

China, EU and Georgia Nexus: Unpacking the Economic and Political Relations

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FOREWORD

30 years have passed since the formation of Georgia as an independent state. As of 2020, it can be said that the Georgian state has formed the main framework of the political and economic model of the country's development. On the one hand, it is Georgia's foreign policy priority to accede to NATO and the EU, to develop a strategic partnership with the United States, and to build a democratic state based on the rule of law and European values. One of the main steps on this path of development was the signing of the Association Agreement with the European Union in June 2014. On the other hand, the Georgian state has chosen open, market-based (apolitical) economic model as the basis for its economic development, and in this process, has chosen free trade principles as the cornerstone of its trade policy. The two most important agreements that make the Georgian state's chosen economic development trajectory clear and likely to have a significant impact on its potential success are the Deep and Comprehensive Free Trade Agreement (DCFTA) with the European Union signed in June 2014 and the Free Trade Agreement signed in May 2017 (FTA) with China.

At the same time, the world order has changed significantly in the last 30 years. Particularly noteworthy is China's growing role in the global economic and political processes. It can be argued that China's increased role in international affairs has led to strategic military, political and economic competition with major Western countries and institutions. China presents itself as a leading developing country; offers its own model of development and aims at establishing a multipolar international order. Although China and the EU declaredly aspire to build a strategic partnership, China's engagement with the EU member states as well as with the Western Balkans and Eastern Partnership countries raises questions about China's competition with the EU over the economic power and values.

The interaction between Georgia's geographic location, its selected political-economic model and the growing role of China globally, poses questions that are worthy of a more in-depth exploration. The first aim of this Compendium is to assess the impact that the strengthening of relations, especially economic, with China could have on Georgia's European political course. At the same time, given that five years have passed since the signing of the DCFTA with the EU, and two years - since the signing of FTA with China, we consider it relevant to conduct an ex-post analysis about the impact of the free trade agreements with the EU and China on the Georgian economy. The aim of the ex-post analysis is to determine the primary outcomes of these agreements on the macro and sectoral levels under the conditions of the existing paradigm of Georgia's free trade-based economic development. The research gains particular relevance in light of the fact that Georgia continues striving towards further free trade agreements with other countries (e.g. with Israel and India) and it is important to be aware of the opportunities and potential threats that these agreements may imply for the country in the future.

The first text of our Compendium (“China-Georgia Relations in the Footsteps of the Western Way of Georgia: Growing But Limited Partnerships?”) discusses China-Georgia relations. The study assesses how China and Georgia see bilateral relations and what possible factors hinder a deep partnership between the countries, in view of Georgia’s aim to establish close relations with the EU and Western institutions in general. The goal of the second paper (“Economic Analysis of Free Trade Agreements with the EU and China”) is to examine how beneficial is the DCFTA on the one hand, and the FTA with China, on the other, for Georgia in terms of economic prosperity. Additionally, the paper attempts to draw preliminary conclusions about the type of economic integration facilitated by this trade modus operandi, while keeping in mind the short period of time elapsed since the enforcement of the agreements.

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China-Georgia Relations amid Georgia's Western Path: An Emerging but Limited Partnership?

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EXECUTIVE SUMMARY

China's increased role in international affairs has led to strategic military, political and economic competition with major Western countries and institutions. China presents itself as a leading developing country; offers its own model of development, and aims at bringing about a multipolar international order.

Rising economic power of China has resulted into increased economic and political activities in different parts of the world, including in Europe. Although China and the EU declaredly aspire to build strategic partnership, the differences are present, particularly in economic and normative realms. The EU member states value democracy, human rights and rule of law, while China is an authoritarian state led by the Communist Party of China.

China's engagement with the EU member states as well as with the countries of Western Balkans and Eastern Partnership brings to light the question of China-EU competition over economy and values. Georgia, the Eastern Partnership state which enjoys close partnership with the EU, has lately seen increase of China's role in its economy. This begs the question of the nature of Georgia-China partnership and its future prospects as well as of a possible spillover of economic dependency into political dependency.

China and Georgia have thus far limited their relations to the economic realm, lacking any meaningful political engagement. The absence of deeper political ties lies in China's prioritization of its strategic relations with Russia over the most pressing foreign policy and security challenges of Georgia. Georgia's historical identification with democratic Europe and the West as well as its declared ambition to democratize also limit political interaction with authoritarian China. Geopolitical factors also weigh in, limiting China's ability to build more comprehensive and strategic partnership with Georgia.

China largely sees Georgia in instrumental terms, that is, Georgia as a means to an end for China's geopolitical ambition to connect with Europe and rest of the world. Georgia's own priorities also lie in limiting its relations with China to only an economic realm. Further role of Georgia in China's geopolitical posturing depends on the success of China's Belt and Road Initiative (BRI). Yet, no matter how BRI unfolds, China's own policies and approaches vis-à-vis Georgia stand in the way of greater China-Georgia partnership.

INTRODUCTION

Over the past three decades, international politics has been transformed. Great power politics, believed to have receded as the USSR disintegrated, have reappeared with China and Russia questioning the Western-led international order. Much discussed great power competition between the United States and China has now become the fact of international life.

Taken together, China is the most powerful political, economic and military player on the global stage behind the United States, and is believed to be challenging the U.S. hegemony. Although participating in existing global economic institutions, China has laid foundation to new institutions and strategic projects such as the Belt and Road Initiative (BRI) and the Asian Investment Infrastructure Bank (AIIB)¹. China, the second-largest economic power, has negotiated or is negotiating free trade agreements with many states, including the United States, the European Union (EU) as well as states in Asia. China's global military spending is second only to the United States², while its influence in the affairs of technology is increasing.³

Rise of China has led to an inevitable competition with the U.S. and the EU. China's cooperation with Central and Eastern European states as well as China's attempts to increase ties with Eastern Partnership (EaP) states particularly stand out.

This policy brief attempts to understand China-Georgia relations. Georgia-China economic relations have received particular attention⁴, yet there is a relative lack of research⁵ on how both Georgia and China see bilateral relations, and what possible factors could be limiting the depth of the partnership. Discussing this is important as Georgia is building closer ties with the EU in particular, and the Western institutions

¹ Frazier, M. (2018). China on the Global State: Introduction. *The Sage Handbook of Contemporary China*. p.444

² Stockholm International Peace Research Institute. (2020). SIPRI Factsheet April 2020. Available at: https://www.sipri.org/sites/default/files/2020-04/fs_2020_04_milex_0_0.pdf,

³ Schneider-Petsinger, M et al. (2019). US-China Strategic Competition: The Quest for Global Technological Leadership. Available at: <https://www.chathamhouse.org/publication/us-china-strategic-competition-quest-global-technological-leadership>

⁴ See: Khishtovani, G, et al. (2019). The Belt and Road Initiative in the South Caucasus Region. *Emerging Markets Forum*, pp.33-51, available at: https://pmcresearch.org/policypapers_file/09675c8b70d3843da.pdf; Zabakhidze, M, et al. (2019). Connectivity, Trade and Financial Integration of the South Caucasus Via the Belt and Road Initiative (BRI). *Caucasus Analytical Digest*, No.111, pp.3-9, available at: https://pmcresearch.org/policypapers_file/6a7b5dd7a8a1a994b.pdf; Zabakhidze, M and Beradze, R. (2017). Georgia as a Transit Hub and its Increasing Potential in the Implementation of the Belt and Road Initiative. PMC Research Center. Available at: http://www.research.pmcg-i.com/policypapers_file/9b745c8b710912f64.pdf; Charaia, V and Papava, V. (2017). Belt and Road Initiative: Implications for Georgia and China-Georgia Economic Relations. *China International Studies*, 67, pp.122

⁵ Exception is Larsen's discussion of China-Georgia relations, available at: <http://gip.ge/georgia-china-relations-geopolitics-belt-road/>

and states in general, while China's suggested model of development stands opposite to Western liberal order.

The policy brief is structured as follows. First it briefly overviews the EU-China relations given Georgia's growing political and economic ties with the EU. Second, it outlines persistent factors in Georgian foreign policy, and its national building efforts. Third, it reviews the state of Georgia-China relations. It concludes with the discussion of the hindering factors in deeper China-Georgia relations.

CHINA AND THE EU: PARTNERS OR COMPETITORS?

China and the EU offer different models of development and standards of behavior. At the center of the EU's global actorness lies its commitment to democracy, human rights and peace. The EU's Global Strategy for Foreign and Security Policy stipulates that the EU is "committed to a global order based on international law, which ensures human rights, sustainable development and lasting access to the global commons".⁶

On the other hand, China, led by the Communist Party of China, postures itself as a developing country with unique model of development. Building socialism with Chinese characteristics within the country, on the international level China aspires to 'build the community of shared future for humanity'.⁷ China advocates for multipolar international order based on cooperation rather than on conflict, and declaredly opposes "power politics, hegemony, and interference in other countries' domestic affairs".⁸ Economically, China values free trade, rejects protectionism and promotes economic globalization.⁹ In 2012 China articulated two centenary goals of developing "a moderately prosperous society in all respects" by 2021, and building "a modern socialist country that is prosperous, strong, democratic, culturally advanced and harmonious" by 2049.¹⁰

China and the EU frame bilateral relations as a comprehensive strategic partnership. The EU has adopted various strategic documents outlining its approach towards China, while China has also developed the EU Policy Papers, the latest in 2018, outlining the nature of its relations with the European Union.

The framework which currently guides bilateral relations is the EU-China 2020 Strategic Agenda for Cooperation, which builds on four major areas: peace and security, prosperity, sustainable development, and people-to-people exchanges.¹¹

Despite declared cooperation goals, practical challenges do arise due to regime types. The EU is built on the commitment to democracy, free market economy and human rights, while China's authoritarian regime stands opposite to the political community that the EU represents. Three issues are thus important for understanding the EU-China relations: 1) international affairs; 2) economy; and 3) democracy.

In terms of international politics, the EU and China share commitment to multilateralism and the UN-centered international order. China is supportive of the European integration process, while the EU expresses support for China's sovereignty and territorial integrity.

⁶ European Commission. (2016). A Global Strategy for the European Union's Foreign and Security Policy. Available at: https://eeas.europa.eu/sites/eeas/files/eugs_review_web_0.pdf

⁷ Xinhuanet.com. (2018). Backgrounder: Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. Available at: http://www.xinhuanet.com/english/2018-03/17/c_137046261.htm

⁸ State Council Information Office of the Republic of China. (2019). China and the World in the New Era. White paper. Available at: http://english.scio.gov.cn/node_8014488.html

⁹ Ibid

¹⁰ New China. (2017). CPC Q&A: What are China's two centennial goals and why do they matter?. Available at: http://www.xinhuanet.com/english/2017-10/17/c_136686770.htm

¹¹ European Commission. (2013). EU-China 2020 Strategic Agenda for Cooperation. Available at: http://eeas.europa.eu/archives/docs/china/docs/eu-china_2020_strategic_agenda_en.pdf

Both actors are committed to holding regular dialogue on the issues of international importance and on the participation in global governance.

Economic relations form the foundation of the EU-China relations. Both actors are economically interdependent: China is the EU's second-largest trading partner after the U.S., while the EU is China's biggest trading partner; both parties are currently holding negotiations over EU-China Comprehensive Agreement on Investment to further advance their economic relations.¹² Yet, the EU outlines conditions that China has to meet: in particular trading fairly, respecting intellectual property rights and meeting obligations as a member of the World Trade Organization (WTO).¹³

Democracy and human rights are the issues where differences are most pronounced. The EU's Strategy on China (2016) and EU-China - A Strategic Outlook (2019) stress the importance of democracy and human rights in EU-China's bilateral relations. The Strategic Outlook stipulates that "the ability of EU and China to engage effectively on human rights will be an important measure of the quality of the bilateral relationship".¹⁴ In its 2014 China's Policy Paper on the EU, China too acknowledges that "the two sides have disagreements and frictions on issues of value such as human rights as well as economic and trade issues".¹⁵ In 2018 version, China calls on the EU to "view China's human rights conditions in an objective and fair manner and refrain from interfering in China's internal affairs and judicial sovereignty in the name of human rights".¹⁶

Over the past years, China has been seen as a competitor to the EU. Competition is most visible in the economic and value segments. To the EU, China is "an economic competitor in the pursuit of technological leadership, and a systemic rival promoting alternative models of governance".¹⁷ China-CEEC ('17+1') cooperation is one such area for competition as the platform includes both EU member and candidate states.¹⁸ To this end, the EU's strategic documents on China (2016; 2019) consistently stress the importance of Chinese involvement in reinforcing 'rules-based governance and regional security', and in maintaining 'consistency with EU law, rules and policies'.

How would China-EU relations unfold has implications not only for the EU member states, but also for the EU neighborhood countries both in the Western Balkans and the EaP. Growing Chinese influence there could undermine the EU's ability to promote its model of governance, which rests on the values of democracy, human rights, peace and development.

¹² European Commission. (2020). China. Available at: <https://ec.europa.eu/trade/policy/countries-and-regions/countries/china/>

¹³ Ibid

¹⁴ European Commission. (2019). EU-China – A Strategic Outlook. Available at: <https://ec.europa.eu/commission/sites/beta-political/files/communication-eu-china-a-strategic-outlook.pdf>

¹⁵ MFA of the People's Republic of China. (2014). China's Policy Paper on the EU. Available at: https://www.fmprc.gov.cn/mfa_eng/wjdt_665385/wjzcs/t1143406.shtml

¹⁶ MFA of the People's Republic of China. (2018). China's Policy Paper on the EU. Available at: https://www.fmprc.gov.cn/mfa_eng/wjdt_665385/2649_665393/t1622890.shtml

¹⁷ European Commission. (2019). EU-China – A Strategic Outlook. Available at: <https://ec.europa.eu/commission/sites/beta-political/files/communication-eu-china-a-strategic-outlook.pdf>

¹⁸ Yet, notably, excluding geographically close EaP countries such as Moldova, Belarus or Ukraine.

