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RESEARCH ARTICLE

Remittances and their impact on Economic Growth

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Abstract

In the worldwide economy, remittances represent one of the major international flows of financial resources. Worker remittances constitute an increasingly important mechanism for the transfer of resources from developed to developing countries, and remittances are the second-largest source, behind foreign direct investment, of external funding for developing countries. Sometimes the flows of remittances can exceed the flows of foreign direct investment (FDI). Yet, literature on worker remittances has so far focused mainly on the impact of remittances on income distribution within countries, on the determinants of remittances at a micro-level, or on the effects of emigration and remittances for specific countries or regions.

This paper tries to study the impact of remittances on various macroeconomic and developmental aspects for the economy. This study aims to observe the impact of remittances on economic growth, using a panel data set of 21 developing countries, during the period 1992–2012. These countries have experienced a major increase in remittance inflows, and at this time accounts for the bulk of total remittance receipts, compared with other regions. The paper is then to review the theoretical as well empirical literature devoted to remittances, in order; first, to select the arguments that can be applied to the countries and second, to identify empirically if there are significant relationships between remittances and GDP per capita in these countries.

Keywords

emigration · workers' remittances · economic growth · panel data · fixed-effects · random-effects

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1 Introduction

Emigration is one of the most important issues in the contemporary global economy. It is estimated that over 110 million people now reside outside the country of their birth (United Nations, 2002). This clearly has major economic and political implications for both the sending and receiving countries. Coppel et al. [29] identify four major consequences of international population movements. There are more than 215 million[1] international migrants in the world. Recorded remittances received by developing countries, estimated to be US$325 billion in 2010[2], far exceed the volume of official aid flows and constitute more than 10 percent of gross domestic product (GDP) in many developing countries. Cross-country analysis and evidence from household surveys suggest that emigration and remittances reduce poverty in the origin communities. Remittances lead to increased investments in health, education, and small businesses. At the same time, the loss of skills associated with emigration can hamper development and delivery of basic services in sending countries. The Diaspora of developing countries can be a source of capital, trade, investment, knowledge, and technology transfers. *Firstly,* there is the effect that emigration has on the host country's labor market. Although the possible adverse effects that emigration can have on the wage and employment levels of natives are typically examined, emigration may also have a role to play in reducing skill shortages in certain key sectors of the economy. *Secondly*, emigration is likely to influence the budgetary position of the receiving country since the amount recent arrivals receive through health, education and welfare systems is unlikely to exactly balance the increased tax revenues from new workers. *Thirdly,* it is argued that emigration may be a solution to the ageing population problem that faces many OECD countries. *Finally,* emigration can have a major economic impact on the source country. These effects can either be negative, in terms of brain drain (though a brain drain can be beneficial if it creates incentives for human capital investment in the source country), or positive since migrants' remittances are thought to be an important economic development tool for many

[1] World Bank data, 2012 World economic report.

[2] Migrant countries reports, World Bank data 2012

labor exporting countries. Also, in an integrated world economy an increase in the growth driven by innovation benefits for everyone. The overall balance of these effects is therefore likely to have a major influence on the emigration policies that are implemented, both in the source and host countries.

Emigration of workers allows receiving countries to fill their labor market shortages while from the sending country's perspective one of the main benefits of emigration stems from the transfer of money from migrants to their families at home, which has a positive effect on the balance of payments. Notwithstanding the several benefits of migration, a large strand of literature has also highlighted the negative aspects as well, primarily that of the brain drain. However, one argument put forward is that the remittance flows from emigrants to the home country tends to compensate for any human capital loss. This flow of money across borders has profound social and economic impacts on various aspects of the home countries. In particular, remittances promote access to financial services for the sender and the recipient, thereby increasing financial and social inclusion. For many countries, remittances are the main source of external finance after foreign direct investment and make up between 5 and 30 percent of their GDP (Mitra et al. [79]). Given the large size of aggregate remittance flows, they should be expected to have significant macroeconomic effect in the economy. Given this, understanding the factors that determine this flow of money are important to analyze and contextualize the net benefits of emigration.

The analysis of the variation in remittances flows can be approached from different frames of references. One of the most popular and widely used is the framework outlined by Lucas and Stark [70] who explored the motivations underlying these flows. The motivations to remit can be explained as a combination of economic and social motivations, such as self-interest, altruism, investment, loan repayment and bequest motives, which determine the transfer of resources between the emigrants and the household members at home. These transfers can serve varied purposes in households, such as meeting the basic needs of the family at home; serving as payments for services rendered to the emigrant; payoffs of an insurance scheme that protects recipients from income shocks; returns on the investments made by the household in the migrant's human capital; migrant's investment in inheritable assets; or various other combinations thereof. The role that these transfers play in the household determines the motives underlying them and hence can provide an 'entry-point' to understand the complexity of household arrangements involved in emigration. However, despite the vast existing literature on remittance behavior, there is limited research of this aspect for Eastern European countries, particularly those with very high outmigration rate. As highlighted by Dustmann and Mestres [40], the form of emigration plays an important role on the motivations to remit as those who plan to return to the home country have a different objective of emigration than those who plan to stay permanently in the destination country.

Emigrant remittances are truly a force to be reckoned with in the global economy. These private unrequited transfers of money for the family members from migrants leave behind, often send a few hundred dollars at a time nonetheless add up to billions of dollars annually. Consequently remittances represent the largest international flows of financial resources. The category workers' remittances in the balance of payments best represents what economists have in mind when modeling remittances. Remittance should not be taxed directly. Consumption based taxation provides the optimal incentive structure to maximize the benefits of remittances, whereas labor income taxation exacerbates the labor leisure incentives of remittances and encourages the use of inflation as an indirect tax. Remittance receiving countries should be advised to shift towards consumption based tax to mitigate possible negative effects on economic growth, minimize the level of distortion generated by fiscal and monetary policy, and benefit from any tax induced increase in investments resulting from remittances. Remittances can lead to reduced country risk and government debt. In addition to increase household savings, significant remittances inflows can directly or indirectly increase the revenue base, thereby reduce the marginal cost of raising revenue. Remittances may reduce the government incentive to maintain fiscal policy discipline. They are not necessarily associated with an increase on domestic investments or a more efficient allocation of domestic investments. Remittances receivers rationally substitute unearned remittances income for labor income, and since labor and capital are complementary goods in production, this negatively affects the rate of capital accumulation. Remittances pose a moral hazard problem by reducing the political will to enact policy reform. Compensatory remittances that insure the public against adverse economic shocks and insulate them from government policy reduce households incentives to pressure government to implement reforms to facilitate economic growth. Remittances can therefore delay nodded upgrades to the public infrastructure both by reducing public demand for such upgrades and by decreasing the like hood of a crisis that would make such upgrades necessarily.

2 Review of Literature

There is a growing body of literature in recent years that has examined the economic effects of remittances (Ozden and Schiff [87]). These studies serve to underscore the increasing importance of remittances provided by migrant workers from developing countries working in other countries. For instance, Ratha [95] emphasizes the growing importance of remittances as a source of external funds for developing countries. Edwards and Ureta [42] examine the effect of remittance on education in El Salvador and report that remittances have an important effect on school retention. The empirical evidence on the effect of remittances on economic growth, poverty, and income inequality has shown mixed results. For instance, Chami et al. [27], covering 113 countries found that remittances had a negative effect

on growth. The authors of the study attribute this negative effect on the moral hazard problem that remittances create. Essentially, the study concluded that income from remittances allows receiving families to decrease their own work and productivity, which then translates into a reduction in the labor supply for the developing country.

In a recent study conducted by IMF (2005)[3] [58] about the impact of remittances on growth over an extended period (1970-2003) for 101 developing countries found no statistical link between remittances and per capita output growth, or between remittances and other variables such as education or investment rates. However, this inconclusive result attributed to measurement difficulties arising from the fact that remittances may behave countercyclical with respect to growth. Faini [44] and Ang [13] found that the impact of remittances on growth is positive. Faini [44] argues that remittances overcome capital market imperfections and allow migrant households to accumulate positive assets. Ang [13] shows the relationship between workers' remittances and economic growth at the national and at the regional levels in the case of Philippines. He found that at the national level remittances do influence economic growth positively and significantly. When he broke down his analysis at the regional level to confirm the national results, he found that mixed results giving rise to his anecdotal observations that remittance do not positively affect economic growth. In sum, he concludes that remittances have to be translated to value-added activities and investments which are more foundational sources of development and growth. Glytsos [49] using data for 1969-1998 for Egypt, Greece, Jordan, Morocco, and Portugal shows that the impact of remittances on output varies over time and across countries. For Egypt, Jordan, and Morocco the growth-generating capacity of rising remittances characteristic is smaller than the growth-destroying capacity of falling remittances. Therefore the large fluctuations in the real value of remittances contribute to large fluctuations of output growth and cause instability in the economies concerned.

