

# Remittances flows into selected developing countries economics essay

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## 1. Introduction

Importance of remittances getting rise across the world, and for such developing countries as Kyrgyzstan and Tajikistan with its inflows that reached 27-40% of GDP it is undoubtedly significant (Figure 1). Due to long history being one of Soviet Union's countries, Kyrgyzstan and Tajikistan have not gain yet much experience in managing capital and remittances flows. The countries need to study existing international experience in purpose to avoid crucial mistakes and to get implications on how the state policy can influence these flows. In this sense, the case of the Philippines as one of the most succeeded in amount remittances received countries (4th place in the World)[1]seems to be a reasonable choice to be studied. Tajikistan with its fraction of migrants number equal to 18% of the adult population (Erich 2006) the same as the Philippines of which number of migrants count 11% (POEA[2]2010) of the total population are the largest emigrant labour suppliers per capita in the world. These countries as well as Kyrgyzstan constitute top 20 remittances receiving countries as per cent of GDP (World Bank 2011). Magnitude of remittances could be underlined by the fact that Philippines could avoid deep economic down spiral partially thanks to continuously receiving large amount of money sent by Filipinos from overseas. Needless to evaluate importance of remittances which double every year Kyrgyz and Tajik government`s budget. The paper does not aim to compare these two Central Asian countries and the Philippines due to cultural and geographical difference, and, of course, due to obvious difference in terms of historical and economic development between them. But from our point of view taken such incomparable set of countries would

give us lots valuable hints worth to investigate, especially in light of possible existence of individual country specific, when some variables (determinants) which are significant for remittances inflows to one country can lose its power for remittances to another country. If so, each country should not simply adopt an international, even though the best, experience to enlarge amount of receiving remittances but should pave own path and build an effective state policy based on current economic conditions, national and cultural peculiarity to make the remittances inflow more substantial and resilient. Indeed, as to support our concern, Freund asserts " the determinants of remittances to industrial countries are likely to be very different" from those that are for developing countries (2005: 15).

Meanwhile, similar but a very provoke inference was obtained by Adams (2008) through using macro data of 76 developing countries. The results of this study show that " middle-income countries receive more per capita remittances rather than low- or high-income countries" (2008: 17).

Gammeltoft (2002) based on analysis of statistics of remittances to developing countries confirms the largest amount of remittances flow goes to the middle-income countries (be more precisely speaking – lower middle-income countries). Further, empirical results obtained by Mouhoud, Oudinet, and Unan (2008) show those remittances send by migrants from Southern and Eastern Mediterranean countries have different determinants to explain migrants propensity to remit. In their study they assert that it depends on the migrants' country of origin. Further, Schiopu and Siegfried (2006) in theirs study insist on insignificancy of interest rate differential for emigrants from Morocco, Egypt, Turkey, Lebanon and Jordan to remit whiles other

studies (Adams 2008, Vargas-Silva and Huang 2005) suggest us this variable is one of most important for example in explaining the remittances flow into Latin America and the Caribbean countries (LAC), Europe, East, South, and Central Asia countries. It happens the same with power of altruistic motives to determine remittances which differs from country to country. Indeed, altruism has significantly affected remittances flow into Turkey, Egypt, Jordan, Morocco, Pakistan, and Tunisia (Aydas et al. 2005, Bouhga-Hagbe, 2006) but it has not been worked in case of remittances inflow into the Philippines (Semyonov and Gorodzeisky 2005, 2008), Germany (Dustmann and Mestres 2010), and the PRC[3](Du et al. 2005). Same time, we do strongly believe in existence of those determinants which would be powerful drivers of remittances flows to any developing country across the world. On our opinion, the level of migrant's disposable income and economic activity in a host country should be positive and significant factor for remittances flows across all developing countries despite individual country specific. We suppose that the remittances send by individual migrant worker more depend on the level of his disposable income in the host country rather than on either level of family income or family commitment he left behind at home. No doubt the family commitment is a very important variable in explanation of amount of remittances send by migrants but once the level of disposable income of migrants significantly drops a certain level of family commitment would be no longer affordable for them. We also suppose that the level of family commitment rises with improving family's welfare. The higher household income level was achieved due to receiving remittances the higher level of family commitment imposes on a migrant. This especially

true in case of heavy remittances' dependent family that consumes received money in non-tradable goods or in investment to children education. But this assumption is a subject of our future studies and will not be described in the scope of this paper. This particular paper is proposed to give an answer to mentioned above questions. And therefore, here is number of different issues which we would purport to address within this study's scope: Whether external or/and internal factors would expose to be more powerful for remittances flows into proposed countries. Whether altruistic or self-interest motives would emerge to be the main force behind migrant workers' decisions to remit, whether a country specific would have a place in explanation of remittances behaviour. Whether proposed external or/and internal variables may prove to be important for remittance inflows to any country to determine remittances flow. Thus, the main objects of our study:- to prove our theoretical assumption that the external factors play more prominent role for remittances flows into developing countries. Moreover, since remittances are sent by migrant workers we purport to prove importance of migrant's disposable income level in a host country for amount of remittances sent back home;- to analyse whether remittances flows into proposed Central Asian countries would emerge to be driven by altruistic or self-interest motives;- to confirm existence of country specifics in explanation of remittances behaviour. As the best of our knowledge there is no study on determinants of remittances flow into Kyrgyzstan was done so far, and a few papers which explore nature of remittances into Tajikistan. Thus, the paper contributes to the existing literature by filling up the gap of studies on the Central Asian countries and by constructing the first bilateral

data for Kyrgyzstan and Tajikistan as receiving countries and the top of 7 sending countries for the period of 1993-2010. Besides, this study is the first attempt to employ calculated individual migrant' disposable income (not its proxy) to analysis of possible determinants of remittances flows into selected developing countries. Our constructed pull data covers bilateral remittances flows into three selected Asian countries: Kyrgyzstan, the Philippines, and Tajikistan from 12 host countries over the period of 1993-2010 for Kyrgyzstan and Tajikistan and from 1980 to 2010 for the Philippines. Altogether there are 19 country-pairs to be analysed within our study. Empirical results confirmed our theoretical prepositions about the greater power of external factors compared to internal factors in explanation remittances inflows to the developing countries. Such external factors as: the number of migrant workers and their individual disposable income as well as real GDP per capita in a destination country are proved to be positive and statistically significant for remittances flows into entire set of selected countries. From those that represent internal factors only home political country risk expose to be as a significantly reducing factor for remittances into Central Asia countries and insignificant for this flow into the Philippines. Since this research is the first our endeavour to study remittances nature, needless to say that this paper does not impose the obtained results as the ultimate truth as well as does not purport to evaluate or criticize the inferences attained in this field by other researchers.

