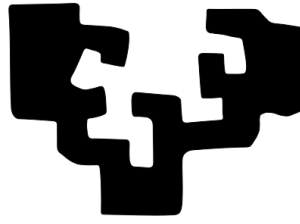


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Universidad
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Economics and Business Faculty
Department of Public Policy and Economic History
Doctoral Programme in Economic Integration

Ph.D. THESIS

**The role of economic integration on the
growth of the Tajik economy**

by

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Bilbao, Spain,
2020

Acknowledgements

Undertaking this PhD has been a truly life-changing experience for me and I consider this thesis not only the main achievement of my academic trajectory, but also the greatest victory of my life, so far. Although, life in a foreign country is not easy, it would not have been possible to do without the support and guidance that I received from many people.

First and foremost, I would like to give my deepest gratitude to my supervisor Dr. Prof. Ricardo Bustillo Mesanza for introducing me to this exciting field of science and for his dedicated help, advice, inspiration, encouragement and continuous support, throughout my Ph.D. His enthusiasm, integral view on research and his mission for providing high-quality work, has made a deep impression on me. He is the person who helped me much turn my dream into reality. I have learnt extensively from his, including how to raise new possibilities, how to regard an old question from a new perspective, how to approach a problem by systematic thinking, data-driven decision making and exploiting serendipity. I still remember how excited I was when I received the offer from you to do my Ph.D. thesis at the University of Basque Country during our first meeting in your office. I learned a lot from the discussion with you in your office, where you always patiently explained the ideas and mechanisms to me. You always dedicated me a patient, rebellious, and ambition despite we worked on the thesis development in the university and in distance. You always gave me tremendous encouragement and support.

I am also pleased to say thank you to Dr. Carlos Rodriguez Gonzalez for giving the encouragement and sharing insightful suggestions. Your advice on both research as well as on my career have been priceless.

I would like all those in the Economics and Business Faculty, Applied Economics Department V of the University of the Basque Country. The University of the Basque Country is a fantastic and amazing university, and I am so fortunate to be part of it.

A very special gratitude goes out to all down to all my teachers and colleagues at the Tajik State University of Commerce.

This thesis not only gave me new knowledge and widened my worldview, but also offered me with a golden opportunity to live in foreign country, learn another culture and improve my Spanish and English language. Special thanks to European Commission, who provided me with the two-year eASTANA Erasmus Mundus scholarship, particularly Alberto Oleaga, who managed my enrolment to the University of the Basque Country and who the coordinator of my scholarship, and who supported me in issues related to residence abroad.

And, of course, cordial thanks to my beloved parents. Words cannot express how grateful I am to my father, mother, sisters, brothers and particularly to my wife for all of the sacrifices that you've made on my behalf and for praying and worrying for me and supporting me with their infinite love. They gave me enough moral support, encouragement and motivation to accomplish the personal goals. All that I do in my life I do for them and my main prize is that they are proud of me. Moreover, the special word goes for Mustafa, my son, who has been the light of my life for the last two years and who has given me the extra strength and motivation to get things done. This thesis is dedicated to him.

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Abbreviation

ADB	Asian Development Bank
ARM	Armenia
ASPRT	Agency on Statistics under the President of the Republic of Tajikistan
AZE	Azerbaijan
BEL	Belarus
CACO	Central Asian Cooperation Organization
CAEC	Central Asian Economic Community
CACO	Central Asian Cooperation Organization
CES	Common Economic Space

CIS	Commonwealth of Independent States
CISTAT	Commonwealth of Independent States Statistical Committee
DAC	Development Assistance Committee
EAEC	Eurasian Economic Community
EBRD	European Bank for Reconstruction and Development
EEU	Eurasian Economic Union
EES	Eastern European states
EU	European Union
EurAsEC	Eurasian Economic Community
FDI	Foreign Direct Investment
FSU	Former Soviet Union
FTA	Free Trade Agreement
GAAT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GEO	Georgia
IMF	International Monetary Fund
KAZ	Kazakhstan
KGZ	Kyrgyzstan
MOL	Moldova
NAFTA	North American Free Trade Agreement
NBT	National Bank of Tajikistan
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
REM	Remittances
PTA	Preferential trade agreement
RTA	Regional Trade Agreement
SCO	Shanghai Cooperation Origination
SSC	South-South cooperation
TAJ	Tajikistan
TKM	Turkmenistan
UNDP	United Nation Development Program
UNCTAD	United Nation Conference on Trade and Development
UN-UHRLLS	United Nation Office of the High Representative for the Least Developed Countries
USSR	Union of Soviet Socialist Republic
UZB	Uzbekistan
WB	World Bank
WDI	World Development Indicator
WTO	World Trade Organization

SECTION 1. SCOPE OF THE RESEARCH

1.1. Introduction.

We live in a time of major change. A new global economic architecture is emerging, a one that is set to define development trends for decades to come. The recent crisis prompted a global quest for new patterns of strategic development, and today many countries are looking to form and consolidate regional unions.

Development economics appeared after World War II with the purpose of helping developing countries industrialize their economies, reducing poverty and narrowing the income gap with advanced countries. The second half of the twentieth century has been characterized by an unprecedented progress in both global and regional economic integration, and the process of growth and development has always been a major concern for economists. From a geopolitical and socio-economic perspective, the end of World War II marked the beginning of a new era in which the international community showed great resolve in working together to restore the international economy through increased economic integration among liberal capitalist countries. Later, an increasing number of developing countries, as well as the majority of former communist nations, begun to undertake a transition to more open markets.

The advance of the different schools throughout the history of economic thought, from the Physiocrats School to new institutional theory, has unveiled economists' concerns regarding the different issues of economic development. These concerns have been motivated by the willingness to comprehend the process of economic growth and structural change as well as the route leading to an improvement in the standard of living (Altman M., 2011). Mercantilism, Classical and Neoclassical economists gave special attention to the international division of labour, gains from trade and their contribution to growth. Differences in the levels of productivity in labour and capital among countries would suggest removing the barriers to free trade, with the purpose of making every country's economy register higher levels of competitiveness and efficiency in the supply of goods and services. In turn, alongside with them we should take into account other relevant factors, such as new technologies, entrepreneurial capacity, competitive advantages of countries, investment in human capital accumulation, product differentiation strategies as well as the increasing returns to scale obtained as a result of enjoying from the former factors. From an economic policy perspective, the continuing efforts to liberalize international trade on a multilateral basis—first under General Agreement on Tariffs and Trade (GATT) and now World Trade

Organization (WTO¹)—have contributed to better market access and to higher rates of growth of international current account transactions, much above the world's economic rate of growth. This higher trade growth in comparison with output's one has been caused by the increasing relevance of developing countries in world's commerce figures. The creation of new trade linkages between developing and developed countries has transformed international supply chains, requiring higher quantities of low cost input supplies from emerging nations, thus boosting trade creation.

Since the Second World War, there have been several integration initiatives involving countries from the developed regions of the world, but in recent years this process has also reached nearly all countries (EU, NAFTA, MERCOSUR, ASEAN, SADC²) including not only developed but also developing countries (UEMOA, ECOWAS, SADC, EurAsEC³).

Looking back at the beginning of the 21st century, which has been characterized by a higher uncertainty, some relevant trends can be observed. One of them is the invasive nature of technology (Kalish, 2016). Another trend is the substantial change in the system of relations between states and societies, from an international to a global configuration setting. At this regard, the analysis of the two concepts related to these changes, integration and globalization, is particularly important (Vakhitova, 2002). Although we know that the terms integration and globalization are different in the contemporary discourse, both are sometimes holding a similar sense, implying that the integration process would lead to a higher globalization level.

In most cases, theories of economic integration and its benefits – not only the dynamic ones, but also the static ones -, are not fully applicable to integration agreements among developing and least developed countries. Meier (1960) claims that Viner's analysis has limited or no relevance to integration among developing countries. Even Balassa (Balassa, 1965, p.16) states that theoretical literature on economic integration issues discusses customs unions only in industrialized countries. Developed nations' problems and environment are

¹ By late 2013 seven of the twelve non-Baltic countries had acceded to the WTO, i. e., in order of accession, the Kyrgyz Republic, Georgia, Moldova, Armenia, Ukraine, the Russian Federation and Tajikistan. Four others were in the process of WTO accession, namely, in order of requested membership, Belarus, Uzbekistan, Kazakhstan, and Azerbaijan. Turkmenistan has started to prepare for an eventual accession process (WTO, 2013).

² European Union (EU), North American Free Trade Agreement (NAFTA), Southern Common Market (MERCOSUR), Association of Southeast Asian Nations (ASEAN), Southern African Development Community (SADC).

³ West African Economic and Monetary Union (UEOMA), Economic Community of West African States (ECOWAS), Eurasian Economic Community (EurAsEC).

not related to economic development, but more to relative changes of production and consumption features.

The present Ph.D. thesis states that economic integration is the union of economic policies among states consisting of a process of free movement of products, services capital and labor between regions. Integration, along with other generally accepted conditions of economic dynamics, such as the growth of scientific and technological progress, capital investment as well as investment in human capital. The gradual development of a regional economic integration organization on the basis of a free trade zone, customs union, common market, economic and monetary union and economic union is largely aimed at simplifying interregional trade and deepening integration ties. The latter highlights not only the sequence of the development of integration processes ascending from the lowest to the highest level, but also characterizes better the degree of maturity of regional economic integration. Another objective of integration is to increase the effectiveness of economic growth and equalize the living standards of the population of different regions within the framework of an integration association, which initially includes the main types of economic integration, directions and scales of regional development, as well as principles and approaches that ultimately contribute to the development of interregional trade. Moreover, the main types, principles, directions and approaches of trade and economic interaction of regions, being objects of systemic study in specific socio-economic, political and geographical conditions, are synthesized in order to develop an optimal model of economic integration in the context of regional trade and economic cooperation. In this way, the present Ph.D. thesis examine the channels through which regional integration affects poverty in CIS countries. Many politicians and researchers discuss the link between regional integration and poverty. However, direct empirical evidence on these links in the case of CIS countries has received relatively less attention. Conceptually, there are various channels through which regional trading agreements might impact poverty but much depends on what is included or excluded from any given agreement and on what is actually implemented and how.

1.2. Literature review

Many authors claim that economic integration theory goes through two development stages, each of which addresses the political and economic issues relevant for its time. The first stage includes the traditional theories of economic integration, which explain the

possible benefits of integration and are often referred to as static analysis. The second stage includes the new economic integration theories, which are developed in changed economic conditions and trade environment – they are referred to as dynamic analysis of economic arrangements (Golovnin, 2013).

Viner claims that trade creation increases a country's welfare while trade diversion reduces it. When speaking about the role of Customs unions on increasing economic welfare he says: "...customs union is only a partial, uncertain, and otherwise imperfect mean of doing what a world-wide non-discriminatory reduction of trade barriers can do more fully, more certainly, and equitably..." (Viner, 1950, c. 135). What Viner's theory practically means is that countries would have motivation to participate in integration if it could possibly bring more benefits than costs, or, in other words – when integration leads to more trade creation than trade diversion.

A conventional method of empirical assessment of regional trade agreements uses a gravity modeling approach, which allows conducting econometric estimation of bilateral trade flows and assessing the impact of dummy variables. Since the dissolution of the Soviet Union there have been numerous studies discussing various aspects of disintegration and reintegration.

From an empirical point of view, however, the trade-growth link is still under discussion, from both a methodological perception and regarding the size and significance of the estimated effects (IMF, №WP/07/156, 2007). Even more than twenty years after the collapse of the Soviet Union there still remain significant – albeit diminishing and varying in individual cases – economic, trade, language and cultural linkages among the former Soviet Union republics. However, during the Soviet era, external trade in services was extremely limited. Given the modern growth of the international trade in goods, trade in services analysis demands a separate consideration for transition economies in general. Moreover, the independence of Central Asian states fragmented the Central Asian Region not only from a political point of view but also from an economic one. Carrere and Grigoriou (2008:3) stated, "the Soviet Union's collapse⁴ was expected to lead to a major reorientation of each post-Soviet republic's trade pattern, since politically determined commercial links under central planning had given rise to a substantial over-trading amongst post-Soviet states". In consequence, certain sluggishness in regional trade growth was expected and

⁴The Soviet Union with 15 republics ceased to exist in 1991, when the Commonwealth of Independent States was established.

hence commercial integration agreements were essential from the beginning. Besides, after the dissolution of the Soviet Union, all countries went through severe structural shocks and deep economic crises (Vinokurov and Libman, 2012). Sebastian and Dienes (2019) argue that the failure of regionalism in Central Asia is due to two interrelated factors: firstly, as in other developing regions of the global south, intraregional economic interdependence is low in Central Asia. This does not mean that there exists no demand for regional integration in Central Asia, but the demand is different to that among economically well-developed regional organisations such as the European Union (EU). Central Asian economies are dependent on exports of agricultural products and a few commodities such as gas and oil to extra-regional markets. Additionally, they all share the fundamental infrastructure problems of landlocked countries at the periphery of the global market (Bobokulov 2006; Myant and Drahokoupil 2008).

Second, as long as the success of regionalism depends very much on taking a united stance in relation to extra-regional actors, however Central Asia is subject of the ‘Second Great⁵ Game’, wherein extra-regional powers—most notably China and Russia—compete for access to Central Asia’s fossil resources (Cooley 2012).

In spite of technological improvements in transport, landlocked developing countries continue to face structural challenges to accessing world markets (Faye et al., 2003). Whereas a number of authors argue on the poor infrastructure of many landlocked countries, however there are other positive factors such as dependence on neighbors’ infrastructure, cross-border political relations, and political stability.

Landlocked countries not only do they face the obstacle of distance, but also the challenges that result from a dependence on passaging through a sovereign transit country, in order to access international shipping markets. Individual country case studies on Central Asia focus mostly on the landlocked nature of those territories. For instance, Raballand⁶ (2003) assessed the negative impact of landlockedness on Central Asian countries' trade

⁵ In the context of the ‘Second Great Game’, the Central Asian countries basically have two options. On the one hand, they can attempt to develop a unified regional stance in relation to extra-regional actors and to profit from the rivalry between China and Russia. This strategy has been successfully applied by the Southeast Asian countries, which use the regional organization ASEAN in order to cooperate with the extra-regional powers China and Japan (Krapohl 2017b).

⁶ Raballand (2003) analyzed the effect of landlockedness on trade in the case of Central Asian countries. Using a restricted sample of 46 CIS countries, 18 of which landlocked, over a period of 5 years (1995-1999), he found landlockedness reduces trade by more than 80%.

affairs and found that the number of border crossings along with long distance was crucial to explaining the low level of trade flows. Grigorou (2007) and Carrere and Grigorou (2008) looked at the three factors that matter for the region: overland transportation costs, bargaining power with transit countries and the infrastructure of the latter. Moreover, among these three components, only transit countries' infrastructure is specific to Central Asia: improvements in infrastructure of the transit-country reduce trade costs three times more for Central Asian countries than for other landlocked countries.

Estache and Goicoechea (2005) have also analysed the case of Central Asian countries. These authors have shown that Central Asia suffers from low levels of transport and communications' infrastructure. For instance, railway density is on average 5.4 rail-km per 1,000 sq. km, i.e. one-third of the average railway density of low- and middle-income countries. This is a particular cause for concern given that approximately 90% of total freight transport in Central Asian countries during 2000 was by rail. It is therefore fair to say that low infrastructure levels are likely to affect Central Asian trade, and that the lack of investment in existing infrastructure increases transport costs.

The next factor that the present thesis has taken into account is the Free Trade Agreement (FTA) amongst Commonwealth of Independent States (CIS) countries. Most countries involved in FTAs anticipate the achievement of two objectives: trade promotion and an increase in economic growth. Although it is taught in many undergraduate textbooks that openness to international trade bolsters economic growth, the question as to whether a positive relationship exists between free trade and economic growth has posed a significant challenge to economists, both theoretically and empirically, since Adam Smith. On the theoretical side, the so-called "endogenous growth theories" hold to the proposition that trade liberalization or greater openness may promote long-run economic growth under certain conditions. For example, Grossman and Helpman (1991) and Feenstra (1995) predicted that if a free trade system is formed under conditions in which technology transfer occurs between the involved economies, production efficiency can be improved, and thus free trade can ultimately induce economic growth among the FTA signatory countries.

The post-Soviet states faced the double challenge of trying to establish in the first place a new economic relationship among them, an objective to be partially accomplished with the creation of the CIS countries. Additionally, it was clear from the 1990s that acceding to world markets was an unavoidable task for every country. However, it took a decade for the former Soviet Union countries to become integrated into the world economy and its trading

system. Whereas three of the former Soviet republics (Estonia, Latvia and Lithuania) have now joined the European Union (EU), other twelve countries are still struggling on their own to adjust their economies to the changing economic conditions and terms of trade. After the collapse of the Soviet Union, the former Soviet space appears to launch a wide variety of integration projects: Eurasian Economic Community (EurAsEC), Central Asia Regional Economic Cooperation Program (CAREC), CIS, Customs Union (CU), Organization for Democracy and Economic Development (GUAM), Single Economic Space (SES), Shanghai Cooperation Organization (SCO), Union State of Belarus and Russia. Some of them, such as CIS, were launched in an attempt to preserve economic, social, and political links after the USSR breakup; others, such as the CU, EurAsEC, and SES, aim at mainly fostering regional economic cooperation; while some, such as GUAM (Cooperation between Georgia, Ukraine, Azerbaijan and Moldova) or SCO, carry more political than economic weight in their agenda. It is obvious that none of these projects proved to be particularly efficient and worth comparing with widely recognized examples of good integration practice such as the European Union (Simon 2013, p. 21~22).

Asian Development Bank (2006) pointed to more significant trade barriers owing to trade policy in Central Asia. First, they highlighted the relatively high tariffs embedded inside a complex tariff schedule. Secondly they warned about the frequent and unpredictable changes in the mentioned tariff schedule. Besides, high implicit tariffs in the form of taxes levied on imported goods but not on domestically produced goods are a frequent barrier to trade. Finally, yet importantly, the existence of not only explicit export taxes but also a required authorization of exports and imports of certain commodities have damaged the intra-regional trade dynamism.

However, the importance of economic integration is a very pertinent issue among CIS countries, particularly in light of existing political and economic weaknesses. Most of CIS countries suffer the deepest levels of poverty, the lowest share of world trade, and the weakest development of human capital, institutions and infrastructure. It is because of this that several reasons have been attributed to CIS's economic performance ranging from institutional or political to geographical factors.

In geopolitical aspects, it is relevant to study the post-Soviet region because as the analysis will demonstrate it has become an area of struggle of global and regional powers, the outcome of which, as well as the success of the CIS economic integration, will have an impact on the position of Russia and its allies.

Despite the presence of internal and external conditions that stimulate the development of integration processes in the economic space of CIS countries, in practice, integration transformations in this region are carried out slowly and face many obstacles. This is due to the inertial effect of earlier mistakes, infringement of the rights of free historical choice of development paths, state monopoly, the inconvenient of economic stagnation and the disproportions in the pre-reform period. At the present stage, the multi-level and multi-speed nature of the integration processes in the CIS is more and more clearly manifested. They are localized within the active zones of integration (for example, the Organization for Regional Integration, the EurAsEC⁷), reflecting the desire of certain groups of states for optimal configurations and methods of interaction. At the same time, the negative influence of the zones of passivity and disintegration is increasing, contradictions in the relations of partners are growing in waves. This raises doubts and disappointments among the participants in the integration process, undermining faith in the necessity, results and prospects of its development in the CIS integration process⁸. Freinkman et al. (2004) concluded that the process of trade diversification away from the CIS⁹ remains incomplete in the CIS-7¹⁰, and progress in the trade area was slower in the low-income CIS countries than in the high-income CIS members. He suggests that the trade pattern corresponding to the five Central Asian¹¹ countries and Moldova can still be considered intra-regional commerce, rather than a internationalized exchange with the rest of the world. Over the past decade years CIS countries have significantly diversified their geographical destinations for export of natural

⁷ The Eurasian Economic Community (EAEC or EurAsEC) was a regional organisation between 2000 and 2014 which aimed for the economic integration of its member states. The organization originated from the Commonwealth of Independent States (CIS) on 29 March 1996, with the treaty on the establishment of the Eurasian Economic Community signed on 10 October 2000 in Kazakhstan's capital Astana by Presidents Alexander Lukashenko of Belarus, Nursultan Nazarbayev of Kazakhstan, Askar Akayev of Kyrgyzstan, Vladimir Putin of Russia, and Emomali Rahmon of Tajikistan. Uzbekistan joined the community on 7 October 2005, however later withdrew on 16 October 2008 (Boris N. Mamlyuk, 2014).

⁸ It is interesting that in integration literature one can find very rarely about Soviet Union integration, mainly in some through books like "Regional Integration and Development" by Schiff and Winters (2003), where they discussed history of Regional Integration Agreements with example of the customs union of the province of France 1664 or Germany (the Zollverein), but concerning the great Soviet integration, nothing.

⁹ In 1991, twelve former Soviet Union republics excluding the Baltic States (Estonia, Latvia and Lithuania) signed the agreement on the Commonwealth of Independent States (CIS). CIS members are the Republic of Azerbaijan, the Republic of Armenia, the Republic of Belarus, the Republic of Kazakhstan, the Republic of Kyrgyzstan, the Republic of Moldova, the Russian Federation, the Republic of Tajikistan, the Republic of Turkmenistan, the Republic of Uzbekistan and Ukraine. The present analysis also includes Georgia that ceased its membership in 2009 and Ukraine that ceased its membership in 2014 (Executive Committee of CIS, "About the Commonwealth of Independent States"), <http://www.cis.minsk.by/page.php?id=174> [10-03-2015].

¹⁰ Armenia, Azerbaijan, Georgia, Kyrgyz Republic, Moldova, Tajikistan and Uzbekistan are the seven poorest CIS countries (IMF, 2004)

¹¹ The five Central Asian countries are the Republic of Kazakhstan, the Republic of Kyrgyzstan, the Republic of Tajikistan, the Republic of Turkmenistan, and the Republic of Uzbekistan.

resources and raw materials, rather than promoting manufacturing goods' exports. Most of CIS countries under-rely on other CIS countries for their imports of manufactured goods but over-rely on them as a destination for their manufactured exports (Eurasian Development Bank, 2012), what entails to a certain extent difficulty in reaching the minimum required level of international competitiveness. Havrylyshyn and Al-Atrash (1998) stated that the increase of trade openness at the initial stage of transition process amongst the former Soviet Union countries provided more benefits for those countries closer to the European Union (EU). Later, Emerson et al. (2006) analyzed the effect of the bilateral Foreign Trade Agreement (FTA) between EU and Ukraine on trade performance concluding that the overall welfare gain for Ukraine from a deep FTA with the EU would be above 10%. Moreover, these authors estimated that this gain would be induced by new trade flows accounting for 4-7% whereas the reduction in the cost of capital could lead to an additional 4-5% welfare gain. Maliszewska (2008) concluded that a deep FTA with the EU is expected to bring a welfare gain of 3.38 per cent for the Armenian GDP and a 6.5 per cent gain for the Georgian GDP. Moreover, they have concluded that due to the FTA with the EU Georgian exports are expected to increase by 13.5% in five years.

Since the creation the CIS in 1991 several bilateral agreements have been signed concerning trade, investments as well as other elements of economic cooperation. Nevertheless, a far-reaching integration process among CIS countries has not really been achieved yet. In consequence, new attempts to either deepen or improve the already signed trade liberalization agreements will be applied in the future in order to at least try to find some kind of economic as well as financial mutual benefits in the region.

It is obvious that most Central Asian countries, particularly Tajikistan, seek to build bilateral relations with foreign policy players in accordance with their national interests and foreign policy priorities, pursuing a "multi-vector" policy, focusing on cooperation with as many external partners as possible. Along with different integration initiatives followed by Tajikistan, a special mention should be given to the integration with outsiders of the post-Soviet area, mainly China and Southern neighbours, which are considered the agents that changed dramatically the geopolitical and economic position of Central Asian countries. In fact, China has quickly become a key player in the regional scene with its prominent Shanghai Cooperation Organization (SCO). From this point of view, nowadays, the Central Asian region is recognized as the driving force ensuring the so called "peaceful rise of China" (Goldstein, 2005). Eventually, it is quite obvious that since Islam is the prevalent

religion and given the geostrategic position of the country, Tajikistan is trying to strengthen its status in the Islamic world. Hence, the participation of the country into a number of key institutions whose membership is based on the full or partial identification with Islam, like the Organization of Islamic Cooperation (OIC) and Economic Cooperation Organization (ECO) is not excluded. From this stance, integration with countries outside the post-Soviet space, such as China and its Southern neighbors is considered as a third option within the scope of its integration strategy.

However, as it will be explained in the following sections of the thesis dissertation, the link between trade growth and economic development both among emerging and OECD countries is not free from academic controversy. Therefore, a deep literature survey regarding this academic issue must be carried out before starting with the empirical analysis of different aspects related to the recent economic behavior amongst CIS countries. In the following sections, we summarize the main objectives of the pieces of research included in the three sections corresponding to this thesis dissertation. Countries began to remove constraints on the movement of goods, services and capital with an increasing globalization after the Second World War. In the last three decades' economists and policy makers have agreed when considering that good institutions are the key factor aimed at enhancing economic growth.

Since the early 1980s, when many developing countries were experiencing severe economic difficulties because of excessive market regulation and trade protection, a number of them have initiated extensive policy reforms. These reforms have been designed to free up markets and to move these countries in a more outward-oriented direction (Stryker and Pandolfi, 1997).

“It is now widely accepted that growth prospects for developing countries are greatly enhanced through an outer-oriented trade regime and fairly uniform incentives (primarily through the exchange rate) for production across exporting and import-competing goods... Policy reform efforts removing protection and shifting to an outward-oriented trade strategy are under way in a number of countries. It is generally believed that import substitution at a minimum outlived its usefulness and that liberalization of trade and payments is crucial for both industrialization and economic development...while there are still some disagreements over particular aspects of trade policy both among academic researchers and policy makers, the current consensus represents a distinct advance over the old one, in terms both of knowledge and of the prospects it offers for rapid economic growth” (Krueger, 1997, p.1)

Economic freedom may be accepted as a quality indicator of institutions and the legal structure that countries have. Institutional and legal structure become very important both for creating an investment environment and additionally for attracting foreign investment and capital in a globalized world. Discussions on economic freedom go back to Adam Smith, but the concept of economic freedom has different meanings depending on various economic theories and approaches. Trade and financial liberalization contributed to increasing world trade volume and cross-border capital flows. World trade volume, as a percentage of GDP, increased from 25.62% in 1960 to about 60% in 2013 (World Bank, 2015a). Furthermore, cross-border capital flows increased to about 20% of the world GDP in 2007, but then decreased to 5% of the world GDP in 2012 (James et al., 2014).

Transaction costs arise fundamentally due to opportunistic behaviors in the market and because of uncertainty in the general economic environment. Hence, security of property rights and enforcement of private contracts are central objectives in a sound framework of formal institutions (North, 1990). But a good government also requires sound and neutral economic policies, which demand independence and autonomy for government structures. Bad policies induce macroeconomic instability. Hence, the present thesis argues that setting a free trade agreement and improving the level of infrastructure might not be seen as panacea for agreement and improving the level of infrastructure might not be seen as panacea for development if we do not consider the quality level corresponding to institutions in the country.

The role of institutions in the economy has received significant attention from researchers in recent years. In order to better understand the mechanism by which institutions matter for socio-economic outcomes, some researchers focused on aspects of institutions and economic outcomes. For example, Eichengreen and Iversen (1999) and Nickell and Layard (1999) focused on labour market institutions and economic performance. Banerjee and Iyer (2005) focused on historical land tenure system and its effect on economic performance in rural India; Acemoglu et al. (2005b) distinguish into "property rights institutions" and "contracting institutions" and explore their effect on various measures of economic performance.

In a recent paper, Javorcik and Wei (2000) suggests that the effect of good governance on transaction costs may be higher for international trade than for domestic exchange. On the one hand, trade often requires investing in long-term business relations; on the other, trading partners in international markets have more options. Due of the greater extent of

completeness and higher uncertainty, explained by the incidence of multiple governance systems in international markets, the impact of institutions on cross-border trade is more pronounced.

Much of the existing (economics) literature has tended to treat Central Asian countries as a relatively homogenous region. However, after more than two decades of independence, important differences are emerging. In terms of trade performance, the trade/GDP ratio over the period 1995–2011 is much higher for Kazakhstan and Kyrgyzstan (38% on average) than for Tajikistan, Uzbekistan, and Turkmenistan (26% in average). This ranking coincides with the one published by the World Bank (2013), the “Doing Business” report, which reflects the ease of doing business, tax collection, investor protection, access to credit, trading across borders, corruption, economic freedom, and competitiveness. Kazakhstan (49th out of 183 countries) is the highest ranking among Central Asian countries, followed by Kyrgyzstan (70), Tajikistan (141), and Uzbekistan (154) while Turkmenistan is not ranked at all. This outcome perhaps illustrates the close ties between trade openness and overall economic reforms.

1.3. Statement of the research subject and objectives of investigation

Our main research in the rest lies on an assessment of CIS’s economic integration process including the international milieu and context where it has been formed, the influence of economic integration in each CIS country and their prospects of development in the near future. We shed light on the migration remittances flows among CIS countries. In achieving this main objective, we put forward several specific objectives. The role of Official Development Assistance on both growth and poverty reduction is also examined, in this particular case utilizing the Republic of Tajikistan as the case study to be analyzed.

Firstly, regarding the research on the trade flows trends among CIS countries, we must acknowledge that the Post-Soviet states economies are the best case study to deepen the knowledge about the recent access of transition countries to the world economy.

The modern development of international relations is characterized by a sharp acceleration of the process of forming regional integration associations. This is due to the fact that integration contributes to the creation of additional opportunities for expanding

cooperation, as well as helps to find common points of contact between nation states to address common issues and problems (Grinberg, 2001). At the same time, the development of the Commonwealth of Independent States is characterized by both centripetal and centrifugal tendencies. Despite the fact that the CIS countries are connected by many ties, such as geographical proximity, the unity of economic linkages, infrastructure, a common historical past, nevertheless, the integration process ran into great difficulties. Therefore, it becomes necessary to identify the main patterns of the integration process and the contradictions that impede integration amongst CIS countries. The evolution of integration amongst CIS countries is strengthening, but it has surged from the creation of too fragile systems (Frolov, 2013). This fragility has been provoked by both the search for national identity in each nation and by the transition to a market economy system. Another specific feature of the integration of countries is the primacy of opportunistic political decisions in it.

The main goal of integration amongst CIS countries so far has been based on promoting regional trade and investments through liberalization. It derives from the idea that trade has a great potential for poverty reduction and hence it should be facilitated and promoted.

This specific objective's accomplishment requires reviewing the literature on economic integration, including the contribution to growth and poverty reduction of both migrant remittances as well as official development assistance. We put special emphasis on the effect for less developed countries, with the purpose of understanding the strengths and weaknesses of the traditional and the new theory of economic integration.

In an attempt to understand the rationality of the integration decision of CIS countries in terms of the effect of potential integration on welfare, the second specific objective is to improve significantly the acknowledgement of the different integration options followed by CIS countries. Trying to assess the role of economic integration and regarding that the main motivation is obtaining an economic interpretation for the integration strategies among developing countries, we carry out an assessment on the welfare impact of some features of economic integration. The analysis of the effects of both migrant remittances and official development assistance, as the main integration determinants amongst CIS countries, allows carrying out a dynamic look at the past evolution of these states' economies.

The present Ph.D. thesis is based on three sections that have been carried out

through testing the different hypotheses put forward. In the section 3.1. of this Thesis Dissertation, we reveal that belonging to the same free trade agreement has provoked an increase in Central Asian countries trade flows considering the level of institutional quality and geographical disadvantage amongst CIS countries. We found that the CIS countries could give the largest boost to their exports by improving their governance quality, especially in the areas of government effectiveness, openness, trade liberalization, regulation, level of corruption and the level of democracy.

World Trade Organization (2005) report stated that greater openness and trade liberalization not only promote a country's exports and imports, but also stimulate private sector economic activities, attract foreign investment, reduce poverty rates, create employment and increase foreign earnings. However, Havrylyshyn and Al-Atrash (1998) examined the case of CIS countries and concluded that some CIS countries are becoming as open as similar market economies, but many others remain relatively closed. More precisely, Woytek (2003) claimed that after the collapse of the USSR CIS countries changed less than other transition economies due to geographical obstacles, restrictions on trade, governance and corruption problems, weak infrastructure, lack of regional cooperation and political conflicts amongst these countries.

The next hypothesis we set in the section 3.1. is related to the link between landlockedness and trade growth amongst CIS countries. It is obvious that seven of twelve CIS countries are landlocked, and even four of them are double-landlocked countries which means that these double-landlocked countries are surrounded only by landlocked countries so that they have to cross at least two national borders to reach a coastline. We found that geographical disadvantage and poor infrastructure have considerable negative effects on trade growth amongst CIS countries. Despite the fact that the mentioned bilateral trade arrangements within the CIS are far from being efficient and need improvement, our findings suggest that CIS countries should improve their governance quality and infrastructure to boost trade.

After the collapse of the USSR, regional integration has become a strategic goal in Russia's foreign policy and although the geographical destination of CIS countries' exports of natural resources and raw materials have diversified, Russia still effectively remains the pivot of post-Soviet economic relations in CIS region. From Moscow's point of view, building up such integration structures is necessary especially to counteract the economic

expansion of the European Union and China, as well as to tighten the relationship between the CIS countries and Russia (Wisniewska, 2013).

