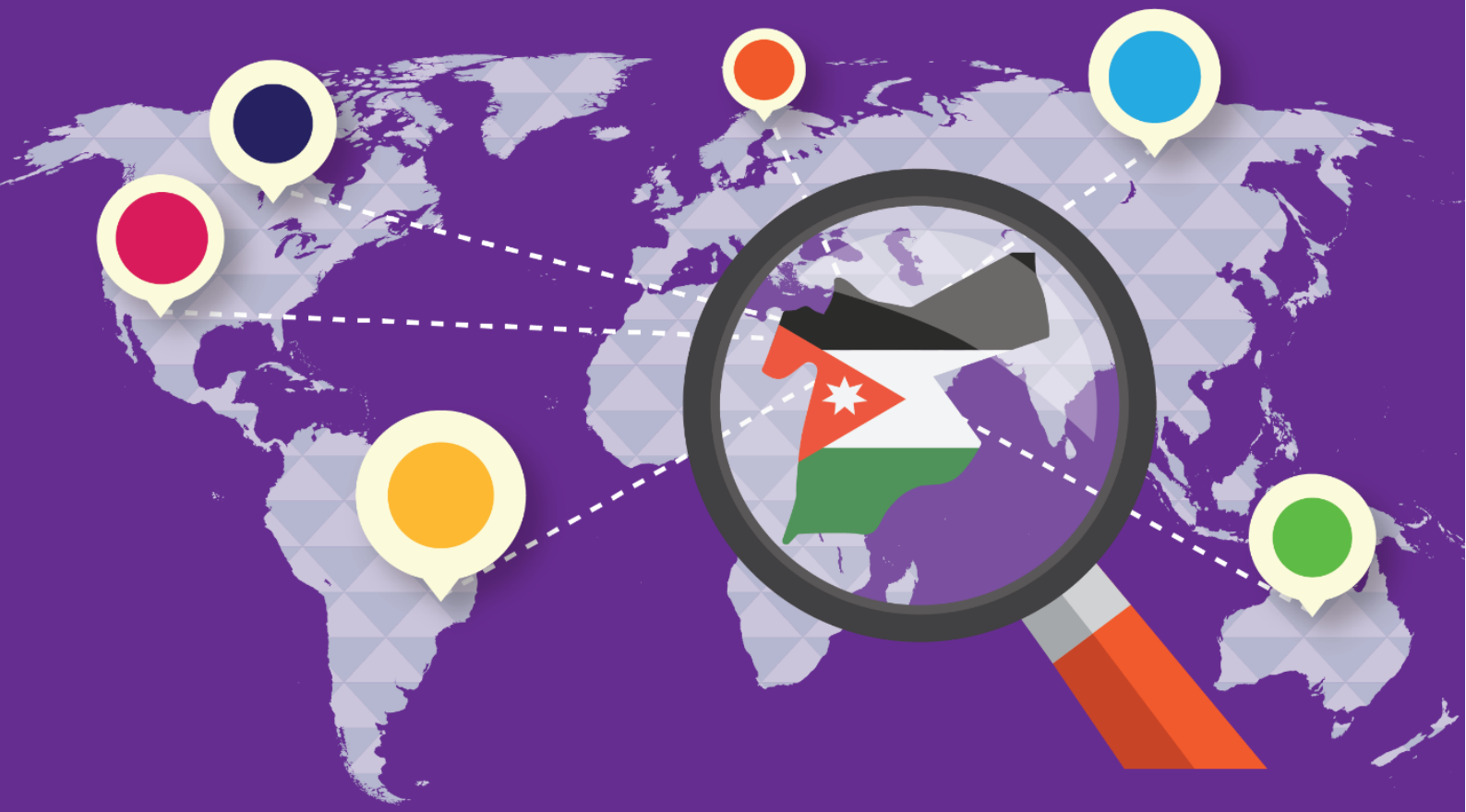

The Economics of Jordanian Remittances

Some Issues We Should be Happy About & Enhance

March 2018

منتدى الاستراتيجيات الأردني
JORDAN STRATEGY FORUM

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The Jordan Strategy Forum (JSF) is a not-for-profit organization, which represents a group of Jordanian private sector companies that are active in corporate and social responsibility (CSR) and in promoting Jordan's economic growth. JSF's members are active private sector institutions, who demonstrate a genuine will to be part of a dialogue on economic and social issues that concern Jordanian citizens. The Jordan Strategy Forum promotes a strong Jordanian private sector that is profitable, employs Jordanians, pays taxes and supports comprehensive economic growth in Jordan.

The JSF also offers a rare opportunity and space for the private sector to have evidence-based debate with the public sector and decision-makers with the aim to increase awareness, strengthening the future of the Jordanian economy and applying best practices.

For more information about the Jordan Strategy Forum, please visit our website at www.jsf.org or contact us via email at info@jsf.org. Please visit our Facebook page at Facebook.com/JordanStrategyForumJSF or our Twitter account @JSFJordan for continuous updates aboutJordan Strategy Forum.

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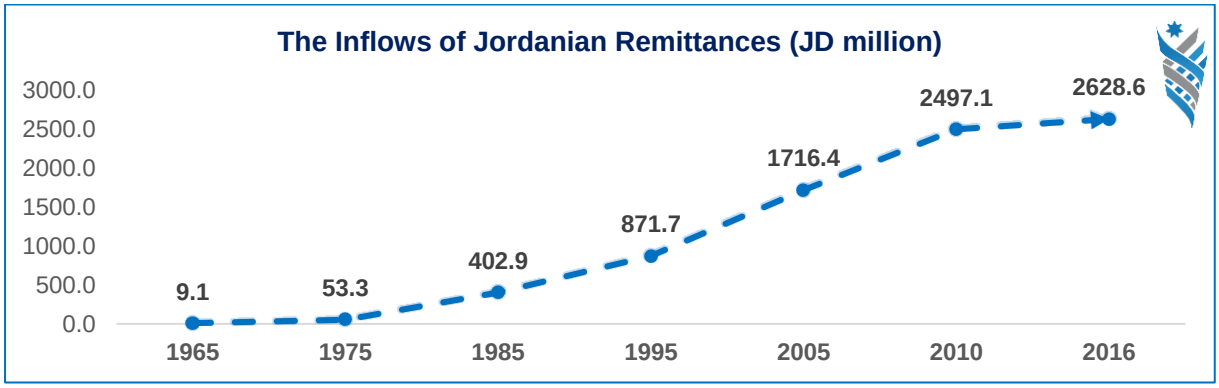
1. Executive Summary

No one should underestimate the socio-economic importance of Jordanians who work abroad and their remitted funds. Since 1965, the inflows of remittances have increased from JD 9.1 million to more than JD 2.6 Billion in 2016. Remittances can bring in a myriad of benefits to Jordanian society and economy. They can promote real economic growth and development and reduce poverty. Remittances can also result in better housing, schooling, and health services. Even financial development (foreign exchange reserves, bank deposits and bank credit to the private sector) can benefit from this foreign cash inflow.



