Currency Cycles and Their Impact on Georgia-Turkey Trade Relations

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Abstract

This paper focuses on the currency rate changes and the impact of the currency crisis on trade flows between Turkey and Georgia. It is aimed to explain the cycles of the national currencies rate changes and short and long run consequences of the trade relations between Georgia and Turkey over the 20-year period. Over the last 20 years both countries suffered a strong currency fluctuations and thus resulted the currency crisis. The origins of the currency cycles and transfer mechanisms were different. As it is shown, currency fluctuations in Turkey and Georgia were conducted under various scenarios. In 90-s, a prerequisite period for currency crisis was very short in Georgia, but the devaluation of the national currency was going faster and deeper. Since 2008, fluctuation had protracted character and devaluation and post crisis period was longer with lower depth than in 1996-2004. In 2004-12, as well as in 2012-2016 the national currency fluctuations in Turkey were characterized by a long and deep sudden devaluation. Through the empirical estimation of Georgia-Turkey trade relations and exchange rate fluctuations, it is concluded, that the frequency of the foreign exchange fluctuations and the currency cycles were not reflected on Georgia-Turkey trade relations sufficiently. Trade flows were relatively dynamical. This case does not fully correspond to the widespread opinion according to which the exchange rate instability has a negative impact on trade relations, creates uncertainty and gives rise to the adverse effects of the expectations of business activity. Foreign trade was sustainable, and the country's national currency fluctuations did not have a significant role in the trade changes.

Keywords: Currency Cycles, Fluctuations, Georgia, Turkey

Özet

Bu çalışma döviz kuru değişimleri ve bu değişimlerin Türk-Gürcü ticaret ilişkilerindeki krizleri incelemektedir. Türk-Gürcü ticaret ilişkilerinde yaşanan bu etkilerin son yirmi yıl içerisindeki sonucunu analizini amaçlamaktadır. Son yirmi yıl içerisnde her iki ülke de sert döviz kuru dalgalanmaları tecrübe etmiş ve bu döviz-giriş-çıkışı kaynaklı finansal krizlerle karşılaşmıştır. Döviz döngüsü ve ve transfer mekanizmaları farklı olgulara işaret ederler. Gösterileceği üzere, Türkiye ve Gürcistan'da döviz kuru dalgalanmaları farklı senaryolar altında oluşmuştur. 90'larda Gürcistanda döviz krizi dönemi kısa fakat kur ayarlaması daha uzun ve zorlu geçmiştir. 2008'den bu yana, dalgalanma uzun süreli bir hale dönüştü ve devalüasyona yol açtı ve kriz sonrası 1996-2004 arasına göre daha derin bir krizdi. Türkiye'de 2004-12 arası ve 2012-2016 kur dalgalanmaları sert ve uzun devalüasyonlarla sonuçlandı. Gürcistan-Türkiye ticaret ilişkilerine ilişkileri ve döviz kurları arasındaki ilişkiye ilişkin verilere bakıldığında yabancı kur dalgalanmalarının ticaret ilişkilerinde yeterince yer almadığı görülmektedir. Ticaret ilişkileri görece olarak dinamik olarak adlandırılabilir.

Anahtar Kelimeler: Döviz Döngüsü, Dalagalanma, Gürcistan, Türkiye

Introduction

Fluctuations of the exchange rates in the last 20 years were developed into the currency crises in Georgia, as well as, in Turkey. Both countries suffered a strong currency fluctuations. The fluctuations in these countries were mutually contradictory in time, had the different conditions of instigation and mechanism of transfers were different.

According to the researches, the natural cycles of the currency fluctuations are matching to the typical markets. The life cycle of the currency fluctuation is characterized by the rapid progress, downward trends and includes the steps such as: consolidation, breakout, equilibrium and the reversal of the previous breakout.[1]

The currency fluctuation is an ongoing process in Georgia and in Turkey. It is mainly floating and has a cyclical nature. Its three phases – pre-crisis, crisis, and post-crisis periods - are different from each other. Fluctuations start in a few months or years before the crisis and continue after the crisis.

There is no clear-cut definition of the currency crisis in the economic literature. It has a variety of criteria: reduction of the national currency against the dollar; decline and devaluation of GDP growth rates; outflow of international reserves and its nominal devaluation; worsening of ratio of money supply and ratio of the reserved losses; deterioration of an average exchange rate and etc.[2]

According to the IMF's methodology, foreign exchange crisis can be identified as a nominal devaluation of the national currency to US dollar by more than 15 percent comparing to the previous year. Its previous and following periods are determined by the time that is necessary for devaluation of the national currency by ten percent in the pre-crisis period and for its strengthening by five percent in the post-crisis period.[3] Such approach to the currency fluctuations suggests on average five-year maturity period of the cycle. Since 2013 this methodology became problematic because of protracted character of devaluation of national currencies against USD.

Features of the Currency Cycles

20-year investigation period shows differences and common features of the currency cycles in Georgia and in Turkey.

The currency crisis in Georgia in 1998 was conducted in the manner of the model, according to which during the high inflation, budget deficits and low economic growth rates, the government disability of maintaining a fixed exchange rate provokes speculations in the currency markets. In this year Georgian National currency Lari (GEL) declined at the maximum point of 72 percent against USD. Pre-crisis period was very short, up to 6 months, and the period of devaluation with more than 15 percent had continued for another 3 months. In 1998-2000, the GEL fluctuations in pre- and post-crisis periods were short (6 months), but it devaluated more rapidly than Turkish Lira (TRY).

In 2000-2004, TRY had been characterized by one of the longest fluctuations period. Pre-crisis period has lasted for more than 2 years, and peak was even reached at the end of 2001. Afterwards, the strengthening period of the currency continued at a slower pace and lasted almost until 2005, which ended with the redenomination of TRY. The depth of the fall exceeded 250 percent.

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[1] Steve Meizenger, "Currency Cycles- Balancing Risk and Reward. International Securities Exchange". Available at: http://www.ise.com/assets/files/articles/Currency_Cycles_-_Balancing_Risk_and_Reward_012209.pdf.