Giuliano and Ruiz-Arranz [51] gathered a sample of 73 countries during the 1975–2002[4] periods, then calculated five-year averages for all variables used in their study to smooth out cyclical variations. Again, remittances were defined as the sum of workers' remittances, employee compensation, and migrant transfers. This study conducted OLS as well as fixed-effects panel estimates, and through a system generalized method of moments (SGMM) procedure used internal instruments to account for possible endogeneity. The study's basic specification regressed per capita GDP growth on the total remittances–to–GDP ratio, conditioning on the initial level of GDP per capita, the investment rate, population growth, the fiscal balance as a percentage of GDP, years of education, a measure of openness, and inflation. This specification did not find total remittances to be significantly related to growth. However, the authors also explored possible interactions between the total remittances–to–GDP ratio and financial deepening, as a way of testing whether remittances might enhance growth by relaxing credit constraints. Indeed, the authors found significant negative interaction terms and interpreted these results as indicative of the credit constraint hypothesis; total remittances appeared to have positive effects on growth only in countries with small financial sectors where presumably credit constraints would be more pervasive.

Another study, by Catrinescu and others [26], incorporated institutional variables into the analysis, which covered 114 countries during the 1991–2003 period. Catrinescu and colleagues conducted OLS cross-sectional and various static and dynamic panel regressions of per capita GDP growth on the (log of) total remittances–to–GDP, controlling for initial GDP per capita, ratios of gross capital formation and net private capital inflows to GDP, and such institutional variables as the United Nations Human Development Index, six governance indicators as in Kaufmann, Kraay, and Mastruzzi [62], and risk ratings from the International Country Risk Guide (ICRG). Overall, their study found a robust positive relationship between growth and gross capital formation, as well as between growth and some of the institutional variables. The study also found some evidence of a positive relation- ship between growth and total remittances, although this relationship was not very robust and, as the authors acknowledge, relatively mild. Finally, the World Bank (2006) [114] conducted cross- country growth regressions on a data set of 67 countries measured over 1991–2005. The control variables included (logs of) initial GDP per capita, the secondary school enrolment ratio, the ratio of private domestic credit to GDP, the ICRG political risk index, the ratio of real imports and exports to GDP, the inflation rate, real exchange rate overvaluation, government consumption, and time period dummies. An SGMM estimation was performed, in which the instrument for remittances was a set of "migration" instruments formed by computing the product of the share of a country's migrants going to each of its top five OECD country destinations (as of 2000) and a measure of the respective OECD country's economic performance, such as GDP per capita, the GDP growth rate, or the unemployment rate. These instruments reflect the idea that income in the host country appears to be a key driver of remittances. The inverse of the distance between the migrants' destination country and the remittance-receiving country was also used in place of emigration shares in the migration instruments described above to form "distance" instruments. The growth regressions found a consistently positive relationship between the total remittances–to– GDP ratio and GDP growth, both when investment was included and when it was excluded from the estimations. When investment was excluded, however, the coefficients lost their significance. The authors also calculated the contribution of total remittances to growth rates and found that it was small.

[3] IMF Economic report 2005

[4] World Bank report 2005

A later exercise in the same World Bank study included interaction terms for remittances and education, remittances and financial depth, and remittances and institutional quality indicators in three separate growth equations that had the same specification as the growth equations examined previously, with the argument that remittances augment growth in the presence of complementary policies that enhance education, financial market depth, or institutional quality. The World Bank study found a negative and significant coefficient on the total remittances–to–GDP ratio, but positive and significant coefficients on each of the interaction terms. The study argued that this implies a net positive impact of total remittances on GDP, when the complementarities are included. In addition, the study included an estimate of total remittances' impact on investment, finding a similar pattern of coefficients.

3 Motivations and Consequences of Remittances

Many migrants send remittances back to their home country. Some do it in favor of themselves and some do it in favor of their family and friends in the home country. In order to understand remittances there are two main approaches for analyzing remittances: the "portfolio" approach and the "altruism" approach (IMF [58, p. 78])[5]. These approaches present two main channels for remitting behavior. The theoretical debate about the determinants of remittances was triggered by Lucas and Stark [70] with their ground-breaking paper "Motivations to remit: Evidence from Botswana", which is still the basis of the current discussion and extensions. Lucas and Stark studied remittances on a household level and hypothesized the main determinants to be "pure altruism", "pure self-interest" and "tempered altruism or enlightened self-interest". Any kind of contractual arrangements between the migrant and household left behind can be in the latter category, for example co-insurance, exchange-motives, loan repayment. The theoretical motives and their effects on remittances are summarized in Table 1. We give a more detailed discussion of the motives below.

It is natural to assume that remittances are sent to the family left behind due to altruistic feelings of the migrant. This can be modeled in a Becker type setting where the migrant derives positive utility from the consumption of the family. The migrant thus cares about poverty, shocks, etc. of the family and consequently sends remittances. In this case, there is a positive relationship between adverse conditions of the receiving household and remittances sent, see Table 1. Remittances should increase with migrant income (the migrant has more to share) and altruism and decrease with recipient income (Funkhouser [45]). However, income does not necessarily have a linear effect. As Cox, Eser and Jimenez [30], demonstrate too, that income may have a different effect at different points of the income distribution.

In contrast to altruism, self-interest is also a motivation to remit. In this case a migrant sends remittances with the aspiration to inherit, to demonstrate laudable behavior as an investment for the future or with the intent to return home. If a migrant wants to invest at home, the household can be a trustworthy and well-informed agent. If a migrant intends to return home, he may already invest in housing, livestock etc. and will ask the family to be the agent. The migrant may also send remittances to invest in his reputation at home. Inheritance may be used as a blackmailing device by the household head to receive remittances. According to this theory, remittances increase with the household's assets and income, the probability of inheriting (dependent on the age of parents, number of siblings, etc.), the migrant's wealth and income, and decreases with risk aversion. Only in the case of the aspiration to inherit, can self-interest be distinguished from altruism in the migrant's behavior and a larger income and or wealth of the household should lead to more remittances.

Finally, in a three generation setting, remittances may be sent to parents to ensure that the remitter's own children also take care of him in old age (Cox & Stark [32]), known as the demonstration effect. Care and transfers have to be visible to the grandchildren generation for maximum effect. A less extreme view of the motivations to remit is tempered altruism. In this case the migrant and the family at home mutually benefit from migration, through some kind of implicit contractual arrangement. Altruism and self-interest can nevertheless play a role here, by making the contracts self-enforcing. The contractual arrangements discussed here are coinsurance, loan repayment and exchange for services. Another type of contractual agreement between the household and family is loan repayment, for example repaying human capital investment or the cost of migration. A household finances a potential migrant's education if the family implicit lending rate is higher than the market interest rate and the youth borrowing rate is higher than the family implicit lending rate (Poirine [92]). During the next time period the migrant is able to find a better-paid job in the city or abroad due to the education acquired and will send remittances to repay the family for the initial investment. At this stage the migrant might also become a lender, by financing other migrant family members, which increases overall remittances.

The U-shaped time profile of remittances is shown below in Figure 1. In this case, the family contract has the aim of increasing income instead of reducing uncertainty.

