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Abstract

Regional integration could be turned into a basic factor for economic growth if combined with a strong economic-development-oriented governmental strategy. The effects of regional integration can be maximized for countries stressing open trade as opposed to creating trade-diverting conditions, which requires drafting different kinds of agreements, particularly free trade agreements (FTAs). The impact of regional integration is significant, especially for small open economies—such as Armenia, Azerbaijan, and Georgia, which together comprise the South Caucasus—entering into an FTA with a large economy like the People's Republic of China (PRC). At the same time, FTAs have mutual economic and geopolitical benefits for all participant countries. Moreover, taking into consideration the interests of countries like Turkey, Iran, and the Russian Federation in the economic and geopolitical potential of this region, the PRC may have to re-think its role in the South Caucasus. This paper assesses the PRC's FTA strategy, the potential for regional integration in the South Caucasus, and the likely impacts of an FTA on the economies of Armenia, Azerbaijan, Georgia, and the PRC by using several specific trade indicators and a partial equilibrium modeling approach (SMART Model).

1. Introduction

Globalization and advanced technologies have turned foreign trade into the fourth, and most powerful, factor of economic growth. Free trade is preferable for countries that already have a presence in the world market. For new entrants with developing and/or small economies, free trade could be harmful rather than helpful. Therefore, regionalization could be one of the best solutions for such countries. With a strong economic-development-oriented governmental strategy, regional integration can become a fundamental factor for economic growth in countries with small and/or developing economies. The effect of regional integration will be doubled for countries stressing open trade as opposed to creating trade-diverting conditions, which requires drafting different kinds of agreements, particularly FTAs.

There are different approaches for defining regionalization, with a stress on the negative and positive impacts of this process on the economies of participating countries. In this research, the following definition will be emphasized: regionalization is a process of concentrating economic activities within a particular region. However, the positive impacts of FTAs on an individual country's economy might only be small, or even negative, with adverse impacts on the economy, particularly for an FTA between the South Caucasian countries (Armenia, Azerbaijan, and Georgia) and the PRC since goods made in the PRC are already found in their markets. Moreover, the PRC and the South Caucasian countries would need to assess and choose their specific subsectors of specialization, which could have value-added in their economies and that of the PRC. Although, the cooperation between these countries has huge potential for development, there has been almost no research in this field.

According to some economic theories, countries with great economic and political potential would be better off cooperating with similar countries, adherents to classical economic theories (absolute, comparative, and competitive advantages) insist that where you have two countries with one having an advantage over the other, both would better off by cooperation. The potential for cooperation between Armenia, Azerbaijan, Georgia, and the PRC needs to be accessed to determine these advantages.

What would be the major incentive for the PRC in signing an FTA with the South Caucasian countries? Perhaps, it could be greater access to Turkey, Iran, and other countries in the region with huge potential for economic development. At this point, Armenia has no diplomatic relations with Turkey, which is the PRC's primary competitor in the markets of the Caucasian countries, the Russian Federation, and Iran. At the same time, Iran has significant obstacles to the normal functioning of its international economic and political relations. By valuing and intensifying its presence in Caucasian markets today, the PRC is guaranteeing its future permanent presence in two of the major world markets: the Russian Federation and Iran. With a fully open market between the Caucasian countries and Turkey and/or Iran, there would be a very small place, or none, for the PRC in this region and weak potential to be fully present in the Russian Federation and/or Iranian markets.

In this paper the impact of bilateral FTAs between the PRC and Armenia, Azerbaijan, and Georgia on mutual economic outcomes will be considered, along with the possible

impacts of regionalization. First, the theoretical background of regionalization and FTAs will be assessed, followed by the current state of economic cooperation and relations between the PRC and Armenia, Azerbaijan, and Georgia. Then, intra-regional trade share (ITS), intra-regional trade intensity (ITI), revealed comparative advantage (RCA), regional orientation (ROcgr), and regional trade introversion indexes (RTII) will be calculated only for Armenia, Azerbaijan, and Georgia, as they are newcomers in the world market with no significant advantages. The PRC's FTA strategy will be assessed as well.

For an overall picture of how FTAs could impact the economies of the South Caucasian countries and the PRC, particularly revenue and welfare, and trade creation and diversion, the Software for Market Analysis and Restrictions on Trade (SMART) model will be implemented. Another important step is to understand what major opportunities exist for the South Caucasian countries in the PRC's market and vice versa.

Based on these assessments, policy suggestions and recommendations will be presented in the final section.

2. Impact of Regionalization on Economic Development: Theoretical Approach

There are different approaches to defining regionalization with a stress on the negative as well as positive impacts of this process on the economies of participating countries. In this paper, regionalization is defined as the process of concentrating economic activities within a particular region.

There are different stages of regionalization depending on its specific focus, whether economic, financial, or political (Frankel 1998). Each one requires a regional governmental approach from the participating countries.

According to different scholars, the means of regionalization are different and include bilateral agreements, preferential trade agreements (PTAs), and the creation of a regional organization (Ohmae 1995).

A PTA is one of the major tools for regional integration, leading to closer interaction between participating countries on economic, security, political, social, and cultural issues. Previously, PTAs were mostly related to free trade policies for export and imports. Currently, PTAs tend to cover broader aspects of economic issues, such as agricultural policy, rules of origin, product standards, technical barriers, trade remedies, services, labor mobility, investments, trade facilitation, competitive policy, government procurements, intellectual property, environment, labor rights, and human rights (Chauffour and Maur 2012). While taking into consideration that foreign trade is turning into the fourth, and most powerful, source of economic growth for a country, PTAs are becoming more important in highly competitive (and sometimes unfair) world markets. Foreign trade acts as a qualitative and quantitative source for economic development, simultaneously impacting each source of economic growth (natural resources, human capital, and technology).

Free trade agreements (FTAs) are one major type of PTA (others are customs union and partial-scope agreements). From the point of view of the classical economics school, an FTA could be considered significantly positive for signatory countries, especially in the short-run, but because of an FTA's preferential national aspects, unfair conditions are created for other nations. If we consider an FTA as a market-driven tool to promote specialization based on comparative advantages within a region, an FTA will lead to an increase in production, foreign trade, and capital turnover, and the exchange of new technology and equipment and labor force movements, thereby making the globalization process easier (Perkmann and Sum 2002). In addition, the numbers and roles of FTAs are increasing quite rapidly in the modern world because of different factors including the following:

- *Requirements of the world market.* Despite the classical economic view, FTAs are in demand in the free market as globalization requires regional specialization for better use of scarce economic resources.
- *Unification of small markets*. As it is extremely difficult to compete in the world market for small and underdeveloped countries, unification adds opportunities and makes them competitive in the world market.
- *Economies of scale.* FTAs create larger markets, increasing the economies of scale for firms.
- *Reduced prices.* Regional specialization can generate falling prices.

Besides economic profits and losses, FTAs could lead to solving political issues as well through economic unification or by opening politically closed doors for business based on the strategic, selective, and conscientious orientation of FTA principles.

However, the positive impact of an FTA on a country's economy might only be small with larger adverse impacts on the economy if additional actions in the form of economic policy are not undertaken with trade liberalization, such as

- acceptance of standardization and licensing by all signatory countries, and
- capacity building in the business community impacted by FTAs by establishing information centers and laboratories acceptable to all signatory parties and promoting the operations and exports of small and medium-sized enterprises (SMEs).

Therefore, when countries sign an FTA for the sole purpose of having an agreement, there is very little positive impact on their own economies. The FTA signed among member countries of the Commonwealth of Independent States (CIS) serves as an example. As a result of this agreement, tariffs and quotas were removed within CIS countries, although technical requirements for standardization and products were not mutually accepted. It led to a decrease in foreign trade turnover and weaker business and investment relationships among these countries over the years, with them ultimately turning to the European Union (EU) and other countries.

Foreign direct investment (FDI) is a key aspect of FTAs as it is another way of strengthening cooperation between signatory countries (UNCTAD 2009). In addition to signing an FTA that covers exports and imports of products and investments,

participating countries need to institutionalize an FTA, which will lead to mutual promotion of investments as well. The FTA should determine who is responsible for what regionally and domestically, and laws on competition for promoting domestic producers without violating the rights of importers need to be considered. With respect to the South Caucuses and possible FTAs with the PRC, each country needs to assess its comparative subsectors and the value-added aspects for the PRC's economy to avoid competing with their established industries.

International economists incorrectly place multi-nationalization above integration, since there are both developed and developing countries to take into consideration. If we consider integration as a next step toward multi-nationalization (multi-trade liberalization), there is nothing negative about an FTA between regional countries with the World Trade Organization (WTO) playing an important role, leading to the liberalization of trade in the world economy step by step.

Although according to some economic theories, countries with great economic and political potential would be better off cooperating with similar countries, adherents to classical economic theories (absolute, comparative, and competitive advantages) insist that where you have two countries with one having an advantage over the other, both would better off by cooperation. The potential for cooperation between Armenia, Azerbaijan, Georgia, and the PRC needs to be assessed to determine these advantages.

As it was previously stated, FTAs are mostly signed between developed and developing countries. Leading developed countries include those in the EU, while Chile, Singapore, and Turkey are prominent developing nations that are signatories to FTAs. An FTA tends to not only involve countries from a particular region but also from other regions. Modern technology removes physical distances between countries to create a strong base for regionalization. An FTA can be a politically effective tool for the multilateral trade liberalization process as it can be used to promote liberal trade among producers, customers, and political parties in opposition. Different international economic organizations report the existence of approximately 270 PTAs despite the increase in WTO membership. And these PTAs are becoming ubiquitous, replacing bilateral treaties in the international arena.

Since the PRC has absolute advantages in almost all products and services, South Caucasian countries should assess their comparative advantages to increase mutually beneficial gains for all parties before signing any agreements with the PRC. As "Made in China" products are already found in their markets, the South Caucasian countries must decide upon their specific subsectors of specialization that could add value to the economies of other South Caucasian countries and the PRC.

The expectations for Asian regionalization by economists vary widely, but there is agreement that Asia is becoming a third pillar in the world economy (Gao 2011). Slowly, this process is moving forward, which is evident by increasing foreign trade among Asian countries. According to international organizations, during the last 7 years intra-regional trade in Asia increased more than twofold. Yet the positive aspects of an FTA cannot easily be discerned when regional countries sign an agreement for political reasons.

In summary, taking into account that free foreign trade could be the fourth, and most powerful, factor of economic growth, an FTA could serve as a good platform for promoting foreign trade and specialization in the world market if there is sufficient demand among the signatory countries.

3. Trends in the People's Republic of China's FTA Strategy

Until the collapse of the Soviet Union in the early 1990s, most of the countries of the world were categorized as being either communistic or capitalistic, where the cross-border movement of products and services were regulated according to relations among friendly and non-friendly countries. Following the dissolution of the Soviet Union in 1991, FTAs became more popular in the international arena as the economic benefits they promised could strengthen the political position of signatory countries within their respective region. At the same time, a powerful economic union could also lead to an influential political presence in the world market.

