of the Consumer Confidence data for Russia from July 2014 and July 2015 indicates that the number of respondents who assess their situation as poor and expect it to become worse has quadrupled (Russia Consumer... 2015, 1). In theory, depreciation of the domestic currency should

also create indirect stimulus to domestic producers while imported products shall be relatively more expensive and domestic goods more price-competitive. Russia's trade has been in surplus already for decades and the situation has not remarkably changed during the Russian-Ukrainian conflict (see Figure 1(e) in Appendix 1). The surplus has somewhat narrowed in September 2014, but increased again from October 2014 onwards. On the contrast, Ukraine has faced trade deficit during the first stage of the Russian-Ukrainian contact, but deficit for goods has narrowed from the beginning of 2015 on, following the considerable depreciation of the Ukrainian hryvnia and the decline in the trade volumes between Russia and Ukraine. However, despite the current political conflict between Russia and Ukraine, Russia is still the largest individual trading partner of Ukraine which makes it difficult for Ukraine to move away from the Russian sphere of influence.

The political instability in eastern Ukraine and the "sanctioning war" combined with recent global macroeconomic imbalances such as the fall in oil prices (Crude Oil WTI from 110\$ in July 2015 to 56\$ in July 2015) are reflected in the low confidence of international financial and capital markets towards Russia. The country has experienced dramatic capital outflow in 2014, as the capital and financial account deficit approximately doubled in 2014 (see Figure 1(f) in Appendix 1). The FDI stopped to come to Russia from the second half of 2014 (see Figure 1(g) in Appendix 1). The FDI outflow from Russia has been directly associated with the targeted EU-sanctions and economic imbalances in Russia, which provoked justified mistrust among the international investors as regards Russia's economic outlook and affected all economic sectors from the agriculture to the oil and gas sector. Dramatic capital outflow from Russia has been associated with the growth of dollar deposits, conversion of roubles to foreign currencies and the repayment of foreign debts by Russia's private sector (Kuchma 2015, 1). However, even during the economic recession, Russia continued to increase its official gold reserves (see Figure 1(h) in Appendix 1). In Ukraine, the net foreign direct investment was negative in the first half of 2014, but from then on positive flow has been reinstated. The main reason for the FDI outflow in the first half of 2014 was the tendency that Russia has withdrawn about 31% of all Russian investments in Ukraine, accompanied with the outflow of investments coming from the Russian offshore companies operating under jurisdiction of British Virgin Islands and Cyprus or outflow of investment of western companies which had previously close economic relations with so-called inner circle of former Ukrainian president Yanukovich (Foreign Direct... 2014, 1).

To sum up, in the beginning of the crisis from April to October 2014, the impact of international sanctions on Russia was rather modest due to the oil prices, which stayed at historically high levels. From October 2014 till the end of the year, the country experienced high economic turbulences due to the combined effect of international sanctions and the overall international pressure on Russia. The instability was related to the escalation of the military conflict in eastern Ukraine, the drastic global fall in oil prices, and country-specific factors such as lack of structural reforms in Russia, monetary developments, budgetary imbalances and stock market turbulence. However, the economic recession in Russia from October 2014 on cannot be compared with the economic recession the country has faced during the recent global financial crisis from the second quarter of 2008 to the second quarter of 2009. The pressure from international sanctions and the shrinkage of the private sector in Russia have been also largely redressed by the federal budget. Russia's foreign exchange reserves have decreased steadily from the pre-sanctions level of 510 billion dollars to 350 billion dollars. However, its pace has slowed down now and for at least a year or two there does not seem to be problems with the collateral in Russia. From January 2015 on, the inflation and the exchange rate of the Russian rouble and the global oil prices have stabilised, however, at different levels compared to the earlier periods. Thus, even in combination with the dramatic fall of oil prices and substantial macroeconomic turbulences in Russia, the "pain" for Russia has been relatively mild and has partly appeared only a year after sanctions against Russia have been imposed. Russia succeeded to avoid substantial economic losses in the short-term and the most recent developments refer to some sort of "new normality" in the Russian economy, where after turbulent times at the end of the year 2014 both the internal factors and external factors have stabilised again, however exchange rate and oil prices at the lower level and inflation rate at the higher level than in the past. In contrast, Ukraine has lost one fifth of its economic size during the conflict and at this stage, the country is basically functioning only with the support of the international community, including, *inter alia*, training programs and non-lethal equipment for the Ukrainian army provided by the USA and Canada, humanitarian aid to Ukraine provided by some EU member states, and the IMF's recent bailout packages. Thus, the time window for finding a solution to the current "chicken game" is extremely narrow and directly depends of the economic outlook for Ukraine in the short-term.

