Georgia-Turkey Trade Relations - Challenges and Opportunities

The research is conducted in the framework of the project "Policy Research for Sustainable Economic Development", implemented by PMC Research Center by the support of Konrad Adenauer Foundation

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Tbilisi
2016

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I. Introduction

Over the past decade, Turkey has been one of the main economic and trade partners for Georgia. Nowadays Georgia and Turkey have exemplary relation and close cooperation on a wide range of areas from energy to trade and from economy to education and culture. Furthermore, both countries see each other as a strategic partner and demonstrate a strong will to improve relationships further in every area.

Relations between Turkey and Georgia moved to the new level when Georgian and Turkish governments approved Free Trade Agreement (FTA) on November 2007 in Tbilisi. The agreement entered into force one year later and expectations that it would have a significant positive effect on Georgia's export and economy were high. The main objectives of the FTA were to facilitate the development of trade-economic cooperation between Georgia and Turkey, to encourage entrepreneurs/companies to gain access to markets and to support the implementation of investment projects.

The actual impact of an FTA, however, may be quite different from any prior projections. Therefore, after an FTA is implemented, it is important for policy makers to assess its effects. Conducting economic studies of FTA impact assessment is particularly important for developing countries because they need to draw up the necessary adjustment policies to alleviate possible negative effects and maximize possible benefits from FTAs.

Estimating the ex-post impact of a bilateral trade agreement is difficult. The evolution of bilateral trade between the partners in itself is not a good indicator of the success of an FTA. It could be misleading since many other factors can affect the volume of bilateral trade. Statistical methods and counter-factual analysis are required to isolate the impact of the FTA on the volume of bilateral trade. After several years of experience with various trade and economic agreements, methods for ex-post FTA assessment are gradually becoming available.

The purpose of the paper is to provide a detailed analysis of Georgia-Turkey trade relations, to present ex-post assessment of FTA in order to detect the actual effects of the agreement on the Georgian economy, to identify existing challenges and to give policy recommendations how to overcome those challenges. Combining data on bilateral trade flows with data on presence or absence of FTAs allows to distil the impact on trade flows, and determine whether bilateral trade increases as a result of the trade agreement or just as a result of a general increase in trade. The study focuses on 2009-2015 years and uses both qualitative and quantitative techniques for the analysis.

The paper is divided into four main parts: first part will review Georgia-Turkey relations over history and will provide brief description of each country's current economic conditions; Second part will be devoted to the detailed analysis of Georgia-Tukey trade with the emphasis on the export from Georgia to Turkey; Third part will firstly review the FTA agreement between Georgia and Turkey and then will provide ex-post assessment of the FTA agreement; The last part will summarize the findings and will provide some conclusions and policy recommendations.

II. Georgia-Turkey Relations at a Glance

Turkey was one of the first countries who recognized Georgia's independence after the collapse of the Soviet Union in 1991. Since then the two countries have been able to develop friendly relations based on cooperation and mutual understanding.

However, it was the last decade that set the pace to tighten further Turkish-Georgian friendship. Since the rise in power of Justice and Development Party (Adalet ve Kalkmma Partisi, AKP) in November of 2002, Turkey has been intensifying its relations with Georgia. The implementation of the Strategic Depth (Stratejik Derinlik) doctrine enabled Turkey to shed new light on the Southern Caucasus region. Strategic Depth is based on the five main principles among which are "the zero problems with neighbors" policy. The policy of zero problems with neighbors has two aspects: firstly, the solution of existing disputes and conflicts with the neighboring countries and secondly, to maintain peaceful relations with them. As for now, Georgia is the only neighbor of Turkey towards whom the zero problems policy has been successful. Turkish-Georgian economic ties have boosted, political relations are free from disputes, and it seems that the two countries understand the importance of regional interdependence.

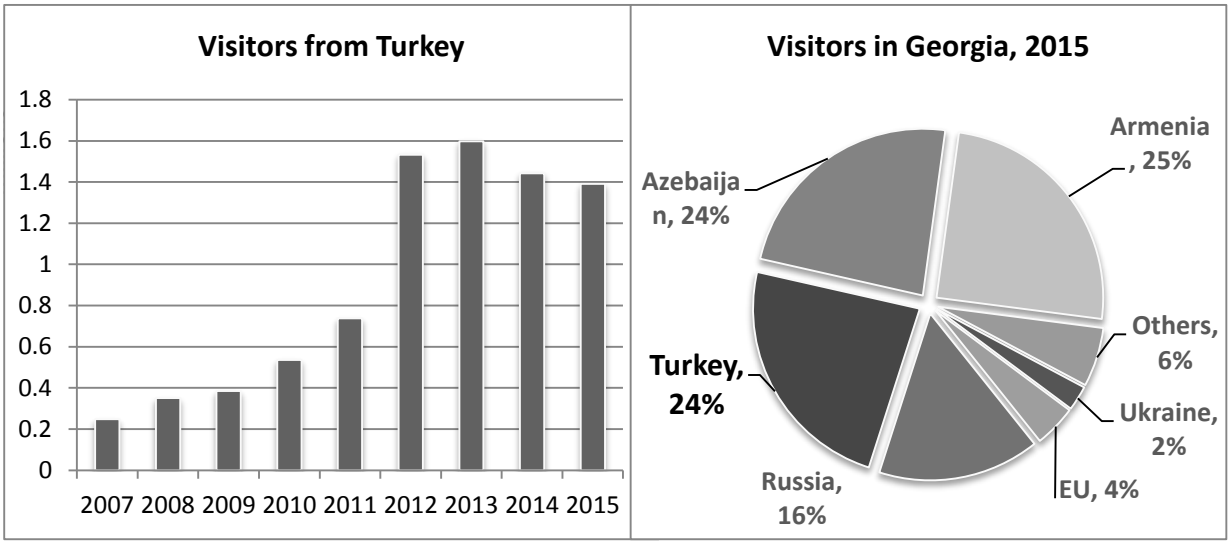
The "zero problems with neighbors" policy is also consistent with Georgia's foreign policy. As seen in the Georgian Foreign Policy Strategy document, the priorities of Georgian foreign policy are territorial integrity, strengthening national security, regional stability, and European and Euro-Atlantic integration. The focal point of regional stability is good relations with neighbors, which is emphasized in the above-mentioned strategy. The strategy attributes special significance to Turkey since it characterizes this country as Georgia's leading regional partner. The document names Turkey and Georgia as strategic partners, particular in areas such as trade, economy, energy, defense, and security. According to the strategy, Turkey's support for Georgia's territorial integrity is of great importance, as well as its support for the process of Georgia's Euro-Atlantic integration and the development of the Georgian Armed Forces.

In parallel to the development of Georgia-Turkey relations, the two countries have signed several agreements in political, economic, cultural, and other fields.

As a sign of exemplary bilateral relations, the citizens of both countries enjoy a visa-free regime for touristic travels. In addition, in accordance with a protocol signed in 2011, Turkish and Georgian citizens are able to travel between countries with their national identity documents. Passport-free travel facilities has led to a further increase of mutual tourists visits. (see Figure 1).

One of the results of the abolishment of visa requirements is labor migration from Georgia to Turkey. Remittances sent by Georgian workers in Turkey to Georgia reached almost 75 million USD in 2015 (see Figure 2).

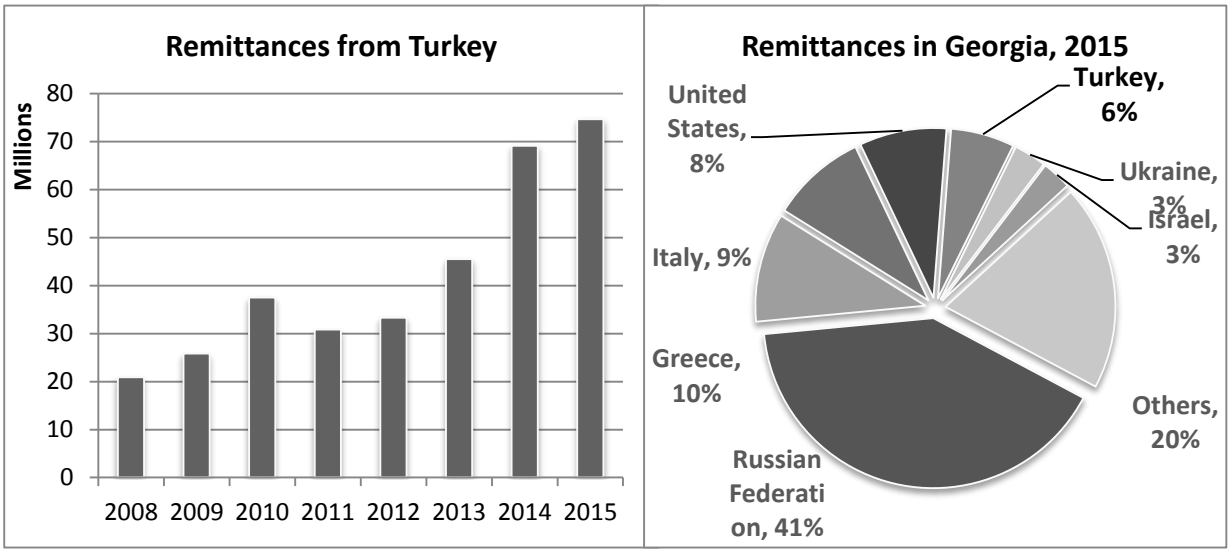
Figure 1. Visitors from Turkey to Georgia



Source: Ministry of Internal Affairs

As for the investment connections, Turkey is one of the biggest investors in Georgia. In 2015, 77 million USD of Foreign Direct Investment (FDI) came to Georgia from Turkey, which is 6% of total Georgian FDI (see Figure 3). Turkish companies have participated in construction work (including airport terminals), invested in a glass factory, telecommunications, and airport operations businesses, in addition to creating many small and medium scale companies in Georgia.

Figure 2. Remittances in Georgia (USD)

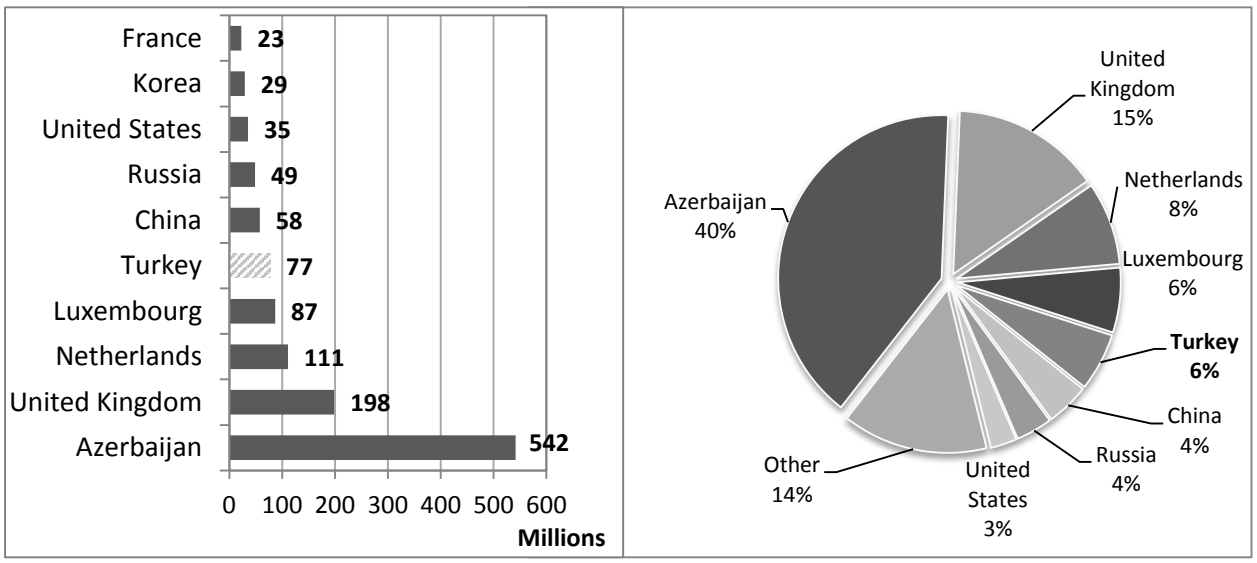


Source: National Bank of Georgia

Turkey ranks the first biggest trade partner of Georgia with a bilateral trade volume of almost 1.5 billion USD in 2015, which is 15% of the total trade (see Figure 4). Trade with Turkey gained more importance after 2006 when Russia imposed the embargo and closed market for Georgian products. Since then the trade with Turkey has increased significantly. The main products that Georgia exports to Turkey are: Apparel and closing accessories; Iron and steel;

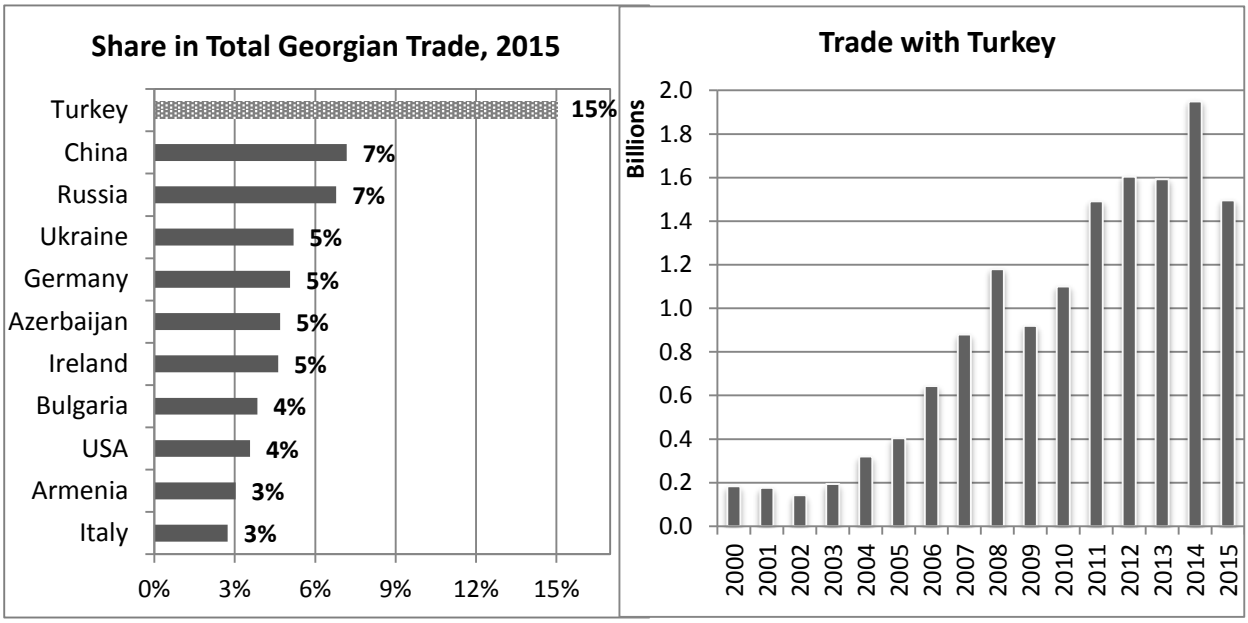
Animal or vegetable fats and oils; Ores and slag; Edible fruit and nuts and etc. As for goods that Georgia imports from Turkey, the main imported products are Nuclear reactors, boilers, machinery and mechanical appliances; Plastics; Articles of iron or Steel; Pharmaceutical products; Electrical machinery and equipment, and etc.