The hypotheses we put forward on the section 3.2. of this Thesis Dissertation discuss the positive association between remittances and a higher standard of living (higher per capita GDP) as well as the negative link between remittances and the level of poverty in the CIS region. Although experts' evidence on the effect of remittances is ambiguous, we found remittances seem to have produced a significant reduction on poverty through increasing income and smoothing consumption levels among CIS nations.

According to the World Bank (2016) four of CIS countries (Kyrgyzstan, Moldova Tajikistan, and Ukraine) are listed among the world top ten remittances receiving countries regarding the ratio of remittances to GDP, whereas one of them (Ukraine) is listed among the ten top recipients of remittances according to the ratio of volume of remittances (in billion USD). Long before the Russian economic crisis, triggered by the Western economic sanctions against Russia over the Ukraine Crisis in mid-2014, the labour migrants provided approximately 49.6% of Tajikistan's GDP, 38.1% of Kyrgyzstan's GDP, 26.9% of Moldova's GDP and 16% of Uzbekistan's GDP (World Bank, 2015). Brownbridge and Canagarajah (2010) claim that the reduction of remittances provokes a drop in imports of consumer goods, whilst households still have to hold other high levels of consumption (for instance paying housing rents) and investment in housing. In this section, we found that the long-term or short short-term effect of remittances to CIS countries depends either on the extent to which households use them productively or on institutional quality levels. We show that a positive effect of remittances on the economic growth and poverty reduction is related to a rise in investment in children's education, to a rise in population disposable income and to the trend towards consumption smoothing among CIS countries. However, experts affirm that remittances can ease the pressure on governments to carry out structural reforms in order to reduce the external imbalance. Remittances can also reduce the local labour effort as well as increase the level of moral hazard and brain drain amongst recipient countries. Nevertheless, we did not find the above-mentioned negative effects of remittances in the case of CIS countries. According to Olters (2019) brain drain is a symptom, not a cause of an underperforming economy following the case of Central Asian countries.

Although, section 3.2. empirically claims that remittances do positively affect economic growth and do negatively affect poverty amongst CIS countries, we should not regard them as the main source of development. Governments in remittance-receiving

countries should seek to break the cycle of remittance dependency by ensuring good welfare coverage and a secure investment climate. The promotion of remittances should only be one part of any country's development strategy. CIS countries ought to attempt to use a more rational way of investing remittance inflows in dynamic productive sectors such as education, physical and human capital formation or small and medium businesses.

The third section (section 3.3.) of this Thesis dissertation analyses the effect of official development assistance (ODA) on economic growth and poverty reduction in the case of the Tajik economy and, as well, compares the ODA role recently played by emerging countries including Russia, the so-called South-South Cooperation, with the one played by Western countries.

We attempt to assess the effect of ODA on economic growth and poverty reduction in Tajikistan with the purpose of testing the hypotheses put forward. Our hypotheses sustain that the volume of foreign aid is associated with a higher standard of living (higher per capita GDP) and poverty reduction considering the most appropriate institutional policies in ODA recipient countries. As expected, our findings reveal that there is a positive relationship between ODA and economic growth and a negative effect of ODA on poverty levels, once considered the institutional environment in Tajikistan. Furthermore, our findings suggest that OECD countries and China are still the main providers for the multilateral and bilateral aid channels to Tajikistan, whereas Chinese role is the most relevant in this regard.

To synthesize and summarize these results, we have not been able to avoid studying the effect of the Russian economic behavior on CIS economic development. We have tried to test whether Russia's economic policy is still having a significant impact on CIS economic development and whether the bilateral economic relationship between Russia and CIS countries is still greater than might be expected. We have discovered that CIS countries' trade growth has been associated with Russian economic performance, especially through migrant remittances and financial flows. However, as shown in the section 3.3., the role played by Russia in providing development assistance funds to Tajikistan remains insignificant in this regard.

Given the challenges faced by CIS Governments, they need to be held responsible for the accountability of regional integration, remittances inflows as well as ODA utilization. These accountability levels must be properly managed to favour economic growth and improve social sectors, with the purpose of reorienting these financial inflows to optimize its impact on economic growth and poverty reduction in CIS countries.

1.4. Methodological approach

As suggested above, the purpose of this research has consisted of analysing the determinants of several economic variables whose behaviour can be considered relevant for post-Soviet countries development prospects. Among these variables, we have given prior importance to trade flows figures, the level of economic development measured with the per capita GDP or the evolution of different estimates of poverty. When making reference to the main determinants of development, we have chosen several explanatory variables upon which this region's welfare will depend, such as alternative measures of institutional quality, remittances inflows, trade openness or Official Development Assistance figures.

With the purpose of testing hypotheses of the section 3.1., we have employed the basic model suggested by Anderson and van Wincoop (2003). The gravity equation provides a general empirical framework suited to the examination of issues related to the behaviour of bilateral trade flows over the time. This model allows us to identify the impact on bilateral trade of variables such as infrastructure, landlockedness, institutions, free trade agreements, or the Russian economic performance once all other structural determinants of trade, mainly GDP, contiguity and others are controlled for. This model has been widely and consistently used and has proved to be empirically successful in terms of significance and robustness of its explanatory variables in explaining different sorts of economic flows amongst countries, such as commerce, investment or population flows (migration ones). With regard to the specific econometric procedure to be utilized, we applied a fixed effects (FE) model, which assumes constant but not equal individual country effects, which leads to the use of the so-called fixed effect model. The second method is the random effects (RE) model, and the assumption is a situation where country effects are not constant, but are treated such as disturbances. We estimated our model employing a panel data set of bilateral export flows between Russia and each of the 11 CIS countries. The time span for the analysis is 17 years from 1997 to 2014, due to the limited data availability. We test the importance of the trade regime (Free Trade Association Regime between the two countries partners). Under the research process, we found that the creation of a FTA has positively influenced trade flows amongst CIS countries, mainly because a FTA allows CIS countries to reduce the relevance of transit costs. High transport costs are certainly one of the main impediments to the reorientation of CIS trade flows. This happens as a consequence of the fact that overland distances are more penalizing than sea distances: as a result of their higher costs per mile CIS landlocked countries (particularly Central Asian countries) are dependent on sovereign

transit countries for their trade. Furthermore, our findings suggest that Russian economic performance is positively related to bilateral trade flows, so we can state that Russia's economy's health (proxied with the inclusion of Russian Income and Russian Current Account surplus) positively affects bilateral trade flows.

Trade cooperation represents an important element of relations between the Russian and CIS countries. The specificity and significance of this sector results from three different reasons. Firstly, Russia and CIS countries are each other's important, even if not the very top of the list, trade partners. Secondly, trade affairs were on numerous occasions the essence of the disputes between Russia and CIS countries, even if their background was both economic and political. Thirdly, trade relations between both states are of vital importance in the context of Russia's attempts at reunification of the post-Soviet area (CIS, CES).

With respect to the second section (section 3.2.), **remittances** as a potential determinant of economic development, our empirical approach will contribute to two strands of the literature. The first strand relates to the remittances' effect on economic growth and the second strand relates the remittances' effect on poverty reduction. The model developed to explore the relationship between remittances and economic growth is based on the extended version of the neoclassical model (Barro, 1996), which has been used by Giuliano and Ruiz-Arranz (2005), Jongwanich (2007) and Fayissa and Nsiah (2008). Additionally, the second strand is the one that links remittances and poverty levels. The model to assess the role of remittances on poverty reduction is based on Ravallion and Chen (1997), Adams and Page (2005), Gupta et al. (2007) and Anyanwu and Erhijakpor (2010). We use cross-country data to analyse the effect of remittances on per capita GDP and poverty reduction of CIS countries. Section 3.2. analyses 10 selected CIS countries for the period 1998–2016. In comparison with the section 3.1, we have excluded two CIS countries (Russia and Kazakhstan) as these countries are the main destination for migrants from the CIS region, accumulate 88% of CIS migrants. We test our hypotheses with the help of random-effect, fixed-effects, least square models (OLS), with and without instrumental variables.

This study yields insights into two importance channels through which remittances both positively affect economic growth and negatively affect poverty amongst CIS countries. All variables included in our two equations reach the theoretically expected sign and statistical significance and thus confirm the hypotheses put forward.

In terms of official development assistances **ODA** (section 3.3.), the main objective of this section is to analyse ODA's effects on growth and poverty reduction using a time series

methodology including annual data from 1998 to 2016 for the Tajik economy. It is worthwhile to mention that we have selected only Tajikistan amongst CIS countries. This choice is because Tajikistan is the one of the poorest countries among post-Soviet states and the best case study since this country has received a considerable amount of development assistance from China: the amount of ODA received by Tajikistan from China amounted to 19.8% of Tajik GDP during the last decade.

We followed Solow's (1956) basic neoclassical growth model, which has been more recently improved and applied by Tallman and Wang (1994) and Barro and Lee (1994). In an effort to examine the relationship between ODA and poverty reduction, we follow the primary linear model approach suggested by Ravallion (1997).

With the purpose of carrying out the above-described analysis, we utilised the Vector Error Correction Model (VECM) as well as Ordinary Least Squares (OLS). However, we mostly focus on VECM results because VECM allows us to obtain jointly the long-term and short-term relationships between variables since this model is correctly specified and the following interpretation of results is simple yet intuitive. Moreover, VECM allows us to deal with both stationary and non-stationary variables with different orders of integration. Furthermore, in order to estimate the model, various analytical techniques such as Unit root test, Augmented-Dickey Fuller test (Dickey and Fuller, 1979), ADF-GLS (generalised least squares) test (Fuller, 1976), KPSS test (Kwiatkowski et al. 1992), Granger Causality test (Granger, 1969), Variance Decomposition, Impulse of Response Function (Haug and Smith, 2007), CUSUM and CUSUMQ stability test (Luger, 2001) and diagnostic tests were carried out.

One of the main conclusions of this section is that official development assistance has played a crucial role in Tajikistan's development and therefore it is hard to imagine a further development of the country without coordinated external support from the donor community.

The work examined the relationship, firstly, between foreign aid and per capita GDP growth and, secondly, between aid and poverty reduction. Expectedly, our results confirm our hypotheses and reveal that there is a positive relationship between ODA and economic growth and a negative effect of ODA in poverty levels, once considered the institutional environment in Tajikistan. In order to estimate poverty levels, we measured poverty rate

based on the methodology of Foster et al. (1984). They state that poverty will be measured based on three measures: headcount poverty, poverty gap (or poverty depth) and square poverty gap (or poverty severity).

1.5. Tested Hypotheses

The objective of this Thesis Dissertation has consisted of testing the following hypotheses:

H1: Belonging to the same free trade agreement has provoked an increase in trade flows amongst CIS countries.

H2: Each country's particular institutions do play a role in explaining trade flows amongst CIS countries: countries with higher level of institutional quality experience better trade performance.

H3: Geographical disadvantage (landlockedness and poor infrastructure) impact trade amongst CIS countries: a landlocked country's trade figures are lower.

H4: Russia's economic performance has a strong impact on CIS countries' trade flows.

H5: Globalization has not favoured trade growth among CIS countries.

H6: The volume of remittances is positively associated with a higher standard of living (higher per capita GDP).

H7: The volume of remittances is positively associated with poverty reduction.

H8: The volume of foreign aid is associated with a higher standard of living (higher per capita GDP).

H9: Foreign aid has been able to reduce poverty levels among recipient countries.

H10: In case South-South cooperation upsurge has already become a reality, it will improve the standard of living of the population of aid receiving countries.

1.6. Source

The bibliography used for writing the present Ph.D. thesis has a wide variety and it is based on academic, press or statistical resources.

The references used in order to support the explanations developed throughout this PhD dissertation show a wide variety. Firstly, bibliographical sources are based on several documents written in different tongues such as English, Russian, and Tajik languages. Second, the thesis is held up by a large amount of statistical data provided by official

recourses such as the World Bank, the International Monetary Fund (IMF), the World Bank Coordinated Direct Investment Survey by IMF, UNCTAD, Agency on Statistics under the President of the Republic of Tajikistan, Central Bank of Russia, etc. Some databases are available online (available online at the official websites of these organizations), whereas others have been collected in statistical volumes such as Migration and Remittances by World Bank, UNCTAD Handbook of Statistics, and so on. Moreover, many articles of CIS scientists (who publish in Russian) were found in journals well-known in post-Soviet academic circles such as *Центральная Азия и Кавказ* (Central Asia and Caucasus), *Россия в Глобальной Политике* (Russia in Global Affairs), *Международная Жизнь* (International Life), web-sites of CIS, Russian International Affairs Council and Expert media holding, and thematic journals dedicated only to Eurasian integration, such as *Евразийская Интеграция: Экономика, Право, Политика* (Eurasian Integration: Economy, Law, Politics).

The relevance of using local references is that a major difficulty in analyzing remittances within the CIS is that several of CIS countries do not provide data on the official international sources or if they do it is only partially. Sometimes they only cover one or two of the official components, or the estimates appear to be unreliable given other known information about the size of population flows and remittances. For instance, Belarus, Turkmenistan and Uzbekistan in terms of workers' remittances components, amounts of official development assistance, and the level of institutional qualities are not always available on official resources such as World Bank or UNICTAD. In particular, these data are uniquely available in their own official web sources. Furthermore, the Kyrgyz Republic does not provide data on the compensation of employees' components (for inflows). Moreover, data and reports with regard to the migration situation in Russia are just provided through the "Russia in Global Affairs" international platform. Therefore, the conclusions and recommendations also are based on the findings from the reports and surveys which are provided in Russian language. It also should be noted that "Eurasian Integration: Economy, Law, Politics" is a well-researched and detailed book, since the editors provide an extensive and critical analysis of post-Soviet regional integration.

1.7. Empirical results and discussion

The present Thesis illustrates three published papers and the regression results of

each papers are annexed in the section 3 that's "Published works accepted for publication".

The section 3.1 that entitled on "Factors explaining trade growth among the former Soviet Central Asian countries after the recent globalization process" examines the determinants of trade flows among CIS countries after the signature of several free trade agreements, in an attempt to create a trade bloc aimed at benefiting from the world globalization process. Furthermore, we test the extent to which CIS countries' trade growth has been associated with Russian economic performance.

Our results suggest that trade are the main channels of outward spillovers from Russia on CIS countries. Russian economic performance is positively related to bilateral trade flows, so we can state that Russia's economy's health (proxied with the inclusion of Russian Income and Russian Current Account variable) positively affects bilateral trade flows. It also should be noted that trade between CIS countries is favoured by the existence of a FTA bilateral agreement, confirming the hypotheses put forward above. Worthy to note that trade between CIS countries is favoured by the existence of a FTA bilateral agreement, confirming the hypotheses put forward above. With regard to expected result trade is positively associated with exporter and importer GDPs. However, the coefficients estimated for the exporting and importing countries do slightly differ from each other. Supply determinants are more significant than demand ones: coefficients for the rand effect model range from 0.154 to 0.194, and from 0.030 to 0.032 by fixed effect models for the exporting country. For the importing country, our coefficient ranges only from 0.098 to 0.114 (random effect) and from 0.001 to 0.0008 (fixed effect).

In contrast, deriving from regressions, it appears that there is a negative correlation between landlockedness and trade. Both our random effect model procedures show negative results of -2.115 and -0.486 for that variable, while fixed effect models show similar negative results. Although in many gravity papers, the common border is found to have a positive correlation to trade, in our model it does not register a statistically significant result. We do not use distance, as it does not show statistical significance because the huge distance between CIS countries and major industrial areas of Russia (Moscow, Ural and Siberia).

With regard to institutional variables, our estimates show that government effectiveness and regulatory quality (among importing countries) register the expected positive and significant sign for the RE procedure, while the absence of violence (exporting countries) reveal the expected positive result for both the fixed effect and the random effect

procedures. However, the measure of the level of democracy (Voice Accountability) appears to be negatively correlated with export flows.

The section 3.2. assert on “Impact of remittances on economic growth and poverty reduction amongst CIS countries” which the main goal of this section is to assess the effect of remittances on economic growth and poverty reduction amongst the post-Soviet states, compared with other external sources of capital, such as foreign aid and foreign direct investment. In this paper we use a panel data set on economic growth and poverty estimates (poverty headcount, poverty gap and poverty severity) in 10 selected former post-Soviet republics i.e. Commonwealth of Independent States.

The result of regression analysis asset on two equations. The *first* equation (Equation 1) is estimated using OLS, Fixed-Effects Model and Random Effects Model. The result of the Equation 1 reveal that the relationship between the GDP per capita and the explanatory variables, representing the sources of growth, show the expected signs, according to our prior prediction. The results from our model specify that the remittances variable has a positive and statistically significant effect at 5% and 10% on the GDP per capita. We found that, on an average, a 1 percentage point increase in remittances would provoke a 0.21% to 0.29% increase in the average per capita GDP of a CIS economy. In contracts, the negative coefficient associated with openness is statistically significant only in the first and second models at 1%. It also should be noted that a higher degree of international integration of the real sector makes the export of labour forces – which is a precondition for remittances – less attractive (Berg and Krueger, 2003). Moreover, note that other controlling variables, i.e. inflation, income inequality and human capital reach the theoretical expected signs although they are not statistically significant. In particular, Stahl (1982) argues that remittances could induce income inequality.

The *second* equation (Equation 2) using the same model used on the first equation reveal that the remittances are found to have a significant impact on the poverty headcount and the square poverty gap. Our result reveal that, on average, an increase in remittances by 1% leads to a reduction in poverty headcount from 0.21 to 0.24%. Furthermore, Table 5 shows that remittances will have a slightly larger impact on poverty when this is measured by more sensitive poverty measures: poverty gap and squared poverty gap. It shows that on overage, a 1% increase in remittances will lead from 0.66 to 0.96% decline in the share of people living in poverty gap, although results are not statistically significant, and from 1.81 to 1.98 % decline in the share of people living in squared poverty gap. Moreover, the results

reveal that, regardless of the measure of poverty used as the dependent variable, GDP per capita has a negative and significant coefficient (the coefficient ranges from -0.31 to -8.3). Other controlling variables, i.e. income inequality, openness, inflation, human capital and government expenditure, reach the theoretical expected signs although some of them are not statistically significant.

A positive coefficient for the *GINI* index, although it is not statistically significant, points out that higher inequality leads to higher poverty. Surprisingly, our results suggest that inequality reduction does not play a key role in scaling down poverty levels.

On the section 3.3. we focused on case of Tajikistan and our explorer entitled on the “Patterns of official development assistance in Tajikistan: effects on growth and poverty reduction” and the main goal of this section is to assess the effect of official development assistance on economic growth and poverty reduction in Tajikistan, as well as to examine the recent role of South-South Cooperation. We used a panel data set on economic growth and poverty estimates in Tajikistan and used to equations (Equation 1) which the first is asset on the relationship between official development assistance (ODA) and economic growth based on the primary linear model form suggested by Ravallion (1997). The second equation (Equation 2) assert on the relationship between official development assistance and poverty reduction. The second equation assessed Vector Error Correction Model (VECM). As we noted above estimating the VECM model we used various analytical techniques, such as unit root test, Augmented-Dickey Fuller test, ADF-GLS (generalised least squares) test, KPSS test, Variance Decomposition, Impulse of Response Function, and CUSUM and CUSUMQ stability test). The Variables, measures and data sources, the summary of ADF, DF-GLS and KPSS unit root tests, and the summery of Vector Error Correction Estimates are indicated in tables the section 3.3., respectively.

The result of ADF, DF-GLS and KPSS unit root tests suggest that all variables were confirmed to be stationary, except labour force participation (LnLF), secondary school enrolment (in percentage) which used as a proxy for the measure of investment in human capital (LnEdu), and level of inflation (LnInf), which were suggesting at 1% stationary only with constant and trend. The level of GDP per capita (LnGDPpc) is stationary at 1%, with constant and with constant and trend. The remaining variables official development assistance (LnODA), General government final consumption expenditure (% of GDP) (LnGE), aand the level of Transparency, accountability, and corruption (LnCPIA), level of openness (LnOPN), level of income equality (LnGINI), and the level of poverty (LnPov) are

stationary at 5% and 10% with constant and with constant and trend, respectively. The result of VECM indicate that coefficient of GDPpc is positive ($1.6865 > 0$). Furthermore, the ODA coefficient is positive ($0.62408 > 0$) and statistically significant at 1%. Consequently, we can confirm the Hypothesis 1. Accordingly, the coefficient of public corruption (L_CPIA) variable is negative; however, it is not statistically significant. This indicates that the spread of corruption erodes the effectiveness of ODA in promoting economic growth. Corruption is a severe problem in Tajikistan, partly favoured by the numerous rules and regulations inherited from Soviet times. Corruption Perceptions Index by Transparency International (“Corruption perceptions index 2017.” 2018) reports that Tajikistan scored 21 points out of 100 on the 2017 report. The coefficient of fiscal policy variable (L_GovExp) is significant, at a 5% level. This indicates that the level of government expenditure is an important factor of economic growth.

As expected, the coefficient of trade openness is found to be positive and significant at 1% level. Fenny (2005) states that openness encourages a skilled labour force to contribute more to growth, with the help of technology, research and development imports. Moreover, as was expected, the coefficient of labour force (L_LF) is found to be positive and significant, at a 5% level. Furthermore, the coefficient of human capital accumulation (L_Edu) is positive, but it is not statistically significant.

To assess that effect of ODA on poverty level in Tajikistan we used OLS (Model 1) and VECM (Model 2) based on the model used by Mosley et al. (1987), Ijaiya and Ijaiya (2004), and McGillivray et al. (2006). The results of the analysis confirm our expectations. According to the Model 1 GDP per capita has a statistically significant negative impact on poverty at 1% and 5% levels. As a 1% increase in GDP leads to a 0.79% decrease in poverty, ODA triggers a 0.0305 reduction in poverty. As was expected, Model 2 suggests that ODA has a negative and statistically significant impact on poverty at 1% and 10%, thus confirming hypothesis forward. According to Model 2, a 1% increase in ODA and GDP per capita reduces poverty in 0.50% and 0.48% respectively.

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SECTION 2. GENERAL CONCLUSION

The main research objectives of this thesis dissertation were the assessment of the integration process followed by the Commonwealth of Independent States (CIS) after independence and the expected effects on trade relationships, as well as the impact of migrant remittances on economic growth and poverty reduction amongst CIS countries. Moreover, this piece of research has examined the impact of official development assistance on economic growth and poverty reduction in the case of Tajikistan.

The conclusions of this thesis dissertation originate from the hypotheses and objectives that have been put forward in the introduction and in consequence are summarized in the following subheadings.

The results of the empirical analysis confirm that free trade agreements have provoked an increase in trade flows amongst CIS countries.

The process of disintegration of the Soviet Union affected the subsequent commercial interaction between its former member states. Opposed to this phenomenon, throughout the second half of the 20th century, the world economy accomplished a greater openness, since free trade and globalization have both significantly grown in depth and importance in almost every country around the world. Among the main trends regarding the recent development of the world economy, we can mention the increasing interdependence of the countries that share an almost simultaneous development of integration processes, together with the intensive transition of countries from closed national economies into open internationalized ones.

After the collapse of the USSR, the countries belonging to the Commonwealth of Independent States (CIS) took urgent measures to minimize the adverse consequences of the fragmentation of the former Soviet economy. From the beginning of this process and after the formation of the CIS, taking part in multilateral and bilateral international treaties was considered as a condition for future development, in order to profit from economic integration as a new advantage for every country's development. Nevertheless, certain major obstacles and disagreements continue to exist with regard to integration projects. Our findings suggest that a closer regional integration among CIS countries could boost bilateral trade flows' growth, mainly because FTAs allow CIS countries to decrease the size of transit costs.

Improvements in institutional quality have had an important role in stimulating economic growth amongst CIS countries, as countries with higher level of institutional quality experience a better trade performance.

Recently, debates inside the academic literature focus on the role of institutional quality and governance in stimulating growth amongst developing economies. A large number of authors

argue that good governance and well-managed institutions are the key element in explaining higher development outcomes, whereas weak governance and poor institutions can slow down economic growth. “Institutions are rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction” (North 1991:3).

The national economies belonging to the USSR were much more integrated before the 1990s; therefore, the collapse of the single Soviet economic space had a stronger negative impact on CIS members’ economies. Although CIS countries have made noticeable progress implementing reforms over these recent years, additional attempts aimed at bolstering government effectiveness, regulation and removing violence, as well as enhancing the level of democracy would promote foreign trade. However, always according to our analysis results, voice accountability does not seem to favour trade growth. The improvement of governance quality among the CIS countries is a challenging process that could take some time; however, it is definitely a job worth accomplishing. An improvement of the institutional bases of economic organization would be the best strategy for CIS countries. Nevertheless, poor control over the implementation of its decisions, alongside with the unwillingness of a number of them for further integration, have caused that the role of the Commonwealth in promoting growth and stability in the region has not reached its full potential.

Geographic disadvantage i.e. landlockedness together with poor infrastructure lead to trade reduction amongst CIS countries.

Although landlocked Western European countries have historically taken advantage of their central location, however, Classical and Neoclassical theory of development state that landlocked countries should register lower rates of growth than the others. According to Adam Smith (*The Wealth of Nations*), in addition to having a free market economy, there are also other factors such as geographical location and access to the sea that have a direct effect on each country's economic activity. Throughout the time, rail and air transport, as well as telecommunications and information technology, have reduced the advantages of coastal countries compared to landlocked countries. However, maritime transport continues to play a central role in world trade, and consequently geographical location is relevant in this regard.

Approximately one-fifth of the world’s countries (44 countries) are landlocked, from which seven of them belong to the CIS region (Azerbaijan, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Uzbekistan) and even four of them (Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan) are “double landlocked”¹², whereas Azerbaijan and Turkmenistan have a coastline on only the

¹² Double-landlocked when it is surrounded only by landlocked countries requiring the crossing of at least two national borders to reach a coastline (Caitlin, 2015; Tucci, 2016)

saltwater Caspian Sea. According to Kulipanova (2012) landlockedness has considerable negative effects on CIS trade growth.

Our empirical analyses suggest that geographical disadvantage negatively affects CIS trade flows and that there is a negative relationship between high transport costs and trade flows among CIS countries. We found that overland distances are more penalizing than sea distances due to their higher cost per mile and CIS landlocked countries particularly Central Asian double landlocked countries are dependent on sovereign transit countries for their trade. Moreover, our findings reveal that the transportation costs amongst CIS countries have a negative impact, not just on transportation budgets, but also on broader supply chain and financial performance.

There is a strong relationship between Russia's economic performance and CIS countries' trade flows.

The hypothesis stating that Russia's economic performance still maintains a strong impact on economic growth and development in the rest of the CIS countries through trade, finance and migrant remittances has been empirically confirmed. Although there is a shrinking trade relationship between Russia and some Caucasian countries such as Ukraine, Russian growth shocks are linked with remarkable effects on Belarus and Kazakhstan economies, due to persistent linkages such as migrant remittances, finance and energy supply dependency. Kyrgyzstan, Moldova, Tajikistan and Uzbekistan also show a remarkable dependence on Russian economic behaviour. Furthermore, economic pressures, energy dependency, multilateral groupings, diasporas and the reapplication of Russian cultural education are all used to sustain the old, but recently revived, fantasy of the Eurasian Economic Union by the initiative of Russia. Regaining political control over the post-Soviet space through the Eurasian Economic Union and exerting its political influence to obstruct the full integration of CIS countries in the world market by employing those different strategies is one of the main targets of Russia in this regard. In consequence, those experts who have foreseen that a country's trade with their colonizer typically falls by a specific percentage after 30 years of independence, or predicted that Russia influence would quickly vanish among CIS countries after the collapse Soviet Union, were mistaken.

The volume of remittances is positively associated with a higher standard of living (higher per capita GDP).

Remittances inflows continue to play a crucial role on economic growth and poverty reduction in the global economy. Amongst developing countries, remittances have to be considered as the most stable type of financial foreign currency inflow. It also should be mentioned that, although remittances contribute significantly to the overall economy, we should not regard them as the main source of

development. World Bank (2016) reports that three of the CIS countries (Kyrgyzstan, Tajikistan and Moldova) are listed amongst the world top ten remittances' receiving countries, according to the ratio of remittances to GDP.

Regarding the literature about the effect of remittances on economic development, we find that experts' evidence on the issue is ambiguous. A large number of authors have proved the positive effects of remittances; hence, our hypothesis would be empirically confirmed. The long- or short-term effect of remittances depends on the extent to which households use them productively. We perceive that both skilled and unskilled migration play a crucial role in the economy, in spite of having a different opportunity cost for both origin and destination countries.

Based on the empirical results we found that higher remittances inflows lead to a higher number of CIS workers to migrate abroad as they enjoy better wage-earning opportunities in labour-receiving countries, and therefore, this may have detrimental effects, such as less government spending on welfare, fewer or no institutional reforms, moral hazard and/or brain drain. Governments in CIS remittance-receiving countries should seek to break the cycle of remittance dependency by ensuring good welfare coverage and a secure investment climate. The promotion of remittances should be only one part of any country's development strategy. We found that CIS countries ought to attempt to use a more rational way of investing remittance inflows in dynamic productive sectors such as education, physical and human capital formation or small and medium businesses.

China is starting to play a very important role in providing a new pattern of ODA to Tajikistan since Chinese development assistance has proved to be more effective than OECD/DAC aid in this regard.

Although developed countries belonging to the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee (DAC) continue to be the main source of international aid, the share of non-DAC contributors has been rising, especially among middle-income big dimension developing countries such as China, through the so-called South-South Cooperation channel. Our study reveals that there are some reasons why Chinese development assistance has proved to be more effective than OECD/DAC aid, mostly because of the lack of conditionality corresponding to Chinese development assistance; on the contrary, DAC donors demand structural reforms to recipient countries in return for aid. For instance, according to Bossuyt (2015) receptiveness to EU's aid is low, mostly because it involves political conditionality and interference in domestic affairs. Our findings suggest that OECD countries remain the main providers of multilateral aid to Tajikistan, whilst with regard to the bilateral aid channel, China in particular plays the most relevant role. Moreover, we

found that the Chinese labor policy leads to a paradox in the case of the Tajik economy, because Tajik workers migrate to Russia whereas Chinese workers occupy jobs in construction projects in Tajikistan.

The volume of foreign aid is linked with a higher standard of living (higher per capita GDP) as well as with poverty reduction especially when applying the most appropriate institutional policies.

Over the past half-century, the question of the effectiveness of foreign aid remains mixed and an unresolved issue. A number of experts argue on the potential contribution of aid to growth

and poverty reduction (Dowling and Hiemenz, 1983; Fayissa and El-Kaissy, 1999). On the one hand, a group of authors claim on the usefulness of aid. On the other, some authors argue that aid eases the pressure on governments to implement structural reforms, thus reducing the incentive to adopt good policies (Bauer, 1982; Collier, 1999; Ferroni and Kanbur, 1992). However, with the terms of the relationship reversed, most studies argue on the crucial role of governance and institutions on the relationship between ODA and economic growth and poverty reduction (Burnside and Dollar, 2000; Ijaiya and Ijaiya, 2004; Bourguignon, 2006). Dollar (1999:11) states that, “By increasing financial assistance to poor countries ..., we could help hundreds of millions of the poorest people in the world to improve their lives, and the lives of their children”.

In order to test the above mentioned hypotheses, we have assessed the effect of official development assistance on economic growth and poverty reduction in the case of the Tajik economy and, as well, compared the recent role of South-South Cooperation and Western countries in this regard. We selected Tajikistan among CIS countries because this country, as the most aid dependent country among the post-Soviet states, has received a considerable amount of development assistance from donor countries, particularly from China.

Although Tajikistan has achieved a relative political stability and therefore macroeconomic indicators of the country have improved since the Tajik Civil War in 1992, the levels of poverty, external debt, and the size of the shadow economy are a continuous and serious concern. In spite of the poor level of institutional quality in Tajikistan, donor countries provide aid to Tajikistan through embassies, agencies for cooperation and development, banks, and other governmental agencies in multilateral and bilateral channels.

Our findings reveal that there is a positive relationship between ODA and economic growth and a negative effect of ODA in poverty levels, once considered the institutional

environment in Tajikistan. Although our empirical results suggest in general the expected signs, the result obtained in this study has a number of policy implications. Given the challenges faced by the Tajik economy, the Tajik Government needs to be responsible for the accountability of ODA use. Those accountability rules must be enforced and ODA should be channeled to favour economic growth and social sectors, with the purpose of reorienting ODA in order to optimize its impact on economic growth and poverty reduction in the country.

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***Section 3. Published works and works
accepted for publication***

3.1. Factors explaining trade growth among the former Soviet Central Asian countries after the recent globalization process¹³

Abstract

This paper examines the determinants of trade flows among CIS countries after the signature of several free trade agreements, in an attempt to create a trade bloc aimed at benefiting from the world globalization process. Furthermore, we test the extent to which CIS countries' trade growth has been associated with Russian economic performance. Our findings suggest free trade agreements have favoured the creation of trade amongst CIS countries. However, intra-regional trade has not soared due to geographical disadvantages or certain lack of governance quality. Russian influence in the region appears to be declining; however, new linkages such as migration, remittances, finance and energy supply dependency have recently sustained Russian relevance.

Key words

Globalization process, Commonwealth of Independent States, trade integration, landlockedness

JEL Classification

F14, F15

¹³ This paper has been accepted for the publication by the Editorial Board of the "Journal of Globalization Studies" (<https://www.sociostudies.org/journal/jogs/>).

1. Introduction

The Soviet Union's collapse¹⁴ was expected to lead to a major reorientation of each post-Soviet republic's trade pattern, since politically determined commercial links under central planning had given rise to a substantial over-trading amongst post-Soviet states (Grigoriou, 2007). During this process, the structures of these economies have been, at least, partially reoriented, away from a single centralized command economy, towards more decentralized, diversified economies, which respond to price signals and incentives. As a result, the strong interconnections that characterized these economies weakened at the beginning of independence, whereas links to the rest of the world strengthened, following a pattern of trade creation and diversion (Viner, 1950).