6. Undesired outcomes of the Russian-Ukrainian conflict in terms of the dollar auction game.

The current section focuses on the long-term perspective of the Russian-Ukrainian conflict by identifying the situations what both conflicting parties would like to avoid. The following discussion is based on the assumption that at a certain moment in time the conflict becomes too costly for both parties since they will lose everything that has hitherto been achieved. In this sense, the understanding of what are the “breaking points” would give us some hints about the extension and the intensity of the conflict. Thus, the authors are open for further discussions as regards at what stage the Russian-Ukrainian conflict reaches the point where “the second-highest bidder gets nothing in return, but still has to pay”.

As the authors of the article see it, the “breaking points” for the Russian government would be either the moment when the Russia’s ruling elite has lost the public support or when the country is forced to give up the ambitions to restore the former Soviet Union and to lose its sphere of influence in the region. For the EU, the “bid becomes irrational” from the moment on when Ukraine has collapsed economically or returned to the area of Russian political influence. However, for the EU the undesired outcome would be also a situation where no consensus is preserved in the EU anymore and some of the EU member states officially express their disagreement as regards the sanctions against Russia. Thus, any measures and activities, which pull Ukraine apart from the Russian sphere of influence or decrease the public support in Russia to the Russia’s political elite should, potentially, increase the probability that Russia would “swerve out of the way”. Any signs of the de-unification of the EU member states as regards the sanctions against Russia should be rather avoided. The conviction that any measure which helps to pull Ukraine apart from the Russian sphere of influence supports the conflict resolution in Ukraine is based on the geopolitical argument. In the recent years Russia has made significant efforts to integrate Russia, Belarus, and Kazakhstan in the form of the Eurasian Economic Union. At the same time, some of the former Soviet Union republics such as Georgia and Ukraine have been gravitating away from the Russia’s sphere of influence. Thus, it could be argued that on the one hand, the persistence or the escalation of the conflict in the eastern Ukraine decreases the chances for the EU-membership of Ukraine. On the other hand, Russian sanctions against the EU basically constitute another tool for jeopardizing the position of the EU in the eyes of the former Soviet Union countries like Ukraine, Belarus, Moldova and Georgia.

Based on previous analysis authors are suggest following developments for the EU. Firstly, despite the current Russian-Ukrainian conflict, the EU-accession perspective should be left open for Ukraine. The importance of the clear roadmap to the EU-accession has been also stressed by the Ukrainian political elite (Reuters 2015, 1). However, in the most recent EU Eastern Partnership Summit in Riga in May 2015, the leaders of the EU have stressed the “solidarity” with Ukraine, but remained relatively vague as regards the EU-membership perspective for Ukraine. Hereby, citing the President of the European Commission, Jean-Claude Juncker, “They are not ready. We are not ready, but the process is under way” (Kaža & Norman, 2015, 1). Contrary to Russia’s expectations violent conflicts in Ukraine have tended to increase country’s support for the European values. As the authors see it, the EU cannot afford any vague statements as regards Ukraine’s EU-accession perspective in the current stage of the conflict, without the risk to lose support of the Ukrainians.

Secondly, ongoing financial support should be provided to Ukraine by the EU, the IMF and the partners to avoid the economic collapse of the country and to build greater trust to the intentions of the EU to integrate Ukraine to be Western region. However, the bailout-packages and other financial resources should be directly linked to the progress in implementing reforms in Ukraine during the limited time frame. In this light, the authors suggest that the positive conditionality model of the EU should be used more widely which has proved to be a valuable method of partnership in different areas from the EU development cooperation to the EU neighbourhood policy and pre-accession strategy (see Veebel 2009, 1). The activities should be focused on the further promotion of institutional reforms and the modernization process in the society, fight against corruption, and other critical factors. Particular attention should be paid to the activities to secure the eastern border of Ukraine and the financial support to Ukraine should be directly linked to the results that have been achieved particularly in this area. Thirdly, the economic stabilization of Ukraine should be achieved, by any available means. The focus should be on the macro-economic stabilisation measures, tightening of the economic contacts between the EU and Ukraine, improving the business and investment climate in Ukraine, finding solution to the Russian-