Figure 3. FDI in Georgia, 2015 (USD)



Source: National Bank of Georgia

Figure 4. Total Georgian Trade (USD)



Source: UN Comtrade Database

Energy poses one of the most important areas of cooperation between Georgia and Turkey. Since Georgia is rich in hydroelectric potential, Turkish companies have begun to make significant investments in recent years in Georgia in this area. Baku-Tbilisi-Ceyhan (BTC) oil pipeline and the Baku-Tbilisi-Erzurum (BTE) natural gas pipeline passes through Georgia. Shah Deniz II project, the expansion of the Southern Gas Corridor and the construction of

TANAP (the Trans-Anatolian Pipeline) will further enhance the role and importance of Georgia as a transit country.

In addition, Georgia and Turkey are important partners in terms of regional transportation projects. In this context, the Baku-Tbilisi-Kars railway project is having a special significance.

Education is another field of the Georgian-Turkish cooperation. There are Turkish middle schools as well as a Turkish university in Georgia, and Turkey offers scholarships to Georgian students who would like to continue their higher education in Turkey and learn the Turkish language. However, according to the figures Georgia is low on the list of states whose citizens receive educational scholarships from the Turkish Ministry of Education.

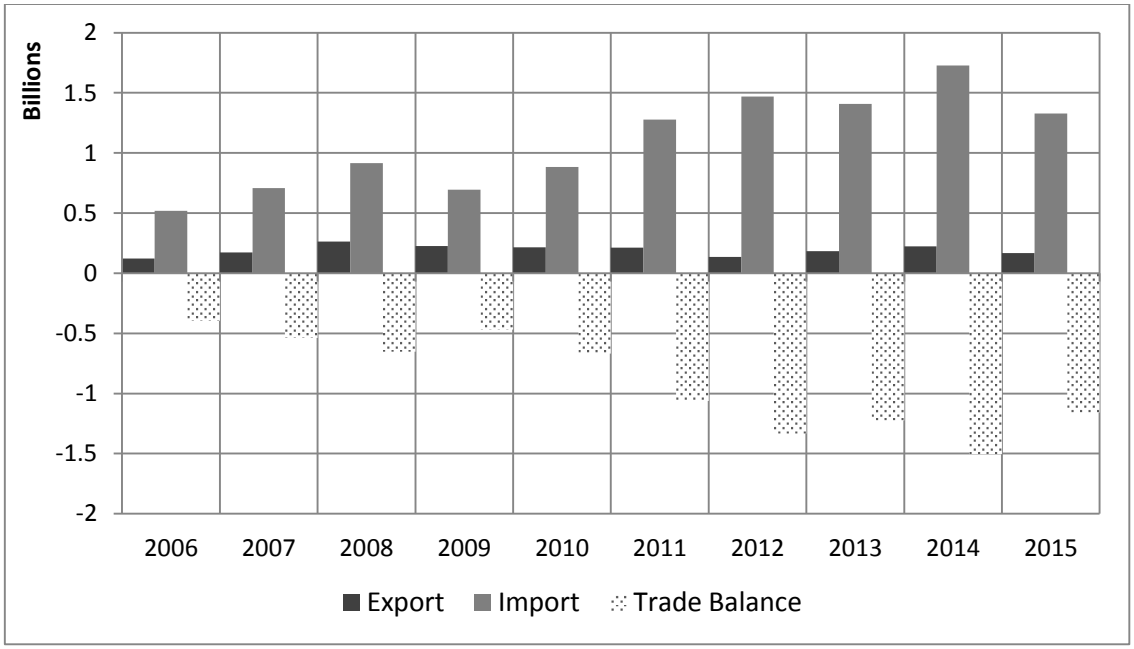
III. Trade Relations between Georgia and Turkey

This section evaluates the dynamics of Georgia's exports along different margins of trade and benchmarks its position with respect to Turkey. To get a comprehensive picture of trade competitiveness, the country-level performance of export along various dimensions need to be analyzed. General practice is to use various indicators to assess trade performance along four different dimensions: 1) the composition, orientation, and growth of export and imports; 2) the degree of export diversification; 3) the level of sophistication of a country's exports; and 4) the survival rate of its export relationships. The analysis will facilitate the identification of the primary constraints to improved trade competitiveness and the policy response to overcome these constraints.

Trade Composition, Orientation, and Growth

Turkey ranks the first biggest trade partner of Georgia with a bilateral trade volume of almost 1.5 billion USD in 2015, which is 15 percent of the total trade (see Figure 5). Almost 8 per cent of total Georgian export was designated to Turkey in 2015, while the same number for the import from Turkey is more than 17 percent. The disbalance between export and import has been in place over history implying negative trade balance between Georgia and Turkey.

Figure 5. Exports, Imports, and Trade Balance (USD)

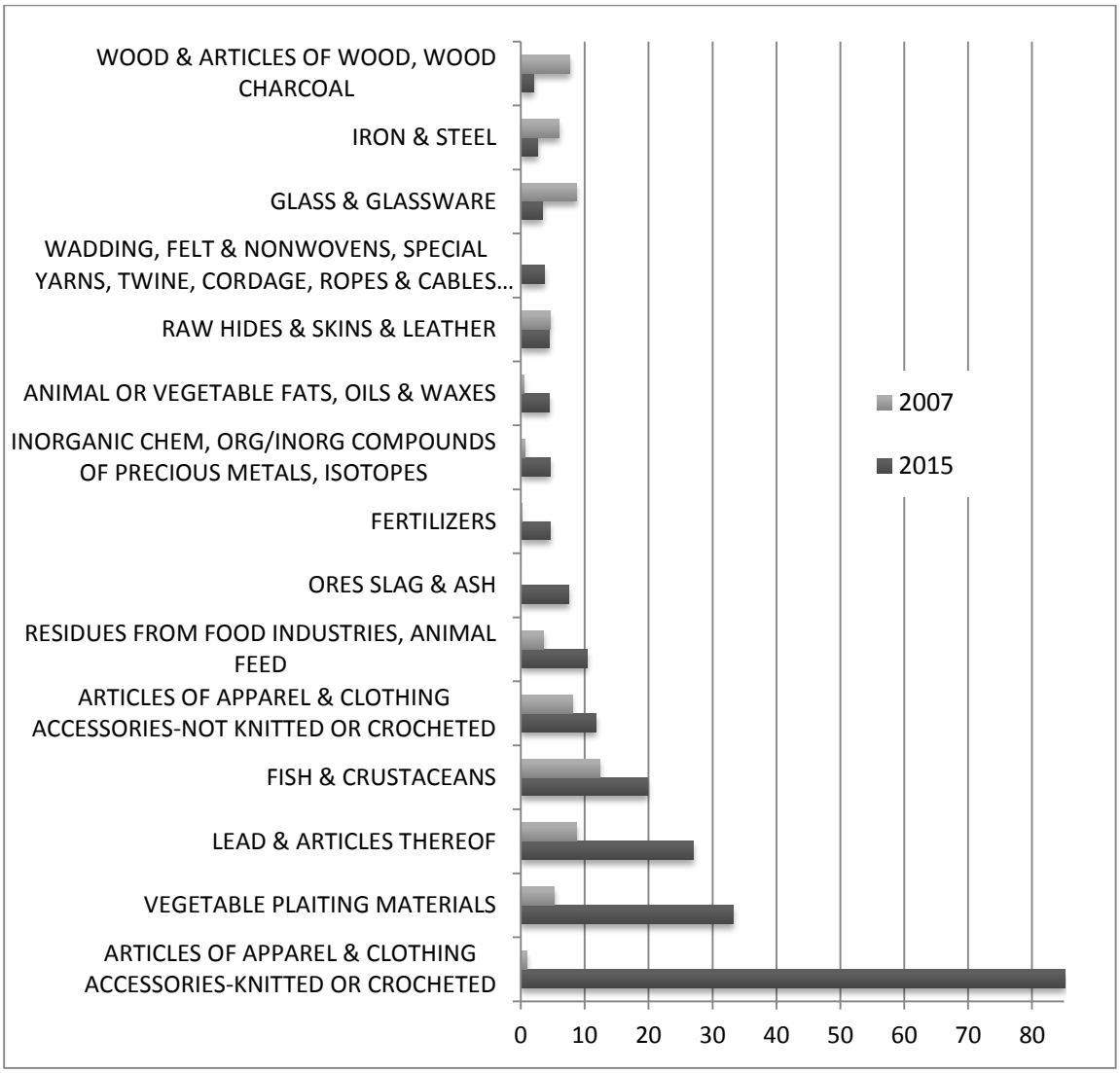


Source: Author calculations from UN Comtrade Database.

Any meaningful discussion of what a country trades should take into account what it can trade ideally through direct measurement of factor and technology endowments since assessing country's export potential and identifying sectors of comparative advantage is a crucial part of trade policy design. As endowment data are rarely available, in their absence the most commonly used measure is the revealed comparative advantage (RCA) index (Balassa, 1965). The RCA indicates whether a country is in the process of extending the products in which it has a trade potential, as opposed to situations in which the number of products that can be

competitively exported is static. It can also provide useful information about potential trade prospects. If the RCA index is above one, it implies that country has a revealed comparative advantage in the product/sector. Similarly, the index below one indicates that country has revealed comparative disadvantage in the product/sector.

Figure 6. Revealed Comparative Advantage Index for Georgia vis-à-vis Turkey (HS 2 digit)[1]



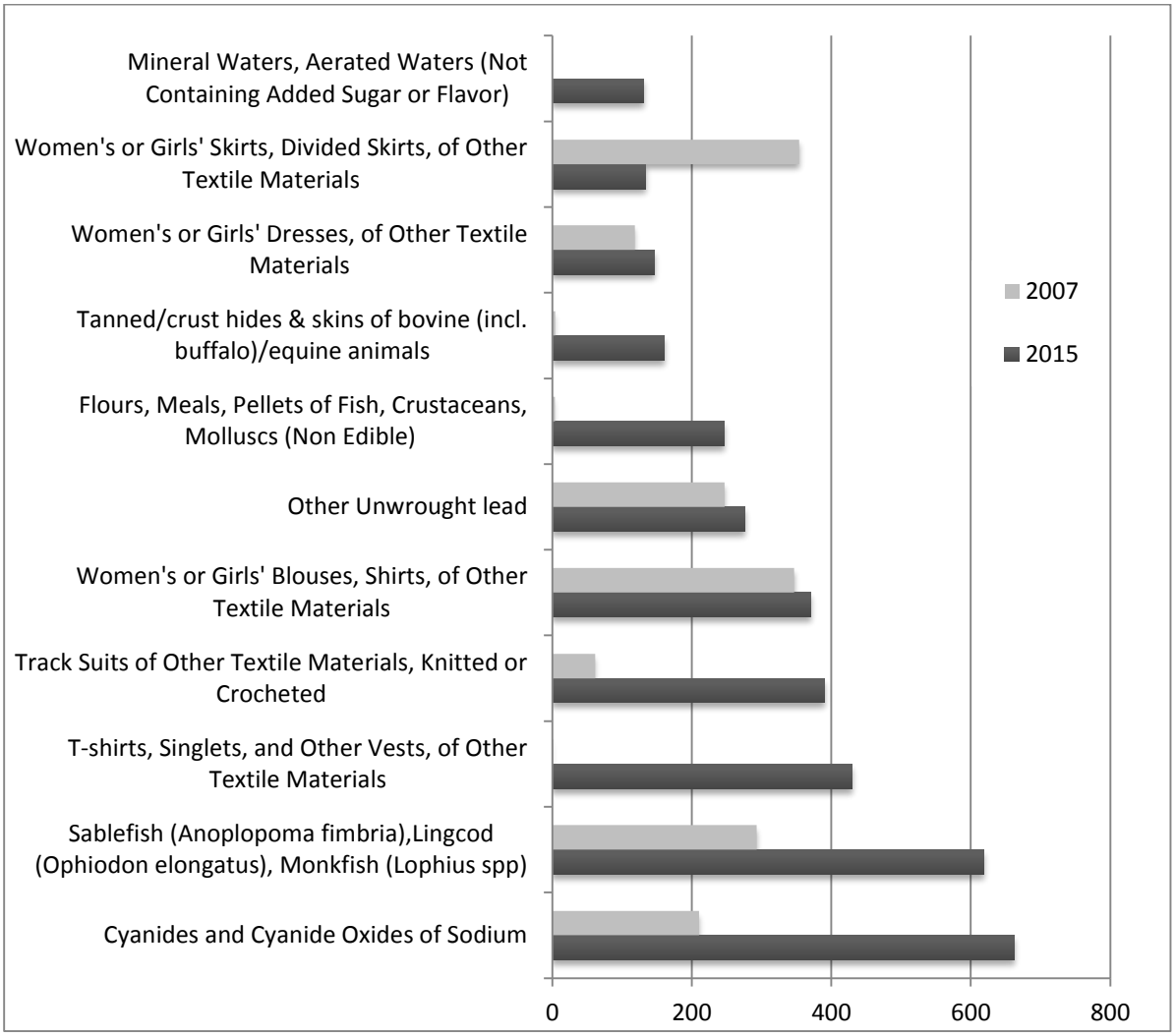
Source: WITS-UNSD Comtrade, World Development Indicators

Figure 6 depicts the revealed comparative advantage index for Georgia vis-à-vis Turkey at HS 2 digit product level for 2007 and 2015. As the results show, from 2007 to 2015 Georgia's comparative advantage has increased for most products that include articles of apparel, vegetable planting materials, fertilizers, etc. With the highest compound annual growth rate between these years were characterized the following products: wadding, felt and nonwovens, special years, twine, cordage, ropes and cables and articles (300%); ores slag and ash (97%);

[1] The figure shows top 15 products with highest comparative advantage in 2015. The table with all the products is presented in the appendix.

fertilizers (52%); articles of apparel and clothing accessories–knitted or crocheted (46%). For some products, however, comparative advantage has decreased from 2007 to 2015. The lowest compound annual growth rates were related to cooper and articles thereof (-61%); ceramic products (-31%); salt, sulfur, earth and stone, lime and cement (-20.5%).