Taking into consideration the fact that the PRC seeks to continuously strengthen its economic position in the world and has demonstrated a tendency to sign FTAs with countries both within and outside of the region, at least theoretically the PRC should be interested in signing an FTA with the South Caucasian countries. At the same time, the use of FTAs as a part of the PRC's foreign economic strategy was facilitated by the delay in its gaining membership in the WTO. As Ganeshan Wignaraja mentioned in his article, *Comparing China and India's FTA strategies*, "over the past decade, [the PRC] and India have emphasized FTAs to gain market access amidst an impasse at the WTO Doha Round and signs of protectionism." Moreover, Wignaraja is sure that the PRC is "increasingly adopting a multi-track trade policy of multilateralism and regionalism" (Wignaraja 2012, p.1).

Another economist, Henry Gao, states that although the PRC is a latecomer to the trend of signing FTAs, "[the PRC] has taken a conscious strategy to push for economic integration in the region," which was approved in the Ninth 5-Year Plan of the PRC published in 1996 (Gao 2011, p.1).

At the same time, after accession to the WTO, the PRC started to be very active in pursuing a regional trade strategy. As a result, the PRC now has FTAs with ASEAN; Pakistan; Chile; New Zealand; Singapore; Peru; Hong Kong, China; Macau, China; Costa Rica; Iceland; and Switzerland. FTAs with member countries of the Gulf Cooperation Council and Australia and Norway are under negotiation, while FTAs with India, Japan, and the Republic of Korea are under consideration. The PRC is also a signatory to the Asia-Pacific Trade Agreement.

Many politicians and economists believe that the PRC had to continue its FTA promotion strategy to sustain and expand its presence in a number of regions, both economically and politically, by pursuing official and non-official methods (Yang 2008). Moreover, according to different international trade statistics sources and PRC official sources, the PRC is among the world's most trade-dependent economy. Given its economic

condition, the free movement of goods, services, and capital is a powerful precondition for the further economic development of the PRC.

According to the Asian Development Bank Institute (ADBI), the PRC's FTA strategy has comprised three stages marked by the following: (i) goods, (ii) services and investment, and (iii) a comprehensive FTA package. FTAs that reflect progression through all three of these stages are the ASEAN–PRC and Chile–PRC FTAs. At the same time, FTAs with developing countries are more focused on the reduction of tariffs and non-tariff barriers to trade, while FTAs with developed countries also focus on policy and institutional issues such as intellectual property rights, transparency measures, quality assurance standards, and competition policy.

Moreover, the FTAs of the PRC with developed countries assist them to modernize their products and services standards to give greater access to new products in the partner countries. The FTAs of the PRC with developing countries sustain and expand the presence of "Made in China" products, services, and investments in these countries, and allow the PRC to compete with the developed world in geopolitical division of the world. At the same time, new technologies are showing the growing importance of knowledge and innovation compared to natural resources and capital, which means that even a country with very small economic resources can become a leader in the world market by stressing knowledge development.

In summary, the Government of the PRC accepts the importance and economic benefits of FTAs to promote international trade and as a tool of global politics. FTAs have already been integrated into the PRC's foreign trade strategy as a greater economic presence in partner countries can also increase the PRC's global political role while facilitating the future expansion of trade opportunities.

4. Economic and Political Cooperation between Armenia, Azerbaijan, Georgia, and the People's Republic of China

An FTA tends to not only involve countries from a particular region but also from other regions. Modern technology removes physical distances between countries, creating a strong base for regionalization. Armenia, Azerbaijan, Georgia, and the PRC are not exceptions. To understand the impact of FTAs on these countries, it is better to start with an overview of trade and investment cooperation among them as well as the overall macroeconomic conditions of each country separately.

The relationship between Armenia, Azerbaijan, Georgia, and the PRC dates back to the times of the Silk Road (Bedrosian 1981). During the Soviet era, relations between the South Caucasian countries and the PRC were weak and mediated by the Kremlin. Political, economic, and cultural relations began to improve after 1991, yet despite becoming vibrant again, there has not been a major increase in economic and trade ties. Unfortunately, after about 2 decades of cooperation since independence from the former Soviet Union, economic and trade cooperation between the South Caucuses and the PRC remains low. The PRC is not among the top 10 economic partners of Armenia,

Azerbaijan, or Georgia, while the Caucasian countries are far from being among the 10 top economic partners of the PRC. For example, according to the statistical services of the South Caucasian countries and UNCTAD, the total exports from these countries to the PRC in 2012 were

- US$31 million for Armenia, with major products by Harmonized System (HS) Code being ore slag and ash; beverages, spirits, and vinegars; articles of stones; plastics and articles thereof;
- US$183 million for Azerbaijan, with major products by HS Code being mineral fuels and oils, plastics and articles thereof, and aluminum; and
- US$26 million for Georgia, with major products by HS Code being copper and articles thereof; beverages, spirits, and vinegar; and lead and articles.

Total imports from the PRC in 2012 exceeded exports in all South Caucasian countries and cover more additional products as well:

- Armenia imported about US$397 million in goods from the PRC in 2012, down almost 1% from imports in 2010. The major imported products by HS Code were electrical machinery and equipment and parts; telecommunications equipment; sound recorders; television recorders; nuclear reactors; boilers; machinery and mechanical appliances; computers; furniture, bedding, and cushions; lamps and lighting fixtures; illuminated signs; nameplates; prefabricated buildings; footwear and hosiery; optical, photographic, measuring, precision, medical, or surgical instruments and accessories; apparel and clothing accessories (not knitted or crocheted); products of iron or steel; ceramic products; and plastics and articles thereof.
- Azerbaijan's imports from the PRC amounted to about US$632 million in 2012, almost a 7% increase over 2010 imports. The major imported products by HS Code were nuclear reactors; boilers; machinery and mechanical appliances; computers; electrical machinery and equipment and parts; telecommunications equipment; sound recorders; television recorders; glass and glassware; products of iron or steel; vehicles excluding railway; optical, photographic, measuring, precision, medical, or surgical instruments and accessories; plastic and articles thereof; apparel and clothing accessories (not knitted or crocheted); zinc and articles thereof; and rubbers and articles thereof.
- Georgia's imports from the PRC amounted to US$566 million, an almost 70% increase from 2010. The major imported products by HS Code were electrical machinery and equipment and parts; telecommunications equipment; sound recorders; television recorders; nuclear reactors; boilers; machinery and mechanical appliances; computers; furniture, bedding, and cushions; lamps and lighting fixtures; illuminated signs; nameplates; prefabricated buildings; footwear and hosiery; ceramic products; apparel and clothing accessories (not knitted or crocheted); apparel and clothing accessories (knitted or crocheted); plastic and articles thereof; toys; games and sports equipment; parts and accessories; vehicles excluding railway; wood and articles of wood; wood charcoal; and products of iron or steel.

Thus, foreign trade between the PRC and South Caucasian countries is quite modest. This report will later discuss the huge potential that exists for mutual cooperation.

Overall, foreign trade turnover between Armenia, Azerbaijan, and Georgia and the PRC shows positive trends (Figure 1), which is grounds for the PRC government to consider opening the doors for trade by signing an FTA. For imports, the PRC is almost among top 10 importing partners of the South Caucasian countries.

Figure 1: Imports from the People's Republic of China to South Caucasian Countries, 2007–2011 (% of total imports)
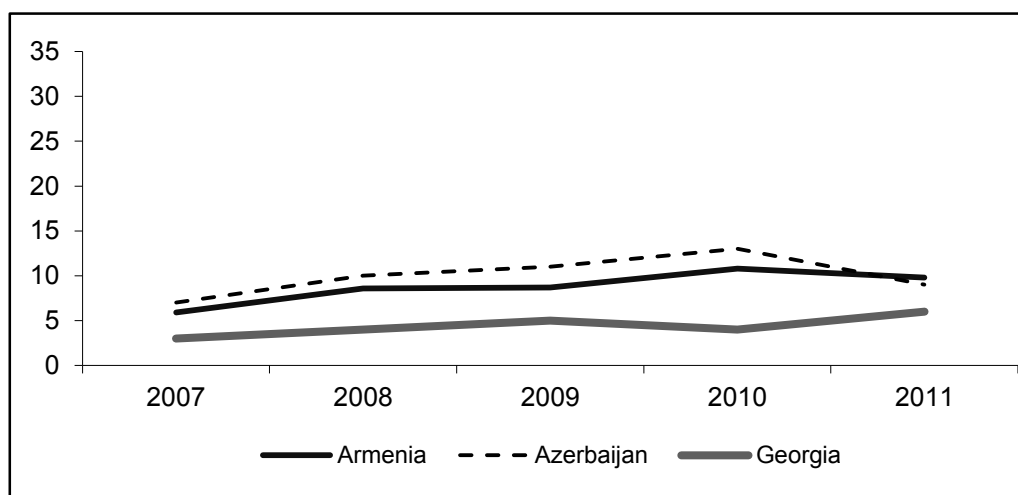
Source: National statistical services of each country (wits.worldbank.org).

After the global financial crisis (GFC), the exports of small countries decreased as the prices of natural resources and agricultural products decreased. This could be seen in the case of exports to the PRC from the three South Caucasian countries (Table 1). However, a decrease in Azerbaijan's exports to the PRC is not clearly evident as Azerbaijan increased its exports of crude oil while reducing exports to other countries where it did not export crude oil.

Table 1: Exports from South Caucasian Countries to the People's Republic of China, 2007–2011 (% of total exports)

	2007	2008	2009	2010	2011
Armenia	0.7	0.2	2.6	3.0	1.2
Azerbaijan	0.0	7.5	1.0	2.0	0.0
Georgia	2.0	1.5	1.0	4.0	4.0

Source: National statistical services of each country; wits.worldbank.org

With the figures presented above we can conclude that the South Caucasian countries mainly export raw materials to the PRC, while they import finished goods and goods for consumption.

In general, the major exported products from the Caucasian countries are raw materials and the main destinations are the EU, the Russian Federation, and the United States (US). Major imported products are finished goods from the EU, the Russian Federation, the US, and Turkey.

Out of the three South Caucasian countries, only Azerbaijan has a positive trade balance, due to its crude oil exports, over the last 5 years. Yet, Azerbaijan's exports and imports trends are not characterized by stability when taking into consideration the GFC and other global financial and economic crises (Figure 2).