The transmission mechanism linking Russia's economic policy and performance to CIS growth evolved considerably during the 1990s. The gradual integration of CIS into the global economy changed the structure and strength of CIS economic ties with Russia. In the beginning, the dissolution of the Soviet Union and subsequent collapse of the trade and payment systems along with the cessation of fiscal transfers from Moscow led to a substantial decline in the output throughout the region (Robson, 2006). From that moment onwards, traditional Russian influence on CIS economic performance through trade appears to be declining, while new linkages such as migration, remittances, finance and political gains through CIS dependency on Russian energy supply and transit emerged. New commercial hubs, such as the European Union (EU) and China have become. Hence, the China's interest in CIS countries might draw some conclusion which may help Russia in the elaboration of its new CIS policy. Russia started to embed its domination amongst post-Soviet states, requiring a certain political alignment after giving economic benefits. For instance, after the dissolution of the Soviet Union, Russia started to restore its domination by organizing the so-called CIS or providing access to cheap oil below its market price level, a key factor of influence since the beginning of the 2000s, due to the rise in raw material prices in the world (Malashenko, 2013).

Although the geographical destination of CIS countries' exports of natural resources and raw materials has diversified, Russia remains both the largest import and export partner

¹⁴The Soviet Union with 15 republics ceased to exist in 1991, when the Commonwealth of Independent States (CIS) was established.

Section 3.2. Impact of remittances on economic growth and poverty reduction amongst CIS countries

for all CIS countries. Economic pressure, energy dependency, multilateral groupings, diasporas and the reapplication of Russian cultural education are all used to sustain the old, but recently revived, fantasy of the Eurasian Economic Union¹⁵ (EEU) (Nixey, 2012). Regaining political control over the post-Soviet space through the EEU is one of the main targets of Russia in the present moment. Russia could be exerting its political influence to obstruct the full integration of CIS countries in the world market by employing those different strategies. Regarding some CIS countries, we can mention the loss of sovereignty of Kazakhstan and Belarus after joining the EEU, which hinders their capability of independently managing their internal and external affairs (Falhyakhov, 2013). Other CIS countries such as Tajikistan, Moldova and Uzbekistan also desire to avoid being dependent on one state (Galstyan, 2017). Nevertheless, these three countries feel that joining the EEU is inevitable, since millions of Tajik, Uzbek and Moldavian migrants are working in Russia and in the case of reluctance towards the EEU, Russia could exert its political influence to hinder these countries' economic development (Sebastian, 1998; Europe and Central Asia Report #240, 2016). However, despite Russian political pressure and the poor level of institutional quality, which probably reduces their potential growth (Havrylyshyn et al., 1998; EBRD, 2003; Freinkman et al., 2004), new initiatives for regional cooperation indicate that CIS countries are aware of trade integration potential benefits (Elvira and Vankurov, 2011). Promoting trade flows amongst CIS countries Promoting trade flow should be a policy priority of each CIS member and international institutions.

However, intra-regional trade growth has found some obstacles, as the relative stagnation of these flows suggest, even after the signature of the different attempts to create a trade bloc among the former Soviet Central Asian countries.

The examination of the CIS countries' existing regional trade links, in order to shed light on both the determinants of CIS bilateral trade flows and the connection between economic growth in Russia and 11 CIS countries, is the main objective of this paper.

The gravity model was employed to estimate the trade patterns of 12 CIS countries covering the period of 1997-2014, including factors such as quality of countries' institutions, geographic disadvantages (landlockedness¹⁶), and the restrictiveness of the trade regime apart from a set of control variables. This study utilized an empirical model that is similar to

¹⁵ EEU or EAEU members are: Armenia, Belarus, Kazakhstan, Kyrgyzstan and Russia

¹⁶ According to the geographical definition, a landlocked country is one that does not have open access to the sea (Roballand, 2003).

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the one by Woytek (2003), Havrylyshyn and Al-Atrash (1998), Freinkman et al. (2004), Kukharchuk and Maurel (2004). Our empirical analysis has been carried out in order to test the following hypotheses:

H1: Belonging to the same free trade agreement has provoked an increase in trade flows amongst CIS countries.

H2: Each country's particular institutions do play a role in explaining trade flows amongst CIS countries: countries with higher level of institutional quality experience better trade performance.

H3: Geographic disadvantage (weak infrastructure, border crossing difficulties) has a negative impact on trade flow amongst CIS countries.

H4: Russia's economic performance has a strong impact on CIS countries' trade flows.

H5: Globalization has not favoured trade growth among CIS countries.

The paper proceeds as follows: In the next section, we provide a survey of the literature concerning trade flows amongst CIS countries. Section 3 describes some problems regarding the economic integration of Soviet Central Asian countries and Russia in the context of globalization. Section 4 describes the basic economic features of CIS countries. Section 5 presents inter-regional trade performance amongst CIS countries, whereas Section 6 shows the methodology of the paper. Our econometric model and empirical results are explained in Section 7. The concluding section summarizes and discusses potential development implications.

2. Literature review on factors for trade growth and development

Gains from trade are amongst the earliest and most enticing discussions in economics. No country in recent decades has achieved economic success, in terms of substantial increase in living standards for its people, without being open to the rest of the world (IMF, 2001). In the 1990s, the Washington Consensus, based on the recommendation of the International Monetary Fund (IMF) and the World Bank (WB), regarded trade openness as essential for achieving a high level of economic growth (Washington Consensus, 1990). According to the World Trade Organization (WTO) (2008), openness and trade liberalization not only

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promote a country's exports and imports, but also stimulate private sector economic activities, attract foreign investment, reduce poverty rates, create employment and increase foreign earnings.

In spite of the wave of liberalization undertaken during the last three decades, the debate on the links and causality between trade openness and economic growth or income distribution is still an open issue (Rodriguez and Rodrik, 2001). Utilizing different econometric techniques, many authors have attempted to determine whether increased openness leads to an economic expansion. Most empirical works dealing with openness and growth claim to find a positive association between economic integration and growth. For instance, Dollar and Kraay (1992) stated that open economies grew remarkably faster compared to closed economies during the period 1976-1985.

Sachs and Warner (1995) argued that open developing and developed countries grew annually at 4.49% and 2.29% rates respectively, whereas closed economies grew at 0.69% and 0.74%. Edwards (1998), performing a survey of empirical literature, defended the positive effect of openness on economic growth and claimed that the trade-growth nexus was not only robust to the indicators of openness but also to functional forms, estimation techniques and periods. Jeffrey (2000) employed a panel data for 65 countries covering the period from 1985 to 1997 and concluded that a 1% increase in trade-GDP ratio could raise per-capita income by at least 0.5%.¹⁷

However, Rodriguez and Rodrik (2001) questioned the robustness of the studies proving the trade-growth positive relationship. They mainly criticized the inappropriate econometric techniques and the lack of control of other important determinants, an idea also supported by Baldwin (2003).

Additionally, Rodrik and Rodriguez (2000) stated that this controversy is not about the positive or negative relationship between trade and growth, but that it is rather about the proper use of empirical procedures, as well as about their interpretation.

Last but not least, Hallak and Levinsohn (2004) stated that the regression framework is too simple to capture the relationship between trade policy and economic growth. Vamvakidis (2002), using cross-section data for developed and developing countries over

¹⁷ The positive relation between trade and growth was also found in, among others, Mckinnon (1973), Shaw (1973), Dollar (1992), Warner (1995), Levine (1997), Edwards (1998), Frankel and Rommer (1999), Jin (2000), Wacziarg (2001), Greenaway et al. (2002), Krueger and Berg (2003), Winter (2004) and Babula and Anderson (2008).

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the period 1920-1990, revealed that there was no positive relationship between openness to international trade and economic growth before 1970.

Notwithstanding, free trade supporters dismissed Rodrik and Rodriguez's critiques. For instance, Panagariya (2004), after having analyzed Rodrik and Rodriguez' view, asserted that their criticism is inconclusive. They concluded that the evidence from cross-country growth regressions is not that weak and therefore, outward-oriented policies cannot be rejected. Later Tung (2010), using panel data for 71 developing countries (1980-1990), concluded that there is a positive correlation between openness and economic growth, while Mendez (2010) found a conditional relationship between trade and economic growth.

Although there is an abundant body of literature regarding the openness-trade nexus in many world regions, CIS countries' case studies are scarce. Amongst them, Havrylyshyn and Al-Atrash (1998) stated that several CIS countries¹⁸ are becoming as open as similar market economies, but many others remain relatively closed. The closest nations¹⁹ to the EU are the most successful. Freinkman et al. (2004) concluded that the process of trade diversification in CIS-7²⁰ countries remains incomplete, especially amongst low-income CIS countries. However, according to Woytek (2003) openness has been falling since 1997 in CIS countries and will likely increase if market reforms are carried out more ambitiously. He analyzed developments in the structure of trade in the CIS countries during 1993-2002, concluding that during those years, CIS changed less than other transition economies because of geographical aspects, restrictions on trade, governance and corruption problems, weak infrastructure, lack of regional cooperation and political conflicts amongst CIS countries. Similarly, Djankov and Freund (2000) explained home bias with Russia, through the introduction of high external tariffs and past links, such as infrastructure, business networks and production chains. Recently, Kukharchuk (2010) used cross-section data for a period spanning 1970-2004 finding that if CIS countries accessed jointly the WTO, their total trade volume would increase by 50%.

Whether a country should adopt a free-trade regime with neighbouring countries or not is still a highly debated issue amongst experts. Grossman and Helpman (1991) and Feenstra (1995) developed international trade theories from Ricardo's comparative advantage model to the two-country endogenous growth models can be considered a

¹⁸ Armenia, Azerbaijan, Belarus, Kazakhstan and Ukraine.

¹⁹ Estonia, Latvia and Lithuania.

²⁰ CIS-7 countries include Armenia, Azerbaijan, Georgia, Kyrgyz Republic, Moldova, Tajikistan and Uzbekistan.

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justification for the formation of free trade agreement (FTA). For instance, Tinbergen (1962) as the pioneer econometric study using the gravity equation for international trade flow evaluating the effect of FTA dummy variables found economically insignificant ‘average treatment effects’ of FTAs on trade growth. Similarly, Bergstrand (1985) and Frankel (1995) found an insignificant effect of the FTA on trade amongst European Community (EC) member countries, opposite to Aitken (1973), Abrams (1980) and Mendez (1985), who found a statistically significant effect on trade flows amongst EC members. Baier and Bergstrand (2007), using panel data for 96 countries over 1960-2000, found that, on average, an FTA approximately doubles two members’ bilateral trade flows after 10 years.

Regarding FTA effect on output and trade growth amongst CIS countries, Francois and Manchin (2009) stated that a thorough FTA with the EU would not only reduce tariffs but also lead to an average 0.62% increase in CIS countries’ real income. Emerson et al, (2006) analyzed the FTA effect on EU and Ukraine trade performance and argued that the overall welfare gain for Ukraine from the FTA with the EU would be above 10%. Maliszewska (2008) stated that an FTA with the EU is expected to bring an increase of 3.38% in Armenian GDP and 6.5% of the Georgian GDP. In addition, they concluded that due to an FTA with the EU, Georgian exports were expected to increase by 13.5% in five years. De Souza (2004) and Sulamaa (2004), focusing on the Russian case, suggested that Russia would benefit from an FTA with the EU in case Russia improved its productivity through better institutions or received more inward FDI.

Other studies have identified that good institutions are the main key in enhancing economic growth. Therefore, liberal trade policies also need to be complemented with effective institutional improvement policies to ensure a longer-term effect on growth (Lee et al., 1997; Rodrik D., 2000; Anderson and van Wincoop, 2003; Woytek, 2003; Acemoglu and Robinson, 2006).

North (1981) and Acemoglu (2002) define institutions as a cluster of social arrangements that include constitutional and social limits on politicians’ and elites’ power, provisions for mediating social cleavages, strong property rights enforcement, the rule of law, a minimum amount of equal opportunities and relatively broad-based access to education. Hence, some authors have revealed that a better quality of institutions could

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enhance economic growth.²¹ For instance, Dollar (2000) using a panel data for 57 developing countries (1970-1993), and Ward (2001), employing a panel data for 43 developing countries (1975-1990), concluded that institutional qualities such as property rights, governance, government size and political freedom enhance economic growth.

The transition of post-Soviet states into market economies was a phenomenon that inspired rethinking the role of institutions in reform programmes and economic performance. Amongst other empirical studies, the European Bank for Reconstruction and Development (2003) reports that a low quality of economic institutions are to blame for the ‘trade gap’²² of 60% between CIS countries and the EU. Grinsberg (2005) states that because of low institutional quality amongst post-Soviet states, over 1,000 official agreements have been passed to regulate the trade within the CIS, but only about 10% are effective.

However, institutional quality and trade barriers are not the most relevant factors for trade performance amongst developing countries, since remoteness, poor road/maritime infrastructure and landlockedness appear to be the most important causes of trade slow growth.²³ According to Beilock (1996), each border crossing within the post-Soviet states’ region implies over a 400 USD increase in per truck-load freight rates. However, we should take into account that 84.7% of total freight transports in Central Asian countries were carried out by rail during 2015 (CISTAT, 2015) and therefore it is too difficult to measure the high negative impact of the low infrastructure level in Central Asian trade relations. In contrast, Venables and Limao (2001) suggested that distance explains only 10% of the change in transport costs, whereas poor road infrastructure explains 40% in coastal countries and 60% in landlocked countries. Grigoriou (2007), using panel data for 167 countries, including Central Asian ones over the period 1992-2004, concluded that an improvement in infrastructure of Central Asian countries would raise exports by 65 per cent and imports by 8.6 per cent. According to the UN-OHRLLS’²⁴ (2013) report, most CIS countries reveal transport costs that are up to 40% higher than those of a representative coastal economy.

²¹ Grogan and Moers (1999), and Gupta et al. (2002) have concluded that high corruption levels reduce the volume of inward FDI.

²² EBRD indicates that transition countries, on average, trade between 40 and 75 per cent less than the average non-transition country.

²³ Obviously, distance and geographical factors, in general, can explain the level of transport costs. Bilateral distance is, for instance, at the core of the gravity approach. Tinbergen (1962) empirically demonstrated the negative correlation between bilateral distance and trade flows.

²⁴ United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States

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The literature has explained the link between landlockedness, transport costs, infrastructure and growth. For instance, Bougheas et al. (1999) and McKellar et al. (2000) developed the theoretical relationship between infrastructure and trade growth, whereas Radelet and Sachs (1998) and Roballand (2003), who carried out a survey on the impact of landlockedness on trade, provided empirical evidence.

To summarize, we acknowledge that most studies confirm the existence of a positive relationship between trade and growth, but the validity of the results could be questioned based on robustness tests. However, the presence of econometric and measurement problems does not permit a thorough rejection of the observed positive link between trade openness and economic growth. Trade policies ought to be properly complemented with the improvement of institutions inside countries to optimize gains from trade.

There have been, however, some political obstacles for the establishment of institutions over the last decades. Additionally, as shown by the above-mentioned empirical literature, the highest priority for CIS countries lies in the improvement of their transport infrastructure, especially amongst landlocked countries, which would help contribute favouring better export performance amongst CIS countries.

3. Problems of the economic integration of Central Asian countries in the context of globalization.

During the last decades, the globalization of the world economy has developed quite quickly. One of the mostly widespread considerations, regarding globalization, views it as an irreversible process imposed upon the world by some countries and institutions. Furthermore, Globalization as an increasingly free flow of ideas, people, goods, services, and capital has led to a deeper integration of economies and societies (IMF, 2002). Nevertheless, globalization is also far from being uncontroversial since economic theory does not provide a clear answer for the effect of globalization on growth. On the one hand many authors claim that there is a positive relationship between globalization and economic development. There is, however, little evidence supporting this statement. Mrak (2000) claims that world GDP growth rates in the 1980s and 1990s have declined since the 1970s when financial liberalization started to grow. Brethelot (1999) asserts that the share of

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investment over world GDP has in general fallen, suggesting a lower willingness to undertake long-term investments. Furthermore, Hoffmann (2002) stated that globalization and world trade created a global market, but it did not lead to the establishment of a global government or global society. Freinkman et al. (2004) analysed 25 selected CIS countries finding that low income economies among CIS countries have been performing on average just marginally better than other low-income countries and, overall, they have been falling behind the countries that benefit the most from globalization.

Globalization's effect is a highly uneven process also among the former Soviet Central Asian countries. After independence in 1991, the CIS countries adopted economic openness as the main basic strategy for economic growth. Due to difficulties in accessing global markets, trade amongst CIS countries has become of paramount relevance. One of the most important factors of economic development is foreign trade, and Central Asian economies should seek a higher volume intra-regional trade.

Almost all world regions have enjoyed from the creation of regional organizations since the end of the Cold War; however, regional cooperation among Central Asian countries remains unsuccessful. As a result, Mattli (1999) argues that EU members' intraregional trade reaches more than 60% of the total exports and imports flows, as the main driver for European integration comes from comparative advantages and economies of scale inside the single market. On the contrary, the share of intraregional trade within Central Asia is only about 10%. Intra-regional trade among the Central Asian countries has been even declining since the dissolution of the Soviet Union at the beginning of the 1990s.

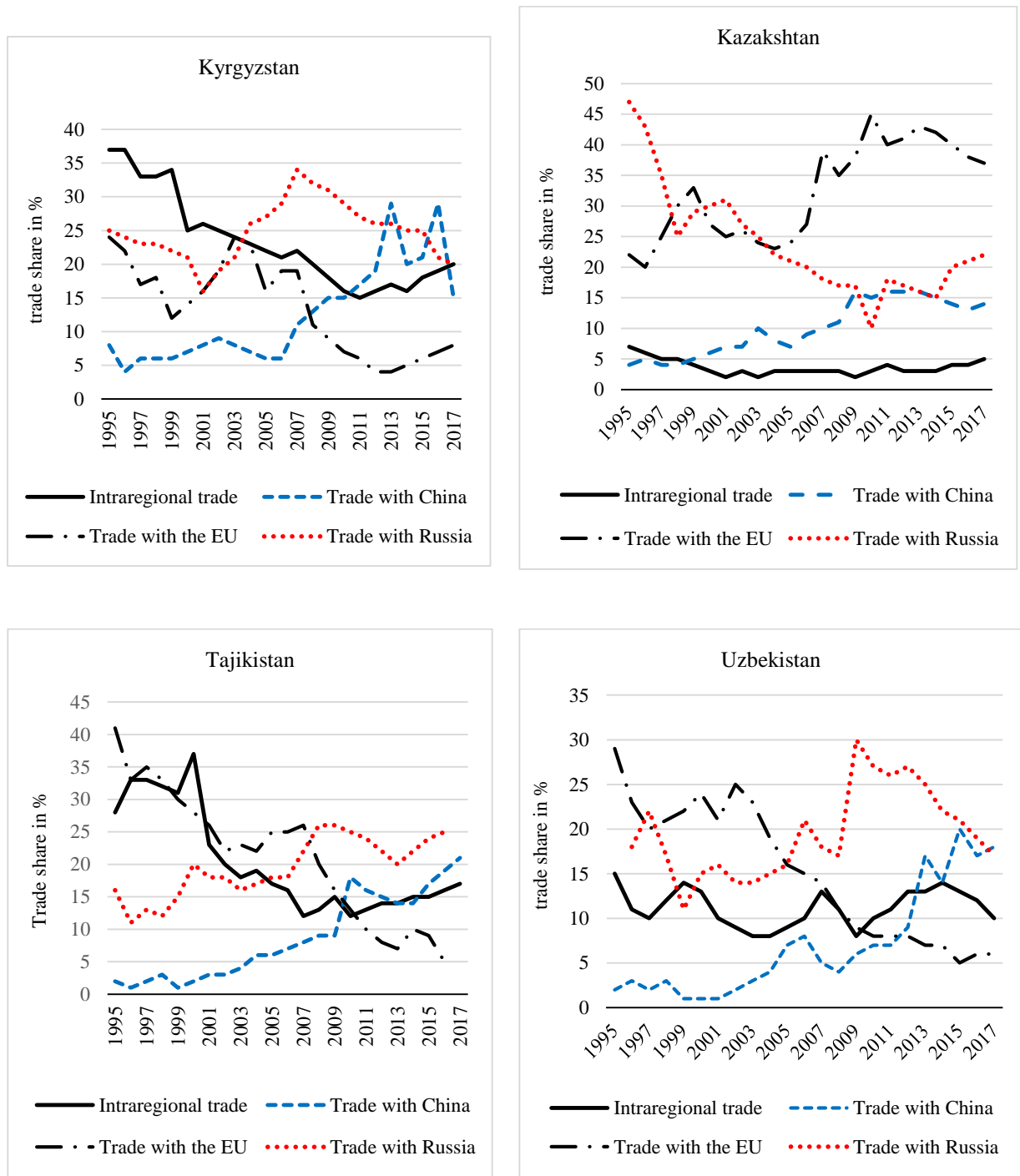
Figure 1 shows the trade turnover of Kyrgyzstan and Tajikistan drastically reduced to 45-50% in the last two decades. Following Uzbekistan's trade share falling to 20-25%, while Kazakhstan stands out as the least regionally integrated country, because its intraregional trade share declined up to a modest 10-15% from the 1990s until 2017 (See figure 1.1).

There are significant barriers to trade in Central Asia regarding trade policy, difficulties in transport and transit systems, as well as certain lack of trade in Central Asian region are a complex tariff schedule and the relatively high tariffs, the Asian Development Bank (2010) claims that the most notable barriers in Central Asian region are a complex tariff schedule and the relatively high tariffs, the frequent and unpredictable changes

²⁵ This group of countries includes Armenia, Azerbaijan, Georgia, Kyrgyzstan, Moldova, Tajikistan, and Uzbekistan

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Figure 1.1: Trade turnover of Central Asian countries, 1995-2017.



Note: Turkmenistan: Turkmenistan is not included due to the lack of reliable trade data.
 Source: UN Comtrade database (comtrade.un.org). The Statistical Agency of Tajikistan (www.stat.tj/ru).

in the tariff schedule or the high level of protectionism (i.e. high implicit tariffs in the form of taxes that are levied on imported goods but not on domestically produced goods).

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Furthermore, EU's large agricultural subsidies to their farmers constitute a significant barrier for Central Asian countries' exports to the EU. Notably, long and unpredictable transit times have constrained exports of time-sensitive goods and manufactured products with relatively low profit margins more than exports of primary commodities, which are not time-sensitive and can be transported in bulk at relatively low costs (Roballand et al., 2005). Wang (2014) asserts that Central Asian countries have relatively similar commodity-dependent economies and they produce and export many of the same items and therefore need to look for trade partners beyond their immediate neighbours, therefore they have repeatedly deployed protectionist measures against each other. The literature so far explains hysteresis in former Soviet Union trade by remoteness and landlockedness (Hamilton and Winters, 1992; Djankov and Freund, 2002; Raiser and Sakatsume, 2005), distance (Fidrmuc and Fidrmuc, 2003), poor access to markets and incomplete reforms (Havrylishin and Al-Atrash, 1998), weak institutions (Babetskaia-Kukharchuk and Maurel, 2004), or poor infrastructure (Cline and Christopher, 2008).

For instance, Fidrmuc and Fidrmuc (2003) estimated that the former Soviet Union states traded 43 times more between them than predicted by GDP and distance. Raballand (2003), who analyzed the effect of landlockedness²⁶ on trade in the case of Central Asian countries over the period 1995-1999, found that landlockedness reduces their trade by more than 80%. Venables and Limao (2001) and Brun et al. (2005b) highlighted the high impact of remoteness and poor infrastructures on trade costs. Central Asian economies are dependent on the export of agricultural products and a few commodities such as gas and oil to extra-regional markets. Moreover, they all share the fundamental infrastructure problems of landlocked countries at the periphery of the global market (Myant and Drahokoupil 2008). Kapohl and Dienes (2019) claim that Central Asian countries could improve their trade infrastructure and their share on the global market considerably, in case they cooperated with each other.

Whereas intra-regional trade is low in Central Asia, trade dependence on external actors, foremost Russia but also increasingly China, is high. Russia has been the most important trading partner for Central Asia since the early 1990s and at least up until the financial crisis of 2008/9 (Jenish 2015). Russia is the main bridge between Central Asian

²⁶ Only Kazakhstan and Turkmenistan have access to the Caspian Sea, while Kyrgyzstan, Tajikistan and Uzbekistan are twice landlocked countries, i.e. surrounded by countries that are themselves landlocked.

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countries and Europe: 70% of Central Asian exports reach Europe through Russia (Krapohl and Dienes, 2019). Moreover, Central Asian countries are interested in access to Russian financial resources, discounted energy prices and free movement of labour, which leads to high remittances flows from emigrants (Spechler 2002; Abduvaliev and Bustillo, 2020). During the last decades, cross border financial transactions and labor-remittance flows between Russia and these countries have become increasingly important and Russia appears to influence regional growth mainly through the remittance channel and less through the financial channel. Russia, as the main destination for migrants from the CIS region, accumulates 88% of CIS migrants (CISSTAT, 2016), where Armenia, Azerbaijan, Belarus, Georgia, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Uzbekistan and Ukraine are net remittances-receiving countries. Long before the Russian economic crisis started in 2014, related to the Western economic sanctions against Russia over the Ukraine Crisis in mid-2014, the labour migrants constituted approximately 49.6% of Tajikistan's GDP, 38.1% of Kyrgyzstan's GDP, and 16% of Uzbekistan's GDP (World Bank, 2015b). Despite, cooperation with China is crucial for the Central Asian economies in terms of trade relation. Although, crisis in 2008/9 deteriorated cooperation between Russian and Central Asian, however the Chinese trade share to Central Asian countries did not decline within the crisis both within financial crisis in 2008-2009 and ongoing financial crisis since 2014. Even though Russia still remains the most important trading partner for Kazakhstan (after the EU) China is increasingly becoming an economic driver of the region that has already caught up in the case of Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan (Stronski and Ng 2018). In recent years, China has been developing infrastructure projects in the five Central Asian countries under the Belt and Road Initiative. The region is being transformed by China's infrastructure investment, with the launch of railway logistics routes connecting Central Asia and Europe, and the development of highways, oil and gas pipelines, transmission networks, and optical fibre cables (Daisuke Kitade, 2019). Natural resources as well as their strategic location, especially their proximity to China, could serve as a good platform for the future development of Central Asian economies.

In consequence, we must highlight that CIS intra-regional trade has not developed as in other regions. Most countries in Central Asia are establishing a closer trade relation with other nations outside the CIS (Krapohl and Vasilieva-Dienes, 2019), because of the factors mentioned above. Therefore, we can at least confirm the fact that the recent globalization process has not created a high volume of trade inside the region, but on the contrary, it has

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connected these nations with other external partners such as China or the EU, thus confirming the fifth hypothesis put forward in the introduction.

4. Stylized facts about economic performance amongst CIS countries.

The economic dependence of CIS countries mostly divides them into these two following categories:

1. Net oil and gas exporters.
2. Countries heavily dependent on migrant remittances and foreign aid (Official Development Assistance, ODA).

CIS countries dispose of a significant endowment of natural resources accounting for nearly 5.5%-5.7% of global supplies of oil and 11.4%-11.6% of natural gas resources (CISTAT Report, 2012) where Azerbaijan, Kazakhstan and Turkmenistan are the main oil and gas exporting countries in CIS region, excluding Russia.

CIS countries that belong to the second category of economic dependence reveal data of remittances between 5%-43% and ODA 2.1%-7.8% of GDP, respectively (World Bank Factbook, 2015).

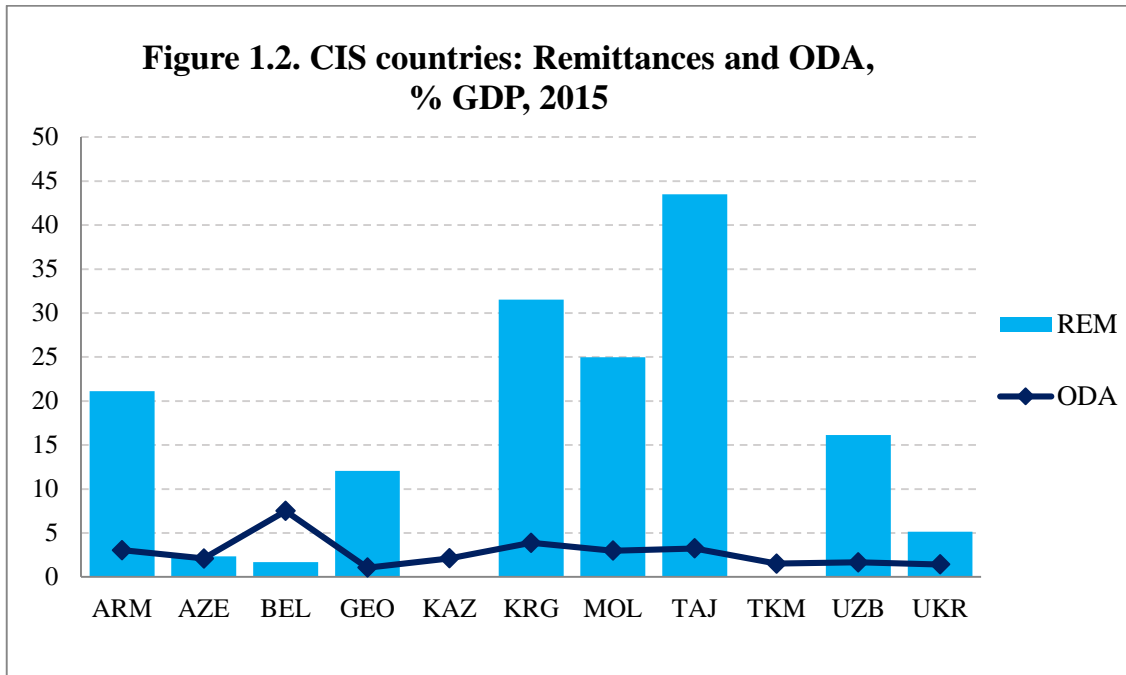
Figure 1.2. indicates that migrants' remittances as a ratio to GDP exceed ODA in most CIS countries. USA, Germany, Turkey, Japan, Switzerland and France are the main ODA donors for CIS countries (OECD/DAC, 2015). From 2000 up to 2014, all CIS countries except Kyrgyzstan, Georgia and Ukraine registered strong economic growth. From 2005 until 2010, some CIS countries (Kyrgyzstan; from 2008 until 2009, Georgia; and from 2012 until 2014, Ukraine) have suffered from socio-political disturbances and changes in leadership. Despite the relatively weaker economic performance of these three countries, the average annual growth rate of the rest of the CIS countries was 6.1% during the period 1998-2016 (See Figure 1.3.).

According to the Heritage Foundation and Index of Economic Freedom (2014), all CIS countries substantially increased their economic freedom positions. This improvement may have helped promote economic growth amongst these countries.

If we look at the recent economic behaviour of CIS countries, we will find that CIS

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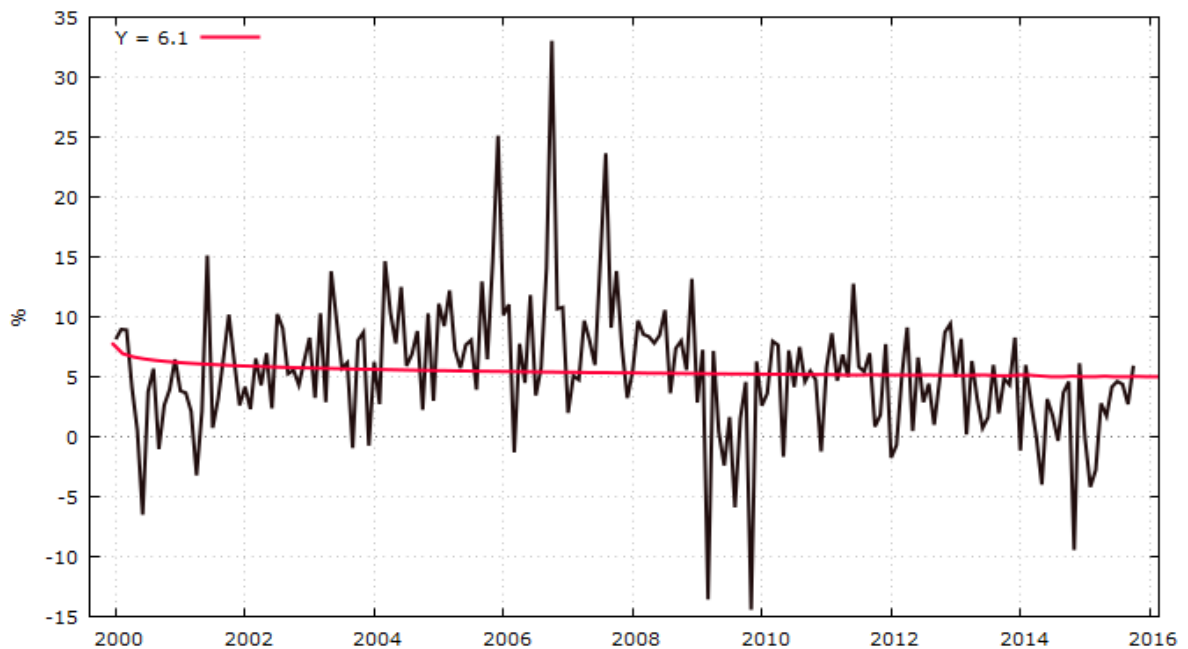
countries experienced four crises since the collapse of the USSR (Figure 1.4.).