GEORGIA'S FOREIGN POLICY: DEMOCRATIC WEST AS A DESTINATION

Over the decades, Georgia's foreign policy has gained a vividly pro-Western feature. Georgia's turn to the West is influenced by factors both endogenous and exogenous. Domestically, Georgia and its political elites have long identified with European civilization, and ideational factors have shaped Georgia's foreign policy behavior.¹⁹ Material factors such as Russia's attenuation of Georgia's sovereignty and territorial integrity have also contributed to the formation of Georgia's pro-Western foreign policy.

International systemic factors also weighed in. As USSR collapsed, the reach of the US and Western institutions around the world has increased. While some former Soviet republics joined Western structures, others, particularly Georgia and Ukraine, also aspired to do so, and clashed with more resurgent Russia.

The late 1990s and early 2000s saw the beginning of Georgia's increased turn towards democratization and towards European and Euro-Atlantic integration. This path was acknowledged as a policy priority both on paper and in practice. On paper, Georgia's National Security Concepts (2005;2011) - as well as later strategic documents - stressed Georgia's unwavering belonging to the Western world; set the membership to NATO and the EU as a major foreign policy objective, and declared democratization as Georgia's ultimate national value and interest.²⁰

In practice, Georgia has become closely aligned with Western institutions. In 2004, Georgia joined the European Neighborhood Policy; In 2008 Georgia was promised NATO membership and NATO-Georgia Commission was set up; in 2009, Georgia became part of the EU's Eastern Partnership initiative, while suspending membership to the Russian-led Commonwealth of Independent States (CIS) in response to Russian-Georgian war; In 2011, Georgia achieved visa facilitation agreement with the EU, and in 2014 signed Association Agreement, which includes deep and comprehensive free trade agreement; In 2014 Georgia received NATO's Substantial Package, and since 2017 the country enjoys visa free travel to the Schengen Area.

Such degree of cooperation with Western institutions demonstrates that Georgia is making progress on the democratization front. Following Rose Revolution in 2003, Georgia started building functioning state institutions and successfully tackled corruption²¹, yet challenges related to human rights and checks and balances persisted. 2012 registered

¹⁹ Kakachia, K and Minesashvili, S. (2015). Identity politics: Exploring Georgian foreign policy behavior. *Journal of Eurasian Studies*, 6, p.175

²⁰ National Security Concept of Georgia, 2005;2011.

²¹ The World Bank. (2012). Fighting corruption in public services: chronicling Georgia's reforms (English). Available at: <http://documents.worldbank.org/curated/en/518301468256183463/Fighting-corruption-in-public-services-chronicling-Georgias-reforms>

first peaceful transfer of power by ballot box in Georgia, bringing democratic development to the next level. Georgia moved to a parliamentary system of governance, increasing the degree of parliamentary oversight over the actions of the executive. Challenges to the system of checks and balances still remain, mostly enabled by one party supermajority since 2016. As the 2020 Parliamentary elections approached, dissatisfaction with the current mixed electoral system has increased, which led the ruling party agree on a more proportional representation already in 2020, while the country will move to full proportional elections in 2024.

Georgia's democratization and Euro-Atlantic integration efforts go hand in hand - the one is having an impact over the other. Georgia's aspiration to join Western political, economic and military institutions could not be fulfilled without democratization, while pace of democratization is enhanced by Georgia's engagement with Western structures. Georgia's democratization is not only a domestic policy undertaking, but is strongly linked with Georgia's foreign policy aspirations and choices. This is particularly demonstrated by 2019-2022 Foreign Policy Strategy of Georgia, which sets the 'consolidation of institutional democracy and promotion of country's positive image abroad' as one of the six foreign policy objectives.²²

Georgia's path to consolidating its democracy shows that democracy-building is Georgia's national undertaking. Foreign policy choices, such as integrating into Western institutions, are obedient to wider democratization efforts. Parliamentary resolution on Georgia's foreign policy adopted in 2013 notes that "European and Euro-Atlantic foreign policy direction of Georgia's foreign policy serves, first and foremost, the sustainable democratic development and security of the country, and is not directed against any state."²³

However, as international system is entering multipolarity²⁴ and the 'rise of the rest' is becoming more pronounced, the extent to which Georgia's foreign policy priorities are likely to be modified remains to be seen. Are Georgia's foreign policy loyalties going to change depending on the changes in the international system? How will Georgia be able to balance its commitment to democratization while interacting with, and increasing dependence on, authoritarian regimes? These are questions that require further engagement. Meanwhile, understanding current degree of Georgia's engagement with China - an emerging global power - will give some preliminary view of what could lie ahead.

²² MFA Georgia. Foreign Policy Strategy 2019-2022. p. 7

²³ Parliament of Georgia. Resolution of the Parliament of Georgia on the Major Direction of Georgia's Foreign Policy, Available at: <http://parliament.ge/uploads/other/19/19442.pdf>, author's own translation

²⁴ Buzan, B. (2011). The Inaugural Kenneth N. Waltz Annual Lecture A World Order Without Superpowers: Decentred Globalism. *International Relations*, 25(1). pp.3-25

UNDERSTANDING GEORGIA-CHINA RELATIONS: AN EMERGING BUT LIMITED PARTNERSHIP?

Relations between China and Georgia began in 1992, when two countries established diplomatic relations. Since then, relations have been cordial, but without much interaction. Looking at Georgia's official documents, National Security Concept of Georgia (2005) does not mention China at all. The 2011 version of the document only mentions China once together with other countries, and stresses the importance of 'deepening political dialogue and economic relations' with them.²⁵

Georgia-China political relations have, however, been growing. Traditional interstate relations - such as state visits, talk of the importance of strengthening economic and cultural relations, celebration of anniversaries of diplomatic relations, and discursive support to each other's territorial integrity and sovereignty- have been unfolding.²⁶ In 2006, Presidents of Georgia and China signed the Joint Statement on Further Developing Friendship and Cooperation between the People's Republic of China and Georgia, in which they mainly expressed support to each other on the issues of common concern- that is, concerns related to territorial integrity²⁷, and committed to deepening political, economic and cultural cooperation.²⁸ High level engagements continued in 2015 and 2019.²⁹

However, China's position on the Russian-Georgian war in 2008 has been an important factor in the future development of China-Georgia relations. China has taken a formally balanced position (not recognizing independence of these territories and calling on parties to resolve the conflict through dialogue³⁰) in relation to Russia's aggression against Georgia, albeit the one which tacitly approved of Russia's behavior.³¹

²⁵ National security Concept of Georgia, 2005;2011.

²⁶ MFA of the People's Republic of China. (2007). Assistant Foreign Minister Li Hui Attends Reception Hosted by Georgian Embassy in China to Mark Independence Day of Georgia and 15th Anniversary of China-Georgia Diplomatic Ties. Available At: https://www.fmprc.gov.cn/mfa_eng/wjwb_663304/zjzg_663340/dozys_664276/gjlb_664280/3170_664312/3172_664316/t323963.shtml

²⁷ MFA of the People's Republic of China. (2006). Hu Jintao and Georgian President Sign Bilateral Joint Statement. Available at: https://www.fmprc.gov.cn/mfa_eng/wjdt_665385/2649_665393/t246689.shtml

²⁸ MFA of the People's Republic of China. (2006). Hu Jintao Holds Talks with Georgian President Saakashvili. Available at: https://www.fmprc.gov.cn/mfa_eng/wjwb_663304/zjzg_663340/dozys_664276/gjlb_664280/3170_664312/3172_664316/t246338.shtml

²⁹ MFA of the People's Republic of China. Georgia. Available at: https://www.fmprc.gov.cn/mfa_eng/wjwb_663304/zjzg_663340/dozys_664276/gjlb_664280/3170_664312/3172_664316/

³⁰ Feng, Z. (2009). The Russia-Georgia military conflict: for China, does it mean scrambling between a "strategic partnership" and being a "responsible stakeholder"? . Korean Journal of Defense Analysis. 20(4), pp. 305-318

³¹ Ibid

China has prioritized strategic partnership with Russia over the violation of Georgia's territorial integrity, and sees Russia as an ally in countering the U.S. hegemony. China has been abstaining from voting on Georgia's resolution on the Status of internally displaced persons and refugees from Abkhazia, Georgia, and the Tskhinvali region/South Ossetia.³² In 2014 China also abstained from UN General Assembly Resolution expressing support for Ukraine's territorial integrity³³

China's increasingly close partnership with Russia makes it rather difficult to imagine China-Georgia relations being updated to the level of strategic partnership. Neither Georgia nor China see their partnership as having a strategic character. Georgia does not figure much in China's immediate foreign policy priorities³⁴, but both countries stress the importance of boosting bilateral economic relations.³⁵

It is precisely the economic realm that forms the foundation of Georgia-China relations. China's role in Georgia's economy has been increasing since 2010³⁶, in particular since signing Free Trade Agreement between the countries in 2017, bringing China among Georgia's largest trade partners.³⁷ Over the years, China brought \$600 Million Foreign Direct Investment in Georgia³⁸, yet significantly lagging behind other countries in 2019.³⁹

China sees Georgia as part of its Belt and Road Initiative (BRI) aimed at increasing connectivity with Europe and rest of the world. Georgia directly participates in the Silk Road Economic Belt (SREB) component of the BRI serving as one of the six corridors connecting China to Europe.⁴⁰ Over the decades, China has increased its economic presence in Georgia with nearly 30 Chinese enterprises investing in different sectors ranging from energy and finance to infrastructure.⁴¹

³² Refworld.org. (2010). UN General Assembly. Georgia. Available at: <https://www.refworld.org/publisher/UN-GA,,GEO,,0.html>

³³ UN. (2014). Territorial integrity of Ukraine : resolution / adopted by the General Assembly. Available at: <https://digitallibrary.un.org/record/767565>

³⁴ MFA of the People's Republic of China. (2019). Available at: https://www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/t1679454.shtml

³⁵ See more here: <http://ge.china-embassy.org/eng/xwtd/t1469181.htm>; see also Georgia's 2019-2022 Foreign Policy Strategy

³⁶ Larsen, J. (2017). Georgia-China Relations: the Geopolitics of the Belt And Road. Georgian Institute of Politics. Available at: <http://gip.ge/georgia-china-relations-geopolitics-belt-road/>

³⁷ Civil.ge. (2020). Georgia's Foreign Trade in January 2020. Available at: <https://civil.ge/archives/339427>

³⁸ Embassy of the People's Republic of China in Georgia. (2017). Remarks by Amb. Ji Yanchi at the China-Georgia Friendship Day celebrating the 25th Anniversary of Diplomatic Relations between China and Georgia. Available at: <http://ge.china-embassy.org/eng/xwtd/t1469181.htm>

³⁹ National Statistics Office of Georgia. Foreign Direct Investments by country. Available at: <https://www.geostat.ge/en/modules/categories/191/foreign-direct-investments>

⁴⁰ Khishtovani, G, et al. (2019). The Belt and Road Initiative in the South Caucasus Region. Emerging Markets Forum, pp.33-51, available at: https://pmcresearch.org/policypapers_file/09675c8b70d3843da.pdf; Larsen, J. (2017). Georgia-China Relations: the Geopolitics of the Belt And Road. Georgian Institute of Politics. Available at: <http://gip.ge/georgia-china-relations-geopolitics-belt-road/>

⁴¹ Embassy of the People's Republic of China in Georgia. (2017). Remarks by Amb. Ji Yanchi at the China-Georgia Friendship Day celebrating the 25th Anniversary of Diplomatic Relations between China and Georgia. Available at: <http://ge.china-embassy.org/eng/xwtd/t1469181.htm>

Georgia and China have also increased people-to-people and cultural contacts. These include: cultural exchanges; educational scholarships for Georgian students; Chinese language courses in universities and secondary schools.⁴² Number of Chinese tourists in Georgia has been also increasing over the past years.⁴³

Brief overview of Georgia-China relations allows the following observations: 1) in political and military realms, relations between China and Georgia are minimal and limited to routine diplomatic engagements; 2) economy is a key area in which both countries cooperate and are committed to further advancing their cooperation; 3) Georgia and China enjoy increased cultural and people to people contacts, and 4) China prioritizes its relations with Russia over its relations with Georgia - demonstrated by China's abstention on/silence over Georgia's key foreign policy challenges. These point to emerging but naturally limited partnership between the two countries.

⁴² Ibid

⁴³ Ibid

OBSTACLES TO GROWING GEORGIA-CHINA PARTNERSHIP: A DISCUSSION

Amid increasing economic cooperation between Georgia and China, is it realistic to assume that Georgia's economic dependence on China will result into political dependence, hence undermining Georgia's commitments to democracy and to the West? The answer to this question indeed lies in the future, but the following factors limit Georgia's substantial political dependence on China: 1) China is not a dependable foreign policy partner for Georgia; 2) Georgia's historic and national narrative is of belonging to a democratic Europe/West, and 3) Georgia's cooperation with, and dependence on, the West is too strong to undo.