Figure 2: Azerbaijan's Foreign Trade, 2000–2011 (y-o-y, %)
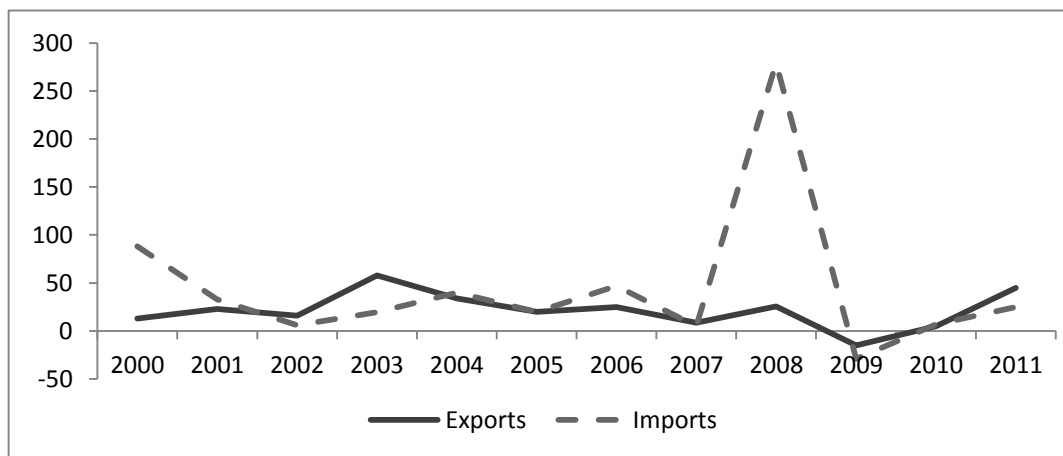
Source: www.stat.gov.az

In 2009–11, fuel was the major exported product for Azerbaijan, comprising more than 90% of total exports. The major imported products were finished goods (more than 78% of total exports) and agricultural products (more than 15%). These numbers show that the country's export and import structure is not diversified and is subject to world market fluctuations. The main countries Azerbaijan exports to are in the EU at almost 60% (mainly France and Italy), the US at almost 9%, and CIS countries at more than 10% (mainly the Russian Federation and Ukraine). Azerbaijan's import partners include the EU at more than 30% and rising (mainly Germany, France, and Italy), the Russian Federation at almost 17% and falling, Turkey at more than 13%, and the US at between 6% and 7%.

Historically, Azerbaijan's economy has been directly dependent on the production of hydrocarbons (mainly crude oil) and the same holds true for its long-term prospects. The major sectors of the economy are also directly related to this raw material. FDI is directed to the oil and natural gas sectors, constituting more than 80% of the total amount.

The structure of Azerbaijan's gross domestic product (GDP) is presented in Figure 3. More than 75% of Azerbaijan's industrial production consists of oil and gas production. The major agricultural industries are cotton, tea, tobacco, produce, and cattle breeding.

FDI mainly went to the oil and gas sector. Construction is the next major part of GDP, constituting more than 9%.

Armenia's situation is not much different from that of Azerbaijan. The major exported products from Armenia are mined ores and metals, finished agricultural products, and precious and non-precious metals and stones and related products. The major imported products are mined ores and metals, fuels, precious metals and stones, machinery and equipment, and finished agricultural products. The main importing and exporting partner countries are those in the EU (mainly Germany, Bulgaria, Belgium, the Netherlands, and Spain) and the CIS (mainly the Russian Federation and Ukraine), the US, Iran, and Georgia. An important tendency in the export structure is the increase in products and services related to software development and related FDI.

The tendencies for Armenia's exports and imports are wide ranging given the diversification of markets and products (Figure 4).[1] The role of the CIS market is weakening and being replaced by the EU market. The GDP composition of Armenia for 2012 is shown in Figure 5.

Figure 3: Composition of Azerbaijan's GDP in 2012 (%)

■ Industry ■ Agriculture ■ Construction ■ Trade ■ Services and Others
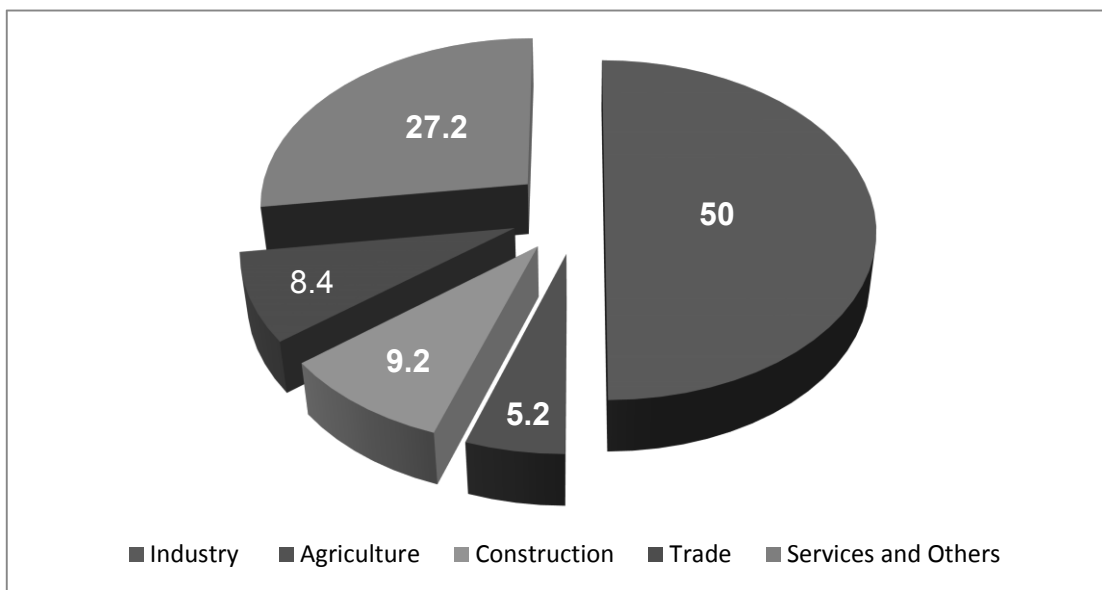
GDP = Gross Domestic Product.

Source: www.stat.gov.az

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[1] The decrease in exports and imports during 2008–09 in all of the South Caucasian countries is explained by the GFC.

Figure 4: Armenia's Foreign Trade, 2005–2012 (y-o-y, %)
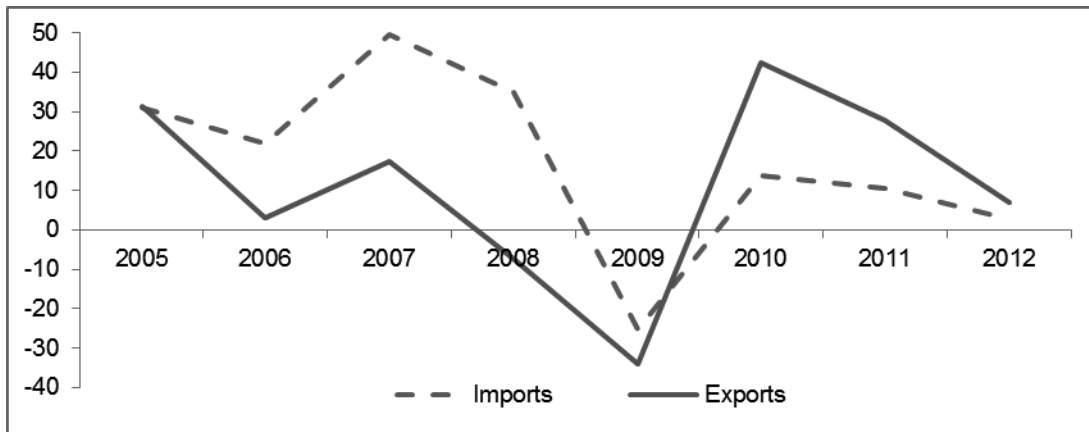
Source: www.armstat.am

The major sectors of Armenia's industries are processing, constituting almost 65% of all production, followed by energy production, mining, and water supply. The major agricultural sectors are fruit and vegetable production, tobacco, cattle breeding, and fishing. Armenia is also well known for its brandy.

FDI in Armenia mainly went to the mining and communications sectors, energy production, and beverage production. The major sources of FDI are the Russian Federation, France, Germany, and the US.

Figure 5: Composition of Armenia's GDP in 2012 (%)
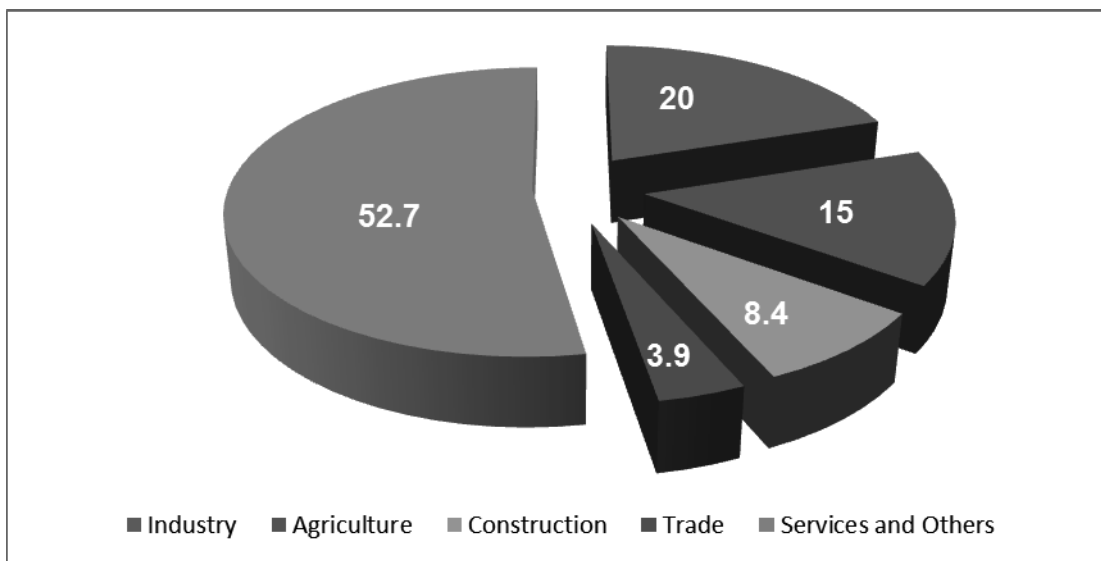
GDP = Gross Domestic Product.
Source: www.armstat.am

The only difference in Georgia's export and import structure compared with its South Caucasian peers is its small amount of trade with the Russian Federation, which is explained by the political conflict between these two countries. This is compensated for by close economic cooperation with Armenia, Azerbaijan, and Turkey. Georgia's major export markets are the EU at almost 20% (mainly Italy, Germany, Belgium, Bulgaria, and France), the CIS at almost 40% (mainly Armenia, Azerbaijan, Ukraine, and Kazakhstan), the US (10%), and Turkey (more than 7%). Its primary importing partners are the EU (more than 28%), the CIS (more than 45% and mainly Ukraine, Azerbaijan, and Armenia), Turkey (more than 17%), and the PRC (about 7%).

Georgia's major export products over the last 5 years were alcoholic drinks (mainly wine) and raw materials (gold, ferrous alloys and ferrous waste, mineral or chemical fertilizers, copper, and cement). During the same period, its imports included agricultural products (more than 18%) as well as finished goods and goods for consumption (almost 60%). Growth trends in both exports and imports are the most stable in Georgia among all three South Caucasian countries (Figure 6).