[2] "Currency Crises in Emerging Markets - selected Comparative", Marek Dabrowski (Ed).CASE, Warsaw, (2001): 14-15.

[3] World Economic Outlook. Sustaining the Recovery. IMF, (2009): 124. Available at: https://www.imf.org/external/pubs/ft/weo/2009/02/pdf/c4.pdf.

Thus, in 2000-2004, pre- and post-crisis periods of TRY fluctuations were very long and the national currency devaluation was the most profound in the history of Turkey. The currency crisis in Turkey was associated with the banking crisis, and as a result, the market agents' expectations and beliefs about the government policy reforms has been reduced.[4] Expectations of the market agents determined nature of development of the crisis.

During 2008-12, the maximum of nominal depreciation of GEL exchange rate reached to 31.8 percent (2010) and post- and pre-crisis periods have lasted for 2 years.

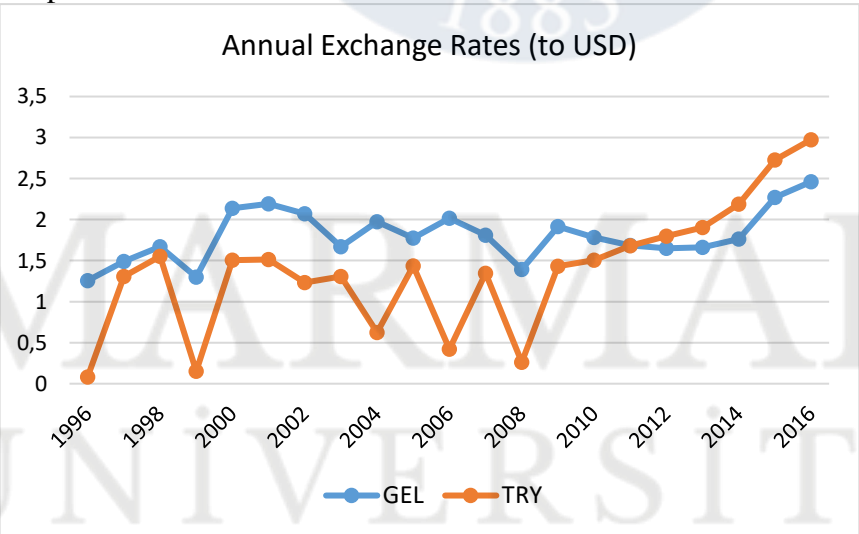
During these years cycle of fluctuations of Turkish Lira exchange rate were repeated twice. First pre-crisis period has lasted only for one year and the maximum of nominal depreciation was 18.9 percent (2009). Later in 2010, TRY depreciated by 3.5 percent. This process was not completed as its long-term depreciation process had already started and TRY devaluation amounted to 37.8 percent in four years.

Afterwards, the currency crises in Georgia, as well as in Turkey, has stretched and procrastinated nature. Since 2013, deep and sudden devaluation has protracted until today. Pre-crisis period has lasted for 2.2 years and GEL has depreciated by 44 percent (2016, January) and TRY – by 44.2 percent (2015). Cyclical period of the currency development has not completed yet. It is obvious that currency cycles changed their behavior and cannot be investigated according to the 5-year trends and typical markets life cycle.

Thus, in 1996-2016 TRY has nominally depreciated almost two times more (364%) than GEL (196%) (See. Figure 1). In real terms GEL depreciated only by 124 percent, by 116 percent against USD, while it was appreciated by 12 percent against TRY (Graphics 1-2).

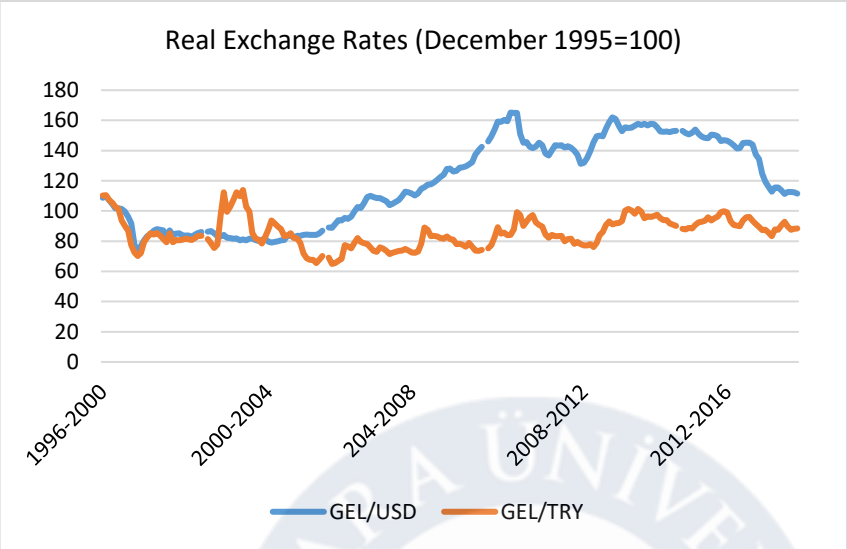
Real changes of the exchange rate of Turkish Lira and Georgian Lari indicated that the change of prices on goods and services is characterized by less fluctuations, than the nominal changes of the frequency and fluctuations of the rates of national currencies. This hypothesis can be explained by the relative sustainability of the foreign trade between these countries.

Graphic 1



Graphic 2

[4] This model was characterised for the curency crisis in Turkey in 2000 and in Georgia - in 2015.