Figure 7. Revealed Comparative Advantage (HS 6 digit)



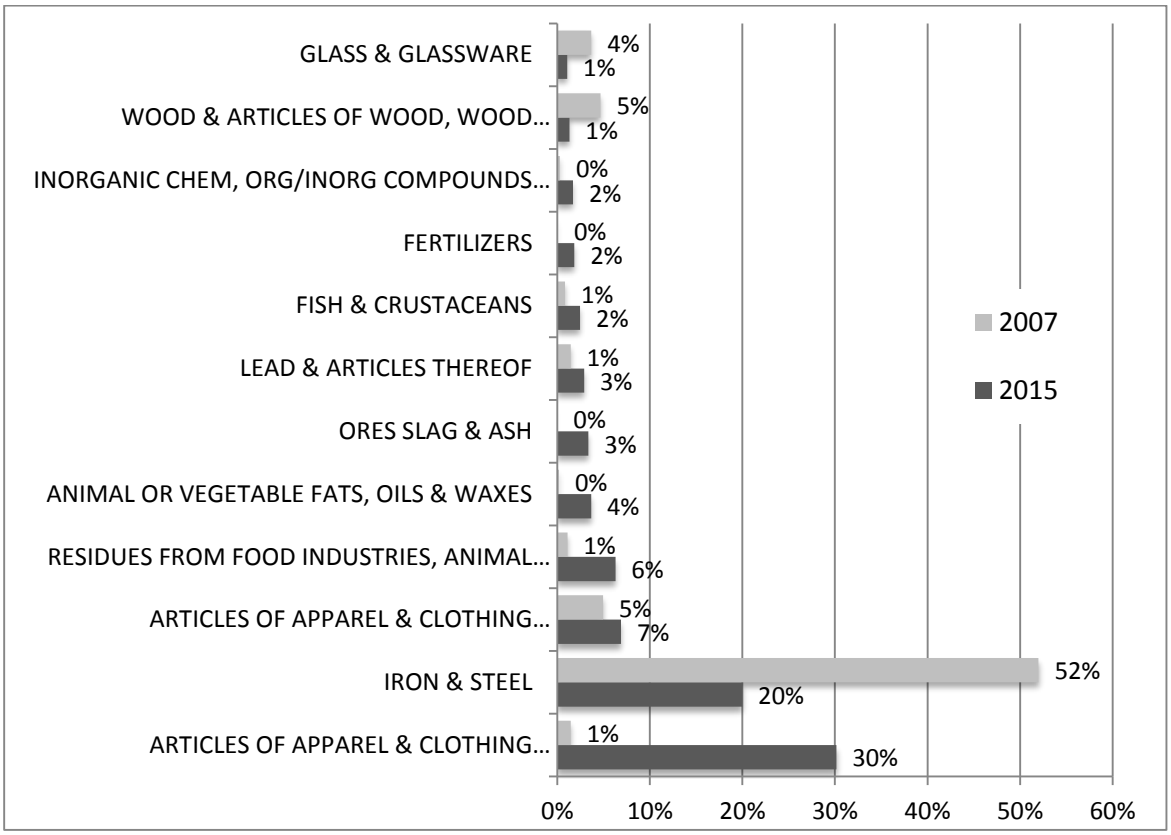
Source: WITS-UNSD Comtrade, World Development Indicators

If we look at comparative advantage index at the more disaggregated product level (HS 6 digit), in 2015 among 11 products with the highest level of comparative advantage five were from articles of apparel and closing category (see Figure 7). This indicates high export potential in the category.

Another interesting indicator to look at is a ***sectoral orientation*** of trade. Moreover, constraints to growth may be more easily identified at the sectoral level. The sectoral orientation of Georgia's export to Turkey is presented in Figure 8. It portrays the share of each sector (HS, 2 digits) in total exports of Georgia to Turkey in 2007 and 2015. The figure shows that the iron and steel constituted the main export sector in 2007, though its share in total exports has declined from 52 per cent to around 20 per percent in 2015. This sector also has been

characterized by the decrease in comparative advantage from 2007 to 2015. Articles of apparel and clothing accessories, on the other hand, where Georgia has the highest revealed comparative advantage, saw it share grow during the same period. The share of articles of apparel and clothing accessories, knitted or crocheted in total exports to Turkey, grew from 1 per cent to 30 per cent during the 2007-2015 period. These results show that sectoral orientation is developing in right direction i.e. the share of sectors in which Georgia has high revealed comparative advantage is increasing.

Figure 8. Structure of Georgian Export (sectoral share in total export)

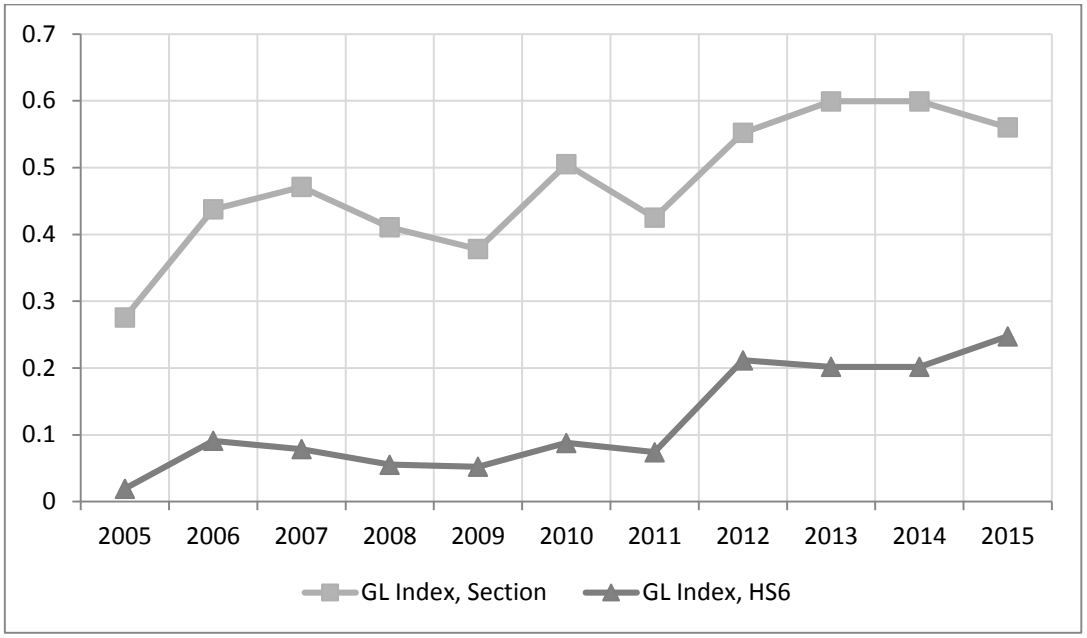


Source: Author calculations from UN Comtrade Database.

Another indicator that describes trade composition between countries is an ***intra-industry trade***. A widely used measure of the importance of intra-industry trade is the Grubel-Lloyd (GL) index[2]. By construction, GL index is between zero and one. If, in a sector, a country is either only an exporter or only an importer, the GL index will be zero indicating that intra-industry trade is absent. On the other hand, if a country in the sector, both export and imports, the index will be closer to one as similarity in the value of exports and imports increases. Hence, for a developing county's trade with an industrial country, rising values are typically associated with convergence in income levels and industrial structures.

[2] The detailed methodology for calculating GL index is presented in the appendix.

Figure 9. Grubel-Lloyd Indexes of Intra-Industry Trade at Different Level of Aggregation of Trade Data



Source: Author calculations from UN Comtrade Database.

GL index for Georgia is calculated using UN Comtrade date (HS 6 digit) for export to and import from Turkey at the different level of aggregation. As seen in Figure 9, the GL indexes have an increasing trend over history.[3] At the high level of disaggregation, which is the most accurate, however, the GL index is still very low indicating very low intra-industry trade at highly disaggregated product level between Georgia and Turkey. GL indexes, however, should be interpreted with cautious since it is sensitive to the level of aggregation[4]. Thus, in general, once should expect low measured levels of intra-industry trade at lower levels of aggregation.

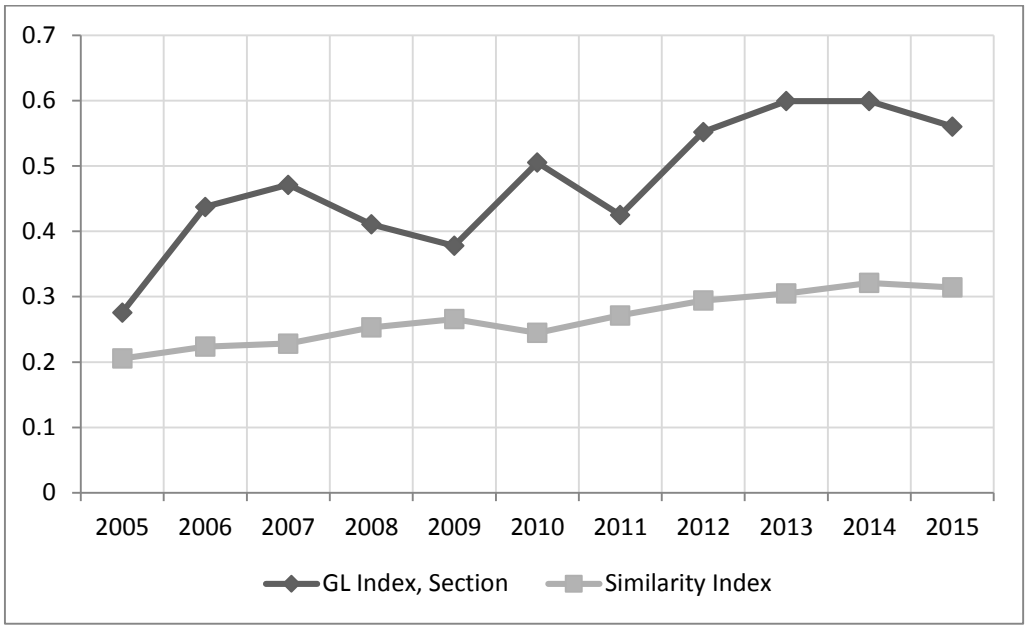
The GL index is also a good indicator of convergence between countries. Typically, similar countries (in terms of economic size, i.e. GDP) share more intra-industry trade. Moreover, when income levels increase the intra-industry trade increases indicating that countries' industrial structure is getting similar. This is shown in Figure 10, which depicts the GL index and the similarity index[5] between Georgia and Turkey over history. When the similarity index increases so does the GL index of intra-industry trade indicating if income levels will continue to converge the countries will start trade more similar products.

[3] In the HS nomenclature, there are 21 sections, 96 chapters and around 5,000 (depending on the year and the concordance) HS 6 products. GL indexes are highest for sections, lowest for products.

[4] For instance, suppose Germany exports car parts (engines, gearboxes, etc.) to the Czech Republic which then exports assembled cars to Germany. A GL index calculated at the disaggregated level (car parts) will be zero indicating no intra-industry trade. At the aggregate level, however, the intra-industry trade will be positive since car parts and assembled cars belong to the same chapter.

[5] The similarity index is calculated according to Helpman (1987): $S^{ij} = 1 - \left[\frac{GDP^i}{GDP^i+GDP^j}\right]^2 - \left[\frac{GDP^j}{GDP^i+GDP^j}\right]^2$, where GDP is in real terms.

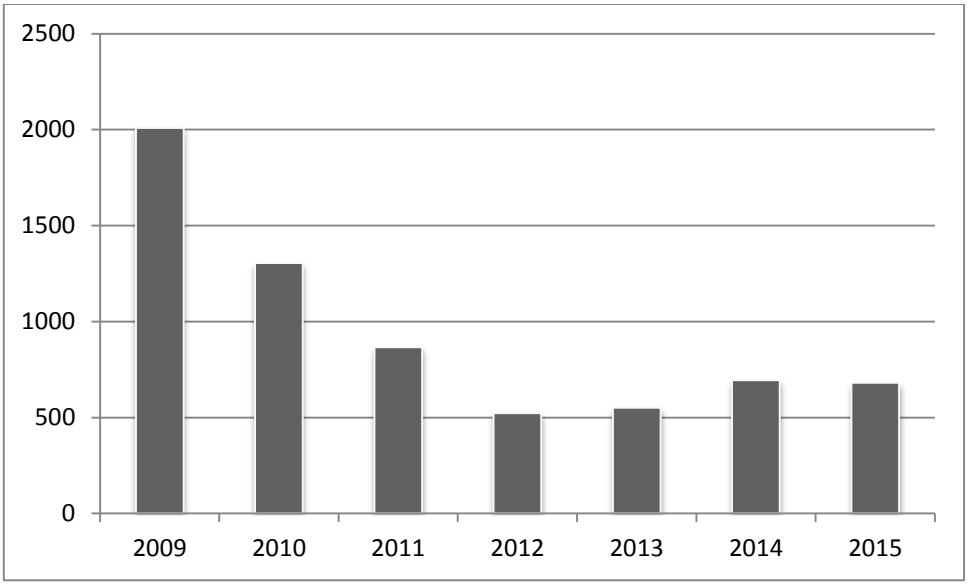
Figure 10. GL Intra-Industry and Country-Similarity Index vis-a-vis Turkey



Source: Author calculations from UN Comtrade Database and Statistical offices of Georgia and Turkey.