In 2012, Georgia's GDP structure was consisted mainly of industry and trade (Figure 7). The major sectors of industry in Georgia include manufacturing of food products; beverages and tobacco products; manufacturing of basic metals and fabricated metal products; and electricity, gas, and water supply. The major subsectors of agriculture are plant growing and agricultural services. In addition, Georgia is well known for its wines. The GDP growth rate for 2012 was 6.1%, compared with a 3.2% contraction in 2008 due to the GFC.

FDI in Georgia goes mainly to the energy, financial, consultancy, transportation and communications, and manufacturing sectors. The major investing countries are the Netherlands, Azerbaijan, the Russian Federation, Turkey, and the UK.

The PRC's major export and import partners are the EU, the US, and Japan. It mostly exports manufactured goods (constituting more than 90% of total exports) and it imports manufactured products (more than 50%), fuels, and mining and agricultural products (National Bureau of Statistics of China). The PRC is already been considering a world leader in manufacturing with the huge potential to become a world leader in finance in the near future.

The PRC's economy is huge and expanding rapidly. With its economic and political potential, the PRC is ready to meet the manufacturing needs of most countries. For centuries the PRC was a leading civilization in the arts and sciences, though its position deteriorated in the 19th and early 20th centuries due to severe political upheaval, war, and foreign interference. After the Second World War, the Communist party under the leadership of Mao Zedong established a socialist system in the country. After 1978, the country went through a series of reforms under Deng Xiaoping and other subsequent leaders who strove for economic development. By 2000, its economic output had increased dramatically, living standards had improved, and the space for personal choice had expanded. The economy has grown more than 10 times since 2000. Although the PRC is classified as a lower middle-income country by world standards given that it is the world's most populous country, according to the forecasts of different

international organizations and consulting companies, the PRC's economy in 2015 will be the largest in the world both on a purchasing power parity and nominal basis. Today, the PRC's economy is second to the US.

Figure 6: Georgia's Exports and Imports, 2005–2011 (y-o-y, %)
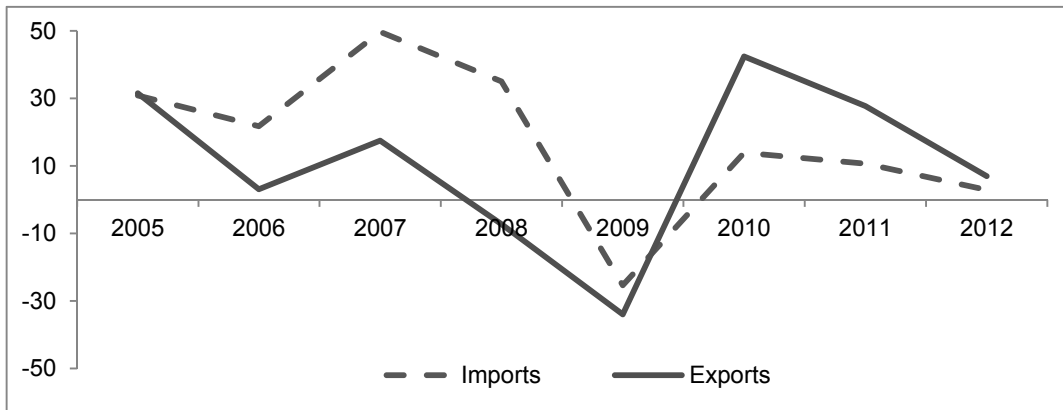
Source: www.geostat.ge

Figure 7: Composition of Georgia's GDP in 2012 (%)
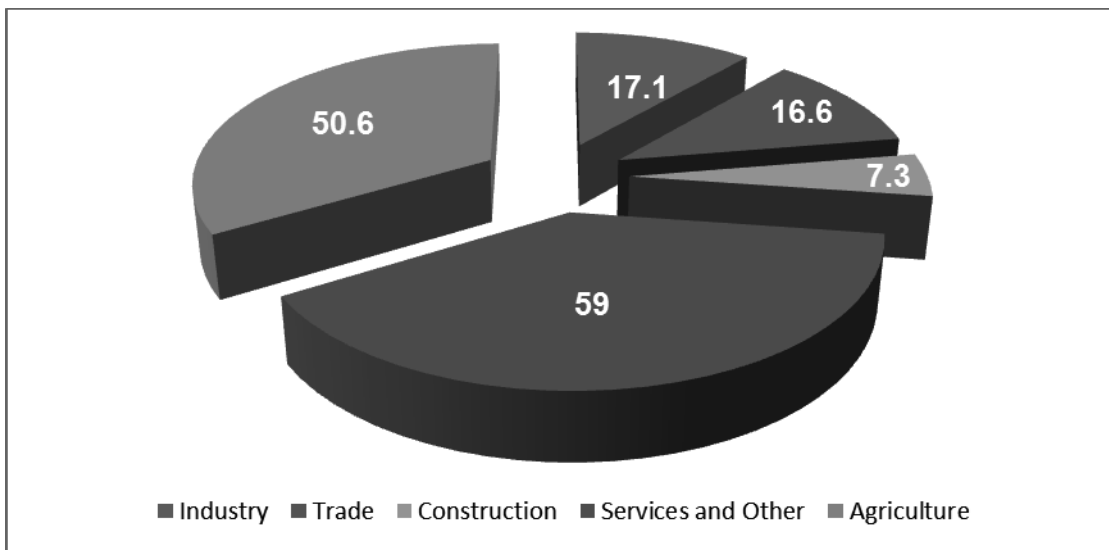
GDP = Gross Domestic Product.

Source: www.geostat.ge

Additional information about Armenia, Azerbaijan, Georgia, and the PRC is presented in Annex 3.

Nearly all of the political, cultural, and economic relations that exist between the South Caucasian countries and the PRC were established based on closer economic cooperation. However, since the interests of world powers vary in the region, and the economic and political interests of the Caucasian countries and the PRC are also different, economic cooperation among these countries is still weak. As these countries continue to develop, their relations will become stronger, with mutually favorable economic, cultural, and political benefits, as during the time of the Silk Road.

Moreover, Armenia presently has no diplomatic relations with Turkey, which could be considered as one of the PRC's competitors in South Caucasian markets. The next biggest competitors are the Russian Federation, Iran, and other countries in the region with large potential of economic growth such as Ukraine or Kazakhstan. By valuing and intensifying its presence in the South Caucasian markets today, the PRC perhaps can guarantee its future permanent presence in two of the major world markets, the Russian Federation and Iran.

5. Analysis of SMART and Comparative Indicators of the Relationship between the South Caucasian Countries and the People's Republic of China

For a complete picture, it is important to calculate several measures of free trade for the countries under review in this paper. We will start with general indicators: intra-regional trade share (ITS) and intra-regional trade intensity (ITI) for Armenia, Azerbaijan, and Georgia compared with the PRC, where ITS = T_{ii}/T_{iw} (T_{ii} is exports of Armenia, Azerbaijan, or Georgia to the PRC, plus imports of Armenia, Azerbaijan, or Georgia from the PRC/total exports of Armenia, Azerbaijan, or Georgia to the world plus total imports of Armenia, Azerbaijan, or Georgia from the world) and ITI = $(T_{ii}/T_{iw})/(T_{iw}/T_w)$ (T_w is total world exports plus total world imports) (Plummer, Cheong, and Hamanaka 2010).

For the calculations of these figures, the 6-digit nomenclatures (HS 2000) trade and tariff data are used based on the World Integrated Trade Solution (WITS) database. Other data sources are official websites of the national services of each countries.

Between the three South Caucasian countries, Armenia has the highest figure for ITS, which shows that it has closer trade and economic cooperation with the PRC. In Table 2, a higher share indicates a higher degree of dependency on regional trade. For all countries, ITI is 0, which shows that the countries are too small in the world market and their governments need to re-state their strategies for sectors targeted for development and for increasing exports to the fast-growing PRC economy.

Revealed comparative advantage is calculated as (RCA) = $(X_{cg}/X_c)/(X_{wg}/X_w)$. X_{cg} is exports of good g by country c (Armenia, Azerbaijan, or Georgia), X_c is total exports of country c, X_{wg} is world exports of good g, and X_w is total world exports. RCA is for the

same products group (similar products that three countries export) according to HS Codes for products exported to the world market. RCA was developed by Balassa (1965) to assess how effective FTAs between partners could be. The larger the RCA index among partners, the more effective an FTA. RCA has been used in almost all assessments of FTAs among different countries by researchers and economists. For example, Utkulu and Seyman (2004) made calculations of RCA for Turkey vis-à-vis the EU in figuring out the major sectors of mutual beneficial trade between them (Utkulu and Seyman 2004).

Table 2: Intra-Regional Trade Share and Intra-Regional Trade Intensity for South Caucasian Countries

Country	ITS	ITI
Armenia	0.106	0.00
Georgia	0.033	0.00
Azerbaijan	0.029	0.00

ITI = intra-regional trade intensity; ITS = intra-regional trade share.
Source: http://wits.worldbank.org

There are also those who believe that the RCA index has incomparability and inconsistency issues (Sanidas and Shin 2010). However, RCA continues to be the most universal index for FTA effectiveness assessment among researchers and economists. A comparative advantage is "revealed" if RCA>1, while in the opposite case of RCA<1 a country is said to have a comparative disadvantage in the commodity or industry. But one of the negative aspects of the RCA index is that it ignores potential RCA, which is mostly dependent on the economic and political policy strategies of the countries under review.

Figure 8 shows that Armenia has strong advantage in the world market in the following products: beverages, spirits, and vinegar; ores, slag, and ash; tobacco and manufactured tobacco substitutes; and copper and articles thereof. Currently, Armenia has RCA in more than 17 HS 2-digit product codes.

The range of RCA products for Azerbaijan has been small over the last 10 years, covering eight HS 2-digit product codes. These products are edible fruits and nuts; peel of citrus fruit or melons; animal or vegetable fats and oils, and their cleavage products; prepared edible fats; animal or vegetable waxes; sugars and sugar confectionery; oil and inorganic chemicals; and organic or inorganic compounds of precious metals, rare-earth metals, radioactive elements, or isotopes.