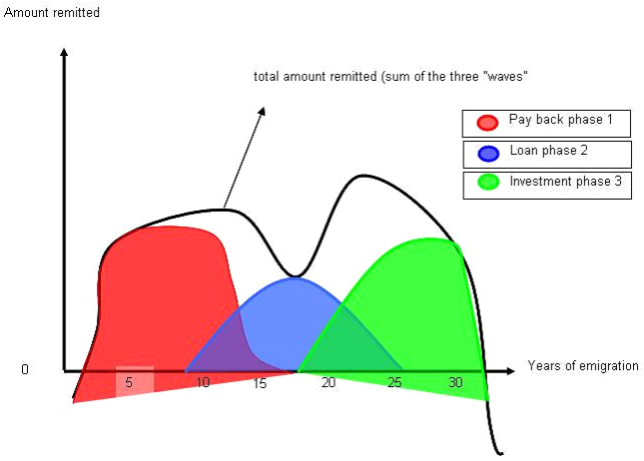
In practice, only paying-back can be measured and there should be a positive link between the migrant's education level and remittances. This could also be interpreted as altruism however due to the close link between education and income. A final contractual arrangement is the exchange motive (Cox [31]). Here transfers in the wider sense are paid to the household at home for services provided (e.g. child care). The theory can also be applied to remittances, whereby remittances buy various types of services, usually by temporary migrants (Rapaport and Docquier [94]). If the migrant's income increases, remittances increase. If the household's income increases, thus making the

[5] IMF report 2005

Tab. 1. Theoretical Determinants of Remittances

Effect of . . . on level of remittances	household income	migrant income	household shock	migrant risk level	education level of migrant	intent to return	no. of migrants in HH	time
Pure altruism	–	+	+			+	–	–
Pure altruism	–	+	+			+	–	–
Pure self-interest	+	+						
Co-insurance	–		+	+				
Loan repayment	+/–	+			+			+, later –
Exchange motives	+/–	+			+			
Strategic behaviour	–	+	+					

Source: Lucas and Stark [70, p. 185]



Source: Based on Poirine [92]

Fig. 1. Profile of remittances

services. more expensive, remittances can decrease or increase depending on the migrant's elasticity of demand. If the migrant's demand for the services is elastic, fewer services will be demanded and remittances decrease. If demand is inelastic, the same services will be bought, but at higher price, which leads to more remittances, despite the higher income of the household at home. Higher unemployment in the home country should mean fewer remittances since less money is then needed to make those at home perform their service (the opposite effect is found for altruism).

The strategic model, first explained by Stark [106] and later by Stark and Wang [108], stems from a strategic migration decision made because of wage differentials. Since high skilled migrants usually have a larger amount to gain by migrating, they are typically the first to go and then unskilled workers follow. As individual productivity is unobservable in the rich country, migrants are paid the average productivity of the group with which they are identified. For this reason, skilled workers may have an incentive to remit money home to keep unskilled workers in their home country, since migration of these workers may mean depressed wages for the skilled migrants (Docquier and Rapaport [37]). The strategic behavior extension says that remittances increase with income and education of the migrant and with low income at home (Holst and Schrooten [54]), thus again indistinguishable from altruism. The level of migrants' remittance flows depends on both the migrants' ability, *i.e.*their income and the savings from income, and their motivation to remit savings back to the home country. Of course, the willingness to remit is also determined by the duration of migration (how long do migrants intend to stay abroad, temporarily or permanently?), the family situation of migrants (single, married, with or without children?), and network effects (do migrants move alone, with family members, and do they keep attachments to those left behind?) (For the growing importance of network effects see Munshi [82]). One way of looking at the determinants of remittance flows is by analyzing the motives that migrants have to remit money. The literature distinguishes between pure altruism, pure self-interest, informal agreements with family members left in the home country and portfolio management decisions. As Stark [105] points out, no general theory of remittances exists. The studies that analyze this phenomenon provide useful descriptive evidence and results from empirical research, but they only explain it partly, and are characterized by certain geographical, socio-cultural and temporal limitations.

The consequences of remittances are determined by the purpose of migration and remitting. Remittances increase the inflow of foreign exchange to home countries and thereby increase the demand on domestic currencies. When remittances later is used for consumption or investment it further bring impact on the home economy as either increase in consumption or as in increase in investment. The effects from the increased demand on the home currency are not clear. Some research shows that the real exchange rate (RER) can appreciate as an effect of remittances (See for example Bourdet and Falck [22]) and give rise to the Dutch Disease. The theory of Dutch Disease sees capital inflow cause appreciation on RER, which makes the export sector less competitive and domestic consumption favor tradable imported goods and non tradable domestic products. This change has a negative effect on GDP if tradable sectors are more productive than non tradable sectors. Countries with high unemployment or underemployment are less likely to experience Dutch Disease (McKinley [78, pp. 2-4]). Whether remittances would be sent with the intentions of a portfolio investment or altruistic helpfulness the remittances will affect the economy dif-

ferent. Capitals that are used in portfolio investment increase the economic activity since investments are done with the intentions to generate profits and productivity, in the same matter as FDI does. Capitals sent in the mind of altruistic helpfulness do not bring any demand for profits and productivity. Whether the remittances are dominating altruistic there is more likely that the inflow will have smaller effect on the economic activity. The effect could even become negative whether the capital makes the receiver less productive than the productivity the capital generates from being used. The idea that remittances work as compensation capital for poor economic performance was supported by Chami et al. [28, p. 77] which found negative correlation between the size of remittances and the home country's GDP for the period 1970-1998.

The reason for the negative correlation between the size of remittances and GDP is due to the moral hazard and asymmetric information. The receivers are assumed to have the same income no matter if they work or not since remittances compensate for low income. The receivers then maximize the utility by spending more time for leisure since it becomes cheaper in an opportunity cost perspective. The remitter's utility is thereby assumed to be a function of their net consumption and the receivers' utility meanwhile the receivers' utility is a function of their work effort and the size of the remittances. The model also assumes the presence of asymmetric information; the remitter cannot observe the receivers' work effort, which induces the moral hazard problem in remittances. This model explains that there may be a problem with decreased productivity when remittances are present and it states that remittances may not be the best tool for development and economic growth.

On the other hand increased remittances per GDP reduce the aggregate output volatility in the home country (IMF [58, p. 77]). Increased remittances may have a multiplier effect on GDP which dampening economic crises and recession. The capital inflow has positive impact in countries with high unemployment, even when most of it goes to consumption (Maimbo and Ratha [73, p. 5]). Remittances give the receiver a higher disposable income, and higher disposable income has a spending effect, which has a positive multiplier effect on GDP. In the long run the higher capital inflow gives possibilities to accumulate capital through domestic saving and investment which have a positive effect on GDP (Bourdet and Falck [22, p. 7]). Remittances can be used to finance basic consumption and improve health conditions. Remittances are also acknowledged to have a positive impact on education in the home country (Bugamelli and Peterno [23, p. 5]). These improvements may have positive effects on poverty in the home country.

4 Macroeconomic Effect of Remittances

In contrast to the effect of remittances in poverty alleviation, there is not much consensus in the context of the effect of remittances in macroeconomic level. It has still been a debate whether remittances has a positive, negative or any effect in macroeconomic growth. Chami, Fullenkamp and Jahjah developed a model which examines the relationship between remittances and per capita GDP growth using standard population-averaged cross-section estimation (Chami, Fullenkamp and Jahjah [27]). In 2005, they have developed the model and concluded that the remittances tend to be negatively correlated with GDP growth, suggesting that they are compensatory in nature (Chami, Fullenkamp and Jahjah [28]). Then in 2009, Barajas et al. concludes that at best, worker's remittances have no impact on economic growth (Barajas et al. [16]). Bettin and Zazzazo say that remittances has contributed little to economic growth in remittances-receiving economies and may have even retarded growth in some. They concluded that they cannot find a significant positive impact of remittances on long-term growth and often find a negative relationship between remittances and growth (Bettin and Zazzaro [19]). There are some major reasons for the researchers to claim remittances do not have positive macroeconomic effects. *Firstly,* remittances are said to may cause a situation similar to the Dutch disease. Acosta and Lartey found that whether altruistically motivated or otherwise, an increase in remittances flows leads to a decline in labor supply and an increase in consumption demand that is biased toward non-tradables. The higher non-tradable prices serve as incentive for an expansion of that sector, culminating in reallocation of labor away from the tradable sector - a phenomenon known as the Dutch disease (Acosta and Lartey [1]). *Secondly,* Chami, Fullenkamp and Jahjahha pointed out that the remittances would create a moral hazard, lessening the incentive to work. This would reduce the productivity of the country, giving negative effect in developing growth (Chami, Fullenkamp and Jahjah [28]). *Thirdly,* Bettini and Zazzaro considers that partial reason why remittances have not spurred economic growth is that they are generally not intended to serve as investments but rather as social insurance to help family members finance the purchase of life's necessities(Bettini and Zazzaro [19]). As I have explained in the preceding column, most of the remittances are not in use for investment.

A possibility has been pointed out that if the remittances be used as just consumption rather than investment, growth would not be gained (Ghosh [47]). However, against the conclusion of Chami, Fullenkamp and Jahjah [28], Mansoor and Quillin have stated that the remittances appear to have a positive and statistically significant impact on growth (Mansoor and Quillin [75]). In the paper, it was addressed that the model developed by Chami, Fullenkamp and Jahjah [28] was faulty. Based on their model, improvements were made such as adding institutional variables which were considered important. Due to these modifications, it has made conclusion with completely opposing result. In addition, it has emphasized that remittances would lead to positive economic growth whether through increased consumption, savings, or investment, mentioning empirical studies had indicated that remittances lead to positive economic growth.