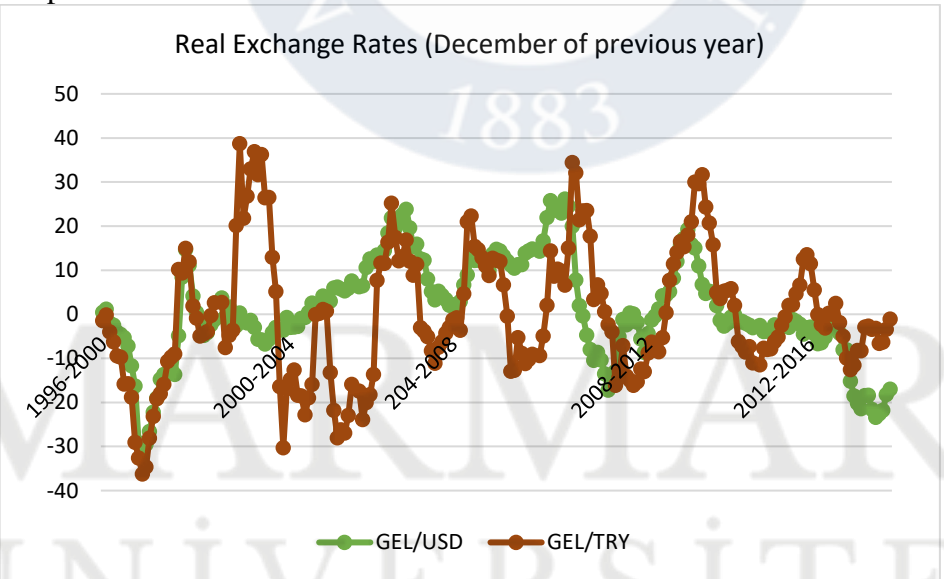


Source: **www.databank.worldbank.com**

In addition, Turkish Lira was characterized by more frequent, higher and in depth fluctuations than GEL. (Graphic 3).

Moreover, If TRY and GEL currency cycles conducted asynchronously in 1996-2008, after 2008 these cycles came closer to each other. In 2012-16, they had almost the same scenario of development, which was resulted by the deep integration between Turkey and Georgia.

Graphic 3



Source: National Bank of Georgia

We can conclude, that foreign exchange crisis can be launched in a shorter period than it is possible to exit from it. Since 2008, the exchange cycles have become protracted and the exit periods - longer. The life cycle of the foreign exchange exceeds of 5-year period and it is still not completed yet.

Impact of currency fluctuations on the Trade relations

Theory review. It is widely acknowledged, that the unstable exchange rate has a negative impact on trade relations of the country and it creates uncertainty in business activity;[5] Currency fluctuations give rise to the expectations on negative impact;[6] Currency devaluation painfully influences on a trade. However, it has indirect negative effect on the trade flows;[7] Currency fluctuations do not force on a trade rotation directly, but uncertainty strongly impacts on international transactions.[8] According to many researches, results of currency fluctuations differ from each other taking into account various factors such as area, period and country.

There is a discussion about in what occasion can national currency fluctuations have positive effect.

According to the Monetary Fund report, rising of the currency risks increases export.[9] In the country, where rate of uncertainty grows, entrepreneurs try to find new markets. However, opposite scenario can also develop and economy can collapse. Asserting that the currency fluctuation opens space for export to the new markets is based on uncertainty factor and it can have contradictory result on different markets. That is why determining its positive and negative effect is depended on what attitudes are used for explaining the problem.[10]

After Bretton Woods' system, frequency of currency fluctuations have increased and its impact on global trade was negative, but at the same time - very weak. This empirical fact is not universal.[11] However, perception exists that the comprehensive trade neutralizes and decreases exchange rate fluctuations.[12]

Negative effect of currency changes on foreign trade relations depends on the rules for currency regulation; on the level of country integration; on strategic policy; and etc. As many researches affirm, it has short-term effect, although its effect differs according to the time-

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[5] Alam, S. and Ahmad, Q. "Exchange Rate Volatility and Pakistan's Bilatera Imports from Major Sources: An Application of ARDL Approach"*, International Journal of Economics and Finance*, Vol. 3, no. 2, (2011): 245-254.

[6] Zulal S. Denaux and Rebecca Falks, "Exchange Rate Volatility and Trade Flows: The EU and Turky", *Valdosta State University:* 113, http://swer.wtamu.edu/sites/default/files/Data/113-121-296-1095-1-PB.pdf;

Bahmani-Oskooee, M. and Hegerty, S.W., "The Effects of Exchange-Rate Volatility on Commodity Trade between the United States and Mexico", *Southern Economic Journal*, 75(4), (2009): 1019-1044;

Caglayan, M. and Di, J.,"Does Real Exchange Rate Volatility Affect Sectoral Trade Flows?" *Southern Economic Journal*, no 77(2), (2010): 313-335;

Ozturk, I. and Kalyonju, H., "Exchange Rate Volatility and Trade: An Empirical Investigation from Cross-Country Comparison"*, African Development Review*, Vol. 21, no. 3, (2009): 499-513.

[7] Bahmani-Oskooee, M. and Hegerty, S.W., "The Effects of Exchange-Rate Volatility on Commodity Trade between the United States and Mexico", *Southern Economic Journal*, no 75(4), (2009): 1019-1044.

[8] Hudson, A. and Straathof, B., "The Declining Impact of Exchange Rate Volatility on Trade", *De Economist,* 158, no.4, (2010): 361-372.

[9] De Grauwe, P., "Exchange Rate Variability and the Slowdown in Growth of International Trade", *IMF Staff Papers*, 35, (1988): 63-84.

[10] Sercu, P. and Uppal, R., "Exchange Rate Volatility, International Trade: A general Equilibrium analysis", Mimeo, University of British Colombia. (1998), http://facultyresearch.london.edu/docs/SercuUppal.pdf

[11] "Exchange Rate Volatility and Trade Flows - Some New Evidences", IMF, *Occasional Paper, no 235*, IMF, (2004): p.53.

[12] Mundell, Robert, "A Theory of Optimum Currency Areas", *American Economic Review, no 51,* (September 1961): 657-665. https://www.aeaweb.org/aer/top20/51.4.657-665.pdf

frame.[13] As stated in other researches, it is true that exchange rate impact has negative effect, but it influences not on export, but on limitation of import.[14]

Thus, in scientific literature there is no unambiguous approach that exchange rate fluctuations have only negative effect. In stable and predictable economy currency fluctuations can also have positive effect if the risk of currency change will give a high output to the country. From this standpoint, some researchers draw a line between currency fluctuation impacts on specific areas and on product groups for short- and long-term.