Ukrainian gas disputes and convincing international capital and financial markets that Ukraine is following the path towards sustainable stability. The study conducted by the Vienna Institute for International Economic Studies (Adarov et al. 2015, 1–5) makes several policy recommendations from introducing more stable exchange rate regime, implementing balanced changes in the structure of government spending, subsidising energy-saving investments, attracting FDI, to introducing labour market reforms and taking much clearer focus on the possibility of maintaining a preferential trade regime within the CIS free trade agreement signed between Russia, Ukraine, Belarus, Moldova, Armenia, Uzbekistan, Kazakhstan and Kyrgyzstan in 2011. The IMF (2015b, 1) has stressed the critical importance of maintaining an appropriate tight monetary policy and building up official foreign exchange reserves. The organisation has also outlined the necessity of the restoration of a sound banking system as a key for economic recovery in Ukraine.

The authors' conviction that measures which decrease the public support to the Russia's ruling elite should contribute to the resolution of the conflict is based on the intuitive logic. Despite the contracting economy, high inflation, exchange rate turbulences, capital and investment outflows, and global fall in oil prices, the Russia's political elite has still managed to keep its power. The key to success has been the overwhelming public support to the Russia's ruling elite. According to the recent surveys from May and July 2015 of the WCIOM, the public opinion research center in Russia, 86 percent of the survey respondents approve the activities of the Russian President Vladimir Putin, 71 percent of the survey respondents are satisfied with the political situation in Russia, and 92 percent of the survey respondent "don't care about the sanctions against Russia" (Russian Public... 2015, 1). According to the opinion poll from August 2014, 47% of the Russians believed that the main purpose of the Russian President has been to achieve peace in Donbass and Ukraine, 36% of the respondents are convinced that Putin is trying to prevent the NATO forces entering the Ukrainian territory, and 33% say that Russian president is defending the rights of the Russian speakers in eastern part of Ukraine. 13% of the respondents mentioned that the Russian-Ukrainian crisis prevents the entry of Ukraine into the EU (Poll... 2014, 1).

However, the current Russian government is taking care of the additional pressure by itself by destroying hundreds of tons of food products initially originating from the EU countries and being illegally imported to Russia by Russian companies. These demonstrative actions of the Russian government have deserved the indignation of several hundred thousand people in Russia, who have signed the petition suggesting to give the banned products to the vulnerable groups in the Russian society (Gessen 2015, 1). Also, despite the statements that majority of the WCIOM survey respondents "don't care about the sanctions", only 46 percent of the respondents are satisfied with the economic situation in the country (Russian Public... 2015, 1). Finally, the importance of maintaining the unity in the European Union as regards the sanctions against Russia should not be underestimated next to the activities targeted to support Ukraine or to put pressure on Russia. Different views of the EU member states as regards the sanctions against Russia seriously distort the image of the EU as the guarantor of the security in the region. According to the theory, sanctions cause behavioural change *after* being imposed, if the target country has initially underestimated the impact of sanctions, miscalculated the sanctioning country's determination to impose them, or wrongly believed that sanctions will be imposed and maintained whether it yields or not, and if target's misperceptions are corrected *after* sanctions are imposed (Hovi et al. 2005). However, the "sanctioning war" between the Western countries and Russia has backfired on some of the EU member states which has created the internal pressure within the EU to lift sanctions or, at least, not to strengthen them. This tendency has even wider background in the EU. According to Leenders (2014, 9), it is difficult to impose EU-sanctions against other countries due to the insufficient solidarity in the EU combined with the individual interests of the EU member states, the tensions between „realist“ and „idealist“ needs, uncooperative international actors, and other factors.

Conclusions

Current study focused on the possibilities of resolution of the Russian-Ukrainian conflict by analysing the conflict in the light of game theory strategies, proffering a general model of comprehending the logical stages and the underlying premises of the conflict, recommending analytic strategies and suggesting measures, which could be used to stabilize the situation in Ukraine in the nearest future. In particular, the study described the "gains" and "losses" of both influential parties to the conflict such as Russia and the EU, identified the time horizon of the conflict and made suggestions on further measures and activities which should be used to resolve the conflict.