Jordanians who work abroad are an important asset for other reasons too. For so long, the economy has been suffering from consistently high unemployment rates. Even more disappointing, is the fact that unemployment is highest amongst the educated (with B.A or higher) and the young.

Jordanians who work abroad, not only benefit the national economy through their remitted funds, but also reduce pressure on the local labor market. Without labor emigration, the unemployment challenge would become even more challenging.

This policy paper, issued by the JSF, examines the impact of Jordanian remittances on: **(1)** Real economic growth and inflation. **(2)** Imports and trade deficit. **(3)** Bank deposits, bank credit to the private sector, and bank foreign exchange deposits (financial development).

Based on our statistical analysis, the results are mostly encouraging.

1. Remittances have a positive impact on real per capita GDP. If real remittances increase by 5%, real per capita income increases by 4.93%.
2. Remittances have a positive impact on real GDP. If real remittances increase by 5%, real GDP increases by 7.67%.
3. The inflows of remittances have no impact on the inflation rate in Jordan.
4. Remittances have a positive impact on bank deposits. If real remittances increase by 5%, real bank deposits increase by 8.57%.
5. Remittances have a positive impact on bank credit to the private sector. If real remittances increase by 5%, real bank credit to the private sector increases by 8.03%.
6. Remittances have a positive impact on bank real deposits in foreign exchange. When real remittances increase by 5%, real bank deposits in foreign exchange increase by 4.82%.
7. Remittances have a negative impact of imports. When real remittances increase by 5%, real imports increase by 8.61%.

8. Remittances have a negative impact of trade deficit. When real remittances increase by 5%, trade deficit increase by 9.05%.

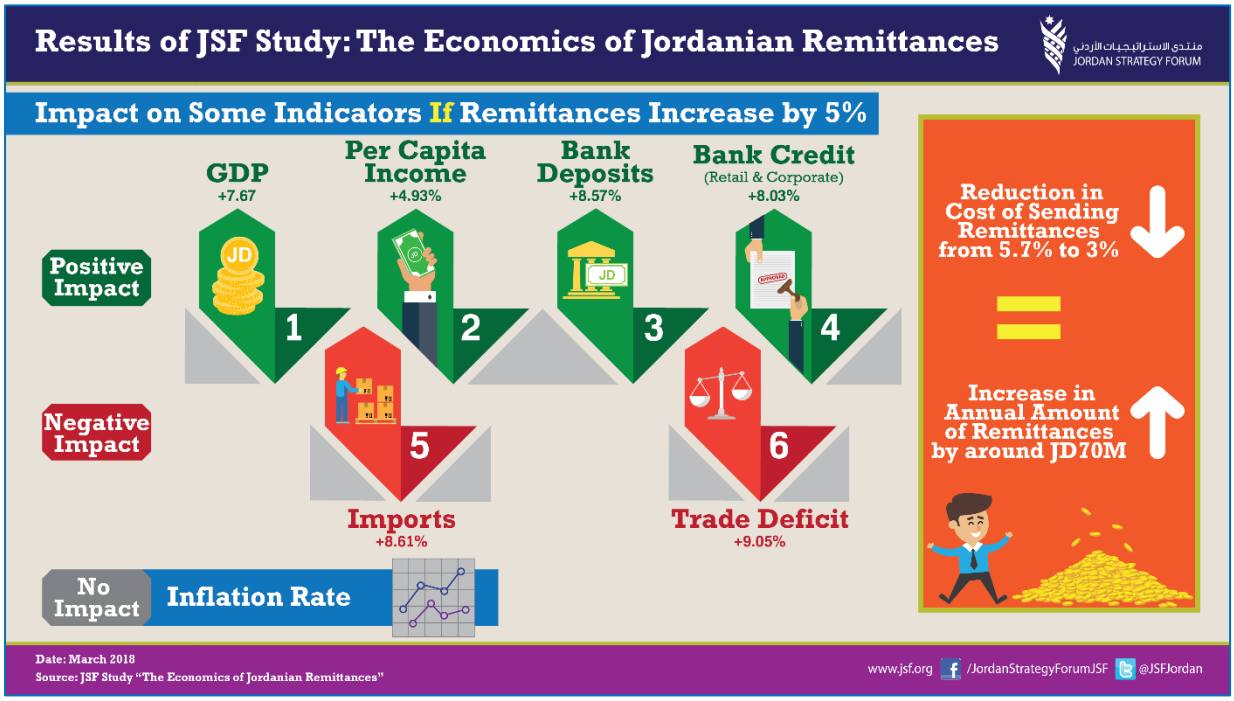
The Policy Implications are Clear, JSF recommends the following:

1. Considering the results and the economic and social importance of the work of Jordanians abroad and its consequences on the macroeconomic and financial development factors. **It is important that Jordan's policy in dealing with Jordanian expatriates' affairs remains a priority for policy makers and decision-makers.** There is also an urgent need to understand how to deal with Jordanian expatriates and to study their needs by all concerned parties from decision makers, private sector institutions and think tanks.

2. We need **to understand the dynamics of the regional labor market in terms of the jobs created, their need for foreign labor,** and the competition Jordanians face in these markets.

3. Jordan should seek to **reduce the cost of transferring remittances from abroad to Jordan, especially in the countries where Jordanians are located.** This does not only increase remittances, but also increase the inflow of official instead of unofficial remittances. This is at least one way to have a better estimate of the true size of remittance inflows.

4. The impact of remittances on imports and the trade deficit are obviously not encouraging. However, this problem **trade deficit is not caused by just remittances. This is a structural problem that needs reducing or solving.**



1. Introduction

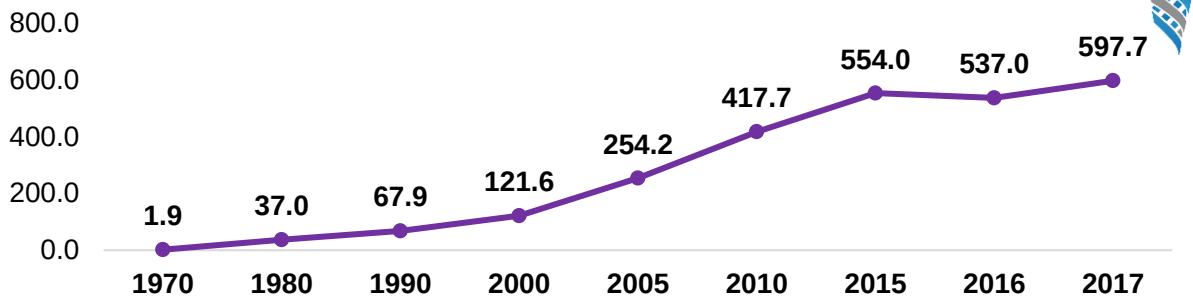
For so long, the issue of remittances by migrant workers has been attracting a lot of attention by academic researchers, think tanks, policy-makers, as well as by international organizations. This interest is due to several reasons.