Another two indicators, trade intensity index and trade complementarity index, suggest potential sources of future growth. The ***trade intensity index*** uses similar logic to that of revealed comparative advantage, but for markets rather than products. It indicates whether a reporter exports more, as a percentage, to a partner than the world does on average. It is measured as country i's exports to country j relative to its total exports divided by the world's exports to country j relative to the world's total exports. A value greater than 100 indicates a relationship more intense than the world average for the partner.

Figure 11. Trade Intensity Index



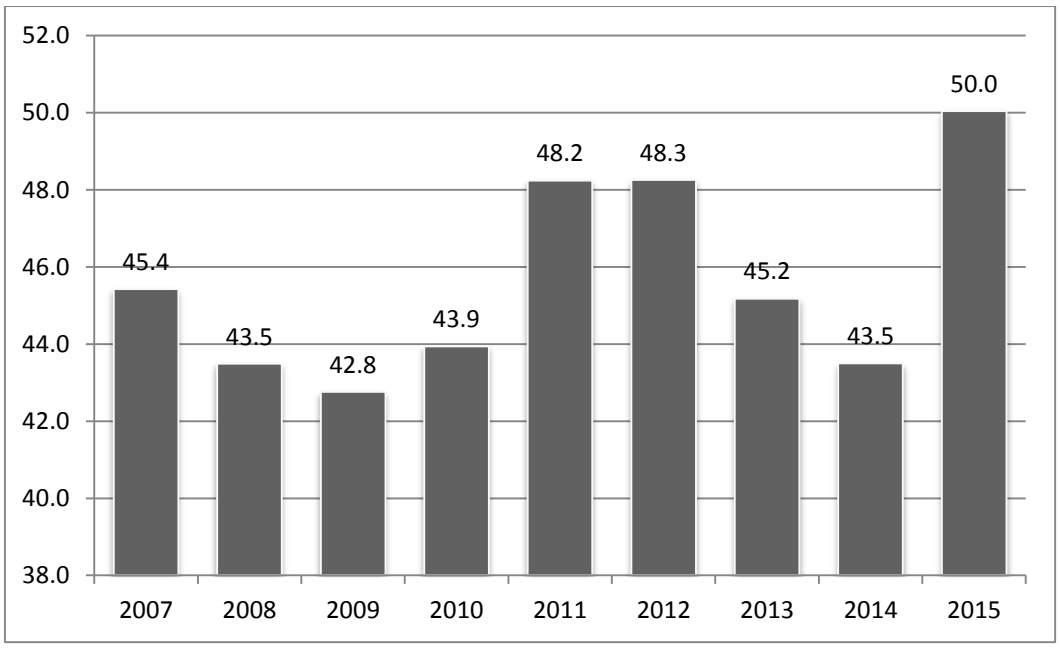
Source: WITS-UNSD Comtrade, World Development Indicators

The trade intensity index for Georgia vis-à-vis Turkey is presented in Figure 11. Even though the trade intensity between the countries is still high it has a decreasing trend over history that may need some attention from policy makers.

It is frequently argued since Lipsey (1960) that forming a free trade agreement is more likely to be welfare-enhancing if its potential members already trade a lot between themselves, a conjecture called "natural trading partners hypothesis". Thus, before starting analyzing Georgian-Turkish FTA, it is interesting to see whether Georgia and Turkey are "natural trading partners". ***Trade complementarity index*** (TCI) introduced by Michaely (1996) measures the extent to which two countries are "natural trading partners" since it shows how well the structures of a country's imports and exports match. The trade complementarity index indicates to what extent the export profile of the reporter matches, or complements, the import profile of the partner. A high index may indicate that two countries would stand to gain from increased trade and may indicate exploitable sources of growth. A score of 100 indicates ideal trading partners; a score of 0 indicates that the two countries are perfect competitors.

Figure 12 shows the evolution of the complementarity index for Georgia vis-a-vis Turkey over time. As seen from the Figure, the overlap of Georgia's export to Turkey with what the Turkey imports has increased lately indicating patterns of trade complementarity become more developed. Note that this export and import are by commodity but relative to the world and not to each other.

Figure 12. Trade Complementarity Index



Source: WITS-UNSD Comtrade, World Development Indicators

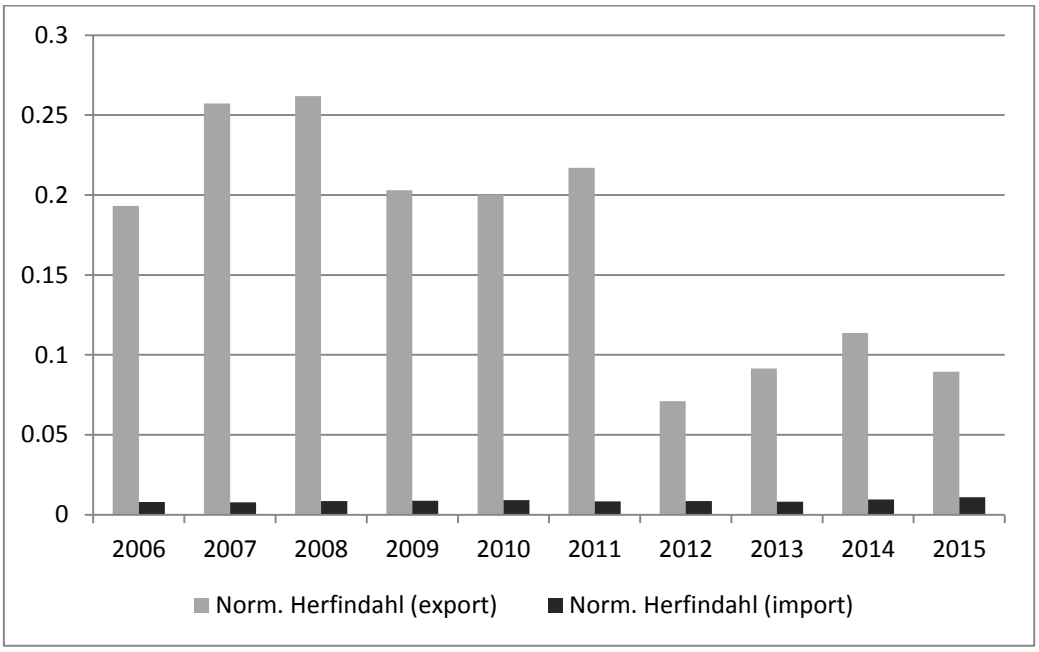
Export Diversification

Another aspect to look at the trade between countries is indicators that describe export diversification. To measure trade concentration the most common way is to use the normalized Herfindahl index[6]. The index ranges from zero to one and the higher the index more concentrated exports or imports are in a few sectors.

The normalized Herfindahl indexes, both at the export and at the import side, for Georgia vis-a-vis Turkey are shown in Figure 13. According to the normalized Herfindahl indexes, which are calculated using UN Comtrade data on both exports and import (HS 4 digit), concentration is much higher on the export side than on the import side. The concentration of export, however, has significantly decreased in recent years indicating that export structures became more diversified (for instance, the number of HS4 digit products in 2015 was 280 compare to 257 in 2006 and 190 in 2008). In general, diversification goes with economic development, although rich countries re-concentrate.

Whether diversification is a policy objective in itself, especially for small countries like Georgia, is another matter. Sometimes big export breakthroughs can raise concentration. On the other hand, in principle diversification reduces risk.

Figure 13. The Normalized Herfindahl Indexes of Concentration



Source: Author calculations from UN Comtrade Database.

Export Sophistication

The sophistication of a country's export products provides insight into its level of economic development and its location in the global production chain. Two indicators are used to describe

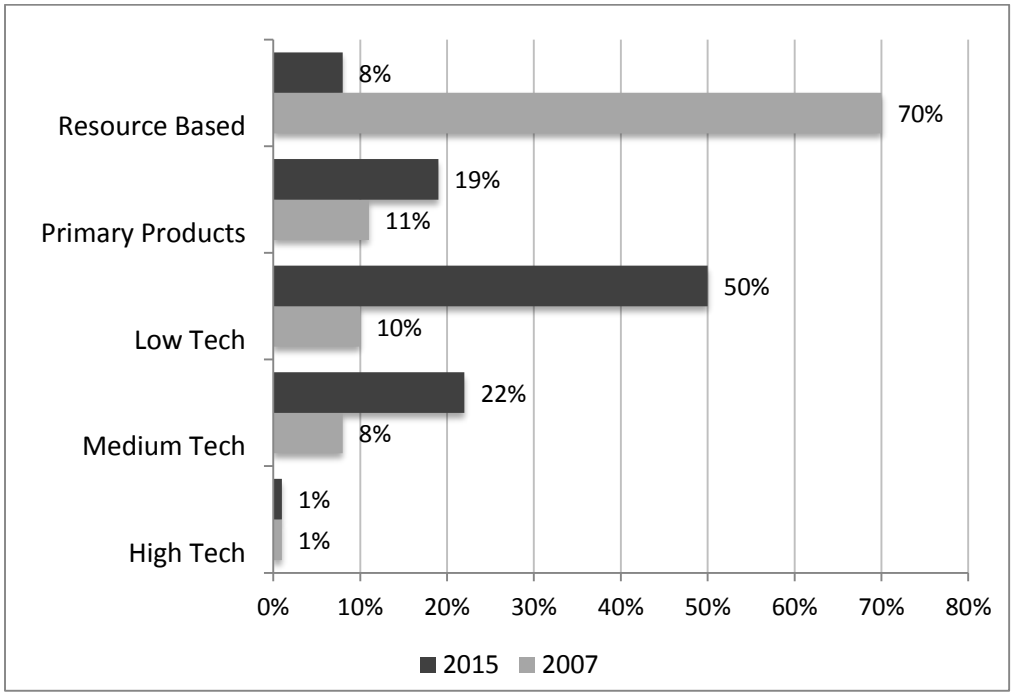
[6] The detailed methodology is presented in the appendix

Georgia's export sophistication vis-s-vis Turkey: technological classification of exports and sophistication of exports (EXPY).

Technological Classification of Exports draws on work by Lall (2000) to sort all products into one of five mutually exclusive technological groupings: high tech, medium tech, low tech, primary products, and resource-based products. While the assignment of products to specific categories is not uncontroversial, analyzing how a country's export basket has changed over a span of years may give insight into the pattern of its economic development.

Figure 14 illustrates the breakdown of Georgia's export portfolio to Turkey by percentage into technological classifications. The results show few interesting facts. Resource-based products share in export has decreased significantly from 70% to 8% from 2007 to 2015. While, shares of primary products, medium and low-tech products have increased from 2007 to 2015. Decreased share of resource-based products and the increased share of more advanced products is a positive sign indicating moving towards products that are more sophisticated. The share of high-tech products, however, has remained unchained implying no development in this direction.

Figure 14. Technological Classification of Exports



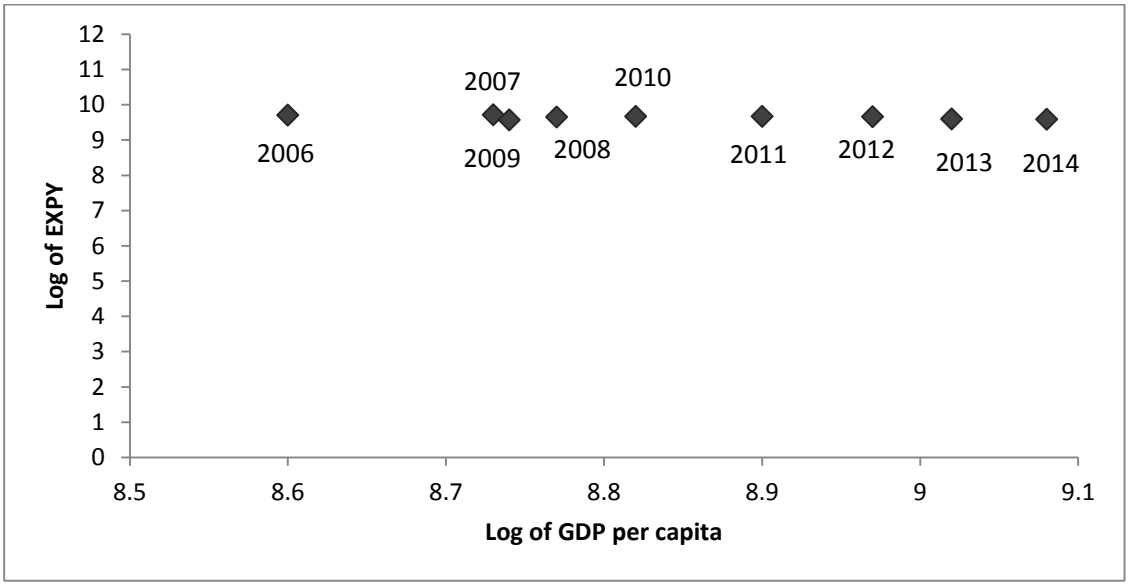
Source: WITS-UNSD Comtrade, World Development Indicators

The Sophistication of Exports (EXPY) uses methodology introduced by Hausman et al. (2006) to estimate the level of technological sophistication embodied in a country's export portfolio. Estimating the level of technological sophistication embodied in a country's export portfolio gives an indication of that country's economic development. PRODY is an outcome-based measure of sophistication: if a product is mostly produced by rich countries, then it is revealed to be a "rich" or sophisticated product. PRODY is calculated as a weighted average of per capita GDP of countries producing that product, with weights derived from revealed comparative

advantage. The country's export sophistication, EXPY, is given by summing all the PRODY values for the products exported by the country, each weighted by the product's share in total exports. A higher PRODY indicates a more sophisticated product. A high EXPY indicates a more sophisticated export portfolio.

Figure 15 illustrates the relationship between GDP per capita and technological sophistication of Georgian export to Turkey. On the horizontal axis is the log of GDP per capita and on the vertical axis is the log of EXPY, the index of technological sophistication. Even though GDP per capita is increasing over time, the sophistication of Georgian export is mainly unchanged. Moreover, it even has decreased slightly in the recent years. This confirms the fact that the high-tech product's export has remained unchanged from 2007 until recently, indicating big room f development is this direction.