CHINA - AN UNTRUSTED FOREIGN POLICY PARTNER

The major issue that serves as a structural obstacle to closer Georgia-China relations is China's strategic partnership with the Russian Federation. China and Russia share close security, political, economic and diplomatic cooperation both in bilateral and multi-lateral settings. Countering the US-led Western liberal order forms the basis of their respective core and national interests.⁴⁴ To that end, China and Russia are leading the BRICS – a platform shared by emerging powers who aim at regional preponderance, at a global role, and are contesting the US hegemony.⁴⁵

Both China and Russia see each other as major strategic partners. China's foreign policy vision singles out Russia as a valuable partner, and notes that "the China-Russia relationship is at its best in history, with political mutual trust and strategic coordination reaching a new high."⁴⁶ Russia, on the other hand, aims to "continue developing comprehensive, equal, and trust-based partnership and strategic cooperation with the People's Republic of China, and proactively step up cooperation in all areas."⁴⁷

Close multi-setting and multi-area partnership between China and Russia, as well as their opposition to the Western-led international order, render China's vision of the world antithetical to Georgia's foreign policy priorities to accede to NATO and the EU; to develop strategic partnership with the United States, and to build European, rule-of-law oriented democratic state. This explains why China has not occupied a major

⁴⁴ Zhou, J. (2019). China's Core Interests and Dilemma in Foreign Policy Practice. *Pacific Focus*, 34(1), 31–54.; See also: https://www.mid.ru/en/foreign_policy/official_documents/-/asset_publisher/CptIckB6BZ29/content/id/2542248

⁴⁵ MacFarlane, N. (2006). The "R" in BRICs: is Russia an emerging power?. *International Affairs*, 82(1), 41–57.

⁴⁶ MFA of the People's Republic of China. (2019). China's Foreign Policy in a Fast Changing World: Mission and Responsibility; Speech by Vice Foreign Minister Le Yucheng At the Lunch Meeting of the Eighth World Peace Forum. Available at: https://www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/t1679454.shtml

⁴⁷ MFA of Russia. (2016). Foreign Policy Concept of the Russian Federation. Available at: https://www.mid.ru/en/foreign_policy/official_documents/-/asset_publisher/CptIckB6BZ29/content/id/2542248

space in Georgia's strategic documents. In Georgia's latest Foreign Policy Strategy, only economic relations with China are particularly highlighted, while range and ambition of partnership with the US, the EU, NATO, United Kingdom, France and Germany is comprehensive.⁴⁸

The major limit to the partnership between Georgia and China is therefore China's (non) position on the most pressing issue of Georgia's foreign policy: achieving de-occupation of its territories and ensuring Russia's reversal of the recognition of Georgian regions of Abkhazia and South Ossetia/Tkshinvali. Although China stresses the importance of the norms of sovereignty and territorial integrity and emphasizes on the equality between all nations small, big, rich or poor, its non-position amounts to the acceptance of Russia's actions.

Unlike Western partners who continuously express support to Georgia's foreign policy priorities, China has been abstaining on Georgia's UN resolution on the refugees; failing to denounce legitimacy of the elections held in Georgia's occupied territories; failing to denounce Russia-originated cyberattack against Georgia, and failing to condemn Russia's borderization policies in Georgia.

Issues of high politics, security and sovereignty, form foundation of Georgia's foreign policy. China's non-position and pro-Russian bias on major issues of Georgian statehood increases Georgia's perception of China as an untrusted foreign policy partner.

DEMOCRATIZATION AND BELONGING TO EUROPE INTEGRAL TO GEORGIAN IDENTITY

Since restoring its independence from the USSR, Georgia has been making an incremental journey to consolidating its democracy. Long before that, during Georgia's three years of independence in 1918-1921, democratization and Europeanization was a major marker of Georgia's identity. Stephen Jones notes that 'Georgia was strongly European', and that Europeanism was a central principle of the Democratic Republic of Georgia.⁴⁹

As the Soviet occupation ended in 1991, democratization and Europeanization have again emerged as markers of Georgia's identity. Major strategic documents adopted by Georgian state – such as National Security Concept (2005,2011); Parliamentary Resolution on Major Directions of Georgia's Foreign Policy (2013); Parliamentary Resolution on Georgia's Foreign Policy (2015); Foreign Policy Strategy of Georgia (2015-2018; 2019-2022) – highlight Georgia's commitment to form a democratic state. These documents also demonstrate Georgia's aspiration to join the European and Euro-Atlantic institutions, and project Georgia as "an integral part of the European political,

⁴⁸ Ministry of Foreign Affairs of Georgia. (n.d.). Foreign Policy Strategy of Georgia 2019-2022. Available at: <https://mfa.gov.ge/MainNav/ForeignPolicy/ForeignPolicyStrategy.aspx>

⁴⁹ Jones, F. S. (2014). *The Making of Modern Georgia, 1918-2012: The First Georgian republic and its successors*. Routledge: London and New York. pp. 48-49

economic and cultural area, whose fundamental national values are rooted in European values and traditions [and which] aspires to achieve full integration into Europe's political, economic and security systems".⁵⁰

Most importantly, Georgia's European and democratic aspirations are supported by the members of the public. According to various public opinion polls, Georgians consistently support membership to NATO and the EU, and see democracy as the best form of the government.⁵¹ Through its institutional ties with Council of Europe, the European Court of Human Rights, the European Union (through Association Agreement) and with the United States (through U.S.-Georgia Charter on Strategic Partnership), Georgia is legally bound and politically committed to undertake steps that protect democracy, rule of law and human rights – values that are being increasingly questioned by authoritarian states such as China and Russia.

These commitments and aspirations- integral to a modern Georgian state- stand in opposition to the model of development suggested by China. Modern day China is an authoritarian state failing to respect the basic principles of democratic competition and human rights protection. Coupled with China's geopolitical posturing to question the Western-led liberal international order and to implicitly side with Russia's policies vis-à-vis Georgia, other things being equal, it seems rather unlikely that Georgia and China will be able to build deeper political partnership of a strategic nature.

TIES WITH THE WEST HARD TO UNDO

Geopolitical factors also limit deeper Georgia-China engagement. Georgia's economic, political and military ties with Western states and institutions have strengthened over the past decades, leaving Georgia much aligned with the West. Georgia has become an important consideration in the military, political and economic policies of major Western states and institutions, especially in light of rising Chinese and Russian challenges to Western liberal order.

Militarily, ties between Georgia and the West are increasing. Since 1999, Georgia has been contributing to international security missions in Kosovo, Iraq, Afghanistan, Central African Republic and Mali.⁵² Since 2002, the United States and Georgia have been conducting joint military trainings aimed at enhancing Georgia's security and

⁵⁰ National Security Concept of Georgia, quoted in Kakachia, K and Minesashvili, S. (2015). Identity politics: Exploring Georgian foreign policy behavior. *Journal of Eurasian Studies*, 6, p.175

⁵¹ NDI. (2019). NDI Poll: EU and NATO Support at a Five-Year High in Georgia; Urgent Action on the Environment and Improvements in Public Education Needed. Available at: <https://www.ndi.org/publications/ndi-poll-eu-and-nato-support-five-year-high-georgia-urgent-action-environment-and>; CRRC Georgia. (2019). Attitudes Towards Democracy. *Caucasus Barometer*. Available at: <https://caucasusbarometer.org/en/cb2019ge/AT-TDEM-withoutdkra/>

⁵² Ministry of Defense of Georgia. (n.d). საერთაშორისო მისიები ('International Missions'). Available at: <https://mod.gov.ge/mission>

sovereignty – these included Georgia Train and Equip Program (GTEP)⁵³; Georgian Sustainment and Stability Operations Program (GSSOP)⁵⁴, and, lately, Georgia Defense Readiness Program (GDPR).⁵⁵ As part of the US-Georgia Charter on Strategic Partnership, Georgia and the United States have committed to deepening defense and security partnership.⁵⁶ Additionally, Georgia hosts NATO-Georgia Joint Training and Evaluation Center, and holds joint military exercises with the US and NATO armies.⁵⁷ NATO also sees Georgia as part of its Black Sea security strategy.⁵⁸

Politically, cooperation with the West is even stronger. In 2014, Georgia signed Association Agreement with the EU leading to a closer political and economic partnership as well as cultural ties. The EU-Georgia relations run on the basis of conditionality, meaning Georgia has to commit itself to democratic values to be able to achieve closer integration with the EU. The general cooperation with Western states and structures is also contingent on democratic conditionality- the higher Georgia's commitment to democracy the deeper its cooperation with the West.

Economically, provisionally from 2014 and fully from 2016, Georgia enjoys Deep and Comprehensive Free Trade Agreement with the EU, and the idea of a possible free trade agreement with the United States is being entertained. That said, the success of Georgia's economy is highly dependent on the global economy as Georgia relies on "official development assistance, remittances, foreign direct investment, tourism and commodity imports."⁵⁹ Georgia is highly dependent on food imports and "it is vulnerable to global economic instability as well as to budget retrenchment in Western capitals."⁶⁰ Despite DCFTA being in place, economic difficulties continue, and only "modest growth of exports to the EU" has so far been observed.⁶¹ Partly to that end, Georgia is diversifying its economic relations, including to China and to other global economies.

⁵³ U.S. Department of State. (2003). Georgia Train and Equip Program (GTEP). Available at: <https://2001-2009.state.gov/r/pa/ei/pix/b/eur/18737.htm>

⁵⁴ U.S. Department of Defense. (2005). Training for Iraq Boosts Security in Caucasus. Available at: <https://archive.defense.gov/news/newsarticle.aspx?id=16284>

⁵⁵ U.S. Embassy Georgia. (2018). U.S.-Georgia Defense Readiness Program Training Element Launch (May 18). Available at: <https://ge.usembassy.gov/u-s-georgia-defense-readiness-program-training-element-launch-may-18/>

⁵⁶ U.S. Embassy Georgia. (2016). Memorandum on Deepening the Defense and Security Partnership Between the United States of America and Georgia (July 6). Available at: <https://ge.usembassy.gov/memorandum-deepening-defense-security-partnership-united-states-america-georgia-july-6/>

⁵⁷ NATO. (2019). Georgian Defence Forces Lead NATO-Georgia Exercise 2019. Available at: <http://www.act.nato.int/articles/georgian-defence-forces-lead-nato-georgia-exercise-2019>

⁵⁸ NATO. (2019). NATO Foreign Ministers agree to enhance security in the Black Sea region. Available at: https://www.nato.int/cps/en/natohq/news_165253.htm?selectedLocale=en

⁵⁹ Macfarlane, N. (2012). Georgia: National Security Concept versus National Security. Chatham House. Available at: <https://www.chathamhouse.org/publications/papers/view/185193>

⁶⁰ Ibid

⁶¹ Emerson, M and Kovziridze, T. (2018). Deepening EU-Georgia Relations: what, why and how?. CEPS, Rowman & Littlefield International Ltd, London

Free trade with China, it is argued, “could see Georgia become a location for Chinese direct investment aimed at exporting to the EU market.”⁶²

The military, political and economic relations with, and dependence on, the West shows why Georgia is likely to remain in the priorities of Western policy planning vis-à-vis the Eurasian region. This is further enhanced by China’s and Russia’s opposition to Western-led international order. The construction of Anaklia Deep Sea Port serves as an example of growing U.S. interests in Georgia. Although the port construction is pending largely due to factors related to Georgia’s domestic politics, the intervention of the US Secretary of State in favor of constructing the port is indicative of the U.S. interest to counter Chinese and Russian influences. Commenting on the importance of the port, Secretary Pompeo noted that port construction “will enhance Georgia’s relationship with free economies and prevent Georgia from falling prey to Russian or Chinese economic influence. Those pretended friends do not have Georgia’s best interests at heart.”⁶³

These said, although necessary, building economic partnership with China requires caution. One of the central issues that both the EU and the US consistently raise in relation to China is of fair trade.⁶⁴ Some also argue that China is using debt-trap diplomacy, leaving countries vulnerable to China’s influence.⁶⁵ Research of BRI’s participating countries shows that some 23 countries could be “significantly or highly vulnerable to debt distress.”⁶⁶ Montenegro, the EU candidate country, is one such case falling prey to the loan from China Exim Bank to proceed with major infrastructure project connecting Montenegro with Serbia, and thus integrating the country into the Balkan transport system.⁶⁷

Additionally, economic and trade relations with the EU are subject to democratic conditionality, and transparent rules of compliance with EU standards apply. Georgia’s economic and political relations with the EU cover wide range of areas, including gender equality, labor rights and environmental protection, and are subject to democratic scrutiny by domestic civil society actors in Georgia. Besides economic benefits, it helps Georgia strengthen good governance and democracy. This is contrary to China’s ‘no political

⁶² Ibid, p.5

⁶³ U.S. Embassy in Georgia. (2019). Statements to the Press With Georgian Prime Minister Mamuka Bakhtadze As Part of the U.S.–Georgia Strategic Partnership Commission (June 11). Available at: <https://ge.usembassy.gov/statements-to-the-press-with-georgian-prime-minister-mamuka-bakhtadze-as-part-of-the-u-s-georgia-strategic-partnership-commission-june-11/>

⁶⁴ European Commission. (2020). China. Available at: <https://ec.europa.eu/trade/policy/countries-and-regions/countries/china/>

⁶⁵ Chellaney, B. (2018). China’s Debt Trap Diplomacy. Project Syndicate. Available at: <https://www.project-syndicate.org/commentary/china-one-belt-one-road-loans-debt-by-brahma-chellaney-2017-01?barrier=access-paylog>

⁶⁶ Hurley, J, Morris, S and Portelance, G. (2018). “Examining the Debt Implications of the Belt and Road Initiative from a Policy Perspective.” CGD Policy Paper. Washington, DC: Center for Global Development. available at: <https://www.cgdev.org/publication/examining-debt-implications-belt-and-roadinitiative-policy-perspective>

⁶⁷ Ibid, p.17-18

string attached⁶⁸ foreign trade policy, which appears economically tempting but could lead to democratic deterioration and encourage bad governance. In developing closer economic relations with China, it is also important “to take into account the possible geopolitical vectors that China might pursue in the future”, including “geopolitical and geo-economic aspects of Russia-China, US-China and EU-China relations.”⁶⁹

On the other hand, China’s own priorities vis-à-vis Georgia also remain an important consideration in assessing the future direction of Georgia-China relations. Currently, China’s foreign policy towards Georgia focuses on building closer economic ties, and, naturally, sees Georgia as a means to an end (increased connectivity to Europe) rather than an end itself. China’s geopolitical presence in the region is also limited by the deeper engagement of the West and Russia in the South Caucasus and wider region. The extent to which China’s interest to the region will grow remains to be seen, but it is clear that other major powers will attempt to balance China’s future engagement.