In this respect, we can retrieve some analytical models from

macroeconomics that will allow us to understand and gauge the weight and impact of remittances depending on the specific character they assume. Analytically, based on these models we can establish a distinction between two broad categories of remittances: the so-called *wage remittances (family)* and the so-called *capital remittances (productive)*.

- The first correspond to direct transfers for family use, whether for consumption (wage remittances), savings for future family consumption or family emergencies, or to cover the expenses of the reproduction of family customs and traditions implied by the reproduction of cultural relationships.
- Productive remittances, on the other hand, correspond to various forms of private or social investment, which do not go through the family budget. This basic distinction is not fortuitous; it is derived from a macroeconomic conceptual framework which allows us to conceptualize and gauge the possible impacts of both these categories of remittance. Indeed, from macroeconomic theory we can identify the sphere of incidence and the possible impacts of each type of remittance on the basis of its particular function as an economic category.

In the case of *wage remittances*, for example, they contribute to sustaining the *income-spending balance* of homes. The impact can be perceived in two different and complementary ways.

- By contributing to family consumption, they contribute to elevating the standard of living and welfare of receiving homes, and at the same time have an effect on the dynamics of economic inequality and the conditions of poverty.
- This same contribution to home spending creates multiplier effects in the rest of the local, regional and national economy. Nonetheless, the same model shows us clearly and precisely that we should not mistake these multiplier effects and well-being with the impact that remittances could have directly as an instrument of development. As for *capital remittances*, macroeconomics shows that they contribute to the *savings-investment balance*. As a source of investment, we can consider productive remittances as an instrument of economic growth which, together with other investment funds (foreign direct investment, private domestic investment, public investment, etc.), forms the basis of any development process.

We are not dealing just with different categories in terms of their origin, but especially in relation to their function and economic significance for the countries that receive them. Indeed, we cannot confuse this impact of capital remittances on economic growth with a hypothetical impact on the welfare of the population and/or reduction of poverty, which is associated more with wage remittances. Considering these distinctions regarding the economic significance of remittances, we now present an analytical model which contextualizes and at the same time allows us to illustrate the macroeconomic relations associated with each category of remittances (wage or capital), and from which we can conceptualize and estimate the possible economic impact of each of them. What is relevant in this analytical-conceptual model is that it is based on macroeconomic theory and offers a framework for understanding the impact of remittances, according to the different modalities of concrete categories of remittances.

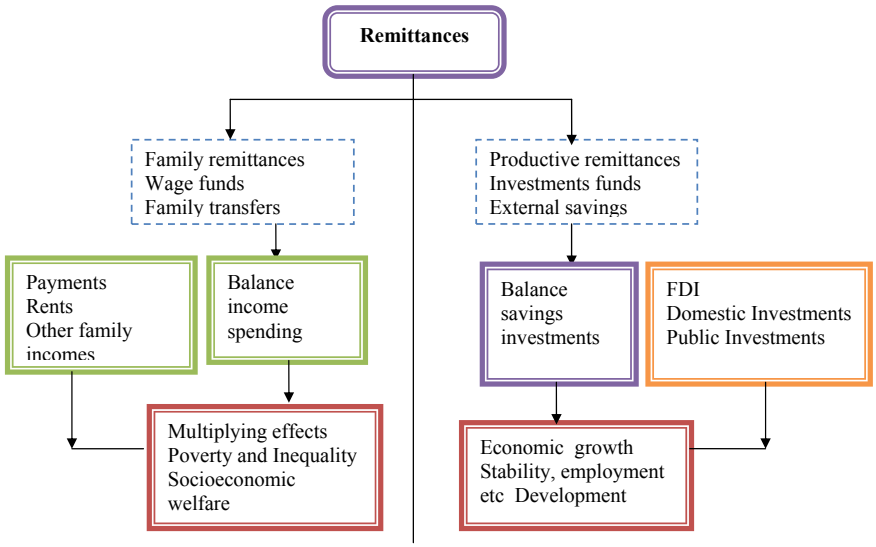
It allows us to understand how and why wage remittances can contribute (or not) to reducing poverty in receiving homes, or influence the distribution of income and welfare levels of the population. (See Figure 2.)

Thus emigration and remittances are seen as a consequence of underdevelopment, not as a manifestation of the global economy that integrates and subordinates these emigrating regions into the global and postindustrial economy. Moreover, migration and remittances are also seen as an opportunity for these underdeveloped economies, as a resource that, if well-managed, would allow them to overcome the structural conditions or precariousness, poverty and inequality that led to labor emigration. Thus, under conditions of a lack of economic growth and sources of investment, remittances become an unusual alternative, whether through the multiplier effects, or directly as a source of financing for productive investment. In conditions of poverty and social precariousness, remittances are held up as an income opportunity that allows for improvement in the levels of wellbeing of the population and thus overcome conditions of poverty. Our view, on the other hand, parts from a more comprehensive perspective, in which not only the conditions of the countries that export labor matter, but also or perhaps especially, the conditions of the receiving countries of emigration In this perspective, emigration is no longer solely a problem of and for the Third World but is an inherent phenomenon of globalization and as such, must therefore incorporate the phenomena and transformations of the economies of the developed and highly industrialized countries, transformations that directly influence the configuration of migration processes and remittance flows in the contemporary world.

In this sense, the social and economic significance of remittances in today's world cannot be understood without taking into consideration the character and significance that international migration now assumes. Moreover, according to various authors, international migration in today's world cannot be understood without taking into consideration the structural changes the globalization of the world's economy has generated in the system of international economic relations (Castles and Miller, 1993; Naïr, 2006; Sassen, 1998). If migrations constitute a system of transference of labor in a globalized world, from the Third World to the economies of the developed world, remittances represent a system of wage transfers, not only in an inverse sense, but inherent to this global process that frames current international migrations, in at least two senses.

- Remittances are a fraction of the wages and remunerations of the migrant labor force in those global markets. They are a

Fig. 2. Effects of wage and capital remittances



Source: Chami, R., C. Fullenkamp and S. Jahjah [28]

part of the pay that migrant labor receives, which has the same macroeconomic function as any other wage: the reproduction of the labor force. What is unusual in this case is that the reproduction of the labor force occurs in binational contexts and in globalized labor markets, which are sustained by the establishment of transnational communities and families. Remittances are thus the form in which this fraction of migrant wages is transferred to their families and communities of origin for family and community social reproduction, just as any other wage income in these same communities (or other communities). Remittances are undoubtedly a wage fund; this is their significance and function as a macroeconomic variable.

- Remittances are not only a part of the process of the transnational reproduction of the migrant labor force but also of the structural conditions of the social exclusion and labor precariousness faced by this labor force. That is to say, when analyzing the economic and social significance of remittances, we cannot ignore this global context of exclusion and social segregation that characterizes migrant labor insertion as they (remittances) are a direct product of that global context. This structural framework of migrants' exclusion and social segregation is without a doubt what allows us to differentiate between the social character and significance of remittances received by developing countries and those received by industrialized economies of the First World. Thus, remittances are not only a wage fund but also correspond to the wage income of workers who combine a labor insertion of high vulnerability and precariousness in the United States with conditions of poverty, marginalization and social vulnerability in their countries of origin. In other words, remittances flow from precarious and vulnerable workers to their families who live in conditions of poverty in contexts of social marginalization. In this context, it is not strange that remittances should be oriented fundamentally to financing family consumption, contributing to maintaining a minimum standard of living while at the same time, the necessary sums and volumes necessary for promoting a genuine process of social mobility do not flow (the following diagram illustrates this idea).

Firstly, we identify those remittances oriented to financing various aspects of family reproduction. Among these remittances we can identify those that finance daily consumption (present consumption), those that permit the purchase of durable consumption goods, those that contribute to financing unforeseen expenditure or family health emergencies, unforeseen debts, among others, and those that make up a kind of present saving for financing future consumption, as well as those that could represent types of family capital, such as financing children's education, or construction, remodeling and/or home-buying. *Secondly*, we can identify those remittances oriented to financing various aspects and dimensions of the social reproduction of families and communities. Among these remittances we can mention those spent on family ceremonies and relations, such as family celebrations (*quince anis*, that is, 15th birthday parties, weddings, baptisms, among others) and those that finance community ceremonies and relations, such as religious festivals, community celebrations, social infrastructure, among many others.