First, official flows of global workers' remittances have increased from $1.9 billion in 1970 to more than $597 billion in 2017 (World Bank).

Second, remittances can bring a myriad of welfare benefits including better nutrition, housing, schooling, and health services.

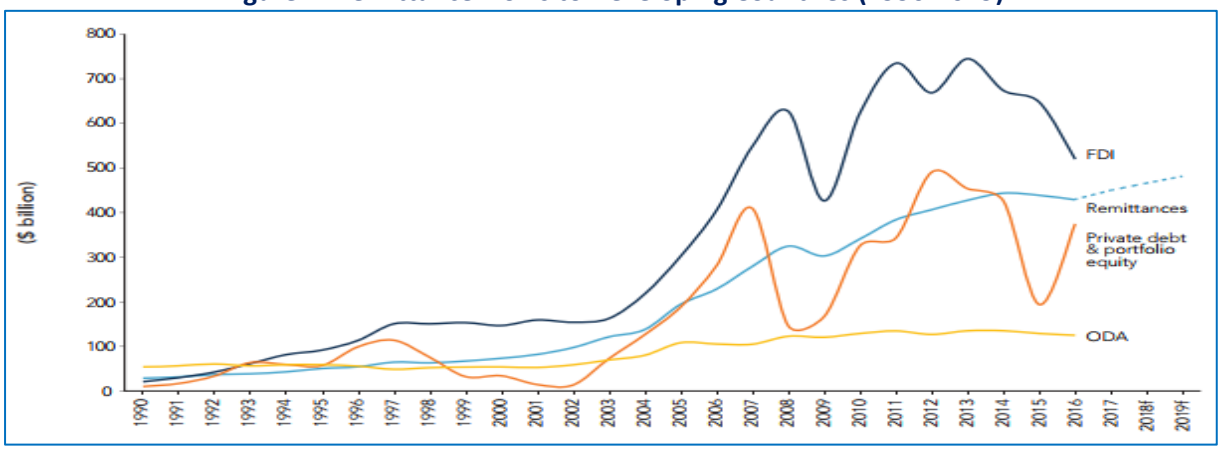
Third, in addition to their impact on developing countries' foreign exchange reserves, remittances can promote real economic growth in the recipient as well as in the sending countries. Remittances can also reduce poverty.

Figure 1: Personal Remittances in the World ($ Billions)



Relative to the global size of remittances, it is also useful to note that this source of cash inflow has been more stable than other capital inflows (Figure 2). Moreover, it is not only greater than overseas development assistance (ODA) and private debt and portfolio equity, but also fast catching-up with foreign direct investment (FDI).

Figure 2: Remittance Flows to Developing Countries (1990-2019)



Source: World Bank (2017)

Given the sheer size of global remittances, their stability, and resultant socio-economic benefits, it is not surprising that the International Day of Family Remittances (IDFR) was unanimously proclaimed by all 176 member states of the International Fund for Agricultural Development's (IFAD) governing council in February 2015. Also, the Day was noted by the UN General Assembly's Resolution on International Migration and Development.

The fifth Global Forum on Remittances and Development (GFRD), convened by IFAD, the World Bank and the European Commission, took place from 16 to 19 June 2015 in Milan, Italy. The event brought together more than 420 policymakers, private-sector stakeholders, civil-society leaders and delegates from 70 countries, to pave the way for leveraging the development impact of remittances" (IFAD).

The issue of remittances has attracted so much scholarly attention. While impossible to review this effort, the JSF, in this policy paper, argues that much of the research attention has been devoted to answering eight main questions / issues. These are outlined below.

First, how large are remittances? This question is important because some remittances are channeled through the informal sector and hence are not officially registered.

Second, what determines the cost of remittance transfers? This is important for one simple reason and that is "cutting prices by at least 5 percentage points can save up to $16 billion a year" (World Bank).

Third, what determinants remittances? Again, this question is important because once the main factors that affect the size of the remitted funds are known, policy-makers can adopt policies that promote this flow of capital.

Fourth, what is the macro-level role of remittances? This question has raised a myriad of research issues including the impact of remittances on real economic growth, imports, trade deficit, and inflation.

Fifth, what are the micro-level roles of remittances? Again, this question has raised a number of research issues including the impact of remittances on financial development (bank deposits, bank credit, and foreign exchange deposits.

Sixth, what is the impact of remittances on various socio-economic issues including poverty and schooling quality of children?

Seventh, the net cost of human capital flight for the sending country is referred to as a "brain drain". This effort attempts to examine whether or not remittance-receiving economies are deprived of much-needed skilled employees.

Finally, the research literature includes surveys of expatriates. The objective of this effort is to determine the social–demographic characteristics of expatriates (i.e. age, marital status, total number of members per household, education level, occupation, income level, and others), reasons to expatriate, uses of the remitted funds, and others.

As one might expect, the results of the research effort that examines anyone of the above-mentioned issues are not consistent. For example, while more remittances result in more imports in some countries, such a relationship does not exist in others. It is really an "empirical issue". Having said, it is useful to read the following quotations.

"It is not about the money being sent home, it is about the impact on people's lives. The small amounts of $200 or $300 that each migrant sends home make up about 60% of the family's household income, and this makes an enormous difference in their lives and the communities in which they live" (G. Houngbo, President of the International Fund for Agricultural Development).

"Analyses of 71 developing countries show significant poverty reduction effects of remittances: a 10% increase in per capita remittances leads to a 3.5% decline in the share of poor people in the population" (Migration Policy Institute).

"Remittances have a positive effect on growth. Indeed, the large share of remittances is usually spent on daily consumer goods while the rest is saved and / or invested. Whatever the spending pattern is, remittances

contribute positively to economic growth" (Tabit and Moussir / IMF, 2017).

"Since remittances increase purchasing power in general within the receiving economy, they also promote domestic demand and preferences here may actually be in favor of imported goods and services. This fact often results in the deterioration of the external trade balance" (Hien, 2017).