Source: World Bank, Factbook, 2015.

Note: Data about Uzbekistan and Turkmenistan have been obtained from the Central Bank of Russia

Figure 1.3. CIS 11 annual average growth, 1998-2016



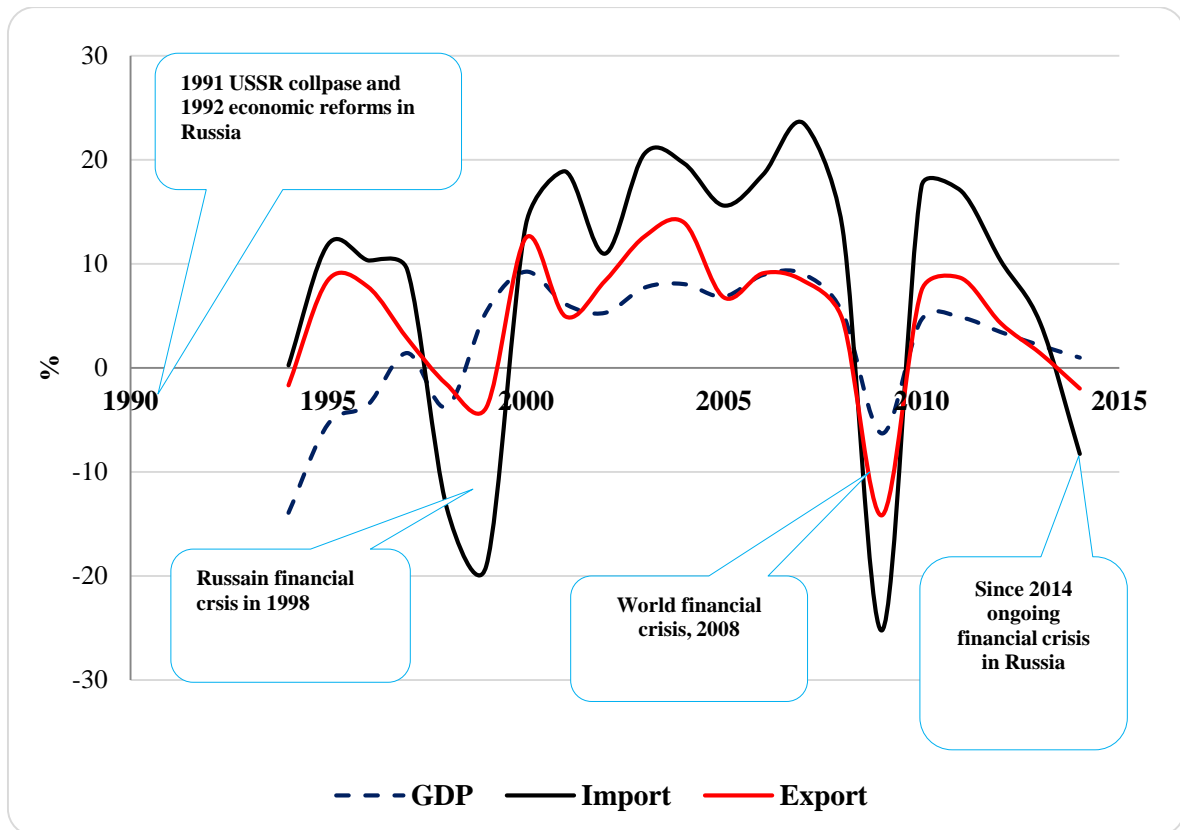
Source: World Economic Outlook, 2016.

The most relevant cause of the last crisis in Russia is mainly associated with the

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international economic sanctions imposed by Western countries, following the Russian annexation of Crimea (Ukraine). Sanctions provoked a negative effect on Russian crude oil prices and led to a devaluation of the ruble against the US dollar (Wier et al., 2014; Kitroeff et al., 2014). This reduced the migrant remittances transferred from Russia to CIS countries.

Figure 1.4. CIS countries: GDP, Exports and Imports (annual real growth), 1994-2015



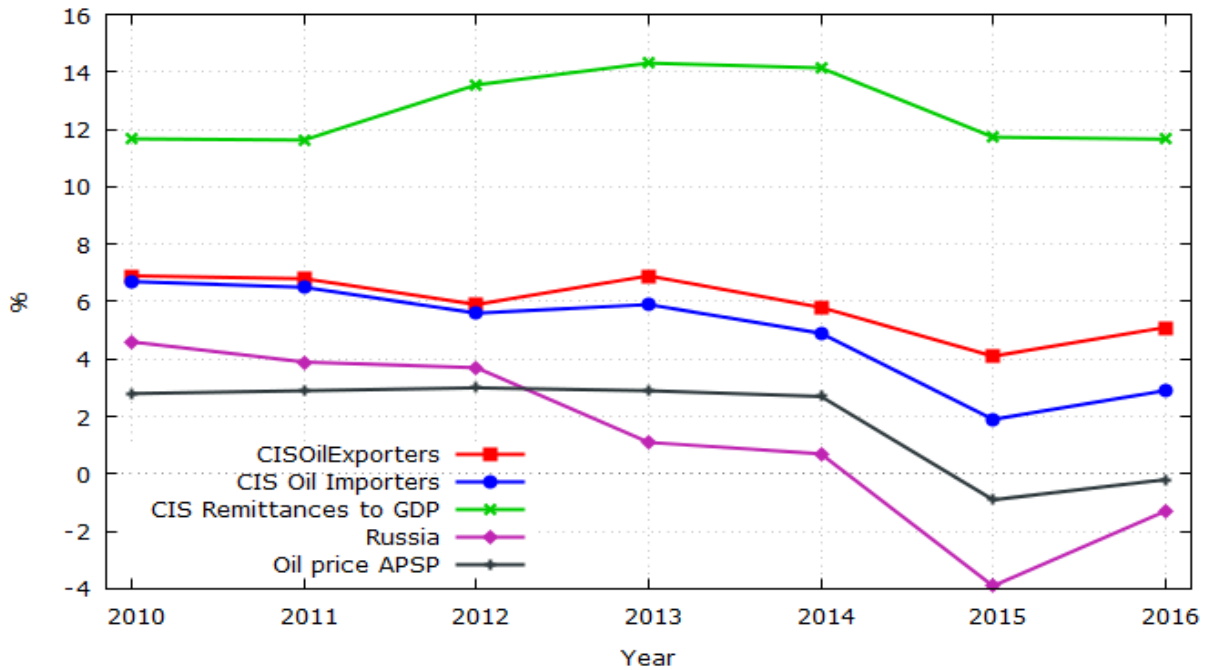
Note: Per cent change of gross domestic product, constant prices, volume of export and import of goods and services.

Source: UNCTAD (2007), World Bank (2010), IMF; World Economic Outlook (2015).

In 2014, CIS countries economic growth dropped from 1.25% to 5.25%, driven, in part, by lower commodity prices and Russia economic slowdown (IMF, 2015), which has a close relationship with CIS region through remittances, trade and the volume of investment (See Figure 1.5.).

The lower Russian oil prices have been amplified by a slowdown in Kazakhstan and Azerbaijan domestic oil production, while delays in the development of new Kazakh oil fields has resulted in the decline of CIS oil exports by 2 percentage points to 3.5% in 2015 (IMF, 2016). For a number of countries (Armenia, Belarus, Moldova and Ukraine),

Figure 1.5. Relationship between economic growth of CIS countries and Russian real GDP growth (Annual percent change)



Source: IMF Databases, 2017.

Note: * CIS oil exporters: UZB, KAZ, TKM, AZE.

** CIS oil importers: KGZ, ARM, TJK, GEO, UKR, BEL and MOL.

energy imports from Russia exceeded 23 percent of their total energy consumption in 2016 (Central Bank of Russia, 2017).

In the CIS, oil importers' domestic demand is weakened by declining remittances, as remittances are a key channel of transmission of shocks from Russia to CIS oil importers. The development prospect group of the World Bank (2015) reports that three CIS countries have ranked first, second and fourth amongst the top ten remittances recipient countries in the world according to the ratio of remittances to GDP. Remittances constitute about 41% of GDP in Tajikistan, 29 percent in the Kyrgyz Republic, 23 percent in Moldova and 19 percent of GDP in Armenia as of 2016, with the bulk of these remittances originating in Russia. The Bank of America Merrill Lynch (2013) reported that a reduction of Russia's GDP by 1% would reduce remittances inflows to Central Asian countries by 5%.

Amongst CIS countries, the situation fluctuated more after the USSR dissolution, and, almost two decades after independence from the Soviet Union, they have developed healthier deeper links with the Russian economy. This is perceptible, despite the geographical tension and sanctions that have sharply decreased the oil price in Russia since late 2014, resulting in

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negative spillovers (trade, remittances, FDI) on CIS countries. An ongoing Russian crisis is an obvious example of how geopolitical risk is real and, in fact, can dramatically change a country's economy, particularly in Central Asian and Caucasian countries. Russian politicians' decisions might not only result in circumstances that sink their own country's economy (Mirzaev, 2016), but could also make the lives worse off for residents of other countries who have economic and socio-cultural ties with Russia.

4. Inter-regional trade performance and FTA amongst CIS countries.

CIS countries are suffering the effects of a changing regional trade relationship. According to the Head and Mayer (2008) study of post-colonial ties, a country's trade with their colonizer typically falls by 60% and with siblings by 20% after 30 years of independence. However, after 27 years of independence, the relationship between CIS economies and Russian development, overall, through trade, financial and remittance channels is still strong (Table 1.1). The aim of this paper is not to test Head and Mayer's findings, but rather to explore the extent to which Russian economic performance has a strong impact on neighbouring CIS countries. CIS countries have not yet managed to achieve considerable success in opening markets and in coordination of macroeconomic policies.

IMF (2015) reports that trade links with Russia are generally weaker mostly in Central Asian countries, although for some CIS countries, trade exposure is still considerable. 'In addition, indirect spillovers through confidence effects and common investor linkages could be substantial, which is difficult to quantify' (Stepanyan et al., 2015: 13). FDI is another important channel of spillovers from Russia, which is highly relevant for CIS countries.

The trade volume of Russia with the CIS increased since 2001. The maximum value of Russia's trade surplus reached \$33 billion in 2008, in contrast with \$3.8 billion in 1994. After the 2009 downturn, Russia remained a large net exporter, although the trade surplus decreased by \$8 billion (Andreev, 2010; CISTAT Report, 2011). Notwithstanding, Russia is an important export destination and remains a relevant niche market for CIS countries. For instance, Belarus and Turkmenistan have the largest exposure, with exports to Russia exceeding 10 percent of GDP (IMF, 2015). Russia accounts for about half of non-oil exports for Azerbaijan, and Armenian food products have been a source of dynamism for the Russian economy, while a quarter of Moldova's agriculture exports were destined for Russia in 2015 (IMF report, 2016). Kazakhstan is still the main trading partner of Russia in iron, manganese,

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copper and chromium ores and concentrates, aluminium, coal, ferrous metals and uranium (Basargin, 2012).

Table 1.1. CIS links with Russia, 2016

	Gas/Energy	Imports from Russia	Exports to Russia	Remittances from Russia	FDI from Russia	FDI in Russia
ARM						
AZE						
BEL						
GEO						
KAZ						
KGZ						
MOL						
TAJ						
TKM*						
UKR						
UZB*						

Sources: IMF Database, 2017.

Notes: (*) Gas exports to Russia; Gas/energy imports from Russia are scaled by country's energy consumption; other variables are scaled by GDP. Turkmenistan is an associate member of the CIS; Georgia has been a member of the CIS during 1993-2009 and Ukraine 1993-2016.

For Gas/Energy		greater than 50		between 20-50		between 10-20		less than 5-10
For other indicators		greater-5		between 2-5		between 1-2		less than 1

Russia accounts for about a quarter of Turkmenistan's and Uzbekistan's gas exports (down from around 70 percent during the global financial crisis). Imports from Russia, including energy imports, constitute more than 5 percent of GDP for most CIS countries and energy imports from Russia to Armenia, Belarus, Moldova, Tajikistan and Ukraine exceeded 20 percent of their total energy consumption (IMF, 2015). However, some CIS oil importing countries may not benefit from the lower price provided by Russia, since contracts on gas supply are usually long term and, in some cases, with fixed prices over several years.

The current Russian financial crisis has had adverse spillovers to CIS oil importers that account for more than 2.5 percentage points of downward growth, while for the CIS oil

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exporters, negative spillovers from Russia contributed to around 1% downward revision of their economic growth (IMF, 2016).

The foreign trade pattern of CIS countries is also diverse. Openness promotes a more efficient allocation of resources through comparative advantage. The average trade openness (percentage of Export + Import over GDP) amongst CIS on average remains 96.1% in 2014 (Figure 1.6). The World Bank (2015) reports that some of the CIS countries are 'more open', while some of them relatively low. For example, on average, trade openness to Belarus is 131.8, Moldova 129.1, Turkmenistan 123.9, Kyrgyzstan 112.6, Tajikistan -108.2, Ukraine 104.5, Azerbaijan 88.5, Kazakhstan 85.5, Georgia 79.5, Armenia 69.6, Uzbekistan 62.3, and Russia 56.3. We must mention that trade openness figures amongst several CIS countries are above 100% mainly because these figures are from small countries with very high import levels, which are not thoroughly consumed inside the country, under the risk of double accountancy.

Figure 1.6. indicates that in 2016 the openness to trade dramatically decreased by 71.4% due to the ongoing financial crisis of Russia (Dorning et al., 2016), something that reveals CIS countries' dependence on Russian economic performance.

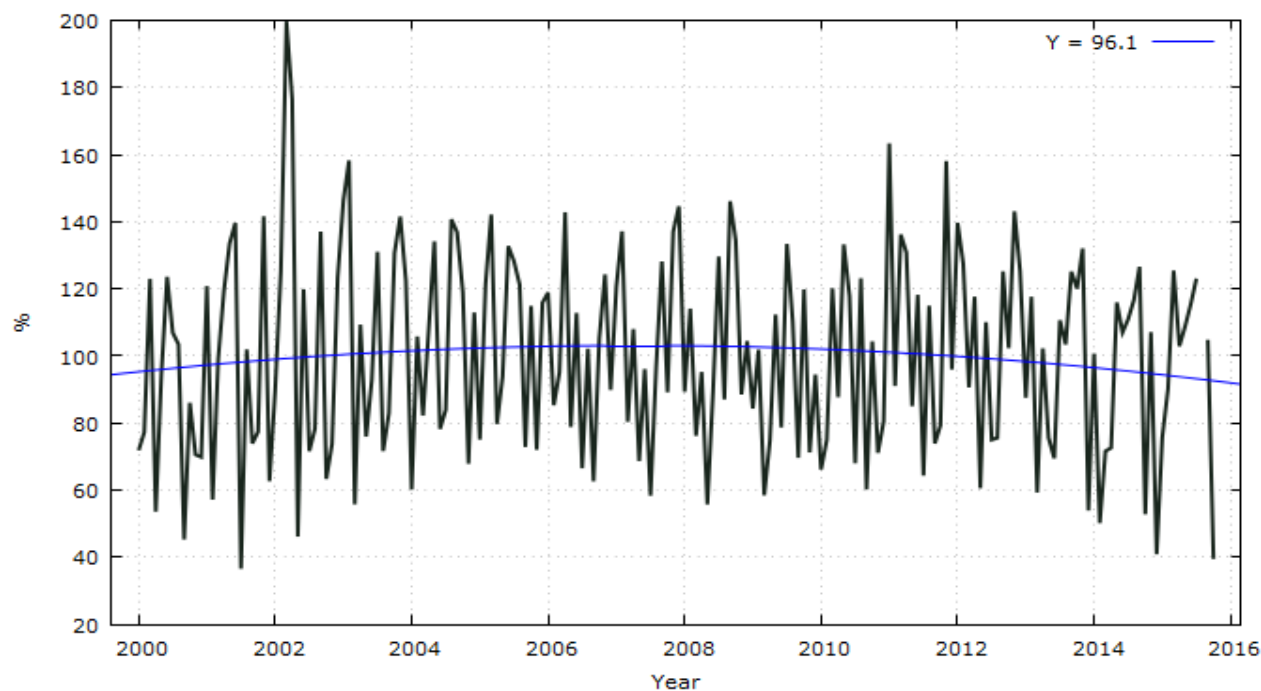
The objective of creating a deeper trade link amongst post-Soviet States, i.e. the objective of favoring commercial integration, requires a certain degree of political integration.

On September 1994 was made the first multilateral FTA in the CIS area (CIS Agreement from 15.04.1994 'On the establishment of a free trade area'), which included 10 CIS countries²⁷ and was aimed at the future establishment of an economic union. The agreement was expected to come into force after the signing parties agree on the list of exemptions from it. However, if we look at the realization of these agreements, we will find that most of FTA measures remained dysfunctional (Kulik et al., 2013). In 2008, Georgia, due to Russian political intervention in the Georgian region of Abkhazia, and in 2010, Ukraine due to the Orange Revolution, decided to leave the Economic Union.

Hence, multilateral PTAs (Preferential trade agreements) did not exist in the CIS area until the end of 2012. Thus, CIS countries attempted to create a multilateral PTA in a bilateral regime, concluding agreements in a relatively short time, followed by subsequent approval

²⁷ Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan and Uzbekistan.

Figure 1.6. CIS countries: openness to trade in percentage, 2001-2016



of the list of reciprocal exemptions and simultaneous agreements on terms of their elimination. Summary table including information on PTAs effective in 2016 in the CIS area is presented in Table 1.2.

Additionally, other integration processes were developing. In January 2014, Russia, Kazakhstan and Belarus signed the agreement for the creation of the Eurasian Economic Union (EEU), which came into force on 2015. The main aim of this union is the creation of a common market for labour and capital. However, according to UN reports, despite having signed an agreement, CIS countries' trade policy is far from common. The number of non-coincident import tariff rates is very high, around 50%. The reason is partly the lack of a strong supra national institution to control national trade policies. Moreover, there are several agreements within the CIS Economic Union that remain dysfunctional due to governance and institutional setbacks in the CIS region (Efremova, 2012; Mazhikeev et al., 2015). Grinsberg (2005) concluded that over 1,000 official trade agreements were signed, but only about 10% are effective.

Clearly, Russia is a dominant power in this project in the EEU, and its political interests may outweigh economic ones. Four potential EEU members (Belarus, Kazakhstan, Armenia and Kyrgyz Republic) have been forcefully pushed into the agreement firstly because Russia is the most accessible market for their exports and migration, and a source of cheap

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Table 1.2 – Overview of the Preferential Trade Agreement in CIS area

	ARM	AZE	GEO	KRG	MOL	TAJ	UZB	BEL	KAZ	RUS	TKM	UKR
ARM		NO	95-cur: FTA (bl)	94-11: FTA (bl)* 11-cur: FTA CIS*	93-11: FTA (bl)* 11-cur: FTA CIS*	11-cur: FTA CIS*	NO	00-11: FTA (bl)* 11-cur: FTA CIS*	01-11: FTA (bl)* 11-cur: FTA CIS*	01-11: FTA (bl) 11-cur: FTA CIS*	04-11: FTA (bl)* 11-cur: FTA CIS*	96-11: FTA (bl) 11-cur: FTA CIS*
AZE	NO		96-cur: FTA (bl)	NO	NO	NO	NO	NO	NO	93-cur: FTA (bl)*	NO	96-cur: FTA (bl)
GEO	95-cur: FTA (bl)	96-cur: FTA (bl)		NO	NO	NO	NO	NO	97-cur: FTA (bl)	94-cur: FTA (bl)	96-cur: FTA (bl)	95-cur: FTA (bl)
KRG	95-11: FTA (bl)* 11-cur: FTA CIS* 15-cur: EEU	NO	NO		95-11: FTA (bl)* 11-cur: FTA CIS*	99-11: FTA (bl)* 11-cur: FTA CIS*	96-cur: FTA (bl)*	99-11: FTA (bl)* 11-cur: FTA CIS* 15-cur: EEU	95-11: FTA (bl)* 11-cur: FTA CIS* 15-cur: EEU	92-11: FTA (bl)* 11-cur: FTA CIS* 15-cur: EEU	NO	95-11: FTA (bl) 11-cur: FTA CIS*
MOL	93-11: FTA (bl) 11-cur: FTA CIS*	NO	NO	93-11: FTA (bl) 11-cur: FTA CIS*		11-cur: FTA CIS*	NO	93-11: FTA (bl) 11-cur: FTA CIS* 15-cur: EEU	11-cur: FTA CIS* 15-cur: EEU	93-11: FTA (bl)* 11-cur: FTA CIS* 15-cur: EEU	NO	11-cur: FTA CIS*
TAJ	11-cur: FTA CIS*	NO	NO	99-11: FTA (bl)* 11-cur: FTA CIS*	11-cur: FTA CIS*		NO	98-11: FTA (bl) 11-cur: FTA CIS*	95-11: FTA (bl)* 11-cur: FTA CIS*	92-11: FTA (bl) 11-cur: FTA CIS*	NO	01-11: FTA (bl) 11-cur: FTA CIS*
UZB	NO	NO	NO	96-cur: FTA CIS*	NO	NO		NO	NO	99-cur: FTA (bl)*	NO	NO
BEL	00-11: FTA (bl)* 11-cur: FTA CIS* 15-cur: EEU	NO	NO	99-11: FTA (bl) 11-cur: FTA CIS* 15-cur: EEU	93-11: FTA (bl) 11-cur: FTA CIS* 15-cur: EEU	98-11: FTA (bl) 11-cur: FTA CIS*	NO		97-10: FTA (bl) 10-cur: CU 11-cur: FTA CIS* 12-cur: ES 15-cur: EU	92-10: FTA (bl)* 10-cur: CU 11-cur: FTA CIS* 12-cur: CES 15-cur: EEU	NO	92-11: FTA (bl)* 11-cur: FTA CIS*
KAZ	01-11: FTA (bl) 11-cur: FTA CIS* 15-cur: EEU	NO	97-cur: FTA (bl)*	95-11: FTA (bl) 11-cur: FTA CIS* 15-cur: EEU	11-cur: FTA CIS*	95-11: FTA (bl)* 11-cur: FTA CIS*	NO	97-10: FTA (bl) 10-cur: CU 11-cur: FTA CIS* 12-cur: CES 15-cur: EEU		92-10: FTA (bl)* 10-cur: CU 11-cur: FTA CIS* 12-cur: CES 15-cur: EEU	NO	94-11: FTA (bl) 11-cur: FTA CIS*
RUS	04-11: FTA (bl)* 11-cur: FTA CIS* 15-cur: EEU	93-cur: FTA (bl)*	94-cur: FTA (bl)*	92-11: FTA (bl) 11-cur: FTA CIS* 15-cur: EEU	93-11: FTA (bl)* 11-cur: FTA CIS*	92-11: FTA (bl)* 11-cur: FTA CIS*	92-cur: FTA (bl)*	92-10: FTA (bl)* 10-cur: CU 11-cur: FTA CIS* 12-cur: CES 15-cur: EEU	92-10: FTA (bl)* 10-cur: CU 11-cur: FTA CIS* 12-cur: CES 15-cur: EEU		92-cur: FTA (bl)*	93-11: FTA (bl)* 11-cur: FTA CIS*
TKM	96-cur: FTA (bl)	NO	96-cur: FTA (bl)	NO	NO	NO	NO	NO	NO	92-cur: FTA (bl)*		95-cur: FTA (bl)
UKR	96-11: FTA (bl) 11-cur: FTA CIS*	96-cur: FTA (bl)	95-cur: FTA (bl)	95-11: FTA (bl) 11-cur: FTA CIS*	11-cur: FTA CIS*	01-11: FTA (bl) 11-cur: FTA CIS*	NO	92-11: FTA (bl)* 11-cur: FTA CIS*	94-11: FTA (bl) 11-cur: FTA CIS*	93-11: FTA (bl)* 11-cur: FTA CIS*	95-cur: FTA (bl)	

In force	Signed, but inactive	No agreement
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Note: (bl) – bilateral agreement; 95- year of the signing the protocol on the complete abolition of exemptions from the free trade; *PTA with exemptions; CU – Customs union, EEU - Eurasian Economic Union, CES – Common economic space; cur – currently.

Source: Listing of bilateral international agreements of the Russian Federation – Ministry of Economic Development of the Russian Federation, World Bank Global PTA Database, WTO PTA Database, UNESCAP PTA Database, CIASSTAT Database.

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Russia is the most accessible market for their exports and migration, and a source of cheap natural resources.

A closer regional integration among CIS countries could complement the integration process with the world economy. Improvements of institutional bases of the organization would be the best guarantee of development. Because of poor control over the implementation of its decisions, along with the unwillingness of a number of them for further integration, the role of the Commonwealth in promoting growth and stability in the region has not reached its full potential.

6. Methodology

In this section we will address two important issues. Firstly, to what extent do free trade agreements, institutional and geographical factors favour trade flows amongst CIS countries? Secondly, whether the Russian economy exerts a strong influence on CIS countries' bilateral flows or not.

The gravity equation provides a general empirical framework suited to the examination of these issues. This model allows us to identify the impact on bilateral trade of variables such as infrastructure, landlockedness, institutions, and free trade agreements, once all other structural determinants of trade, mainly GDP, contiguity and Russian economic development, are controlled for. We follow the basic model suggested by Anderson and van Wincoop (2003).

We applied a fixed effects (FE) model, which assumes constant but not equal individual country effects, which leads to a fixed effect model.

The selection of the best model specification has been made using the following expression:

$$\begin{aligned} \ln(X_{ti}) = & \beta_0 + \beta_1 GDP_{t-1,i} + \beta_2 Landlocked_{ti} + \\ & \beta_3 Contiguity_{ti} + \beta_4 RusCrrAcc_{ti} + \beta_5 RussIncm_{ti} + \beta_6 GovEff_{ti} + \\ & \beta_8 RegM_{ti} + \beta_9 PSAV_{ti} + \beta_9 VoiceAccX_{ti} + \beta_9 CISFTA_{ti} + \omega_{ti}; \\ & \omega_{ti} = \mu_i + v_{ti}, t = 1, \dots, T; i = 1, \dots, N, \end{aligned}$$

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The second method is a random effect (RE) method, and the assumption is a situation where the country effects are not constant, but are treated such as disturbances.

We estimated our model employing a panel data set of bilateral export flows between Russia and each of the 11 CIS countries. The time span for the analysis is 17 years from 1997 to 2014, due to the limited data availability. We test the importance of the trade regime (Free Trade Association Regime between the two countries partners). Additionally, we check the effect of the relevance of Russian economic policy and performance on bilateral commerce figures, the reason why bilateral Russia-other CIS partners' flows are used.

We will test the link between each country's institutions'²⁸ quality and trade flows. In addition to these variables, we include a rich set of control variables, such as GDP, landlockedness and the effect of contiguity. However, we do not use distance, as it does not show statistical significance because Moscow, which is the main trading centre-partner for most CIS countries, is very far from the frontiers of all CIS countries. The definition, description and expected sign of each variable are indicated on Table 1.3.

²⁸ As measured by the World Bank governance indicators.

Table 1.3. Definition of the variables

Variables	Description	Formula	Expected signs	Source
$\ln X_{ijt}$	Log of export of country i to country j , f.o.b. value in million USD			IMF-DOT
$\ln GDP_{it}$	Log of GDP of country i , in current USD, in million USD.		+	WDI
$\ln GDP_{ijt}$	Log of GDP of country j , in current USD, in million USD where i exporting, j importing countries		+	WDI
Landlocked	Dummy for landlocked	1 if country i and j are landlocked and 0 otherwise	-	CEPII
$Contig_{ij}$	Dummy contiguity ij for having a common border between the countries	1 if countries i and j are contiguous; 0 otherwise	+	CEPII
RUS_CURR_ACC (as % of CIS trade)	An indicator of the national savings that are available for investment abroad—expressed as a ratio of the combined CIS trade		+	WB IMF-DOT
RUS_INCOME (as % of CIS trade)			+	WB and IMF-DOT
Government Effectiveness	Measures the perceptions of public services' quality, civil services' quality, quality of formulation and implementation of policies and credibility of government's commitment to follow the policies for country i and j	$Goveff_{it} = (cor_{jt} + law_{jt} + reg_{jt} + acc_{jt} + polstab_{jt})$	+/-	WBI- WGI (worldwide global indicators)
Governance it	Simple average of governance score for country i based on: control of corruption, rule of law, regulatory quality, voice and accountability, government effectiveness, political stability and absence of violence	$Governance_{it} = (cor_{it} + law_{it} + reg_{it} + acc_{it} + gov_{it} + polstab_{it})$	+/-	Own calculations based on WBI-WGI (worldwide global indicators)
Governance jt	Simple average of governance score for country j based on: control of corruption, rule of law,	$Governance_{jt} = (cor_{jt} + law_{jt} +$	+/-	Own calculations based on WBI-

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	regulatory quality, voice and accountability, government effectiveness,	$reg_{jt} + acc_{jt} + gov_{jt} + polstab_{jt}$		WGI (worldwide global indicators)
Regulatory Quality	Measures the perceptions of governmental capabilities to draw and implement policies for development of private sector for country <i>i</i> and <i>j</i>	$Reg_{it} = (cor_{jt} + law_{jt} + gov_{jt} + acc_{jt} + polstab_{jt})$	+ / -	WBI- WGI (worldwide global indicators)
Political Stability and Absence of Violence/ Terrorism	Measures the perceptions of the likelihood of government overthrow, political violence and terrorism for country <i>i</i> and <i>j</i>	$Polstab_{it} = (cor_{jt} + law_{jt} + reg_{jt} + gov_{jt} + acc_{jt})$	+ / -	WBI- WGI (worldwide global indicators)
Rule of Law	Measures the perceptions of the contract reinforcement quality, respect for property rights, the quality of police and the courts, likelihood of crime and violence for country <i>i</i> and <i>j</i>	$Law_{it} = (cor_{jt} + reg_{jt} + gov_{jt} + acc_{jt} + polstab_{jt})$	+ / -	WBI- WGI (worldwide global indicators)
Voice and Accountability	Measures perceptions of the degree to which citizens can participate in government selection; freedom of expression, freedom of association and media for country <i>i</i> and <i>j</i>	$Acc_{it} = (cor_{jt} + law_{jt} + reg_{jt} + gov_{jt} + polstab_{jt})$	+ / -	WBI- WGI (worldwide global indicators)
FTA _{ij}	Dummy for an FTA between country <i>i</i> and <i>j</i>	1 if countries <i>i</i> and <i>j</i> have and FTA; 0 otherwise.	+	WTO and CISSTAT RTA database

Note: The institutional variables are taken from the World Bank's database of Worldwide Governance Indicators and calculated separately for the exporting and the importing country as a simple average of six indicators. These six indicators represent quality of governance in the three main areas: Selection, monitoring and replacement process of governments.

7. Empirical results.

The results of the estimation are presented in Table 1.4.

Our results suggest that Russian economic performance is positively related to bilateral trade flows, so we can state that Russia's economy's health (proxied with the inclusion of Russian Income and Russian Current Account variable) positively affects bilateral trade flows. It also should be noted that trade between CIS countries is favoured by the existence of a FTA bilateral agreement, confirming the hypotheses put forward above. The regression results in columns (1) and (4) in Table 1.4 reveal that FTA has positive and statistically significant effects on trade flows.

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Table 1.4. GDP growth rate in CIS countries: Regression results

	MODEL 1	MODEL 2	MODEL 1	MODEL2
Variables	Random Effect	Random Effect	Fixed Effect	Fixed Effect
CONST	14,2940***	15,6558***	14,8113***	15,7892***
GDP_X_USD	0,194833***	0,154915***	0,0326209***	0,0304988***
GDP_M_USD	0,114661***	0,0986743***	0,001122547*	0,000886885
Landlocked_0	-2,11573***	-0,48602***	-2,59631***	-2,58965***
Contiguity	0,0845933	0,0802030	0,0860580	0,104733
RUS_CURR_ACC	0,0431802***	0,0263873***	0,207349***	0,199077***
RUS_INCOME	0,0428229**	0,0244380***	3,44454***	3,14826***
GOVEFF_M	--	0,248074***	--	0,000799202
REGQ_M	--	0,638863***	--	-0,0249250
PSAV_X	--	1,17621***	--	0,284640***
Voice_Acc_X	--	-1,47401***	--	-0,601901***
CIS FTA_X	1,39310***	--	--	1,49478***
--	--	--	-2,30611***	-2,17224***
--	--	--	-2,49145***	-2,34241***
--	--	--	-3,04355***	-2,88818***
--	--	--	-1,95947***	-1,89300***
--	--	--	4,96002***	4,46442***
--	--	--	-3,06073***	-2,84299***
--	--	--	0,171544*	0,110577***
--	--	--	-3,38115***	3,14419***
--	--	--	-3,42003***	-3,16764***
--	--	--	3,59030***	3,24748***
--	--	--	2,35479***	2,15142***
No. of observations	2512	2512	2512	2512
R-squared	0.73	0.81	0.69	0.74
Adjusted R-squared	0.68	0.79	0.67	0.70

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Regarding signs, estimated coefficients across different estimators show the expected relationship with the dependent variable.

Trade, as expected, is positively associated with exporter and importer GDPs. However, the coefficients estimated for the exporting and importing countries do slightly differ from each other. Supply determinants are more significant than demand ones: coefficients for the RE model range from 0.154 to 0.194, and from 0.030 to 0.032 by FE models for the exporting country. For the importing country, our coefficient ranges only from 0.098 to 0.114 (RE) and from 0.001 to 0.0008 (FE).

In contrast, landlockedness is negatively correlated with trade. Both our RE model procedures show negative results of -2.115 and -0.486 for that variable, while FE models show similar negative results. Although in many gravity papers, the common border is found to have a positive correlation to trade, in our model it does not register a statistically significant result.