## 2. Descriptive analysis of economic condition in the selected countries[4]

Before getting ahead it seems to be important to take a short look into past of Philippines as well as Kyrgyzstan and Tajikistan for describing economic conditions which led to the large outmigration resulted in rising remittances inflow at present. Low level of economic growth along with a high population growth rate which could not be absorbed by economy comparing with job supply level made the Philippines as one of the biggest labor export countries for a quite long period of time. Indeed, regarding to the World Bank, the average rate of GDP growth during 1980-1989 and 1990-1999 was 2.0% and 2.8% respectively (Figure 2). Average population and labour force growth rates were 2.3% and 2.7% accordingly throughout 1990-2000 (Figure 4). As a result, the Philippines has the highest unemployment rate in Southeast Asia, and one of the highest in the whole of Asia (Economy Watch 2012).[5] An average unemployment rate for the period from 1998 to 2000 was about 10.4%. People with secondary and higher education levels constituted around 90% of total unemployment (Figure 3). Such economic conditions made people take efforts to find job abroad. As of 1990, 8.6% of the Philippines labour force migrated to other countries and in 2010 this rate raised to 24.5%. Not surprising that 15% of total migrants number were people with tertiary education level. During last decade the Philippines dramatically improved its economic performance. Average GDP growth rate during 2000-2010 was 4.5%. As of 2010, GDP growth rate reached its the highest level 7.6% that increased real GDP per capita up to 1383.4 US\$ compare with average 993.9 US\$ during 1990-2000 (Figure 5).

Unemployment rate responded to such growth in economic output by  
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shifting down, and in 2010 it counted as 7.4% also thanks to significant drop in population and labour force growth rates which were in average 1.9% and 1.7% respectively during 2002-2010 (Figure 4). Despite all these factors, Filipinos emigration rate still remains high due to low level of living standards in the country which continuously push people abroad. In 2010 the Philippines ranked as 97th by its Human Development Index in the world compare with 90th place in 1995 (Figure 6). The poverty level still is high enough even though proportion of population living below \$2 a day decreased from 52.7% in 1994 to 45% in 2006 (Table 1). As the result, the net migration ratio for the period of 2005-2010 remains almost the same as for the period of 1990-1995 (Figure 7). The high migration rate has generated a large amount of remittance from Filipinos working overseas. Bangko Sentral NG Pilipinas (BSP) data shows that from 2000 to 2008 remittances almost tripled from 6.0 billion US\$ to 16.4 billion US\$ in 2008, or in average by 13.3% annually. In 2010 this amount reached 18.7 billion US\$.[6] Regarding to the World Bank, throughout of last 5 decades the main destination for the Filipino workers was the United States. In 2000 this country welcomed around 48.4% of total Filipinos migrants (Figure 8). In contrast to the Philippines, Kyrgyzstan and Tajikistan during the whole 20th century have been the important destinations for immigrants from different parts of the Soviet Union. The analysis of migration processes in Kyrgyzstan and Tajikistan shows fundamental changes since its independence. Tremendous social and economic change related to the break-up of the Soviet Union strongly affected economic situation in these countries. The transition to independence and market economy accompanied by sharp



political and economic shocks, and by significant declining in quality of life standards and social services. Average Kyrgyzstan's GDP growth rate during 1990-1995 was -9.5% and Tajikistan's GDP growth rate during the same period of time was -14.5% (Figure 9). Worth to notice, the weak economic performance in Tajikistan on that time also could be explained as a result of a civil war that the country had to face from 1992 to 1997. As a consequence of such economic turbulence, unemployment level has reached high level in the both countries. As it clearly shown in Figure 10, collapsing Soviet economy firstly hit people with secondary and higher education level (60.7% and 86.7% of total unemployed people in Kyrgyzstan and Tajikistan respectively as of 1992). Slowdown of economic activity resulted in steep shrinking of output growth and, as a sequence, in the high unemployment level, etc. served as triggers of massive migration outflow from Kyrgyzstan and Tajikistan since 1990s (Figure 11). In 1990 migrated people count about 29% of Kyrgyzstan's and 17% of Tajikistan's labour force and the number of emigrants steadily increased during all decade that consequently led to perceptible fall in population and labour force growth rates (Figure 12). Despite improving economic situation in the last decade, Kyrgyzstan and Tajikistan are still the poorest countries in the Central Asian region that pushes people keep seeking better life abroad. As of 2010 real GDP per capita in Kyrgyzstan was 373US\$ and 279US\$ in Tajikistan (Figure 13) that remains to be the lowest in the region. Even substantial GDP growth rate, which has been kept in average by 4.2% and 8.4% annually during last decade in Kyrgyzstan and Tajikistan respectively, did not reduce much the existed gap in standards of living between these two and other countries.

Indeed, Kyrgyzstan and Tajikistan rank low in human development index, even though Kyrgyzstan has slightly improved its position by achieving 109th rank in the world in 2010 compare to 116th in 1995 and Tajikistan has also improved its position from 122nd in 1996 to 112th in 2010 (Figure 14). Meantime, the recent estimates show that proportion of population living below \$2 (PPP) a day increased drastically in Kyrgyzstan from 17. 3% in 1993 to 29. 4% in 2007 and remains the highest (50. 8%) in Tajikistan (Table 2). All of these economic factors push people out of the countries mainly towards Russia and Kazakhstan as the most economically succeeded countries in the Commonwealth of Independent States (CIS) region (Figure 15). Existence of long historical and cultural ties, numerous bilateral agreements in migration managing, common language and finally lack of visa restrictions for CIS`s citizens along with more stable economic situation which gives an opportunity to work and thus to send money back home to support family make Russia and Kazakhstan the most attractive destination for migrants from Kyrgyzstan and Tajikistan (e. g. as of 2008 the level of GDP per capita in Kyrgyzstan 5. 5 times less than in Kazakhstan and 7. 5 times less than in Russia; an average monthly wage less about 4 times than in these two countries).[7]According to the estimates, around 80% of all migrants from Kyrgyzstan and Tajikistan are currently employed in Russia and send 4/5 of all remittances transferred to these countries from abroad (MLEMKR 2012 and Erlich 2006).