⁶⁸ Li, X. (2017). Does Conditionality Still Work? China’s Development Assistance and Democracy in Africa. *Chinese Political Science Review*, 2, pp.201-220

⁶⁹ Charaia, V and Papava, V. (2017). Belt and Road Initiative: Implications for Georgia and China-Georgia Economic Relations. *China International Studies*, 67, pp.138

CONCLUSION

As structure of international politics is changing and strategic competition between the 'rest' and the West is emerging, China is becoming the most capable actor to challenge Western states and institutions, and to compete with them for influence in different parts of the world.

This policy brief has attempted to discuss China's increasing economic role in Georgia amid Georgia's embedded partnership with the West and challenges posed by Russia. The policy brief has overviewed patterns in China-EU cooperation as well as the history of Georgia-China relations to allow moving to the discussion of what factors constrain deeper partnership between Georgia and China.

Over the past years, Georgia-China relations have gained a new dynamism, but relations still remain confined mostly to the economic sphere. China's rising role in Georgia's economy notwithstanding, the following factors limit the expansion of the partnership to other spheres or the emergence of Georgia's political dependence on China: 1) China's silence over Georgia's most pressing national security issues, and its close strategic partnership with Russia; 2) Georgia's European identity and its democratization efforts that stand opposite to China's model of development, and 3) Georgia's already existing close relations with Western military, political and economic institutions.

China's own restraint to expand partnership with Georgia is also an important consideration. China largely sees Georgia as a means to an end - that is, seeing Georgia as one of the routes to connect with Europe. Any geopoliticization of China's engagement with Georgia is likely to lead to clashes with other major powers, including the United States and Russia. However, it is largely the policies and visions pursued by China that naturally limit the expansion of Georgia-China political relations.

Economic Analysis of Free Trade Agreements with EU and China

Author: Mikheil Mgebrishvili

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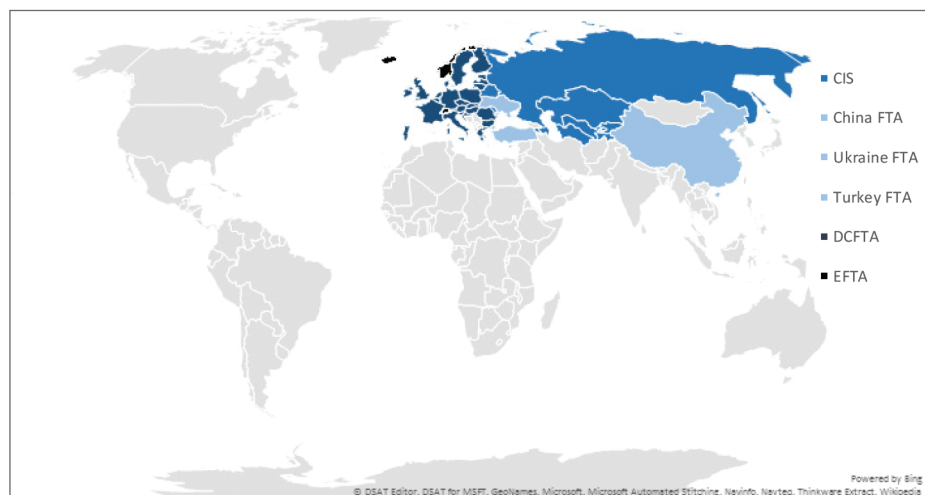
ABBREVIATIONS

AA	– Association Agreement
ASEAN	– Association of Southeast Asian Nations
BEC	– Broader Economic Category
CACM	– Central American Common Market
CEEC	– Central and Eastern Europe Countries
CGE	– Computable General Equilibrium
CIS	– Commonwealth of Independent States
CPI	– Consumer Price Index
DCFTA	– Deep and Comprehensive Free Trade Agreement
EC	– European Community
EEC	– European Economic Community
EFTA	– European Free Trade Association
EU	– European Union
EUR	– Euro
FDI	– Foreign Direct Investment
FTA	– Free Trade Agreement
GDP	– Gross Domestic Product
GSP	– Generalized System of Preferences
HS	– Harmonized System
IMF	– International Monetary Fund
ISET	– International School of Economics at TSU
LAFTA	– Latin American Free Trade Association
LAIA	– Latin American Integration Association
MED	– Mediterranean
NACE	– Classification of economic activities
NAFTA	– North America Free Trade Agreement
PE	– Partial Equilibrium
PMCG	– Policy and Management Consulting Group
PPML	– Pseudo Poisson Maximum Likelihood
PWC	– PricewaterhouseCoopers
RTA	– Regional Trade Agreement
SITC	– Standard International Trade Classification
SPS	– Sanitary and Phytosanitary
UN	– United Nation
UNCTAD	– United Nations Conference on Trade and Development
WITS	– World Integrated Trade System

1. INTRODUCTION

Since gaining independence, Georgia has been involved in international trade and the country based its trading policy mainly on the principles of liberal free trade. In recent decade, Georgia has been actively engaged with negotiations and has signed free trade agreements. Prior to 2014, Georgia had FTAs with CIS and neighboring countries in total of 11 countries (Ukraine, Belarus, Moldova, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Turkmenistan, Turkey, Azerbaijan and Armenia). On June 2014, Georgia signed the Association Agreement (AA) and the Deep and Comprehensive Free Trade Area (DCFTA) with EU. Georgia ratified the AA on the 18th of July, 2014. The AA/DCFTA have been provisionally applied since the 1st September, 2014¹. On May 13, 2017 FTA with China was signed, after one-year (on June 27, 2018) FTA with Hong Kong had been implemented. After these FTAs, Georgia has gained access to markets which as of 2019 had total 40,2% share in global GDP. Since this time, Georgia continued working on free trade agreements. In 2018, feasibility study of FTA with Israel was launched. In January 2019, the joint feasibility study of FTA between Georgia and India was finished.

Figure 1. Free trade agreements of Georgia



Source: Ministry of Economy and Sustainable Development of Georgia

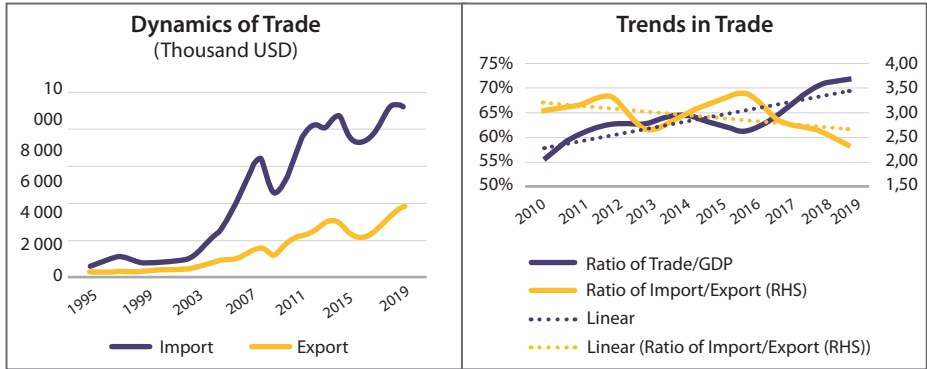
During the last decade, Georgia's foreign trade showed impressive dynamics. Georgia's total trade volume in goods increased by 228% in last 10 years mostly at the expense of imports (ratio of import/export on average was 3.11), but it should be mentioned that

¹ After this free trade agreement between Georgia and European Free Trade Association (EFTA) was signed on 27 June 2016. The agreement entered into force for Iceland and Norway from September 1st, with Switzerland and Liechtenstein from May 1, 2018.

the gap between export and import is narrowing (figure 2). Meanwhile trade openness² has shown robust growth and stood at 116,5% of GDP in 2019.

This raises a question that, perhaps such high dynamics of trade is related to foreign trade policy based on Georgia's active involvement in free trade agreements. To respond to this issue, it is important to find out causality between FTAs and trade volume. This is the main aim of our research.

Figure 2. Dynamics of merchandise trade of Georgia



Source: GeoStat

1.1 Importance of Free Trade Agreements for Developing Economies

FTA can affect countries' welfare in two ways. First, based on Viner's theory, trade creation happens when inefficient domestic production or import is replaced by efficient imports from FTA partner. And second, trade diversion happens when non-FTA partner's efficient imports are replaced by inefficient imports from FTA partner (Viner & Olsington, 2014).

Common knowledge in international economics dictates that when FTA is signed between two countries, resources are allocated optimally and countries specialize in productions of goods in which they have comparative advantage. Latter can be observed from FTA between EU and Mexico (Serrano, Martínez, Rodríguez, & Salazar, 2015), where after FTA was signed, exports from Mexico to EU increased in numerous sectors where it had comparative advantage and vice versa. The paper also presents the fact that FDIs in Mexico's export-oriented manufacturing increased after FTA was signed, this rise was not only caused by increased FDIs from EU, but from the USA too. This means that FTA played a significant role in accelerating both trade volume and FDI.

² Ratio of imports plus exports (including trade in services) to GDP.

Literature on the effects of trade creation argues that FTA does not always results in considerable trade creation (Stevens, Irfan, Massa, & Kennan, 2015), while analyzing literature around FTAs between developed and developing countries, it was found that in case of Australia-Thailand FTA, trade creation was modest, similarly FTA between Chile and EU had a small economic effect. On the other hand, based on their research, clear trade creation effects occurred for:

- EU-Turkey custom union
- EU – MED (Mediterranean)
- Turkey – MED

The modest trade creation effect can be explained by difference in trading partners' development levels. Huijskens (2007) analyzed FTA between 31 developed and developing countries and found that trade dynamics after FTA depends on the development level of exporting and importing countries. When both countries are relatively at the same level of development, trade increases after FTA is signed. Trade also shows a rise for the exporter country if it is more developed than the country which works on imports. The latter was also the case for Mexico-EU FTA.

Even though trade diversion effect is not frequent, in their work Caporale, Rault, Sova & Sova, (2009) while analyzing FTA between EU-15 and the Central and Eastern European countries (CEEC) (Bulgaria, Hungary, Poland and Romania) suggested that the member countries were keen to trade more between them than to others. There are several additional ways in which especially developing country can benefit from FTA with developed countries.

- **Economies of scale.** Based on “new trade theory”, proposed by Krugman, international trade patterns are determined by the scale of economies and network effects (Pettinger, 2017). This means that for small developing economies, access to large markets are crucial to gain from the economies of scale. FTAs give small developing countries opportunity to access large markets.
- **“Lock-In” of Structural Reform and Policy Adjustment.** To improve productivity and competitiveness of a country, structural reforms are needed. Structural reforms by their nature cannot give instant direct tangible economic effects. But during the reforms, there will be “losers” on sectoral level. This latter has drawbacks on the process of structural reforms. Signing FTAs can overcome this problem. First of all, FTAs, especially when signed between developed and developing countries, give some obligations to make changes (e.g. Sanitary and Phytosanitary (SPS) measures, intellectual property protection laws and etc.). Also, if country is already pursuing structural reforms, it can further benefit from technical assistance from developed country (Plummer, Cheong, & Hamanaka, 2010).
- **Transfer of technology and FDI.** When the launch of FTA opens access to developed country's market, it also attracts FDIs in developing country. First, it can come from FTA partner country due to low costs of production (Labor, taxation etc.). Also, FDI can come from other countries too, because developed countries' markets are

stable, predictable and large enough to absorb additional exports, domestic economy can play a role of an intermediary. FDI also bring transfer of technologies and know-how (UNCTAD, 2010) (Lee, Lee, & Kim, 2011)).

- **Human and Institutional Capacity Building.** This effect comes with technical assistance during FTA negotiations, which includes training and transfer of know-how in the form of seminars and workshops, study visits, scholarships. Also, providing assistance in implementation of obligations and creating competition policy. (Plummer, Cheong, & Hamanaka, 2010)

1.2 Review of Ex-ante Analysis of DCFTA and FTA with China for Georgia

All above mentioned benefits may be directly applicable to DCFTA, and FTA with China. First of all, EU and China, together as of 2019, make up nearly 2 billion population³ and a market of 32 trillion US Dollars⁴ meaning that Georgia's export-oriented producers can benefit from the economies of scale.

Newly signed DCFTA, and FTA with China give Georgia a great opportunity to attract FDI and with-it new technologies and know-how. It is worth noting that only 7 countries⁵ have FTAs with EU and China at the same time. This gives Georgia an opportunity to attract investments not only from the third countries, but also from China to export in EU and/or China and from EU to export in China and/or EU.

As for the "Lock-In" of Structural Reform and Policy Adjustment – the "DC" part of DCFTA is responsible for the structural reforms (ISET Policy Institute, 2016, p. 6) meaning that Georgia can benefit from it institutionally. During the implementation of DCFTA, human and institutional capacity building is inevitable.

All the above-mentioned expected outcomes and opportunities were analyzed for DCFTA and FTA with China at different stages of FTA negotiations or implementations. In 2013, before signing DCFTA, ex-ante study was conducted by Ecorys (2013). The paper analyzed potential results of DCFTA on Georgia and EU on macro and sectoral levels. Analysis was done using CGE (computable general equilibrium) model, which gives results for medium-to-long run. On macro level, total national income of Georgia was expected to increase by 297 mln EUR, while for EU effect, it was not significant. Moreover, increase in total exports (+12%) and imports (+7,5%) was expected together with reduction of CPI inflation (-0,6%) and increase in average real wages (+3,6%) over the long-run. This was indicating that after DCFTA, on a macro level, the gap between exports and imports would start closing down, and purchasing power of

³ Data for population of EU and China was retrieved from Worldometer.