According to one of the researches, currency changes had positive effect in Turkey.[15] There is a correlation between exchange rate fluctuationsprices, demand on import, and export in a long term. In other researches, this link is approved only for the short term. [16] According to the authors of the researches, currency change influences on economy, on demand on import, and on trade rotation for a short term. However, they also notice that the effect depends on the importance of the area and its role in economy. Integration and sectoral trade decrease sensitivity of trade flows on uncertainty that is resulted from the exchange rate changes.

Other researchers are proving that the positive possibility of the currency change effect creates only when the tolerance to the risks is high and the sensibility to the price changes is low. [17] Currency fluctuations have positive impact on a sectoral trade and it has "tax effect" role on export. [18] Other researchers also prove the positive effect of exchange rate fluctuations.[19]

After analyzing different literature, many economists recognize negative effect of exchange rate fluctuations and they explain its positive impact approaching to specific factors. [20]

Some researches concentrate on size of the country. According to these researches, exchange rate changes influence on small countries and have less impact on big countries, because of the fact that in small countries trade is less diversified. However, it is also recognized, that in some countries exchange rate changes effect was positive and in another countries – negative. [21] Besides, currency devaluation was determinant in export increase for a

[13] Marc Auboin and Michele Ruta, "The Relationship between Exchange rates and International Trade: a Review of Economic Literature". *Staff Working Paper ERSD-2011-17 27,* WTO, (October 2011).
[14] Staiger, Robert W. and Alan O. Sykes, "Currency manipulation' and world trade", *World Trade Review 9(4).* (2010): 583–627.
[15] Ozturk, I. and Kalyonju, H., "Exchange Rate Volatility and Trade: An Empirical Investigation from Cross-Country Comparison", *African Development Review*, Vol. 21, no. 3, (2009): 499-513.
[16] Bahmani-Oskooee, M. and Hegerty, S.W., "The Effects of Exchange-Rate Volatility on Commodity Trade between the United States and Mexico", *Southern Economic Journal*, no 75(4), (2009): 1019-1044.
[17] Ozturk, I. and Kalyonju, H., "Exchange Rate Volatility and Trade: An Empirical Investigation from Cross-Country Comparison", *African Development Review*, Vol. 21, no. 3, (2009): 499-513.
[18] Kumar, Vikram, "The Real Effects of Exchange Rate Risk on International Trade", *Working Paper, no 92/5*, Federal Reserve Bank of Atlanta, (1992).
[19] McKenzie, Michael D. and R. Brooks, "The Impact of Exchange Rate Volatility on German - US Trade Flows," *Journal of International Financial Markets, Institutions and Money*, no 7, (1997): 73-87.
Klein, M., "Sectoral Effects of Exchange Rate Volatility on United States Exports", *Journal of International Money and Finance, no* 9. (1990): 299-308.
Adnan Kasman and Saadet Kasman, "Exchange rate uncertainty in Turkey and its impact on export volume", *METU Studies in Development*, no 32 (June 2005): 41-58.
[20] P.Krugman, M.Obstfeld and M. Melitz, "International Economics: Theory and Policy". Ninth Edition, (2012): 450.
[21] "To What Extent Do Exchange Rates and Their Volatility Affect Trade? The Case of Two Small Open Economies, China and New Zealand", TAD/TC/WP, (2011):17.

long time period in big countries.[22] The same is approved in other research papers giving examples of developing countries.[23]

Generally, impact of exchange rate fluctuations is not universal and massive. [24] Its effect in some countries is positive and in another- negative.[25] Its effect decreases according to the size and level of diversification of international trade; how flexible is trade policy and exchange rate regulations; elasticity of firms and prices, how deep is countries' integration level; and etc. Thus, this issue is quite complicated and polygonal.

Exchange rate fluctuation correlates with trade. However, its negative and positive effect differs only towards different areas and countries.

After studying agro industrial trade relationship between Turkey and EU, economists conclude that in a short period impact of exchange rate fluctuation on trade with EU deteriorates balance between agro products. It is true that in a short period devaluation of Turkish Lira (TRY) improves this balance, but in a long period devaluation has negative effect on the balance. [26] Some authors concentrate on elasticity and point out that in Turkey elasticity of demand on import reacts on events that are resulted from exchange rate fluctuations. Therefore, prices remain inelastic. [27]

Some researchers from Turkey argue that demand on import in Turkey depends on income and stable currency. Currency fluctuation in Turkey does not change trade flows with euro zone countries. Thus, EU integration through liberalization positively effects on its economy. Exchange rate changes in a long time period influences on demand on import.[28] Turkish Lira fluctuation is in a negative correlation with the entire export in Turkey. Turkey has negative trade relationships with USA, Italy, France and Germany. Positive effect of fluctuation of Turkish Lira reveals only towards food and agro industrial and chemical industry products. In other cases, it has negative correlation. [29]

As a result of analyzing the period of 1980-2004 in Turkey, economists are suggesting, that expected and unexpected currency fluctuations have different impact on trade relations. Expectation on currency fluctuation influences on product expenses and defines

[22] Freund, Caroline and Martha Denisse Pierola, "Export entrepreneurs: evidence from Peru", *Policy Research Working Paper Series,* no 5407, The World Bank, (2010).

[23] Haddad, Mona and Cosimo Pancaro, "Can Real Exchange Rate Undervaluation Boost Exports and Growth in Developing Countries? Yes, But Not for Long", *Economic Premise, no* 20, World Bank, (2010).

[24] Taglioni, Daria, "Exchange Rate Volatility as a Barrier to Trade: New Methodologies and Recent Evidences", *Economie Internationale* (CEPII), Quarter 1-2, (2002): 227-259.