### **3. Theoretical background (recent studies on determinants of the remittances flow)**

There is significant but not rich amount of literature that contributes to the nature of remittances study. However, due to ambiguity and controversy of inferences obtained it is still very topical to investigate factors which determine remittances inflow to the particular country. As far as the theoretical literature on the remittances is concerned, determinants of remittances are usually described from three points of view: home country, host country, and miscellaneous home/host countries by using micro and macro level data sets. Almost all researches who conduct studies based on country's survey data (e. g. DeSipio 2000, Lanly 2004, Gubert 2002, Amuedo-Dorantes and Pozo 2006, Holst and Schrooten 2006, etc.) on remittances behaviour are common in underlining the importance of so-called "micro-" economic determinants which describe nature of remittances from the worker migrant's characteristics point of view, such as: age, gender, marriage status, occupation, length of stay, and migrant's household income level. Docquier and Marfouk (2005), Adams (2008), Bollard et al. (2011), and Docquier, Rapoport, and Salomome (2011) analyse the skills composition of migrants. The main inferences obtained by Adams (2008) through using instrumental variables approaches, suggest us the higher-educated migrants have lower propensity to remit. Thus, the more share of high-skilled emigrants the fewer amount of remittances could be received by a labour-sending country. Later, Bollard et al. (2011) and Docquier, Rapoport, and Salomome (2011), based on study of migrants' education using micro data in 11 sending and a bilateral remittances data on 89 sending and 46 receiving countries respectively, obtained quite opposite

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results. They argue more skilled migrants will send more money back home in case of existence more restrictive immigration policy in the host country. Meanwhile, the research studies on determinants have been evolved along with rising popularity of remittances. And now nobody believes that just a few decades ago and even more recent, macroeconomic variables were found as no significant in its explanation of remittance flow (Swamy 1981, Straubhaar 1986, Sayan 2004, and Tancay et al. 2005). The most recent studies pay attention to determinants of remittances from both sides of a country of origin as well as of a host country with exercising a large range of macro- and micro- economic variables. Lueth and Ruiz-Arranz (2006), Adams (2008), Vargas-Silva and Huang (2005), Freund and Spatafora (2005) consider demographic, economic and financial determinants of remittances at the country level. The broad set of variables, generally used in these studies, includes GDP per capita, distance, common language, colonial history, and border, inflation, natural disaster, investment and political climate, transaction costs, level of financial system development, dual exchange rate regime or official exchange rate itself, interest rate differential, current account restrictions, stock of migrants, trade relationship, country risk, etc. In particular, Lueth and Ruiz-Arranz (2006) analyse remittances by estimation a gravity model using unbalance panel of 11 Asia and Europe countries over the twenty five time period. The main findings obtained by these authors tell us such variables as: GDP per capita both in home and host countries, bilateral trade, common language, colonial history, and border, transaction costs, distance, existing restriction on payment, inflation and exchange rate in home country are very significant in

explanation remittances flow. In particular, this study reveals the remittances flow reacts with very high elasticity rate on the GDP per capita growth, " a one percentage point increase in this growth rate is associated with 2. 8 percent higher remittances" (2006: 9). Besides, the study found important policy implications concerning openness of current account, managing capital flow, and level of the financial system development in a home country. Regarding to this study, small transaction costs, easing facilitating of capital inflows, and enough developed financial system in the home country greatly contribute to the enlarging of the remittances flow. Results attained by Freund and Spatafora (2005) fully support these findings. In turn, Vargas-Silva and Huang (2005), based on empirical results within their study on remittances flow send by immigrants from the particular LAC countries working in the USA, insist on " host country economic conditions seem to be the most important factor driving remittances" (2005: 18).

#### **4. Analytical Framework**

Mainly, existing studies Becker (1974), Lucas and Stark (1985), Aydas et al. (2005), Glytsos (2007), Adams (2008), and Kumo (2011) tried to take a look at the remittances nature from the demand side (e. g. family income at home). They proposed that amount of remittances depends on household income level. But again, the attained inferences much differ from each other. Whiles Becker (1974), by premising on an altruistic model, persists on existence of significant negative correlation between income level of households and amount of remittances received by them, Lucas and Stark (1985), based on exchange model, do not support pure altruism and show the positive correlation between these two variables. Lueth and Ruiz-Arranz

(2006) and Kumo (2011) also found the altruism was not longer a powerful explanatory variable of the remittances inflow. From the best of our knowledge, there is a handful number of papers which describes remittances determinants from the supply side (migrant's income level): Vargas-Silva and Huang 2005; Swamy 1981; Abdel-Rahman 2003; DeSipio 2000; Connell and Brown 2004; Funkhouser 1995; Cox, Eser, and Jimenez 1997; Orozko 2002; and Jimenez-Martin, Jorgensen, and Labeaga 2007 are those from few others who analysed remittances by taking into account individual migrant's income level. Swamy (1981), based on study of migrants behaviour from Greece, Yugoslavia, and Turkey, insists that the wage level of migrants in the host country can explain over 90% of the variation in remittances inflow to the home country. Abdel-Rahman (2003) supports this finding by empirical inference obtained from his study on determinants of remittances from the Kingdom of Saudi Arabia. Moreover, International Fund for Agricultural Development (IFAD) during it's study on international migration, remittances and rural development found out the permanent migrants usually send about 15% of their income whiles temporary migrants send about 50% (2008), but it also depends on level of migrant' income. For instance, LAC's migrants remit only about 10% if income less than US\$ 25 000 per year (Orozco 2002). Funkhouser suggests us the remittances amount will increase with growing migrants' income (1995). Opposite, DeSipio (2000) and Connell and Brown (2004), based on study Mexican, Tongan and Samoan emigrants respectively, argue the higher salary (income) level the lower likelihood of remitting migrants have. Such controversy between empirical findings encourages us to continue further analysing remittances flows behaviour in

purpose to find possible drivers behind its streamline from the supply side. In this light, our study purports to reveal existence of significant positive correlation between the level of migrant's disposable income in a host country and amount of remittances send back home. We suppose the remittances send by individual migrant worker more depend on level of his disposable income in the host country rather than on either level of family income or family commitment he left behind in the home country. Indeed, Vargas-Silva and Huang (2005) stand on remittances inflow would get less along with increasing level of price in host country which leads to decreasing the emigrant's real income. For the analytical purpose we will use specially calculated migrant's disposable income in a host country, not its proxy. In the previous studies, gross national income per capita, GDP per capita or wage level in a host country were used as proxy for measuring migrants' income level. Obviously, the remittances behaviour cannot be simply explained by only one, even the most important, economic variable. It should be always a set of micro- and macro- economic determinants. Thus, besides of level of migrant's disposable income in host and home country, drawing from the existing literature we took the following set of carefully selected economic variables to represent external " push" and internal " pull" factors driving remittances flows: External factorsReal GDP per capita in a host country, as a proxy of economic activityAlthough some researchers, e. g. Swamy (1981) and Straubhaar (1986) assert that macroeconomic variables are not significant for remittances flows, major part of empirical studies affirms positive significance of macroeconomic fundamentals of both host and home countries for amount of money to be remitted. In turn, Vargas-

