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IMPACT OF REMITTANCE ON LEBANON ECONOMIC GROWTH

Jumana Mohammad Toufaili
Cyprus International University, Cyprus
jomana_tofayli@hotmail.com

Abstract

Lebanon is among the remittance-dependent economy. Statistic shows that in 2018 remittance contributes about 14% to its GDP. In view of these, this paper examined the impact of remittance on the economic growth of Lebanon. A yearly data from 2003 to 2017 for both remittance and GDP for Lebanon was obtained from World Bank Development indicators, and analyzed using ordinary least square regression (OLS). The findings from the study reveals that remittance flow to Lebanon has a positive and significant impact on economic growth of Lebanon. The result further shows that, a percentage increase in the remittance will increase the economic growth by about 2% at less than 1 percent significance level. The study suggest that Lebanese in diaspora should be encouraged by the government. The government should pursue a favorable and attractive policy for investment. This will enable the country to harness the full potential benefit of remittance.

Keywords: Remittance, Economic growth, OLS, Lebanon

INTRODUCTION

It is not a gainsaying that migration can ensure welfare gain for those who are moving from one place to another, whether within the country or across the border. Meanwhile, the latter exceed the former in respect of the gains accrued from it. The implication of people moving across the border is more pronounced in developing countries when compared to developed countries, this is as a result of poor economy, war/terrorism, internal conflicts, lack of employment opportunity and so on. The economy importance of migrants' remittance cannot be over-emphasized. It has remained a significant and growing source of funds from abroad for many developing countries among which is Lebanon. The inflow of the remittance has continue increasing over the years and form a large source of foreign earnings in comparison to other financial flows.

In reference to World Bank (2018), the global remittances reached $613 Billion, and out of this figure, payments to low and middle income countries stood at $466 Billion. This figure rose up with about 8.5% from the $429 billion for the year 2017.

Aside the fact that remittance from the emigrants is a sign of affiliation to the country of origin, it is as well function as a vehicle towards the economic growth of such country. Lebanon as a case study is known to be a remittance-dependent economy, with a continuous movement of people out of the country, and this in return brings regular inflows of remittance. According to Awdeh (2012), it was estimated that Lebanon has around 14 million people around the world, which is almost double the size of its domestic population. The overseas diaspora continue to send billions of dollars back home every year. The financial inflows from the diaspora has been stable over the year, even during the political turbulent period (Awdeh, 2012).

Remittance to Lebanon has been contribution significantly to the economic growth by reducing poverty, generate employment and improving the living standards of the people. The continuous attraction of the remittance from diaspora to Lebanon is as a result of the regional wealth, attractiveness of the country’s real estate sector and its banking sector, and the high number of Lebanese in abroad (Awdeh, 2012).

Remittance contributes to shaping the organization of Lebanon economy, while significantly have impact on the economic policies of Lebanon (Awdeh, 2012; Abdih et al, 2012). The government of Lebanon tends to depends on the foreign inflows, this was as a result of the experienced heavy economy distortion and deficits (Awdeh, 2012). Remittance has been found to be a significant channel of external funding for the Lebanon economy and more importantly, it makes provision for a large percentage of consumption. Remittance contributes to support expenditure on basic needs for the families. More recently, significant portion of the money has been invested in properties, which led to the growth of real estate business in Lebanon (Awdeh, 2012). Ellie (2016) for instance opined that in 2015 the deficit recorded in the balance of payment of Lebanon was as result of the decline in remittance inflow to Lebanon.