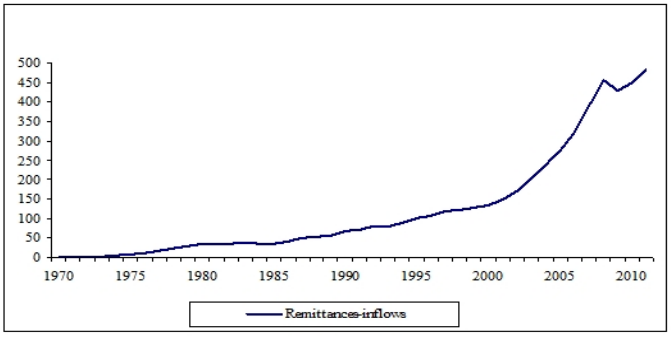
5 The indirect economic effects of remittances on migrant-sending countries

Most emigration impact studies have focused only on the *direct* social and economic effects of migration, that is, the impact on migrants and their households. However, remittances may also have significant impacts on non-emigrant households, and hence may reshape sending communities as a whole (Taylor [110, p. 65]). Such indirect effects are usually not captured by remittance-use studies. For instance, research has tended to negatively evaluate consumptive expenses as non-developmental. However, consumptive expenses, provided that they occur locally, can have positive impacts by providing non-

migrants with labor and income. This is confirmed by empirical evidence that consumption by emigrant households can lead, via multiplier effects, to higher incomes for non-migrant households (Adelman et al. [6]; Durand et al. [39]). The same holds true for so-called "non-productive" investments. For example, academics and policy makers have almost universally bemoaned the high amounts of money that migrants tend to spend on housing. This is partly because such "diatribes by academics and policy makers against migrants for their profligate and unproductive ways" (Taylor et al. [109, p. 411]) reflect common elitist views on the irrational spending behavior of lower classes, which in any case have a weak or absent empirical basis. Various empirical studies have reported that construction activities can generate considerable employment and income for non-migrants (Taylor et al. [109]). This also applies to many other expenses such as feasts and funerals (Mazzucato et al. [77]). In this way, the benefits of remittances might accrue to households other than the ones that directly receive them (Taylor [110]). These expenses increase consumption levels that may—by easing capital and risk constraints on local production—in turn facilitate local investments by migrants and non migrants alike (Stark [104]; Stark and Bloom [107]). In this way, expenditure on housing and consumption may have significant multiplier effects in the wider economy.

6 How big are remittance flows?

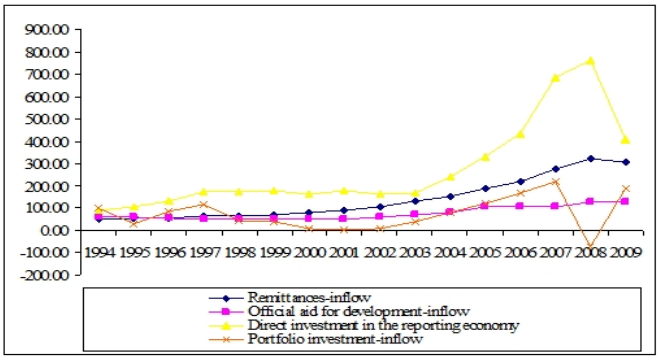
Over the past few years the true size of remittances has come to light. They have become the most real and least controversial link between migration and economic development. Total amount of remittances, from year to year, have increased significantly. According to the latest available data published by the World Bank, the total amount of officially recorded remittances were US$ 2 billion in 1970, reaching US$ 135 billion in 2000 and US$ 456 billion in 2008. Then, they fell slightly to US$ 429 billion in 2009 and again started to grow to US$ 449 billion in 2010, despite the effects of the global economic crisis. The estimates for 2011 reach US$ 483 b. (See Figure 3.)



Source: World Bank 2012

Fig. 3. World: Remittances-inflows, 1970–2011 (estimate) (In US$ billion)

The best approach to understand the importance of remittances would be to compare them with other sources of external financing, such as foreign direct investments, portfolio investments and official aid for development. Remittance inflows represent the second most important source of external financing to the developing countries, immediately after foreign direct investments.

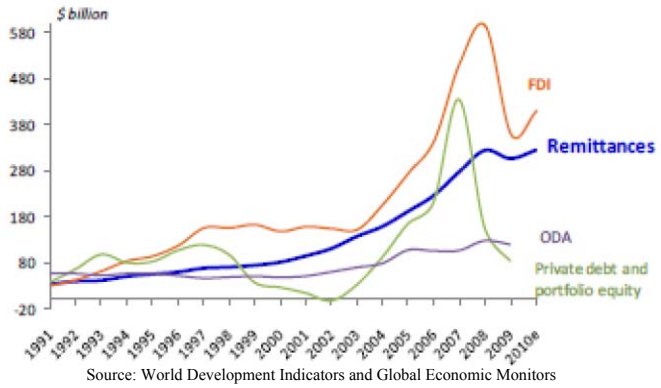


Source: Data from World Bank, IMF, OECD

Fig. 4. Sources of external financing in developing countries (1994–2010) (In US$ bil)

Starting from 1994, foreign direct investments represent the main source of external funding for developing countries. The second most important source of external financing are remittance inflows, which on average in the analyzed period represent approximately 50% of the FDI flows (Figure 4). The main advantages of the inflows received as remittances are their stability, contra cyclicality and sustainability, even in the cases of global economic and financial crises. These characteristics of remittances are mainly due to the presence of altruistic motives for sending money home. Beside these characteristics, remittance flows, contrary to foreign direct investments and portfolio investments, represent capital flows without any future obligations for repayments. Portfolio inflows are the least stable source of external funding, due to their high volatility over different economic cycles. The main motive of the portfolio investments is reaching profitability in the country of investment, which makes them not evenly spread in different developing countries, and highly dependent on the current economic situation in the particular country of interest. As a result they are highly unstable, and even negative in some years. Official aid for development represents capital flows without any obligations for future repayments and with certain degree of stability over the years. But usually they are considered as a limited and highly dependent source of external funding, which cannot promote sustainable economic growth.

According to the latest World Bank (December, 2011) data for 2011, the largest re cipient countries of remittance flows are: India, China, Mexico, Philippines, France, Pakistan, Germany, Bangladesh, Belgium and Spain. It is evident that the list of top 20 remittance recipient countries includes high-income countries as France, Spain, Germany and Belgium, but the amount of received remittances as a share of the GDP, in these countries, is insignificant. As one would expect, in 2010 remittances received by the top 10 developing recipient countries represented 45 percent of the total remittance inflows. This is not unusual



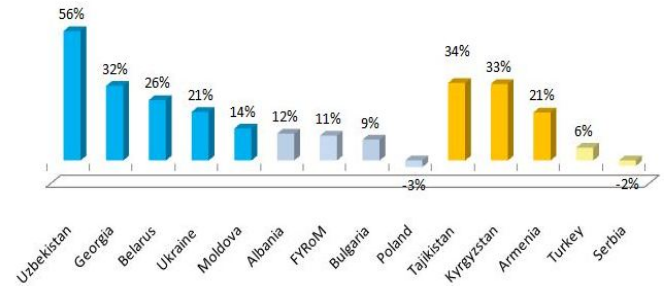
Source: World Development Indicators and Global Economic Monitors

Fig. 5. Private capital flows 1990–2010

having in mind that 8 of those countries are included in the group of top 20 emigration countries in the world. The most important receiving countries by a share of remittances in GDP in 2010 (World Bank, December, 2011), were: Tajikistan, Lesotho, Samoa, Moldova, Kyrgyz Republic and Nepal. Remittance inflows in these countries are more than 20 percent of GDP. From the group of 24 countries that have remittance inflows above 10 percent of GDP, 7 countries belong to the region of Europe and Central Asia, while 5 of them belong to the Southeast Europe region (Moldova, Kosovo, Bosnia and Herzegovina, Albania and Serbia).

6.1 Remittances inflows in Southeast Europe

Southeast Europe is one of the most relevant remittance recipient regions in the world. The main reasons for this are the large number of emigrants that this region has always created, the motives for emigration-mainly economically determined, as well as the strong family ties which the emigrant population still maintains with the country of origin. The most important recipients of remittances, among the Southeast European countries, are: Moldova, Bosnia and Herzegovina, Albania, Serbia, Bulgaria, Romania, and Republic of Macedonia. As shown in Table 1, the total amount of remittance inflows (compensation of employees, workers' remittances and migrant transfers), or of current transfers, net (defined in accordance with the BOP definition), is one of the most important items of the balance of payments, and they largely contribute into providing sustainable balance of payments, especially for covering the deficits in the foreign trade. The simplest way to explain the importance and the size of remittances in Southeast Europe is to express them as a share of GDP (Figure 3). From the Figure 3 it is evident that this percent is more than significant, and in some countries it reaches 34.7 percent (e.g. Moldova in 2006). With the exception of Bosnia and Herzegovina, where the data shows a decreasing trend over time (as a result of GDP growth in recent years, and low coverage of remittances flows), all other countries have stable remittance inflows over the period 2000-2008 (Albania, Serbia and Bulgaria), or a continual trend of growth (Romania, Moldova and Republic of Macedonia). Remittance inflows declined in 2009 in almost all of the analyzed countries (with the exception of Serbia and R. Macedonia), due to the global crisis that caused remittance inflows in developing countries to fall by 5.2 percent.