Silva and Huang (2005) stand on that a host country economic condition is the main determinant forcing remittances flows. A straight logic behind this inference premises on the fact that enhancing economic activity in a host country potentially would increase demand on additional work force and thus would increase the deployed number of immigrants by providing them with a better paid job opportunities that subsequently would rise their income level and finally lifting amount of remittances to be sent up. But from another side, the improved economic condition might encourage immigrants to keep money in a host economy to exhaust provided a greater investment opportunity and thus to reduce remittances. Indeed, Lueth and Ruiz-Arranz found the greater economic activity in a host country decreases remittances flows into a home country (2006). Number of migrant workers in a host country Needless to explain why our set includes the total number of migrant workers as one of explanatory variables of remittances flows. Obviously, amount of remittances depends on stock of migrant workers in a host country. Surprisingly but it is the only case when all researchers anonymously underline a high importance the stock of working emigrants as one of the main determinants that has positive and significant influx on remittances flows. Education level of migrant workers A sign on which education level of migrant workers might affect remittances flows is still vague. From one side, someone can suppose the sign should be positive simply due to the fact that a better educated migrant receives higher salary and thus can remit more. But from another side, a better educated migrant has higher chance to find a stable job and to easily get permanent visa and thus to migrate with whole family abroad. In this case, the sign might be



negative. Indeed, while some researchers insist on negative relationship between amount of total remittances sent to the home country and the proportion of better educated persons among total number of emigrants originated from this particular country (e. g. Faini 2007 and Niimi et al. 2010), other party of scholars stands on positive sign of this relationship (e. g. Schioupou and Siegfried 2006 and Docquier et al. 2011). Thus, it would be very interesting to investigate whether education level of emigrants from the proposed set of countries would confirm to be significantly negative or positive and whether the country specific may play a role in this contention.

Internal factors

Interest rates differential in host and home countries

Despite the earlier studies (e. g. Katseli and Glystos 1986) stand on insignificance of interest rates differential for remittances inflows to a home country, the convincing part of the recent empirical studies affirms the significantly positive relationship between higher interest rate in a home country and amount of remittances (e. g. Lueth and Ruiz-Arranz 2006 and Kemegue et al. 2011). In purpose to investigate whether remittances would expose altruistic or investment nature, employing interest rate differential as one of proposed explanatory variables seems to be pertinent.

Home country risks

A relationship between remittances inflows and home country risk is also not a clear cut. IMF by studying remittance flows behaviour found that aggravation of political instability in a home country may negatively affect remittances inflows (2005). But logically, in case if remittances are driven by altruistic motives, the amount of remittances should be increased flowing into home country in response to financially protect family that was left behind.

Therefore, the combination of positive relationship between remittances

inflows and domestic interest rates and negative relationship between that flows and the level of a home country risk would suggest us the existence of investment motives behind migrant workers' propensity to remit. Real GDP per capita in a home country, as a proxy of economic activityThe same as in the case of the effect of degree of economic activity in a host country on remittances flows, the relationship between economic activity in a home country and the amount of remittances to be received is still an open question that deserves further deep investigation. From one hand, the higher degree of economic activity in a home country might encourages migrant workers to invest into the home economy. But from another hand, improved economic condition at home might stop workers to seek a better life abroad and thus subsequently decreasing number of migrants that in turn will reduce remittances inflows. Despite controversy of this issue, the most recent studies underlining the pure investment nature of remittances, insist on positive relationship between economic activity in a home country and that flows (e. g. Buch et al. 2002 and Lueth and Ruiz-Arranz 2006). Number of disasters as a proxy of disaster risk in a home countryFor further examining the type of remittances nature exploding such variable as number of disasters happened to a home country seems to be very helpful. Leading by altruistic motives, the remittances inflows should immediately be increased in a wake of natural disaster to protect and support family. But, the empirical results obtained, for instance, by Lueth and Ruiz-Arranz (2006) expose positive but insignificant effect of the disaster risk level on amount of remittances inflows to a home country. Additionally to the above set, we also employed an explanatory variable of physical distance between host and

home countries that is requested by the proposed gravity model to analyse bilateral remittances flows. To underline procyclical nature of remittances some explanation variables were taken with 1 year lag. Thus, the following double log regression equation is used to analyse remittances behaviour: where:- the total amount of remittances sent to the home country ( $r$ ) from the particular host country ( $s$ );- real GDP per capita of the country  $r$ ;- real GDP per capita of the country  $s$ ;- differential between disposable income of a migrant and migrant's family in host and home countries[8];- migrant stock (both high and low educated) from the country of origin  $r$  in the country  $s$ ;- skill-ratio of migrants from the origin country  $r$  in the country  $s$ [9];- interest rates differential;- physical distance between country  $s$  and  $r$  in the panel data serves as cross country ID and plays the role of constant variable whiles running fixed effect analysis ;- disaster risk in the receiving country;- receiving country's risk. All variables exhibited in the regression model were taken based on overall review of existed literature and exposed significant economic relationship with remittances flows but with different expected sign and intensity depends on country of migrants origin (Table A1). Worth to notice we did not include the exchange rate in the explanatory variables list that would make someone surprised since the most studies reveal the high importance of this variable to determine remittances inflow. Such choice could be explained by the fact that all variables in our list were taken in foreign currency (e. g. RGDP per capita) or were recalculated by using PPP conversion factor (local currency per international dollar).

## 5. Data

To test our assumption made in the previous section we needed to construct bilateral data on number of migrants and amount of remittances they sent by each pair of proposed countries. All together there are 19 pairs of sending and receiving countries to be analysed within this study. We will not extent this paper to the discussion of the difficulties of obtaining bilateral data since it have already been widely discussed in each paper which exist so far on the nature of remittances and migration studies. The bilateral data on migration for the Philippines was taken from CEIS data base which is available for 1984-2009 periods of time, Philippine Overseas Employment Administration data available on <http://www.poea.gov.ph/stats/statistics.html> from 1992, and Commission of Filipinos overseas data available on <http://www.cfo.gov.ph/pdf/statistics/Stock%202010.pdf> from 2000. For other missing years the bilateral migration stock was calculated based on World Bank Global Bilateral Migration data which is available from 1960 to 2000 years. The bilateral data for Kyrgyzstan and Tajikistan was aggregated by taken two sequent steps. Firstly, we merged five data sets for different available time periods which can provide us with total number of emigrants: World Bank Global Bilateral Migration data (stock) for 1990 and 2000 years, available on <http://databank.worldbank.org/ddp/home.do?Step=1&id=4>; International Labour Organization (ILO), International Labour Migration Statistics (LABORSTA) on migrants outflow by destination country (Table MB), annual bilateral (flow) data for 1986-2008, available on <http://laborsta.ilo.org/STP/guest>; Socio-Economic Data (stock) for CIS countries (bilateral migration and remittances) for 2010, United Nations Development Programme (UNDP) for Europe and