⁴ Data for GDPs of China and EU was retrieved from IMF world economic outlook.

⁵ Switzerland, Singapore, South Korea, Chile, Peru, Iceland and Georgia.

workers would increase. As for the third countries, impacts are not prominent, only Russia and Azerbaijan were expected to have small benefits. On a sectoral level, based on the research, there would be losers and winners. The most increase in output was expected to be in chemicals, rubber and plastic. Around 8-24% increase was expected in production of livestock and meat products, other processed foods, electronics and computers, and other manufacturing. Also, more than 5% increase was expected in sectors of other machinery and equipment and primary metals.

Another research was done by Economic Policy Research Center (2014) where the main focus was on elimination of tariffs and anti-circumvention mechanisms⁶. The paper suggested that Georgia was already benefiting from preferential tariffs (GSP+) (92,52% of products were off duties for 2010). As for anti-circumvention, the paper suggested that the upper limit of the volume of output produced (after which the country has to justify the changes in the process of production of these excess volumes) was quite high. So additional pressures are not expected on Georgia from anti-circumvention.

ISET Policy Institute together with Policy and Management Consulting Group (PMCG) and PricewaterhouseCoopers (PWC) conducted the research, where possible benefits and risks associated with DCFTA were analyzed ISET Policy Institute (2016). This paper also underlines that Georgia was already "enjoying low tariffs" (ISET Policy Institute, 2016, p. 7). In the paper, the main focus is on the ways of promoting exports and FDI. As for the FDI, they identify potential sectors and countries for which Georgia could be attractive to invest due to lower tariffs. For export potential, it is noted that in the short-run, Georgia can't improve its export dramatically, because the main manufacturing exporters are already operating at the limits. Also, they note that sectors such as agriculture consist mainly of small producers, who in short-term cannot adjust their production for extended demand. Also, the production sector has several drawbacks such as: lack of innovation, lack of access to and high cost of finance, cost of transport, weak local government, lack of professional skills, lack of protection for domestic investors.

Adarov and Havlik (2016) in their paper stated that it is crucial for Georgia, Moldova and Ukraine to access large markets for sustained economic growth. They also note that effects from DCFTA will be evident in the medium and long run. They make the point that the implementation of DCFTA will be costly in the short-run and it may overshadow medium and long-run benefits, which may cause threats like Euroscepticism and populism. So, in their opinion, during the implementation, gradualism is important to reduce these risks.

For FTA with China joint feasibility study was done PMC research Center (2015) The paper included ex-ante analysis of trade and also possible benefits behind it. Ex-ante analysis was done with both Partial Equilibrium (PE) (Georgian side), and with

⁶ Ceiling of import value after which exporter country is obligated to prove it can export more.

Computable General Equilibrium (CGE) (Chinese side) models. Expectations from PE analysis was that imports from China would increase by 1,69% and import revenue from tariffs would decrease by 0,5%, while exports to China would increase by 9%. On product level, a considerable increase was expected in wine products (+28,5%), waste and scrap of copper and aluminum (+3,3%), water, mineral water products, and other non-alcoholic beverages (+36,7%). Based on CGE model, Georgia's export would increase considerably by 28,9%, mostly at the expense of vegetable and fruits, metal products such as copper and aluminum, grape wine, textile and apparel products and machinery. On the other hand, imports from China were expected to increase by 6,7%, at the expense of pork and poultry products, vegetables and fruits, processed foods, metal products, chemical and rubber products, manufactured products and machinery to Georgia will also be increased. This study also suggested that FDIs could increase significantly, based on previous China FTAs with developing countries.

Another paper which analyzed FTA with China, before its implementation, is Fuenfzig (2016) who looked at the potential benefits of FTA with structural gravity models. Three scenarios were made. For Georgia all three scenarios were indicating large increase in bilateral exports (68,3-108%) as well as real GDP (1,1-1,6%), while small trade diversion was expected (4,5-8,4%).

1.3 Research objectives

It's been five years after DCFTA was implemented and two years have passed since FTA with China. It is interesting to conduct ex-post analysis to find out how these FTAs affected Georgia's economy. Goal of ex-post analysis will be to determine what qualitative and quantitative impacts are observed after Georgia signed DCFTA and FTA with China, on macro and sectoral levels. Also, the research paper will try to find if DCFTA and FTA with China resulted in welfare gains. To be more precise, the paper aims to determine whether the increase in trade was a result of trade creation or trade was diverted. Another aim is to analyze quantitative effects on imports and exports on different aggregation levels. For conclusion, research paper will analyze differences and similarities between DCFTA and FTA with China and based on these empirical findings, the research will identify possible threats and opportunities, which may come from future free trade agreements.

2. METHODOLOGY

Overview

Ex-post analysis can be done with several techniques. Some methods (such as Coverage Ratio, Utility Rate, Utilization Rate) are focusing on tariff lines and are called Preference Indicators (Plummer, Cheong, & Hamanaka, 2010). Despite the fact that they are good and easily computable indicators of effectiveness of preferences in an FTA, they cannot tell about the impact's FTA had on trade and welfare. Since our research is focused on trade and welfare gains, for ex-post analysis Viner's model and Gravity model of trade were chosen.

In his pioneering work, Jacob Viner was first to introduce the mixed effects of custom unions. In his work "The Customs Union Issues (1950)", he suggested theory of "trade creation" and "trade diversion" (Viner & Olsington, 2014). Based on theory, trade creation happens when inefficient domestic production or import is replaced by efficient imports from FTA partner. And trade diversion happens when, non-FTA partner's efficient imports are replaced by inefficient imports from FTA partner due to the discriminatory tariffs towards them⁷.

Viner's (2014) theory can be seen as the basis of trade analysis. Based on this Plummer, Cheong and Hamanaka (2010) suggested that analysis can be done in two ways – qualitatively and quantitatively. Qualitative analysis can be done by simply using Viner's (2014) approach of trade creation and trade diversion, but it does not quantify welfare gains or losses, so it analyses FTA in descriptive way. Such analysis was done by Yacine, Haddoud & Newbery (2014), they analyzed FTA between EU and Algeria on sectoral level (SITC⁸ 1 digit) with Viner's (2014) model. They found that trade diversion was not evident and there was a clear trade creation. In the same manner, Hariyono (2015) analyzed Indonesia-Japan economic partnership agreement. Drabik, Pokrivcak, & Ciaian, (2007) investigated trade in agricultural sector between Slovakia and EU and found significant trade diversion, because tariff liberalization forced imports from EU-15 and CEEC to increase by 31,4%. Because Viner's (2014) theoretical model is descriptive, it can be used for ex-post as well for ex-ante analysis⁹.

For quantitative ex-post analysis, Gravity model will be used. Gravity model is often referred as the workhorse of international trade analysis (Head & Mayer, 2013). Gravity model enables to quantify factors which are determining existing trade. One of the main advantages of this model is that, by using control variables, it can quantify direct effects

⁷ But there can also be reversal of past diverted trade. (Wonnacott, 1996) showed the example of reversal of trade diversion, and stated that when Mexico was added in NAFTA in 1994, past diverted imports of Mexico, which was replaced by Canadian imports in USA, due to 1989 Canada-USA FTA, had to be reversed.

⁸ Standard International Trade Classification.

⁹ For example see (Lewis, Robinson, & Thierfelder, 2003), also many papers partially include this type of analysis, because it is slightly improved descriptive analysis (see: (Clausing, 2001), (Sattayanuwat, 2015)).

of free trade agreements on trade volume. So, with gravity model, it is possible to find out by how much trade was increased due to DCFTA and FTA with China. This is possible by including a wide range of control variables, to measure specific effects on the country. The most popular control variables are common border, common language (which is a proxy of cultural similarities (Liu, 2007)), colonial linkages, also it is possible to analyze north-south, north-north, south-south¹⁰ effects on international trade (Magennis & Gardner, 2009), which gives more precise estimates of parameters as a result.

Gravity model was first introduced by Jan Tinbergen in 1962 and was a pure econometric tool, because it was founded on intuition rather than on economic theory. Intuition stated that international trade develops in the way, which is in line with Newton's law of gravitation.

$$F = G \frac{m_1 m_2}{r^2}$$

In economic formulation of this equation mass of the object is proxied by GDPs of exporter and importer, while distance is a measure of trade costs. So, in economic formulation of gravity model, trade flows are positively correlated with the GDPs of exporter and importer countries and are negatively impacted by the distance between them.

Later on, theoretical grounds for gravity model were introduced by Anderson (1979), Bergstrand (1985, 1989) Deardorff (1998), Eaton and Kortum (2002), Chaney (2008) and Bacchetta, et al. (2012) Some economists think that every variable in gravity equation should be included only when its relevance comes out from structural (for example micro founded) theoretical model (Shepherd, 2008). But there is a rich empirical literature consisting with both theoretical (structural) gravity models and models consisting with variables based on economic intuition¹¹.

As for Georgia Tvalodze (2016) analyzed FTA agreement between Georgia and Turkey and found statistically significant but small effect of FTA on trade between countries. Earlier Gravity model for Georgia was constructed by Dilanchiev (2012) who analyzed trade patterns of Georgia.

¹⁰ North-north – trade between developed countries, North-South – trade between developed and developing country, South-South – trade between developing countries.

¹¹ It includes earlier works done to analyze creation of European, American and Asian communities, such as analysis of EEC (European Economic Community) and EFTA impact on member states in the period of 1959-67 (Aitken, 1973), (Braga, Safdi, & Yeats, 1994) analyzed RTAs of European Community (EC), European Free Trade Area (EFTA), LAIA/ LAFTA, Association of South East Asian Nations (ASEAN) and CACM and found that all variables in Gravity model had expected signs, expect for LAFTA and ASEAN.

3. VINER'S MODEL: METHODOLOGY AND DATA

Qualitative analysis of DCFTA and FTA with China will be done by Viner's (2014) model proposed by Plummer, Cheong, & Hamanaka (2010). Based on their method, if there is an increase in imports from FTA partner, the following results are expected to emerge:

Table 1. Trade creation and diversion

TRADE CREATION	TRADE DIVERSION
1. Imports from the rest of the world and domestic output stay same.	1. A drop in imports from the rest of the world and increase/no changes in domestic output.
2. Imports from the rest of the world and domestic output rise.	2. Imports from the rest of the world decrease together with domestic output, but decrease in domestic output is smaller
3. Imports from the rest of the world rise and domestic output stays same	
4. Imports from the rest of the world stay same and domestic output rises or decreases	
5. Imports from the rest of the world decrease but decrease in domestic output is larger.	
6. Import for the rest of the world rise and domestic output decrease	

There is an import substitution effect, when total imports fall, while there is an increase in domestic output. And there is no clear effect of trade diversion or creation, when after FTA imports decrease from FTA partner or when share of their imports in total imports is trivial.

If only trade creation occurs while there is no trade diversion effect, it results in welfare gain. While if there is only trade diversion effect, it means that country lost in welfare. But if both effects occur at the same time and trade creation effect exceeds trade diversion, there will be welfare gain and if trade diversion exceeds trade creation effect, there will be welfare lose.

Our analysis using Vinerian approach will be done on sectoral level. Data on production of sectoral manufacturing is retrieved from GeoStat and data on imports for EU, World and China is obtained from UN Comtrade database for the period of 2006-2019. Data transformation is needed to match production and trade, for this purpose WITS¹² con-

¹² World Integrated Trade System.

cordance matrix is used and SITC 3 trade data is transformed to match NACE¹³ 1 rev production. One of the problems of Viner's (2014) model is that, it looks on changes in trade compared to previous year of FTA. For example, if in 2014 there was some external shock and imports deteriorated out of its trend and amounted 1000USD instead of 1500USD (its trend value), and in 2019 imports reached 1100, based on Viner's model it will indicate trade creation, which will lead to wrong conclusions. To overcome this problem, during the analysis interval average changes of level of variables will be examined.

Under the Nace 2. Rev, data for manufacturing was retrieved from GeoStat, which consisted of 32 sectors of manufacturing out of which six sectors (repair and installation of machinery and equipment, electricity, gas, steam and air conditioning supply, electric power generation, transmission and distribution, manufacture of gas; distribution of gaseous fuels through mains, steam and air conditioning supply) were dropped, because they are mainly services and no data on imports is available. For the remaining 26 sectors, the next transformation was done: SITC3- Nace 1.- Nace.2 to match trade flows to manufacturing output.

3.1 Results

This section will cover the following topics:

- Identification of sectors in which trade diversion or creation happened from DCFTA and FTA with China separately.
- Overall effects of DCFTA and FTA with China on trade creation and diversion
- Special emphasis on sectors in which trade creation and diversion effects were highlighted.
- Analysis of total welfare gains and losses

Trade creation and diversion

From our analysis DCFTA and FTA with China mostly had similar effects on trade creation and diversion. It is worth noting, that not all sectors were affected by these agreements. In some sectors imports decreased, even after signing FTA, which doesn't allow us to identify trade creation or diversion.

¹³ Classification of Economic Activities.