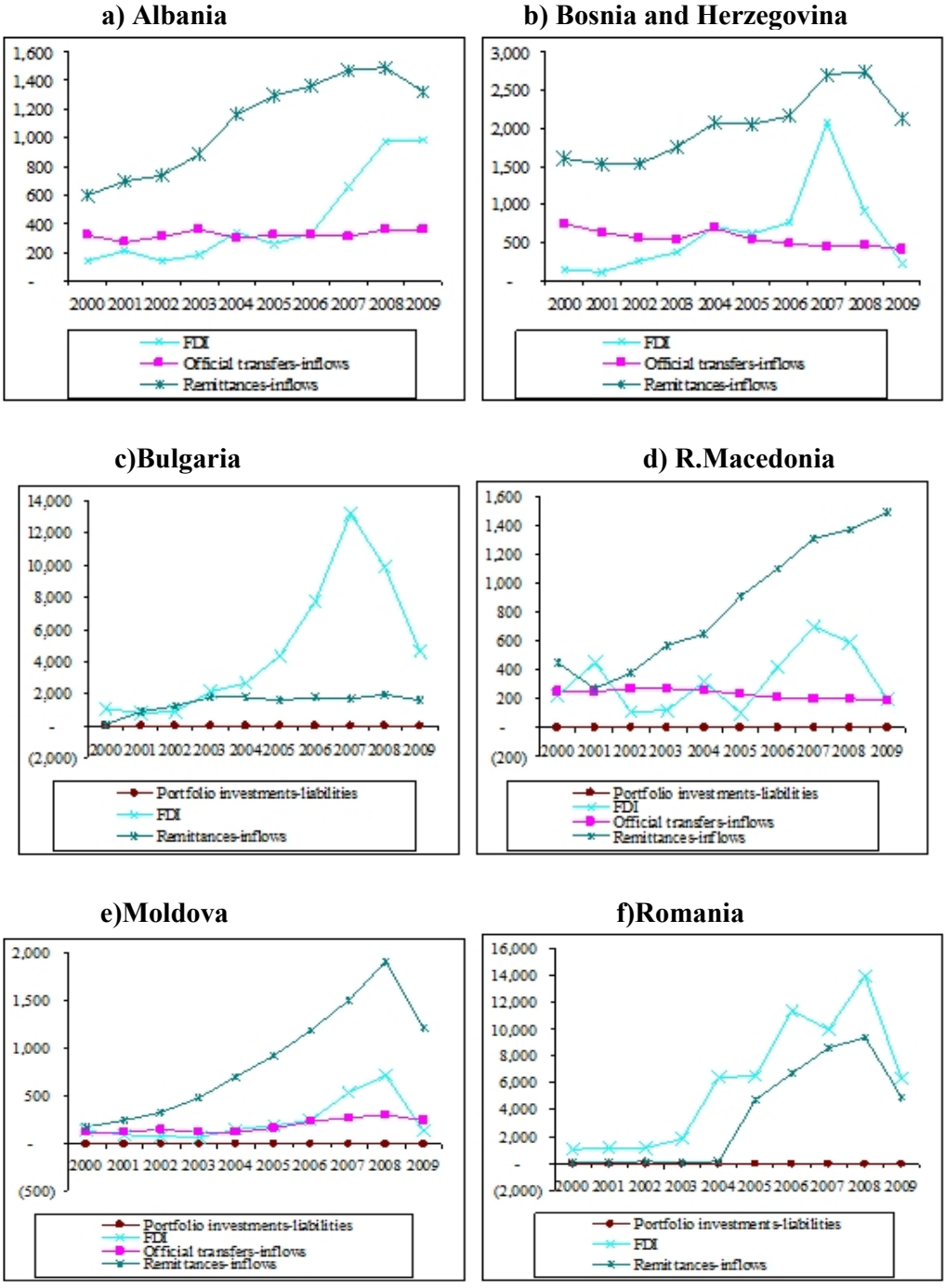


Source: World Bank data, Central bank of Serbia, Central bank of Moldova and Central bank of Albania (January,2012).

Fig. 6. Remittance inflows as a share of GDP-selected countries from Southeast Europe (2000–2011) (in %)

Remittance inflows in 2009 had an effect on reducing the current account deficit by almost 4 times in Moldova, 2 times in Serbia, and almost 2 times in Albania. On the other hand, it is obvious that remittances, when they are mostly spent on imports, can by themselves create trade deficits. Even in that case, it is clear that such deficits are self-financing and pose no threat to balance of payments stability. Another way to show the importance of remittance inflows is to compare them with other types of capital flows. The charts in Figure 5 show the composition of capital flows in six Southeast European countries Only in Bulgaria and Romania, remittance inflows are ranked behind foreign direct investment as a source of external funding. In other four countries (Albania, Bosnia and Herzegovina, Macedonia and Moldova) remittances are significantly larger than other types of capital flows. This is in line with international experience, which confirms that poorer and smaller countries receive relatively larger remittances. Inflows from portfolio investments are negligible by size, indicating a high level of underdevelopment of the secondary stock exchange markets in these countries.

However, despite their positive contributions to foreign exchange earnings and national income, remittances could also have their downside. Extensive and continuing inflows of remittances sometimes can lead to a significant appreciation of the real exchange rate and therefore a loss in the relative export competitiveness of price sensitive tradable goods. Although the empirical evidence of negative effects from remittances on terms of trade and growth are limited, usually these negative effects exist in cases of small and open economies which are, at the same time, large remittance receiving countries. For example, one IMF report finds the significant appreciation of the exchange rate in Moldova as a result of the extensive remittance inflows (IMF [58]). Lucas [71] argues that Albania greatly benefited from remittances as a source of foreign exchange and as a safety net for the poor people, but this has also postponed the depreciation of its currency and thus potential export growth.



Source: World Bank data, IMF data, NBRM data (January, 2012).

Fig. 7. Remittance inflows and other capital inflows – selected countries from Southeast Europe (2000–2009) (In US$ million)

The main interests of the central bank in the recipient countries is how to capture the remittances inflows, but the main interest of the researchers is how to capture the basic influences and consequences of these flows, or what are their effects in general. The most important influence of the remittance flows, on which most of the discussions has been led, is whether these flows are inflationary, and whether they generate relative price changes, causing reallocation of domestic resources (MPRA Paper, May, 2010).

7 The use of Remittances in Albania

Remittances from expatriates in foreign currency, which were of vital importance for the majority of the Albanian population, became more than a typical phenomenon for Albania in the recent years and one of the main items that financed the great imbalance between the export of goods and the import of services. It is a well-known fact that the emigration phenomenon on a large scale became evident for the very first time by mid 1990. Since 1992, even earlier, these remittances that in the terminology of the balance of payments are known as “remittances from expatriates” became more and more significant besides the

high level of state transfers at that time. Though not reliable and correct data are available, it is estimated that in the neighboring countries live and work about 800 thousand Albanians, that represent all the categories of population. The Albanian reality of the early '90s and the last year situation, speak for an immigration tendency of the free labor force. Notwithstanding the advantages and disadvantages, such a phenomenon has absorbed to a great extent the poverty of the Albanians. The small size of the country made the standard of living, consumption, savings; investments reflect immediately evident improvements on one hand and render possible the external equilibrium of the economy on the other hand.

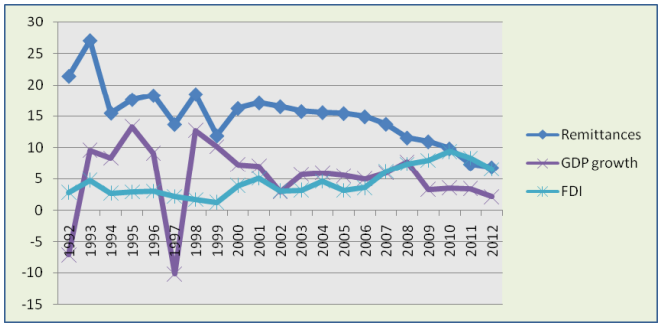
Households used remittances for various purposes, during 1996, 22 percent of remittances were spent on food and clothing. Another 13 percent was used to buy furniture and household appliances, while 18 percent was used to buy or build housing units, partially easing the severe housing shortages in Albania. A further 20 percent was invested in family businesses. Thus, remittances equaling $170 million were used in productive investments during 1996, approximately twice the level of foreign aid to, or foreign direct investments in, Albania that year. According to the LSMS 2005 the highest percentage (27 percent) of total remittances during 1996 was saved by the recipient. This high rate of saving was probably influenced by the high interest rates promised by the pyramid schemes prevalent at that time.