CIS regions, Office of the Senior Economist, available on <http://europeandcis.undp.org/senioreconomist/show/A550E37F-F203-1EE9-B39AD69D14124A53> Statistical Agency under President of the Republic of Tajikistan, external migration (flow) data for 1998-2008 available on <http://www.stat.tj/english/database.htm>; CEIC data base (flow), information about the CEIC is available on <http://www.ceicdata.com/>. Secondly, we reconstructed data of the total number of emigrants by breaking it by destination country. In this purpose we calculated each country's weight by using World Bank Global Bilateral Migration data for 1990 and 2000 years, and Bilateral migration and remittances data for 2010 which is available on the UNDP web site. Later we used attained 1990 migration structure for 1990-1999 time period, and the 2000 structure for 2000-2009 years., where is stock of migrants from country  $r$  in particular country  $s$ . is total number of migrants from the country  $r$  around the world. To allow us to go more deeply in analysing the remittances determinants we further reconstructed the bilateral migration data by breaking it by migrants' education level. In this sense, we used the most comprehensive bilateral data which is available to the best of our knowledge - The Brain Drain database (Docquier 1975-2000). This dataset is a product of the Trade Team Development Research Group, and measures international skilled migration for the years 1975-2000. Bilateral brain drain rates are estimated based on observations for every five years. We need to notice the education level structure of Kyrgyzstan and Tajikistan migrants is calculated only for 1990, 1995, and 2000. For the Philippines the data is available for 1975-2000. The data could be found on <http://siteresources.worldbank.org>.

org/INTRES/Resources/469232-1107449512766/Docquier\_1975-2000\_data\_Panel.xls and on [http://perso.uclouvain.be/frederic.docquier/filePDF/DataSetByGender\\_Bilateral.xls](http://perso.uclouvain.be/frederic.docquier/filePDF/DataSetByGender_Bilateral.xls) (1990 and 2000). The rates structure was extrapolated for each four missing years (e. g. the 1990 structure was extrapolated for the period of years from 1990-1994, and so on). The bilateral data on remittances for Kyrgyzstan and Tajikistan was constructed using a mix methodology of the bilateral remittances flow estimation based on the theoretical foundations introduced by Walmsley, Ahmed, and Parsons (2005), Ratha and Shaw (2007), and Jimenez-Martin, Jorgensen, and Labeaga (2007) (See Box 1). Even though bilateral remittances data for the Philippines is well presented in the CEIC data and on the BSP web site, available on <http://www.bsp.gov.ph/statistics/keystat/ofw.htm> but for analytical and consistency purposes we had to calculate disposable income of Filipino migrants' household in the Philippines and in the host country by taken the same methodology as for calculating Kyrgyzstan and Tajik bilateral remittances. To estimate bilateral remittances flow and to calculate migrants' disposable income we used various data sets on average wage and individual income tax rate, as follow: For OECD countries, data on average annual wage is available from 1990 to 2010 and for tax rate is available from 2000 to 2010. The data could be found on <http://stats.oecd.org/#> . For other missing years average annual wage was calculated using wage index which could be taken from the CIEC data. For CIS countries and the Philippines, the average wage data in local currency is widely presented. We merged data sets: CEIC data, Statistics of CIS, available on [www.cisstat.com](http://www.cisstat.com), ILO LABORSTA 5A and 5B data sets,

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available on <http://laborsta.ilo.org/STP/guest>; For CIS and the Philippines the income tax rate data was taken from the different sources. The main data is World Development Indicators which is very helpful in providing some data set, but available years differ from country to country [10]. The data is presented on [http://databank.worldbank.org/ddp/home.do?Step=2&id=4&hActiveDimensionId=WDI\\_Series](http://databank.worldbank.org/ddp/home.do?Step=2&id=4&hActiveDimensionId=WDI_Series). For other missing years the data was collected from different sources: country's surveys, countries' Ministry of Finance or other official governmental representatives' web sites. It should be noticed that estimated remittances flow in our data on average exceed officially recorded flows by 37% in case of the Philippines and by 59% in case of Kyrgyzstan. Freund and Spatafora, in their study on informal remittances flows, estimate the amount of remittances sent by informal channels constitutes about 35-75% of official (2005). Thus, our estimated remittances inflows confirm these findings. In case of Tajikistan the data is almost consistent with official data due to significant improving remittances statistics in Tajikistan since 2001 when the Tajik government removed the 30% tax on bank remittances that was resulted in increasing amount of remittances sent through formal channels (Erlach 2006). The source of data for other explanation variables taken for our study is shown in Table A1.

## 6. Empirical Results

Our empirical framework premises on the gravity model which has been exercised as for the first time by Lueth and Ruiz-Arranz (2006) to investigate determinants of remittances. Table A3 shows the estimation results attained by using panel fixed effect for the sending country. External factor Consistent with our theoretical priors, GDP per capita as a proxy of economic activity in

a host country proved to be positive and significant for remittances flows into the proposed set of countries. A dollar change in real GDP per capita in a host country increases amount of remittances almost by 1.4 times into Kyrgyzstan, by about 1.1 times to Tajikistan, and by more than a half time to the Philippines suggesting us that enhancing economic activity in a host country eventually leads to increasing of the income level of working immigrants that consequently results in large amount of remittances to be sent. These empirical results are in line with the findings done, for instance, by Vargas-Silva and Huang (2005). Remittances flows expose a high elasticity in response to changes in total stock of emigrants in a host country across entire set of selected countries. By one migrant increase in total stock lifts remittances inflows by 1.2 times up to Kyrgyzstan and by about 1 time up to the Philippines and Tajikistan. Interesting findings that education level of migrant workers does not play significant role for amount of remittances sent back to a home country neither to Kyrgyzstan or to the Philippines nor to Tajikistan. Moreover, in line with Faini (2007) and Niimi et al. (2010) findings, higher education level of migrant workers negatively associates with amount of remittances sent to these countries (e. g. the Philippines and Tajikistan). Such result might be explained by the fact that major part of migrant workers from proposed countries are those who have low education level. Someone may argue that emigrants from Kyrgyzstan and Tajikistan, especially those who emigrated with the first wave in the earlier 90s have secondary and higher degree of education. But the country statistics report these emigrants migrated abroad with entire family and no longer remitted back to a home country. And finally, consistent with our theoretical priors