According to the authors' view the Russian-Ukrainian conflict has initially followed the so-called chicken dilemma where opponents do not know each other strategic preferences and none of them is influential enough to resolve the situation, but as the conflict escalated, both parties to the conflict could observe the strategy of the opponent which makes the situation similar to the dollar auction game model. Both parties to the conflict could be theoretically motivated to "swerve out of the way" such as for the EU to lift sanctions against Russia, and for Russia to stop the destabilization of the eastern part of Ukraine. For the EU, lifting sanctions against Russia could be considered as to some extent a "rational" choice, since the EU-sanctions against Russia have not produced the desired results in eastern Ukraine and the country is still facing both military conflicts in the eastern Ukraine and risking with the economic collapse in the future. From positive perspective the EU sanctions may also have impact to stop Russia for further initiatives in East-Ukraine. For Russia, the strategy of "swerving out of the way" could be driven by the country's wish to avoid the loss of competitiveness in the international arena. In addition, both parties to the conflict could to assume that, to some extent, it would be rational for the opponent to "swerve out of the way". At this stage of the conflict, "swerving out of the way" means for Russia that the country formally needs to do nothing, but just in real terms to stop sending military forces to eastern Ukraine.

However, the question remains, which factors limit the willingness of either Russia or the EU to "drive straight forward" or to "swerve out of the way" in real terms. As the authors see it, the understanding about the "breaking points in the auction game" in the form of the identification of situation that both parties to the conflict would like to avoid, gives us further hints about the extension and the intensity of the conflict. The analysis of the "breaking points" is based on geopolitical arguments and intuitive logic, which makes the discussion hypothetical. However, the authors are convinced that concrete suggestions made on the basis of the analysis could elicit the situation and thereby possibly contribute to the solvency of the crisis. As the authors see it, any measures and activities which pull Ukraine apart from the Russian sphere of influence or decrease the public support in Russia to its political elite should, potentially, increase the probability that Russia would "swerve out of the way". Any signs of the de-unification of the EU member states as regards the sanctions against Russia should be avoided.