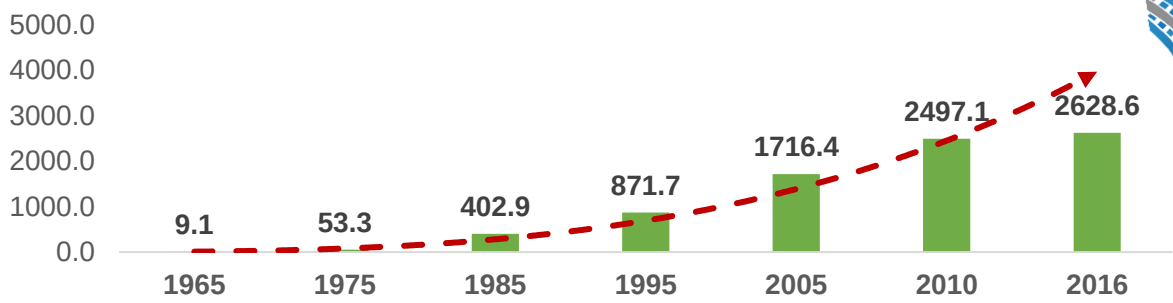
"Remittances could have a positive effect on growth by providing financial resources for investment and education and through migrant networks that can foster trade and investment" (IMF, 2017).

"On the one hand, emigration is likely to have a negative effect on growth in the home country as the departure of people of working age reduces the labor force. This loss could be significant in case of brain drain, as the loss of high-skilled workers could entail negative externalities for the broader economy, including less scope for innovation" (IMF, 2017).

"A one percentage point increase in the share of remittances to GDP suggests around a 0.5-0.6 percentage point increase in the ratio of deposits to GDP, while it leads to at most a 0.3 percentage point rise in the share of credit to GDP" (World Bank).

Relative to the above-mentioned observations, it would be important to examine the economics of remittances in the Jordanian scene. Again, this is due to several reasons. **(1)** The inflows of remittances have increased from JD9.1 million in 1965 to more than JD2.6 billion in 2016. **(2)** Notwithstanding the fact that there is no officially reported number of Jordanian migrants, "in 2014, an estimated 786,000 Jordanian migrants were residing abroad, that is 10.5% of the country's total national population. As expected, most of these migrants reside in the Gulf States, especially Saudi Arabia (Table 1).

Figure 3: Inflow of Jordanian Workers' Remittances (JD million)



Estimates of Jordanian Migrants by Region & Selected Countries (2013-2015)

Country / Region	Number of Migrants	Proportion
Saudi Arabia	250,000	31.8%
UAE	200,000	25.4%
Kuwait	55,081	7.0%
Qatar	40,000	5.1%
Oman	7,403	0.9%
Bahrain	7,000	0.9%
Other Arab Countries	100,516	12.8%
North America	75,018	9.5%
Europe	31,541	4.0%
Other Countries	20,000	2.5%
Total Emigrants	786,000	100.0%
Source: Adapted from Bel-Air (2016)		

This policy paper, issued by the JSF, examines the economics of Jordanian remittances in terms of some important issues. These are:

1. The impact of remittance inflows on real economic growth and inflation.

2. The impact of remittance inflows on imports and trade deficit.

3. The impact of remittance inflows on bank deposits, bank credit, and bank foreign exchange deposits (financial development).

Relative to our objectives in this policy paper, it is worth noting that the JSF published back in 2017 a paper that contained three sections. The first section identifies the effects of the return of expatriates on certain economic indicators. The second section discusses the main benefit that result from the migration of human capital. The final section provides some recommendations in case Jordanians return back home. These include the introduction of an "active outreach program as soon as possible. This should be facilitated through government institutions in conjunction with the various chambers of commerce and industry. The recent attempts of a compilation of an expatriate database by the Ministry of Foreign Affairs and Expatriates enables the completion of this activity" (JSF, 2017).

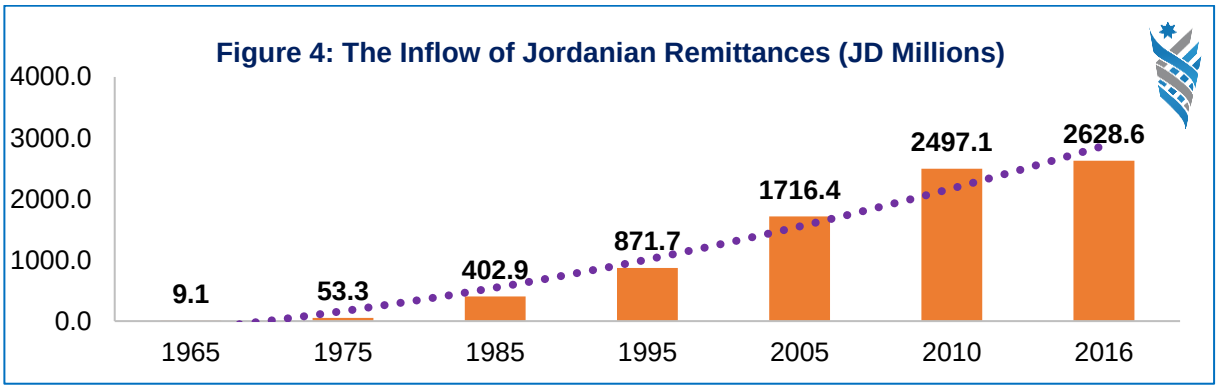
2. The Inflow of Jordanian Remittances: Some Observations

It is probably accurate to state that the 1967 and 1973 Arab-Israeli Wars have had a significant and lasting impact on Jordan. While the 1967 War resulted in a large influx of Palestinian refugees, the 1973 War and its' resultant oil embargo caused the price of this commodity to increase from $3 per barrel to $12 by 1974. The impact of these observations on the socio-economic of Jordan should not be underestimated.

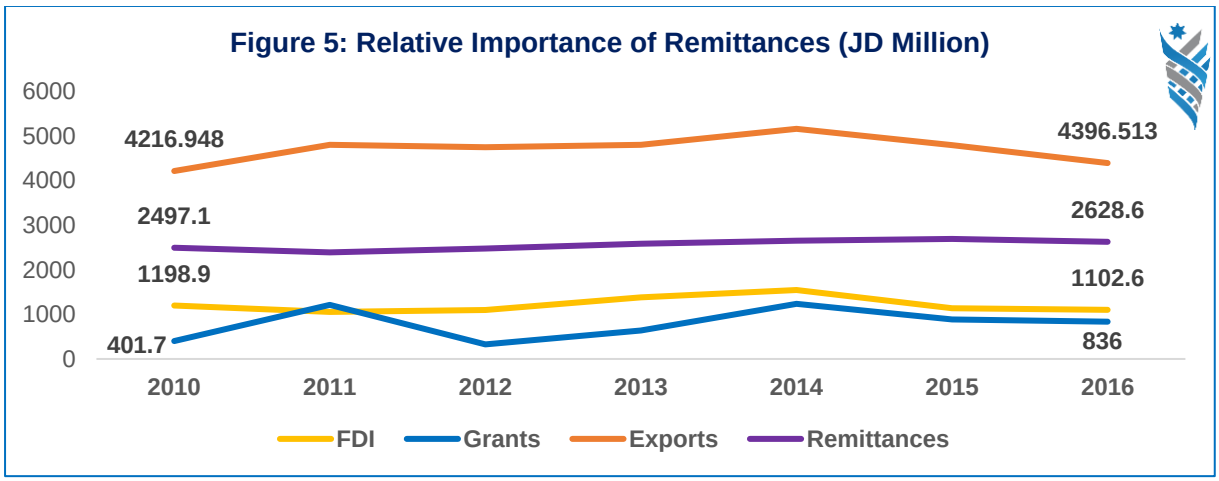
First, the fact that Jordan is a small country with limited natural resources, many of the Palestinians had no choice but to look for employment opportunities abroad; mainly in the Arab Gulf countries.

