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G. Kasnauskiene, Professor, Doctor,
S. Stumbryte, Master student,
Vilnius University

EMIGRATION AND REMITTANCE IMPACT ON LITHUANIAN LABOUR MARKET AND ECONOMIC DEVELOPMENT

Еміграція з Литви є однією з найвищих серед країн ЄС: число емігрантів досягло 1,66% від загальної чисельності населення в 2011 році. Частка зареєстрованих грошових переказів у ВВП була 4,57% в 2011 році. У даній статті досліджується питання чи сприяє міжнародна міграція розвитку в базовій країні. Основна ідея роботи полягає в наступному: за допомогою статистичних та економетричних методів з'ясується, чи викликає міжнародна міграція позитивний або негативний ефект для економіки Литви та її ринку праці. Результати аналізу часових рядів показують, що грошові перекази позитивно впливають на ВВП та стимулюють економічне зростання в Литві.

Ключові слова: еміграція, грошові перекази, ринок праці, економічне зростання.

Эмиграция из Литвы является одной из самых высоких среди стран ЕС: число эмигрантов достигло 1,66% от общей численности населения в 2011 году. Доля зарегистрированных денежных переводов в ВВП была 4,57% в 2011 году. В данной статье исследуется вопрос, способствует ли международная миграция развитию в базовой стране. Основная идея работы заключается в следующем: с помощью статистических и эконометрических методов выясняется, вызывает международная миграция положительный или отрицательный эффект для экономики Литвы и ее рынка труда. Результаты анализа временных рядов показывают, что денежные переводы положительно влияют на ВВП и стимулируют экономический рост в Литве.

Ключевые слова: эмиграция, денежные переводы, рынок труда, экономический рост.

The emigration from Lithuania is one of the highest among the EU countries: the number of emigrants reached 1.66% of the total population in 2011. The share of recorded remittances in national GDP was 4.57% in 2011. This paper argues if international migration contributes to the development in the labour sending country. The basic idea is as follows: using statistical and econometrical methods it is revealed whether international migration causes positive or negative effect to Lithuanian economy and labour market. The results of time series analysis show that remittances had positive impact on GDP and boosted economic growth in Lithuania.

Keywords: emigration, remittance, labour market, economic growth.

Globalisation around the world has resulted in a movement of people between labour markets. Migration from one country to another, caused by a search of better workplaces and a higher income level, has resulted in remittance flows. Remittances are private cash flows which are sent by emigrants to their relatives left in their home country. These transfers are usually periodic, nonmarket and unrequited. Remittances can be measured as a sum of three components: worker's remittances, employee compensation and migrant's transfers [7]. According to the World Bank information [9; 11] there are more than 215 million international migrants in the world. Recorded remittances flow has reached 351 billions of dollars in 2011, and it was 8 per cent higher than in 2010.

International labour migrants are ordinarily moving from the less developed to the more developed countries. For many countries in the Europe and Central Asia region, remittances are one of the most important sources of external financing following foreign assistance and foreign direct investment [8].

There is considerable debate regarding the impact of international migration and migrants' remittances to sustainable economic development and labour market of migrant sending country. Talking about empirical tests, there is no common, globally accepted model to test the impact

of remittances on economic development. Despite the fact that emigrants remit only a few hundred dollars at a time, scientists believe that these flows have strong effects on economies. In addition, remittances may have both advantages and drawbacks. First of all, they can reduce poverty, the risk of income shocks, make it possible to exchange working hours into time for studies, increase consumption and investments in a receiving country. However, remittances can cause some negative effects as Dutch disease or a country's dependence on remittances [1; 7].

The aim of this paper is to find the relationship between emigration and labour market changes in Lithuania and to evaluate the impact of remittances on economic development using statistical methods.

Population size in Lithuania has been constantly decreasing in recent decades. High levels of emigration were being observed, especially since 2004 when the country joined EU. The level of emigration was highest in 2010, when it reached 2.5 per cent of total population. This increase in the number of emigrants was influenced by the obligation laid down in the Law on Health Insurance of the Republic of Lithuania for permanent residents of the country to pay compulsory health insurance contributions. At the same time, the impressive remittance flows have been recorded in a few years (see Fig.).