Table 2. Trade creation and diversion effects

Sectors	DCFTA	FTA with China
Tobacco products	Trade creation	Trade diversion
Chemicals and chemical products	Trade creation	Trade creation
Machinery and equipment	Trade creation	Trade creation
Textiles	Trade creation	Trade creation
Electrical equipment	Trade creation	Trade creation
Furniture	Trade diversion	No clear effect
Food products	Trade diversion	Trade creation
Paper and paper products	Trade creation	Trade creation
Rubber and plastic products	Trade creation	Trade creation
Motor vehicles	No clear effect	Trade creation
Beverages	Trade diversion	Trade diversion
Other mining and quarrying	Trade creation	Trade diversion
Metal products	Trade creation	Trade creation
Computer, electronic and optical production	Trade diversion	Trade diversion
Wood and products of wood and cork	Trade creation	Trade creation
Basic pharmaceutical product	Trade creation	Trade creation
Leather and related products	Trade diversion	No clear effect
Other non-metallic mineral products	Trade creation	Trade creation
Wearing apparel	Trade creation	Trade creation
Other manufacturing	Trade creation	Trade diversion
Manufacture of coke and refined petroleum products	No clear effect	No clear effect
Extraction of crude petroleum and natural gas	No clear effect	No clear effect
Mining of coal and lignite	No clear effect	No clear effect
Mining of metal ores	No clear effect	No clear effect

In *other mining, food products, other manufacturing, chemicals* and *tobacco* it can be stated, that DCFTA and FTA with China resulted in completely opposite effects.

But for *basic metals*, and *motor vehicles*, there is slightly different situation, because imports from EU decreased even from 2014. This fact does not enable us to make any conclusions about effects of DCFTA. This latter statement applies to FTA with China for *furniture*.

Most importantly, analysis shows that, there is no trade diversion or creation bias towards DCFTA or FTA with China and mostly these effects offset each other.

Due to above-mentioned results, in most cases (15 out of 26), there is a trade creation effect, while only in five sectors, trade was diverted.

Table 3. Total effect of DCFTA and FTA with China on trade creation and diversion

SECTORS	TRADE CREATION	TRADE DIVERSION	NEUTRAL
Tobacco products	✓		
Chemicals and chemical products	✓		
Machinery and equipment	✓		
Textiles	✓		
Electrical equipment	✓		
Furniture	✓		
Food products		✓	
Paper and paper products	✓		
Rubber and plastic products	✓		
Motor vehicles	✓		
Beverages		✓	
Mining and quarrying	✓		
Metal products	✓		
Computer, electronic and optical production		✓	
Wood and of products of wood and cork	✓		
Basic pharmaceutical product	✓		
Leather and related products		✓	
Other non-metallic mineral products	✓		
Wearing apparel	✓		
Other manufacturing		✓	
Manufacture of coke and refined petroleum products			✓
Extraction of crude petroleum and natural gas			✓
Mining of coal and lignite			✓
Mining of metal ores			✓

Source: GeoStat, Un Comtrade, own calculations

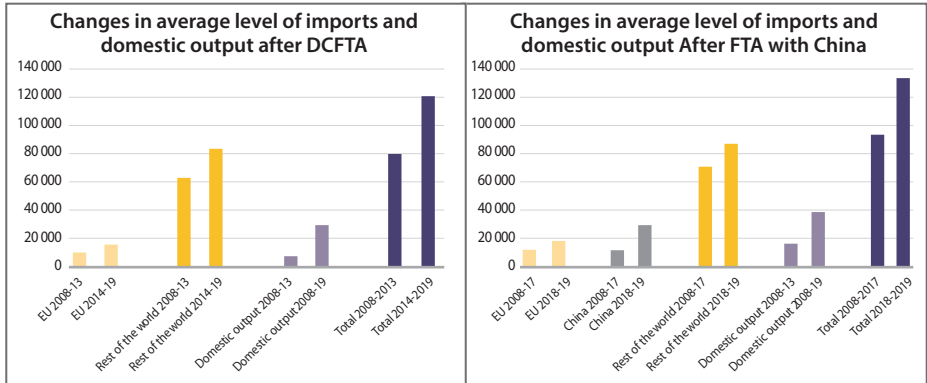
And in two sectors (basic metals, printing and reproduction of recorded media), import substitution effect was clear.

Not all sectors reacted to DCFTA and FTA with China similarly. There were sectors which benefited the most from these agreements, while some sectors showed clearer trade diversion effects than others. There was prominent overall trade creation from DCFTA

and FTA with China in sectors of *textiles, tobacco and paper products, while manufacturing leather and related products* together with *other manufacturing* showed significant trade diversion.

In *textile* sector, in the period of 2014-2019, there was a clear growth in imports from EU. Also, in this period, imports increased from the rest of the world together with domestic output growth. After FTA with China, its imports increased together with EU, the rest of the world and domestic output. This clearly indicates that there is a trade creation effect (figure 3).

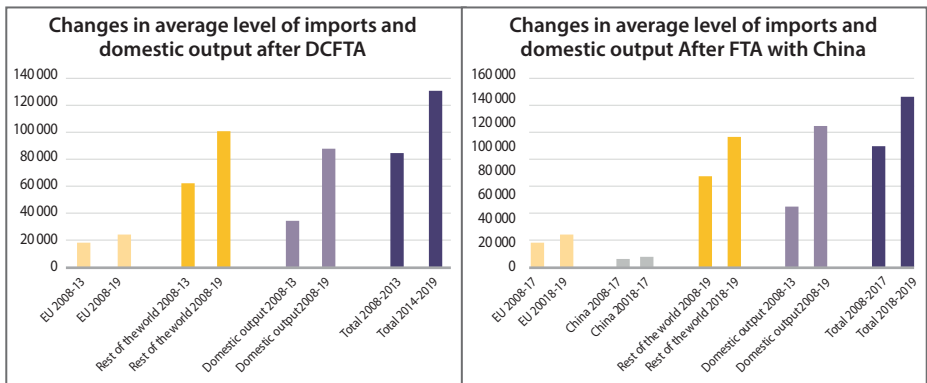
Figure 3. Trade creation in textile sector



Source: GeoStat, Un Comtrade, own calculations

Also, same picture is evident in *paper product* sector. After DCFTA, imports from EU accelerated, but this was not at the expense of diverted trade from the rest of the world. Imports from the rest of the world also increased. After FTA with China, imports from China also showed a rise, together with EU and rest of the world while domestic output also grew.

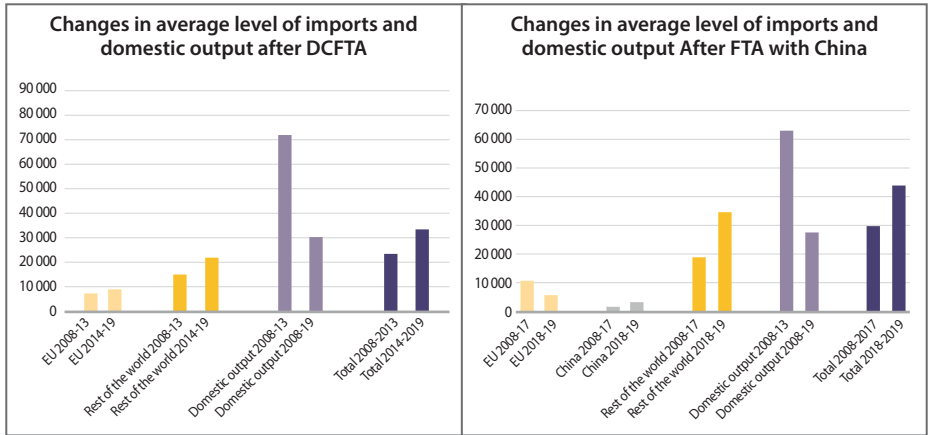
Figure 4. Trade creation in paper products sector



Source: GeoStat, Un Comtrade, own calculations

From the perspective of overall trade creation, **tobacco** sector also resulted in tangible effect. Main characteristic of **tobacco** sector is that, together with increased imports from FTA and the rest of the world, domestic output fell dramatically over this period of time. This could mean that, FTAs with EU and China without diverting efficient imports from the rest of the world, replaced inefficient domestic production of tobacco (figure 5).

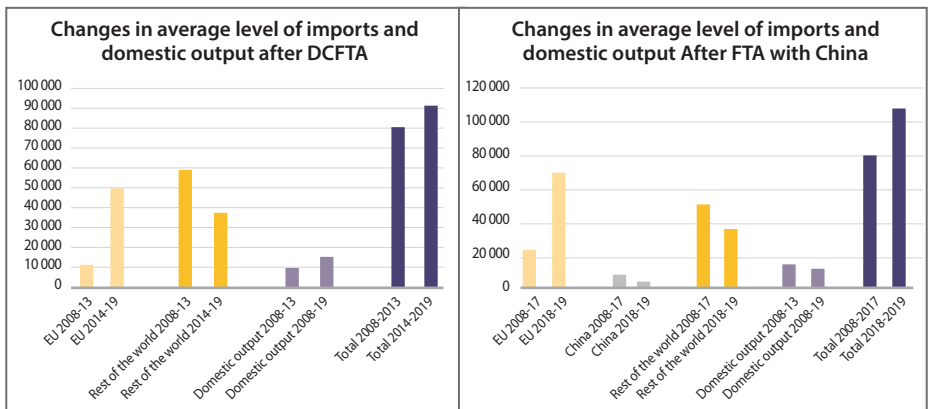
Figure 5. Trade creation in tobacco sector



Source: GeoStat, Un Comtrade, own calculations

Apart of the prominent trade creation, there is a clear trade diversion in **manufacturing leather and related products**. Imports from EU clearly diverted imports from other countries as well as from China, even signing FTA with China did not reverse the diverted trade. Drop in domestic output could not compensate the trade diversion effect (figure 6).

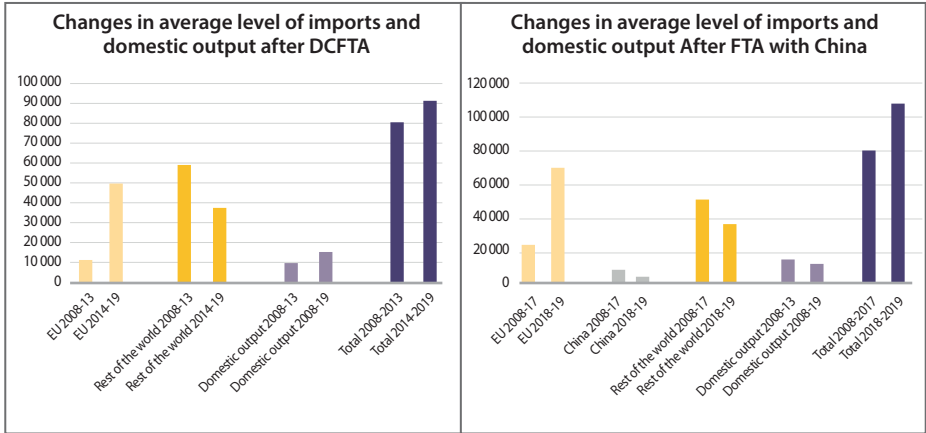
Figure 6. Trade diversion in leather and related product sector



Source: GeoStat, Un Comtrade, own calculations

Another clear trade diversion occurred in *other manufacturing*, where EU together with China diverted imports from the rest of the world, accompanied by increase in domestic output. (figure 7.)

Figure 7. Trade diversion in other manufacturing



Source: UN Comtrade, own calculations

There are also less evident trade diversion effects in sectors of *food products* and *beverages*. In *food products* sector, there was a small trade diversion effect (level of imports from the rest of the world dropped by 0,09%), accompanied by a significant increase of imports from EU and China by 46,8% and 55,9% respectively. Clearer picture is in sector of *beverages*, where imports from China increased dramatically after the FTA and there was the strong growth from EU through all time period, while share of the rest of the world became negative in the periods of 2014-2019 and 2018-2019.

Total welfare gain

To summarize overall effects of DCFTA and FTA with China, it is important to look at total welfare gain. As it was mentioned above, when trade creation exceeds trade diversion effect, there is a positive welfare gain. As our analysis showed, in most cases there was trade creation effect and different results from DCFTA and FTA with China mostly offset each other. Overall impact on welfare is summarized in welfare gain and loss matrix (Table 4.), where all above-mentioned sectors are classified as sectors where positive, negative, neutral welfare gain occurred and sectors where domestic output replaced imports.

Table 4. Overall welfare gain and loss matrix¹⁴

Tobacco products	Textiles	Paper and paper products		High Probability of welfare gain
Other mining and quarrying and Mining support service activities	Wood and of products of wood and cork, except furniture	Chemicals and chemical products	Wearing apparel	Medium probability of welfare gain
Fabricated metal products, except machinery	Basic pharmaceutical products	Rubber and plastic products	Electrical equipment	
Other non-metallic mineral products	Motor vehicles		Machinery and equipment	low probability of welfare gain
coke and refined petroleum products	Extraction of crude petroleum and natural gas	Mining of coal and lignite	Mining of metal ores	Neutral
Computer, electronic	Beverages	Furniture	Food products	low probability of welfare loss
Leather and related products		Other manufacturing		High probability of welfare loss
Basic metals		Printing and reproduction of recorded media		Import substitution

Source: *Un Comtrade, GeoStat, own calculations*

¹⁴ See appendix for separate welfare gain and loss matrixes for DCFTA and FTA with China

4. GRAVITY MODEL: METHODOLOGY AND DATA

For our research goals it is important to analyze trade on sectoral level and also to look at import and export flows separately. This type of analysis with gravity model is called one-way gravity model. In this relative manner Liu (2007) analyzed FTA between China and Australia, and separated these flows. Same type of analysis was done by Martínez-Zarzoso, D., Klasen, & Johannsen (2013) for Germany, Tham, Goh, Wong, & Fadhli (2017) analyzed Trade of Malaysia and Šimáková & Stavárek (2015) looked at trade for Hungary.

General one-way log-linear Gravity model takes the form:

$$T_{ijkt} = a + \beta \ln \ln(X_{ijkt}) + \gamma Z_{ij} + e_{ijt}$$

Where T_{ijkt} is trade (export or import) from source country i (in our case Georgia) to country j , in sector k for time t . X is vector of independent explanatory variables, and Z vector of control variables to control for unobserved effects, e_{ijt} is white noise error term. β and γ are coefficients to be estimated.