and with empirical findings attained by Swamy (1981) and Abdel-Rahman (2003), differential between individual migrant' disposable income in a host country and his individual disposable income in case he would stay at home country revealed to be a high statistically positive for amount of remittances inflows to the entire set of proposed countries. A positive change in migrant's income in a host country by a dollar will increase amount of remittances inflows by 36% to Kyrgyzstan, by 43% to the Philippines, and by 52% to Tajikistan suggesting us that amount of remittances to be sent out is conditioned by the individual migrant' disposable income that also determines his consumption and saving decisions while living in a host country. Internal factors GDP per capita in a home country exposed different relationship with amount of remittances inflows underlining power of the given country specific, e. g. level of its economic development. In line with our assumptions and empirical findings of Buch et al. (2002), who found that the higher degree of economic activity in a home country encourages migrant workers to invest into the home economy, our empirical results reveal that in case of Kyrgyzstan, in particular, improved economic activity has positive and significant influx on remittances inflows. A dollar change in real GDP per capita enlarges remittances inflows to Kyrgyzstan by 0. 8 times. In case of Tajikistan, the relationship between enhancing economic activity at home and amount of remittances sent by Tajik emigrants are also positive but not significant. These results are expressively shows us how the country risk may reduce amount of remittances and propensity to invest despite improving of economic activity. Even though, Kyrgyzstan and Tajikistan have almost the same rate of a country risk but the recent experience of facing

the civil war do not allow to Tajik emigrant just relay on seemingly economic improvement in the home country to send large amount of remittances.

Opposite to Kyrgyzstan and Tajikistan, the case of the Philippines demonstrates negative but insignificant relationship between real GDP per capita and remittances affirming that sustainable improving of economic condition at home on a particular stage of its development might gradually reduce amount of remittances inflows that is supported by Lueth and Ruiz-Arranz (2006) findings. Relationship between remittances inflows and the rate of home country risk is also exposed to have different sign depends on a country specific. In line with IMF (2005) findings and our expectation, the empirical results manifest a high statistical significance of the rate of home country risk for remittances inflows to Kyrgyzstan and Tajikistan. A unit change towards its improvement in home country risk rate increase amount of remittances flows by 3.4 times into Kyrgyzstan and by more than 1 time into Tajikistan. In case of the Philippines, home country risk has negative but statistically insignificant effect on remittances inflows. Disaster risk at a home country has a mixed effect on amount of remittances across selected countries. In line with our theoretical priors and partially with Lueth and Ruiz-Arranz (2006) findings, the higher risk significantly encourages Kyrgyz and Philippines emigrants to send large amount of remittances to support family left behind at home. The one more disaster happened to home country in a year enlarges remittances inflows by 5% to Kyrgyzstan and by about 1% to the Philippines. Surprisingly, in case of Tajikistan, disaster risk has significantly negative effect on remittances inflows. A possible explanation is the fact that the major part of Tajik emigrants is temporary seasonal male

workers and at time of disaster they are might requested to stay at home to help family. In line with Lueth and Ruiz-Arranz (2006) and Kemegue et al. (2011) findings, interest rates differential between host and home countries exposed to be negative and statistically significant for remittances inflows to Kyrgyzstan and Tajikistan. Our empirical results report a percent change in home interest rates up enlarges remittances inflows by 0. 5% to Kyrgyzstan and by 0. 3% to Tajikistan that in combination with significant positive effect of decreased home country risk on remittances inflows to these countries suggests us the existence of investment motives behind Kyrgyz and Tajik migrant workers' decision to remit. Again, the home country economic fundamentals, in this case - interest rates, do not play any significant role in Pilipino migrants' decision to remit that is supported by Katseli and Glytsos (1986) findings, who stand on insignificance of interest rates differential for remittances inflows to a home country. Insignificance of the home country macroeconomic fundamentals for Pilipino emigrants would be explained by the long migration experience of the Pilipino families where some certain mutually beneficial arrangements between an emigrated family-member and his family has already been established when remittances are partly a return to the family investment to his education or to his emigration as a part of the strategy to find alternative source of family income (Glytsos 1988). At the end of our analysis we calculated contribution rate of each explanatory variable to remittances inflows growth for each selected country, weighted by estimated coefficients that were obtained from running our regression equation and by using the standard calculus of contribution to growth and contribution ratio: where - calculated contribution to remittances growth, -

calculated contribution to remittances growth ratio,- estimated coefficient of an explanatory variable, - value of an explanatory variable - value of the dependent variable (i. e. total remittances)The summary of this calculation is introduced in the Table A4. Results showed that in average, across the entire data of the whole 7 country pairs during the period of 1993-2010, growth of remittances flows into Kyrgyzstan mainly is explained by such external factors as: migrants stock, real GDP per capita in a host country, and individual migrant' disposable income, the contribution ratio of which constituted – 24%, 20%, and 7% respectively. Besides, 9% and 39% of remittances growth was contributed by increasing real GDP per capita and by improvement of political and regulatory environment in a home country respectively. In turn, contribution ratio of interest rate differential to the remittances growth constituted 6%, in average. In case of the Philippines, external factors play the folk role in explanation remittances growth. Across the entire data of the whole 4 country pairs during the period of 1980-2010, average contribution ratio of migrant stock in a host country to remittances growth constituted 47%, individual migrant's disposable income contributed in average by 31%, and real GDP per capita in a host country contributed 17%, in average, to the growth of remittances flows into the Philippines. In turn, domestic real GDP per capita and home country risk contributed only by 1% each. In case of Tajikistan, the picture is quite similar to Kyrgyzstan. Growth of remittances inflow was mainly contributed by individual migrant' disposable income, migrants stock, and real GDP per capita in a host country, the contribution ratio of which constituted – 27%, 21%, and 18% respectively. Opposite, internal factors do not play such a significant role for

remittances inflows to Tajikistan as external factors do, except home country risk. Improvement of political conditions at home country contributed to remittances growth by 18%, in average. Domestic real GDP per capita and interest rate differential contributed in average to the remittances growth by 1% each. It is worth to notice that in contrast to the Philippines, which show a relative political and economic stability during last decades, for such newly independent country as Kyrgyzstan and Tajikistan internal political factor plays a crucial role in all economic processes due to weak domestic institutions. Not surprisingly that on such a new for these countries economic phenomenon as remittances recent political disturbances and violence in Kyrgyzstan and the civil war and its consequences in Tajikistan had the most destabilizing effect. Despite that home country risk revealed to be important, real GDP per capita and individual migrant' disposable income in a host country, as pure economic factors play the most profound role for remittances flows. We can get the more interesting picture by taking a look at the contribution ratios of the selected explanatory variables to the remittances growth divided by host (sending) country. The more detailed look provides us with such interesting findings as:- External factors have the bigger contribution ratio to remittances growth compare to internal factors. Individual migrant' disposable income in a host country revealed to be one of the main factors contributing to remittances growth. Our empirical findings and calculated contribution ratio explicitly show the higher individual migrants' income the large amount of remittances would be sent to a home country.- Migrants skills, which did not expose statistical significance for remittances in general, on a host country level demonstrates a high