As we mentioned in Section 5, we do not use distance, as it does not show statistical significance because the huge distance between CIS countries and major industrial areas of Russia (Moscow, Ural and Siberia).

Regarding institutional variables, our estimates show that government effectiveness and regulatory quality (among importing countries) register the expected positive and significant sign for the RE procedure, while the absence of violence (exporting countries) reveal the expected positive result for both the FE and the RE procedures. However, the measure of the level of democracy (Voice Accountability) appears to be negatively correlated with export flows.

8. Conclusions

Our findings suggest that the creation of FTA has positively influenced trade flows amongst CIS countries, mainly because FTA allow CIS countries to decrease the size of transit costs.

Secondly, the CIS countries can give the largest boost to their exports by improving their governance quality, especially in the areas of government effectiveness, regulation and absence of violence, the level of democracy. However, voice accountability does not seem

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to favour trade growth. Although improvement of governance quality in the CIS countries is a challenging process that could take some time, it is definitely a job worth accomplishing.

Thirdly, the next factors that have considerable effects on CIS trade growth is landlockedness due to the lack of access to the sea ports (Grigoriou, 2007; Kulipanova, 2012) and transit systems in the CIS region (Roballand, 2003). In support of Hypothesis 3, our empirical analyses suggest that geographical disadvantage negatively affects CIS trade flows. High transport costs are one of the main obstacle to the reorientation of CIS trade flows. Because overland distances are more penalizing than sea distances due to their higher costs per mile (Celine and Grigoriou, 2008), CIS landlocked countries (particularly Central Asian countries) are dependent on sovereign transit countries for their trade. Moreover, high transportation costs amongst CIS countries have a negative impact, not just on transportation budgets, but also on broader supply chain and financial performance.

In support of the final hypothesis, our study suggests that Russia's economic policy still having a significant impact on trade growth in the rest CIS countries, primarily via remittances, FDI and exports and the strong economic relationship between Russia and CIS countries are still greater than might be expected. Thus, those experts who have foreseen that a country's trade with their colonizer typically falls by specific percentage after 30 years of independence, or predicted that Russia influence would quickly vanish among CIS countries after the collapse Soviet Union, were mistaken.

Furthermore, the globalization process does not seem to have exerted so far such a strong influence on CIS countries intra-regional trade growth. Geographical obstacles, problems with the management of the different Free Trade Agreements or certain lack of commercial complementariness have hindered trade expansion amongst CIS countries. Therefore, we can confirm the fifth hypothesis put forward in the introduction. In consequence, there should be an additional joint effort to reform regional trade agreements, apart from a progressive improvement of infrastructures to favour trade growth.

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Abstract

The main goal of this paper is to assess the effect of remittances on economic growth and poverty reduction amongst the post-Soviet states, compared with other external sources of capital, such as foreign aid and foreign direct investment. In this paper we use a panel data set on economic growth and poverty estimates (poverty headcount, poverty gap and poverty severity) in 10 selected former post-Soviet republics i.e. Commonwealth of Independent States (CIS). We found that, on average, a 1% increase in remittance flows provokes around a 0.25% rise in per capita GDP and a 2% decline in poverty severity. Remittances seem to have produced a significant reduction on poverty through increasing income and smoothing consumption levels.

Key words

Commonwealth of Independent States, remittances inflows, poverty measures

JEL Classification

F14, F15

²⁹ Mubinzhon Abduvaliev & Ricardo Bustillo (2019): Impact of remittances on economic growth and poverty reduction amongst CIS countries, *Post-Communist Economies*, 32(4), 525-546, United Kingdom, DOI:10.1080/14631377.2019.1678094

1. Introduction.

International migration still appears to be one of the most important issues of the global agenda, since it generates enormous economic, social and cultural repercussions in both sending and receiving countries. Over one billion people in the world (more than one in seven people) are migrants (International Organization of Migration, 2015). Over the recent three decades, payments made by migrants abroad to their families in their home countries, known as *remittances*, are attracting increasing attention because of their rising volume, as well as their effect on the destination countries. The volume of remittances and compensation for employees received by developing countries has grown dramatically, from around US\$400 million in 1970 to US\$440 billion in 2015 (World Development Indicators WDI, 2008, 2016). The most relevant destinations for international remittances were India, Philippines, Mexico, Nigeria, Egypt, Pakistan and Ukraine, whereas amongst remittances' source countries, USA, Russia, Saudi Arabia and Switzerland are the leaders (WDI, 2015).

Amongst developing countries, remittances have to be considered as the most stable type of financial foreign currency inflow (Gupta et al., 2007). For many developing countries, remittances' revenue exceeds foreign direct investment, official development assistance (ODA) and portfolio equity inflows (Chami et al., 2008).

Moreover, total remittances could be 50% higher than official estimates when those sent through informal channels are included (World Bank, 2006). In some cases, earnings submitted by international migrants constitute a significant portion of a country's GDP: from 15–20% in Tonga, Lesotho, Albania, and Yemen; up to 25–41% in Liberia, Moldova, Nepal, Kyrgyzstan or Tajikistan (WDI, 2015).

Regarding the economic destination of remittances, they are mostly spent on consumption expenditure, rather than on productive investment. Therefore, their contribution to an increase in productivity and economic growth depends on the careful allocation of this money (Catrinescu et al., 2006). Consequently, the utilization of remittances revenues by households plays a crucial role in their impact on growth.

Amongst the positive effects of remittances, we can mention not only poverty alleviation, but also that it allows for smoother patterns of consumption, which provoke a multiplier effect on aggregate demand and output (Acosta et al., 2007). Recipient households can use remittances to finance current consumption, asset accumulation, human capital formation or to serve as insurance (Yang and Martinez, 2006), whereas development loans (Official Development Assistance, ODA) are more expensive since they force the user to

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pay interest rates. Moreover, remittances transferred through either formal or informal channels by migrants prevent the government from wasting those resources, as often happens with ODA (Sander, 2004; Pieke et al., 2005).

Several recent studies have analysed household investments in human capital development amongst developing countries by proving the existence of a correlation between remittances and child education (Lopez-Cordova, 2004). However, remittances' effects might not last in the long-run for households, particularly if they do not properly invest them. Furthermore, international migration of either skilled or unskilled labourers has a different opportunity cost, i.e. skilled labour refers to that which requires workers who have acquired specialized training or have learned a skill-set required to perform the work. According to the Agency on Statistics under the president of the Republic of Tajikistan (2016), one-third of Tajik migrants are holders of a secondary professional or higher education degree, a particular feature that increases migration opportunity costs.

However, few studies have analysed amongst developing economies the link between migration and skilled-unskilled wage inequality. It is important to note that the unskilled labour that emigrates and returns to their countries of origin after a few years might bring back useful skills acquired abroad (Romer, 1990). However, the brain drain caused by the migration of highly skilled workers from developing countries is especially harmful for two reasons. Firstly, skilled workers are relatively less abundant in developing countries and consequently, their relocation to other countries could have a negative effect on productivity and economic growth (Sharipov, 2012). Secondly, government investment in their education is costly, and in case they do not come back to their home country, the return of investment in public education would fall (Isomatov, 2010).

Despite the increasing importance of remittances over total international capital flows, the relationship between remittances and growth amongst Commonwealth of Independent States (CIS)³⁰ countries has not so far been adequately studied.

This study is the first to measure the impact of remittances on economic growth and poverty reduction in 10 selected former post-Soviet republics, i.e. ten CIS countries, using panel data to analyse the period 1997–2016. Our hypotheses are tested utilizing the random-effect, fixed-effects and least squares model with and without instrumental variables.

³⁰ Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

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Moreover, we test the extent to which CIS countries' growth was associated with Russian economic performance through the remittances channel.

As we attempt to assess the effect of remittances on per capita GDP and poverty levels, we are going to test the two following hypotheses:

H1: The volume of remittances is positively associated with a higher standard of living (higher per capita GDP).

H2: The volume of remittances is positively associated with poverty reduction.

The remainder of the article proceeds as follows: Section 2 provides a comprehensive literature survey, whilst Section 3 discusses the basic features of remittances amongst CIS countries. Section 4 presents the econometric estimation and the expected signs of the utilized variables, whereas Section 5 describes the variables, sources as well as data used in the analysis. In Section 6 we examine the main results obtained in the empirical research. Last but not least, Section 8 concludes the paper.

2. Literature review.

Remittances are usually measured utilizing three variables: workers' remittances, employee compensation and migrant transfers (Serino et al., 2011). A common practice amongst researchers studying the effects of remittances is to sum all these three components and consider the sum as the level of remittances. In spite of the benefits of each of these individual three different categories, workers' remittances' total amount is the best estimation for the financial inflows due to migrants' labour activity abroad.

Over the last few decades, the most studied aspect of remittances has been their impact on economic growth, not only because of their political relevance but also due to the numerous ways through which remittances might affect economic growth. Amongst studies supporting an optimistic view regarding remittances effect on growth, firstly Chami et al. (2008), who used panel data of 157 countries over the period 1990–2005, stated that remittances have a significant effect on welfare and economic growth, reduce the country risk, improve the sustainability of government debt and increase household savings in recipient countries. Adelman and Taylor (1990, pp. 387–407) found that “every dollar Mexican migrants send back home increases Mexico's GNP from \$2.69 up to \$3.17,

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depending on which household income group received the remittances". Glytsos (2005), in their empirical results, report that a decrease in remittances slows down economic growth more severely than an increase speeds it up, in reference to Egypt, Greece, Morocco and Portugal. Additionally, Sufian et al. (2008), using panel data for the period 1975–2006, confirmed the existence of a positive relationship between remittances and GDP per capita growth amongst Middle Eastern and North African countries. Furthermore, Fayissa and Nsiah (2010), analysing an unbalanced panel data spanning from 1980 to 2004 for 37 African countries, found that a 10% increase of remittances would lead to a 0.3% rise in GDP per capita.

Evidence from around the globe suggests that remittances should be directed towards investment, such as in small businesses aimed at improving a country's production base. On average, around 10% of remittances are found to be saved and invested. For instance, in Ghana and Guatemala, about one-third of remittances are used in order to start small businesses and house construction (UNCTAD, 2010, pp. 11–13). Massey et al. (1998), who studied 30 communities in West-Central Mexico, concluded that earnings from labour in the United States provided an important source for start-up capital in 21% of new business creation. Woodru and Zenteno (2001), who affirm that remittances are responsible for almost 20% of the capital invested in microenterprises throughout urban Mexico, have also found such positive effect. More precisely, McCormick and Wahba (2001), using a survey of 1,526 Egyptian migrants in 1988, found that the majority of migrants who worked and earned money abroad became entrepreneurs, self-employed or business owners in Egypt.

Partly correcting the above-mentioned results, several studies highlight the crucial role of institutions on the relationship between remittances and economic growth. Remittances tend to boost economic growth only when social institutions are better developed (Chami et al., 2003). Nevertheless, surprisingly very little empirical work would come even close to analysing the interplay amongst these three factors. Faini (2002) claimed that the positive effect of remittances on economic growth might be found when there is an improvement of productive infrastructure, a reduction in uncertainty and an accumulation of households' assets. Ratha (2003) found that during 1996–2000, countries with an average level of corruption received remittances that averaged 0.5% of GDP, compared to 1.98% for those with higher levels of corruption. More precisely, Catrinescu et al. (2006), after analysing 163 countries over the period 1970–2003, assert that institutions play a key role in encouraging remittances' positive influence on economic growth.

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The next group of world evidence suggests that remittances promote human capital accumulation in recipient countries by enabling younger members of households to continue schooling rather than having to work to contribute to household income. Recent studies have proved a positive and significant correlation between remittances and human capital accumulation in some developing countries (Kwok and Leland, 1982; Vidal, 1998; Hanson and Woodru, 2003; Barajas et al., 2009). Authors argue that the first possible link between remittances and education is through repayment of loans used to finance educational investments (Bhagwati and Hamada, 1974; Mansoor and Quillin, 2006), showing that the prospects of migration make education a profitable investment for the family. Hence, remittances might be positively correlated with human capital accumulation when most migrants come back to their origin countries. Docquier et al. (2001), using panel data for 127 countries, showed that countries with initially low levels of human capital and low migration rates enjoy from higher human capital stock growth rates. They also affirm that in origin countries with more than 20% of highly educated migration, where highly educated people are above 5%, brain drain is very likely to happen. Moreover, Stark and Wang (2001) and Cinar and Docquier (2004) claim that with the incentive to acquire education, brain drain may even affect positively migrants' sending economies, if labour migrants acquired additional knowledge abroad favours the creation of a business or a trade network in the country of origin. A recent empirical result on the impact of remittances on human capital has been found by Azizi (2017), using data for 125 developing countries from 1990 to 2015: this author concludes that a 10% increase in remittances will lead to a 3% increase in public school enrolment, 2% in private school enrolment and 1.1% in school completion rate.

However, despite the large amount of evidence defending the positive and statistically significant effect of remittances on economic growth and human capital accumulation, some empirical papers deny the positive impact of remittances on the macroeconomic performance of recipient countries. For instance, a negligible effect of remittances on economic growth is found in the studies of Spatafora (2005), where the author states that there is no direct link between real per capita output growth and remittances. Additionally, Chami et al. (2008), using panel data for 113 developing countries, find that remittances have a negative effect on economic growth. Habib and Nourin (2006), who utilize a data panel set for South East Asian economies over 1996–2005, have also described a similar negative effect of remittances on economic growth. This study suggests that there is a negative relationship between migrant remittances and per capita GDP growth in Thailand, Sri Lanka, India and

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Indonesia, whereas this relationship is positive in Bangladesh, Pakistan and Philippines. Moreover, Barajas et al. (2009), using a dataset for 84 recipient countries covering the period from 1970 to 2004, claimed that there is an insignificant effect of remittances on economic growth.

Regarding the size and the education level of international migration, the brain drain is now much more extensive than it was three decades ago (Frédéric and Marfouk, 2005). The extra education gained by the younger members of households would likely have little effect on domestic economic growth if these educated younger members were to emigrate. Haque and Jahangir (1999) indicate that the number of skilled emigrants from Africa increased from 1,800 in 1960 to 23,000 in 1987, whereas the United States Immigration Act (2009) indicates that highly educated people amongst immigrants increased from 110,200 a year in 1992 to 465,120 in 2006. It is not surprising that CIS countries have also experienced brain drain specific effects in recent years. In 2006 Russia implemented a new program, the so-called “Resettlement program compatriots in Russia” which is aimed at attracting skilled labour from post-Soviet states, resulting in more than 600,000 families relocating to Russia since 2010 (Federal Migration Services of Russia, 2016).

Apart from the controversial relationship between remittances and growth, many studies have also examined the link between remittances and poverty reduction. For instance, Adams and Page (2005) studied a set of 71 developing countries, finding that a 10% increase of migrant remittances leads to a 1.9% decline in the level of poverty. Lopez-Cordova (2006), using 1,782 Mexican households in 2003, found that a 10% increase in the share of remittances over GDP led to a 0.77% reduction of people living under headcount poverty and a 0.53% fall of people living under squared poverty and poverty gap.

Jongwanich (2007) strongly remarks that remittances do have a significant impact on poverty reduction and economic growth through human capital accumulation, increasing income, smoothing consumption and easing capital constraints to domestic investment. He used panel data, employing a Generalized Method of Moments procedure to estimate the impact of remittances on economic growth and investment for 17 Asian and Pacific countries for the period 1993–2003, finding a positive effect. Similarly, Acosta et al. (2007) studied the relationship between remittances, poverty and inequality using a panel of data for 28 Latin American and Caribbean countries during 1970–2000, and they conclude that remittances reduce poverty and inequality. According to Abdih et al. (2012), remittances keep many people out of poverty by enabling them to consume more than they could

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otherwise, in particular to maintain a higher level of consumption during economic adversity.

However, a number of authors are concerned about the income effect of remittances, according to which people could afford to work less and therefore this would diminish the labour supply, hence creating a moral hazard for recipient countries for two reasons. Firstly, the moral hazard impact appears at the household level, particularly when the migrant's family members reduce their work efforts after enjoying higher wage-earning opportunities in labour-receiving countries (Harris and Todaro, 1970; Mansoor and Quillin, 2006.). Secondly, a different kind of moral hazard occurs at the state level when remittances benefits reduce the pressure on the government to apply reforms, i.e. remittances pose a moral hazard problem by reducing political reform. According to Shera and Meyer (2013) "compensatory remittances that ensure the public against adverse economic shocks and insulate them from government policy reduce households' incentives to pressure the government to implement reforms to facilitate economic growth". Chami et al. (2003) emphasize that remittances may hinder governments' incentives to maintain fiscal policy discipline, and assert that governments may take advantage of the fiscal space afforded by private consumption financed with remittances. Similarly, Barajas et al. (2009), employing panel data for 115 developing countries, suggest as well that remittances have a negative effect on governance incentives. Barajas et al. (2012), focusing on the relationship between remittances and government policies, conclude that remittances reduce public spending in countries with governance issues. In other words, public subsidies can be replaced by remittances that will work as private subsidies, and therefore "households will not have the incentive to monitor the government and exert pressure on it for change when they are insured through remittances" (Ebeke et al., 2013, pp. 6-9). Another group of authors claims that the negative effect can be produced when remittance inflows trigger an increase in households' income, which leads to a rise of aggregate demand when part of demand is oriented to non-tradable goods. Hence, higher demand can imply a rise in inflation, the so-called *Dutch Disease* (Acosta et al., 2007). Supporting such evidence, Chami et al. (2008), using panel data for 113 countries over the period 1970-1998, conclude that remittances differ greatly from private flows in terms of motivation and they do not appear to be a significant source of capital for economic development, since they could reduce economic growth through a Dutch Disease effect.

To summarize, regarding the literature about the effect of remittances on economic

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development, we find that experts' evidence on the issue is ambiguous. A large number of authors has proved the positive effects of remittances; hence, our hypothesis would be empirically confirmed. The long- or short-term effect of remittances depends on the extent to which households use them productively. We perceive that both skilled and unskilled migration play a crucial role in the economy, as they have a different opportunity cost for both origin and destination countries. Remittances raise the standard of living of recipient countries through facilitating investment in children's education and human capital formation, increasing consumption, reducing income inequality and poverty level, taking into account their institutional framework. In spite of the positive effects of remittances, the negative effects should not be disregarded, as potential costs of remittances requirements ease pressure on governments for implementing the reforms that reduce external imbalances and labour effort, which thereby increases the level of moral hazard amongst recipient countries. This is why we utilize panel data for CIS countries in order to check empirically whether remittances enhance economic growth and/or reduce the level of poverty.

3. Stylized facts regarding remittances amongst CIS countries.

In 2015, the World Bank estimated that total world remittance flows reached \$438 billion, from which over a fifth (22%) corresponds to transition economies, and almost 11% to the CIS economies.

Before exploring the scenario where migration flows amongst CIS countries are located, let us analyse some of the literature regarding the current tendencies of the closest to the European Union (EU) CIS countries, i.e. Eastern European countries (Belarus, Moldova and Ukraine). Some authors assert that there is a pattern of East-West migration from Eastern European countries to the EU. For instance, Jelínková et al. (2011) found that people from Belarus, Moldova and Ukraine did not migrate for ethical and political reasons, but rather mainly due to economic ones. Supporting Jelínková's idea, Čajka et al. (2014) looked more precisely at the problem, using panel data for Eastern European states (EES) working either in the Visegrad group (V4³¹) countries or in the rest of European Union Member States (EU MS) in cases of visa abolition over the period 2008–2012. They

³¹ The Visegrad Group or V4 is a cultural and political alliance of four Central European states - the Czech Republic, Hungary, Poland and Slovakia.

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concluded that migrants from Belarus, Moldova and Ukraine are moving to work in the EU Member States as seasonal workers and do not intend to live in the EU, as their main motivation for working in EU countries is the wage gap, i.e. the main effects are pull factors but not push factors. Moreover, based on their empirical results, they affirm that a “visa abolition is not going to dramatically increase migration to the Eastern European countries in the EU Member States” (Čajka et al., 2014, pp. 15–26).

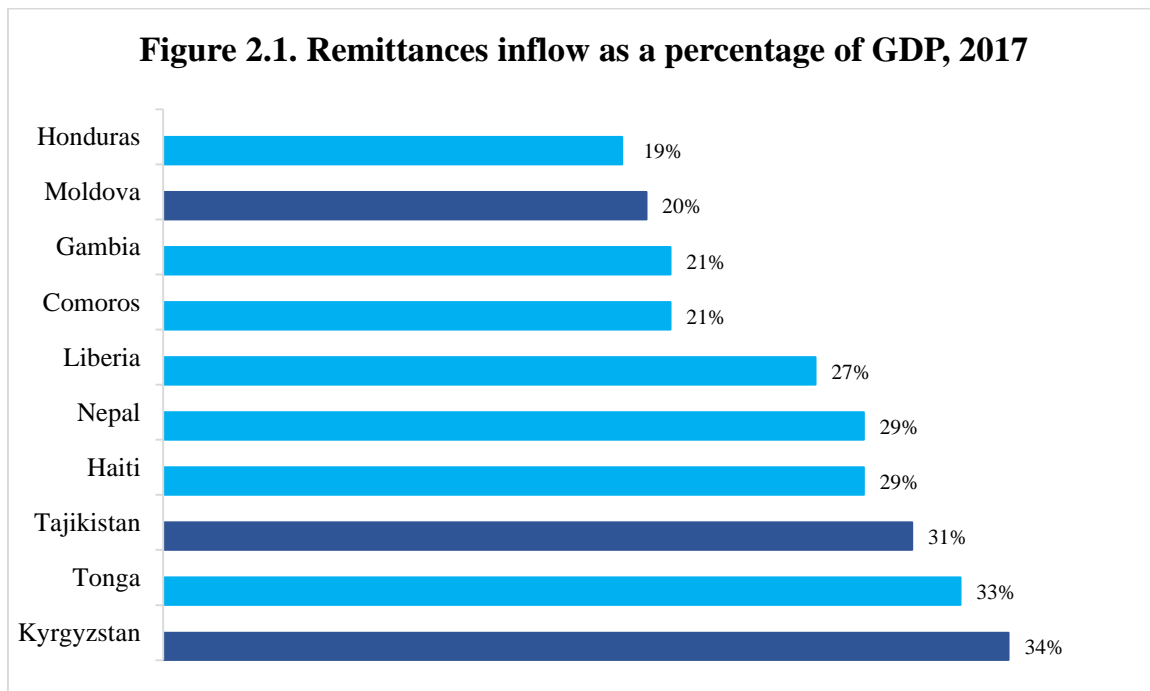
Moreover, Catrinescu et al., (2006) concluded that remittances and skills acquired by migrants from Belarus, Moldova and Ukraine in the EU MS can be quickly used in their source economy upon their return to their home country and that such scenario is similar to the situation between Russian and Central Asian countries’ migration stocks. Russia, as the main destination for migrants from the CIS region, accumulates 88% of CIS migrants (CISSTAT, 2016), where Armenia, Azerbaijan, Belarus, Georgia, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Uzbekistan and Ukraine are net remittances-receiving countries. Kazakhstan is also a main destination for migrants from the CIS region, particularly from Kyrgyzstan and Uzbekistan, but it is not as significant as Russia. The total value of international remittances amongst CIS countries has increased more than 32 times, i.e. from 5.7 billion US\$ in 2000 to 18.9 billion US\$ in 2014. Ukraine is the largest recipient of remittances in the region, followed by Uzbekistan, Tajikistan and Armenia. If we look at the volume of inward remittances in individual CIS countries, remittances inflows for Tajikistan, Kyrgyzstan and Ukraine have increased by 38.1–42.3 times, from 2000 to 2014. Following them are: Armenia 16.5 times, Azerbaijan 9.5 times, Belarus 8.1-8.4 times, Moldova 6.1 times and Georgia 4.6 times. Turkmenistan and Uzbekistan do not provide official information concerning personal remittances received in current US dollars. However, the Central Bank of Russia’s annual report (2016) revealed that their remittances amounted between 12–15% of Uzbek GDP and 1.5% of Turkmen GDP in 2014, respectively.

The remittances inflow increase from Russia to CIS countries has a direct relationship with the increasing number of migrants towards Russia (Federal State Statistical Services of Russian Federation (Rosstat), 2016). According to the Rosstat report (2010) until 1997, every person who changed his or her place of residence for more than 45 days was counted as a migrant and this included a large number of individuals who were in the country temporarily for business, study or personal visits. From 1997 until 2011, only migrants with permanent-type registration were counted, regardless of the duration of their stay. Starting from 2011, temporary migrants registering and residing in a place for nine months or more

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were also included in the statistics. This was one of the main factors behind the dramatic increase in the number of international migrants recorded starting in 2011 (Chudinovskikh and Denisenko, 2014). However, another group of experts states that the sharp increase of migration to Russia in recent decades has mostly had a direct association with Russia's lack of demographic resources. Because of the low birth rate and high death rate in Russia, combined with insufficient labour mobility within the local population, there is a need for foreign labour (Moiseenko et al., 2009; Kuzminov, 2013). Moreover, Chudinovskikh (2014) claims that the project applied by Russia, the so-called "Resettlement program compatriots in Russia" sharply increased the number of migrants from Central Asia to Russia.

The development prospect group of the World Bank (2016) reports that three CIS countries are listed amongst the world top ten countries in the world for receiving remittances according to the ratio of remittances to GDP (Figure 2.12).

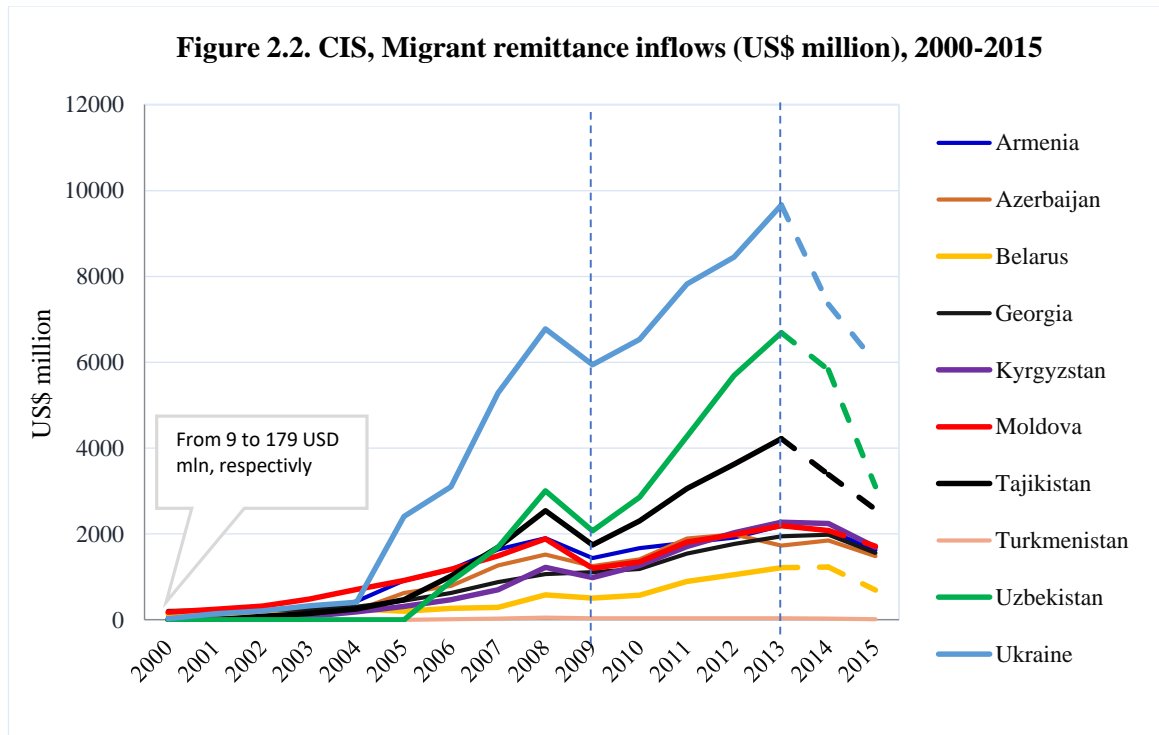


Source: World Bank, 2017

Long before the Russian economic crisis, triggered by the Western economic sanctions against Russia over the Ukraine Crisis in mid-2014, the labour migrants provided approximately 49.6% of Tajikistan's GDP, 38.1% of Kyrgyzstan's GDP, 26.9% of Moldova's GDP and 16% of Uzbekistan's GDP (World Bank, 2015). In 2016, compared to 2013, remittances in Central Asian countries decreased on average around 30% (Figure 2.2). The Caucasian countries of Armenia, Azerbaijan and Georgia also experienced a similar

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decline of remittances volume by 14–26%. Although the ratio of remittances to GDP is not significant for Ukraine, Turkmenistan and Belarus, these countries also experienced a sharp downturn ranging from 38.9 to 59.8%.



Source: World Bank, 2016

Brownbridge and Canagarajah (2010) claim that the reduction of remittances provokes a drop in imports of consumer goods, whilst households still have to hold high levels of consumption (for instance paying housing rents) and investment in housing. Bank of America Merrill Lynch (2013) reported that a reduction of Russia's GDP by 1% would reduce remittances inflows to Central Asian countries by 5%.

Another critical point is that the deepening economic and financial crisis in Russia and the collapse of the Russian ruble coinciding with persisting lower oil prices have negatively affected CIS remittance-dependent countries, particularly Central Asian countries, resulting in high inflation rates. With remittances inflows being slashed in half, the unemployment rate soared as a large number of migrant workers lost their jobs and the inflation rate rose due to extreme currency depreciation. The Russian ruble hit its lowest value – 82.37 ruble per US dollar – for the first time since the currency reform in 1988 (Central Bank of Russia, 2016). Moreover, the Russian unemployment rate upsurge reduced real wages sharply,

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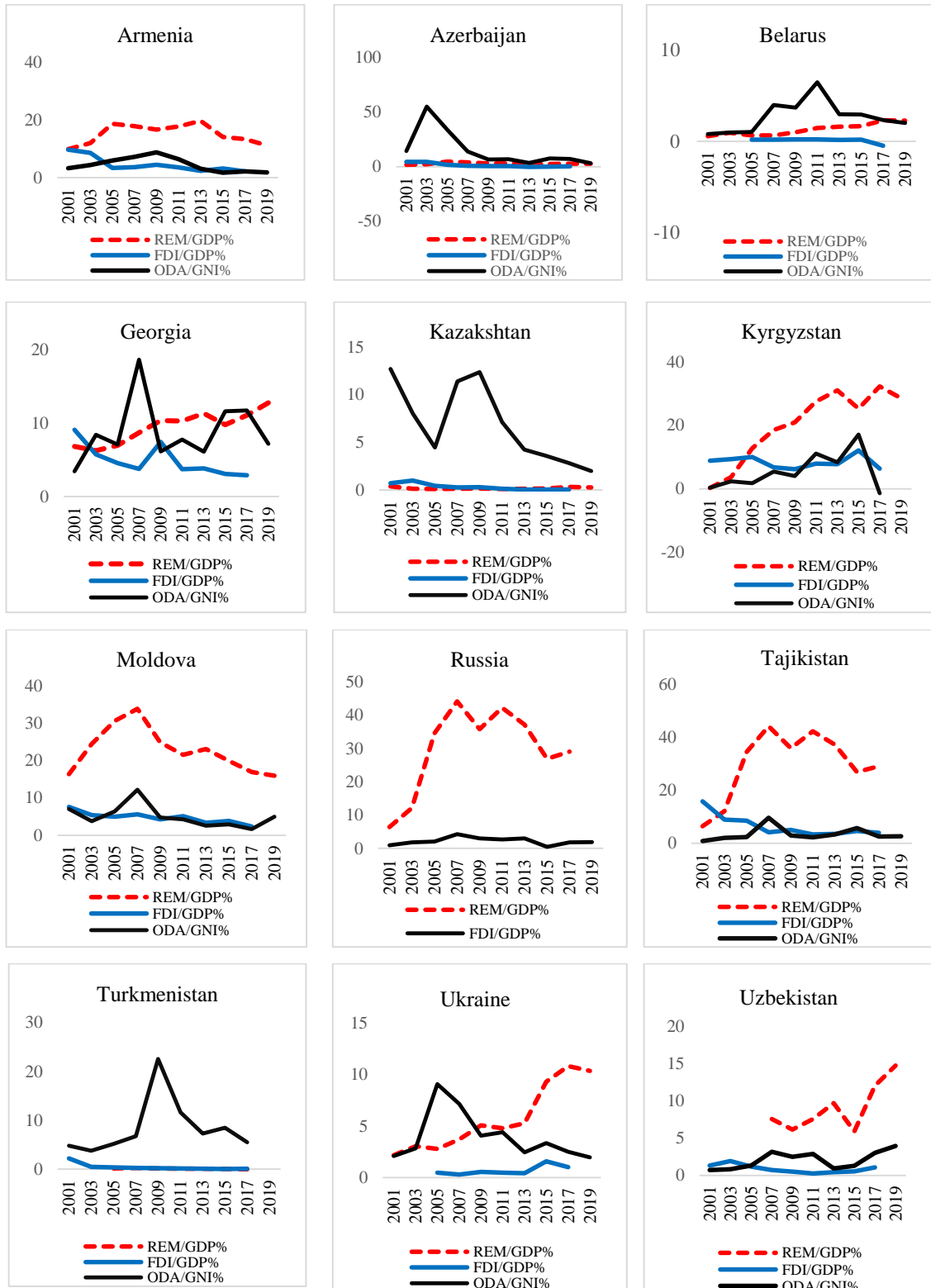
especially in the sectors of construction and services and other low-skilled industries where migrant workers were mainly engaged.