Figure 15. Sophistication of Export (EXPY)



Source: WITS-UNSD Comtrade, World Development Indicators

Survival of Export Relationships

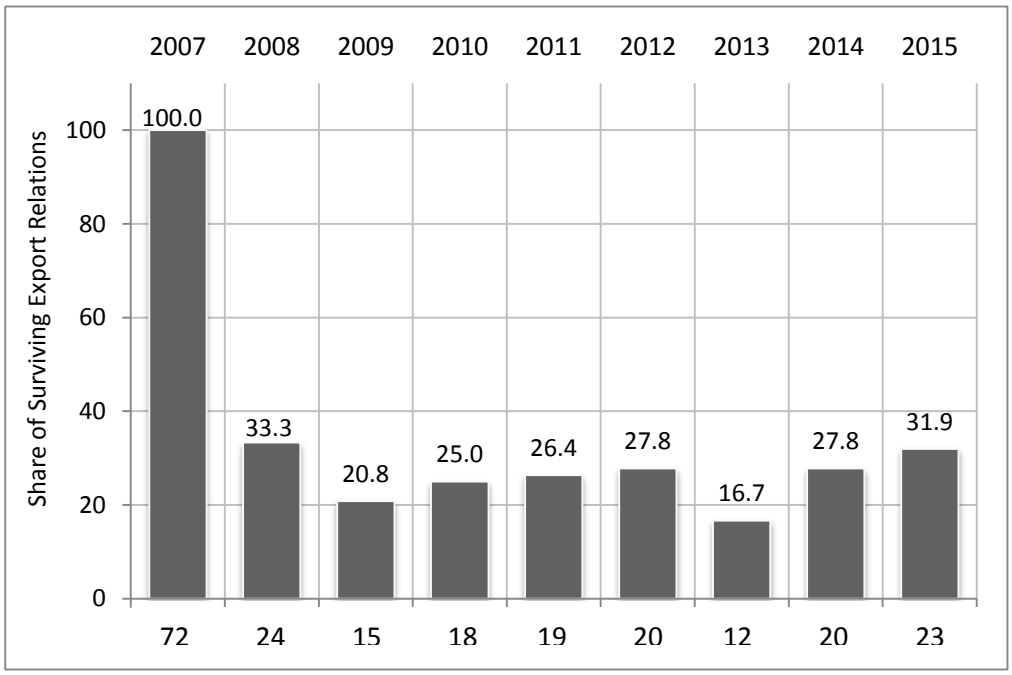
The persistence of trading relationships is a recognized sign of economic maturity and is an important indicator of strong trade relations. This subsection presents two indicators that evaluate the duration and resilience of product-partner relationships and explore the factors influencing product birth and extinction.

The first indicator, ***Export Duration***, measures the survival rate over successive years of new product relationships. This indicator reports the number of new product relationships with trade values of at least 10,000 USD in the start year and the number and percentage of those that survive in each succeeding year until the selected end date. The ability to maintain trade relationships is a sign of a well-developed economy. Large-scale deaths of trading relationships may reflect economic shocks or be the result of new policies.

Figure 16 represents the export duration indicator for Georgia vis-à-vis Turkey. On the horizontal axis is listed the number of export relationships in the year. On the vertical axis is

the share of surviving export relationships relative to the start year (2007). Each bar gives the number of export relationships that were new in the start year that persist in the selected year. According to the graph, in the start year, 2007, there were 72 new trade relations between Georgia and Turkey. From these new relations, only 23 (32 %) survived until 2015 indicating quite high death rate.

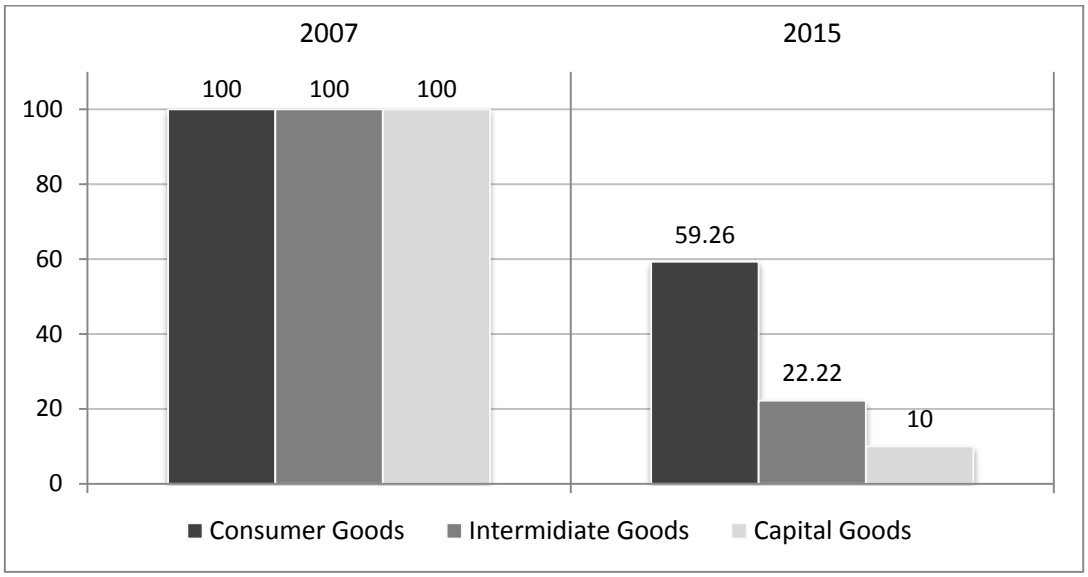
Figure 16. Export Duration



Source: WITS-UNSD Comtrade, World Development Indicators

Figure 17 depicts trade relations by different categories of product. The highest number of trade relations in 2007 was in consumer goods, 27 out of which almost 60 percent remained in place in 2015. If we consider intermediate and capital goods, however, even though new trade relation was quite high very few of them survived until recently.

Figure 17. Export Duration by Different Products



Source: WITS-UNSD Comtrade, World Development Indicators

Trade patterns are not static but rather constantly evolving. A particularly important policy concern, which motivates much of reciprocal trade liberalization, is to expand export opportunities i.e. ***margins of export growth***. Export expansion can be at the intensive margin (growth in the values of existing exports to the same destination), at the extensive margin (new export items) or at the "sustainability margin" (longer survival of export spells). Economic development is generally accompanied by the introduction of new products, and the ability of a country to sustain trade relationships is a sign of economic maturity.

Decomposition of Georgia's export growth to Turkey is presented in Table 1 below. The results show the comparison of 2006 and 2015 exports to Turkey by product using UN Comtrade data (HS6 digit). In the table, the first column represents the percentage contribution of the intensive margin i.e. how value of export increased from 2006 to 2015 on existing products; the second column represents the percentage contribution of the new-product margin i.e. how the new products introduced in 2015 compare to 2006 contributed to the export growth; the third column represents the percentage contribution of the product death margin i.e. what is the contribution of those products that were exported during 2006 and no longer is in the exporting product list have affected the export growth.[7]

Table 1. Decomposition of Export Growth, 2006/2015[8]

Reporter	Intensive Margin Contribution	New Product Margin Contribution	Product Death Margin Contribution

[7] Extensive margin plus intensive margin minus death margin is equal to one.

[8] The detailed methodology for calculating export growth margins is presented in the appendix

Georgia	0.51	1.95	1.46

Source: Author calculations from UN Comtrade

As the results show, variation in export is explained mainly by the exporting more new products and at the same time by failures of the existing product. Exporting more of the existing product has much less contribution to the export growth.

To summarize, according to the indicators presented in the section, the main challenges that Georgia faces are high concentration of export to Turkey, low intra-industry trade, low level of export sophistication, and high death rate of trade relationships. However, since Georgia has comparative advantage vis-à-vis Turkey in a number of products and sectors opportunities to fully utilize export potential and thus, expand export to Turkey is high.

IV. Impact Assessment of the Free Trade Agreement between Georgia and Turkey – are the expectations fulfilled?

Georgia-Turkey FTA

The Free Trade Agreement (FTA) between Georgia and Turkey was signed during the Georgian-Turkish Business Forum held on November 21, 2007, in Tbilisi. The agreement entered into force one year later. The main objectives of the FTA were to facilitate the development of trade-economic cooperation between Georgia and Turkey, to encourage entrepreneurs to gain access to markets and to support the implementation of investment projects. When the agreement entered into force, Turkey already was one of the main trade partners for Georgia with almost 20% share in total Georgian export. For Georgia, the main aim was to facilitate further the growth of Georgian export to Turkey particularly, in the field of agriculture. Due to several reasons, high expectations regarding benefits of the FTA, however, has not been fully met.

This subsection aims to discuss the FTA document into detail and review main economic aspects of the agreement. The consequences of the FTA on the Georgian economy with particular focus on trade will be discussed in the following sections.

The preamble of the FTA states:

"The Republic of Turkey and Georgia DESIROUS to develop and strengthen the existing friendly relations, especially in the fields of economic cooperation and trade, with an aim to contribute to the progress of economic co-operation between the two countries and to increase the scope of mutual trade exchanges…

DECLARING their readiness to undertake measures with a view to promoting harmonious development of their trade …

BELIEVING that development of trade and cooperation in the economic and technical fields is one of the main elements of rapid development strategies of both countries"[9].

According to the document, among the main objectives of the agreement were the elimination of difficulties and restrictions on trade in goods; providing fair conditions of competition in trade between the countries; promotion the harmonious development of the economic relation between Georgia and Turkey through the expansion of reciprocal trade.

The negotiation process regarding the FTA was initiated by Georgian side and thus, not surprisingly, the agreement contains more favorable conditions for Turkey compared to Georgia. The main outcomes of the Georgian-Turkish FTA that is limited to goods and is mainly grounded upon the WTO regulatory provisions can be summarized as follows:

1. The agreement abolished all customs duties and other equivalent charges on ***industrial products*** (Chapters 25-97 of the Harmonized Commodity Description and Coding System, HS[10]) and no new customs duties could be introduced on these products. In addition, all quantitative restrictions on exports and imports of industrial products were abolished and no new ones could be introduced.

2. As for ***agricultural products*** (Chapters 01 to 24 of HS), the agreement covers it to a much lesser extent and moreover, treats export from Georgia and export from Turkey asymmetrically. The customs duties and other equivalent charges applicable on the imports into Georgia from Turkey were mainly eliminated with only a few exceptions[11] (15 product positions). Before the FTA, according to the Georgian Tax Code, 174 types of products were charged 12% customs duties and 43 types of product were charged 5% customs duties (the numbers reflect both industrial and agricultural products).

   As for Export from Georgia to Turkey, the list of exempted products is much longer (8 product chapters and additional 22 product positions). Furthermore, for some of those products for which tariffs has been eliminated and/or reduced, tariff quotas were introduced, which in many cases are binding[12] (3 product chapters, 16 product positions, 6 types of products).

   However, the Parties approved to grant preferential treatment to each other as regards the products that are exceptions in compliance with the provisions of the rules of origin of the Agreement. The parties agreed to apply the preferential rules of origin in trade between them.

[9] Preamble, GEO-TUR FTA, 2008

[10] The list of HS chapters is presented in the appendix (see Table 7)

[11] The list of excepted products is presented in the appendix (See Table 8)

[12] The detailed list is presented in the appendix (see Table 9 and Table 10)

In additions, the FTA states that each country is ready to foster the development of trade in agricultural products consistently with their agricultural policies and to discuss the possibilities of further concessions to each other in the Joint Committee meetings.

3. Another initiative that the FTA introduced was the principal of ***bilateral cumulation*** – "materials originating in Turkey shall be considered as materials originating in Georgia when incorporated into a product obtained in Georgia. It shall not be necessary that such materials have undergone sufficient working or processing"[13]. It should be noted that the products should still undergo some working or processing and there is a list of insufficient working or processing operations that is not qualified for bilateral cumulation. In other words, bilateral cumulation implies that products that have Turkish origin can be imported to Georgia and then processed and exported back to Turkey free of customs duties from both sides of the border. The same scheme applies also to products of the Georgian origin.

4. The FTA established ***Joint Committee*** formed by each country's representatives. It is responsible for the administration of the agreement and for its proper implementation. The committee also serves as a dispute resolution platform. In addition, the Joint Committee also keeps under review the possibility of removal of remaining obstacles to trade and further evolution of relationships between Georgia and Turkey.

5. The agreement does not cover **service sector**, however, it states that the countries should aim at achieving gradual liberalization and the opening of their markets for trade in services in accordance with the provisions of the WTO General Agreement on Trade in Services (GATS). Moreover, at regular intervals in the Joint Committee, Georgia and Turkey will review relevant services sectors and will consider further liberalization of trade in services, taking into account international developments.

6. ***All other regulations*** have remained under WTO agreement and the FTA does not introduce any additional rights or obligations. In particular, Article 10 regarding Sanitary and Phytosanitary Measures; Article 11 regarding Internal Taxes; Article 21 regarding Subsidies; Article 22 regarding Intellectual Property Rights; and Article 25 regarding Technical Regulations, Standards, Conformity Assessment, and Related Measures are all operated under the WTO scheme.

Ex-Post Economic Evaluation of the FTA – Gravity Model

Theoretical Foundation

We already know what happened, but what would have happened in the absence of FTA? This section presents ex-post FTA evaluation method, Gravity model that attempts to estimate what would have happened to trade flows if there had been no FTA. In particular, it will answer the

[13] Article 3; Protocol II; GEO-TUR FTA, 2008

following questions: Has the FTA affected Georgia's trade? Have the FTA's trade effects raised Georgia's welfare? Through which channels has FTA-induced trade affected welfare? The main benefit of the gravity model in evaluating an FTA is that it can control for the effects of as many other trade determinants besides the FTA as necessary, and can, therefore, isolate the effects of the FTA on trade.

The gravity model, which is an econometric method, is a workhorse of international trade analysis. The gravity model is attributed to Jan Tinbergen (1962), who compared the size of bilateral trade flows between any two countries to the Newtonian theory of gravitational force between two objects in physics. Just as planets are attracted mutually in proportion to their sizes and proximity, countries trade in proportion to their respective sizes and proximity.