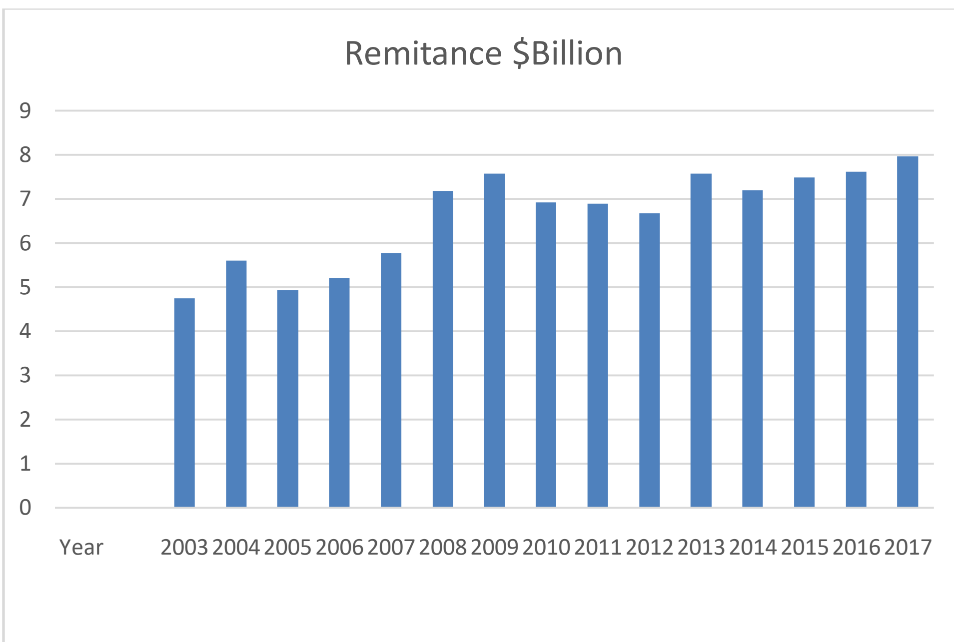
The average annual growth of remittance to Lebanon over the period 2003 – 2017 was around 13%, and the figure is higher than the average rate for Arab region (10.1%) over the same period (World Bank, 2018). This is an indication that despite the ups and downs the country experienced during the observed period, it still stands out as a major beneficiary of remittance (figure 1). According to World Bank (2018), the remittance share of Lebanon GDP was put at 14.5%.

From the foregoing, it is crystal clear that remittance plays a significant role in the economic growth of the receiving country. Therefore, the focus of this paper is to examine the magnitude of remittance contribution to the economic growth of Lebanon. The authors are of the opinion that diaspora remittance not only represent a source of relief for households in improving their ability to afford basic things, but also ensure the development of resources for enhanced human capital through education, investment in health care, increased physical and financial investment in properties, and establishment of businesses to create employment. It is of no gainsaying that studies abounds on the Lebanon emigrants, however, their contribution in terms of remittance to the economic growth of Lebanon have not been extensively researched.

More specifically, if remittance is used to invest in small and medium sized businesses or to assist in financing kid's education, it will translate to human capital development. On the other hands, if remittance is spent on corruption, this could improve economic growth in the short-run, but at the detriment of long-run economic development. Several studies on the significance of remittance to economic growth examined Lebanon as part of developing countries, and Lebanon as a country has not been thoroughly researched.

In view of the above, this paper contributes to the literature by firstly focus specifically on Lebanon as a country. And secondly, contribute to the discussion of the possible macro-economic influence of remittance in Lebanon.

Figure 1: Inflow of Remittance to Lebanon in billion dollars



Source: World Bank (2018)

LITERATURE REVIEW

It may be true that most of developing countries lost significant number of their skilled workers by relocating out of the country, this is generally caused by the lack of economic opportunities that are lacking in most of developing countries, internal conflicts and other factors. However, most of the developing countries among which is Lebanon have been benefiting from the Diasporas' remittance for their economic growth. Literature abounds on the intentions and influence of remittance in developing countries. Among the studies that investigate the intention for remittance generally highlighted three motives, which are pure self-interest, altruism, and internal arrangement with the family members in the origin country (Adams, 2009; Rapoport & Doiquier, 2006). Frankel (2011) study opined that altruistic motive shows that the amount of remittance to origin countries increases as the diaspora earnings increases, and goes down when their relationship with the family back home become severe over time. Meanwhile, diaspora with pure self-interest remit money to invest in the business back home thereby increases the capital stock and long-run economic growth (Lueth& Ruiz-Arranz, 2008; Lim & Simmons, 2015).

Several empirical studies on the relationship between the remittance and economic growth abounds in the literature. Though the findings are mixed, while some finds positive relationship between remittance and economic growth, some studies could not established the relationship in their studies.

Chami et al (2003) in their study found that remittance effect economic growth negatively because it decreases labor force involvement; decreases work potential which reduces output. This was supported by Jangwanish (2007) who examined the impact of remittance on economic growth and poverty reduction in Asia-Pacific developing countries. The result of this study concluded that remittances have positive significant on growth and poverty reduction.

Calero (2009) argued that remittances raise education attainment and reduce the scope of child work. Similarly, Acosta et.al (2008) examined the impact of remittance on poverty and the result of this study shows that the increase of remittance increases income raises consumption and improves living standards. Acosta et al. (2008) argued that, migrant remittance influence positively on the balance of payment in several developing countries, and also improve their economic growth. This their study opined that it was made possible through savings and investment in human and physical capital, and consumption. The Acosta et al. study was in agreement with some previous studies that also found remittance to have a positive impact on economic growth (World Bank, 2006; Ramirez & Sharma, 2008). Fayissa and Nsiah (2008) argued in their study that remittance is significant to the countries where financial system is not strong, and in that case, remittance acts as an alternative source for financing investment which improves economic growth.