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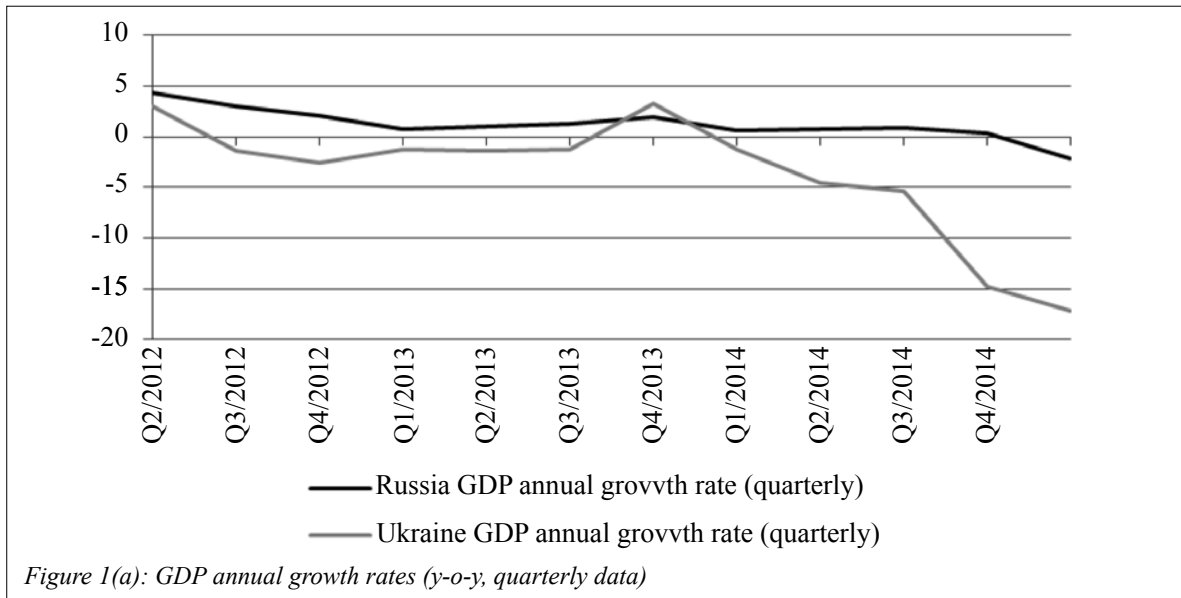
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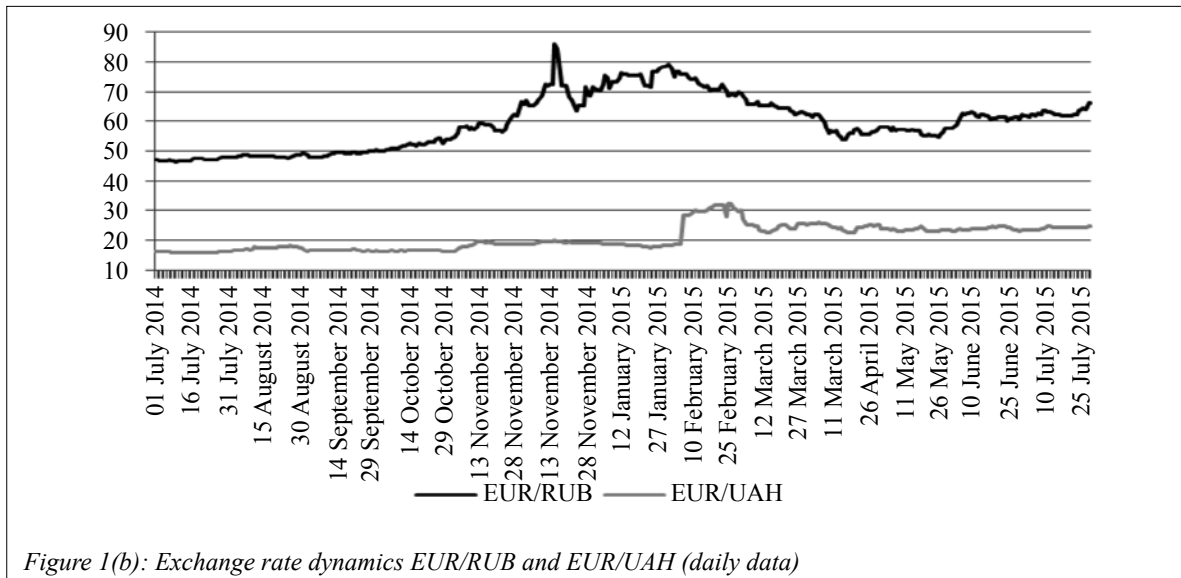
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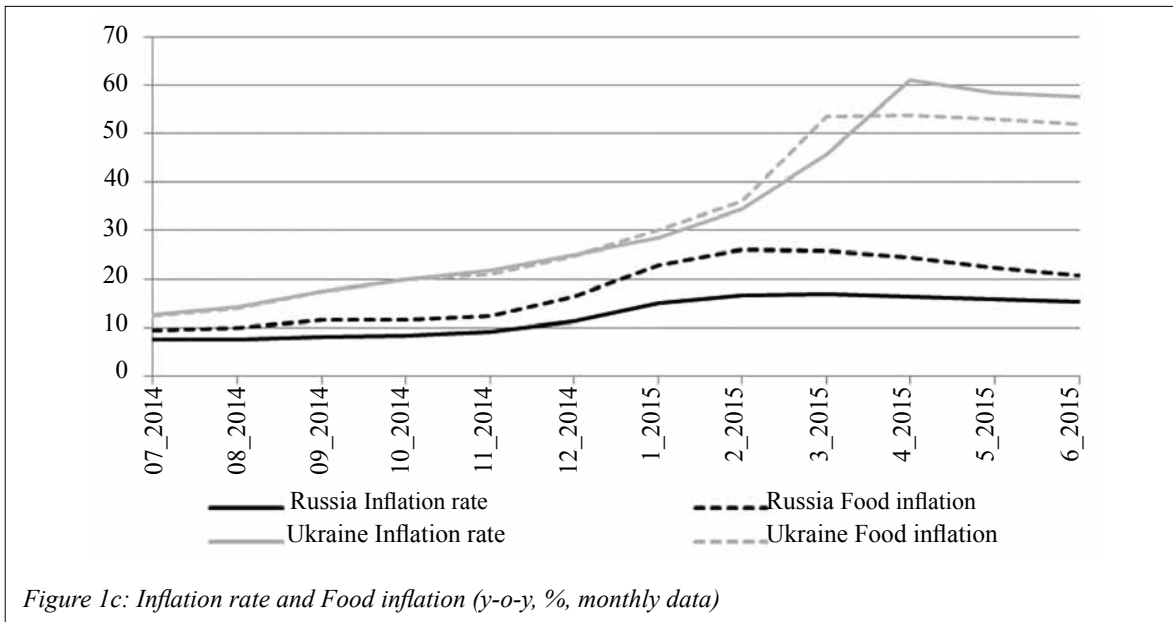
Appendix 1: Macroeconomic indicators for Russia and for Ukraine



