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IMMIGRANT REMITTANCES AS COMPENSATION IN THE PERIODS OF ECONOMIC DOWNTURNS

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The article investigates remittances – personal cash transfers from a migrant worker to a relative in the country of origin. It is shown that remittances tend to be more stable than foreign investment flows and do not serve as capital for economic development, but as compensation for poor economic performance. My empirical investigation on 140 countries over the period sinse 2002 to 2009 revealed that remittances tend to rise when the recipient economy suffers a downturn in activity, an economic crisis, natural disaster, or political conflict, as migrants may send more funds during hard times to help their families and friends. Consequently, recipient countries should develop remittance policies to maximize the impact of these flows on growth and development.

Key words: international migration, immigrant remittances, economic downturn, capital flows, economic growth, migration policy, remittances recipient countries.

The role of immigrant remittances in economic development continues to be an important issue. They represent a substantial flow of financial resources, predominantly from developed economies to developing economies. International Organization for Migration defined remittances as the financial flows associated with migration, in other words, personal cash transfers from a migrant worker to a relative in the country of origin [2].

In 2011, remittance flows are estimated to have exceeded 500,6 billion of US dollars worldwide. From that amount, developing countries received 346 billion of US dollars, as shown in table 1. The true size, including unrecorded flows through formal and informal channels, is believed to be significantly larger. Recorded remittances in 2011 were nearly three times the amount of official aid and almost as large as foreign direct investment (FDI) flows to developing countries.

Table 1

Migrant remittance inflows (billion of US dollars)

US$ billions	1995	2000	2004	2005	2006	2007	2008	2009	2010	2011
Inward remittance flows	101,3	131,5	237	274,9	317,9	385	443,2	416	440,1	500,6
All developing	55,2	81,3	159,3	192,1	226,7	278,5	324,8	307,1	325,5	346

Roksolana Lastovetska

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countries									

Source: Migration and Remittances Factbook 2011 – 2d ed. – The International Bank for Reconstruction and Development / The World Bank. – Washington : Green Press Initiative. – 2011. – 264 p.

In 2011, the top recipient countries of recorded remittances were India, China, Mexico, the Philippines, and France. As a share of GDP, however, such smaller countries as Tajikistan (35 percent), Tonga (28 percent), Lesotho (25 percent), Moldova (31 percent), and Nepal (23 percent) were the largest recipients in the year of 2009 [4].

High-income countries are the main source of remittances. The United States is by far the largest, with 48 billion of dollars in recorded outward flows in 2009. Saudi Arabia ranks as the second largest, followed by Switzerland and Russia [4].

Remittance flows to developing countries proved to be resilient during the recent global financial crisis – they fell only 6,1 percent in 2009 and registered a quick recovery in 2010. By contrast, there was a decline of 40 percent in FDI flows and a 46 percent decline in private debt and portfolio equity flows in 2009 [6].

Ukraine also is a large recipient of remittances. It received 6,6 billion of US dollars, which corresponds to 4 percent of our GDP [4].

It is difficult to see these numbers and not think that remittances could be an important tool for economic development. If they can be better understood, then perhaps they can either be shown to promote development on their own, or they can be channeled into productive investment by wise policies. Our goal is to examine whether remittances behave in the same way as other capital flows.

In my model, the relationship between migrant and family is characterized by altruism, so that the utility of the migrant depends on the utility of his family members at home. This implies that remittances will be sent in order to help the family avoid losses created by a poor economy. In other words, the model implies that remittances are compensatory transfers.

Lucas and Stark write that «Certainly the most obvious motive for remitting is pure altruism – the care of a migrant for those left behind. Indeed, this appears to be the single notion underlying much of the remittance literature» [3]. They go on to specify an altruistic utility function in which the migrant's utility includes the consumptions of the other members of the family. Although the motivations to remit are complex, altruism between family members appears to be a good basis to use when modeling the causes and effects of remittances.

My immediate goal is to create a simple model of remittances that produces a test that can differentiate whether remittances function as capital flows or whether they serve another economic purpose.

Here I follow the model developed by R. Chami, C. Fullenkamp and S. Jahjah [1]. We assume a country made up of a large number of two-person families in which one of the members has migrated *(I)*. The family member who remains at home country – the recipient *(R),* works in the domestic labor market. Assume that the recipient's

income is $wR = wL$ with probability p and $wR = wH$ with probability *1-p,* where $wL <$
$< wH$.