Azeez and Begum (2009) concluded in their study that remittances have many benefits like income distribution and it improves living standard. Azeez and Begun (2009) study was supported by Chawdhurg (2014) who did similar study and found that remittance improve living standards and drives socioeconomic development. Javid, Arif and Qayyum (2012) examined the relationship between remittance, poverty reduction and economic growth by using Autoregressive Distributed Lag (ARDL) and the result shows that remittance has positive significant on economic growth and impact on poverty reduction.

Meyer & Shera (2017) examined the impact of remittances on economic growth by applying panel data model of six high remittance receiving countries during the period 1993-2013.The results indicate that remittances have a positive significant on the economic growth. This was corroborated by Begum (2018) who examined the relationship between remittances and education attainment focusing on Dominican Republic. The result of this study shows that there is a positive significant relationship between remittance and education.

While there are studies that found positive relationship between remittance and economic growth, some studies have contrary findings (Barajas et al, 2009; Brown &Ahlburg, 1999). These studies argued that remittance put productivity and growth in low-income countries at disadvantages, because those money received by the families of the people in diaspora are mostly spent on consumption instead for productive investment.

Karagoz (2009) examined the impact of workers' remittances on the economic growth of Turkey by using time series regression model for the period 1970-2005, the result shows that the flow of remittance to Turkey has a negative significant on economic growth because it reduces labor supply and reduces labor market development.

Specifically to Lebanon economy growth, Awdeh (2012) argued that remittance to Lebanon tend to brings about an increase in aggregate demands and cause an increase in consumption, which in turn brings volatility in the economic activity instead of enhancing sustainable long-term economic growth. In the words of World Bank (2012), productive industries and innovative activities in Lebanon do not have the influence of remittance on them. The findings of World Bank (2012) supported the findings of Laureti and Postiglione (2005). Abdih et al. (2012) explored the influence of remittance on government revenue, using a sample of 17 remittance-dependent countries in the Middle East, North Africa, Central Asia, and the Caucasus for the period of 1990 – 2009. The study established that remittance influence private consumption and imports, but do not impact on domestic investment. Awdeh (2012) examined the association between remittance to Lebanon and economic growth and found a weak and positive correlation.

RESEARCH METHODOLOGY

In any research, the method that must be adopted is determined by the nature of the study that is being investigated. Here, the ordinary least square regression method was used. This study used secondary data on Lebanon economic growth and remittance that covers the period of 2003 to 2017 which is obtained from World Bank (table 1). It should be noted that the data used in this research are time series data covering the period from 2003 to 2017. The choice of the period under observation was considered before July War 2006 in Lebanon and after it in order to show the important role that remittance plays on the Lebanese economy, especially during the war and its tough time. The dependent variable is the GDP (Current US$) which is utilized as a proxy for economic growth, and it's consistent with Awdeh (2012) who utilized the proxy for economic growth in the study. Meanwhile, data on remittance as an independent variable used the personal remittance received (Current US$) as its proxy. The choice of personal remittance received as proxy for remittance is in line with the studies of Chami et al. (2003); Acosta et al. (2008); Azeez and Begun (2012), and Meyer & Shera (2017) who had utilized same proxy in their studies. Thereafter, the data were transformed into natural logarithm before estimation. The technique used in this research is the ordinary least square regression method. It is a method for estimating the unknown parameters in a linear regression model, with the goal of minimizing the differences between the observed responses in some arbitrary dataset and the responses predicted by the linear approximation of the data. The regression analysis is a statistical process for estimating the relationships among variables. This includes many techniques for modeling and analyzed several variables when the focus is on the relationship between a dependent variable and one or more independent variables.

The econometric modeling procedure adopted for this research is the ordinary least square (OLS) of the classical linear regression model (Gujarati 2007). In applying OLS, we examine the relationship between the independent variable X and the dependent variable γ. After computing the values of α and β, statistical significance test has to be done. The calculated α (intercept) and β(slope) are sample estimate of the true population parameters. The *t*-test is used to determine whether the computed intercept and slope are significantly different from zero. α is referred to as a constant and the β is associated with each independent variable.