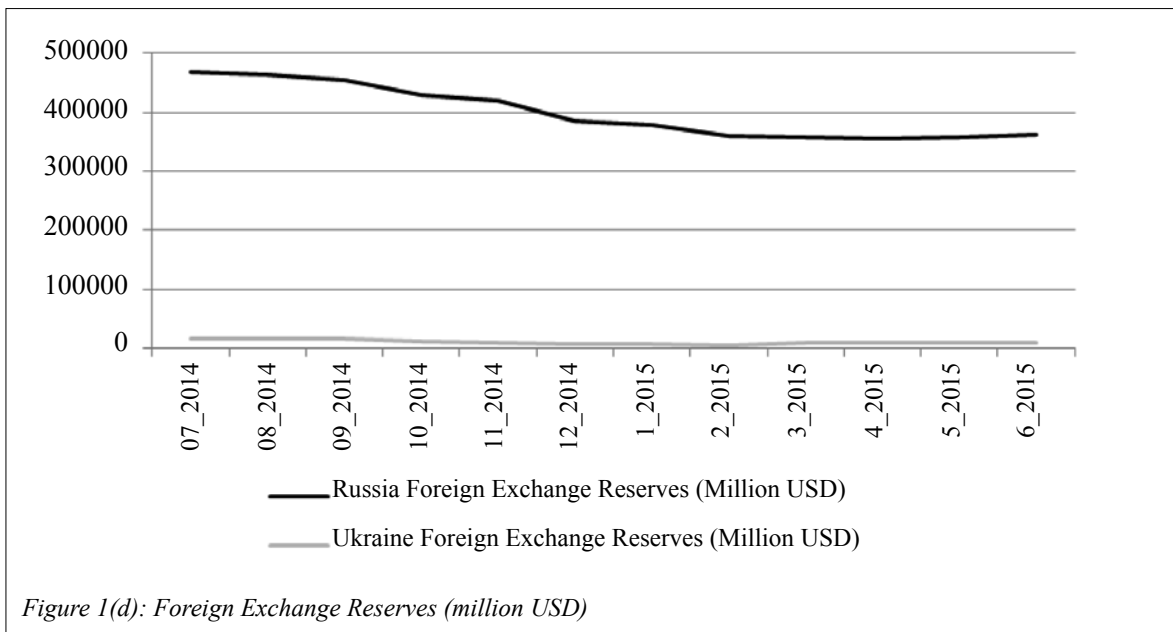
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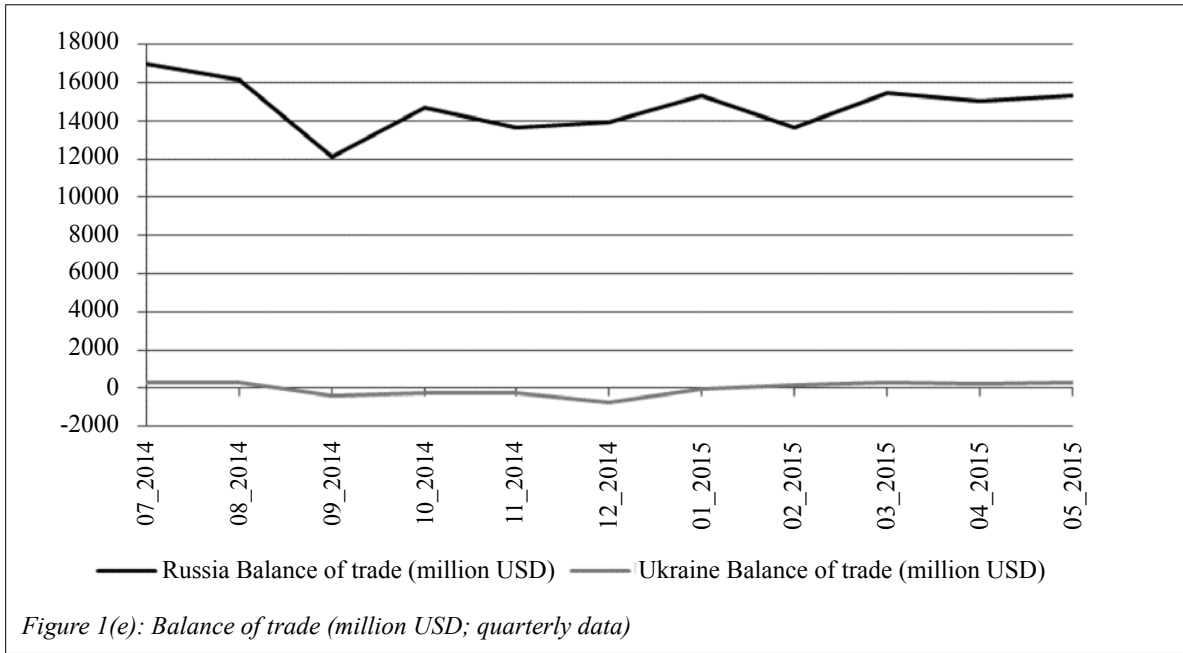