Figure 8: RCA Trends for Armenia, 2003–2012 (HS Code)
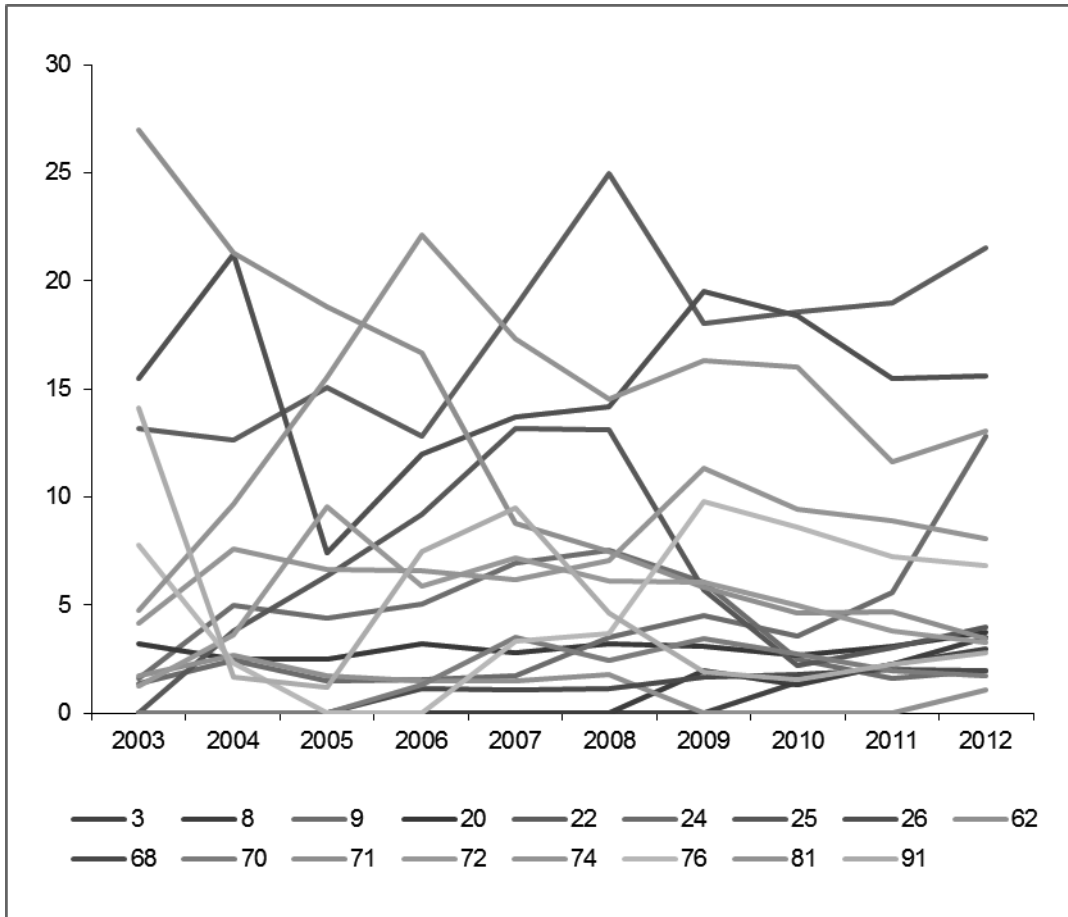
HS = harmonized system.
Note: See Annex 1 for the list of HS Codes.

Source: http://wits.worldbank.org

Table 3: RCA Trends for Georgia, 2003–2012

HS2-digit code	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	0	0	0	0	0	1.0258	1.0258	21.8543	5.998	20.6071
8	6.8961	7.0186	19.4524	15.7224	13.4003	6.6412	6.6412	14.7281	12.7731	8.512
9	6.7231	4.6026	3.0385	1.7184	1.4082	1.2024	1.2024	1.7193	1.0269	1.4959
10	4.5919	7.1959	2.0147	3.7849	1.9413	0	0	0	0	3.4749
11	0	1.0394	2.7176	0	2.6158	2.7748	2.7748	0	1.3801	1.2993
14	0	0	0	1.0722	0	3.1273	3.1273	0	0	1.6385
20	1.2963	1.1043	14.3968	2.3719	3.8726	2.3441	2.3441	0	0	2.025
22	29.2386	25.4536	2.0078	21.1122	19.5139	15.9837	15.9837	16.8996	14.8124	16.1191
25	0	3.2744	8.3175	12.5608	22.2022	18.6683	18.6683	8.0938	3.8528	6.1279
26	17.8394	6.1639	6.1639	10.6288	7.5107	9.3914	9.3914	6.5221	3.0775	1.9248
28	1.2908	1.5385	1.3445	1.5564	1.4904	0	0	0	1.0753	2.3381
31	18.6746	20.4264	15.9218	21.6474	17.2267	14.9304	1.1522	16.2949	15.6254	14.6569
36	0	0	0	4.9001	3.0153	2.3343	2.3343	5.2038	5.4158	6.1851
41	1.1094	0	0	0	1.1496	0	0	0	0	1.0926
44	2.1968	1.7922	1.867	2.1151	2.0641	2.0554	2.0554	2.7737	1.4775	1.4548
71	2.4267	1.6256	2.4584	2.8637	2.7032	3.1679	3.1679	3.9804	1.7036	1.1621
72	8.6484	7.8563	6.6321	6.0463	6.7811	8.3193	8.3193	7.804	7.4489	6.1679
74	3.5379	1.8789	1.7056	2.7241	2.7666	2.1437	2.1437	1.971	2.1317	1.7824
78	1.4492	0	1.8951	3.2246	7.2579	6.6471	5.7112	8.2184	6.4511	5.0036
86	4.2063	2.807	1.4654	2.062	5.7508	11.1123	11.1123	6.4732	3.7141	3.0695

RCA = revealed comparative advantage.
Note: See Annex 1 for the list of HS Codes.

Source: http://wits.worldbank.org

Table 4 shows RCA products for Georgia. The range of products exceeded 21 over the last 10 years. The major products are live animals; animal products; beverages, spirits, and vinegar; fertilizers and edible fruit and nuts; and peel of citrus fruit or melons. Although only some products with RCA is the same for all three countries, such as animals and beverages, still there is no need for competing. In fact, there is a strong need for cooperation as the market of the PRC is huge and cooperation can lead to reduced costs when entering this market.

For regional orientation $(RO)cgr = (Xcgr/Xct)/(Xcg\text{-}r/Xc\text{-}r)$ ($Xcgr$ - exports of good g by country c to region r, Xct - total exports of country c to region r, $Xcg\text{-}r$ - exports of good g by country c to countries outside region, $Xc\text{-}r$ - total exports of good g to countries outside region r), we have taken beverages for Armenia and Georgia and HS Code 27 (mineral fuels) for Azerbaijan, as the latter does not export beverages to the PRC. The

calculation shows that only Georgia holds the advantage in regional exports of beverages based on the assessment in Annex 3 (Table 4). The regional orientation index shows if the exports of the special products of selected countries to the PRC are greater than exports to other destinations. In other words, it measures the importance of intra-regional exports relative to extra-regional exports. RO takes a value between 0 and +∞, where the value greater than unity implies a regional bias in exports. This indicator is widely used by international economic and trade organizations.

Table 4: RO$_{cgr}$ for Armenia, Azerbaijan, and Georgia

Regional Orientation	Index
Armenia	0.04
Azerbaijan	0.064
Georgia	2.93

RO = regional orientation.
Source: http://wits.worldbank.org

The last calculated index is Regional Trade Introversion Index (RTII) = (HIi - HEi)/(HIi+HEi) (where HIi=(Tii/Tiw)/(Toi/To) and HEi=[1-=(Tii/Tiw)]/[1-(Toi/To)] (Tii - exports of region i to region i plus imports of region i from region i, Tiw - total exports of region i to the world plus total imports of region i from the world, Toi - exports of region i to outsiders plus imports of region i from outsiders, To - total exports of outsiders plus total imports of outsiders). The RTII could be considered as an ex post measure of the trade-diverting effects of regional integration (Lapadre 2004).

-1<=RTII<=1 means that the relationships within the regions are increasing more rapidly than outside them. As Table 5 shows, trade between the PRC and the South Caucasian countries is increasing rapidly as the figure is positive. Moreover, discussion within this research has already shown that trade among the PRC and these countries more or less has a positive tendency.

Table 5: RTII for Armenia, Azerbaijan, and Georgia

	Index
Armenia	0.894
Azerbaijan	0.971
Georgia	1.034

Source: http://wits.worldbank.org

After an assessment of these indicators, it is necessary to understand how FTAs between Armenia, Azerbaijan, Georgia, and the PRC could impact the revenues and welfare[2] of the countries, as well as the trade creation and trade diversion effects of

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[2] Nomenclature for products is taken HS-Combined.

potential FTAs, through the use of the SMART model.[3] This model is a partial equilibrium modeling approach to understand the trade creation and trade diversion effects under the proposed tariff reduction cases.

$$TC_{ijk} = n_i^m M_{ijk} \frac{\left(1+t_{ijk}^1\right)-\left(1+t_{ijk}^0\right)}{\left(1+t_{ijk}^1\right)} \tag{1}$$

Let's start with "trade creation," which shows how an FTA could impact selected products and is presented by the following equation:

Where TC_{ijk} - is the sum of trade created in millions of dollars over i commodities affected by tariff change;

n_i^m - is the elasticity of import demand for commodity i in the importing country from the relevant trading partner;

M_{ijk} - is the current level of import demand of the given commodity i;

t_{ijk}^0 and t_{ijk}^1 - represent tariff rates for commodity i at the initial and ending periods, respectively.

If the trade creation index is equal to 0, then an FTA has no impact. As Table 6 shows for selected products, Armenia and Azerbaijan are in a more preferable position than Georgia regarding an FTA with the PRC.

Trade diversion is presented as

$$TD_{ijk} = \frac{M_{ijk}}{\Sigma_k M_{ijk}} \frac{\Sigma_k M_{ijk} \Sigma_K M_{ijK} \frac{\Delta\left(P_{ijk}/P_{ijK}\right)}{P_{ijk}/P_{ijK}} \sigma_M}{\Sigma_k M_{ijk} + \Sigma_K M_{ijk} \frac{\Delta\left(P_{ijk}/P_{ijk}\right)}{P_{ijk}/P_{ijK}} \sigma_M}$$

Where k denotes imports from the PRC and K denotes imports from the rest of the world. Trade diversion helps to understand the outcome of changing the cost-effective suppliers with non-cost-effective ones because of an FTA. If trade diversion is equal to zero, then an FTA would not lead to any change of suppliers among FTA signatory

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[3] Trade creation and trade diversion effects were first introduced by Viner (1950). They show as a result of economic unification between countries the changing direction of goods from one country to the other supplying goods to a third country. These two indicators differ when trade creation provides real net improvement of the price, while trade diversion comes at the moment when trade from the cheapest supplier state is diverted to the state inside the union, where goods became cheaper only due to a decrease in tariffs.

countries. As Table 6 shows, Georgia would have zero trade diversion from a potential FTA with the PRC. At the same time, Table 6 shows that if trade creation is zero, it leads to the same value as trade diversion.

Table 7 presents the possible impact of an FTA between Armenia, Azerbaijan, Georgia, and the PRC on welfare and total revenue of the countries based on the SMART model. This model allows understanding through the simulation of the impact of the proposed FTA on bilateral trade flows. SMART is a quantitative and computable partial equilibrium (CPE) model. It was jointly developed by the World Bank and UNCTAD for trade policy analysis.