Gravity model estimation is related to several problems. First of all, to get better estimates of coefficients, panel data is used. This approach makes available more data points, which results in more degrees of freedom. But Pooling countries together leaves some country specific¹⁵ effects behind. For overcoming this problem, most widely used method is fixed effect estimation of panel data, which removes all unobserved country specific effects. This method is efficient but all-time invariant variables are omitted, while using this method. This means that variables like distance are removed from equation, resulting in the loss of “gravitiness” of the model. Also, popular method is random effect model. Unlike fixed effect model, it allows for time invariant variables (Wooldridge, 2001). One of the main problems in estimation of gravity model is zero trade flows. Popular methods for dealing with zero trade flows are:

1. Ad hoc approach – by adding small positive number to zero trade flows, so it can be used in matrix for coefficient estimation.
2. Econometric fixes that allow the zero entries to be included in the estimation sample, such as the Tobit or Poisson estimators.
3. Theoretical and econometric fixes that provide a rationale for the existence of zeros, and correct for their presence, for instance through a modified version of the Heckman sample. (Shepherd, 2008)
4. 2 stage estimation of model, proposed by Helpman, Melitz, and Rubinstein, (2008)

¹⁵ Heterogeneity of countries

Last but not the least problem of estimating gravity model is logarithmic formulation of gravity model (Silva & Tenreyro, 2006). They suggest that Pseudo Poisson Maximum Likelihood Estimation (PPML) should be used. This method also deals with zero trade flows. So, our empirical estimation on gravity model will be based on PPML estimation of gravity model. Robustness of estimated parameters will be checked by comparison of fixed effect, random effect and pooled data estimates. PPML is nonlinear method of estimation and one of the characteristics of this approach is that when estimating panel data with large number of observations, fixed and random effect method estimates converge. Our empirical model for total export/import, as well as for sectoral level will take the form:

$$\begin{aligned} \text{Export}_j = & \exp(a + \beta_1 \text{LnGDP per capita}_g + \beta_2 \text{LnGDP per capita}_j + \beta_3 \text{LnDistance}_{gj} \\ & + \beta_4 \text{LnArea}_j + \beta_5 \text{common border}_{gj} + \beta_6 \text{landlocked}_j + \beta_7 \text{CIS}_j + \beta_8 \text{2008 recession} + \\ & \beta_9 \text{2015 export/import fall} + \beta_{10} \text{Advanced}_j) \end{aligned}$$

Where j stands for destination country. Dummy variables which control for country specific effects are: **Distance**, which is calculated as Distance between Tbilisi and Destination countries Capital, weighted by their share in respective country's GDP. **Area** – the total area of country. Dummy variables: **common border** – takes value 1 if Georgia and country j share common border 0 otherwise, **landlocked** – takes 1 if country j is landlocked and 0 otherwise, **CIS** takes value 1 if country j was member of **CIS** in any period of time, **advanced** takes value 1 if country j belongs to advanced economies based on IMF economic outlook 2019. And **dummy variables** to control for time specific effects, like 2008 and 2015, when Georgia's export/import dropped down due to external shocks. Model is specified for import and export separately. Data range span is 2000–2019 years for 45 countries, consisting of EU-28 countries and countries whose trade share is above 1% in Georgia's exports. Trade data is collected on HS¹⁶ 2-digit levels for products, of which share is above 0,5% in total trade. Also, data includes Top 20 HS 4-digit products in exports/imports, and BEC¹⁷ 1 digit for both exports and imports. Trade data is collected from Un Comtrade database and data for control variables from CEPII database.

4.1 Results of gravity model for EU

Gravity model was estimated separately for export and import on different levels of aggregation with Pseudo Poisson Maximum likelihood (PPML) estimation of model. Due to the above-mentioned fact that with PPML fixed and random effect model estimates converge (meaning that they give similar estimates of coefficients), only random effect and pooled panel data estimates will be displayed.

¹⁶ Harmonized System

Table 5. Gravity estimates for total exports and imports – EU¹⁸

Variables	EXPORT		IMPORT	
	Pooled PPML	PPML RE	Pooled PPML	PPML RE
lnGDPgeo	1.716***	1.211***	1.797***	1.364***
lnGDPj	0.028	0.604***	-0.128	0.402***
lnDistance	-0.788***	0.803	-0.504***	-1.240***
lnArea	0.315***	0.460***	0.318***	0.673***
DCFTA	-0.284	0.099***	-0.564***	-0.253***

*** p<0.01, ** p<0.05, * p<0.1

For total exports, PPML and PPML with RE yield slightly different results. PPML estimates suggest negative but not statistically significant effect on total exports, while RE model suggest statistically, but not economically¹⁹ significant increase in exports to EU. As for total imports from EU results are robust. DCFTA resulted in moderate drop of imports from EU by 0,75 – 0,28%.

Gravity model specification for BEC classification of trade indicates similar results for DCFTA.

Table 6. Gravity estimates of exports for BEC classification of trade-EU

% change	DCFTA	
	PPML	PPML RE
	Import	
food and beverage	-0,10	0,40***
industrial supply	-0,55***	-0,24***
fuels and lubricants	0,56	-0,25***
capital goods	-0,34***	-0,29***
transport and equipment	-0,71***	-0,49***
consumption goods	-0,32***	-0,12***
other goods	0,13	0,98***
	Export	
food and beverage	0,3	-0,01*
industrial supply	-0,21	0,24***
fuels and lubricants	0,52	-0,02***
capital goods	-0,40***	-0,22***
transport and equipment	-0,51**	-0,06***
consumption goods	-0,69***	-0,24***
other goods	0,66	2,34***

*** p<0,01, ** p<0,05, * p<0,1

¹⁸ For detailed regression results for BEC 1-digit, HS 2-digi and HS 4-digit for both EU and China see appendix.

¹⁹ e0,099-1=0,104%

Gravity model specification for BEC classification of exports, indicate that DCFTA mostly had negative significant effects on exports, while only positive effect is for **other goods**, where PPML shows statistically insignificant rise of exports by 0,66% and RE statistically significant 2,33% increase of exports. There are no robust positive effects on imports for DCFTA.

As for HS 2-digit level, after analyzing almost 50 products with share more than 0,5% in total export, only few products showed positive robust estimates. For DCFTA economically significant results were in products such as: edible **vegetables and certain roots and tubers** (0,23-3,14%); **Wood and articles of wood, wood charcoal** (0,56-1,54%); and **aircraft, spacecraft and parts thereof** showed dramatical increase with range of 36-6322%, also DCFTA resulted in modest growth in **Beverages, spirits and vinegar** with 0,06-0,48%.

For the imports, DCFTA only had positive robust significant effect on **coffee, tea, mate and spices** (0,63-1,35%).

Only 4 products were significantly positive for exports while analyzing trade on HS 4-digit level. **Wine of fresh grapes and undenatured ethyl alcohol** showed a modest growth, while **new pneumatic tyres of rubber, Turbo-jets, turbo-propellers and other gas turbines** showed a significant growth.

Table 7. Effects of DCFA on HS 4-digit level exports

% change	DCFTA	
	PPML	PPML RE
New pneumatic tyres of rubber	82,76	19,80
Undenatured ethyl alcohol, spirits, liqueurs and other spirituous beverages	1,83	1,40
Wine of fresh grapes	2,48	1,17
Turbo-jets, turbo-propellers and other gas turbines	59,16	113,09

DCFTA had effect only on imports of meat from EU.

After the analysis of DCFTA on different aggregation levels, there are some clear results. There are no tangible results on aggregated level of trade. Also, on disaggregated level except some products, DCFTA did not affect exports. Some interesting feature is that, DCFTA resulted in small decrease of imports from EU. This was evident from Viner's (2014) model too, when in numerous sectors EU's share in imports decreased. This maybe be result of several factors. First of all, from Viner's approach it was evident, that Georgia is on the way of import substitution, and since gravity model is econometric tool and it is impossible to control for all impacts, maybe this policy went out of sight. Also, another explanation is related to technical aspects of gravity model, even though most optimal model specification was used to deal with zero trade flows, Georgia's imports (as well as export), especially from EU is highly "randomized", which could lead in slight result bias.

But apart from this, these results rise some interesting questions and room for further, more specific analysis of this problem. These results are indicating that Georgia is still on the way of integration in EU market.

4.2 Results of gravity model for FTA with China

Some appealing results occurred while analyzing FTA with China. Even though, that only 2 years have passes since signing FTA, there are already tangible results. FTA with China yielded statistically and economically significant results for exports (0,69-2,1%). As for imports gravity model estimates indicate statistically significant results. But since pooled data and random effect estimates yield different sign of coefficients, results are not robust.

Table 8. Gravity estimates for China

Variables	Export		Import	
	Pooled PPML	PPML RE	Pooled PPML	PPML RE
lnGDPgeo	1.716***	1.211***	1.797***	1.364***
lnGDPj	0.028	0.604***	-0.128	0.402***
lnDistance	-0.788***	0.803	-0.504***	-1.240***
lnArea	0.315***	0.460***	0.318***	0.673***
FTA with China	1.156***	0.529***	0.643***	-0.013***

*** p<0.01, ** p<0.05, * p<0.1

For BEC 1-digit classification of trade, China shows robust and positive growths over the numerous sectors, including *food and beverages* (1,19-4,35%), *industrial supply* (0,63-1,34%), *capital goods* (2,43-4,26%) and negative effects on *other goods* (-0,99%). There are no robust positive effects on imports for China.

Table 9. Gravity results for BEC 1-digit level – China

% change	FTA with China	
	PPML	PPML RE
	Import	
Food and beverage	-0,45***	-0,49***
Industrial supply	1,59***	-0,16***
Fuels and lubricants	-0,93***	0,09
Capital goods	1,80***	-0,03***
Transport and equipment	-0,01	0,45***
Consumption goods	0,50***	-0,26***
Other goods	-0,95***	-0,85***

	Export	
Food and beverage	4,85***	1,20***
Industrial supply	1,35***	0,63***
Fuels and lubricants	-0,98	
Capital goods	2,43***	4,27***
Transport and equipment	0,97	-0,47***
Consumption goods	-0,82***	37,63***
Other goods	-1,00***	-1,00***
*** p<0,01, ** p<0,05, * p<0,1		

For HS 2-digit level of trade FTA with China produced significant results. Export increased in products such as: *Coffee, tea, maté and spices* (8,96-131,95%); *Beverages, spirits and vinegar* (0,39-5,75%) and *Plastics and articles thereof* (5,52-26,41%). Even though that range of impact is wide, it is possible to conclude that above-mentioned products benefited from free trade agreements. But it should be noticed that, those products are just small fraction of total analyzed products. As for imports unlike DCFTA, FTA with China had significant positive effects on a wide range of products.

Table 10. Effects of FTA with China on imports for HS 2-digit level

% Change	PPML	PPML RE
Coffee, tea, maté and spices	1,57	8,97
Tobacco and manufactured tobacco substitutes	0,54	8,36
Organic chemicals	4,52	13,94
Plastics and articles thereof	0,84	2,30
Rubber and articles thereof	0,17	2,52
Paper and paperboard; articles of paper pulp, of paper or of paperboard	0,53	1,48
Articles of apparel and clothing accessories, knitted or crocheted	0,19	1,55
Iron and steel	0,07	7,17
Aluminum and articles thereof	0,63	2,32
Electrical machinery	0,24	1,98

This once more underlines the fact that FTA with China affected more products across different sectors, than DCFTA. Also, these results strengthen the conclusions of Viner's (2014) model, because above-mentioned products form main part of sectors in which there was clear trade creation and thus positive welfare gain.

Alike to DCFTA on HS 4-digit level, exports to China increased almost in all similar four products.

Table 11. Effects of FTA with China on HS 4-digit level exports

% change	FTA with China	
	PPML	PPML RE
New pneumatic tyres, of rubber	1045,28	31633,39
Undenatured ethyl alcohol, spirits, liqueurs and other spirituous beverages	7,95	0,78
Wine of fresh grapes	0,98	0,78
Women's or girls' overcoats, car-coats and similar articles	327,32	57813,80

This dramatical increase in *women's or girls' overcoats* can be explained by low-base effect. But this fact does not mean, that FTA with China did not boost exports.

For HS 4-digit level of trade unlike DCFTA, FTA with China pushed imports for several products. But once again, these products are just small fraction of total imports.

Table 12. Gravity estimates of imports on HS 4-digit level for China

% Change	PPML	PPML RE
Cigars, cheroots, cigarillos and cigarettes	9,44	0,80
Automatic data processing machines and units thereof	10,17	0,06
Self-propelled bulldozers, graders, levellers, scrapers, tamping machines	4,83	0,03
Insulated wire, cable and other insulated electric conductors	4,25	0,72
Other tubes, pipes and hollow profiles, of iron or steel	12,54	0,48

5. CONCLUSION

From our analysis several interesting results emerged.

Viner's (2014) model showed some interesting results. First of all, from this analysis it became clear, that not all sectors were affected²⁰ by DCFTA and FTA with China, that once more underlines the fact that Georgia is not yet significantly integrated in EU and China markets. Also, results from Viner's (2014) model indicate, that DCFTA and FTA with China behave in similar ways, there is no fundamental differences between their effects on trade creation or diversion. We can conclude from this analysis, that Georgia's imports are well balanced, and no significant trade diversion threats are expected from future free trade agreements.

For overall effects Vinerian approach suggested, that Georgia gained in welfare from DCFTA and FTA with China, because total trade creation exceed trade diversion effect. In some cases, it was not possible to identify trade creation or diversion effects, because import flows from EU or China is decreasing even after DCFTA and FTA with China. This comes in line with gravity model results, where in some cases there was statistically significant decrease of imports due to DCFTA and FTA with China.