The regression analysis shows R square figures, which show the percentage of variation in one variable that is accounted for by another variable. The standard error of the estimate is a measure of the accuracy of the prediction of the regression equation from the ANOVA table the F ratio is the result of comparing the account of explained variance to the unexplained variance. The co-efficient table shows the regression coefficient which is an indicator of the importance of independent variable in predicting a dependent variable. Once the statistical significance of the regression coefficients is determined the relationship with the variables is identified.

Therefore, the model will be specified as: $\gamma = \alpha + \beta x + \mu$ ………… equation 1

Therefore, $GDP = \alpha + \beta Rem + \mu$……… equation 2

Thus, $lnGDP = \alpha + \beta lnRem + \mu$…..equation 3

Where,

lnGDP = log of GDP, *lnRem* = log of remittance, α = intercept, β = slope, and μ = the error term.

Most econometric models link an observable dependent variable γ to observable explanatory variables *X* an unobservable variable and μ (the error term if the model is a linear regression). μ is the error term introduced to our variables, α is the Intercept which explains the economic growth when the explanatory variable (remittance) is equal to zero; and β is the coefficients attached to the explanatory variables explaining its effects on the dependent variable. To analyze the model, this study employed Envies package for the analysis and residual diagnostics.

Table 1. Macroeconomic indicators

Year	GDP (In Billions)	Rem (In Billions)
2003	20083000	4743000
2004	20955000	5591000
2005	21288000	4924000
2006	21795000	5202000
2007	24577000	5769000
2008	29227000	7181000
2009	35477000	7558000
2010	38420000	6914000
2011	40076000	6878000
2012	43869000	6671000
2013	46014000	7567000
2014	47833000	7191000
2015	49459000	7481000
2016	49599000	7606000
2017	51844000	7955000

Source: World Bank (2018)

EMPIRICAL RESULTS AND DISCUSSIONS

Table 2. Descriptive Statistics

	GDP (In Billion)	REM (In Billion)
Mean	36000	6620
Max.	51800	7960
Min.	20100	4740
Std. Dev.	12000	1080
Obs.	15	15

Table 3. Regression result

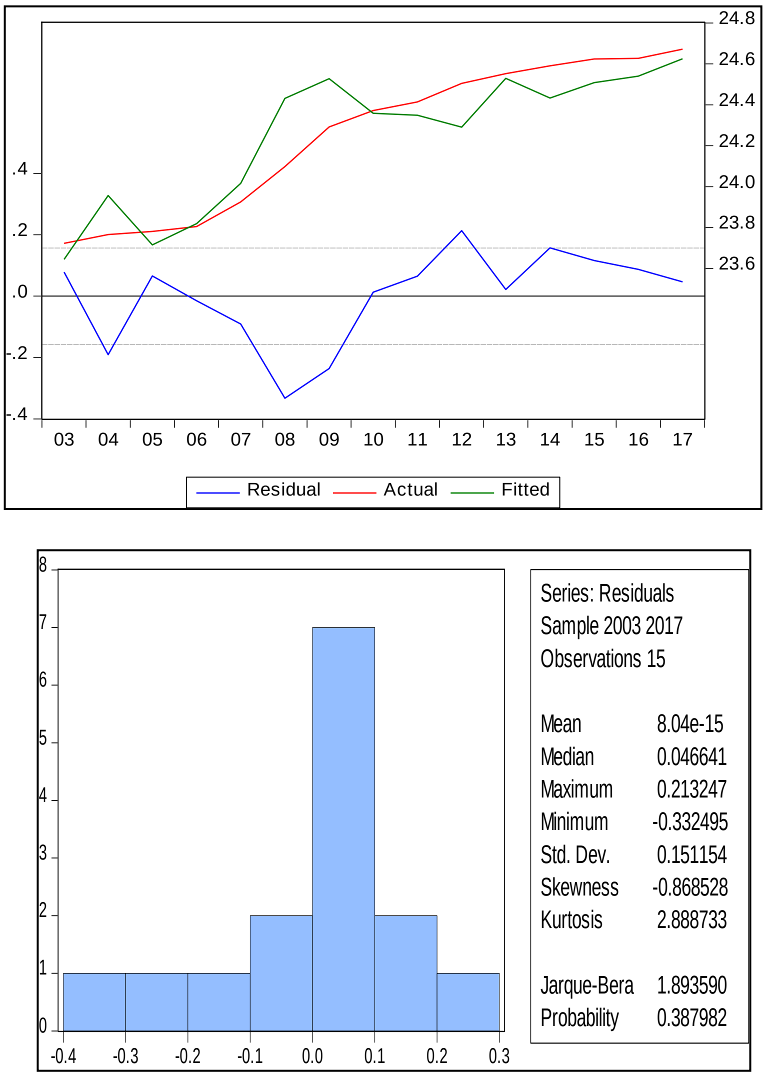
Variable	**Coefficient**	**Prob.**
LnRem	1.90 (0.24)	0.00
C	-18.58 (5.46)	0.00
R-squared	0.83	
F-statistic	61.56	
Prob. (F-statistic)	0.00	