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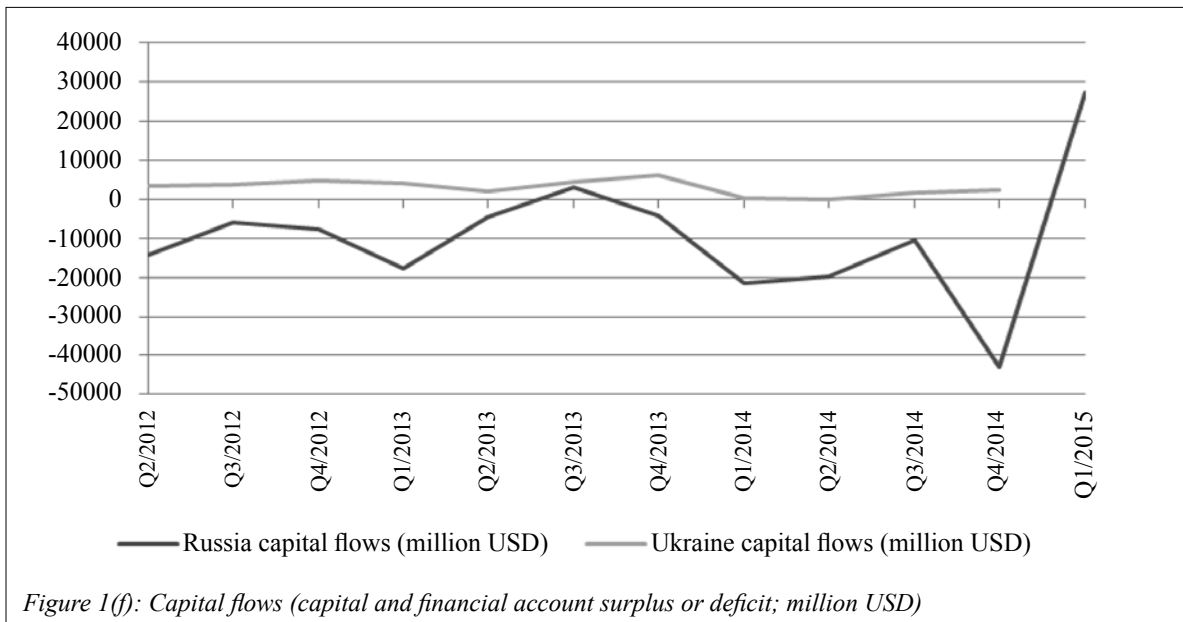
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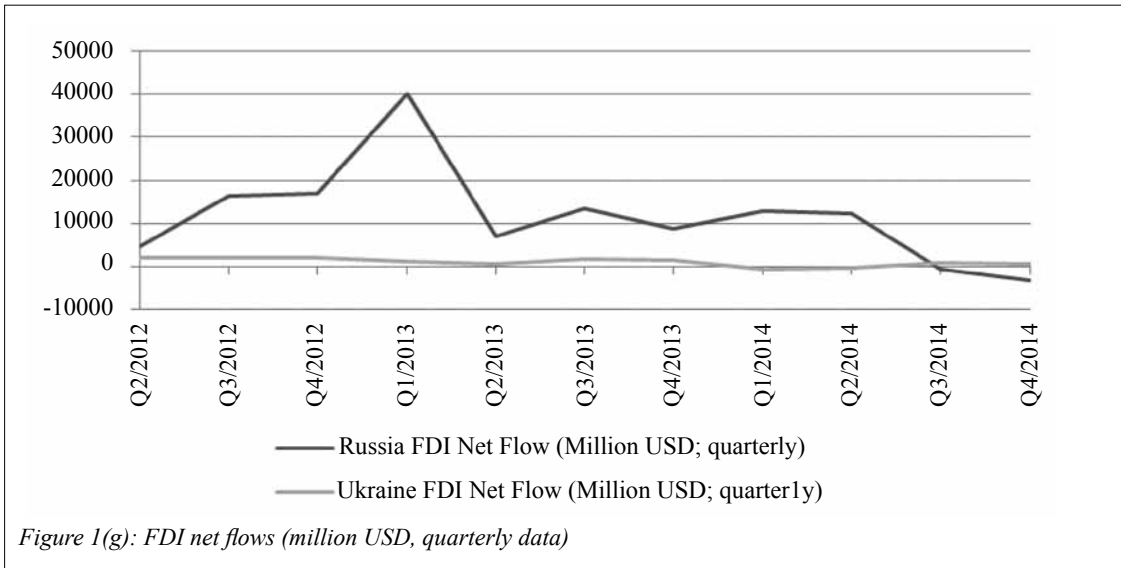