The results from gravity model showed that for DCFTA, even though 5 years have already passed since signing it, most of the traded products were not affected by it. It may not be surprising, because before signing DCFTA and after it was freshly implemented, researchers from different sources pointed out that it was a gradual process, which would have tangible effects in long-run. Our research partly found that above-mentioned is the case.

Apart of above-mentioned statistics, some appealing results occurred, beside the fact that some Georgia's traditional products had benefited from DCFTA, such as *wine and spirits*, radically different product such as *aircraft, spacecraft, and parts thereof* on HS 2-Digit²¹ level classification showed dramatic increase in exports, meaning that this kind of product which is high-tech can be produced and exported with success in markets such as EU.

One more interesting fact about DCFTA it that, even though past experiences of other countries showed that after FTA with EU imports from it increased more than exports to it, in case of Georgia this is not case not only on disaggregate level but on aggregate level too. There was a decrease of imports to various sectors and products. Even when trying different specification of models was indicating that results are not robust (or statistically significant) or are not economically significant or both at same time.

Another feature from our research is, that FTA with China had statistically and economically significant effects on export. This indicates that in very short-run, Georgia gained tangible effects, which can lead to noteworthy conclusions.

²⁰ In some sectors share of EU and China in total imports is trivial, so these sectors did not get affected by these agreements

²¹ HS 4-digit level – 8411 – Turbo-jets, turbo-propellers and other gas turbines

First of all, these differences between impacts of DCFTA and FTA with China can be explained by “easiness” of accessing markets, while EU is stricter in terms of regulations, China maybe is more “open handed” to exporters²². Or perhaps during the first years of DCFTA, Georgia’s exporters were not yet ready, and because of it, they reacted to it with some delay, while in 2018 these exporters already had experience on how to access new markets, so it decreased time of impact. It raises some noteworthy questions, especially about impacts of the structural reform as part of DCFTA. These questions are out of scope of our research. Moreover, answering these questions requires more time to pass after implementation of DCFTA. Based on this it will be interesting to conduct another research on DCFTA few year later, with more emphasis on effects of structural reforms. Also, it will be appealing to once again analyze DCFTA’s impacts on economic variables such as FDI, unemployment (on macro and sectoral level) and on trade.

This kind of success story of FTA with China gives much hopes to further FTAs which are currently being negotiated. First of all, high hopes can be placed on FTA with India, because India is highly comparable with China, and FTA with them can boost Georgia’s export without any prolonged time lag.

In general, DCFTA and FTA with China showed, that in terms of welfare, Georgia benefited from these agreements, as for quantitative effects, just very small portion of potential is yet utilized, which leaves high hopes and room for the future.

²² Even though that China will remove its tariffs to all imports in 5-year period.

LITERATURE

1. Adarov, A., & Havlik, P. (2016). *Benefits and Costs of DCFTA: Evaluation of the Impact on Georgia, Moldova and Ukraine*. The Vienna Institute for International Economic Studies.
2. Aitken, N. D. (1973). *The Effect of the EEC and EFTA on European Trade: A Temporal Cross-Section Analysis*. The American Economic Review, Vol. 63, No. 5 , pp. 881-892.
3. Bacchetta, M., Beverelli, C., Cadot, O., Fugazza, M., Grether, J.-M., Helble, M., . . . Piermartini, R. (2012). *A Practical Guide to Trade Policy Analysis*. Geneva: World Trade Organization.
4. Binh, D. T., Duong, N. V., & Cuong, H. M. (2013). *Applying Gravity Model To Analyze Trade Activities Of Vietnam*. FREIT.
5. Braga, C. P., Safdi, R., & Yeats, A. (1994). *Regional integration in the Americas: deja vu all over again?* Cambridge: Basil Blackwell Ltd.
6. Caporale, G. M., Rault, C., Sova, R., & Sova, A. (2009). *On the bilateral trade effects of free trade between the EU-15 and the CEEC-4 countries*. Kiel institute: Springer.
7. Clausing, K. A. (2001). *Trade creation and trade diversion in the Canada – United States Free Trade Agreement*. Canadian Journal of economics.
8. Dilanchiev, A. (2012). *Empirical Analysis of Georgian Trade Pattern: Gravity Model*. Journal of Social Sciences, 1(1):75-78,.
9. Drabik, D., Pokrivcak, J., & Ciaian, P. (2007). *Trade Creation and Diversion in the Enlarged EU Market: Evidence for Agricultural Trade in Slovakia*. Czech Journal of Economics and Finance.
10. Economic Policy Research Center. (2014). *Deep and Comprehensive Free Trade Agreement with EU and Georgia*. Tbilisi: Economic Policy Research Center.
11. Ecorys. (2012). *Trade Sustainability Impact Assessment in support of negotiations of a DCFTA between the EU and Georgia and the Republic of Moldova*. Rotterdam: ECORYS.
12. Fuenfzig, M. (2016). *A Quantitative Assessment of the Proposed China-Georgia Free Trade Agreement*. Munich: Munich Personal RePEc Archive (MPRA).
13. Hariyono, S. (2015). *Analysis of the Indonesia-Japan Economic Partnership Agreement: Impact on Trade and Welfare*. Seoul: Seoul National University.
14. Head, K., & Mayer, T. (2013). *Gravity Equations: Workhorse, Toolkit, and Cookbook*. CEPII Working Paper.
15. Helpman, E., Melitz, M., & Rubinstein, Y. (2008). *Estimating trade flows: trading partners and trading volumes*. Quarterly Journal of Economics 123, no. 2: 441-487.

16. Huijskens, R. (2017). *The effect of free trade agreements on international trade: an empirical analysis for developed and developing countries*. Rotterdam: Erasmus School of Economics.
17. Husain, S., & Yasmin, S. (2015). *Does the Gravity Model Explain Bangladesh's Direction of Trade? A Panel Data Approach*. IOSR Journal of Economics and Finance (IOSR-JEF) , PP 01-14.
18. ISET Policy Institute. (2016). *DCFTA Risks and Opportunities for Georgia*. Tbilisi: Open Society Georgia Foundation.
19. Lee, H., Lee, J., & Kim, H.-h. (2011). *Foreign Direct Investment, Technology Diffusion and Host Country Productivity Growth*. Asian Development Bank.
20. Lewis, J. D., Robinson, S., & Thierfelder, K. (2003). *Free Trade Agreements and the SADC economies*. South Africa: Journal de African economies.
21. Liu, T. (2007). *EMPIRICAL ANALYSIS OF THE IMPACT OF REGIONAL TRADE AGREEMENTS FOR AUSTRALIA AND CHINA*. RMIT University.
22. Lubas, E. (2011). *Trade Potential Of The Republic Of Belarus: Gravity Model Approach*. Kyiv School of Economics.
23. Magennis, E., & Gardner, C. (2009). *A GRAVITY MODEL APPROACH TO ESTIMATING THE EXPECTED VOLUME OF NORTH/SOUTH TRADE*. InterTrade Ireland.
24. Martínez-Zarzoso, I., D., F. N.-L., Klasen, S., & Johannsen, F. (2013). *DOES GERMAN DEVELOPMENT AID PROMOTE GERMAN EXPORTS AND GERMAN EMPLOYMENT? A SECTORAL-LEVEL ANALYSIS*. Goettingen: Georg-August-Universität Göttingen.
25. Mohamed Yacine Haddoud, P. J., & Newbery, R. (2014). *Regional Trade Agreements and Developing Countries' Trade Performance: Evidence from Algeria and the European Union Association Agreement*. Plymouth: Futures Entrepreneurship Centre, Mast House, Plymouth University.
26. Pettinger, T. (2017, April 26). *Economicshelp.org/blog*. Retrieved from Economicshelp.org: <https://www.economicshelp.org/blog/6957/trade/new-trade-theory/>
27. Plummer, M. G., Cheong, D., & Hamanaka, S. (2010). *Methodology for Impact Assessment of Free Trade Agreements*. Mandaluyong City: Asian Development Bank.
28. Sattayanuwat, W. (2015). *RCEP – Thailand Trade Creation and Trade Diversion: Evidence and Analysis*. Bangkok: School of Economics and Public Policy, Srinakharinwirot University.
29. Serrano, C., Martínez, A., Rodríguez, A., & Salazar, S. (2015). *Evaluation of the effects of the free trade agreement between the European Union and Mexico on bilateral trade and investments*. Mexico: BBVA research.
30. Shepherd, B. (2008). *Notes on the "Theoretical" Gravity Model of International Trade*. Niehaus Center, Princeton University & GEM, Sciences Po.

31. Silva, J. M., & Tenreyro, S. (2006). *The Log of Gravity*. The Review of Economics and Statistics, November 2006, 88(4): 641–658.
32. Šimáková, J., & Stavárek, D. (2015). *An empirical sector-specific Gravity Model for Hungarian international trade*. Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis.
33. Stevens, C., Irfan, M., Massa, I., & Kennan, J. (2015). *The impact of free trade agreements between developed and developing countries on economic development in developing countries: Rapid evidence assesment*. London: Overseas Development Institute.
34. Tham, S. Y., Goh, S. K., Wong, K. N., & Fadhli, A. (2017). *Bilateral Export Trade, Outward and Inward FDI: A Dynamic Gravity Model Approach Using Sector Data from Malaysia*. Emerging Markets Finance and Trade.
35. Tvalodze, S. (2016). *Georgia-Turkey Trade Relations -Challenges and Opportunities*. Tbilisi: PMCG research.
36. UNCTAD. (2010). Foreign direct investment, the transfer and diffusion of technology, and sustainable development. (p. 24). Geneva: UN.
37. Viner, J., & Olsington, P. (2014). *The Customs Union Issues*. New York: Oxford University Press.
38. Wonnacott, R. J. (1996). *Free-Trade Agreements: For Better or Worse?* San Francisco: American Economic Association.
39. Wooldridge, J. M. (2001). *Econometric Analysis of Cross Section and Panel Data*. London: The MIT Press.
40. Zhangy, Y., & Wang, S. (2015). *Trade Potential of China's Export to ASEAN:The Gravity Model Using New Economic Mass Proxies*. Journal of Systems Science and Information Vol. 3, No. 5, pp. 411{420.

APPENDIX

Table 13. Welfare gain and loss matrix for EU

Tobacco products	Textiles	Paper and paper products	Wearing apparel	High Probability of welfare gain
Other mining and quarrying and Mining support service activities	Wood and of products of wood and cork, except furniture	Chemicals and chemical products	Machinery and equipment	Medium probability of welfare gain
Fabricated metal products, except machinery	Basic pharmaceutical products	Rubber and plastic products	Electrical equipment	
coke and refined petroleum products		Motor vehicles		
Extraction of crude petroleum and natural gas		Mining of coal and lignite	Mining of metal ores	Neutral
Food products	Beverages	Furniture		low probability of welfare lose
Leather and related products	Computer, electronic	Other manufacturing		High probability of welfare lose
Basic metals		Printing and reproduction of recorded media		Import substitution

Table 14. Welfare gain and loss matrix for China

Textiles		Paper and paper products		High Probability of welfare gain
Wood and of products of wood and cork, except furniture		Chemicals and chemical products	Wearing apparel	
Fabricated metal products, except machinery	Basic pharmaceutical products	Rubber and plastic products	Electrical equipment	low probability of welfare gain
Other non-metallic mineral products	Motor vehicles	Food products	Machinery and equipment	
coke and refined petroleum products		Furniture		Neutral
Extraction of crude petroleum and natural gas		Mining of coal and lignite	Mining of metal ores	
Beverages		Other mining and quarrying and Mining support service activities		low probability of welfare lose
Other manufacturing	Computer, electronic	Tobacco products		High probability of welfare lose
Basic metals		Printing and reproduction of recorded media		Import substitution

Table 15. Gravity estimates of total import and export

VARIABLES	Export		Import	
	PPML	PPM with RE	PPML	PPM with RE
InGDPgeo	1.716*** (0.125)	1.211*** (0.001)	1.797*** (0.104)	1.364*** (0.001)
InGDPj	0.028 (0.096)	0.604*** (0.001)	-0.128 (0.089)	0.402*** (0.001)
InDistance	-0.788*** (0.092)	-0.803 (0.498)	-0.504*** (0.109)	-1.240*** (0.428)
InArea	0.315*** (0.030)	0.460*** (0.103)	0.318*** (0.027)	0.673*** (0.103)
DCFTA	-0.284 (0.181)	0.099*** (0.001)	-0.564*** (0.106)	-0.253*** (0.000)
FTA with China	1.156*** (0.171)	0.529*** (0.002)	0.643*** (0.138)	-0.013*** (0.001)
CIS	-0.084 (0.142)	1.118* (0.633)	-0.787*** (0.149)	-0.844* (0.490)
Commonborder	1.033*** (0.148)	1.349 (0.920)	1.270*** (0.169)	0.974 (0.690)
Landlocked	0.076 (0.144)	-1.036* (0.575)	-0.465*** (0.155)	-0.596* (0.358)
Crisis	0.019 (0.239)	0.009*** (0.001)	0.325* (0.176)	0.337*** (0.000)
Dummy_2015	-0.154 (0.169)	-0.192*** (0.001)	0.028 (0.141)	-0.024*** (0.000)
Advanced	0.240 (0.159)	-0.295 (0.495)	0.296*** (0.100)	0.420 (0.395)
Constant	8.609*** (0.691)	6.148* (3.157)	8.221*** (0.695)	8.596*** (2.803)
Observations	900	900	900	900
Number of id		45		45
R-squared	0.571		0.677	

Standard errors in parentheses

*** p<0.01, **p<0.05, *p<0.1



Research