Note: Standard error is in parentheses

The statistical evidence emanating from the study (table 3) shows that remittance has a positive and significance relationship with economic growth in Lebanon. The result as shown in the table 3 depicts that a percentage change in remittance, will influence economic growth by about 2%. Moreover, the intercept reveals that, when remittance is zero, the economic growth will experience a downturn of about 18%. This result implies that, during the period under review, remittance is statistically significant at about 1% confidence level to influence economic growth of Lebanon. The result from our findings is in consistent with previous studies (Azeez & Begun, 2012; Chawdhurg, 2014; Fayissa & Nsiah, 2008; Meyer & Shera, 2017; Javid, Arif & Qayyum, 2012; Lim & Simmons, 2015), who had argued in their studies that remittance is significant to the economic growth of countries will less strong financial system. However, our findings is in contrast to some previous studies who could not established a significant relationship between remittance and economic growth (Barajas et al. 2009; Abdih et al, 2012; Laureti and Postiglione, 2005). Their argument was that remittance put productivity and growth in low-income countries at disadvantages.

The result from table 3 shows further that, the R-squared of 0.83, with f-statistic (61.55) and a p-value that is less than 1% (0.00), indicate that the model is fit and could explain about 83% of the total variation in the economic growth. Though, the author observed the R^2 to be on the high side, and as such residual diagnostic of the model was conducted to ensure that the model is not suffering from any problem.

Figure 2: Residual Normality Test



The residual normality diagnostic test as depicted in figure 2 reveals that, the Jarque-Bera statistic is 1.89, with a p-value of 0.39. With the p-value that is greater than 0.05, it implies that, the author failed to reject the null hypothesis of normality test which states that, the residual are normally distributed. This result shows that, the model is ok, and does not have normality problem.

Table 4: Breusch-Godfrey Serial Correlation LM Test

	Coefficient	Prob.
F-statistic	1.23	0.33
Obs*R-squared	2.74	0.25

Table 5: Heteroskedasticity Test: Breusch-Godfrey Serial Correlation LM Test

	Coefficient	Prob.
F-statistic	0.64	0.44
Obs*R-squared	0.70	0.40
Scaled explained SS	0.50	0.48

Furthermore, Breusch-Godfrey serial correlation test was conducted to check if the model is suffering from serial correlation problem. The hypothesis here is that, there is no serial correlation (null hypothesis), vice versa. As reveal in table 4, the p-value for both f-statistic and observed R-squared are greater than 0.05. This implies that, the author failed to reject the null hypothesis and conclude that, this model does not have serial correlation.

Similarly, heteroskedasticity test was conducted, the hypothesis is that (H_0: Homoskedasticity; H_1: Heteroskedasticity). However, the result in table 5 shows that the p-value is greater than0.05, therefore, the author failed to reject the null hypothesis (Homoskedasticity) and conclude that the model is safe.

In conclusion, the result from the diagnostic test on the model established the fact that the model in this study is fit and free from any model problems. Therefore, the result from this study is reliable for formulating economic policy in Lebanon.

CONCLUSION

This study is conducting to explore the impact of remittance on economic growth of Lebanon by using annual data for the period 2003-2017. In order to explore the relationship between remittances and economic growth ordinary least square regressions was employed and different diagnostic tests were applied. Findings from this study reveal that inflow of remittance to Lebanon has a positive and significant impact on the economic growth of Lebanon. The analysis further shows that, should there be a decrease or no inflow of remittance to Lebanon, the country economy will suffer greatly. To ensure that the model is fit and suitable for policy formulation, several diagnostic test was carried and the results reveals that the result obtained from this study is reliable.

However, there is need for further studies on remittance in Lebanon to ascertain the veracity of the findings from the study of Abdih et al. (2012) who found that remittance do not impact on domestic investment. Based on the findings from this study, Lebanese in diaspora should be encouraged by the government with some policies that are favorable and attractive for investment. This will go a long way in the continuous contribution of remittance to economic growth of Lebanon, and will enable the government to harness the full potential benefit of remittance. It can as well help the economy to maintain and improve economic growth by reducing current account deficit, improving balance of payments, accelerating investment, improving education, reducing poverty, and improving living standards.

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