International remittances have exceeded the other two main financial foreign inflows, i.e. foreign direct investment (FDI) and net official development assistance (ODA) in the last two decades. In this context, the majority of CIS countries are reliant on remittances (Figure 3). By contrast, Azerbaijan, Kazakhstan and Turkmenistan are oil exporting countries and Belarus is not a remittance-dependent country, and therefore they receive higher FDI and ODA inflows rather than remittances. However, other CIS countries (Armenia, Kyrgyzstan, Moldova, Tajikistan and Uzbekistan,) that mostly depend on remittances, are showing that remittances are gradually increasing to become much higher than ODA and FDI. However, ODA and FDI do exceed remittances in the case of Uzbekistan, but we must consider that Uzbekistan receives the highest amount of remittances in the CIS region after Ukraine (Central Bank of Russia, 2019).

We can predict that CIS countries will continue to suffer from Russian economic stagnation as long as they are dependent on Russia's economic health through migrant remittances and financial flows. Considering that a large share of remittances contributes to GDP, remittance-dependent countries amongst CIS face serious economic risks, as governments are having difficulties when trying to find foreign-exchange reserves for imports' current spending. On the other hand, if the Russian economic downturn continues, remittance-dependent countries will find themselves facing a set of unprecedented challenges because of the possibility of the return of a large number of migrants to a domestic labour market that has a more than limited capacity to absorb them. The Guardian (2015) reports that a drop in ruble value is not only shrinking the amount sent home by workers from Caucasus and Central Asia, but could also lead to political unrest in those remittances-receiving nations.

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Figure 2.3. CIS countries, the level of Remittances, FDI in ratio to GDP, and ODA in ratio to Gross National Income in percentage, 2000–2018



Source: World Bank, Migration and Remittances Factbook, 2018.

4. The empirical model.

Our paper will contribute to two strands of literature. The first strand relates to the remittances' effect on economic growth. The model developed to explore the relationship between remittances and economic growth is based on the extended version of the neoclassical model (Barro, 1996), which has been used by Giuliano and Ruiz-Arranz (2005), Jongwanich (2007) and Fayissa and Nsiah (2008). Within this framework, the growth equation can be expressed as follows:

$$\ln GDP pc_{it} = \beta_0 + \beta_1 \ln REM_{it} + \beta_2 \ln YearEdu_{it} + \beta_3 \ln GINI_{it} + \beta_4 \ln Inf_{it} + \beta_5 \ln Govex_{it} + \beta_6 \ln OPN_{it} + \eta_i + \varepsilon_{it} \quad (1)$$

where $\ln GDP pc_{it}$ is the natural log of real GDP per capita in i country at time t and $\ln REM_{it}$ is log of received remittances per capita in US\$; β_2 is the log of secondary school enrolment; β_3 is the log of inequality proxied by GINI coefficient, whilst η is an unobserved country-specific effect and ε_{it} is the error term. Based on Giuliano and Ruiz-Arranz (2005) and Jongwanich (2007), we are going to include in our model as control variables other variables such as inflation (β_4), government consumption expenditure (β_5) and openness to trade (β_6).

The expected sign of the coefficient associated with remittances is ambiguous, as suggested by the literature shown in Section 2. The coefficient associated with the secondary school enrolment used as a measure of investment in human capital is expected to have a positive effect on economic growth (Schultz, 1980; Romer 1986; Lucas, 1987; and Barro, 1991).

By contrast, we expect negative coefficients relating to government consumption and inflation, suggesting that a high rate of domestic inflation may act as a proxy for uncertainty and risk and therefore discourage growth (Gupta et al., 2007; Giuliano and Ruiz-Arranz, 2005). Government consumption is an approximate measure of government spending in non-productive purposes so that an increase in this variable tends to generate negative impacts on economic growth (Jongwanich, 2007).

Regarding our set of control variables, openness not only promotes a country's exports and imports, but also stimulates private sector economic activities, attracts foreign investment, reduces poverty rate, creates employment and increases foreign earnings. Accordingly, we expect a positive relationship between trade openness and economic growth. The second strand is the one that links remittances and poverty level. The model

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to assess the role of remittances on poverty reduction is based on Ravallion and Chen (1997), Adams and Page (2005), Gupta et al., (2007) and Anyanwu and Erhijakpor (2010).

The relationship that we want to estimate can be written as follows:

$$\text{LogPOV}_{it} = \beta_1 \log(q_{it}) + \beta_2 \log(\gamma_{it}) + \beta_3 \log(\text{Rem}_{it}) + \beta_4 \log(X_{it}) + a_i \varepsilon_{it}, (i = 1, \dots, N; t = 1, \dots, T) \quad (2)$$

where *POV* is the measure of poverty *i* country at time *t*; a_i is the fixed effect reflecting qualitative differences amongst countries. β_1 is the elasticity of poverty with respect to income inequality proxied by the *GINI* coefficient (*q*). β_2 is the elasticity of poverty with respect to real per capita GDP given (γ). β_3 is the elasticity of poverty with respect to international remittances (*Rem*). *X* contains the control variables, human capital, inflation, government expenditure and openness and ε is the error term.

The dependent variable in *Equation 2*, which is poverty, will be estimated via three poverty measures: poverty headcount, poverty gap and squared poverty. We measured poverty rate based on a methodology of Foster et al. (1984) (FGT). According to FGT, poverty will basically be measured based on three measures: *headcount poverty*, *poverty gap (or poverty depth)* and *square poverty gap (or poverty severity)*. The most widely used measure is the *headcount index*, which simply measures the proportion of the population that is counted as poor, often denoted by P_0 and described by the following formula,

$$P_0 = \frac{N_p}{N} \quad (3)$$

where N_p is the number of poor people and N is the total population. The expression can be rewritten as follows:

$$P_0 = \frac{1}{N} \sum_{i=1}^N I(y_i < z) \quad (4)$$

Here, “ $I(\cdot)$ is an indicator function that takes a value of 1 if the expression in brackets is true, and 0 otherwise. So, if expenditure (y_i) is lower than the poverty line (z), then $I(\cdot)$ equals 1 and the household would be counted as poor” (Haughton and Khandker, 2009, pp. 68-69, Chapter 4).

A moderately popular measure of poverty is the *poverty gap index* which measures the extent to which individuals’ income falls below the poverty line (cost of living in a country) as a percentage of the poverty line. The poverty gap index may be written as follows.

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$$P_1 = \frac{1}{N} \sum_{i=1}^N \frac{G_i}{z} \quad (5)$$

where N is the size of sample, G_i is a poverty gap and z is a poverty line. The measure does not reflect changes in inequality amongst the poor, whilst the next measure of poverty i.e. Squared poverty gap (or Poverty severity) takes into account inequality amongst the poor which formally might be written as:

$$P_\alpha = \frac{1}{N} \sum_{i=1}^N \left(\frac{G_i}{z} \right)^\alpha, \quad (\alpha \geq 0) \quad (6)$$

where N is the number of people in the economy, α is a measure of the sensitivity of the index to poverty, z is a poverty line and G is poverty gap for individual i . With $\alpha = 0$, P_0 is simply the headcount poverty index. With $\alpha = 1$, the index is the poverty gap index P_1 , and when α is set equal to 2, P_2 is the poverty severity index (Foster et al., 1984).

The coefficient of our variables of interest β_3 could be positive or negative and we are interested in testing whether remittances' impact on poverty reduction is statistically significant. The model assumes that the level of income inequality is associated with a higher poverty level so that economic growth reduces poverty more in low-inequality countries than amongst high-inequality countries, therefore the coefficient of β_1 is expected to be positive. Past work has shown that a worsening income distribution tends to have a negative impact on poverty reduction, so its coefficient is expected to be positive.

Moreover, the model assumes that economic growth will reduce the poverty level; therefore, the coefficient of our variables of interest β_2 is expected to be negative. The literature shows that a rise in human capital increases the opportunity of the poor to generate income (Jongwanich, 2007) and increase labour productivity and wages (Anyanwu 2010), so the coefficient associated with human capital is expected to be positive, whereas the sign of the coefficient corresponding to trade openness is ambiguous.

Some of the literature argues that trade liberalization benefits the poor at least as much as it benefits the average person (Jongwanich, 2007). Trade liberalization could increase the relative wage of low-skilled workers and reduce monopoly rents as well as the value of connections to bureaucratic and political power. Nevertheless, Jongwanich (2007) states that trade liberalization might also worsen the income distribution, particularly by encouraging the adoption of skill-biased technical change in response to increased foreign competition.

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Thus, if trade liberalization worsens the income distribution enough, particularly by making the poor poorer, then it is possible that it does not reduce poverty, despite its positive overall growth effects. Indeed, the empirical evidence from the large and growing literature on trade and growth remains mixed (Edwards, 1998; Rodriguez and Rodrik, 2000). Edwards (1998) conducted a survey of empirical literature and as a result, defended the positive effect of openness on economic growth and claimed that the trade-growth nexus was not only robust to the indicators of openness but also to functional forms, estimation techniques and periods, whilst Gupta et al. (2007) and Dollar and Kraay (2004) found no link between openness and well-being.

5. Variables and data used in the analysis.

We use cross-country data to analyse the effect of remittances on per capita GDP and poverty reduction of CIS countries. This paper investigates 10 selected CIS countries for the period 1998–2016, using 190 observations. We test our hypothesis with the help of random-effect, fixed-effects, least square models (OLS) with and without instrumental variables.

Despite the difficulty of obtaining remittances' data, we can benefit from access to the World Bank database. Data on remittances' transfers of Turkmenistan and Uzbekistan are available on the website of the Central Bank of Russia and International Statistic Committee of CIS countries.

Table 2.1. Descriptive statistics of regression variables

Variable	Mean	Median	S.D.	Min	Max
l_GDPpc	7.25	7.16	0.959	4.94	9.03
l_REM	19.5	19.6	1.90	13.9	22.9
l_OPN	4.56	4.63	0.315	3.60	5.30
l_POV	5.46	3.72	5.10	-4.61	10.7
l_PVG	5.51	9.76	6.02	-4.61	10.8
l_SPV	5.79	9.71	5.86	-4.61	10.8
l_GINI	3.94	4.22	0.969	0.00	4.96
l_YearEdu	3.45	3.81	1.09	0.00	4.54
l_GovExp	4.23	4.53	0.947	0.00	5.20
l_Inflation	2.03	2.05	1.06	-0.864	5.68

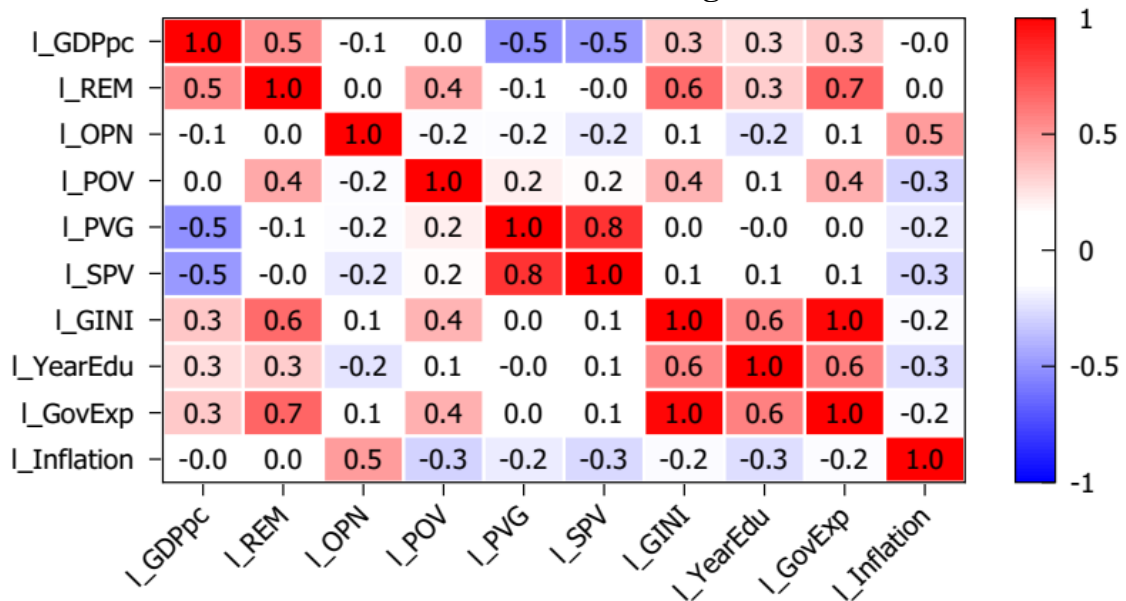
Note: Raw data after a log transformation.

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Table 2.2. Definition and Source of the Variables

Variables	Description	Expected signs	Source
GDP pc	Natural log of real GDP per capita		World Banks' WDI IMF-DOT
Remittances	Personal remittances, received (current US\$)	+/-	World Banks' WDI Central Bank of Russia
Trade openness	Ratio of the sum of imports and exports to the GDP that gives the measure of openness of an economy	+/-	World Bank's WDI
Poverty gap	Poverty gap index measures the extent to which individuals fall below the poverty line as a proportion of the poverty line	-	World Bank's WDI
Squared poverty gap	Squared poverty gap index determines the log degree of poverty for a given area	-	World Bank's WDI
Poverty headcount	The log headcount index measures the proportion of the log of population that is poor and lives below the poverty line	-	World Bank's WDI
GINI coefficient/inequality	The standard measure of income inequality based on a Lorenz Curve that ranges from 0 (or 0%) to 1 (or 100%), with 0 representing perfect equality and 1 representing perfect inequality. Values over 1 are theoretically possible due to negative income or wealth	-/+	World Bank's WDI
Inflation	Annual Percentage change in CPI	-	World Bank's WDI
Secondary schooling enrolment	Log of secondary school enrolment (in percentage) used as a proxy for the measure of investment in human capital	-/+	Barro and Lee (2011) See updated version at: www.cid.harvard.edu/ciddata/ciddata.htm
Government size	General government final consumption expenditure (% of GDP)	-	World Bank's WDI

Table 2.3. Bivariate correlations of regression variables.



Note: Raw data after a log transformation.

6. Empirical results.

Table 4 shows the results when Equation (1) is estimated using Model 1 (OLS), Model 2 (Fixed-Effects Model) and Model 3 (Random Effects Model). The log transformation of all the variables allows us to interpret the coefficients as elasticities.

The results reveal that the relationship between the GDP per capita and the explanatory variables, representing the sources of growth, show the expected signs, according to our prior prediction. The results from our model specify that the remittances variable has a positive and statistically significant effect at 5% and 10% on the GDP per capita. We found that, on an average, a 1 percentage point increase in remittances would provoke a 0.21% to 0.29% increase in the average per capita GDP of a CIS economy.

The negative coefficient associated with openness is statistically significant only in the first and second models at 1%. As we mentioned in Section 4, a higher degree of international integration of the real sector makes the export of labour forces – which is a precondition for remittances – less attractive (Berg and Krueger, 2003).

Table 2.4. Dependent variable per capita GDP

	MODEL 1	MODEL 2	MODEL 3
l_REM	0.275762 0.0076 ***	0.211960 0.0342 **	0.298873 0.0001 ***
l_GINI	-0.223656 0.1335	-0.239058 0.1941	-0.150168 0.5219
l_OPN	-0.434270 0.0738 *	-0.466860 0.0900 *	-0.28906 0.1911
l_INFL	-1.07004 0.1218	-0.978542 0.1138	-0.06698 0.8236
l_YearEdu	0.190989 0.1696	0.194917 0.2169	0.057969 0.7514
l_GovExp	5.54508 0.0008 ***	2.64241 0.0618 *	0.407213 0.2013
R-squared	0.610712		
Adj. R-squared	0.564913		
Log-likelihood	-101.5105		-143.5550
Sum squared resid			64.70789
LSDV R-squared		0.628203	
Within R-squared		0.286536	
Num. obs.	115	115	138

Note: All variables are in logarithm formula. T-statistics are reported in parentheses with *, **, *** denoting significance at 1, 5, and 10%, respectively.

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Note that other controlling variables, i.e. inflation, income inequality and human capital reach the theoretical expected signs although they are not statistically significant. In particular, Stahl (1982) argues that remittances could induce income inequality. Jongwanich (2007, pp. 5–10) states that “because the international migration can be an expensive venture so that it is going to be the better-off households who will be more capable of producing migration and sending remittances”.

Table 2.5. Dependent variable poverty headcount, poverty gap and squared poverty gap

	Poverty headcount			Poverty gap			Squared poverty gap		
	MODEL 1	MODEL 2	MODEL 3	MODEL 1	MODEL 2	MODEL 3	MODEL 1	MODEL 2	MODEL 3
<i>l</i> _REM	-0.09276 0.5094	0.020145 0.8775	-0.1395 0.4395	1.07704 0.1444	0.624951 0.3005	0.933619 0.2678	-4.19567 0.0920 *	0.157714 0.8100	-0.16381 0.8459
<i>l</i> _REM_Lagged	-0.21997 0.0348**	-0.2427 0.0377 **		-0.6666 0.4788	-0.9652 0.2381		-1.81980 0.0013 **	-1.98930 0.024 ***	
<i>l</i> _GDPpc	-0.32654 0.0734 *	-0.68730 0.001 ***	-0.31845 0.081 *	-7.32001 0.005 ***	-5.03246 0.001 ***	-7.41738 0.002 ***	-8.37986 0.0001 **	-5.70986 0.001 ***	-8.17371 0.0001***
<i>l</i> _GINI	0.193179 0.6449	0.200380 0.6725	0.238999 0.5835	-1.71746 0.2526	2.15780 0.1628	-1.98307 0.0980*	-2.30351 0.0313**	-1.76518 0.1456	-1.69224 0.1138
<i>l</i> _OPN	-0.83987 0.1147 **	-0.77651 0.0871	-0.86299 0.0997 *	-2.28946 0.4880	-6.22102 0.001 ***	-2.56534 0.4038	5.64395 0.0272 **	-6.75389 0.001 ***	-4.7639 0.1008
<i>l</i> _INFL	-0.68762 0.5073	0.250269 0.0262 **	-0.64606 0.5419	-0.64522 0.24.34	-0.246874 0.8838	-6.30610 0.2312	1.33331 0.7818	4.40178 0.006 ***	0.841193 0.8572
<i>l</i> _YearEdu	-0.09355 0.5688	0.03320 0.8439	-0.13293 0.4657	1.95511 0.4105	1.11561 0.5784	1.34196 0.5826	-0.614405 0.7727	-0.540737 0.8122	-0.801472 0.6983
<i>l</i> _GovExp	-0.32654 0.0734 **	0.622650 0.001 ***	1.88631 0.5513	-9.04723 0.7594	-0.573079 0.7747	1.60897 0.9507	10.2008 0.1583	-0.162986 0.9080	1.5727 0.5400
R-squared	0.517767			0.500673			0.697406		
Adj. R-squared	0.450254			0.397870			0.637739		
Log-likelihood	-143.7617	-168.0014	-142.1449	-237.9703	-262.7700	-233.4958	-223.5261	-273.6323	-221.5156
Sum squared resid		109.0826	79.76943		2021.319		911.1899	1858.235	869.5673
Within R-squared			0.382939			0.524591			0.681792
Num. obs.	115	124	115	83	88	83	86	94	86

Note: All variables are in logarithm formula. t-statistics are reported in parentheses with *, **, *** denoting significance at 1, 5, and 10%, respectively.

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The coefficient of government consumption specifies that government expenditure does impact significantly on economic growth. In contrast, an increase in inflation tends to retard economic growth, confirming the expected sign.

Table 2.5. reports the results regarding the impact of remittances on poverty reduction amongst CIS countries (equation 2 is estimated using the above-mentioned three models).

There is a long relationship between remittances and poverty reduction in CIS countries. Remittances are not usually very volatile and seem to depend to a certain degree on prior levels of remittances. Therefore, to account for this persistence, a lagged remittance value has been included in the model.

Remittances are found to have a significant impact on the poverty headcount and the square poverty gap. We found that, on average, an increase in remittances by 1% leads to a reduction in poverty headcount from 0.21 to 0.24%. Furthermore, Table 5 shows that remittances will have a slightly larger impact on poverty when this is measured by more sensitive poverty measures: poverty gap and squared poverty gap. It shows that on average, a 1% increase in remittances will lead from 0.66 to 0.96% decline in the share of people living in poverty gap, although results are not statistically significant, and from 1.81 to 1.98 % decline in the share of people living in squared poverty gap.

The results reveal that, regardless of the measure of poverty used as the dependent variable, GDP per capita has a negative and significant coefficient (the coefficient ranges from -0.31 to -8.3). Other controlling variables, i.e. income inequality, openness, inflation, human capital and government expenditure, reach the theoretical expected signs although some of them are not statistically significant. A positive coefficient for the *GINI* index, although it is not statistically significant, points out that higher inequality leads to higher poverty. Surprisingly, our results suggest that inequality reduction does not play a key role in scaling down poverty levels.

7. Conclusion and further research.

The main goal of this paper is to assess the effect of remittances on economic growth and poverty reduction amongst CIS countries.

This study gives insights into two important channels through which remittances do positively affect economic growth and do negatively affect poverty amongst CIS countries. All variables we included in our two equations reach the theoretically expected sign and

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statistical significance and confirm the hypotheses put forward in the beginning of the paper. In particular, we must highlight two key findings from this paper. Firstly, remittances seem to have a slightly positive and significant impact on economic growth amongst CIS countries. Secondly, the lagged value of remittances seems to have a significant impact on the poverty headcount and the squared poverty gap.

We should also mention that, although remittances contribute significantly to the overall economy, we should not regard them as the main source of development. More remittances inflows leads to more people migrating abroad as they enjoy higher wage-earning opportunities in labour-receiving countries, and therefore, this may have detrimental effects, such as less government spending on welfare, fewer or no institutional reforms, moral hazard and/or brain drain. Governments in remittance-receiving countries should seek to break the cycle of remittance dependency by ensuring good welfare coverage and a secure investment climate. The promotion of remittances should only be one part of any country's development strategy. CIS countries ought to attempt to use a more rational way of investing remittance inflows in dynamic productive sectors such as education, physical and human capital formation or small and medium businesses.

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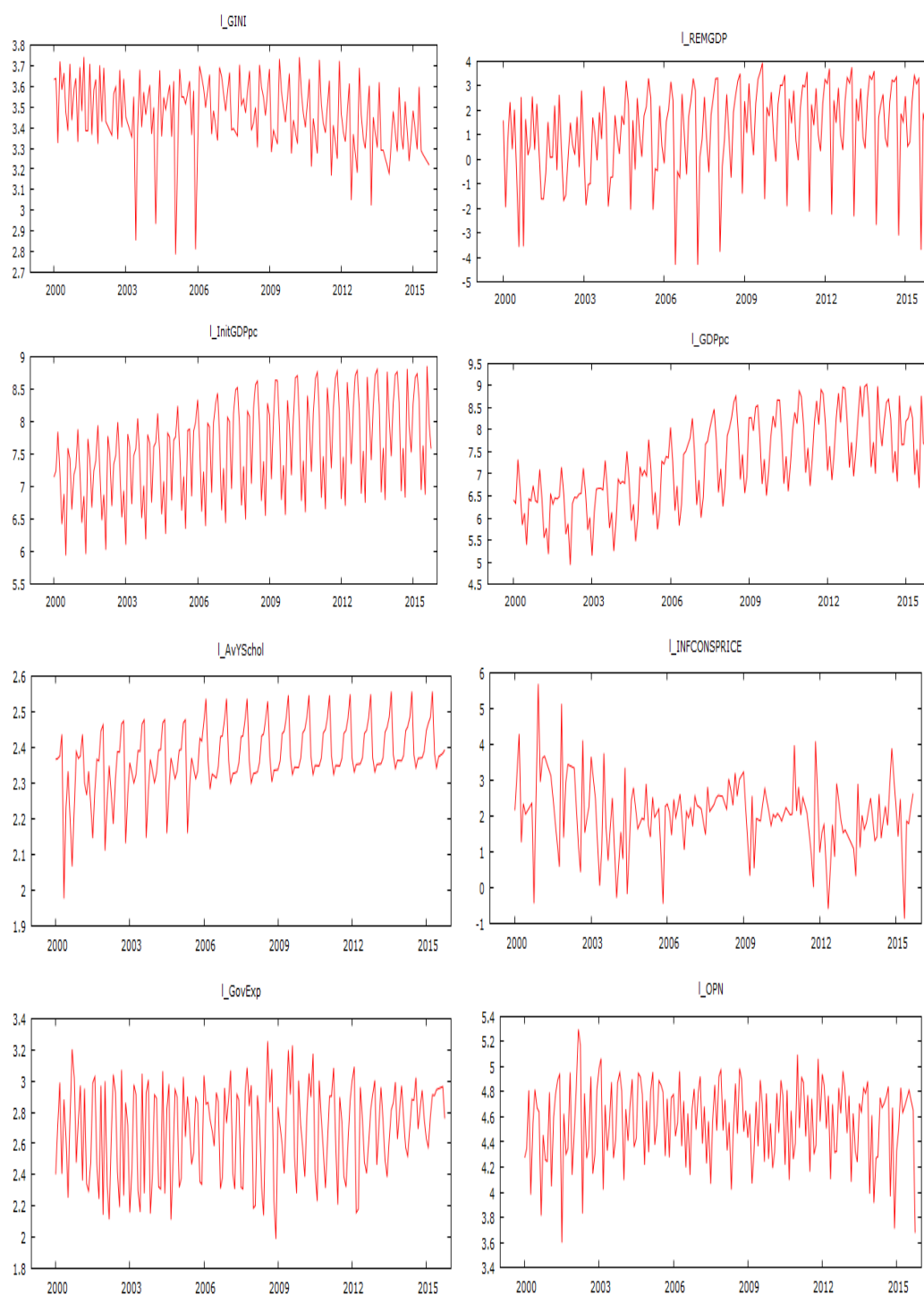
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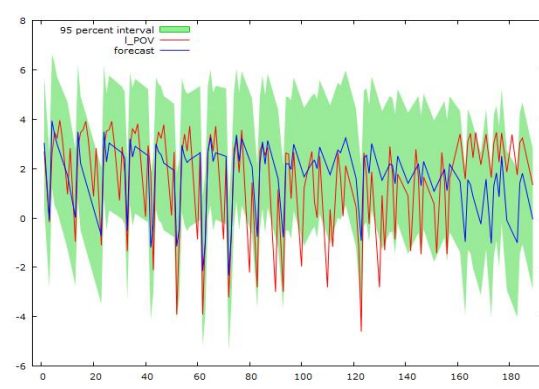
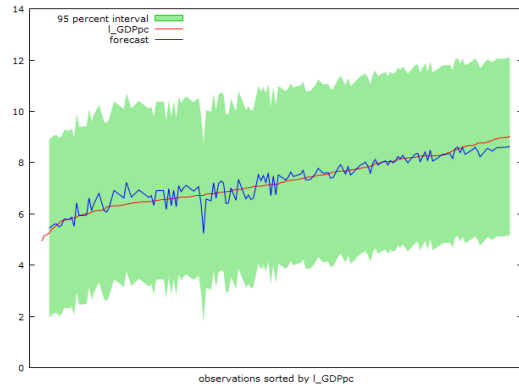
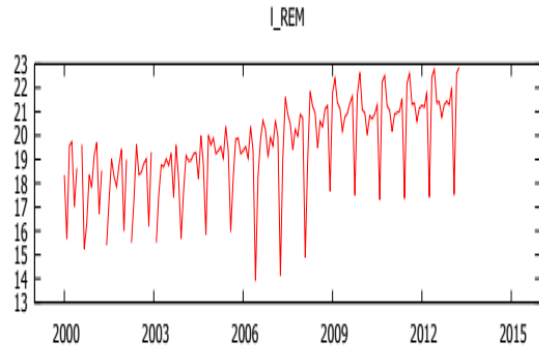
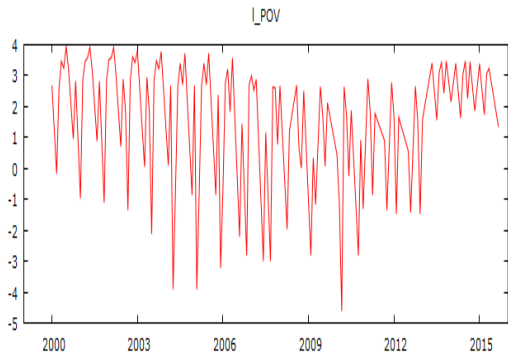
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APPENDIX 2.1.

A1. CIS countries: variables charts after the log transformation, 2000-2015.



Section 3.2. Impact of remittances on economic growth and poverty reduction amongst CIS countries



3.3. Patterns of Official Development Assistance in Tajikistan: effects on growth and poverty reduction³²

Abstract.

The aim of this paper is to assess the effect of official development assistance on economic growth and poverty reduction in Tajikistan, as well as to examine the recent role of South-South Cooperation. We used a panel data set on economic growth and poverty estimates in Tajikistan, and found that a 1% increase of official development assistance provoked a 1.6% rise in per capita GDP and a 0.48% decrease in poverty levels in Tajikistan. Despite the increased relevance of South-South Cooperation in Tajikistan, the current bilateral cooperation pattern does not allow us to think South–South aid will create employment and growth opportunities.

Key words: Tajikistan; official development assistance; economic growth; poverty measure.

³² Ricardo Bustillo and Mubinzhon Abduvaliev (2020). Patterns of Official Development Assistance in Tajikistan: effects on growth and poverty reduction. *Revista Brasileira de Política Internacional*, 63(2): e006, DOI: 10.1590/0034-7329202000206

Section 3.3. Patterns of Official Development Assistance in Tajikistan: effects on growth and poverty reduction

1. Introduction

It is nearly fifty years since foreign official development assistance became one of the main factors of economic growth among developing countries. A 1970 resolution approved by the United Nations General Assembly (UN 1970, paragraph 43) specified that rich countries should aim to donate 0.7% of gross national product (GNP) to poor countries in the form of official development assistance (ODA). As ODA did not reach GNP 0.7% on average, the United Nations (2015) suggested several positive effects, from the perspective of developing countries, from 1990 until 2015. ODA has reduced global extreme poverty in 56.6%, increased children enrollment in primary education from 83% to 91%, improved health conditions regarding, for instance, HIV/AIDS, improved environmental sustainability as well as reduced child mortality from 90 to 43 deaths per 1000 between 1990 and 2015.

The volume of ODA has increased drastically over the recent decades: the total value of aid disbursed to developing countries has multiplied 3.6 times, i.e. from US\$ 33,7 billion in 1960 to US\$ 157,6 billion in 2017 (World Bank, 2017).

However, empirical evidence regarding the role of foreign aid in the growth process among developing countries shows mixed results, as it will be shown later, and hence new empirical case studies are still needed to clarify this issue. This controversy coincides with the upsurge of some emerging countries such as China, Russia or Turkey as donors, especially regarding their area of influence or among countries well-endowed with raw materials.

Although developed countries belonging to the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee (DAC) continue to be the main source of international aid, the share of non-DAC contributors has been rising, especially from middle-income developing countries such as China through the so-called South-South Cooperation channel. Until the collapse of the USSR, international cooperation between China and Central Asian countries was insignificant and, once Central Asian countries became independent, China improved its contacts and actively set its bilateral relations with these countries, including Tajikistan (Kessenova, 2009).

South-South Cooperation plays an important role in international development cooperation. Its main principles are non-interference in internal affairs, equality among developing partners and respect for their independence, national sovereignty, cultural diversity and identity and local content (Padilla, 2010). There are some reasons why Chinese

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development assistance has proved to be more effective than OECD/DAC aid. For instance, there is a lack of conditionality for Chinese development assistance, whereas DAC donors demand reforms among recipient countries in return for aid (Chinese Ministry of Foreign Affairs, August 2003). Bossuyt (2015) claims that, with the exception of Kyrgyzstan and Tajikistan, receptiveness to EU's aid is low, mostly because it involves political conditionality and interference in domestic affairs. However, a number of experts asserted that some recipient countries are concerned with the mixed effect of Chinese development assistance. For instance, local companies are endangered because Chinese firms bring labour with them, therefore few jobs are created and no technology transfer takes place (Chin and Frolic, 2007). In this regard, the Chinese labor policy leads to a paradox in the case of the Tajik economy, because Tajik workers migrate to Russia whereas Chinese workers occupy jobs in construction projects and land farming in Tajikistan.

Whereas a large number of studies have examined the effects of aid among African countries, there is no literature discussing aid's effects for Tajikistan. Tajikistan has been selected as the best case study since this country has received a considerable amount of development assistance from China (as a Central Asian country neighbour of China). The total amount of China's development assistance to Tajikistan reached around US\$ 1.8 billion from 2005 to 2017 (ASPRT, 2017). Although, the amount of China's development assistance to foreign countries is remarkable increasing, however the Chinese government does not publish reports providing consolidated information on foreign aid. Chinese officials are generally unwilling to reveal either the geographical or sectoral distribution of disbursements (Chin and Frolic, 2007).

Tajikistan case is the best example for the interpretation of South-South cooperation, as a former Soviet Republic that can theoretically enjoy from both Russian and Chinese aid. Therefore, in this paper we analyse the main features of the ODA flows recently received in Tajikistan, in order not only to infer conclusions about the nature of Tajik aid, but also to suggest policy recommendations for EU as well as OECD countries regarding ODA effectiveness.

The main objective of this research is to analyse aid effects on growth and poverty reduction using a time series methodology (employing annual data from 1998 to 2016 for the Tajik economy). It is too soon to examine whether the South-South Cooperation effect will be more effective for economic growth and poverty reduction; however, it is still essential to evaluate the recent role played by ODA from OECD/DAC countries.