Second, as a result of the rise in oil prices, the Gulf Cooperation Council (GCC) countries initiated ambitious development plans which required manpower from abroad, including Jordan.

Together, the above-mentioned observations explain the increase in the inflow of workers' remittances. Remittances have become a major source of foreign exchange inflow (Figure 4). These inflows increased from JD 9.1 million in 1965 to more than JD 2.6 billion by the end of 2016.

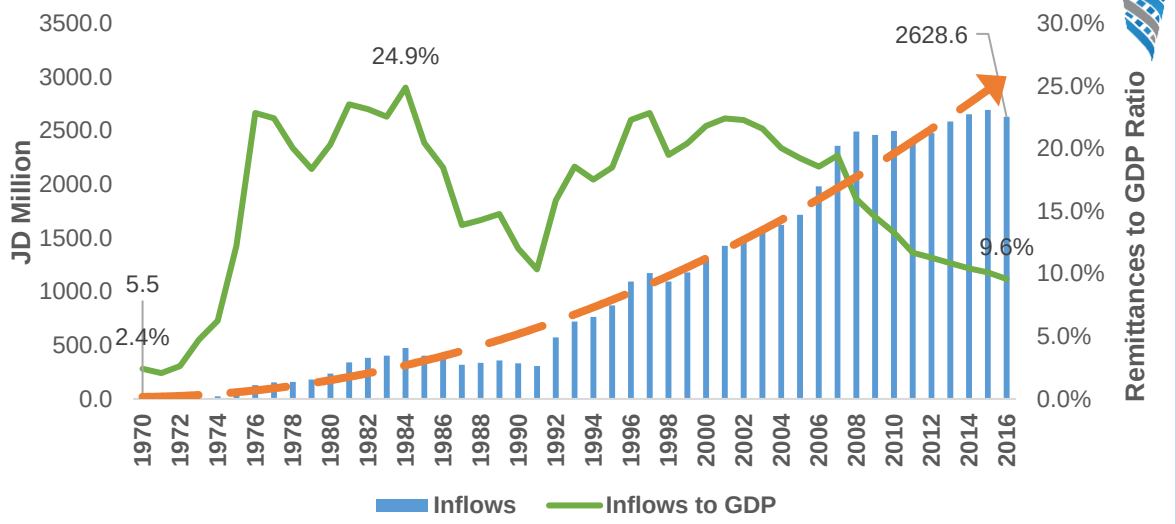


To re-inforce the importance of Jordanian remittances, one needs to realize that they are not only larger than foreign direct investments (FDI) and foreign grants, and account for a large proportion of national exports, but also the most stable (Figure 5).



Notwithstanding the fact that during the period 1970-2016, the inflows of remittances have increased in most years, they have reflected great variations relative to GDP (Figure 6). For example, in 1984, remittances to GDP ratio was at its highest (24.9%). Since 2001, the flow of remittances to GDP ratio has been on a downward trend. This indicates that nominal GDP has been increasing at a faster rate than remittances. Having said that, one can argue that remittance inflows still represent a large proportion of the national economy.

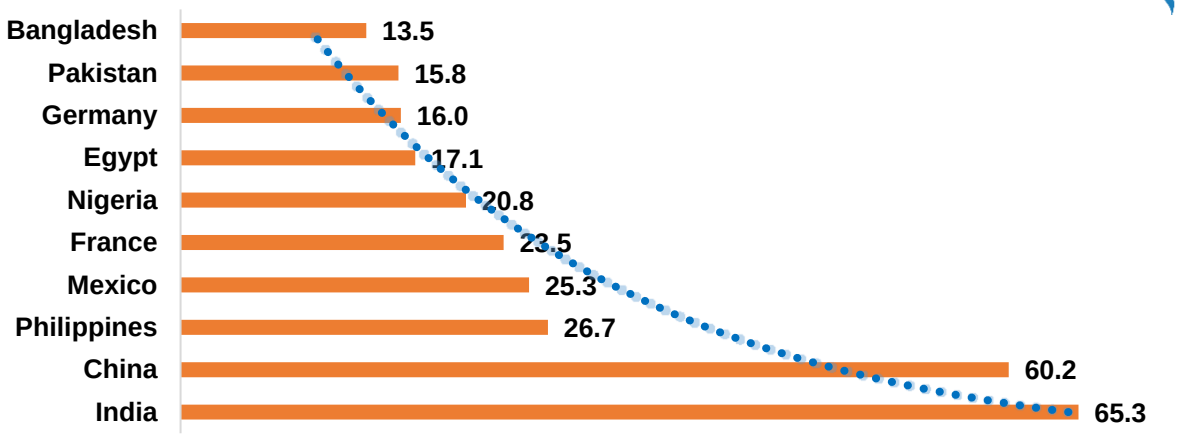
Figure 6: Remittance Inflows to GDP Ratio



In addition to the above observations, it is useful to put Jordanian remittances in terms of their international perspective.

First, in terms of amounts, during the period 2010-2017, India was the top remittance recipient country in the world (World Bank). With a mean annual value of $17.1 billion, Egypt is the only Arab country which is among the top ten.

Figure 7: Top Ten Remittance Recipient Countries 2010-2017 Annual Mean ($ Billion)



Second, while Jordan received much lower remittances than Morocco, Lebanon, and Egypt, no one should underestimate the $4.6 billion annually remitted Jordanian funds (Figure 8). Indeed, if we look at remittances in terms of "per capita", Lebanon and Jordan become the top two countries in the world (Figure 9). During the period 2010-2017, while Lebanon received a mean annual value of $1393 per person in remittances, Jordan's figure ($553) is higher than Egypt ($190), India ($51), and China ($44).