Initially, the gravity equation was considered as a purely econometric tool without a theoretical basis and was thought of merely as a representation of an empirically stable relationship between the size of economies, their distance, and the amount of their trade. The so-called "gravity equation" in international trade has proven surprisingly stable over time and across different samples of countries and methodologies. The remarkable stability of the gravity equation and its power to explain bilateral trade flows provoked the search for a theoretical explanation for it.

The first important attempt to provide a theoretical basis for gravity models was the work of Anderson (1979). In his model, goods are differentiated by country of origin and consumers' preferences are defined over all the differentiated products. Therefore, whatever the price, the structure implies that a country will consume at least some of every good from every country. As a result, all goods are traded, all countries trade and in the equilibrium larger countries import and export more. Since Anderson, many authors have shown that gravity models can be a direct implication of various trade theories (e.g. Bergstand (1985 and 1989); Deardorff (1998); Eaton and Kortum (2002); Helpman et al. (2008)). For instance, Bergstand (1985 and 1989) uses micro foundations and derives a gravity model directly from a model of trade based on monopolistic competition developed by Paul Krugman (1980). In this model, identical countries trade differentiated goods because consumers have a preference for variety. In this case, firm location is endogenously determined and countries are specialized in the production of different sets of goods. Deardorff (1998) shows that a gravity model can originate from a traditional factor-proportions explanation of trade. Eaton and Kortum (2002) use a Ricardian type of model to derive a gravity-type equation, and Helpman et al. (2008) and Chaney (2008) obtain it from a theoretical model of international trade in differentiated goods with firm heterogeneity. It should be noted that none of these derivations, however, generates the gravity model as its most general form. It could only be approximated by a number of restrictive and unrealistic assumptions.

The most common uses of the gravity model for international trade analysis includes the estimation of trade creation and trade diversion effects from regional integration; the examination of bilateral trade patterns in search of evidence on non-institutional regional trading blocs; and the estimation of trade potential (Porojan, 2000). In addition, recently gravity model is widely used as a method for ex-post economic evaluation of an FTA. The main benefit

of the gravity model in evaluating an FTA is that it can control for the effects of as many other trade determinants besides the FTA as necessary, and can, therefore, isolate the effects of the FTA on trade.

The general gravity model of trade explains a flow of trade between countries as proportional to their 'mass' (measured by GDP or GNP) and inversely proportional to their distance. The basic gravity model can be expressed by the following equation:

$$T_{ij} = A\frac{(Y_i\, Y_j)^{\beta}}{{D_{ij}}^{\gamma}}$$

Where, T_{ij} is bilateral trade between country i and j (it also can be export from i to j); Y_i and Y_j are country sizes (GDP or per capita GDP) of country i and country j, respectively; D_{ij} is distance (between country i and j; and A is a constant. It is a core gravity model equation where bilateral trade is predicted to be a positive function of income and a negative function of distance.

When expressed in log-linear form, the basic gravity equation becomes:

$$\ln T_{ij} = \alpha + \beta_1 \ln Y_i + \beta_2 \ln Y_j - \gamma \ln D_{ij} + e_{ij}$$

Where βs and γ are parameters to be estimated. Given the hypothesized relationships on which the gravity model is based on, β_1 and β_2 are expected to be positive, while expected sign for γ is negative. e_{ij} is a white noise error term with constant variance and zero mean.

The log-linear specification allows, in addition, an easy interpretation of the estimated parameters: the parameters of an equation estimated in logarithms are elasticities. For example, the estimated parameter for the GDP in the gravity equation estimated in logarithms is the elasticity of trade to GDP, indicating the percentage variation in trade following a 1 percent increase in GDP[14].

In the gravity equation, geographical distance between the exporting and importing countries is actually proxy for trade costs that hinder bilateral trade. However, additional dummy variables such as dummies for islands, landlocked countries, and common borders are used for better approximation of trade costs. These variables describe the hypothesis that transport costs increase with distance and they are higher for landlocked countries and lower for neighboring countries. In addition, to capture information cost dummies for the common language, adjacency, and colonial history are added to the model. Firms in countries with a common

[14] Note, however, that while the coefficients for the natural logarithm of continuous variables (e.g. GDP, distance) are elasticities, the coefficients for the dummies (such as a dummy denoting whether two countries belong to the same trade agreement) are not. They need to be transformed as follows in order to be interpreted as elasticities: elasticity = exp(a)–1 where a is the estimated coefficient of the dummy variable.

border and language or other relevant cultural features are likely to know more about each other and to understand each other's business practices better than firms operating in the less-similar environment do. Thus, firms are more likely to search for suppliers and customers in countries with the familiar business environment.

In order to draw a proper inference from the gravity model estimations it important to control for relative trade costs i.e. to add so-called multilateral resistance terms (MRTs). The rationale for including MRTs in the gravity equation is that ceteris paribus, two countries surrounded by other large trading economies, will trade less among themselves than if they were surrounded by oceans or by deserts and mountains. Adding MRTs to the equation, however, creates estimation problems since they are not directly observable. There are, however, a number of ways to proxy the MTRS. One way is to use iterative methods to construct estimates of the price-raising effects of barriers to multilateral trade (Anderson and van Wincoop, 2003). However, since it requires non-linear least square, it is not frequently used. The simplest and widely used method is using country fixed effects for importers and exporters in the estimation (Rose and van Wincoop. 2001; Feenstra, 2004).

Many early empirical studies used standard gravity models to estimate trade effects and trade relationships for a particular time i.e. using cross section data (Aitken (1973), Bergstrand (1985)). Nowadays, panel data that has a number of advantages compare to cross section is more widely used. The advantages of panel data method include that it might provide additional insights, can capture the relevant relationships over time, can monitor unobservable individual effects between trading partners, gets unbiased estimates, and avoids the risk of choosing an unrepresentative year. Therefore, in order to investigate the impact of gravitational factors on the trade between Georgia and Turkey, panel gravity model framework is used.

Panel data models, however, can be estimated using three different approaches: they are pooled and estimated by OLS, or they are assumed to be motivated by fixed effects model (FEM) or the random effects model (REM). Each approach has its own advantages and disadvantages. The main problem of the pooled model is that it does not allow for heterogeneity of countries. It does not estimate country-specific effects and assumes that all countries are homogenous (Egger and Pfaffermayr (2000)). The fixed effect should be used whenever the only interest is analyzing the impact of variables that vary over time. The key insight is that if the unobserved variable does not change over time, then any changes in the dependent variable must be due to influences other than these fixed characteristics"(Stock and Watson, 2003, p.289-290). An advantage of random effects is that you can include time-invariant variables (i.e. common language, colonial links, contiguity, etc). The Hausman test can be used to test which panel data model is the most appropriate.

Data, Estimation, and Results

Estimation of a gravity model requires managing a large database from various data sources. Even though the main aim of the estimation is to analyze trade dynamics between Georgia and Turkey, to get correct estimates it is recommended to include as many countries as possible. The estimation is done using the panel data on twenty-two main trade partner countries over

the period from 2000 until 2015. The criteria for choosing the partner country is the following: country should account for at least 1% of total Georgian trade in 2015. Twenty-two countries satisfy this constraint: Armenia, Azerbaijan, Bulgaria, China, France, Germany, Iran, Ireland, Italy, Japan, Netherlands, Poland, Romania, Russia, Spain, Turkey, Turkmenistan, United Arab Emirates, United Kingdom, Ukraine, United States, Uzbekistan (see Table 11 in the Appendix). Together these countries cover almost 80% percent of total Georgian trade during 2015.

Trade data for the period 2000 -2015 comes from UN ComTrade database; data on GDP for the same period comes from the World Bank World Development Indicators; Information on distance, common language, border, and other bilateral covariates between pair countries is taken from CEPII's GeoDist database. In addition, time effects (a set of dummy variables, one for each year) are included in order to control for global economic effects (booms or slowdowns in the global economy). In addition, a set of time varying fixed effects both for the exporter and for the importer should be included to control for time-varying multilateral resistance terms.

Typically, the estimated gravity equation takes a log-linear form and thus, all variables except dummy variables are expressed in natural logarithms terms. The baseline specification of the gravity model to be estimated is the following:

$$\ln M_t^{ij} = \alpha + \beta_1 \ln GDP_t^i + \beta_2 \ln GDP_t^j - \gamma \ln D_{ij} + \rho_1 Dummy^{ij} + \rho_2 year_t + u_{ij}^t$$

Where, lnM_t^{ij} imports from i to j in natural logarithms; $lnGDP_t^i$ and $lnGDP_t^j$ are natural logarithms of GDPs in current US dollar for country i and j respectively; $\ln D_{ij}$ in distance between i and j in natural logarithms; $Dummy^{ij}$ is binary variables (common language, colonial links, contiguity, landlocked country); $year_t$ is a dummy variable for a specific year one per year; and u_{ij}^t is the error term. t runs from 2000 to 2015; i stands for importing country and j for exporting country.

Gravity models can be used to assess FTA in two ways: first, it can be used to estimate whether or not an FTA has had a significant effect on trade flows and second, gravity models can be used to detect whether the effect on trade was due to trade creation, trade diversion or both. Different binary variables are needed for each case. In the first case, the binary variable indicating whether a pair of trading countries belongs to the FTA is added to the baseline specification of the gravity model. This variable captures the difference between actual flows and the counterfactual, which is the amount of trade explained by variables in the baseline specification. If the variable is statistically significant and positive, it indicates that the FTA has had a positive effect on trade flows and the magnitude of the effect is related to the size of the coefficient. In the second case, in order to estimate trade creation and trade diversion effects separately, other two binary variables are added to the gravity model. Trade creation is captured by the binary variable for observations where both exporter and importer countries are members of the FTA. As for trade diversion, it is captured by binary variable for observations where one of the trading partners is not a member of the FTA.

Table 2 shows estimation output of the gravity models for the case one. Three different models are estimated: fixed effect, random effects, and OLS with country fixed effects. According to

the Hausman test, the fixed effects model is more appropriate. However, since we also want to estimate effects of bilateral time-invariant variables OLS with country fixed effect can be viewed as a good alternative. Moreover, it also controls for relative trade costs (MRTs).

Only the results for main variables are shown in the table, as these are the key explanatory variables in the gravity model. Estimation results are consistent with the findings in the literature. Elasticities with respect to importing-country GDPs are also typically close to one, suggesting unitary income elasticities of imports at the aggregate level. The coefficient estimate on the importing country's GDP is equal to 0.78, which means that a 1 percent increase in the GDP of the importing country raises its imports by 0.78 per cent. The elasticity of trade to distance is consistent with the findings in the literature, which is usually between -0.7 and -1.5 i.e. a 10 percent increase in distance between two countries reduces their trade, on average, by 7 to 15 per cent. In this case, a reduction will be between 10 to 14 per cent.

Table 2. Results from Gravity Model Estimation

Variables	Fixed Effects	Random Effects	OLS with Country Fixed Effects
lnGDP_exporter	0.457***	0.658***	0.347***
	(-0.101)	(-0.0588)	(-0.0786)
lnGDP_importer	0.775***	0.776***	0.750***
	(-0.0852)	(-0.0486)	(-0.065)
lnDistance	-	-1.080***	-1.407***
		(-0.0872)	(-0.0323)
Dummy_FTA	-0.109	-0.0988	1.056***
	(-0.541)	(-0.566)	(-0.142)
Constant	-19.58***	-16.94***	-2.227
	(-3.759)	(-2.14)	(-3.061)
Observations	6,546	6,546	6,546
R-squared	0.426	0.757	0.826
Year FE	YES	YES	YES
Exporter and Importer FE			YES

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

As for dummy variable denoting whether two countries belong to the free trade agreement, Dummy_FTA, it is positive and statistically significant only in the third model when country fixed effects are included. The coefficient for Dummy_FTA is not elasticity. It needs to be transformed as follows in order to be interpreted as elasticity: elasticity = exp(a)-1 where a is the estimated coefficient. Therefore, the elasticity of trade to FTA is 1.875, meaning that

because Georgia and Turkey are members of the FTA trade between these countries increased by almost 1.9 percent.

Table 3 presents estimation results of gravity model for the case two when dummies for trade creation and trade diversion are added to the baseline specification. Again, three different models have been estimated and results only for the main variables are shown. For the same reasons that are listed above, OLS with country fixed effects is a preferable model. The results for GDP and distance are almost the same as from the first case estimation. This confirms that the results are consistent both within the study and with the existing literature. The estimated coefficients on *Trade Creation* and *Trade Diversion* are both positive, which confirms the expectations. Moreover, coefficients are statistically significant. The result implies that FTA has had a positive impact and increased trade. The percentage increase in intraregional trade is 2.2 percent, while percentage increase in extra-regional trade is 0.2 percent. The increase in not substantial but the net effect of the FTA, however, is definitely an increase in trade that is also consistent with the result from the first case.

Table 3. Results from Gravity Model Estimation with trade Creation and Trade Diversion

Variables	Fixed Effects	Random Effects	OLS with Country Fixed Effects
lnGDP_exporter	0.455***	0.660***	0.347***
	(-0.101)	(-0.0587)	(-0.0785)
lnGDP_importer	0.755***	0.769***	0.737***
	(-0.0853)	(-0.048)	(-0.065)
lnDistance	-	-0.989***	-1.407***
		(-0.0881)	(-0.0323)
Trade Creation	-0.0763	-0.0677	1.152***
	(-0.538)	(-0.561)	(-0.157)
Trade Diversion	0.294**	0.305***	0.186*
	(-0.118)	(-0.113)	(-0.11)
Constant	-19.06***	-16.88***	-1.831
	(-3.71)	(-2.142)	(-3.071)
Observations	6546	6546	6546
R-squared	0.426	0.757	0.826
Year FE	YES	YES	YES
Exporter and Importer FE			YES

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

To conclude, the results suggest that the Georgian-Turkish FTA, in general, had a positive effect on the trade that was mainly due to the increase in the intra-regional trade. The magnitude of the impact, however, is not large implying that the FTA has not been very effective and more work need to be done to fully utilize its benefits.