[25] Ozturk, Ilhan, "Exchange Rate Volatility and Trade: A Literature Survey", *International Journal of Applied Econometrics and Quantitative Studies,* Vol. 3-1. (2006), http://www.usc.es/economet/reviews/ijaeqs315.pdf

[26] Mehmet Yazici and M. Qamarul Islam, "Exchange Rate and Turkish Agricultural Trade Balance with EU (15)", *Agricultural Economics Review,* Vol 13, no 2, (2012): 36-46.

[27] Utkulu, U. and Seymen, D. "Trade and Competitiveness between Turkey and the EU: Time Series Evidence", *Turkish Economic Association Working Papers, no* 8, (2004).

[28] Zulal S. Denaux and Rebecca Falks, "Exchange Rate Volatility and Trade Flows: The EU and Turkey", *Valdosta State University,* 120. http://swer.wtamu.edu/sites/default/files/Data/113-121-296-1095-1-PB.pdf

[29] Serge Rey, "Effective Exchange Rate Volatility and MENA countries Exports to the EU", *Journal of Economic Development*, Volume 31, no 2, (December, 2006): 29. http://www.jed.or.kr/full-text/31-2/2.pdf

competitiveness of entrepreneurs. Unexpected change influences on economy in general in three ways: it changes export, money supply and issue in industry. [30]

According to the survey, conducted by World Trade Organization it is noticed that until 2004 researchers were concentrating on relationship between exchange rate and trade, also on currency fluctuation impact on trade, which was based on new "new-new" trade theory. From 2005 attention was directed to exchange rate level, on regulation misalignment and trade relations.[31]

In Georgia trade and currency exchange rate relations are not studied appropriately. Some researches exist, where currency exchange rate fluctuations and foreign trade are separately discussed.

From analyzing different literature, it appears that exchange rate impact on trade should examine from different aspects. Theoretically, currency fluctuation impact on trade is arguable and research results are quite different. Results depend on approaches that are used during designing the final results.

In international trade, changes occurring in income, inflation, price and interest rate impact on international value of the currency. On its own, international currency exchange rate also influences on demand on good and service in trade. When import that operates in dollar has low value, then the frequency, effectiveness and quality of these factors are different.

Comparative analyze of currency fluctuations and foreign trade relationship between Georgia and Turkey.

Turkey is important economic partner and investor for Georgia. As a result of institutional agreement on free trade relationship signed in 2007 between these two countries, trade flows have increased. However, various factors have different impact on these countries.

After restoring independence in Georgia trade relationship with Turkey develops dynamically. It is true that currency fluctuations impacted on trade relationship, but increase of trade flows was characterized with fewer fluctuations than it was associated with national currency. Under currency crisis conditions, important impediments in trade relationships have not occurred. It was related to the structure of the good that was subject of Georgia-Turkey traditional trade rotation, also to currency relationship peculiarities, which means that neither in Georgia nor in Turkey national currency exchange was not happening in exchange markets or in auctions. Existing direction in foreign trade has never changed dramatically.

Mainly raw product and natural resources were entering to Turkish market from Georgia. Currency crisis resulted in price changes for above mentioned products. However, it did not have essential impact on its size because of the high demand on it.

From Turkey mainly various good of the industry were imported. After devaluation of Turkish Lira, Turkish goods were cheapened in point of dollar and rising of the import from Turkey to Georgia has always been dynamic.

One of the important criteria of exchange rate changes is sensitivity of trade flows towards exchange rate fluctuations.[32] Other important determinants are trade policy, macroeconomic policy, capital inflow, and etc. When these factors are sensible towards

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[30] Magda Kandil, Hakian Berument and Nazire Nergiz Dincer, "The Effects of Ecxchange Rate Fluctuations on Economic Activity in Turkey", IMF, 3.

[31] Marc Auboin and Michele Ruta, "The Relationship between Exchange rates and International Trade: a Review of Economic Literature", *Staff Working Paper, ERSD-2011-17 27,* WTO, (October 2011): 18.

[32] Serge Rey, "Effective Exchange Rate Volatility and MENA countries Exports to the EU", *Journal of Economic Development*, Volume 31, no 2, (December, 2006): 24. http://www.jed.or.kr/full-text/31-2/2.pdf.

trade, then they decrease the effect of exchange rate change. Free trade policy and exchange rate regime are very important for developing dynamic trade relationships between these countries.

Exchange rate variability that is determined by daily and monthly changes and also its stability to balance rate for a long time period influence on a trade. These effects are different and they can have positive, as well as negative results.

There is floating/variable rate regime in both countries, but it should be noticed that both countries periodically were trying to attach it to the main currency - US dollar. We should not avoid the fact that economy was balanced through free floating.

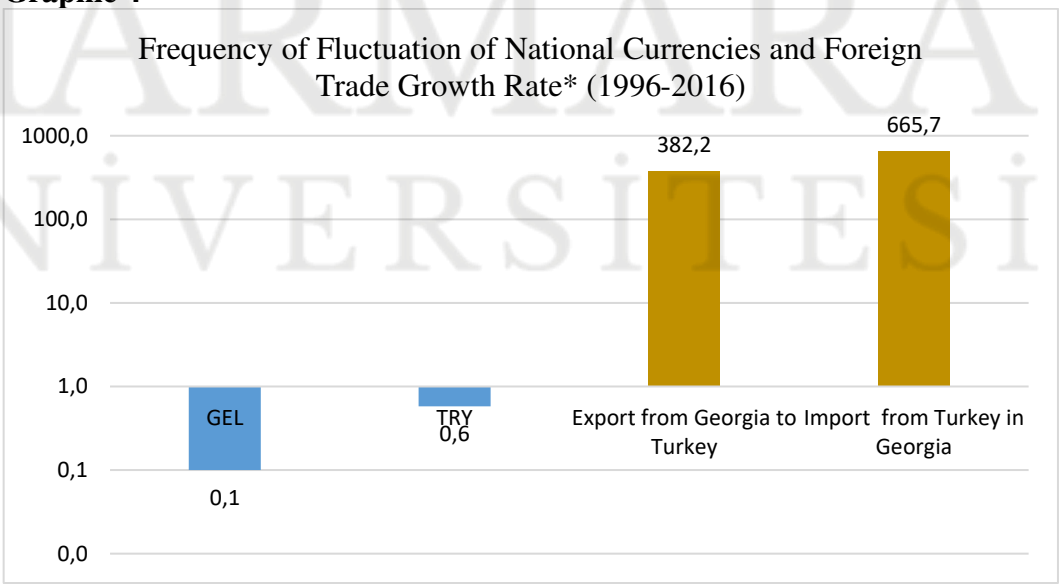
During discussing currency fluctuation in short- and long time periods and trade relationships we take into account that export in Georgia is less diversified and Georgian export does not have substitute in Turkey. Its main determinant is demand-supply factor. Speed of increasing the economy in Turkey, relative prices and exchange rate fluctuations determine demand on Georgian products.