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We attempt to assess the effect of ODA on economic growth and poverty reduction in Tajikistan with the purpose of testing the following hypotheses:

H1: The volume of foreign aid is associated with a higher standard of living (higher per capita GDP).

H2: Foreign aid has been able to reduce poverty levels among recipient countries.

H3: In case South-South cooperation upsurge has already become a reality, it will improve the standard of living of the population of aid receiving countries

The remainder of the paper proceeds as follows: Section 2 provides a brief literature survey. Section 3 discusses the basic features of ODA in Tajikistan, whereas Section 4 presents the specification of the applied model. Section 5 discusses the econometric estimation and the expected signs of the utilised variables. Sections 6, 7, and 8 present empirical results regarding the effect of ODA on per capita GDP levels and poverty reduction. The final section concludes the paper and suggests some policy implications.

2. Literature review about ODA effects on growth and poverty reduction

The empirical literature has failed to produce conclusive evidence regarding the relationship between foreign aid and economic growth or poverty reduction among developing countries.

In a pioneering paper, Chenery and Strout (1966: 463-466), using a Two-Gap model (Investment-Saving and Import-Export), stated that investment is the main factor of economic growth, the one which increases output and per capita income. In addition, they noted that 'the required investment depends on domestic savings, but if domestic savings are lower than the required investment then foreign assistance could fill that gap'.

In an attempt to prove this theory empirically, Papanek (1973), using a cross-country analysis for 34 countries in the 1950s and 51 countries in the 1960s, provided the first study to disaggregate foreign capital flows into foreign aid, foreign investment and other flows. They found that foreign aid had the greater effect over growth in comparison with foreign direct investment, other foreign capital inflows and domestic savings.

Much later and, once foreign aid had been generalised among developing countries, Hansen and Tarp (2000: 4), in a cross-country regression analysis of 72 countries that estimated the relation between aid and economic growth, revealed that 40 of those 72 countries showed a positive correlation of aid and growth, whereas 32 countries did not.

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Among aid supporters, Morrissey (2001: 41-42) concluded that the upward trend of global ODA does contribute to developing countries' economic growth. He expressed that "aid increases investment in physical and human capital, increases the capacity to import capital goods or technology, does not have indirect effects that reduce investments or savings rates, and aid is associated with technology transfers that increase the productivity of capital and promote endogenous technical change". Gomanee et al. (2005), using a sample of 25 Sub-Saharan African countries over the period 1970 to 1997, suggest that aid has a direct effect on economic growth. They emphasise that, on average, each percentage point increase in the aid/GNP ratio leads to an increase in the growth rate from 0.5 to 1 percentage point.

Karras (2006), using panel data for 71 aid-receiving countries over the period 1960 to 1997, proposed a positive effect of foreign aid on economic growth without considering the impact of policies. He concluded that a permanent increase in foreign aid by \$20 per person provokes a permanent increase in the growth of real GDP per capita by 0.16%. More recently, Adams and Atsu (2014) utilised Ghana's annual data over the period 1970-2011 to demonstrate that aid exerted a positive short-term relationship with that country's economic growth.

Recent claims regarding the complete uselessness of ODA have been neglected by some authors, reminding that despite controversy, ODA has had very positive effects on developing countries (Radelet, 2017).

However, a number of experts claim that ODA does not provide receiving countries with a stable platform to grow sustainably. For instance, Mosley et al. (1987), applying various estimation techniques for 63 countries covering the period 1970–1980, claimed that there is no relationship between aid and economic growth.

Cassen and Associates (1994: 15–16) report that empirical studies on the correlation between aid and economic growth are ambiguous: 'research on the macroeconomic effects of aid deals with relatively large groups of developing countries. Its results are ambiguous. The relationship between aid and growth is rather weak: it can be either positive or negative, depending on the country groupings and the time period chosen...'

Additionally, a part of the literature has pointed out some conditions that must be fulfilled in order to guarantee the above-mentioned positive effect of aid on growth. Governance quality is one of the conditions that has emerged as the key to sustainable human development in recent years. Overall, the central importance of good policies and institutions in maximising the effectiveness of aid has been strongly confirmed in many studies.

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Quite early, Dowling and Hiemenz (1982), using panel data for Asian countries over the period 1970 to 1978, found strong evidence that foreign aid flows are positively associated with higher growth rates in recipient countries. Moreover, these authors stated that good institutions and open trade have a positive correlation with GDP growth through the allocation and mobilisation of foreign resources.

Burnside and Dollar (2000), using a neoclassical growth model in which the interaction of aid and a policy index variable was analysed, examined 56 countries over six time periods spanning from 1970 to 1993. They discovered that the interaction of aid and institutional quality exerts a robust positive effect on growth. Further, they stated that 'a corrupt, incompetent government is not going to use aid wisely and outside donors are not going to be able to force it to change its habits' (Burnside and Dollar, 2000: 2). However, Easterly et al. (2004) assessed the Burnside and Dollar (2000) model by using alternative definitions of aid, finding that the aid-interaction term is statistically insignificant. They used the same model specification, econometric techniques, and data applied by Burnside and Dollar, extending data over four additional years; however, the interactive term remained statistically insignificant.

According to the World Bank (1998), there is a demonstrated relationship between aid effectiveness and good governance. The main conclusion of the World Bank's report was that aid allocation should be channelled to recipient countries selected according to their policy environment. On a similar note, Princeton Survey Research Associates (2003) conducted a survey commissioned by the World Bank, which showed that 84% of opinion makers concluded that, because of corruption, foreign assistance to developing countries is mostly wasted in Sub-Saharan Africa.

Quite recently, Colley and Heathershaw (2018: 3) inform us that "governments in Central Asia are very much connected with the outside world, and that greater connectivity actually exacerbates the region's problems with weak governance and corruption. Since becoming independent states, governments in Central Asia have been quite adept at navigating the liberal political and economic order beyond their borders to promote their self-enrichment and self-preservation". In other words, as expressed by Darden (2008), corruption has become a source of stability for authoritarian regimes in many post-Soviet states.

Overall, the central importance of good policies and institutions in maximizing the effectiveness of aid has been strongly confirmed in the existing literature. However, some

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empirical papers deny the positive impact of ODA on the macroeconomic performance of recipient countries.

Several decades ago, Mosley (1980) made an important contribution to the literature by incorporating lagged aid variables into his model, what helped him conclude that there is no statistically significant correlation between aid and economic growth. According to Mosley (1987: 139), 'there appears to be no statistically significant correlation in any post-war period, either positive or negative, between inflows of development aid and the growth rate of GNP amongst developing countries when other causal influences on growth are taken into account'. Recently, Mallik (2008), using co-integration analysis, found that aid has no significant effect on growth in the short run, whereas there is a significant negative relationship between aid and growth in the long run in 5 of the 6 African poorest countries.

The World Bank (1998) assessing the the articles by Burnside and Dollar (2000) and Collier and Dollar (2002) asserted that the correlation between aid and poverty reduction would only be seen under the two following conditions: (a) a large share of the population living in poverty and (b) good fiscal policies. In a similar vein, Easterly et al. (2003) suggested that aid reduces poverty when the quality of institutions is good enough to efficiently allocate aid funds in receiving countries.

Regarding attempts to measure ODA effectiveness at reducing poverty, Addison et al. (2005), using panel data for 23 African aid recipient countries from 1960 to 2002, concluded that aid promotes growth and reduces poverty. Recently Ravallion (2016: 519) argued that 'foreign aid is a phenomenal investment and it does not simply save lives but it also lays the groundwork for lasting, long-term economic progress'. On the other side of the debate, anti-foreign aid opinions are equally strong. On this view, foreign aid tends to reduce poverty in recipient countries only when governance quality is also improved. For instance, Arvin & Barillas (2002) tested the causal relationship among aid, democracy, and poverty using data from 118 countries over the period 1971 to 2002, concluding that, conditional on the state of democracy, there is no significant causal relationship between aid and poverty. Ijaiya and Ijaiya (2004) analysing 39 Sub-Saharan African countries over the period 1990 to 2004, found that a poor level of institutional quality does not allow foreign aid to reduce poverty levels significantly in Sub-Saharan Africa.

From the above listed review of empirical studies, it is quite clear that aid may not always be successful in promoting economic growth and poverty reduction. A good institutional environment has been considered an important determinant in the development

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process, since better government institutions are linked with both economic growth and poverty reduction among recipient countries.

3. Patterns of Aid Inflows into the Tajik Economy: the role of emerging countries as ODA donors

Although Tajikistan has achieved a relative political stability and macroeconomic indicators of the country have improved since the end of Tajik Civil War in 1997, the levels of poverty, external debt, and the size of the shadow economy are a continuous and serious concern. Sometimes Tajikistan has been regarded as the poorest Central Asian nation, whose particular struggle against severe poverty has already been described by the literature (Falkingham, 2000). In spite of the poor level of institutional quality in Tajikistan, donor countries provide aid to Tajikistan through embassies, agencies for cooperation and development, banks, and other government agencies in multilateral and bilateral channels. The main providers of multilateral aid are still the OECD countries; with regard to the bilateral aid channel, China in particular plays the most relevant role. While Western donor activities used the terms “development aid” and “development assistances”, the Chinese government does not have an official definition of what constitutes development aid and Chinese prefer the terms “South-South cooperation” and “strategic partnership” featuring the political equality and mutual trust, economic win-win cooperation and cultural exchanges (FOCAC, Forum for China-Africa Cooperation 2006). Regarding China’s role in international cooperation, many projects of different nature have recently been launched, but mainly among African countries, which still seem to be the main interest for Chinese authorities’ donations (Huang et al. 2018).

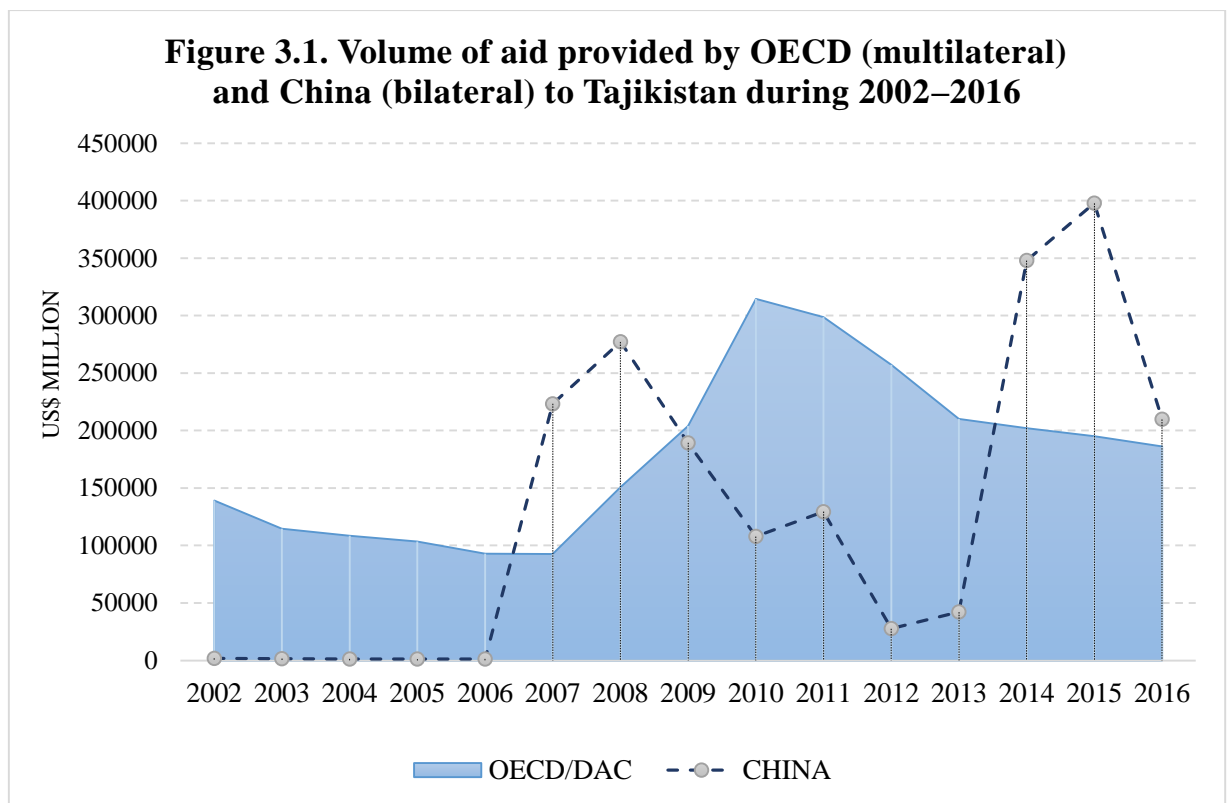
Gulrajani (2016) argues that bilateral channels are more politicised, whereas multilateral channels are better suppliers of global public goods. However, the scenario is quite different in Tajikistan in this regard. Multilateral aid delivery to Tajikistan has mainly been channelled to budget support, technical assistance (project approach) and support to civil society and non-state actors (Agency on Statistics under the President of the Republic of Tajikistan [ASPR], 2016). These funds are targeted to sectorial programmes, mostly focusing on poverty alleviation, health, and pensions. The European Union External Action

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Report (2016) stated that multilateral aid policy gives priority in Tajikistan to promoting human rights, democracy, the rule of law, access to justice for the civil society, protection of the environment and, as well, the fight against HIV/AIDS.

According to the report provided by the ASPRT (2016), the total annual volume of multilateral aid to Tajikistan continually increased since 2002, until it reached its peak in 2010 at US\$ 157.30 million. Bilateral aid reached its peak in 2015 at US\$ 448.96 million. A reduction of the annual volume of bilateral foreign aid of 6.8% took place between 2009 and 2013, predominantly due to the global financial and economic crisis in 2008 and the ongoing financial crisis started from 2015 among CIS countries.

Figure 3.1 indicates that the total amount of assistance from donor countries through multilateral cooperation from 2002 to 2016 reached US\$ 1.335.112 million (ASPRT, 2017).



Source: United Nations Development Programme UNDP Foreign Aid Report, 2014; ASPRT, 2017

The reduction of ODA volume by OECD has promoted China to become the main provider of development assistance to Tajikistan. Aid flowing from China sharply increased from 2007 to 2015. The total development assistance provided by China amounted to US\$ 1.959.761 million in the last ten years. Figure 3.2 shows that about 40% of the bilateral aid

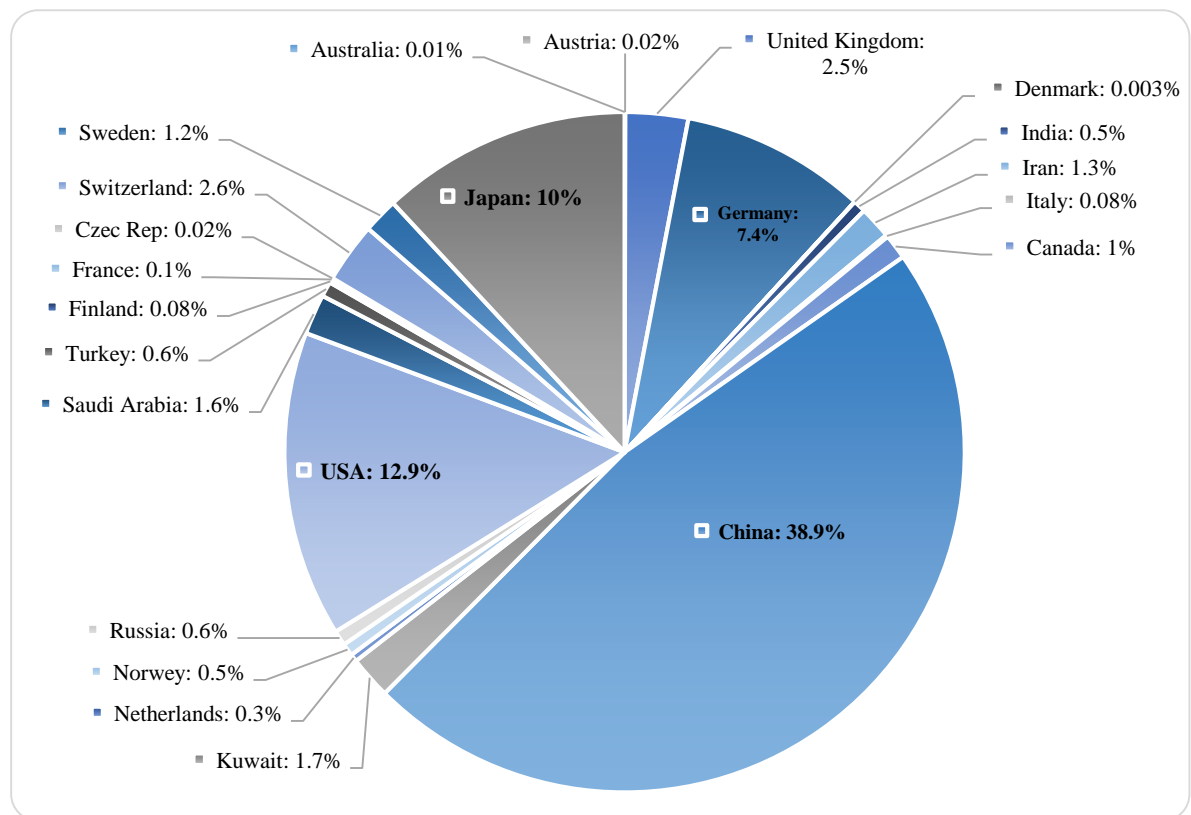
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came from China. However, we have to consider that China does not take part in multilateral organizations' aid, with the exception of the Shanghai Cooperation Organization, which focused on Chinese-Russian-Central Asian ties. Nevertheless, such assistance has not provided a relevant amount of resources to Asian countries.

During the 2002–2016 period, total aid, either through multilateral or bilateral channels, amounted to US\$ 3.294.783 million (ASPR, 2016), of which only US\$ 119.62 million was provided by Muslim majority countries. Russia provided US\$ 67.8 million during 2002–2016. Thus, we set Figure 3.3 once again, to test our third hypothesis regarding the contribution of emerging countries and South-South Cooperation to Tajikistan from 2002 to 2016.

Figure 3.3 shows that China has become an important provider of aid to Tajikistan, starting in 2007. The total aid provided by Muslim majority countries and Russia constitutes only 7.1% of the total aid provided by China during 2002–2016. During the period 2007–2011, the volume of aid provided by Muslim majority countries decreased, predominantly

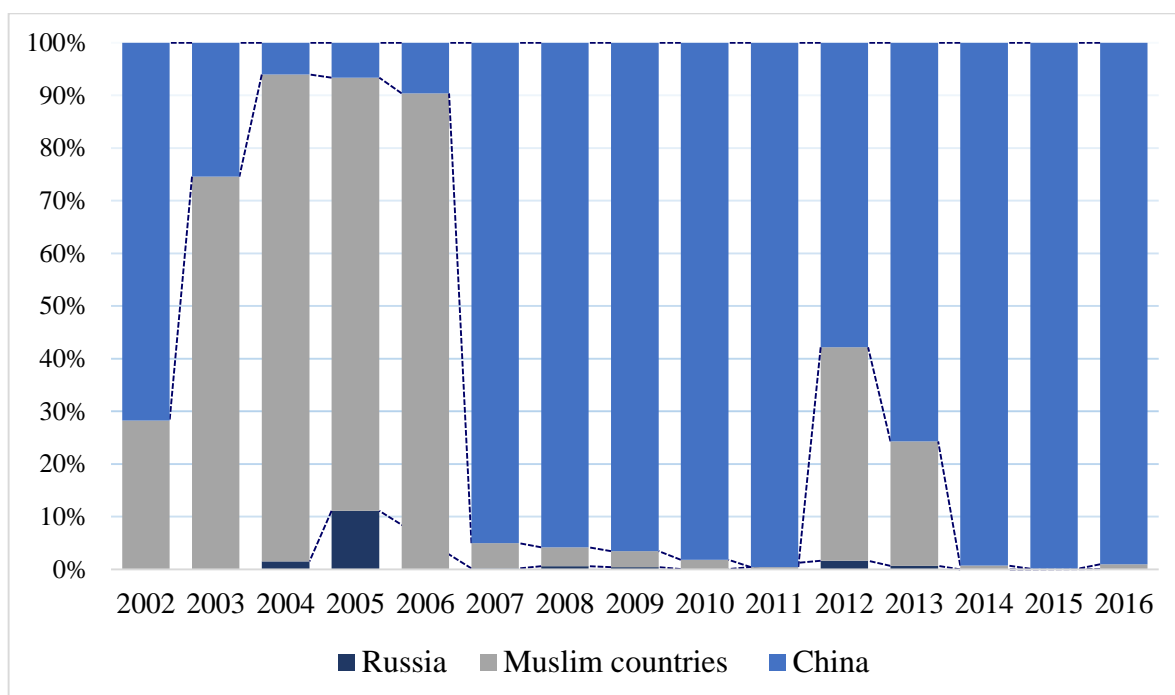
Figure 3.2. The volume of bilateral aid by donor countries to Tajikistan in 2016



Source: UNDP, 2014; ASPRT 2016

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Figure 3.3. The total bilateral aid provided by Russia, Muslim countries, and China to Tajikistan during 2002–2016 (in %)



Source: UNDP, 2015; ASPRT 2017

Note: List of Muslim majority countries providing ODA to Tajikistan are Iran, Kuwait, and Saudi Arabia.

due to the global financial and economic crisis in 2007. The share of Muslim majority countries was remarkable from 2002 to 2006³³, i.e. until the beginning of the Arab Spring in the Middle East and North African regions.

Regarding the channel through which Chinese aid has been conceded, the majority of it has been delivered in the form of loans: the amount borrowed by Tajikistan from China for different government investments reaches around \$1.5 billion, a figure around one half of total public debt (Ibrahimova, 2019). Only recently, and belonging to China’s Belt and Road initiative, China has given as a grant an amount of \$360 million to upgrade the highway from Kulob to Bokhtar. This amount could be considered as a freebie, but always considering that Chinese gifts conceal certain conditions as mining concessions,³⁴ tax exemption for Chinese firms or even, as in Tajikistan case, donation of agricultural land (Hofman, 2019).

³³ Such changes of policy could be explained in reference to the Justice and Development Party’s 2002 electoral victory and subsequent policy changes in Ankara, or due to changes within Central Asian states, for example related to the Uzbek Government’s suspicion of Turkish intentions in Central Asian countries (Thomas Wheeler, 2013).

³⁴ Xinjiang-based company TBEA received a tax exemption for the machinery brought from China aimed at improving the exploitation of the Upper Kumarg and Eastern Duoba gold mines (Ibrahimova, 2019).

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According to Hofman (2015) “the Tajik establishment has turned towards China, rather than Iran, Russia, or Europe”. These loans or grants conceded by Chinese authorities, according to many authors, are not permitting a genuine development for Tajikistan, but on the contrary could provoke a higher dependency on imports from China (45% of Tajik imports come from China) once the Belt and Road initiative is completed (Karrar and Mostowlansky, 2020). As mentioned before there is a collusion between Chinese firms’ and Tajikistan’s elite interests (Colley and Heathershaw, 2018), which will obstacle Tajikistan development due to commercial dependency, higher public indebtedness and resource extraction by elites. In consequence, the win-win outcome of the so-called South-South cooperation can certainly be questioned.

Although Figure 3.6 highlights the noticeable share of aid from Muslim majority countries and Russia during 2003–2006, the total aid provided by these countries within that period is equal to 38.4% of that provided by China in 2007. Total aid provided by Muslim majority countries and Russia amounted at US\$ 85.7 million from 2002 to 2006, whereas the Chinese share totalled \$223.31 million only in 2007. During 2012 and 2013, the total aid provided by Muslim majority countries totalled \$193.79 million and \$131.49 million whereas, in the same period, the Chinese share totalled at \$276.24 million and \$421.58 million.

The average volume of aid provided by China in the last ten years was US\$ 130,6 million, while Muslim majority countries and Russia’s share amounted at US\$ 67.6 million and US\$ 91.4 million, respectively. Furthermore, Russia has not provided aid to Tajikistan in 2011, 2014, and 2016.

Despite the fact that financial South-South Cooperation to Tajikistan is channelled mainly through loans and less through grants, South-South Cooperation already plays a crucial role in the field of international development assistance to Tajikistan far beyond what OECD and emerging countries can offer. The role of DAC countries is remarkable after China, while Muslim majority countries’ share is smaller; Russia plays barely any role in this regard.

However, although the money invested in Tajikistan is creating infrastructures and accumulating capital in some sectors such as mining or energy generation, the South–South cooperation is surely providing more benefits for lending countries and elites than providing better job opportunities for the Tajik population. As a result of this, the “win-win” or “mutual

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 gains” narrative corresponding to South-South cooperation should be nuanced. Therefore, we would reject the hypothesis 3 put forward in the introduction.

4. Methodological procedure

This section discusses the specifications of a model aimed at examining the relationship, firstly, between foreign aid and per capita GDP growth and, secondly, between aid and poverty reduction. Following the basic neoclassical growth model by Solow (1956) our specification can be written as follows:

$$Y_t = A_t K^a_t (HC_t L_t)^\beta \dots (1)$$

where Y is gross domestic product (GDP) in real terms; L and K denote, respectively, labour (employment) and physical capital inputs, A is a measure of technology and exogenous knowledge; a is the share of capital; β is the share of labour (participation ratio), while t represents time. We linearise (1), taking logs and differencing, obtaining the following expression that describes the determinants of the growth rate of real GDP :

$$\ln Y_t = a \ln(K_t) + \beta \ln(L_t) + \ln(H_t) + \ln(A_t) \dots (2)$$

Taking into account the objective of researching the effect of aid on economic growth, the aggregate capital can be divided into domestic and foreign capital in the form of aid. In addition to this, the variables that conventionally appear in economic growth models such as institutional quality (level of corruption), openness to trade, average years of schooling. The ODA inflow in ratio to GDP and the Gini coefficient have also been included (Barro and Lee, 1994). Applying these changes to equation 2, the final model will be rewritten as follows:

$$\begin{aligned} \ln GDPpc_t = & \beta_0 + \beta_1 \ln(ODA_t) + \beta_2 \ln(Edu_t) + \beta_3 \ln(GE_t) + \beta_4 \ln(CPIAc_t) \\ & + \beta_5 \ln(LF_t) + \beta_6 \ln(OPNc_t) + \beta_7 \ln(GINI_t) + \varepsilon_t \end{aligned} \quad (3)$$

As shown by the first hypothesis put forward, we expect that β_1 (*aid inflow*) is positive. Furthermore, we expect a positive effect of β_2 (*average years of schooling*) and β_5 (*labour*

Section 3.3. Patterns of Official Development Assistance in Tajikistan: effects on growth and poverty reduction *force*) since a higher human capital accumulation and a higher level of education leads to a higher growth potential. We also expect a negative value for β_4 (level of corruption). Barro and Sala-i-Martin (1995) also argue that government consumption is a proxy of political corruption and other undesirable government aspects. It is also widely argued that the openness (β_6) effect on growth is theoretically ambiguous. Edwards (1992) state that openness to trade might have a positive impact on economic growth primarily by facilitating technological spillovers, which, in turn, would increase productivity, international competitiveness, and export revenues. On the contrary, Vlastou (2010) claimed that openness might have a negative impact on growth, particularly in the case of low-income developing countries.

The parameter β_7 (income inequality measured by the Gini coefficient) is the elasticity of GDP with respect to income inequality, and ε – a disturbance term which is assumed to be normally distributed. The β coefficients of the explanatory variables, excluding the dummy variable, reflect the elasticity of the real GDP with respect to each of these variables.

According to Foster et al. (1984), poverty can basically be measured based on three measures: headcount poverty, poverty gap (or poverty depth) and square poverty gap (or poverty severity). The most widely used measure is the headcount index, which simply measures the proportion of the population that is registered as poor, often denoted by P_0 and described by the following formula,

$$P_0 = \frac{N_p}{N} \quad (4)$$

where N_p is the number of poor people and N is the total population. The expression can be rewritten as follows:

$$P_0 = \frac{1}{N} \sum_{i=1}^N I(y_i < z) \quad (5)$$

Here, “ $I(\cdot)$ is an indicator function that takes a value of 1 if the expression in brackets is true, and 0 otherwise. So, if expenditure (y_i) is lower than the poverty line (z), then $I(\cdot)$ equals 1 and the household would be counted as poor” (Haughton and Khandker, 2009, pp. 68-69, Chapter 4).

A moderately popular measure of poverty is the poverty gap index, which measures the extent to which individuals’ income falls below the poverty line (cost of living in a

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country) as a percentage of the poverty line. The poverty gap index may be written as follows.

$$P_1 = \frac{1}{N} \sum_{i=1}^N \frac{G_i}{z} \quad (6)$$

where N is the size of sample, G_i is a poverty gap and z is a poverty line. The measure does not reflect changes in inequality amongst the poor, whilst the next measure of poverty i.e. Squared poverty gap (or Poverty severity) takes into account inequality amongst the poor which formally might be written as:

$$P_\alpha = \frac{1}{N} \sum_{i=1}^N \left(\frac{G_i}{z} \right)^\alpha, \quad (\alpha \geq 0) \quad (7)$$

where N is the number of people in the economy, α is a measure of the sensitivity of the index to poverty, z is a poverty line and G is poverty gap for individual i . With $\alpha = 0$, P_0 is simply the headcount poverty index. With $\alpha = 1$, the index is the poverty gap index P_1 , and when α is set equal to 2, P_2 is the poverty severity index (Foster et al., 1984).

In an effort to examine the relationship between ODA and poverty reduction, we follow the primary linear model form suggested by Ravallion (1997). The relationship can be written as follows:

$$\ln Pov_{it} = a_1 + \beta_1 \ln(g_{it}) + \beta_2 \ln(y_{it}) + \beta_3 \ln(X_{it}) + \varepsilon_{it}$$

$$\varepsilon_{it}, (i = 1, \dots, N; t = 1, \dots, T) \quad (8)$$

where 'c' and 't' denote country and time, respectively; Pov_{it} is the logarithm of poverty (headcount) index in country i at time t ; and a_1 is a fixed effect reflecting qualitative differences among countries. β_1 is the elasticity of poverty with respect to income inequality measured by the Gini coefficient, g ; β_2 is the elasticity of poverty with respect to real per capita GDP given by y . Moreover, X is a set of policies and institutional variables that affect poverty. As Mosley et al. (1987) suggested, the indirect effects of aid on poverty could be channelled through appropriate policies and institutions.

Equation (8) will be modified to reflect the peculiarity of our study, choosing variables following a pattern similar to Equation (3).

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Applying these changes to equation 8, the final model can be rewritten as follows:

$$\ln Pov_{it} = \beta_0 + \beta_1 \ln(ODA_{it}) + \beta_2 \ln(CPIA_{it}) + \beta_3 \ln(Edu_{it}) + \beta_4 \ln(GE_{it}) + \beta_5 \ln(OPNc_{it}) + \beta_6 \ln(GINI_{it}) + \varepsilon_{it} \quad (9)$$

Based on economic theory, a prior expectation is that the ODA effect on poverty level is negative. However, a number of studies (e.g. Burnside and Dollar, 2000) claim that the effect on poverty could be ambiguous conditional on institutional quality among recipient countries. Thus, the model has to be extended, including an interactive regressor (i.e. level of corruption), therefore, the sign of coefficient depending from the level of corruption in Tajikistan that would be found out after investigation.

Previous studies (Barro, 1991; Acemoglu and Robinson, 2010) overwhelmingly concluded that bad governance (β_2) and greater initial income inequality (β_6) provoke poverty, even after controlling for initial levels of GDP (Ravallion, 1997; Knowles, 2001). Moreover, past studies (Burnside and Dollar, 2000; Collier and Dollar, 2002) concluded that trade openness (β_5) is seen as one of the main engines that would foster the needed technological progress when there are good economic policies and a supportive institutional environment. It makes it possible for poor countries to access intermediate inputs and technological transfers from more advanced countries promoting exports, generating positive spillovers through exploiting scale economies and encouraging competitiveness and efficiency, in consequence, reducing poverty levels (Balassa, 1978; Rodrik 1999).

Accordingly, the coefficient of the average years of schooling variable (β_3) is expected to register a negative sign (Barro, 1991; Mankiw et al., 1992). Similarly, we expect the negative sign from (β_4) because of opportunities for corruption in the disbursement of funds (Knack, 2000). We have summarised the definition and sources of variables in Table 3.1.

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Table 3.1. Variables, measures and data sources.

Variable	Measurement	Data source
L_GDPpc	Natural logarithm of GDP per capita	World Development Indicators (http://databank.worldbank.org)
L_ODAGDP	Natural logarithm of real total net official development assistance in ratio to GDP	World Development Indicator (http://databank.worldbank.org)
L_POV	The log headcount index measures the proportion of the log of population that is poor and lives below the poverty line	World Development Indicator (http://databank.worldbank.org) Millennium Indicators Databases
L_GINI	The standard measure of income inequality based on Lorenz Curve that ranges from 0% to 100%, with 0 representing perfect equality and 100 representing perfect inequality	World Development Indicator (http://databank.worldbank.org)
L_YearEdu	log of secondary school enrollment (in percentage) used as a proxy for the measure of investment in human capital	Barro and Lee (1994) See updated version at: www.cid.harvard.edu/ciddata.ciddata.htm
L_GovExp	General government final consumption expenditure (% of GDP)	World Development Indicator (http://databank.worldbank.org)
L_OPN	Ratio of the sum of imports and exports to the GDP that provides the measure of openness of economy	World Development Indicator (http://databank.worldbank.org)
L_CPIACor	Transparency, accountability, and corruption in the public sector rating (1=low to 6=high)	World Bank's Country Policy and Institutional Assessment
L_LF	Labour Force participation ratio	World Development Indicator (http://databank.worldbank.org)

5. Estimation method

To carry out the analysis above described we utilised the Vector Error Correction Model (VECM). We have compared the strengths and weaknesses sides of VECM and came to conclusion that VECM gives us much expected result than alternative models (see Table 3.2).