Figure 8: Remittance Inflows 2010-2017 Annual Mean ($ Billion)

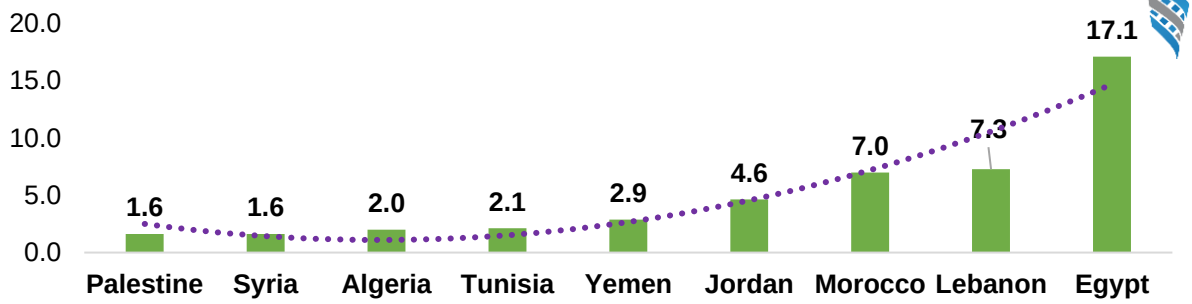
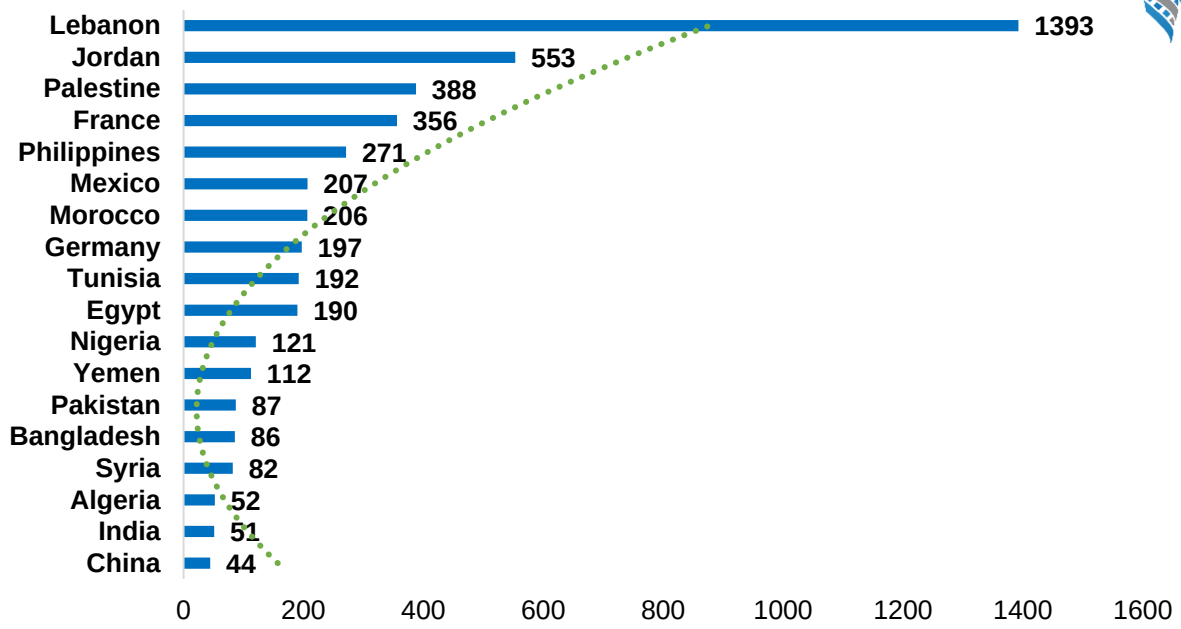
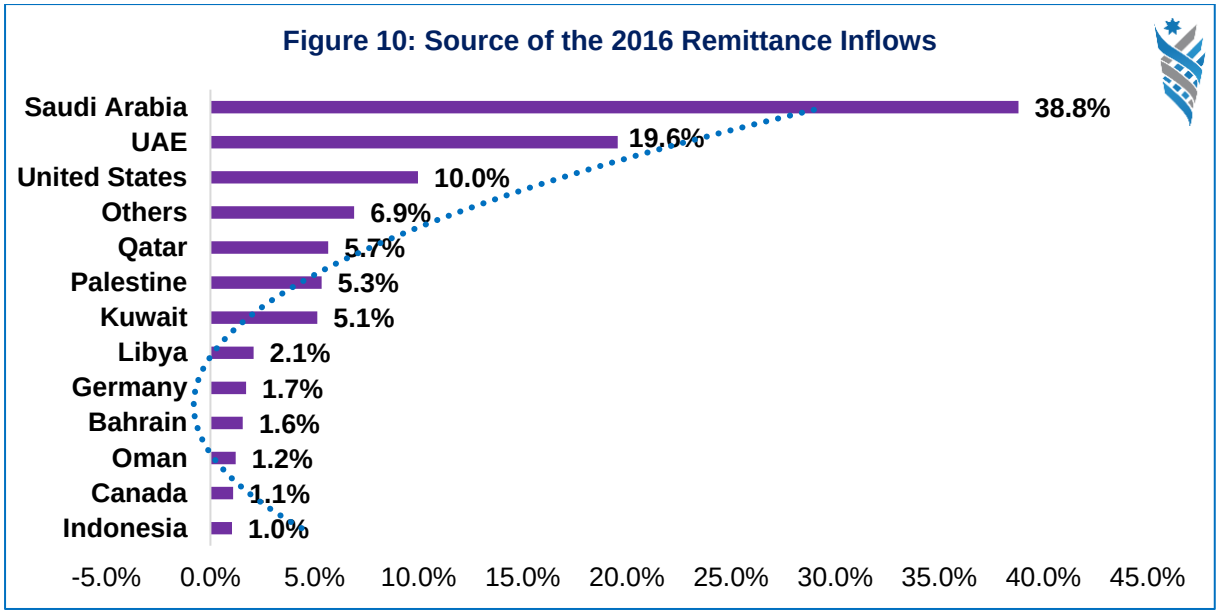