Turkish export in Georgia is characterized with more product scale and brand name. Turkish market is very important for Georgia, but Georgian market does not have the same meaning for Turkey.

As a result of comparing Turkish Lira (TRY) and Georgian Lari (GEL) fluctuations towards US dollar, also export-import correlation between these two countries, we can conclude that:

- Frequency of Turkish Lira fluctuation exceeds almost six times to the frequency of Georgian Lari fluctuation in a long time period. Annual nominal devaluation of Turkish Lira towards US dollar was 364 percent in 2016 in comparison with 1996. The same indicator for Georgia was only 195 percent.
- Opposite situation is in trade rotation. In the same period, annual export growth rate from Turkey to Georgia exceeded 174 percent to the export from Georgia to Turkey (Graphic 4). As a result, Georgian Lari became stable towards Turkish Lira with the rate of 11.5 Percent (index 1995=100). Formation of Turkish Lira towards Georgian Lari was derived from deep and frequent devaluation of Lira. Georgian lari stability towards Turkish lira did not impact on increasing export of Georgia. Turkish Lira devaluation towards US dollar was the precondition of increasing its export. It resulted in increasing Georgia's foreign trade deficit with Turkey.

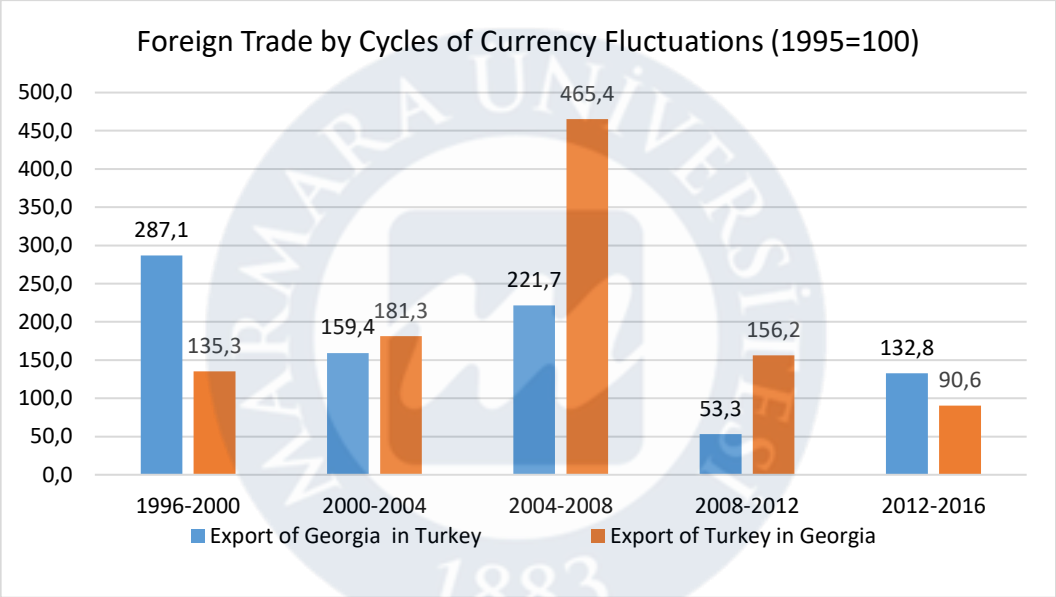
Graphic 4



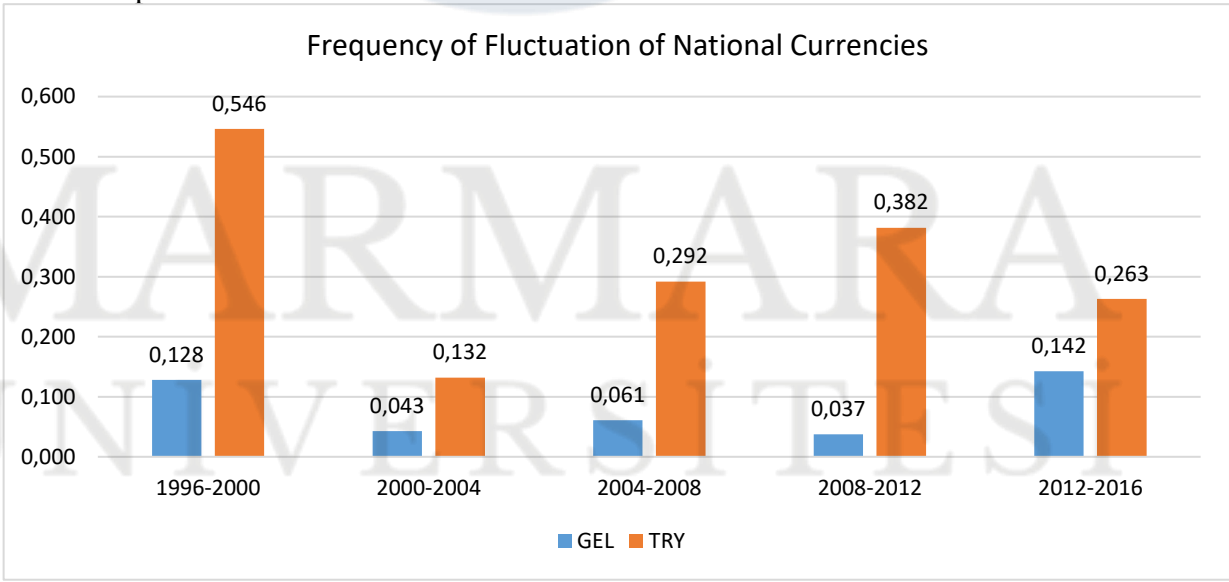
*Trade growth rate - 1995=100

- National currency fluctuation frequency was different in currency fluctuation medium-term cycles. In any period, Georgian Lari fluctuated less in comparison with Turkish Lira. The highest rate of fluctuation was in 1996-2000 and highest increase of Turkish export was during 2004-2008. Besides, it is true that in 1996-2000 