The immigrant chooses a transfer and remits it to the recipient. The immigrant would like to do this because he is altruist. Thus the immigrant's utility, *UI*, depends on the recipient's utility, *UR*:

$$EUI = u(cI) + \beta EUR, \tag{1}$$

where $cI = yI - t$ is the immigrant's consumption, yI is his income, and t is the transfer to his relative. If yI is small, the transfer is zero. As yI grows, the immigrant can increase his utility by consuming one dollar less himself and transferring that dollar to his relative, in this way receiving the value of the relative's marginal utility, discounted by β.

The relative's expected income is equal:

$$EwR = pwL + (1 - p)wH. \tag{2}$$

His budget is:

$$cR = wR + t(wR). \tag{3}$$

Expected utility to the recipient-worker is:

$$EUR = p(e)uR(wL + t) + (1 - p(e))uR(wH + t) - v(e), \tag{4}$$

where v is a disutility of effort.

In this model, income in the recipient's country is uncertain, which reflects a high risk. We first examine the worker's choice of effort. The optimal level of effort:

$$(uRL - uRH)p' - v' = 0. \tag{5}$$

Thus, $e* = e*(t, wL, wH).$ Using the fact that $uRH > uRL$ so $u'RH < u'RL$, we have $e*t < 0$, $e*RL < 0$, and $e*RH > 0$. These conditions say that transfers, through an income effect, reduce effort.

In taking derivatives with respect to $e*$, it can show us that $\partial e*/\partial t = \partial e*/\partial wL + + \partial e*/\partial wH$, so that an increase in the transfer is equivalent to an increase in wages of recipient. Given this equivalence, it is clear why the recipient reduces effort when remittances increase: remittances are a substitute for labor income.

The immigrant's utility could be defined as:

$$\partial EUI/\partial t = -u\square I + \beta [p(e)u\square RL + (1 - p(e)u\square RH] + \beta \{[uRL - uRH] p\square - - v\square(e)\} \partial e*/\partial t \tag{6}$$

This expression is composed of three parts: $-u\square I$, the decrease in the utility of consumption because of additional transfers; $\beta [pu'RL + (1 - p)u'RH]$, which is the direct effect of the relative's utility on his immigrant's utility, and is positive; and $\beta\{[uRL + uRH] p'-v'(e)\} \partial e*/\partial t,$ which reflects the effect of the moral hazard problem between the immigrant and the relative.

Solving (6) for $t*$, we find that:

$$t* = t(wL, wH, e*, \beta), \tag{7}$$

where $\partial t*/\partial wH <0$, $\partial t*/\partial wL <0$, while $\partial t*/\partial \beta >0$. The immigrant's reaction to changes in the relative's wage income shows that the immigrant send remittances to protect the recipient-worker from negative income shocks. This is a function of the compensatory nature of altruistically-motivated transfers. Thus, remittances are non-market substitutes for wages. This shows that remittances are compensatory in nature, rising with the level of altruism and falling while the recipient's wages rise. In

addition, this is also the opposite relationship from what one would expect if remittances functioned as investment flows.

In order to test the implications of our model, I collected a panel of aggregate data on remittances from the World Bank's database. The entire data set includes 140 countries for which worker remittances are reported over the period from 2002 to 2009, including financial crisis.

Representing results of the model (equation 7) I build a regression. In the regression equation an amount of immigrant remittances (REM) will be dependent variable, while a level of nominal GDP per capita (GDP), an inflation level (INF) and unemployment level (UNEMPL) will be independent variables. Assuming that past year indicators have more significant impact on our model than the present ones, I will use a model with lags.

The estimated equation is:
$$LOG(REM(t)) = C(1) + C(2)*LOG(GDP(t-1)) + C(3)*INF(t) + \\ + C(4)*UNEMPL(t) + e(t).$$

My hypothesis contains the fact that remittances are altruistically motivated, that is why $C(1) < 0$.

I used OLS to estimate the equation. The results are the following:
$$LOG(REM(ti)) = - 0,72*LOG(GDP(ti-1)) - 0,02*INF(ti) + 0,02*UNEMPL(ti)$$
$$(0,26) \qquad\qquad (0,01) \qquad (0,03)$$

R-squared = 0,84, Durbin-Watson = 1,34.

Inflation and unemployment variables are not statistically significant. My goal is to see what correlations exist in the data, particularly between remittances and GDP growth. The main result of interest is that there is a robust negative correlation between the growth rate of immigrant remittances and per capita GDP growth. This coefficient is negative and indicates that, generally, remittances increase by 0,72 percent when income in the home country falls by 1 percent. This evidence supports the idea that a primary function of remittances is to compensate their recipients for bad economic outcomes, such as low income in recipient country.

The model of R. Chami, C. Fullenkamp and S. Jahjah confirmed the same negative correlation between remittances and GDP growth. They defined compensation as the main function of remittances based on altruism.