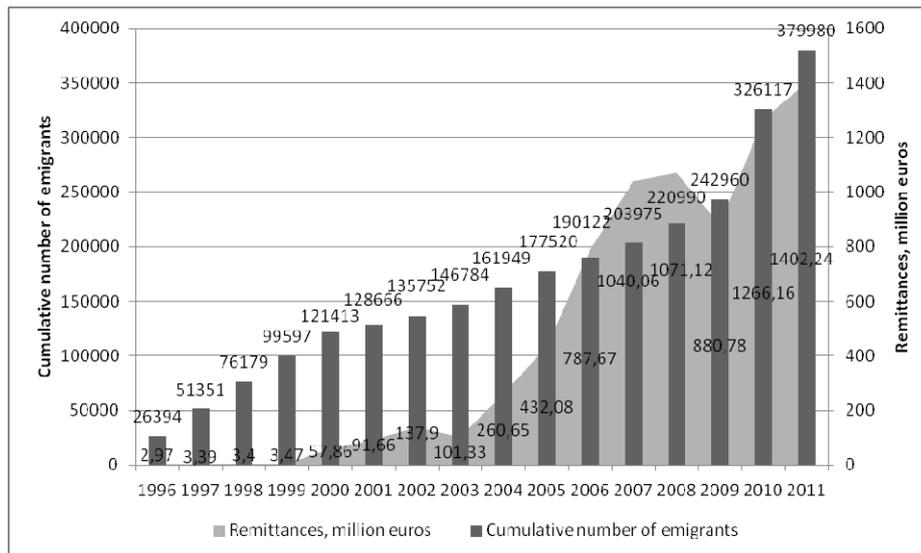


Fig. Emigration and remittances, Lithuania, 1996-2011

Source: Adapted from [0, p. 31], updated from Lithuanian Department of Statistics (<http://db1.stat.gov.lt/statbank/default.asp?w=1366>) and Central Bank of The Republic of Lithuania database (http://www.lb.lt/stat_pub/statbrowser.aspx?group=8022&lang=lt)

Remittances reached 4.57 per cent of national GDP in 2011 thus compose 1506.26 Lithuanian Litas per capita. According to the World Bank scientists remittances are sent by cumulated flows of migrants over the years, not only by the new migrants of the past year or two [8]. This makes remittances persistent over time. If migration flow stops, then over a time period remittances may stop growing. But they will continue to increase as long as migration flows continue.

Mostly young and educated people who are highly capable and willing to work and pay taxes and also the pensions for the elderly make the decision to go abroad and search for better opportunities. Almost half of the emigrants

belong to the 20-39 year age group with male to female ratio of 51:49. The largest group of people regarding education is with secondary education (59.0 per cent) followed by people with higher education (18.5 per cent). The main reason to emigrate is job seeking (for 60.8 per cent of emigrants). People move to the countries such as United Kingdom, Ireland, Norway, Spain, and Germany. So the emigration of the labour force might substantially affect the labour market in the country of origin.

In the Table 1 a correlation between emigration and remittance and labour market indicators (unemployment, wages and labour supply) is presented, using 5 per cent level significance.

Table 1. Correlation between labour market indicators and remittances, and emigration, Lithuania. 1996 – 2011, annual data

	Unemployment (per cent)	Wages (litas)	Labour supply (amount of new workplaces)
Remittances (million of litas)	-0.26	0.96	0.55
Emigration (thousands)	0.45	0.50	0.72

Source: Lithuanian Department of Statistics (<http://db1.stat.gov.lt/statbank/default.asp?w=1366>), authorial computation

The results have shown that there is a strong and statistically significant positive association between emigration and labour supply (0.55), and between remittances and labour supply (0.72). Despite the fact that labour supply was rising and new work places were established, more and more people decided to leave the country. It possibly shows that the other reasons of emigration, such as, for example, wage differences between Lithuania and recipient country exist [10].

There are positive and statistically significant relationships between remittances and real average wage and emigration and the real average wage. These results of our analysis are somehow controversial, that is why it was decided to investigate emigration and remittances relationship with unemployment.

Assumption that remittances time series explains the emigration trend better was accepted. It is generally agreed: when emigration level is increasing unemployment level is decreasing, i.e. emigration reduces pressure in the labour market. Noteworthy, in 2009-2011 high unemployment level fluctuated from 13.7 to 17.8 per cent. Remittances are characterised as altruistic money inflows. We examined this feature by analysing workers' remittances, employee compensation and migrant's transfer's time series association with GDP.