Although these schemes collapsed in early 1997, it would be a mistake to assume that the remittances invested in them were lost. Indeed, the schemes collapsed because they paid early investors out of funds provided by later investors and eventually end-with no assets. Thus, remittance monies invested in pyramid schemes would have been paid out to early investors and used for con1sumption or business formation. for a discussion of the role of remittances in the Albanian pyramid schemes, see Korovilas [65]. In the course of 1992–1997, entered in the form of current transfers USD 2.8 billion[6], of which 1.9 billion are a contribution of the Albanian migrants. It is estimated that after reaching the climax in 1996, the remittances from expatriates reduced by half in 1997 because of the pyramid schemes phenomenon.

But referring to the LSMS 2008 about 6.8 percent of remittances are used for investment in their own business and the most part of them 88.3 percent are used building or remodeling a house.

In spite of that, another recovery of these remittances in similar was shown on the following years. Since the beginning of the 1990's, emigration represents a significant phenomenon in Southeast Europe (SEE). Remittances, the money sent home by migrants, are one of the most visible consequences of emigration. According to the World Bank (2008), remittances are rapidly increasing from $119 billion in 1997 to $317 billion in 2007. The proportion of remittances to developing countries

[6] World Bank, Country Report 2011



Source: World Bank 2012

Fig. 8. Remittances trends in Albania

is also increasing, from 60% in 1997 ($71 billion) to 75% in 2007 ($240 billion). Four East European countries are among the world's main recipients of remittances as percentage of gross domestic product (GDP), namely Albania, Armenia, Bosnia and Herzegovina, and Moldova. Remittances of Albanians living abroad were down by 8.2 percent for the first three months of 2011 compared to the same period in 2010. According to data published by Albania's Central Bank, remittances in the three month period ending March 31 were Euro 157 million. Remittances, which have been a driving force for the Albanian economy for the last 20 years, have shown a declining trend in the last couple of years.

8 Impact of Remittances on Economic Growth

Whereas views on the impact of international remittances on social and economic development in migrant-sending societies have recently inclined toward the positive side, the impact of remittances on national economic growth and employment are rather unclear (World Bank [114, xiii]). The consequences of remittances on long-term economic development are not well understood (Kapur [60, vii]). There seems to be no conclusive evidence to sustain either neoclassical or dependency theory, because relevant studies have yielded contradictory findings. Other studies are less upbeat and mention the potentially adverse effects of remittances in that they create a strong disincentive for domestic savings and support private consumption of (imported) goods instead of financing investment, which can potentially hamper competitiveness and increase trade deficits (Kireyev [64]). There are some indisputable welfare effects of migrant remittances. *First*, remittances are an important source of income for many low and middle-income households in developing countries.

Second, remittances provide the hard currency needed for importing scarce inputs that are not available domestically and also additional savings for economic development (Ratha [95]; Taylor [110]; Quibria [93]). But the magnitude of the development impact of remittances on the receiving countries was assumed by many scholars to depend on how this money was spent. Thus, a significant proportion of the literature studies the use of remittances for consumption, housing, purchasing of land, financial saving and productive investment. There is no doubt that

spending on entrepreneurial investment has a positive direct effect on employment and growth. However, other scholars documented that even the disposition of remittances on consumption and real estate may produce various indirect growth effects on the economy. Most of the theoretical researches considering the multiplier effects of remittances use models that capture both migration and remittances effects on welfare. They consider remittances as a possible offset to the decline in output suffered by developing countries, caused by the loss of trade opportunities as a result of emigration. The results show that if low-skilled migrants emigrate, the welfare of the source country rises in the case that remittances are in excess of the domestic income loss. If highly-skilled persons emigrate and/or if emigration is accompanied by capital, remittances have a welfare increasing effect for the non-migrants only when the capital/labor ratio of the source economy remains unchanged or rises. If the capital/labor ratio falls, the welfare effect is indeterminate or even negative (Quibria [93]).

The effect of remittances in the economic growth depends on the way which they are spent. If remittances are spent for consumption, the welfare impact of remittances depends on the relative factor intensities of traded and non-traded goods (Djajic [36]). The empirical evidence indicates that multiplier effects can substantially increase gross national product. Thus for example every "migradollar" spend in Mexico induced a GNP increase of USD 2.69 for the remittances received by urban households and USD 3.1 for the remittances received by rural households (Ratha [95]). In Greece, remittances generated at the beginning of the 1970s a multiplier of 1.77 in gross output, accounting for more than half of the GDP growth rate. Furthermore, high proportions of employment were supported by remittances: 10.3% in mining, 5.2% in manufacturing and 4.7% in construction. And the capital generated by remittances amounts to 8% of the installed capacity in manufacturing. Of particular interest is the finding that spending on consumption and investment produced similar multipliers of respectively 1.8 and 1.9. And contrary to common opinion, expenditure on housing was found to be very productive, with a multiplier of 2 (Glytsos [48]). By carrying out an econometric test on data from 11 Central and Eastern European countries, Léon-Ledesma and Piracha [68] found that remittances significantly contribute to the increase of the investment level of the source economies. Drinkwater *et al.* [38] attained similar results through a study of 20 developing countries. Moreover, their results showed that remittances also diminished unemployment, but insignificantly.

Remittances do not only have positive effects on the source economy. If remittances generate demand greater than the economy's capacity to meet this demand, and this demand falls on non-tradable goods, remittances can have an inflationary effect. In Egypt, for example, the price for agricultural land rose between 1980 and 1986 by 600% due to remittances (Adams [5]). Along with the positive effects remittances had on Jordan's economy, in the years 1985, 1989 and 1990, they seem to have intensified recession very strongly and generated negative growth rates of over 10%. Other potential negative welfare implications of remittances are the encouragement of continued migration of the working age population and the dependence among recipients accustomed to the availability of these funds. All these could perpetuate an economic dependency that undermines the prospects for development (Buch *et al.* [21]).

Finally, because remittances take place under asymmetric information and economic uncertainty, it could be that there exists a significant moral hazard problem leading to a negative effect of remittances on economic growth. Given the income effect of remittances, people could afford to work less and to diminish labor supply. Using panel methods on a large sample of countries Chami *et al.* [27] found that remittances have a negative effect on economic growth (which according to the authors indicates that the moral hazard problem in remittances is severe). The long-run motivation for attracting increased remittance inflows is to promote economic growth and development in recipient countries. In line with this ambition, understanding of the appropriate channels through which remittances influence economic performance is essential to formulating sound policies to maximize their overall impact on an economy. The major potential channels of the positive effects of remittance inflows on the growth and development prospects of developing economies include how these remittances impact on domestic investment, balance of payments, ease domestic credit constraints, exports, diversification of economic activities, levels of employment and wages, human capital development and technological progress. On the contrary, remittance inflows may also have adverse effects on the growth and development prospects of developing economies in a number of ways.

One of the critical negative effects of increased remittance inflows on a developing economy is the infection of the Dutch Disease through reduction in international competitiveness. A continuous and significant inflow of remittances can lead to increase in demand for the domestic currency. This increase in demand for non-tradable may further lead to the appreciation of the domestic currency, hence real appreciation of the exchange rate, which in turn reduces the international competitiveness of the country's exports whilst imports are made relatively cheaper. In effect, remittances may, through a number of mechanisms, exacerbate the balance of payments position in the long-run Ahlburg [8], later Brown and Ahlburg [9], have argued that remittances undermine productivity and growth in low-income countries because they are readily spent on consumption likely to be dominated by foreign goods than on productive investments. Theoretically, the degree of impact of remittance inflows on external competitiveness of a receiving-developing country may vary depending upon some specific characteristics. For instance, because unemployment is high in many developing countries, there may not be any significant increase in the production costs of export commodities even in the face of an increased demand for non-tradable.

Can remittances alone trigger economic growth? Probably not. Although remittances play an increasingly vital role in securing and actually improving the livelihoods of millions of people in the developing world, it would be naive to expect that remittances alone could solve more structural development obstacles such as an unstable political environment, misguided macroeconomic policies, lack of security, bureaucracy, corruption or deficient infrastructure.