The major advantage of the SMART model is the minimal data requirement related to the trade flows, trade policy, and elasticity of the market, which can be easily reached through WITS datasets. At the same time, this model is more adequate than the homogenous good model when examining tariff preferences (Choudhry, Kallumal, and Varna 2013). The major disadvantage of this model is that it ignores constraints that apply to the various factors of production and their movements across sectors. Still, this model continues to be the most used one for assessing the impacts of FTAs on the economies of trading partners. The SMART model was suggested for use in this capacity in an Asian Development Bank (ADB) publication, *Methodology for Impact Assessment of Free Trade Agreements* (Plummer, Cheong, and Hamanaka 2010). The negative aspect of SMART is that it assesses the short-run impacts of FTAs and neglects long-run specialization of FTA partners in advantaged sectors.

The revenue changes are dependent on elasticity, which we have taken that elasticity is almost 99 percent for all products. In the short-run, an FTA would have negative revenue effects in the South Caucasian countries. But with a targeted, strong, and continuing government policy in the long-run, revenue effects could be increased because of an increase in production in other sectors, which are unique compared with the PRC's comparatively "unlimited" potential for production. At the same time, according to different international assessments, the PRC market is one of fastest growing in the world, suggesting that producers all over the world can realize their production niche in exporting to the PRC.

The impacts of an FTA with South Caucasian countries on the PRC's economy, according to the SMART model, are shown in the Table 8. Although the impacts are small or equal to zero, the PRC economy could benefit in the long-run, in addition to increasing its geopolitical presence, if the South Caucasian countries would develop the right strategies in developing their export sectors to have competitive advantages against the PRC's products and services. This topic will be discussed in the next section.

Table 6: Trade Creation and Trade Diversion as a Result of an FTA between Armenia, Azerbaijan, Georgia, and the People's Republic of China ($ thousand)

Product Code*	Trade Creation			Trade Diversion		
	Armenia	Georgia	Azerbaijan	Armenia	Georgia	Azerbaijan
25	1.102	7.801	17.411	0.651	10.707	24.729
28	0	0	0.027	0	0	0.028
39	289.504	386.894	140.464	230.901	356.555	175.974
44	0	294.085	98.44	0	98.225	87.547
48	71.643	0	108.775	77.092	0	80.928
49	0	N/A	7.335	0	N/A	8.717
61	403.449	0	78.212	179.376	0	4.833
63	310.707	0	33.931	105.498	0	16.625
73	50.829	280.899	713.061	34.36	262.968	585.299
84	305.482	0	402.059	356.001	0	447.433
85	781.123	4.758	1321.685	444.962	7.787	1158.795
87	402.505	0	0	216.127	0	0
90	39.409	0	1343.59	13.291	0	315.225
95	59.566	0	44.667	35.064	0	42.301
20	165.483	147.739	18.421	36.604	54.528	11.224

FTA = free trade agreement.
See Annex 1 for the list of products.

Source: http://wits.worldbank.org

Table 7: Welfare and Revenue Effect of an FTA with the People's Republic of China on Armenia, Azerbaijan, and Georgia ($ thousand)

	HS Codes	Armenia	Georgia	Azerbaijan
Welfare effects	22	0	0	0
	25	0.003	0.383	0.809
	28	0	0	0
	39	21.309	20.566	17.13
	44	0	20.85	7.175
	48	6.163	0	10.836
	49	0	N/A	0.894
	61	35.303	0	9.21
	63	26.875	0	3.826
	73	4.227	16.478	67.335
	84	27.121	0	27.36
	85	66.961	0.105	141.315
	87	30.078	0	0
	90	3.574	0	154.438
	95	4.579	0	5.408
	20	10.815	13.524	2.214
Revenue Effects	22	0	0	0
	25	−0.373	−8.583	−17.743
	28	0	0	−0.027
	39	−311.305	−341.766	−157.508
	44	0	−126.7644	−73.152
	48	−59.607	0	−98.078
	49	0	N/A	−6.542
	61	−256.598	0	−0.73
	63	−155.353	0	−20.514
	73	−53.075	−282.133	−676.037
	84	−359.364	0	−423.014
	85	−560.268	−6.816	−1475.589
	87	−222.18	0	0
	90	−15.706	0	−1208.638
	95	−55.238	0	−43.8
	20	−119.349	−130.241	−21.674

FTA = free trade agreement; HS = harmonized system.

Source: http://wits.worldbank.org

**Table 8: Welfare, Revenue, and Other Effects of an FTA between
the People's Republic of China and the South Caucasian Countries** ($ thousand)

HS Codes	Welfare Effect	Revenue Effect	Trade Creation	Trade Diversion	Total Effect
PRC– Armenia					
8	4.136	–43.753	0.35	0.785	1.135
9	0.613	–2.657	0.161	0.371	0.532
24	0	0	N/A	N/A	N/A
26	0	0	0	0	0
29	1.296	–36.025	0.073	0.069	0.142
70	0.032	–0.093	0.321	0.148	0.469
71	0.613	–1.301	2.241	1.469	3.71
72	0	0	N/A	N/A	N/A
76	0	0	N/A	N/A	N/A
20	0	0	0	0	0
PRC–Georgia					
9	0.613	–2.657	4.302	3.252	7.554
26	0	0	0	0	0
72	0	0	N/A	N/A	N/A
74	0.001	–0.659	0	0	0
20	0	0	0	0	0
25	0	0	0	0	0
44	0	0	0	0	0
76	0	0	0	0	0
PRC–Azerbaijan					
27	165.41	–169.576	0.004	0.008	0.012
22	0	0	0	0	0

FTA = free trade agreement; N/A = not applicable.
Source: http://wits.worldbank.org

In summary, the economies of the South Caucasian countries have only a weak dependence on the economy of the PRC, one of the most economically powerful countries in the world. Their comparative advantages are also weak as they are based on current economic capacity, which is at an early stage of development and in a transition period. With strong government policies, Armenia, Azerbaijan, and Georgia have the potential in several sectors of their respective economies to develop comparative advantages and export to the PRC. But to understand which sector to target, the economic capacity of the PRC first has to be assessed since it has the potential of producing almost anything in quantities matching world demand.

6. Pros and Cons of Regionalization of the Relationship between the South Caucasian Countries and the People's Republic of China

To better understand the possibilities for cooperation between the South Caucasian countries and the PRC, we need to assess the PRC's economy by sector.

According to different international and national statistics sources and research, 30 years of policy changes in the PRC led not only to a miraculous increase in GDP, but also to changes in the structure of GDP. Industry has become the major component of GDP, qualitatively and quantitatively, followed by the services sector. Agriculture now constitutes no more than 15% of the economy. The PRC's rapid GDP growth rate is slowly raising local living standards as well. Thus, world demand will increase as the PRC becomes one of the world's top importers.

Most economists seem confident that the PRC has great potential to become a world leader in the following sectors: aerospace and aviation; agribusiness and food; automotive; construction materials and services; energy; environmental technologies; services; information technologies; machine tools; medical and pharmaceutical; telecommunications equipment and services; transportation and infrastructure; and security and safety equipment. To determine the potential for cooperation with the South Caucasian countries, it is important to analyze the major sectors of the economy.

6.1 Agricultural Sector

Although agriculture contributes only a small part to the PRC's GDP today, the country is still one of the world's largest producers and consumers of agricultural products. Approximately 45% of the PRC's labor force is engaged in agriculture, even though only 10% of the land is suitable for cultivation, according to official statements.

The PRC is currently the world's largest producer of rice, wheat, corn, tobacco, soybeans, peanuts, cotton, potatoes, sorghum, tea, millet, barley, oilseed, pork, and fish. The PRC is considering increasing the production of agricultural products through improved plant stocks, fertilizers, and technology, according to the assessments of major international organizations. Major non-food crops include cotton, other fibers, and oilseeds.

While there is a focus on more intensive production in the PRC's agricultural sector, the agricultural chemical market is attracting the government's attention as well. The government's goal is to rely less on fertilizer imports in the future, but domestic output still cannot meet increasing market demand, forcing the PRC to import high-concentration and compound fertilizers. The gap between domestic demand and supply gives room for foreign producers to think about importing agricultural chemicals into this market. Per its WTO commitments made in 2006, the PRC has started allowing foreign companies the right to retail and distribute fertilizers.

Today, the PRC imports nitrogen fertilizer, phosphate fertilizer, potash fertilizer, herbicides, insecticides, aniline, herbicides, environmentally safe insecticides, biopesticides, and new technologically advanced pesticides.

Animal breeding is the second most important component of the PRC's agricultural production. Currently, the PRC is the world's leading producer of pigs, chickens, eggs, sheep, and cattle. Moreover, the PRC has a long tradition of ocean and freshwater fishing and aquaculture.

It is clear that the PRC could easily meet the agricultural needs of all three South Caucasian countries, but is there any room for these countries to be present in the PRC's agricultural market? The answer could be yes, although no single country can match the absolute quantity of agricultural products produced by the PRC, it can offer specific agricultural products to the PRC market, which is pushing up living standards and consumption. At the same time, given huge domestic demand, local producers focus on producing just enough while forgetting about uniqueness, which leaves a void for other countries to fill. Thus, the South Caucasian countries have huge potential for introducing premium agricultural products into the PRC market, as well as to filling the gaps in the fertilizer market. As a starting point, these unique products could be Georgian wine, Armenian cognac, and Azerbaijani carpets.

6.2 Industry

Although the state-owned sectors in the PRC still account for about 40% of GDP, the country has become a preferred location for global manufacturers as well as one of the leaders in the world industrial market. At the same time, technology, labor productivity, and incomes have advanced much more rapidly in industry than in agriculture. The average annual growth rate of industry was more than 10% in for last ten year according to different information sources.

More than 8% of the world total manufacturing output comes from the PRC, ranking it among the top three countries worldwide in industrial output.

The major developed industries in the PRC economy are mining and ore processing; iron; steel; aluminum; coal; machinery; textiles and apparel; armaments; petroleum; cement; chemicals; fertilizers; consumer products (footwear, toys, and electronics); automobiles and other transportation equipment (rail cars and locomotives, ships and aircraft); and construction.

The pace of industrialization increased and diversified after the early 1990s. Of note were the development of aerospace, aircraft, and automobile manufacturing. In addition, the PRC expanded rapidly into the production of pharmaceuticals, semiconductors, electronics, and precision equipment.

Overall, the distribution of industry remains very uneven in the PRC and a few coastal regions have continued to dominate the PRC's industrial economy. The establishment of special economic zones (SEZs) in coastal areas has only heightened this disparity.

Again, it seems that there is no room for cooperation between the South Caucasian countries and the PRC in the sectors listed above. Nevertheless there is huge potential for cooperation in sectors like machinery, textiles and apparel, chemicals, fertilizers, consumer products, automobiles and other transportation equipment, and construction. The potential exists for mutual project development and investment in the Caucasian countries in these sectors as the PRC is expected to increase its levels of FDI abroad.