The results of our analysis have shown that there are strong and positive relationships between workers remittance and GDP (0.92), and employee compensation and GDP (0.72), using 5 per cent level significance (see Table 2).

Table 2. Employee Compensation and Workers' remittances correlations with GDP, Lithuania, 1996 – 2011, quarterly data

	Employee Compensation	Workers' remittances	Employee Compensation and workers' remittances
GDP	0.72	0.92	0.86
		Business cycles	
GDP	-0.24	-0.03	-0.19

Source: Central Bank of The Republic of Lithuania database (http://www.lb.lt/stat_pub/statbrowser.aspx?group=8022&lang=lt, authorial computation)

The results of the statistical analysis are computed by taking the log of each series in percent of GDP and the log of GDP per capita. The Hodrick-Prescott filter [0] was used to evaluate business cycles of worker's remittances, employee compensation and migrants' transfers. Then a relevant correlation was computed.

The negative correlation of time series business cycles shows counter cyclical. That supports the altruistic motivation of remittances behaviour whereby declines in a recipient Lithuania economic activity are associated with increases in remittances flows to country. This result is consistent with recent empirical support in the scientific papers of the International Monetary Fund [0].

It was mentioned above that remittances contribute to economic growth through their positive impact on con-

sumption, savings or investment [8]. The results of the analysis conducted by [3] for 11 transition economies of Eastern Europe during 1990-1999 years period show support for the view that remittances have a positive impact on productivity and employment both directly and indirectly through their effect on investment.

Dynamic Panel Data analysis was used and a fixed-effect model was created to estimate remittance impact on economic growth. The impact of remittances on economic growth was estimated by analysing 10 countries: Cyprus, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Poland, Malta, Slovakia and Slovenia in 1996-2010 years period. These ten countries had joined EU in 2004 and since the integration to EU have similar emigrations trends [0; 10].

Regression equation was constructed by OLS (Ordinary least squares) using statistical package R:

$$\Delta gdp_{it} = \beta_0 + \beta_1 gdp_{it-1} + \beta_2 rem_{it} + \beta_3 exp_{it} + \beta_4 gcf_{it} + u_{it}$$

where *i* – country, *t* – year, *gdp* – real GDP per capita logarithm, *rem* – worker remittances to GDP ratio logarithm, *exp* – export of goods and services ratio to GDP logarithm, *gcf* – gross capital formation ratio to GDP logarithm.

We evaluated the fixed effect panel data model. The dynamic-panel investigation estimated the impact of workers' remittances on per capita GDP growth. The estimator

was used in most of the sample equations of previous researches [8; 0] (see Table 3).

Table 3. Worker Remittances and Growth: Dynamic Panel Estimation, 1996-2010

	Estimate	p-value
Growth GDPpc (t-1)	-0.88454	0.000314
Log(remittances/GDP)	0.034796	0.002040
Log(export/GDP)	0.238962	0.001276
Log(GKF/GDP)	0.372470	0.000001
Observations	140	
R-squared	0.39943	

Source: World Bank database (<http://data.worldbank.org/indicator>), authorial computation

To sum up, the results of the analysis show that remittances has statistically significant impact to economical growth. It boosted 0.0348 per cent of GDB then worker's remittances' grow 1 per cent.

Conclusion. A closer look at emigration and remittances in Lithuania suggests that young and ambitious people who are a potential part of the labour force leave the country. The amount of remittances sent by emigrants to their relatives left in Lithuania reached unprecedented 4.57 per cent of national GDP in 2011.

The results of statistical analysis have shown that there are statistically significant relationships between remittances and labour market indicators, and remittances and economic development. Bigger flows of remittances have an impact on reduction of unemployment. There are positive associations between emigration and real average wage, and emigration and labour supply in Lithuania. Remittances also correlate positively having statistical significance with real wage and labour supply. It reduced tension in the labour market in the context of a recession when unemployment rate had risen.

What is more, the results of dynamic-panel estimation analysis show that remittances have a positive impact to

country's GDP. Each per cent of growth of remittances boosts the economic growth by 0.035 per cent.

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