V. Analyzing Export Opportunities

The analysis presented in the previous sections suggested that the Georgian-Turkish FTA overall had a positive effect on trade between the countries. However, there is still a room fully to utilize the benefits of the FTA. In order to identify policies needed to achieve this goal first, the analysis of the trade potential is needed.

In order to expand trade with Turkey, it is necessary to analyze the trade potential to identify sectors and products to focus trade promotion efforts on. The difference between what is currently traded and the trade level of each country independently of each other can be used as a starting point for evaluating 'trade potential' between the two countries. However, there may be particular reasons such as non-tariff barriers why the trade between the countries is not at its potential level.

Table 4[15] shows the actual trade between Georgia and Turkey, Turkey's imports from the world, and Georgia's exports to the world, for overall trade and for individual products at the 6-digit level. Moreover, it also presents indicative potential trade, which is defined as the lower value between Georgia's exports and Turkey's imports, minus the actual current trade between the two countries. However, this indicator does not consider the supply side constraints that a country may face in producing and exporting a specific product and only gives an overview of the complementarity of the two economies. In other words, high potential means that the partner country's imports are significant and the country's exports are also significant while at the same time the country's share in the imports of the partner country is small.

Information presented in Table 4, gives the possibility for various analysis to answer the question: Are there potential new areas that could be explored to expand bilateral trade? For instance, consider medicaments (HS- 300490) export from Georgia to Turkey that has second largest indicative trade potential. Over the 2011-2015 period, Turkish imports of Medicaments (HS- 300490) decreased by 3% per annum while exports from Georgia to Turkey increased by 79% per annum[16]. This means that Georgian exporters have increased their share in Turkey. However, Turkey only represents 1.5% of Georgia's exports. Although the bilateral trade for this product is not small, it is still possible to increase export from Georgia to Turkey. Turkey's imports of this product are important and Georgia's exports are also important. There is a potential complementarity between the two countries and therefore a potential to grow bilateral trade and an indicative potential trade is 110 million USD. This type of analysis can be done for other product as well. Detailed information for the top fifteen products with the highest indicative potential trade is presented in Table 4.

[15] Explanatory notes for actual and potential trade indicators displayed in Table 4 is presented in the Appendix, Table 12

[16] The high growth rate was mainly due to one-time increase in export in January 2015.

Table 4. Actual and Potential Trade between Georgia and Turkey

Product Code	Product Label	Georgia's Exports to Turkey				Turkey's Imports from World			Georgia's Exports to World			Indicative potential trade, USD thousand
		Value in 2015, USD thousand	Annual growth in value between 2011-2015, %, p.a.	Share in Georgia's exports, %	Equivalent ad valorem tariff applied by Turkey to Georgia	Value in 2015, USD thousand	Annual growth in value between 2011-2015, %, p.a.	Share in world imports, %	Value in 2015, USD thousand	Annual growth in value between 2011-2015, %, p.a.	Share in world exports, %	
TOTAL	All products	168,306	0	7.6		207,206,509	-3	1.3	2,203,644	2	0	2,035,338
'720230	Ferro-silico-manganese	4,295	-42	2.3	0	197,009	-10	7.9	183,428	-6	7.9	179,133
300490	Medicaments nes, in dosage	1,618	79	1.5	0	2,078,929	-3	0.7	111,557	33	0	109,939
'870323	Automobiles w reciprocatg piston engine displacg > 1500 cc to 3000 cc	133	-26	0.1	0	1,451,698	0	0.5	105,732	-17	0	105,599
'310230	Ammonium nitrate,whether or not in aqeuous sol in pack weighg > 10 kg	3,075	-2	2.8	0	98,419	-13	3.8	109,762	-5	4.6	95,344
'870324	Automobiles with reciprocating piston engine displacing > 3000 cc	107	-49	0.3	0	65,110	-6	0.1	40,462	-18	0	40,355
'870333	Automobiles with diesel engine displacing more than 2500 cc	312	-41	1.3	0	322,309	-12	0.9	24,851	-17	0.1	24,539
'220210	Waters incl mineral&aeratd, containg sugar o sweeteng matter o flavourd	35		0.2	0	50,664	17	0.6	18,110	7	0.2	18,075
'080222	Hazelnuts or filberts, fresh or dried, shelled or peeled	5,286	44	3.1	43.2	21,452	22	0.9	172,884	16	7.4	16,166
'401110	Pneumatic tire new of rubber f motor car incl station wagons& racg cars	53		0.4	0	412,570	3	1.1	12,738	180	0	12,685
'721420	Bars & rods,i/nas,hr,hd or he,cntg indent,ribs,etc,p rod dur rp/tar,nes	6,011	264	36.6	0	30,422	33	0.3	16,440	-21	0.2	10,429

Source: ITC's market analysis and research

Table 5. List of Markets Supplying T-shirts, singlets and other vests, of other textile materials, knitted to Turkey in 2015

Exporters	Imported value 2015 (USD thousand)	Trade balance 2015 (USD thousand)	Share in Turkey's imports (%)	Imported quantity 2015, Tons	Imported growth in value between 2011-2015 (%, p.a.)	Imported growth in quantity between 2011-2015 (%, p.a.)	Tariff (estimated) applied by Turkey (%)
World	70752	1395878	100	1851	17	17	
Georgia	20877	-5721	29.5	531	75	46	0
China	6028	-2444	8.5	144	0	0	12
Portugal	5345	-5327	7.6	132	10	13	0
Bangladesh	3821	-3821	5.4	135	13	19	9.6
Sri Lanka	3591	-3591	5.1	63	46	46	9.6
Cambodia	3585	-3585	5.1	101	48	58	9.6
Spain	3294	120425	4.7	106	-4	1	0
Belgium	3054	34820	4.3	53	235	249	0
Thailand	3034	-2585	4.3	62	-17	-8	9.6
Viet Nam	2600	-2592	3.7	62	15	15	9.6
Morocco	2334	-1825	3.3	53	13	12	0
Others	13192		18.1	409			

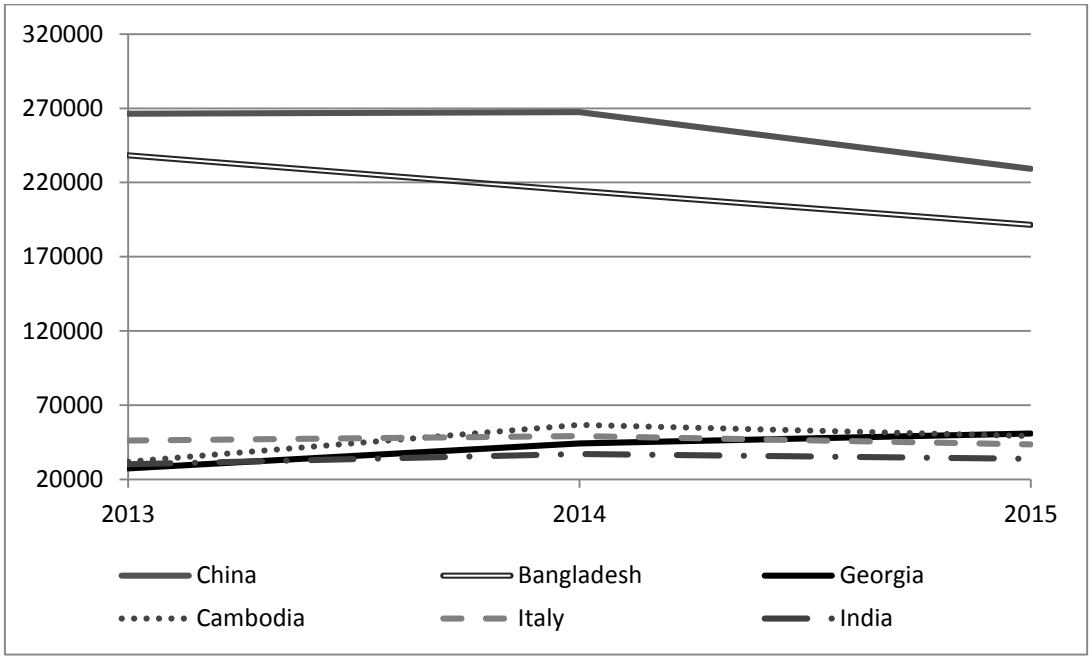
Source: ITC's market analysis and research

Another way to expand export to Turkey is to assess the performance of the products currently exported to Turkey and think about diversification strategies. In this case, the analysis should be performed at the 6-digit level. Since, Articles of apparel, accessories, knit or crochet (HS 61) is the fastest growing export sector with respect to Turkey and its sub-category - T-shirts, singlets, and other vests, of other textile materials, knitted (HS 610990) have one of the highest comparative advantages vis-a-vis Turkey, analysis will be done using this product (HS 610990).

Table 5 shows that Georgia was ranked as the first importer of T-shirts, singlets and other vests, of other textile materials, knitted to the Turkish market, with a market share of almost 30%. Data presented in the table also shows that Georgia is performing better than its competitors in the Turkish market since Turkish imports from Georgia have been increasing at a faster rate than from other countries (except Belgium). Imports from Georgia grew by 75% per annum between 2011 and 2015 while Turkish imports increased by only 17% on average in the same period. This means that Georgia has actually gained Turkish market between 2011-2015.

This positive trend suggests examining opportunities for product diversification in order to expand exports to Turkey. Moreover, exports from five biggest suppliers of articles of apparel, accessories, knit or crochet (HS 61) to Turkey have been decreasing in recent years except Georgia implying a big opportunity to expand export in this direction (see Figure 18).

Figure 18. List of Markets Supplying Articles of apparel, accessories, knit or crochet (HS 61) to Turkey



Source: ITC's market analysis and research

VI. Concluding Remarks

Signing the free trade agreement between Georgia and Turkey had a significant economic importance that facilitated the relations between two countries to move to the new level. The analysis showed that the Georgian-Turkish FTA, in general, had a positive effect on the trade that was mainly due to the increase in the intra-regional trade. However, the benefits that the FTA brought to Georgia have not been fully utilized yet.

Trade relations between Georgia and Turkey has been developed since the FTA was approved, however, some challenges remain. According to the indicators presented in the study, the main challenges that Georgia faces are the high concentration of export to Turkey, low intra-industry trade, low level of export sophistication, and high death rate of trade relationships. However, Georgia has export opportunities as well. By promoting the development of the sectors in which Georgia has comparative advantage vis-à-vis Turkey and by designing export diversification strategies, it is possible to increase benefits from the FTA even more and thus, expand export to Turkey.

It should be noted that countries, especially developing ones like Georgia, are able to gain additional benefits to the traditional trade benefits if the FTAs are designed properly. Thus, FTA assessment needs special consideration for developing countries, since much of the theoretical and empirical models for analyzing FTAs are designed for developed ones. Moreover, there are various economic impacts as well as noneconomic benefits that cannot be fully captured by economic statistics and models, which are critical for all countries, especially developing countries. Moreover, given the policy and institutional frameworks and structural issues, developing countries are not able to respond to changes, say, tariffs and non-tariff barriers in the same way that developed countries do. There are a number of reasons for that. First, developing countries cannot get fully involved in FTA negotiations or cannot engage in FTA negotiations in a strategic manner, because they tend to lack negotiating capabilities.

Second, due to lack of the human and institutional capacity to formulate effective FTA policies and adjustment policies, it is not easy for developing countries like Georgia to exploit all possible benefits and to adjust to the new economic environments brought by FTA. The lack of private sector capacity is also a serious problem. Due to less advanced technologies, private sectors are unable to exploit business opportunities brought on by FTA and, therefore, they are sometimes unsupportive of their governments' FTA initiatives. Furthermore, relevant stakeholders without structural reforms cannot enjoy the potential benefits of an FTA since developing countries' industries also experience structural problems. In this case, FTA can be used for the purpose of capacity development and structural reforms in the country. FTA should maximize trade creation effects and minimize trade diversion effects so that the overall efficiency gain will be positive. Trade creation happens when less efficient domestic production is displaced by more efficient partner-country production. For efficiency purposes and for the good of the economy in the long run, FTAs should be used to reform weak industries, not to protect them. Government action should be mobilized to facilitate the associated structural reform, rather than impede it.

Third, properly designed FTAs also contribute to greater stability in both macroeconomic conditions and political relations with neighbors. Since these aspects of the broader environment constrain developing countries' economic development and their ability to maximize the economic benefits of an FTA. Those wider benefits are as important as, or sometimes more important than, the narrowly defined trade interests and economic welfare brought about by FTAs. The findings of recent theoretical and empirical studies are consistent with the above observations. A recent study shows that trade interdependence leads to peace. Lee and Pyun (2009) find that the increase in bilateral trade interdependence and global trade openness brings not only economic gains but also political benefits. Thus, promotion of trade through FTAs is an effective method of establishing political stability in the region.

In summary, bottlenecks associated with capacity constraints in both public and private sectors can be alleviated if an FTA addresses those issues. FTAs can also bring additional benefits, such as macroeconomic stability to the country and political stability in the region.

VII. Appendix

Methodologies

The Grubel-Lloyd Index of Intra-Industry Trade

The Grubel-Lloyd index is a widely used measure of intra-industry trade. It can be calculated using the following formula:

$$GL_k^{ij} = 1 - \frac{\left|X_k^{ij} - M_k^{ij}\right|}{X_k^{ij} + M_k^{ij}}$$

Where, X_k^{ij} is i's exports to j of good k and the bars denote absolute values. By construction, the GL index is between zero and one.

Decomposition of Export Growth

The variation in export value between two years can be decomposed using the following equation:

$$\Delta X = \sum_{K_0 \cap K_1} \Delta X + \sum_{K_1/K_0} X_k - \sum_{K_0/K_1} X_k$$

Where, K_0 is the set of the products exported by the reporter country (Georgia) in the base year (2006 in the case of Georgia), and K_1 is the set of exported products in the terminal year (2015 in case of Georgia). Thus, the first term in the equation is export variation at the intensive margin; the second term in the new-product margin and the third term is the "product death margin".

The Herfindahl Index of Concentration

The Herfindahl index of concentration is calculated using the following formula:

$$H^i = \sum_K \left(s_k^i\right)^2$$

Where s_k^i is the share of sector k in the country i's exports or imports. Without normalization, the index is between 1/K and one, where K is the number of products exported or imported. The normalized Herfindahl index, however, ranges from zero to one when the normalization is done using the formula: $NH^i = \frac{H^i - 1/K}{1 - 1/K}$.