Sectors like mining and ore processing, iron, steel, aluminum, and coal are less likely candidates for cooperation between the PRC and Armenia, Azerbaijan, and Georgia as (i) they are considered primary sectors of the economy that do not create much value, (ii) the Caucasian countries do not have enough of these resources, and (iii) transporting these resources from/into the Caucasus is too expensive. But these facts do not mean that cooperation could not exist in processing these resources and exporting the finished goods to markets such as the CIS and Iran. Turkey is the PRC's major competitor in almost all sectors in the South Caucasian, Russian, and Iranian markets. Today, the potential exists to match and remove Turkey from these markets on a cost-effectiveness basis. Iran is the PRC's next potential competitor in the region as it has huge economic potential for development, though it currently cannot effectively realize it because of ongoing economic sanctions and geopolitical tensions.

6.3 Machinery

The PRC's machinery sector is wide, including agricultural machinery, internal combustion engines, engineering machinery, apparatuses and instruments, office machines, petrochemical and general machinery, heavy machinery, machine tools, electrical engineering and apparatuses, machinery parts, food and packaging machinery, and automotive and other civil machinery. The subsectors do not limit the economic potential of the PRC. The major markets for these products are countries in Asia, the US, and the EU (mainly Germany).

One of the major subsectors—electrical machinery—specializes in the following products: automatic data processing equipment, communications equipment, consumer electronic appliances, electronic components and electronics equipment, transportation vehicles, instruments, medical equipment, and machinery parts.

The other fast-growing machinery subsector in the PRC is machine tools. This field's potential for growth is high in the near future as it has to satisfy the needs of domestic markets, especially such industries as automotive, aviation and aerospace, shipbuilding, railway, power, and high-tech.

Currently, the PRC is the world's largest machine tool producer, but most of the country's machine tool equipment is low-tech. To upgrade the level of technology in the country, the PRC government has provided financial incentives for machinery manufactures to invest in fixed assets to modernize facilities and increase efficiencies to boost production, and to import high-tech products. Still, the country needs to import high-tech production techniques in the machinery sector, which offers foreign producers an opportunity to concentrate on this niche. Armenia is in quite a good position, as it can

offer mutual research and development (R&D) projects in greenhouse and solar energy technology sectors, which are in the incubator phase and require investment.

Today, all major foreign automotive manufacturers have joint-venture plants in the PRC, which can be explained by the huge and growing market for automobiles in the PRC. These plants produce a wide range of automobiles, minivans, sport utility vehicles, buses, and trucks. The market for domestically produced cars is growing as well in the PRC, and companies such as Geely and Chery are constantly penetrating new international markets. Today, the PRC has about 6,000 automotive enterprises that are scattered in five sectors: motor vehicle manufacturing, vehicle refitting, motorcycle production, automotive engine production, and automotive parts manufacturing. Forecasters predict the country could become the number one automaker in the world by 2020.

6.4 Textiles and Apparel

Another fast-growing sector in the PRC's economy is textiles and apparel. Demand is quite high despite the struggling world economy, which is leading to increases in the production of yarn, fabric, chemical fibers, and clothing in the PRC, thereby boosting exports. The major markets for Chinese textiles and apparel will continue to be the US and the EU. But the role of other countries, such as the Russian Federation and developing countries looking for cheaper products, will increase as well. The scale of the world market can be covered only by countries such as the PRC. The PRC also has an absolute advantage in production with a cost-effective labor force. But producers in the PRC have to develop a strategy to compete with the prices and quality of Turkish textiles and apparel as they are replacing Chinese-made products in Armenia, Azerbaijan, Georgia, and the Russian Federation. In unique carpet production, Azerbaijan with its strong marketing has a powerful competitive strategy, while Georgia has had success in the last 5 years attracting FDI from Turkey into its clothing sector. The same advantages could be presented to investors in the PRC engaged in this sector.

Historically, science and technology have always been held in high value in the PRC. The PRC's political leadership has almost exclusively technical backgrounds. (Deng Xiaoping once called the sciences "the first productive force" for any country.) It partially explains why the PRC has been at the center of new technology throughout history.

After emerging from a prolonged period of stagnation, in the early 1980s the PRC started to give high priority again to scientific and technological modernization (Wang 1984). New plans included

- rebuilding the educational system;
- sending more students abroad;
- negotiating technological purchases and transfer arrangements with foreign countries;
- developing ways to disseminate scientific and technological information; and
- stressing specialization related to microelectronics, telecommunications, computers, automated manufacturing, and energy.

To create the necessary R&D infrastructure, the Ministry of Science and Technology developed a strategy for interacting with organizations in the government, higher education, and enterprise sectors. At the same time, the government is sure that the PRC has great opportunities in biotechnology and computer technology, where there is still a chance for the country to become a significant player.

Another field of concentration for the PRC is its space program. The country completed its second manned orbit in October 2005, and by the late 1990s, it had already launched more than 25 satellites.

In this field the PRC prefers to cooperate with large countries like the US, the Russian Federation, and those in the EU, but small countries like Armenia, Azerbaijan, and Georgia could propose solutions to fit the Chinese market. For example, Armenia has a well developed educational and R&D system in natural sciences with incubator-level research. Several foreign companies have already moved their training centers to Armenia, which means that it holds potential for preparing specialists. Armenia also has several very good R&D institutes in different fields such as chemicals, IT, and physics, while Azerbaijan has potential in crude-oil-related R&D. Cooperation among these countries could be mutually beneficial as the Caucasian countries lack financial resources and the PRC has the capacity to fill the gap.

6.5 Other Sectors of Industry

The other growing sectors of the PRC economy are chemicals, construction, and services. A foreign partner should be very careful not to lose the PRC's growing market by introducing unique products not produced very easily or cheaply there. There is huge lack of information about the PRC's production capacity as well as import requirements in Caucasian countries. The governments of these countries have no strategies to introduce the capacities of the PRC economy in their countries, while the private sector is only at the first stages of cooperation, which is evident in individual purchases that are sometimes made only once.

6.6 Services Sector

Output of the PRC's services sector ranks it in the top 10 countries worldwide according to international organizations. Along with the other sectors of the economy, this sector has great potential to become a world leader as the market is huge and the government continues to concentrate on the quality of its human resources. Moreover, the Chinese Diaspora, which is quite large, is a major source of incoming tourism development and is generating improvements in the banking sector, for example, as a result of impressive transfers from abroad.

One of the fastest-growing industries of the service sector in the PRC is tourism. It has a very strong global competitive edge with a huge domestic tourism market contributing around 70% of total tourism revenue. The PRC has approximately 15,000 natural, cultural, and man-made attraction destinations. The WTO forecasted that the PRC's tourism sector will take up to 8.6% of world market share to become the world's top tourism sector by 2020. According to the UN World Travel Organization, the PRC is

expected to receive 100 million international travelers by 2020. Meanwhile, international tourism in the PRC is increasing every year and in the last 20 years the average annual increase has been more than 25% (China National Tourist Offices, US).

Incoming tourists are mainly from Asia (almost 13 million), North and South America (2 million), and Europe (5 million, mainly from the Russian Federation). The most common reasons for traveling to the PRC were business, leisure, and visits to relatives and friends.

The number of outgoing tourists from the PRC is increasing as well as the government is continuously easing industry regulations, which is very profitable food for thought for foreign travel agencies.

The highly positive trends in the PRC's tourism sector led to the development of the hotel construction sector as well. That means countries with a developed construction sector could be engaged in this field in a number of ways from building to engineering services. The tourism sector provides greater opportunities for cooperation as Chinese culture is quite different from that of other countries, and this could have side effects for both incoming and outgoing tourists. It is time for travel agencies to compete for this market as well as for Chinese tourists. The South Caucasian countries together have a very interesting tour package for Chinese tourists, offering glimpses of both Muslim and Christian culture. Moreover, the Caucasian countries could be a window for the introduction of Iranian (Armenia) and Turkish (Georgia and Azerbaijan) culture.

6.7 Finance and Banking

Most of the PRC's financial institutions and 98% of banking assets are state-owned. The chief instruments of financial and fiscal control are the People's Bank of China (PBOC) and the Ministry of Finance under the authority of the State Council. Remittances by overseas Chinese are managed by this bank, which has a number of branch offices in several countries.

Other important financial institutions are China Development Bank (economic development and FDI), the Agricultural Bank of China (finance for the agricultural sector), China Construction Bank (capitalizing a portion of overall investment and providing capital funds for certain industrial and construction enterprises), and the Industrial and Commercial Bank of China (ordinary commercial transactions and a savings bank for the public).

With two stock exchanges, the Shanghai Stock Exchange and Shenzhen Stock Exchange, the PRC's stock market had a market value of US$1 trillion in January 2007, making it the third-largest stock market in Asia, after Japan and Hong Kong, China. It is estimated that it will be the world's third largest by 2016. There is a lack of information about how dealers from Caucasian countries could act in the PRC's stock market, which would need to be addressed by the PRC.

This sector is also becoming more open to foreign investors as a result of the PRC's membership in the WTO. According to the China Banking Regulatory Commission's

(CBRC) 2006 annual report, there were 29 foreign financial institutions holding shares in 20 large, medium-sized, and small commercial banks in the PRC. At the same time, Chinese capital has started to look for investments in foreign banks in other countries.

Taking into consideration the production potential (solid capital) of the PRC and the recent financial crises, the PRC could provide solutions for many countries. But if the PRC is going to be a leader in the major sectors of world economy, it will require the development of the financial and banking systems in the domestic economy. There are expectations that the renminbi will become one of the reserve currencies in the international financial system. This means that foreign banks should concentrate on this market immediately, while small countries should attract Chinese capital into their economies.

The PRC government considers the information and communications technology (ICT) sector as a basic, supporting, and strategic industry of the national economy and places major importance on it. Today, the level of development of this sector is low as it is a relatively new area, but it is increasing quite fast. It is predicted that the ICT sector will grow faster than the national economy and will constitute a substantial percentage of the PRC's exports.

The ICT industry will also lead to increased productivity, quality, and competitiveness of traditional industries as the government's strategy is to combine industrialization with informatization to reduce costs and wasted resources.

In the early 1980s, the PRC's ICT sector was characterized by low-level technologies, but the PRC government, with its four-step strategic policy (import, digestion, absorption, and creation), had created by 1998 the means for Chinese producers to grasp the latest technologies. Moreover, the semiconductor industry is at the heart of the ICT sector per the government's strategy. Currently, the PRC integrated circuits (IC) market is the third largest in the world after the US and Japan, and several Chinese high-tech companies such as Huawei, ZTE, TCL, and Lenovo are becoming important international players.

Still, the PRC is missing high-level ICT specialists. Other countries could actively cooperate with the PRC in educational fields to train specialists. Because this sector is rapidly developing, foreign companies have more room to expand their activities in this market. As the ICT sector is one of the most well developed fields in Armenia, the opportunities for cooperation with the PRC are numerous if the two countries pursue the right strategy. The PRC will gain from this cooperation since its dependence on large countries means it will rely on them for others as well, while there are no consequences for being dependent on small countries.