Also, legal insecurity of property tends to have devastating effects on people's ability and willingness to invest (see De Soto [34]). However, if development in origin countries takes a positive turn, if countries stabilize politically and economic growth starts to take off, then migrants are likely to be among the first to join in and recognize such new opportunities, reinforcing these positive trends through investing, circulating and returning to their origin countries.

8.1 An Empirical Model of Economic Growth with Remittances

In the economic growth literature, researchers have been interested in the rate at which countries close the gap between their current positions and their desired long-run growth path. To determine the responsiveness of income growth rate to remittances and the traditional the sources of economic growth such as investment in physical (GCFit) and human capital (ENRit), openness of the economy as measured by the ratio of the sum of imports and exports to the GDP, often proxy by the terms of trade (TOTit), foreign direct investment (FDI), and the impact of the initial per capita income (INYit), we first specify a simple double log-linear Cobb-Douglass production function as:

$$\ln \mathrm{GDP}_{it} = \beta_1 + \beta_2 \ln \mathrm{REM}_{it} + \beta_3 \ln GCF_{it} + \beta_4 \ln TRD_{it} + \beta_5 \ln ENR_{it} + \beta_6 \ln FDI_{it} + \beta_7 \ln FCon_{it} + \beta_8 \ln INF_{it} + \varepsilon$$

Where $\ln GDP_{it}$ is the natural log of real GDP per capita and $\ln REM_{it}$ is log of remittances per capita in US$; $\ln GCF_{it}$ is the log of gross fixed capital formation as a percent of real GDP used as a proxy for investment in physical capital; $\ln ENR_{it}$ is log of secondary school enrollment used as measure of investment in human capital which has a positive effect on the economic growth of developing countries (Schultz [101]; Romer [97]; Lucas [72]; and Barro [17]). FDI_{it} is the log of foreign direct investment used to capture the effect of external sources of capital on growth; TRD_{it} is the log of the terms of trade for each country under consideration, measured by the ratio of the export to import price indices to capture the impact of trade, or openness of the economy on economic growth. $\ln FCON_{it}$ is log of a measure of the Final Consumption expenditures. Hence, we expect the sign of the Final Consumption expenditures to be negative. $\ln INF_{it}$ is log of a measure of the Inflation rate. Hence, we expect the sign of the Inflation to be negative.

To estimate the parameters corresponding to variables of interest from the data under consideration, we employ a panel data estimation, an empirical exposition of which is provided in equation (2) below. where Y_{it}

$$Y_{it} = \lambda_i + \gamma_t + (X_{it})\varphi + \psi_{it}$$

Y_{it} is the natural logarithm of real GDP per capita in country i at year t, and X_{it} is a vector of the explanatory variables (remittances, investment in physical and human capital, trade, foreign direct investment, final consumption expenditures, inflation and Fixed capital Formation) for country $i = 1, 2, \ldots, m$ and at time $t = 1, 2, \ldots, T$, ϕ a scalar vector of parameters of $\beta_1, \ldots, \beta_7$; ψ_{it} is a classical stochastic disturbance term with $E[\psi_{it}] = 0$ and $\mathrm{var}[\psi_{it}] = \sigma\varepsilon'^2$, λ_i and γ_t are country and time specific effects, respectively. Instead of a priori decision on the behavior of $\lambda_i + \gamma_t$, different types of assumptions are separately imposed on the model and the one that gives robust estimates is chosen.

8.1.1 Empirical Results and Interpretations

Several versions of equation 2 are tested in order to obtain a model which yields robust results and best fits the data. Accordingly, column 1 of Table 2 presents the estimation results of a quasi fixed-effects panel with heteroskedasticity corrected standard errors, whereas column 2 presents the estimation results for the random- effects model with bootstrap standard errors. The correction for heteroskedasticity and the presence of the initial income converts the pooled regression with heteroskedasticity corrected standard errors into a quasi fixed-effects model. Apart from the magnitude of the coefficients, the results reported in columns 1 and 2 are comparable.

Tab. 2. Fixed Effects method

Variable	Estimation	Std.error	t test	p-value
Remit	0.1431056	0.0128312	11.1529	~ 0
FDI	0.069603	0.0251166	2.7712	0.0056
SchoolEn	0.6420787	0.0596872	10.7574	~ 0
TradePercGDP	0.1274885	0.03076883	4.1434	~ 0
Final_consum	−0.7812326	0.1113710	−7.0147	~ 0
Inflat	−0.0540485	0.0168475	−3.2081	0.00144
CapFixPercGDP	0.5075144	0.0784339	6.4706	~ 0

Notes: balanced panel ($n = 21$, $T = 21$, $N = 441$). Fixed effect method. R-Squared = 0.65146. Dependent variable: ln (GDP *per* Capita).

A comparison of the consistent quasi fixed-effects model with the efficient random-effects model using the Haussmann specification test, rejects the random-effects estimates at p<0.05 in favor of the quasi fixed-effects estimates. We thus base the discussion of our findings on the more robust quasi fixed effects results reported in column 1 of Table 3. Broadly, the results reveal the expected relationship between the GDP per capita income (GDP_{it}) and the explanatory variables i.e., the variables representing the sources of growth have the expected signs according to the a priori predictions. All the coefficients represent elasticity's since we estimated a double-logarithmic model.

Tab. 3. Random Effects method

Variable	Estimation	Std.error	t test	p-value
Intercept	1.7951198	0.1801136	9.9666	~ 0
Remit	0.1401268	0.0127048	11.0294	~ 0
FDI	0.071263	0.0250181	2.8485	0.004392585
SchoolEn	0.6262605	0.0587121	10.6666	~ 0
TradePercGDP	0.1549137	0.0157636	9.8273	~ 0
Final_consum	−0.7940381	0.1096914	−7.2388	~ 0
Inflat	−0.0577497	0.0167906	−3.4394	0.0006395
CapFixPercGDP	0.5137754	0.0781985	6.5701	~ 0

Notes: balanced panel ($n = 21$, $T = 21$, $N = 441$). Random effect method. Adj. R-Squared = 0.64039. Dependent variable: ln(GDP per Capita).

```
R> gW <- plm(GDP_per capita~X_MATRIX,
                              data=DATA,model="Within")
R> gr <- plm(GDP_ per capita~X_MATRIX,
                             data= DATA,model="random")
R> phtest(gr, g1)
Hausman Test
data: GDP_GROWTH~X_MATRIX
chisq = 21.33, df = 8, p-value = 0.006311
   alternative hypothesis: one model is inconsistent
```

The results from our model of choice indicate that remittance variable has a positive and statistically significant effect on the GDP per capita (at $p < .01$) of the countries. Accordingly, we find that a 1 percent increase in the remittances of an Albanian economy would result in about 0.14 percent increase in the average per capita income. Similarly, a 1 percent increase in investment in human capital (ENR) as measured by the percent secondary school enrollment increases GDP per capita by 0.64 percent, by far the main variable which spurs economic growth. Consistent with the findings of Solow [103], Barro [17] and Temple [111], we also find that investment in physical capital (GCF) as measured by the gross fixed capital formation as a percent of GDP has a positive and statistically significant impact on the real per capita GDP i.e., we observe that a 1 percent increase in investment in the physical capital will lead to about 0.50 percent increase in the GDP per capita.

Our results also indicate that inflation (INF) has a negative effect on GDP per capita, confirming the position of the opponents. However, its impact is not significant. A measure of the openness of the economy (TOT) has the expected positive sign, but it is does not have a significant impact on economic growth. We find a positive impact between the foreign direct investment (FDI) and the economic growth of our sample.

Finally, we find that the coefficient of the initial per capita income (GDPPC 1980) has a positively and statistically significant effect on the current level of GDP per capita of countries. In fact, a coefficient value of 0.50 for the initial GDP per capita (INY) implies that a 1 percent increase in INY increases the current GDP per capita by 0.50 percent.

While results based on the fixed and random effects models in which we simultaneously account for the heterogeneity and time to time fluctuations in the economic performance of Albanian economy are appealing.

Conclusion

The main goal of this study is to investigate the effect of remittances relative to the other external sources of capital such as foreign direct investment on the economic growth in Albanian economy. The results show that remittances do have positively impact on the growth of the GDP per capita of Albanian country. We have found that a 1 percent increase in remittances lead to a 0.14 percent increase in the GDP per capita income.

Furthermore, large-scale emigration can have a deleterious effect on domestic labor markets in specific sectors such as higher education, government services, science and technology, and the manufacturing and services, especially where those migrating to other countries are largely skilled workers who are difficult and expensive to replace. Migrant transfers in the form of remittances can ease the immediate budget constraints of families by bolstering crucial spending needs on food, health care, and schooling expenses for their children.

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