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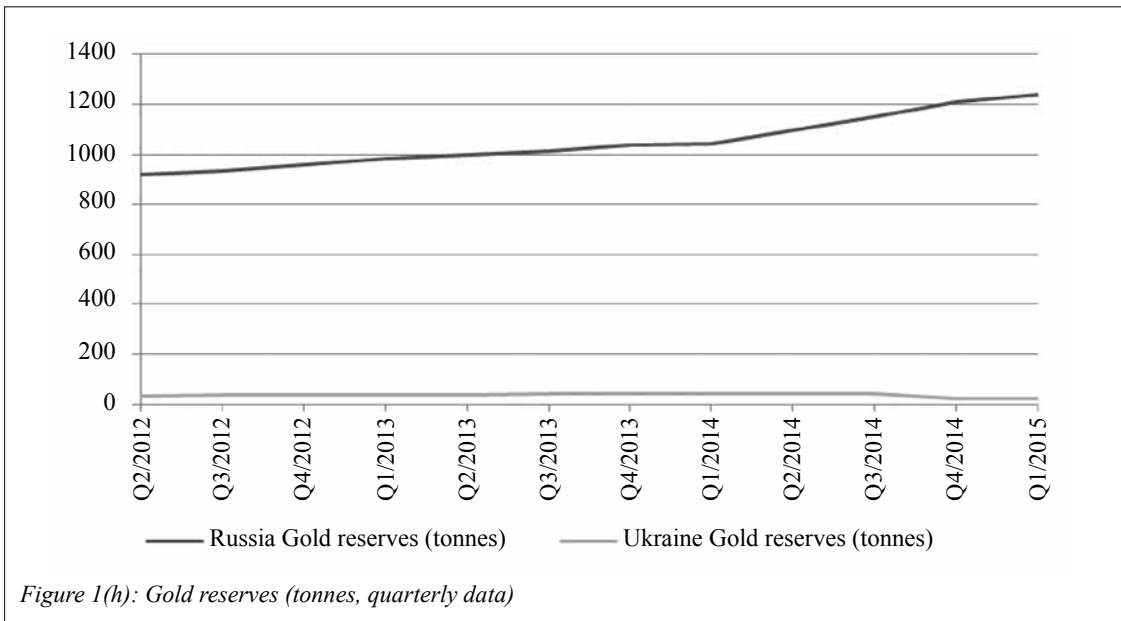
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