and 2012-2016 the frequency of Turkish Lira fluctuation was higher than Georgian lari fluctuation, but in these cycles speed of increasing Georgian export was higher than speed of increasing Turkish export. It means that there was no strong direct correlation between currency fluctuations and trade changes. (Graphic 5-6).

Graphic 5



Graphic 6



- In 1996-2004 Georgian Lari has strengthened towards Turkish Lira with the rate of 22 percent. Speed of increasing export of Georgia was 148.8 percent that is more than the rate for Turkish import (133.1 percent). [33] In 2004-2012 Georgian Lari exchange rate

[33] Five year Currency cycles are not reflected foreign exchange crisis in Turkey in 1994, the results of which were revealed in the next few years.

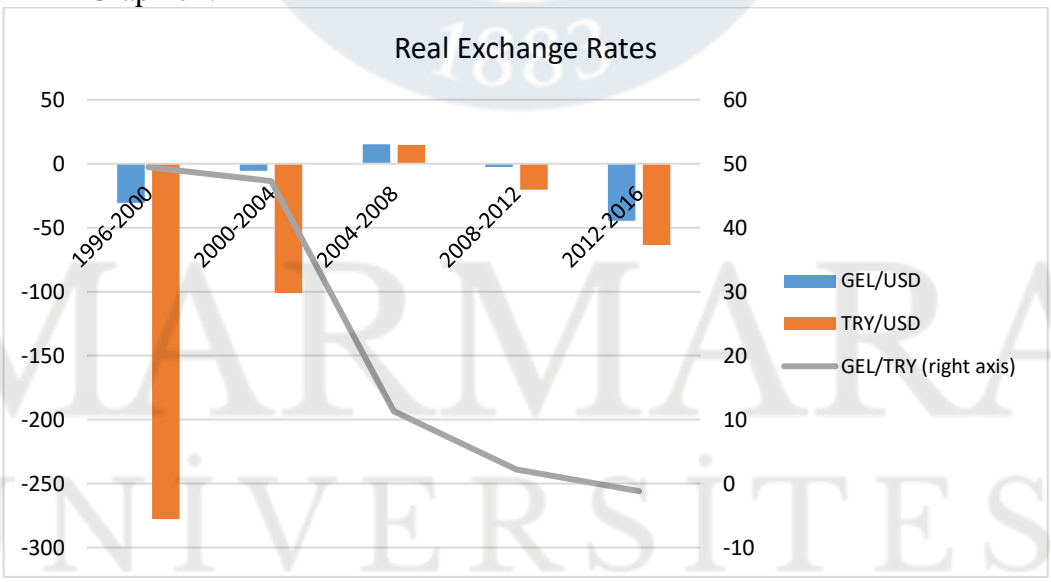
has decreased towards Turkish Lira. In the same period the speed of increasing Turkish export in Georgia reached its maximum rate. In 2008-2016 though changes of Lira and Lari, Turkish export was still exceeded to the export from Georgia. This means that formation of exchange rate of Lari and Lira has neutral effect on Georgia-Turkey trade relationships

Table 1

National currency fluctuations and trade growth rates (annual average)

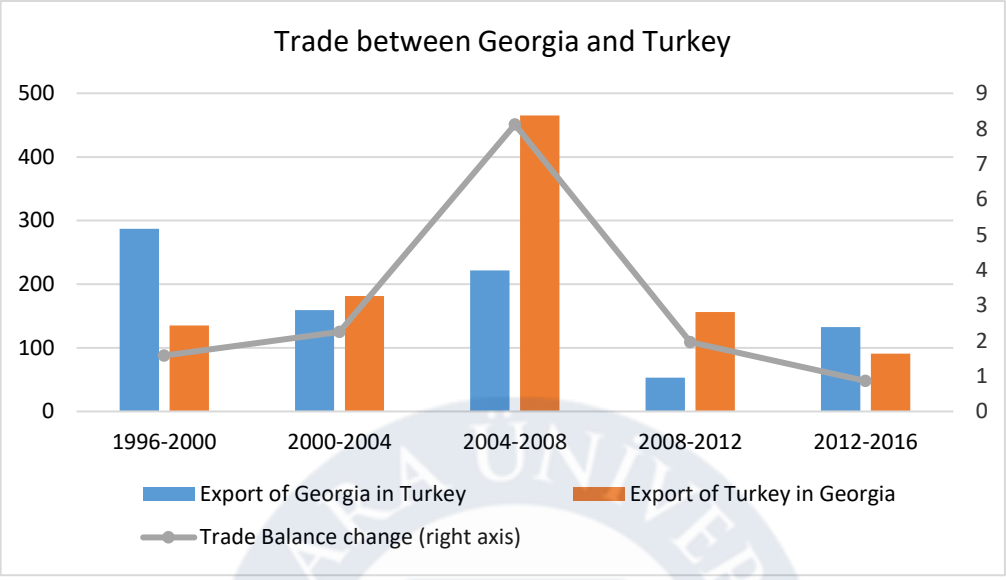
	1996-2000	2000-2004	2004-2008	2008-2012	2012-2016
Growth rate of export from Georgia to Turkey	**115.7**	**133.1**	**128.0**	**100.3**	**100.3**
Growth rate of export from Turkey to Georgia	**105.9**	**125.2**	**154.7**	**116.9**	**102.7**
GEL (annual rate of fluctuation)	**0.13**	**0.04**	**0.06**	**0.04**	**0.14**
TRY (annual rate of fluctuation)	**0.55**	**0.13**	**0.29**	**0.38**	**0.26**
GEL/TRY real exchange rate changes (the beginning of the cycle = 100)	80	98	115	126	70