Trade Complementarity Index

The trade complementarity index (TCI), between countries k and j is defined as:

$$TCI^{ij} = 100\left[1 - \sum_k \left|m_k^i - x_k^j\right| /2\right]$$

Where x_k^j is the share of good k in global exports of country j (selected as Reporter, Georgia) and m_k^i is the share of good k in all imports of country i (selected as Partner, Turkey). Computation performed at HS 2 digit level and aggregated to Partner level. The index is zero when no goods are exported by one country or imported by the other and 100 when the export and import shares exactly match.

Revealed Comparative Advantage

The revealed comparative advantage index of country i for product k is often measured by the product's share of the country's exports in relation to its share in world trade:

$$RCI_k^i = \frac{X_k^i / X^i}{X_k / X}$$

Where, X_k^i is country i's exports of good k, $X^i = \sum_k X_k^i$ its total exports, $X_k = \sum_i X_k^i$ world exports of good k and $X = \sum_i \sum_k X_k^i$ total worlds export. A value of less than unity implies that the country has a revealed comparative disadvantage in the product. Similarly, if the index exceeds unity, the country is said to have a revealed comparative advantage in the product.

Tables

Table 6. Revealed Comparative Advantage Index for Georgia vis-a-vis Turkey (HS 2 digit)

Product Code	Reavealed Comparative Advantage - 2015	Reavealed Comparative Advantage - 2007	Compound Annual Growth Rate	Trade Value in US$1000 - End Year	Trade Value in US$1000 - Start Year	% of Total - End Year	% of Total - Start Year
3	19.8	12.5	14.4	4148.2	1412.4	2.5	0.8
6	1.6	3.3	-4.0	149.3	207.5	0.1	0.1
14	33.2	5.3	29.0	178.7	23.3	0.1	0.0
15	4.5	0.5	45.8	6120.4	300.1	3.6	0.2
22	0.8	2.9	-5.7	467.3	747.5	0.3	0.4
23	10.4	3.6	24.2	10559.3	1862.9	6.3	1.1
25	0.1	0.5	-20.5	19.8	123.9	0.0	0.1
26	7.5	0.1	97.5	5620.4	24.3	3.3	0.0
28	4.6	0.6	25.1	2829.1	471.8	1.7	0.3
30	0.4	0.0	43.3	1796.7	101.4	1.1	0.1
31	4.6	0.1	51.6	3075.0	110.2	1.8	0.1
33	0.3	0.1	21.6	420.5	87.9	0.3	0.1
34	0.1	0.1	6.2	106.2	65.8	0.1	0.0
38	0.0	0.1	-15.8	31.6	125.3	0.0	0.1
39	0.1	0.0	77.5	577.4	5.9	0.3	0.0
40	0.1	0.0	115.8	136.6	0.3	0.1	0.0
41	4.5	4.6	-12.2	1090.6	3079.3	0.7	1.8
42	0.2	0.0	142.6	51.6	0.0	0.0	0.0
44	2.0	7.7	-14.9	2210.2	8024.8	1.3	4.7
47	0.5	0.0	113.6	352.8	0.8	0.2	0.0
48	0.2	0.0	48.3	560.6	24.0	0.3	0.0
49	1.1	0.5	9.2	171.4	84.5	0.1	0.1
55	0.3	0.0	37.3	190.2	15.1	0.1	0.0
56	3.7	0.0	300.2	1447.7	0.0	0.9	0.0
60	0.3	0.1	6.3	23.9	14.7	0.0	0.0
61	85.1	0.9	45.9	50734.6	2471.9	30.1	1.4
62	11.8	8.1	4.0	11579.3	8439.8	6.9	4.9
63	1.9	1.6	2.2	312.2	263.0	0.2	0.2
64	0.4	0.5	-5.6	166.4	264.2	0.1	0.2
65	0.2	0.0	41.7	8.5	0.5	0.0	0.0
66	0.1	0.0	68.1	0.3	0.0	0.0	0.0
68	0.2	0.0	49.3	96.1	3.9	0.1	0.0
69	0.0	0.3	-31.0	4.4	86.2	0.0	0.1
70	3.4	8.7	-14.5	1792.1	6296.9	1.1	3.7
71	0.2	0.0	333.0	494.6	0.0	0.3	0.0
72	2.7	6.1	-11.5	33617.1	89261.8	20.0	52.0
73	0.2	0.0	19.5	341.9	82.3	0.2	0.1
74	0.0	5.0	-61.2	5.7	11101.8	0.0	6.5
76	1.2	9.6	-18.2	3460.4	17175.2	2.1	10.0
78	26.9	8.7	8.9	4838.9	2447.6	2.9	1.4
82	0.2	0.1	15.9	129.5	39.7	0.1	0.0
83	0.1	0.0	38.3	64.1	4.8	0.0	0.0
84	0.1	0.1	2.4	1711.1	1417.5	1.0	0.8
85	0.1	0.0	14.8	835.7	277.9	0.5	0.2
87	0.2	0.4	-9.3	3286.1	7147.6	2.0	4.2
90	0.6	0.0	64.3	2494.3	47.0	1.5	0.0
94	0.7	0.1	20.7	488.7	108.6	0.3	0.1
95	0.6	0.0	121.4	135.8	0.2	0.1	0.0
96	0.1	0.0	140.4	26.8	0.0	0.0	0.0

Source: WITS-UNSD Comtrade, World Development Indicators

Table 7. List of HS chapters

Code	Description
01-05	Animal & Animal Products
06-15	Vegetable Products
16-24	Foodstuffs
25-27	Mineral Products
28-38	Chemicals & Allied Industries
39-40	Plastics / Rubbers
41-43	Raw Hides, Skins, Leather, & Furs
44-49	Wood & Wood Products
50-63	Textiles
64-67	Footwear / Headgear
68-71	Stone / Glass
72-83	Metals
84-85	Machinery / Electrical
86-89	Transportation
90-97	Miscellaneous
98-99	Service

Table 8. List of Products originated from Turkey for which import tariffs has not been abolished

N	Code	Product Description
1	0105	Live poultry
2	0204	Meat of sheep or goats, fresh, chilled or frozen
3	0401	Milk and cream, not concentrated nor containing added sugar or other sweetening matter
4	0407	Birds' eggs, in shell, fresh, preserved or cooked
5	0409	Natural honey
6	0702	Tomatoes fresh or chilled
7	0711	Vegetables provisionally preserved
8	0802	Other nuts, fresh or dried, whether or not shelled or peeled
9	0805 (excl. 0805.50)	Citrus fruit, fresh or dried
10	806 (excl. 0806.20)	Grapes, fresh
11	0808.10	Apples
12	08.12	Fruit and nuts, provisionally preserved
13	09.02	Tea
14	24.01	Unmanufacture tobacco, tobacco refuse
15	24.02	Cigars, cigarettes, cheroots, cigarillos

Table 9. List of products originated from Georgia for which import tariffs has not been abolished

N	Code	Product Description
1	Chapter 01	Live Animals
2	Chapter 02	Meat and edible meat offal
3	Chapter 03	Fish and crustuceans
4	Chapter 04	Dairy, eggs, honey, and ED. Products
5	0802	Other nuts, fresh or dried, whether or not shelled or peeled
6	0805.50	Lemons and limes
7	0806	Grapes, fresh or dried
8	0810.50	Kiwifruit
9	0812.90.10	Apricots
10	0813	Fruit, dried, other than that of headings 0801 to 0806; mixtures of nuts or dried fruits of this chapter
11	0902	Tea, whether or not flavoured
12	0904.20	Fruits of the genus Capsicum or the genus Pimenta, dried crushed or groung
13	Chapter 10	Cereals
14	1101	Wheat or meslin flour
15	1102	Cereal flours other than that of wheat or meslin
16	1108	Starches; inulin
17	1206	Sunflower seeds, whether or not broken
18	1212.91	Suger beet
19	Chapter 15 (excl. 1504, 1522)	Animal or vegateble fats and oils and their cleavage products; prepared edible fats; animla or vegetable waxes
20	Chapter 16	Preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertabrates
21	1701	Cane or beet sugar and chemically pure sucrose, is solid form
22	1702	Other sugars, including chemically pure lactose, maltose, glucose, and fructose, is solid form; sugar syrops not containing added flavouring or colouring matter; artificial honey, whether or not mixed with natural honey; caramel
23	2002	Tomatoes prepared or preserved otherwise than by vinegar or acetic acid
24	2007.99.98	Hazelnut paste
25	2008.19	Other fruit and nuts
26	2101	Extracts, essences and concentrates, of coffee, tea or mate and preparations with a basis of these products or with a basis of coffee, tea or mate; roasted chicory and other roasted coffee substitutes, and extracts, essences and concentrates thereof
27	2105	Ice cream and other edible ice, whether or not containing cocoa
28	2106	Food preparatios not elsewhere specified or included
29	Chapter 23	Residues and waste from the food industries; prepared animal fooder
30	2401	Unmanufacture tobacco; tobacco refuse

Table 10. List of products originated from Georgia for which import quotas has been introduced

N	Code	Product Description	Tariff Quota Volume (tons)	Reduction from the MFN customs duty (%)
1	0302.69.55, 0303.79.65	Anchovies, fresh, chilled or frozen	8000	60
2	0405	Butter and other fats and oils derived from milk; dairy spreads	500	50
3	ex.0407	Quail eggs	50	100
4	0409	Natural honey	200	100
5	0603	Cut flowers	15	100
6	Chapter 07 (excl. 0702.00)	Edible vegetables and certain roots and tubers	1000	100
7	0702	Tomatoes	600	100
8	0805 (excl. 0805.50)	Citrus fruit, fresh or dried	4000	100
9	0807	Melons, including watermelons and papaws, fresh	3500	60
10	0808.10	Apples, fresh	2000	100
11	0808.20	Pears and quinces, fresh	250	100
12	0809	Apricots, cherries, peaches, plums and sloes, fresh	600	50
13	Chapter 11 (excl. 1101, 1102, 1108)	Products of milling industry; malt; starches; inulin; wheat gluten	2000	50
14	1202	Groundnuts, not roasted or otherwise cooked, whether or not shelled or broken	250	100
15	1704	Sugar confectionary (including white chocolate), not containing cocoa	500	100
16	1806	Chocolate and other food preparations containing cocoa	500	100
17	Chapter 19 (excl. 1903)	Preperations of cereal, flour, starch or milk; pastrycooks' products	500	100
18	2001	Vegetables, fruit, nuts and other edible parts of plants, prepared or preserved by vinegar or acetid acid	1200	100
19	2005	Other vegetables prepated or preserved otherwise than by vinegar or acetic acid, not forzen, other than products of heading 2006	1000	100
20	2007 (excl. 2007.99.98)	Jams, fruit jellies, marmalades, fruit or nut puree and fruit or nut pastes, obtained by cooking, whether or not containing added sugar or other sweetening matter	1000	100
21	2009	Fruit juices and vegetable juices, unfermented and not containing added spirot, whether or not containing added sugar or other sweetening matter	4000	65
22	2102	Baker's yeast	250	50
23	2204	Wine of fresh grapes, including fortified wines; grape must other than that of heading 2009	1000000 1t	100
24	ex.2301.20	Flours of Anchovies	3000	100

Table 11. Total Georgian Trade by Main Trade Partners, 2015

N	Country	Total Trade Volume, USD	Share in Total Trade
1	Turkey	1495468268	15.1%
2	China	711955276	7.2%
3	Russia	673604860	6.8%
4	Ukraine	515002838	5.2%
5	Germany	502893129	5.1%
6	Azerbaijan	465664665	4.7%
7	Ireland	458390463	4.6%
8	Bulgaria	381778970	3.8%
9	USA	354241627	3.6%
10	Armenia	300601145	3.0%
11	Italy	271862398	2.7%
12	United Arab Emirates	240953814	2.4%
13	Romania	233904576	2.4%
14	Japan	209314144	2.1%
15	Nethelands	169971725	1.7%
16	France	134088240	1.4%
17	Spain	132525627	1.3%
18	Iran	127711385	1.3%
19	Turkmenistan	127263605	1.3%
20	Poland	117269459	1.2%
21	United Kingdom	111383879	1.1%
22	Uzbekistan	104137118	1.0%

Table 12. Explanatory Notes for Actual and Potential Trade Indicators in Table 4

Product code :	Product code for the product traded between the two countries under review.
Product label :	Abbreviated product description corresponding to the HS 6-digit code.
Selected country's exports to the partner country:	
Value in US$ thousand :	Trade between the two selected countries, as reported either by the selected country to the COMTRADE or ITC database or, if the selected country has not reported any trade data, as reported by the partner country to the COMTRADE or ITC database.
Annual growth in value over the last five years, %:	Annual growth rate of exports from the selected country to the selected partner country over the latest 5-year period. This trend is calculated using the least squares method.
Share in country's exports, %:	Share of the partner country in the exports of the selected country for the selected product.
Equivalent ad valorem tariff applied by the importing country to the exporting country	Average tariff faced by the exporter in the partner country's market. This data is extracted from ITC's Market Access Map - www.macmap.org
Partner country's imports from the world:	
Value in US$ thousand	Value of total imports of the selected partner country for the product under review, as reported to the COMTRADE or ITC database or as calculated using mirror statistics.
Annual growth in value over the last five years, %:	Annual growth of the selected partner country's total imports for the product under review over the latest 5-year period. The trend is calculated using the least squares method.
Share in world imports, %	Share of the selected partner country's imports in world imports for the product under review.
Selected country exports to the world:	
Value in US$ thousand	Value exported by the country to the world for the product group under review, as reported to the COMTRADE or ITC database or as calculated using mirror statistics.
Annual growth in value over the last five years, %	Annual growth of the selected country's total exports for the product under review over the latest 5-year period. The trend is calculated using the least squares method.
Share in world exports, %	Share of the selected country's exports in world exports for the product under review.
Indicative potential trade, in US$ thousand	Potential trade between the two selected countries calculated using the trade data for the latest available year. Trade potential is defined as the lower value between the country's exports and the partner country's imports, minus the actual current trade between the two countries.

Source: ITC's market analysis and research- Trade Map User Guide

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