The contrast between the negative correlation of remittances with GDP growth and the positive correlation of foreign direct investment with GDP growth is strong evidence that remittances should not be considered equivalent to capital flows. Remittances do not appear to be intended to serve as capital for economic development, but as compensation for poor economic performance.

The further questions that our findings raise are, what are the effects of remittances on economies that receive large remittance transfers and what policy should be implemented in recipient countries to use these flows as a tool for the economic growth?

Remittances tend to be more stable than private capital flows. They tend to rise when the recipient economy suffers a downturn in activity, an economic crisis, natural

disaster, or political conflict, as migrants may send more funds during hard times to help their families and friends.

My research indicates that immigrant remittances allow soften the economic conditions in the times of recessions. Though, government of the recipient countries ought to stimulate the economic growth than get accustomed to the large inflows of remittances.

Governments in destination and origin countries can facilitate remittance flows and enhance their development impacts through the application of appropriate policies. Policy initiatives by the government and banking institutions has to achieve two significant results. First, most remittances should flow through formal channels. Second, an increasing number of remitters have to move from being pure «savers» to «investors» [5]. The government of Ukraine should have a remittance policy to maximize the impact of these flows on growth and development. It has to establish mechanisms aimed at mobilizing remittances for investment through higher interest rates on term deposits and foreign currency denominated banking accounts. Encouraging remittances through banking channels can improve the development impact of remittances by encouraging more saving and enabling better matching of saving with investment opportunities. Future flows of remittances can be used as a credit charge for immigrant workers' families.

To be effective, policy options to increase the volume of remittances to Ukraine through official channels should have a direct effect on issues relating to reducing transaction costs.

For the state remittances meet a demand in foreign currency, increase foreign exchange reserves and stimulate consumption. They are an instrument of poverty reduction and also contribute to the trade growth, including domestic products.

Scientists with a pessimistic view claim that remittances should not be encouraged, as they are responsible for «excessive» consumption and import dependency of a recipient country.

On my opinion just remittances helped developing countries accumulate enough foreign exchange reserves to cope with the financial crisis.

There is a need for more innovative ideas to generate more foreign currency from other sources to help Ukraine out from the financial and political clutches of the international financial institutions.

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Roksolana Lastovetska

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ГРОШОВІ ПЕРЕКАЗИ МІГРАНТІВ ЯК КОМПЕНСАЦІЙНИЙ МЕХАНІЗМ У ПЕРІОДИ ЕКОНОМІЧНИХ СПАДІВ

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Визначено поняття грошових переказів мігрантів як персональних готівкових трансфертів мігрантів у країну свого походження. Обґрунтовано стабільний характер грошових переказів, на відміну від потоків прямих іноземних інвестицій. Визначено, що перекази не слугують капіталом для економічного розвитку, а, навпаки, є компенсаційним механізмом у періоди економічних спадів. Емпірично досліджено 140 країн упродовж 2002–2009 років і виявлено негативну залежність між грошовими переказами та приростом економіки країни-реципієнта. У періоди рецесій, природних катаклізмів або ж політичних конфліктів мігранти схильні переказувати більше коштів, щоб захистити свої сім'ї в країні походження. Отож у статті обґрунтовано необхідність впровадження міграційної політики, спрямованої на максимізацію позитивного впливу цих потоків на економіку країни їхнього реципієнта.

Ключові слова: міжнародна міграція, грошові перекази мігрантів, економічний спад, потоки капіталу, економічне зростання, міграційна політика, країни-реципієнти грошових переказів.

ДЕНЕЖНЫЕ ПЕРЕВОДЫ МИГРАНТОВ КАК КОМПЕНСАЦИОННЫЙ МЕХАНИЗМ В ПЕРИОДЫ ЭКОНОМИЧЕСКИХ СПАДОВ

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Определено понятие денежных переводов мигрантов как персональных трансфертов мигрантов в страну своего происхождения. Обоснован стабильный характер денежных переводов, в отличие от потоков прямых иностранных инвестиций. Определено, что переводы не выступают капиталом для экономического развития, а, наоборот, являются компенсационным механизмом в периоды экономических спадов. Эмпирическое исследование 140 стран в течение 2002–2009 годов обнаружило негативную зависимость между денежными переводами и приростом экономики страны-реципиента. В периоды рецессий, природных катаклизмов или политических конфликтов мигранты склонны пересылать больше денег, чтобы защитить свои семьи в стране происхождения. Поэтому в статье обоснована необходимость введения миграционной политики, направленной на максимизацию позитивного влияния этих потоков на экономику страны-реципиента.

Ключевые слова: международная миграция, денежные переводы мигрантов, экономический спад, потоки капитала, экономический рост, миграционная политика, страны-реципиенты денежных переводов.