Graphic 7



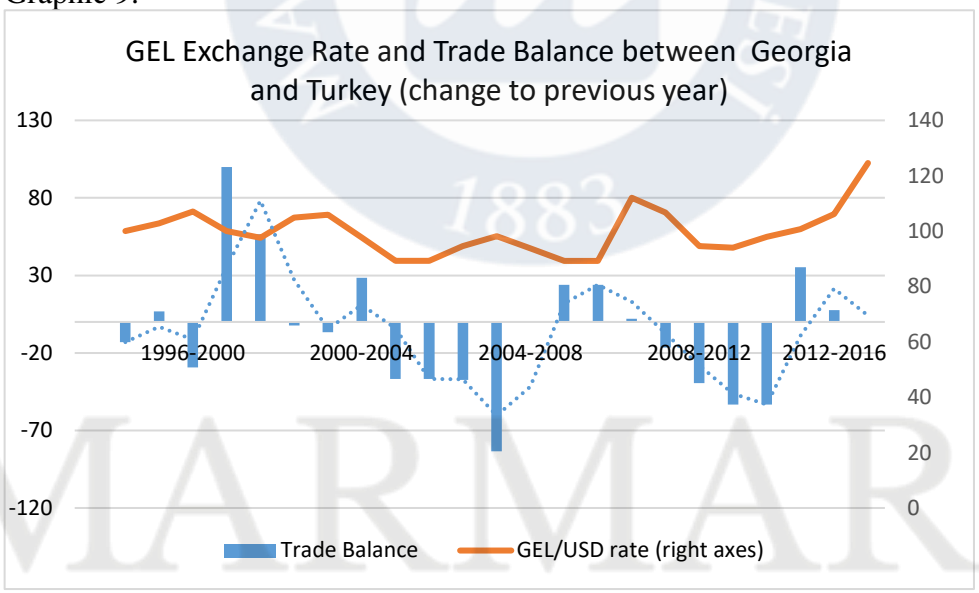
Graphic 8

Graphic 1-2



* Although the neutral nature of the exchange rate, correlation between exchange rate and trade balance during currency cycles has the form of J-curve effect. [34] (Graphic 9). Thus, national currency substitute fluctuations impact on Georgia-Turkey trade relationship.

Graphic 9.



Besides national currency fluctuations towards US dollar, other factors and rate of their effect have impact on trade.

Hence, as a result of empirical analyze of Georgia-Turkey trade and exchange rate fluctuations, we can conclude hypothetically that:

- Foreign trade relationship between Georgia and Turkey is stable for a long time period and both countries' currency fluctuations do not impact on its trade changes.
- Explaining the speeds of export-import in short and medium time periods with the national currency changes does not reveal the correlation between them. GEL/TRY rate does not influence on changes happening in trade.

[34] In case we consider it through national currency correlation towards US dollar.

- Exchange rate changes influence on correlation between export and import, also strengthening the national currency do not result in worsening export or import stimulation. The same can be said during the currency cycles.
- Trade development depends on national currency changes towards substitute currency and on general economic policy pursued by the countries.
- According to the example of Georgia-Turkey relationship, in the period of less fluctuations and balanced exchange rate, import is managed with fewer expenses. Demand on another country's product is defined by the fact how devaluation is national currency towards dollar. In the period of balanced exchange rate export declines and trade deficit is defined through how national currency fluctuates towards currency substitute (US dollar). As balanced it is, more the deficit is. When currency devaluates towards dollar, export becomes primary. Changes in exchange rate towards dollar happen according to the changes in demand-supply on national currency. Their correlation is the main determinant of foreign trade changes.
- During currency crisis, currency substitute (US dollar) of trade relationships ensures stability of trade and neutralizes from uncertainty that is characteristic for currency crisis and cycles.[35]

Conclusion

Currency fluctuations in Turkey and Georgia were conducted in various scenarios. In 90-s a prerequisite period for currency crises in Georgia was very short, but devaluation of the national currency was going faster and deeper. Since 2008, fluctuation had protracted character and devaluation and pro crisis period was longer with lower depth than in 1996-2004. In Turkey, in 2004-12, as well as in the 2012-2016 national currency fluctuations were characterized by a long and deep sudden devaluation.

Long and short time period fluctuations of exchange rate have various effects on changing trade relationships between countries. National currency devaluation did not influence on trade relationships between Turkey and Georgia comparably. Impact on trade dynamic was conditioned by substitute currency correlation in medium and long term periods.

During currency cycles correlation between import and export was conditioned by change of alternative exchange rate towards national currency. Although the fluctuation of national currencies, dynamic of trade relationship between Georgia and Turkey was relatively dynamic.

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[35] Dollar as a currency substitute had derived during trading between Georgia and Turkey when dollar was used with national currency at the same time. The advantage of using the substitute is that during making trade agreement between both countries setting the price is in the same currency that significantly reduces transactional expenses. It also reduces frequency of currency change impact on trade. It defines more stable prices, increases trading, reduces and mitigates currency crisis risks and gives investors more possibilities. According to researches, that is based on gravitation theory, countries that use the same currency their trade increases several times. (*Rose, Andrew "One Money, One Market: the estimating the effect of common currencies on trade," Economic Polic,. 2000,* http://faculty.haas.berkeley.edu/arose/Grav.pdf). *In Georgia, as well as in Turkey currency substitute is used partially as only trade agreements and assets are denominated in US dollar. Complete substitute forms when country fully uses foreign currency.*

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