Armenia is a cost-effective place for human development and training, and is employed by several foreign companies with such operations there. It could very effectively serve as a training center for Chinese specialists as well.

In terms of the PRC's FDI, the Caucasian countries have no room to compete in the world market. But they have the potential to compete for the PRC's outgoing FDI. Competition is expected to grow significantly in the future as the PRC promotes

domestic companies to acquire modern technologies and seek access to natural resources abroad. It means that "Made in China" in the near future could turn into "Made with Chinese Technology" in a country offering better business conditions than the PRC. To miss this small fact of global investment tendencies could have huge negative outcomes for the economies of Armenia, Azerbaijan, and Georgia. In 2007, the PRC government announced that it would target more investments in higher value-added sectors—such as high-tech research and development, advanced manufacturing, energy efficiency, and modern agriculture and services—rather than basic manufacturing, which once again supports the idea that production using Chinese technology will span across its borders. The economies of the Caucasian countries can compete for access to Chinese manufacturing potential.

The PRC is a strong political and economic partner of the Russian Federation, which has historically had interests in the Caucasus region. So, as a reliable partner of the Russian Federation, the PRC has an easier "political" route into the Caucasian markets than any other country in the world.

In summary, qualitative analysis shows that there are many niches where Armenia, Azerbaijan, Georgia, and the PRC could mutually benefit from cooperating, although these assessments were only applied to the most important sectors of the economy. It is obvious that in other sectors there are additional areas of cooperation to be found. The important fact is that the South Caucasian countries have to compete with both Chinese and world businesses as they are already in the PRC market, but they have to find ways for mutually beneficial cooperation to develop their economies in sync with the regionalization and globalization of the world market.

7. Policy Suggestions and Recommendations

Although several economic theories support the idea that countries with great economic and political potential are better off cooperating with similar countries, specialists of classical economic theory (absolute, comparative, and competitive advantage) believe that if one country has any advantage over the other, both will better off from cooperation. Moreover, the trends of increasing globalization, communications, and advanced technology are removing geographical barriers between countries and increasing the assimilation of values and culture.

These global changes have led to an increase of PTAs with an emphasis on FTAs among regionally close and distant countries. PTAs could be considered as the next step toward specialization and fair trade amid expanding globalization if they are targeted for using the advantages of each member state toward building cost-effective relationships. Taking this into consideration, an FTA between Armenia, Azerbaijan, Georgia, and the PRC would be meaningful and mutually beneficial.

Thus, the South Caucasian countries have a greater need to prepare, both before and after signing and FTA, than the PRC government does as

- "Made in China" products are already available in South Caucasian markets;
- the Caucasian countries have a comparative advantage in one or two sectors of the economy, and the advantages are qualitative and quite weak, while the PRC has a comparative advantage in a dozen sectors of the economy, which are qualitative, quantitative, and quite strong; and
- the entire world is now competing to invest in and trade with the PRC.

The needs of the governments of the Caucasian countries include but are not limited to

- identifying and assessing sectors of their economies that have the potential to be developed for exporting,
- determining the major obstacles to developing these sectors (external and internal) and identifying solutions,
- assessing the PRC economy and finding niches in the subsectors where cooperation could lead to mutual beneficial outcomes and results,
- developing a strategy to be a market for manufacturing products using Chinese technology,
- developing a strategy to attract FDI from the PRC into sectors with the potential for development, and
- cooperating among each other to be more effectively present in the PRC market.

Specifically, for the Government of Armenia, actions include

- assessing spheres of cooperation in R&D sectors,
- targeting education exchanges, and
- encouraging banking and financial services to be involved in the process of turning the PRC into a financial center of the world economy.

Specifically, for the Government of Azerbaijan, actions include

- assessing spheres of cooperation in the oil and gas (and related) sectors, and
- promoting Azerbaijani carpets in the PRC market.

Specifically, for the Government of Georgia, actions include

- assessing spheres of cooperation in wine production, and
- pursuing transportation services.

All of the governments of the South Caucasian countries need to disseminate information about doing business with Chinese partners in targeted sectors. During the process of developing and negotiating FTAs, they also need to consider the assessed information to gain more preferential positions of exporting and importing.

Based on this paper's assessment, the niches for cooperation between South Caucasian countries and the PRC are in sectors of the economy where premium products can be produced, as it is almost impossible for Caucasian countries to compete with low-cost

Chinese products in the PRC market and around the world. The next sector to target for development is R&D, where the Caucasian countries could be cost-effective partners with the PRC. The third area relates to a project implementation sphere in all fields of industry and services. Also, a strategy should be developed to promote tourism between the South Caucasian countries and the PRC.

Finally, why would the PRC be interested in this region or in signing FTAs with Armenia, Azerbaijan, and Georgia? First, these countries offer a very good window into the markets of the Russian Federation, Ukraine, and Iran for products made in the South Caucasian countries prior to export. If the PRC government does not act, it might lose huge markets to Turkey, which is already in the region. By being present in the Caucasus economically, the PRC can increase its political role in the region as well. Being economically dependent leads to being politically dependent; that is, not for the purpose of forcing the PRC's political will in the region but to be politically powerful with regard to economic issues. At the same time, there are other countries with huge potential for economic development that are also poised to increase their presence in the region. They are potential competitors if the PRC were to ignore of importance of this region at present.

Second, the South Caucasian countries have different cultures and values, which would be turned into a new wave for Chinese businesses if the businessmen have a clear understanding of how to capitalize and utilize it. The Caucasian countries are also cost-effective partners, especially in the science-intensive fields among economic and political activities, which is another sound base for cooperation.

To summarize, any signatory to an FTA—such as Armenia, Azerbaijan, Georgia, and the PRC—can benefit if the approach of the government is serious and includes long-term targets. The world economy would also benefit if the objective of an FTA is not to spread protectionism, but rather to strengthen signatories' comparative advantages and specialization as a step toward free-market-driven globalization.

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Annexes

1: List of HS Codes

1-05 Live Animals, Animal Products

06-14 Vegetable Products

15 Animal or Vegetable Fats and Oils and their Cleavage Products; Prepared Edible Fats, Animal or Vegetable Waxes and their Cleavage Products, Prepared Edible Fats, Animal or Vegetable Waxes

16-24 Prepared Foodstuffs; Beverages, Spirits and Vinegar, Tobacco and Manufactured Tobacco Substitutes

25-27 Mineral Products

28-38 Products of the Chemical or Allied Industries

39-40 Plastics and Articles thereof, Rubber and Articles Thereof

41-43 Raw Hides and Skins, Leather, Fur Skins and Articles thereof, Saddles and Harness, Travel Goods, Handbags and similar Containers, Articles of Animal Gut (Other than Silk-Worm Gut)

44-46 Wood and Articles of Wood, Wood Charcoal, Cork and Articles of Cork, Straw, Esparto or Other Plaiting Materials, Baskets

47-49 Pulp of Wood or of Other Fibrous Cellulosic Material, Recovered (Waste and Scrap) Paper or Paperboard, and Articles thereof

50-63 Textiles and Textile Articles

64-67 Footwear, Headgear, Umbrellas, Sun Umbrellas, Walking Sticks, Seat Sticks, Whips, Riding Crops and Parts thereof, Prepared Feather and the like, Artificial Flowers; Articles of Human Hair

68-70 Articles of Stone, Plaster, Cement, Asbestos, Mica or Similar Materials, Ceramic Products, Glass and Glassware

71 Natural or Cultured Pearls, Precious or Semi-Precious Stones, Precious Metals, Metals Clad with Precious Metal, and Articles thereof, Imitation Jewelry

72-83 Miscellaneous

84-85 Machinery and Mechanical Appliances, Electrical Equipment, Related Parts; Sound Recorders and Reproducers, Television Image and Sound Recorders and Reproducers, and Parts and Accessories of such articles

86-89 Vehicles, Aircrafts, Vessels and Associated Transport Equipment

90-92 Optical, Photographic, Cinematographic, Measuring, Checking, Precision Medical or Surgical Instruments and Apparatus; Clocks and Watches; Musical Instruments; Related Parts and Accessories

93 Arms and Ammunition; Related Parts and Accessories

94-96 Miscellaneous Manufactured Articles

97 Works of Art, Collectors' Pieces and Antiques

2: Assessment of Armenia, Azerbaijan, Georgia, and the People's Republic of China by International Organizations

The Global Competitiveness Index Rankings

Country	2011–2012 Ranking	Score	2010–11 Ranking
Armenia	92	3.89	98
Azerbaijan	55	4.31	57
Georgia	88	3.95	93
People's Republic of China	26	4.90	27

Source: http://www.weforum.org/issues/global-competitiveness

Index of Economic Freedom

	Rank	Overall
Armenia	38	69.4
Azerbaijan	88	59.7
Georgia	21	72.2
People's Republic of China	138	51.9

Source: http://www.heritage.org/

3: General Information about Armenia, Azerbaijan, Georgia, and the People's Republic of China

Country	Population ('000)	GDP ($ million)	Average monthly wage in 2012($)	Rank in World Product Trade		Share of World Total Product Exports (%)	Share of World Total Product Imports (%)
				Exports	Imports		
Armenia	3,100	18,071	378	145	134	0.01	0.02
Azerbaijan	9,168	92,927	464	62	93	0.19	0.06
Georgia	4,486	24,684	384 (for 2011)	133	108	0.01	0.04
People's Republic of China	1,344,130	11,34745	626.6	1	2	10.40	9.46

3: *Continued*

	Republic of Armenia	Republic of Azerbaijan	Republic of Georgia
Official Name	Republic of Armenia	Republic of Azerbaijan	Republic of Georgia
Head of State	President	President	President
Head of Government	Prime Minister	Prime Minister	Chancellery of the Government
National Legislature	National Assembly	National Assembly	Constituent Assembly
Capital	Yerevan	Baku	Tbilisi
Total Land Area, km^2	29,800	86,600	69,700
Official Language	Armenian	Azerbaijani	Georgian
Independence Declared	1991	1991	1991
Religion	Christian (adopted 301 A.D.)	Officially not declared	Orthodox Christian
Labor Force, % of work-age population	72	64	64
Literacy (%)	99%	99%	99%
Currency	Dram (AMD)	Manat (AZN)	Lari (GEL)

GDP = gross domestic product.

Sources: http://www.chinadaily.com.cn and national statistics service of each country.

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South Caucasus–People's Republic of China Bilateral Free Trade Agreements
Why It Matters

Free trade agreements (FTAs) assist the signatory countries to win economically and politically, if they have strong economic development policies. FTAs assist countries to specialize in the sectors in which they have a competitive advantage in the world, but have not yet developed export capacity because of unequal world market conditions for start-ups in these sectors. The assessment made in this research paper is that an FTA between Armenia, Azerbaijan, Georgia, and the People's Republic of China (PRC) would have positive economic and political outcomes.

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ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two-thirds of the world's poor: 1.7 billion people who live on less than $2 a day, with 828 million struggling on less than $1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.