contribution ratio to remittances growth sent to Kyrgyzstan and Tajikistan from such developed countries as: Canada, Germany, Israel, USA what is consistent with Docquier et al. 2011, who found that skills of migrants is getting to be more important for remittances sent from the countries which implement more restricted and skills selected immigration policy (e. g. most OECD countries).- Remittances sent to Kyrgyzstan and Tajikistan from the developed countries have more pure investment motives behind its streamline compare to those which sent from developing countries (i. e. neighbour former Soviet countries). Besides such economic determinants as real GDP per capita, migrants stock and individual migrant' disposable income in a host country, home country risk, interest rate differential and real GDP per capita in a home country expose more higher significance compare to the sample average for remittances sent from developed countries. By other words higher domestic interest rate, enhancing economic activity and political and regulatory environment push money of emigrants towards home country seeking investment opportunity.- Combining two previous findings, we can conclude that emigrants with higher education level tend to migrate to the more economically developed countries which implement more restrictive immigrant policy. Such emigrants usually have a stable job and stay abroad for a long period of time and thus migrate with the whole entire family sending remittances motivating by investment opportunities provided by a home country. All of these premises explain why the home country factors play a role only as economic indicators for the future investments. Migrants with low education level do not have foreign language ability and have to find any job in a neighbour country. Such

migrants have mostly a seasonable job and thus send money back not only motivating by investment opportunities but also by purposes to support family left behind at home and savings.

## 7. Conclusion

This study is an attempt for the first time to examine remittances flows behaviour into two selected Central Asian countries, named Kyrgyzstan and Tajikistan, which constitute the most remittance dependent countries not only in the entire region but also in world. In purpose to investigate the main drivers behind remittances streamline we employed the set of external (push) and internal (pull) factors which based on existing knowledge revealed to be the most important for remittances inflows into developing countries. Unfortunately, due to limited data availability our bilateral database has a short time series that, in turn, also precluded using a larger range of possible determinants of remittances inflows. Besides, distinguishing selected economic variables as external and internal factors was conditioned by two our intentions:- to prove our theoretical assumption that external factors, e. g. migrants disposable income level, play more prominent role for remittances flows into developing countries;- to analyse whether remittances flows into proposed Central Asian countries would emerge to be driven by altruistic or self-interest motives. Thus, by other words, we intended to address empirically the following issues: whether external or/and internal factors would expose to be more powerful for remittances flows into proposed countries, whether altruistic or self-interest motives would emerge to be the main force behind migrant workers' decisions to remit, whether a country specific would have a place in

explanation of remittances behaviour. In this purpose real GDP per capita in a host country and differential between individual migrant disposable income in host and home countries were chose to represent external factors. Meantime, real GDP per capita in home country, home country political and disaster risks, interest rate differential between host and home country, and working migrants' education ratio were chose to represent internal factors. In turn, to examine whether country specific, e. g. stage of economic development, would play a role in conditioning amount of remittances, we also included the Philippines, that is totally different by all means from Kyrgyzstan and Tajikistan, into the set of selected countries. Worth to notice that this study, for the best of our knowledge, is the first experience of employing estimated migrant`s disposable income (not its proxy) to represent migrants' income level in a host country as one of possible explanatory variables of remittances flows. Our empirical analysis was premised on the gravity model of bilateral remittances flows with application of panel fixed effect to the entire pull data. It must be noted that for the mentioned above analytical purpose of this study, we built up the first estimated bilateral remittances flows data into Kyrgyzstan and Tajikistan from the top of 7 sending countries for the period of 1993-2010. The data deal with more than 95% of total amount of remittances received by these countries. In case of the Philippines, we used the bilateral remittances inflows data from 4 sending countries over the period of 1980-2010. Main findings, in general: Empirical results and subsequent calculation of contribution ratio of explanatory variables to the remittances growth confirmed our theoretical prepositions about the greater power of external



factors compared to internal factors in explanation remittances inflows to the developing countries. Such external factors as: the number of migrant workers and their individual disposable income as well as real GDP per capita in a destination country are proved to be positive and statistically significant and to have higher contribution ratio to the growth of remittances flows into entire set of selected countries. From those that represent internal factors only home political country risk expose to be as a significantly reducing factor for remittances into Central Asia countries and insignificant for this flow into the Philippines. Besides, attained results confirmed our concern about existence of country specific effect that convincingly explains different effect of the same set of selected economic variables for remittances flows into proposed countries. Remittances exposed to be driven by pure investment motives at least into selected Central Asian countries when enhancing of economic activity and increasing of interest rates in a home country enlarge amount of remittances inflows which are substantially might be offset in response to elevating of the home country political risk. Moreover, calculated contribution ratio of the explanatory variables to the growth of remittances revealed that remittances sent from the developed countries have more pure investment motives behind its streamline compare to those which sent from developing countries. In more details, consistent with our expectations we found that remittances sent back home either to Philippines or to selected Central Asian countries have significant positive relationship with the level of migrant's disposable income in a host country. Increase migrant's disposable income by a dollar leads to growth of remittances inflow by 36-52%. Other two variables GDP per capita and size

of aggregated stock of migrants in sending country also serve as universal variables which are very powerful in explanation the amount of remittances. Obtained results suggest us that expanding of migrants stock (diaspora) associates with notable enlarging of remittances receipt. In general, migrants skills do not associates with increasing remittances into whole set of selected countries. That might be explained by the fact that vast amount of Kyrgyz and Tajik migrants are employed with low skilled job in the host countries which do not apply skill selected immigration policy to immigrants from these particular countries. Concerning Pilipino workers, they usually migrate under more favourite and less skill selective conditions provided by bilateral migration agreements signed between the Philippines and the most Pilipino migrants' country-destinations. But surprisingly, migrants skills, which did not expose statistical significance for remittances in general, on a host country level demonstrates a high contribution ratio to remittances growth sent to Kyrgyzstan and Tajikistan from the developed OECD countries, which implement skills selective immigrant policy. This finding confirms that migrants skills start to be matter depend on country destination's immigrant policy. Distance as a main gravity factor plays an important role in explanation of migration and remittances nature in Kyrgyzstan and Tajikistan but does not make any sense in variation of remittances flow into the Philippines. This may suggests us that the Philippines being one of the biggest labour suppliers for a long time is much experienced in managing of outmigration by signing bilateral agreements with large range of different countries and setting up diversity of migrant-working programs abroad which allow Filipino migrants whiles making