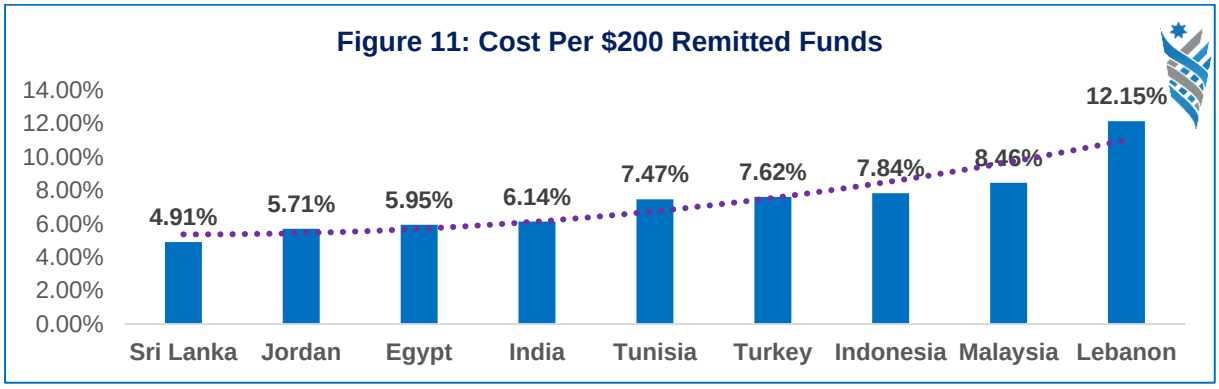
Figure 9: Remittance Inflows Per Capita 2010-2017 ($)

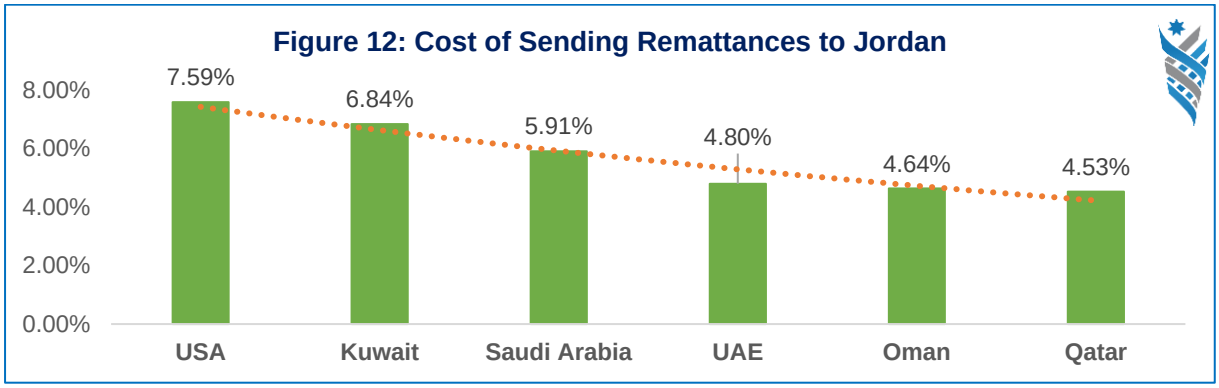


Third, it is interesting to note that Saudi Arabia is the largest source of Jordanian remittances. From Saudi Arabia, Jordanian expatriates remit 38.8% of all remittances (Figure 10). This is followed by the UAE (19.6%), and the United States (10.0%).



Finally, it is useful to note that the World Bank (Remittance Prices World Wide) monitors the cost per $200 remitted funds. The latest available figures (1st Quarter 2017) indicate that Jordan has relatively low cost (Figure 11). This cost, however, varies from one sending country to another. The cost of sending, on average, $200 from Qatar to Jordan (Figure 12) is equal to 4.53% and this is much lower than its equivalent from the USA (7.59%). Naturally, decreasing this cost implies an increase in remittances.