Tale 3.2. The strengths and weaknesses sides of VECM approach

	Strengths	Weaknesses
1	VECM allows us to obtain jointly the long-term and short-term relationships between variables	We can conduct only for the series which are stations in their differences (I)1
2	VECM model would be correctly specified and the interpretation of results are simple yet intuitive	There is much debate on how the lag lengths should be determined
3	VECM allows us to deal with both stationary and non-stationary variables with different orders of integration	It is possible to end up with a model including numerous explanatory variables, with different signs, which has implications for degrees of freedom
4	VECM allows us to examine the serial correlation, functional form, normality and heteroscedasticity	
5	VECM allows us to find the first differenced variables and error correction term	
6	The advantage of VECM over VAR is that the resulting VAR from VECM representations has more efficient coefficient estimates	

In estimating the model, various analytical techniques such as unit root test, Augmented-Dickey Fuller test (Dickey and Fuller,1979), ADF-GLS (generalised least squares) test (Fuller, 1976), KPSS test (Kwiatkowski et al., 1992), Variance Decomposition, Impulse of Response Function (Haug and Smith, 2007), and CUSUM and CUSUMQ stability test (Luger, 2001).

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The response of GDP per capita and Poverty level to shocks in ODA and other selected variables can be written as follow:

$$GDP_t = \alpha_1 + \sum_{j=1}^n \theta_j GDP_{t-j} + \sum_{j=1}^n \alpha_j ODA_{t-1} + \sum_{j=1}^n \beta_j CPIA_{t-1} + \sum_{j=1}^n \gamma_j GovExp_{t-1} + \sum_{j=1}^n \delta_j OPN_{t-1} + \sum_{j=1}^n \vartheta_j Edu_{t-1} + \sum_{j=1}^n \mu_j LF_{t-1} + \sum_{j=1}^n \varphi_j Pov_{t-1} + \sum_{j=1}^n \varphi_j Gini_{t-1} + \omega_{1t} \dots \dots \dots (a)$$

$$ODA_t = \alpha_2 + \sum_{j=1}^n \theta_j ODA_{t-j} + \sum_{j=1}^n \alpha_j GDP_{t-1} + \sum_{j=1}^n \beta_j CPIA_{t-1} + \sum_{j=1}^n \gamma_j GovExp_{t-1} + \sum_{j=1}^n \delta_j OPN_{t-1} + \sum_{j=1}^n \vartheta_j Edu_{t-1} + \sum_{j=1}^n \mu_j LF_{t-1} + \sum_{j=1}^n \varphi_j Pov_{t-1} + \sum_{j=1}^n \varphi_j Gini_{t-1} + \omega_{2t} \dots \dots \dots (b)$$

$$POV_t = \alpha_3 + \sum_{j=1}^n \theta_j POV_{t-j} + \sum_{j=1}^n \alpha_j ODA_{t-1} + \sum_{j=1}^n \beta_j CPIA_{t-1} + \sum_{j=1}^n \gamma_j GovExp_{t-1} + \sum_{j=1}^n \delta_j OPN_{t-1} + \sum_{j=1}^n \vartheta_j Edu_{t-1} + \sum_{j=1}^n \mu_j LF_{t-1} + \sum_{j=1}^n \varphi_j GDP_{t-1} + \sum_{j=1}^n \varphi_j Gini_{t-1} + \omega_{3t} \dots \dots \dots (c)$$

$$CPIA_t = \alpha_4 + \sum_{j=1}^n \theta_j CPIA_{t-j} + \sum_{j=1}^n \alpha_j ODA_{t-1} + \sum_{j=1}^n \beta_j GDP_{t-1} + \sum_{j=1}^n \gamma_j GovExp_{t-1} + \sum_{j=1}^n \delta_j OPN_{t-1} + \sum_{j=1}^n \vartheta_j Edu_{t-1} + \sum_{j=1}^n \mu_j LF_{t-1} + \sum_{j=1}^n \varphi_j Pov_{t-1} + \sum_{j=1}^n \varphi_j Gini_{t-1} + \omega_{4t} \dots \dots \dots (d)$$

$$Edu_t = \alpha_5 + \sum_{j=1}^n \theta_j Edu_{t-j} + \sum_{j=1}^n \alpha_j ODA_{t-1} + \sum_{j=1}^n \beta_j GDP_{t-1} + \sum_{j=1}^n \gamma_j GovExp_{t-1} + \sum_{j=1}^n \delta_j OPN_{t-1} + \sum_{j=1}^n \vartheta_j Pov_{t-1} + \sum_{j=1}^n \mu_j LF_{t-1} + \sum_{j=1}^n \varphi_j Gini_{t-1} + \sum_{j=1}^n \varphi_j CPIAv_{t-1} + \omega_{5t} \dots \dots \dots (e)$$

$$LF_t = \alpha_6 + \sum_{j=1}^n \theta_j LF_{t-j} + \sum_{j=1}^n \alpha_j ODA_{t-1} + \sum_{j=1}^n \beta_j GDP_{t-1} + \sum_{j=1}^n \gamma_j GovExp_{t-1} + \sum_{j=1}^n \delta_j OPN_{t-1} + \sum_{j=1}^n \vartheta_j Pov_{t-1} + \sum_{j=1}^n \mu_j Edu_{t-1} + \sum_{j=1}^n \varphi_j CPIA_{t-1} + \sum_{j=1}^n \varphi_j Gini_{t-1} + \omega_{6t} \dots \dots \dots (f)$$

$$Gini_t = \alpha_7 + \sum_{j=1}^n \theta_j Gini_{t-j} + \sum_{j=1}^n \alpha_j ODA_{t-1} + \sum_{j=1}^n \beta_j GDP_{t-1} + \sum_{j=1}^n \gamma_j GovExp_{t-1} + \sum_{j=1}^n \delta_j OPN_{t-1} + \sum_{j=1}^n \vartheta_j Edu_{t-1} + \sum_{j=1}^n \mu_j LF_{t-1} + \sum_{j=1}^n \varphi_j Pov_{t-1} + \sum_{j=1}^n \varphi_j CPIA_{t-1} + \omega_{7t} \dots \dots \dots (j)$$

$$Govex_t = \alpha_7 + \sum_{j=1}^n \theta_j Govex_{t-j} + \sum_{j=1}^n \alpha_j ODA_{t-1} + \sum_{j=1}^n \beta_j GDP_{t-1} + \sum_{j=1}^n \gamma_j Gini_{t-1} + \sum_{j=1}^n \delta_j OPN_{t-1} + \sum_{j=1}^n \vartheta_j Edu_{t-1} + \sum_{j=1}^n \mu_j LF_{t-1} + \sum_{j=1}^n \varphi_j Pov_{t-1} + \sum_{j=1}^n \varphi_j CPIA_{t-1} + \omega_{7t} \dots \dots \dots (h)$$

To determine the order of integration, we used three-unit root tests, the Augmented-Dickey Fuller test (comparing AIC and BIC criterion), ADF-GLS test (comparing modified AIC and BIC criterion using Perron-Qu method and first differences) and KPSS unit test (robust estimate of variance). Results are summarised in Table 3.3.

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The results show that all variables were confirmed to be stationary except LnLF, LnEdu, and LnInf, which were suggesting at 1% stationary only with constant and trend. The LnGDPpc is stationary at 1% with constant and with constant and trend. The remaining variables LnODA, LnGE, LnCPIA, LnOPN, LnGINI, and LnPOV are stationary at 5% and 10% with constant and with constant and trend, respectively.

Table 3.3. Summary of ADF, DF-GLS and KPSS unit root tests

Varibale	ADF		DF-GLS	KPSS	
	with constant	with constant and trend	Perron-Qu method including a trend	test statistic including trend	robust estimate of variance
<i>LnGDPpc_t</i>	-0.0816	-0.2690	-0.2737	0.1216	0.0886
<i>LnODA_t</i>	-0.0717	-1.2621	-0.7271	0.1473	0.1418
<i>LnEdu_t</i>	-0.4482	-0.4649	-0.3185	0.1005	0.0004
<i>LnGE_t</i>	-0.5098	-1.2262	-0.8548	0.0561	0.0232
<i>LnCPIA_t</i>	-0.0769	-0.3581	-0.3531	0.1476	0.0077
<i>LnOPN_t</i>	-0.2690	-0.3133	-0.3171	0.1473	0.1418
<i>LnGINI_t</i>	-0.4485	-0.4331	-0.4486	0.0854	0.0070
<i>LnPOV_t</i>	-0.1892	-0.1563	-0.2076	0.1285	0.9590
<i>LnLF_t</i>	-0.0138	-0.0425	-0.1322	0.1763	0.0003
<i>Variables' first difference</i>					
<i>ΔLnGDPpc_t</i>	-0.6115*	-0.5965*	-0.6060	0.1633	0.0401
<i>ΔLnODA_t</i>	-1.6068***	-1.6078***	-1.1059	0.0826	0.0279
<i>ΔLnEdu_t</i>	-0.8774	-0.8793*	-0.8791	0.0844	0.0001
<i>ΔLnGE_t</i>	-1.2158***	-1.2280***	-1.2244	0.0575	0.0247
<i>ΔLnCPIA_t</i>	-1.0625***	-1.0978**	-1.0955	0.0790	0.0020
<i>ΔLnOPN_t</i>	-1.0160***	-1.5137***	-1.0190	0.1287	0.0375
<i>ΔLnGINI_t</i>	-1.0754***	-1.0836***	-1.0778	0.0928	0.0029
<i>ΔLnPOV_t</i>	-0.9283***	-1.0159**	-1.0111	0.1225	0.2071
<i>ΔLnLF_t</i>	-0.0806	-0.2800*	-0.2219	0.1631	3.3202

Source: Authors' computation

Note: the lag of ADF test is determined by the AIC and BIC values.

Lag order is shown in parenthesis based on AIC and BIC at ADF level. * , ** and *** indicate significant at 1%, 5% and 10%, respectively.

For DF-GLS critical values after the first difference as follows: -2.89 (10%), -3.19 (5%), -3.46 (2.5%), -3.77(1%)

For KPSS critical values after the first difference: 0.125 (10%), 0.150 (5%), 0.204 (1%)

6. Results and Discussion

The VECM test allows us to determine the causality direction between our selected variables (Table 4). The result indicates that the coefficient of GDPpc is positive ($1.6865 > 0$). Furthermore, the ODA coefficient is positive ($0.62408 > 0$) and statistically significant at 1%. Consequently, we can confirm the Hypothesis 1. Accordingly, the coefficient of public corruption (L_CPIA) variable is negative, however it is not statistically significant. This indicates that the spread of corruption erodes the effectiveness of ODA in promoting economic growth. Corruption is a severe problem in Tajikistan, partly favoured by the numerous rules and regulations inherited from Soviet times. Corruption Perceptions Index by Transparency International (2017) reports that Tajikistan scored 21 points out of 100 on the 2017 report.

The coefficient of fiscal policy variable (L_GovExp) is significant at 5% level. This indicates that the level of government expenditure is an important factor of economic growth.

Table 3.4. Vector Error Correction Estimates.

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>
Maximum likelihood estimates, observations 1999-2016 (T = 18)				AIC = -25.5907 BIC = -22.0292
Determinant of covariance matrix = 1.127486				HQC = -25.0996
D_L_GDPpc	1.6865	0.750309	2.2477	0.0412 ***
D_L_ODA/GDP	0.62408	0.433775	1.4387	0.1722*
D_L_CPIACor	-0.03843	0.359568	-0.1069	0.9164
D_L_GovExp	0.80176	0.352051	2.2774	0.0390 **
D_L_OPN	2.54193	1.31979	1.9260	0.0747 *
D_L_Edu	0.02785	0.08983	0.3101	0.7611
D_L_LF	0.05830	0.02279	2.5573	0.0228 **
R-squared	0.411288			
Adjusted R-squared	0.374493			
Durbin-Watson	1.603910			

P-value of t-statistics are in parentheses *Significant at 1% level; **Significant at 2% level;
***Significant at 5% level

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As expected, the coefficient of the trade openness is found to be positive and significant at 1% level. Fenny (2005) states that openness encourages a skilled labour force to contribute more to growth with the help of technology and research and development imports. Moreover, expectedly, the coefficient of labour force (l_LF) is found to be positive and significant at 5% level. Further, the coefficient of human capital accumulation (L_Edu) is positive but it is not statistically significant.

Table 3.5. Impact of Foreign Aid on Poverty Levels Results
Dependent variable POV

Variables	MODEL 1	MODEL 2
Const	-6.61228 (0.3306)	-1.33650 (0.0102**)
L_GDPpc	-0.791557 (0.0338 **)	-0.50117 (0.007***)
L_ODA/GDP	-0.030769 (0.9052)	-0.48140 (0.0625*)
L_CPIACor	1.12763 (0.2180)	6.6633 (0.9992)
L_GovExp	0.652253 (0309**)	0.33745 (0.1871)
L_GINI	6.21623 (0.0001***)	0.10627 (0.1586)
L_OPN	1.08636 (0.02525**)	0.59160 (0.0178**)
L_Edu	-6.32528 (0.0443**)	0.01862 (0.2166)
Mean dependent var.	3.040299	0.071546
R-squared	0.594105	0.321320
Adjusted R-squared	0.514899	0.282027
Log-likelihood	5.550056	170.04314
Akaike criterion	4.899888	
Hannan-Quinn	6.178580	
Durbin-Watson	1.966459	1.459002
AIC		-10.8937
BIC		-7.3322
HQC		-10.4026

P-value of t-statistics are in parentheses *Significant at 1% level; **Significant at 2% level; ***Significant at 5% level

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Table 3.5 shows the results of Model 1 (OLS) and Model 2 (VECM) regressions. The results of the analysis confirm our expectations. Particularly, the results reveal that GDP pc and ODA variables have a negative and statistically significant effect on poverty levels in the case of the Tajik economy. In consequence, we would confirm the hypothesis 2 put forward in the introduction. Model 1 suggests that GDP pc has a statistically significant negative impact on poverty at 1% and 5% levels. As one percentage increase in GDP provokes a 0.79 percentage decrease in poverty, ODA triggers a 0.0305 reduction in poverty. Expectedly, Model 2 suggest that ODA has a negative and statistically significant impact on poverty at 1% and 10%, thus confirming Hypothesis 2 put forward in the introduction. According to Model 2, a 1% increase in ODA and GDP pc reduce poverty in a 0.50% and 0.48% respectively.

Table 3.6. Summary Statistics, using the observations 1998–2016 (after the log transformation)

Variable	Mean	Median	S.D.	Min	Max
L_GDPpc	6.10	6.26	0.705	4.94	7.01
L_OPN	4.67	4.67	0.294	4.22	5.30
L_POV	3.04	3.44	0.866	1.59	3.96
L_GINI	3.45	3.46	0.0654	3.30	3.53
L_Edu	2.35	2.35	0.0164	2.33	2.37
L_GovExp	2.38	2.41	0.210	2.11	2.69
L_ODAGDP	-13.7	-13.7	0.530	-14.4	-12.9
L_CPIACor	0.764	0.693	0.107	0.693	0.916
L_LF	14.8	14.8	0.173	14.5	15.0

Source: Authors' computation

The coefficients of GINI and institutional quality have a positive and significant coefficient and therefore indicate that the greater inequality and higher level of corruption is associated with higher poverty levels in Tajikistan.

The results confirm the finding of Mosley et al. (1987), Ijaiya and Ijaiya (2004), and McGillivray et al. (2006) suggesting that ODA effectiveness depends on institutional quality of the recipient country.

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Table 3.7. Correlation coefficients, using the observations 1998–2016

L_GDPpc	1.0	-0.6	-1.0	0.5	0.4	-0.0	0.6	0.7	1.0
L_OPN	-0.6	1.0	0.4	-0.8	-0.4	-0.0	-0.3	-0.0	-0.4
L_ODA/GDP	-1.0	0.4	1.0	0.5	-0.4	0.0	-0.5	-0.8	-0.9
L_POV	0.5	-0.8	-0.5	1.0	0.5	-0.1	-0.0	0.1	0.4
L_GINI	0.4	-0.4	-0.4	0.5	1.0	-0.2	-0.1	0.3	0.4
L_Edu	-0.0	-0.0	0.0	-0.1	-0.2	1.0	-0.2	-0.1	0.1
L_GovExp	0.6	-0.3	-0.5	-0.0	-0.1	0.2	1.0	0.5	0.6
L_CPIAcor	0.7	-0.0	-0.8	0.1	0.3	-0.1	0.5	1.0	0.8
L_LF	1.0	-0.4	-0.9	0.4	0.4	0.1	0.6	0.8	1.0
	L_GDPpc	L_OPN	L_ODA/GDP	L_POV	L_GINI	L_Edu	L_GovExp	L_CPIAcor	L_LF

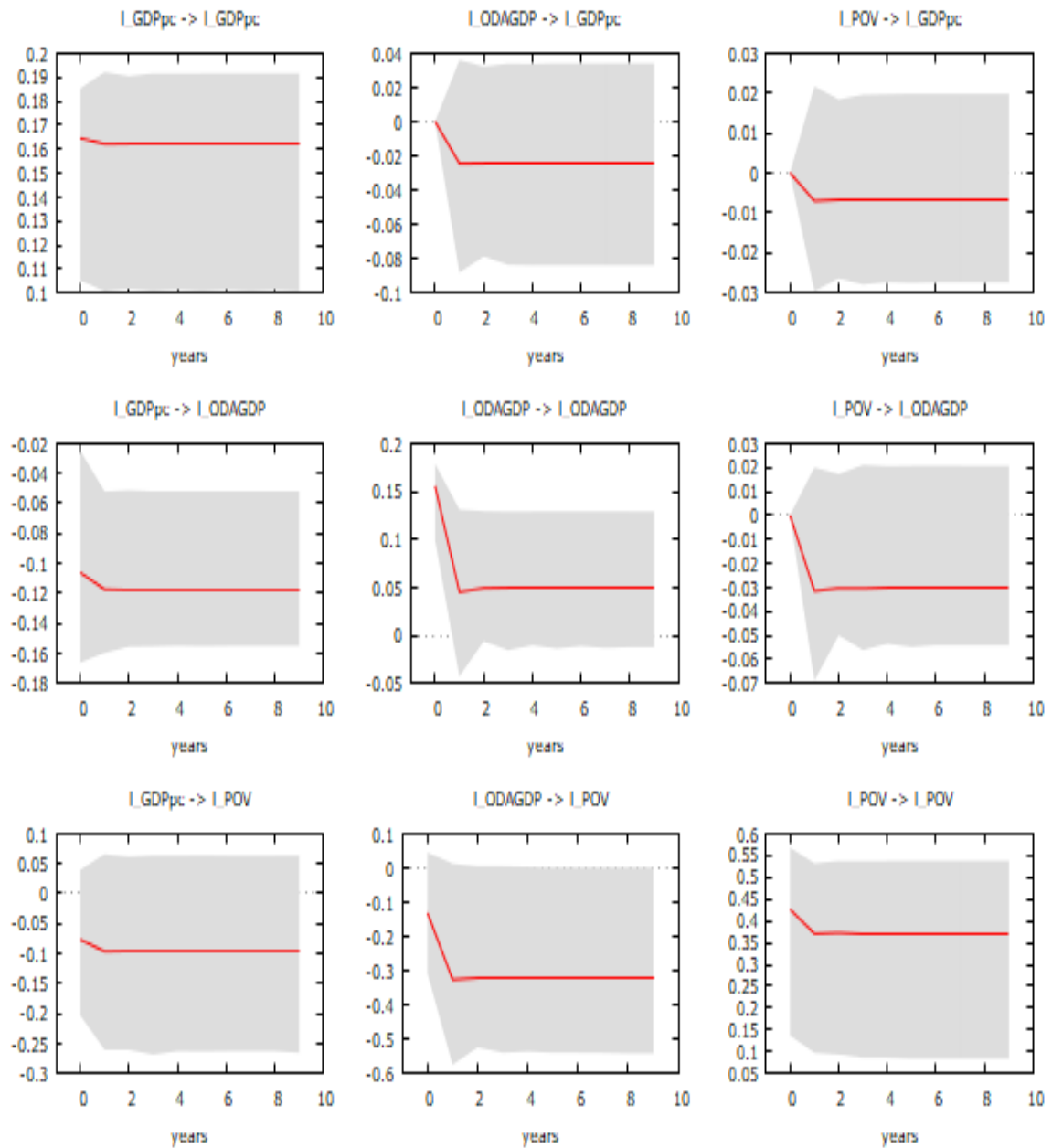
Source: Authors' computation

The coefficient of secondary school (L_Edu) enrolment has also a negative correlation with the poverty level in Model 1 and in consequence reveals that a higher skilled labour force in Tajikistan has played a key role in reducing poverty.

Figure 3.4 shows the reaction in one variable due to shocks in other variable. Results indicate that both economic growth and poverty reduction experiment a positive response because of shocks in ODA.

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Figure 3.4. Impulse of Response Function



Source: Authors' computation

Note: X axis measure the number of periods that have been passed after the impulse has been given.

Y axis measure the response of the variables.

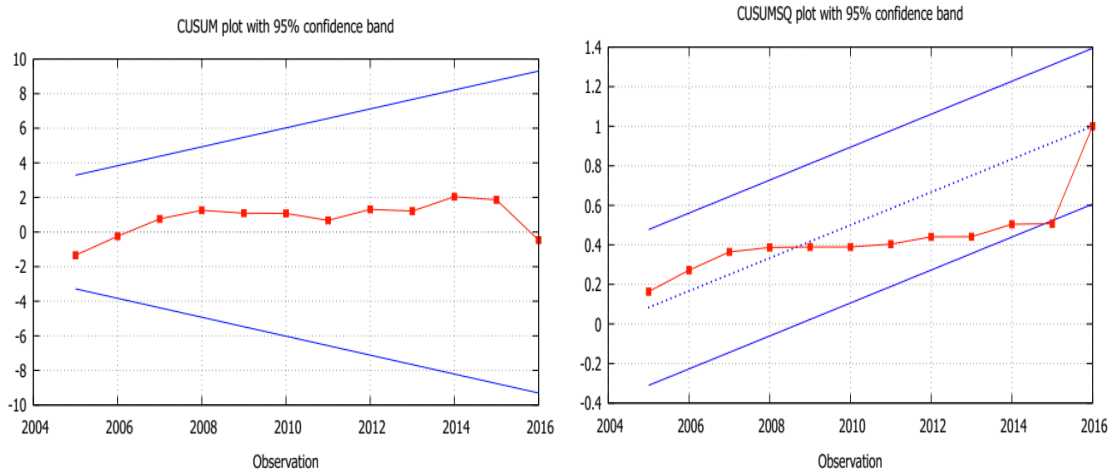
7. Stability test result.

We applied CUSUM and CUSUMQ to determine the parameter stability and monitor the change and the reliability of our estimation result (Brown et al., 1975).

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The CUSUM and CUSUMQ are plotted at 5% level of significance (figures 3.5 and 3.6).

Figure 3.5. Plot of CUSUM and CUSUMQ (Stability test for GDP per capita)

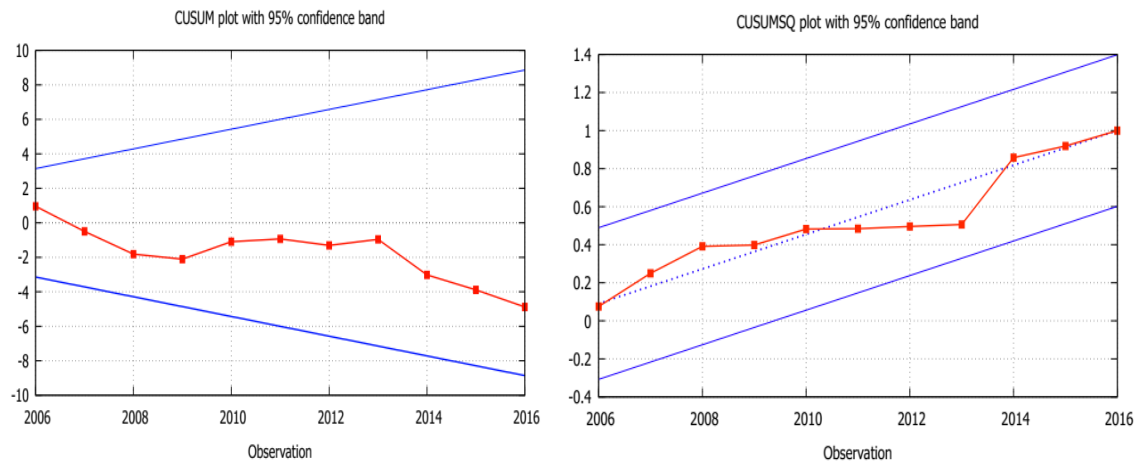


Source: Authors' computation.

Note: The straight lines represent critical bounds at 5% significance level, indicating the stability of the model.

CUSUM test for stability of parameters mean of scaled residuals = 0.00516781; $\hat{\sigma} = 0.131983$; Harvey-Collier $t(11) = 1.06769$ with p-value 0.308

Figure 3.6. Plot of CUSUM and CUSUMQ (Stability test for Poverty reduction)



Source: Authors' computation.

Note: The straight lines represent critical bounds at 5% significance level, indicating the stability of the model.

CUSUM test for stability of parameters mean of scaled residuals = -0.78476; $\hat{\sigma} = 1.76792$;

Figure 3.5 and 3.6 indicate that CUSUM and CUSUMQ statistics are well inside and between the critical bounds of the 5% confidence interval of parameter stability, whereas

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Figure 3.5 shows that CUSUMQ lines suggest a 1% (0.509) value outside of the 95% confident band in 2015.

8. Conclusions

One of the main conclusions of this paper is that aid has played a crucial role in Tajikistan's development and it is hard to imagine a further development of the country without coordinated external support from the donor community.

Expectedly, this study confirms our two first hypotheses and reveals that there is a positive relationship between ODA and economic growth and a negative effect of ODA in poverty levels, once considered the institutional environment in Tajikistan.

The VECM and OLS estimation show that an increase of 1% of ODA provokes a rise in 1.6% of per capita GDP and a 0.48% decrease in poverty levels in the case of the Tajik economy. Additionally, the level of corruption hinders economic development as well as boosts poverty levels in Tajikistan. Alesina and Dollar (2002) document that two-thirds of aid are spent in government consumption, which means that, in case aid is not channelled to productive uses, its usefulness would be reduced. Moreover, although openness seems to have a positive effect on GDP, it increases poverty. Government consumption contributes to an improvement in economic growth, however suggesting a negative effect on poverty reduction.

Our results tend to put in doubt the third hypothesis put forward. In the present moment South-South Cooperation has become of paramount relevance in Tajikistan, especially as a result of the Chinese upsurge as the main aid provider for the Tajik economy. However, the way through which aid has been conceded does not allow us to think that these finance flows are going to create new job opportunities and a higher standard of living in Tajikistan. South-South cooperation in Tajikistan remains far from being considered as a win-win phenomenon, due to several factors such as the government's high indebtedness with China, strong commercial dependency with China, lack of a genuine industrial or agricultural development programme, the low quality of institutions as well as some of the conditions required to ease the financial flows.

Regarding the potential utilization of this piece of research in order to better understand the future effectiveness of the so-called South-South cooperation, this is not but

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a case study that could shed light over the future implications of this relatively new genre of development cooperation. We must add that more research is needed firstly to analyse and compare aid concession to the other Central Asian countries, in order to acquire a broader vision for the entire region. Additionally, future research should compare the behaviour of South-South cooperation in different parts of the world, namely aid behaviour in Asia in comparison with Africa or South America.

To summarise, although our empirical results suggest in general the expected signs, the result obtained by this study has a number of policy implications. Given the challenges faced by the Tajik economy, the Tajik Government needs to be responsible for the accountability of ODA use. Those accountability levels must be enforced and ODA should be channelled to favour economic growth and social sectors, with the purpose of reorienting ODA in order to optimise its impact on economic growth and poverty reduction in the country.

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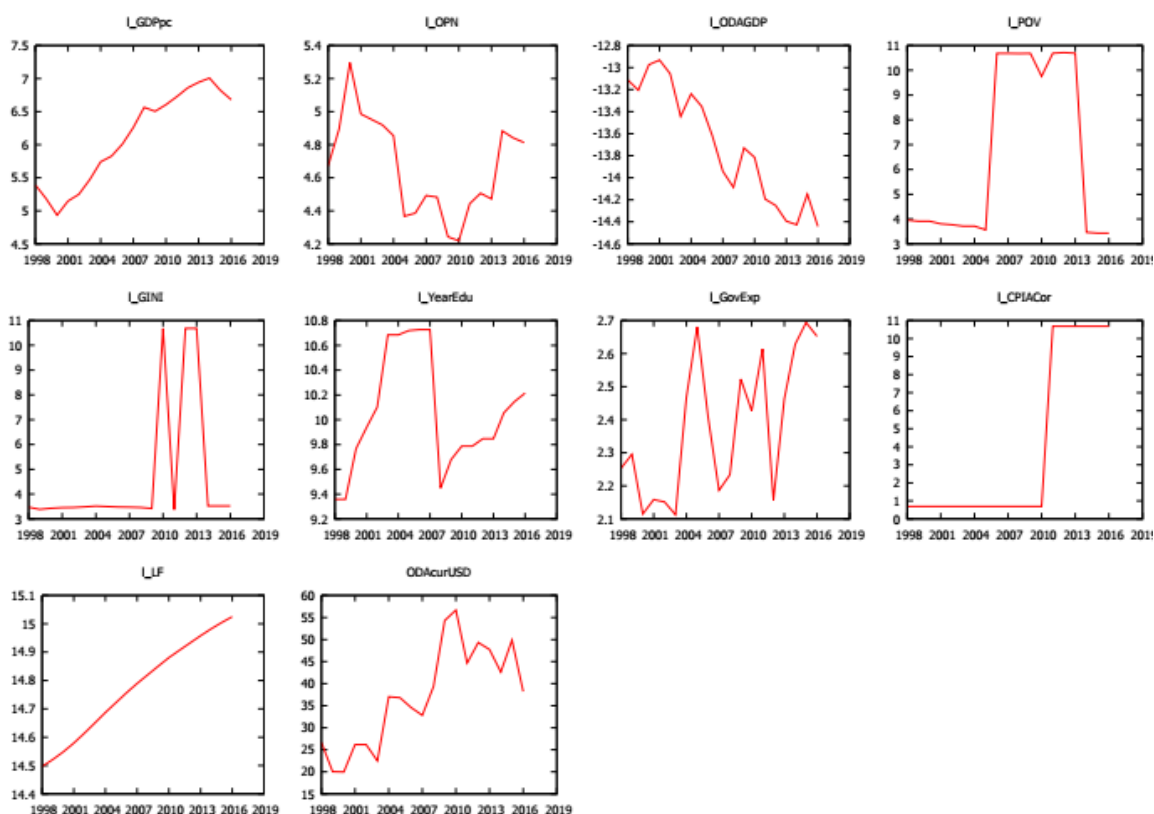
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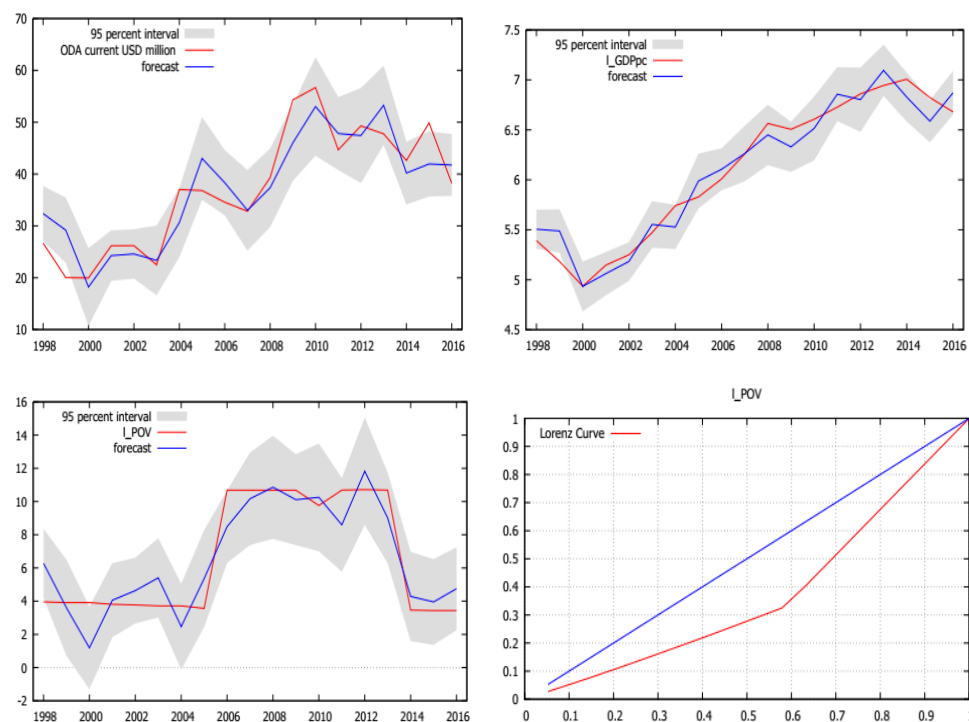
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Appendix 3.1. Variables charts after the log transformation, 1998-2016.



Appendix 3.2. Variables charts after the log transformation, 1998-2016.



Source: Authors' computation

Note: Sample Gini coefficient = 0.262265

Estimate of population value = 0.276835