decision in choosing a country to premise on economic condition in the country of destination rather on length of distance, existence of common language, colonial history, common border and etc. as it usually plays in case of Central Asian migrants who are still restricted within CIS borders due to lack of bilateral labour migration agreements on international scale. In turn, difference in motives which lies behind of propensity to remit gives various explanation power to the same set of variables depends on the country of migrant`s origin. Regression results suggest us that Kyrgyz and Tajik remittances flows are driven mostly by investment motives. Thus, increasing home country`s interest rate increase remittances inflows by 0.06% and by 0.03% into Kyrgyzstan and Tajikistan respectively. Meantime, improving economic condition at home encouraged Kyrgyz migrants remit by about 76% more. Therefore, the combination of positive relationship between remittances inflows and domestic interest rates as well as between remittances inflows and reduced political country risk may clearer suggest us the existence of investment motives behind migrant workers` propensity to remit. Meanwhile, home country interest rate and country risk level exposed to be statistically insignificant for the Philippines` remittance receipts that underline existence of the certain mutually beneficial arrangements between an emigrated family-member and his family that has already been established as a part of the strategy to find alternative source of the entire family income. The empirical results provide us with several policy applications to the selected Central Asian countries which could be drawn from this study and existing Philippine experience: A case of Philippines, of which migrants by having stable diasporas in different countries despite of

low skills can have higher job opportunity to get more income to remit home and thus elevate remittances inflow by 13% annually, would be very applicable to Kyrgyzstan and Tajikistan in taking policy steps towards establishing effective migrants policy and public programs to help people seeking job abroad and towards achieving bilateral agreements with more wide range of economic developed country to reduce high concentration on Russia and Kazakhstan which dependent on worldwide level of oil price and external capital inflows making these countries economically fragile in face of crises as it happened in 2008. Our empirical results revealed how existing country risk, which composites political, economic, and financial risks, may substantially reduce remittances inflows to the selected Central Asian countries. Thus, to promote remittances inflows, government of Kyrgyzstan and Tajikistan must undertake effective policy steps towards improving internal political and economic conditions. Besides, it would be valuable to study the Pilipino families experience when they establish mutual benefit arrangements between emigrant family-member and his family left behind in the home country. Such arrangement makes remittances to flow not enforcing by investments motives but by the common interest to provide additional income to entire family that, in turn, might be used equally for educational or/and for investment purposes depends on family decision. In case of Kyrgyzstan and Tajikistan, remittances usually flow into country by having pure investment motives behind that eventually leads to increasing domestic consumption of non-tradable goods, increasing price in this sector (e. g. second real-estate market) and thus gradually might lead to the Dutch disease occurrence. And finally, this study is the first step towards

investigation bilateral remittances flows into the Central Asian countries. And there are various rooms to further enhance this analysis once the limitation of data availability would be solved. It could be useful to exercise broader range of variables to deeply examine possible determinants of remittances inflows that probably produce a different inside of this phenomenon. To further investigate remittances nature it would be very interesting to investigate determinants of remittances in interaction with capital flows by taking into analysis the whole international flows composition into developing countries. It would be worth to look at remittances as alternative source of capital and foreign exchange, and examine whether remittances would be positively correlate with capital flows exposing investment nature or with ODA suggesting us its altruistic motives.

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## Appendix 1

Table A1: Preliminary Assumptions and Sources of the Data Set

### Variable

#### Expected sign of relationship with remittances flow

#### Source of taken data

real GDP per capita of the country rpositiveWorld Bank, World Development Indicators (WDI), available on <http://databank.worldbank.org/ddp/home>.

doreal GDP per capita of the country spositiveWorld Bank, World Development Indicators (WDI), available on <http://databank.worldbank.org/ddp/home>.

dodifferential between disposable income of a migrant and migrant's family in host and home countriespositiveAuthor's estimation

based on existed methodologymigrant stock (both high and low educated)

from the country of origin r in the country spositiveAuthor's estimation based on existed methodologyinterest rates differentialnegativeCEIC data, WDI,

selected countries Central Banks web sitesphysical distance between country

s and rnegativeAndrew Rose's websitedisaster risk in the receiving

<https://assignbuster.com/remittances-flows-into-selected-developing-countries-economics-essay/>

countrynegativeEM-DAT: The OFDA/CRED International Disaster Database, available on [www.emdat.be](http://www.emdat.be) - Université Catholique de Louvain - Brussels - Belgium. r country's riskpositiveInternational Country Risk Guide dataset (ICRG), available on [www.prsgroup.com](http://www.prsgroup.com) and Author's estimationskill-ratio of migrants from the origin country r in the country spositiveAuthor's estimation based on existed methodologyTable A2: Summary of descriptive statisticsTable A3: Regression ResultsRegression results (Dependent variablelog R)KyrgyzstanTajikistanPhilippinesLOG(RGDPCS)

**1.370\*\*\***

(0.34)

**1.132\*\*\***

(0.23)

**0.557\*\*\***

(0.13)LOG(RGDPCR)

**0.755\*\***

(0.32)

**0.070**

(0.13)

**-0.143**

(0.11)LOG(DIDIF)

**0.361\*\***

(0.16)

<https://assignbuster.com/remittances-flows-into-selected-developing-countries-economics-essay/>

**0.518\*\*\***

(0.08)

**0.434\*\*\***

(0.06)INTDIF

**-0.006\*\***

(0.002)

**-0.003\*\***

(0.002)

**0.003**

(0.003)LOG(MSR)

**1.211\*\*\***

(0.16)

**0.942\*\*\***

(0.10)

**1.009\*\*\***

(0.07)LOG(SM)

**0.015**

(0.11)

**-0.083**

(0.06)

**-0.014**

(0.03)DSTRR

**0.046\*\***

(0.02)

**-0.069\*\*\***

(0.02)

**0.004\*\***

(0.002)CRR

**3.46\*\*\*****(0.93)****1.014\*\*****(0.50)****-0.259**

(0.23)C

**-14.843\*\*\***

(2.50)

**-5.635\*\*\***

(1.86)

**0.630**

(0.99)observations119136120R-squared0.9790.9850.9952Adjusted R-

squared0.9760.9830.9948\*- Statistical significance at 10%; \*\*- at 5%; \*\*\* -

at 1%  
Table A4: Calculated contribution ratio of explanatory variables to the  
remittances inflows growth (%)