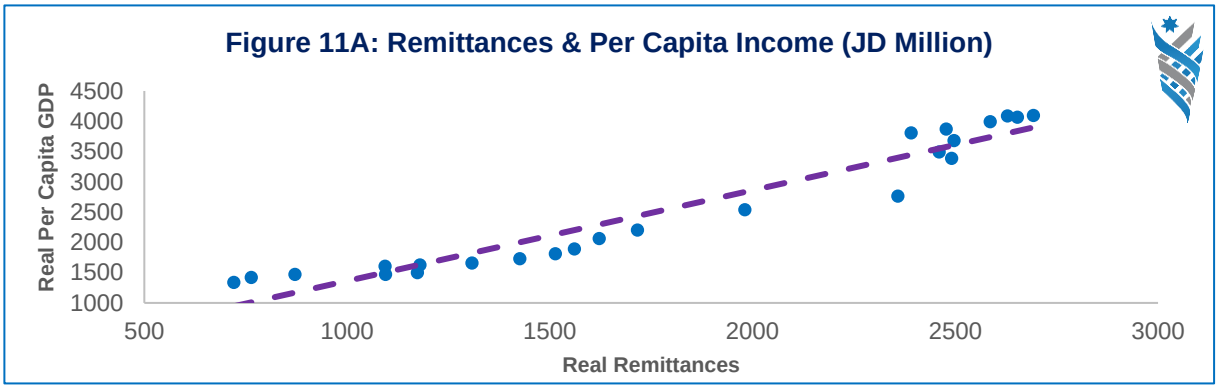


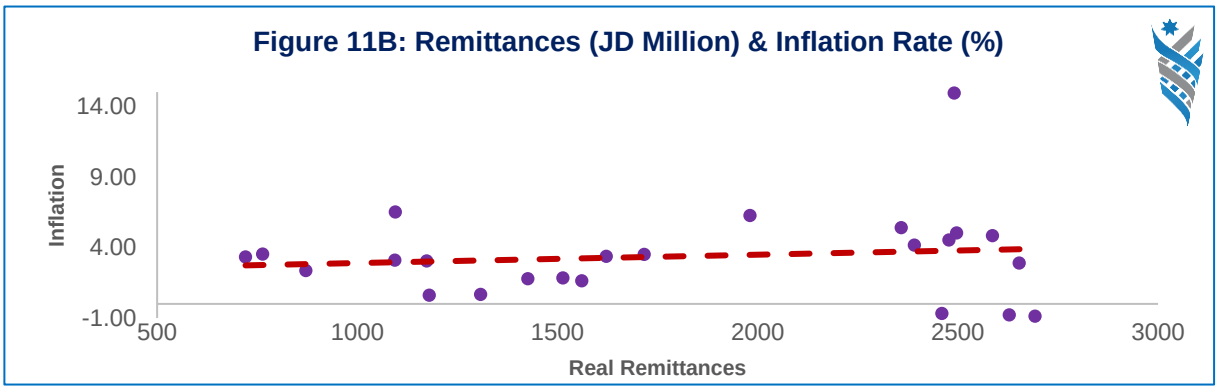
3. The Economics of Remittances

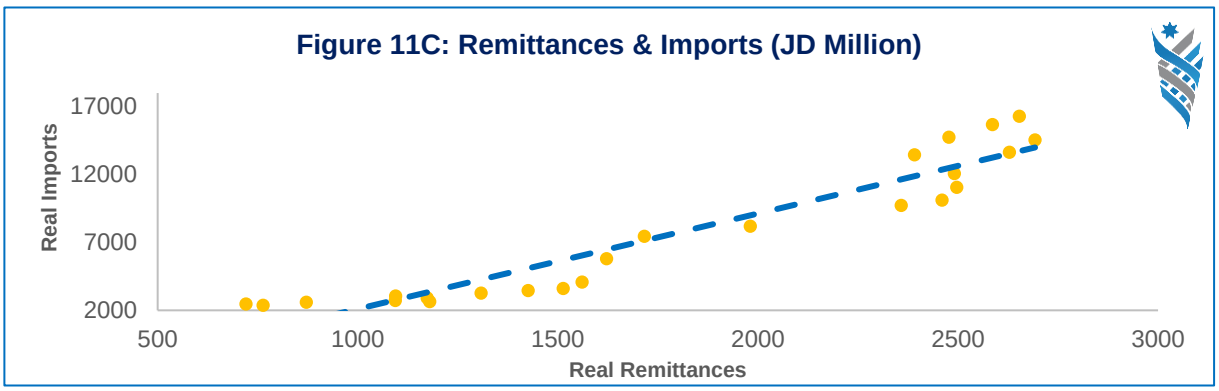
As stated in the introduction, the primary aim of this policy paper is to examine the impact of remittances on real per capital income, inflation, imports and trade deficit, and on financial development (bank deposits, bank credit, and bank foreign exchange deposits.

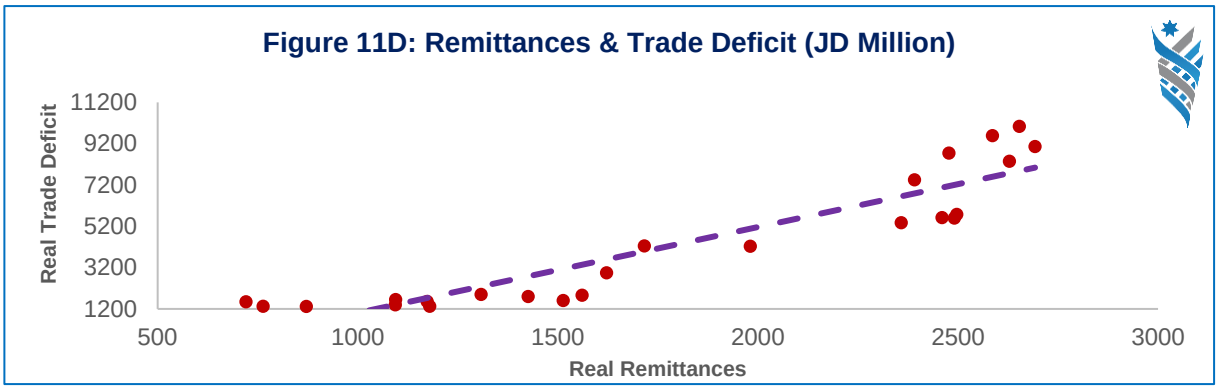
We use annual data (1993-2016) of real per capita income (GDPPC), real imports (IMPORT) and real trade deficit (TRADE), consumer price index (INFLATION), real credit to private sector (CREDIT), real bank deposits (DEPOSIT), and real foreign exchange deposits (FOREIGN).

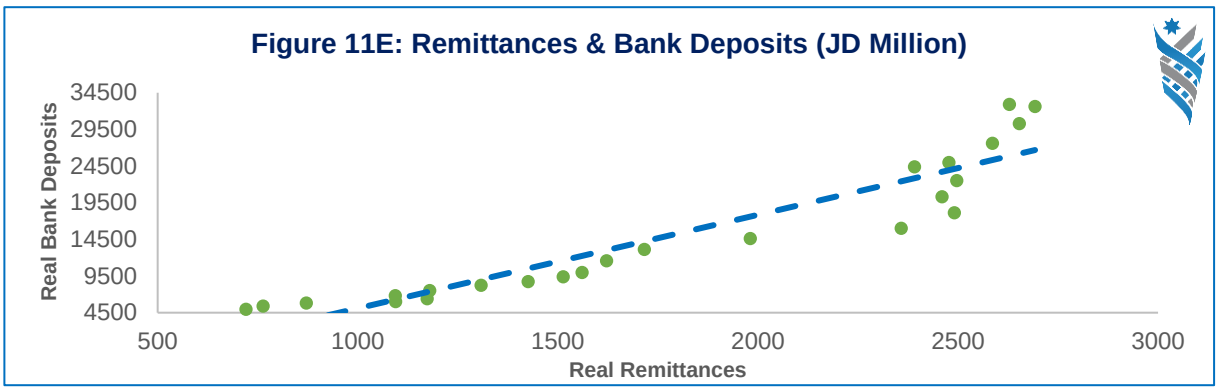
A simple look at the behavior of remittances and per capita income reflects some underlying positive relationship (Figure 11A). This behavior is also reflected between remittances and imports, trade deficit, bank deposits, bank credit, and foreign exchange deposits. The only exception here is the behavior of remittances and inflation where the points are more scattered (Figure 11B).

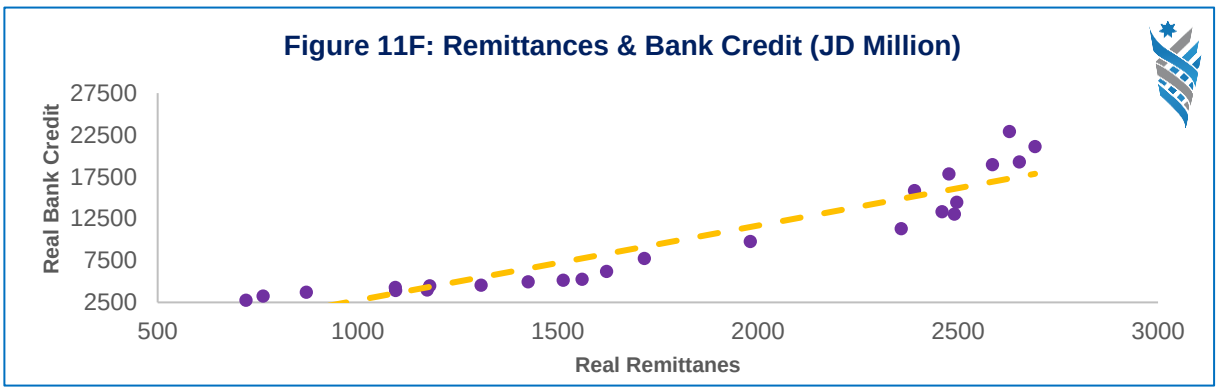


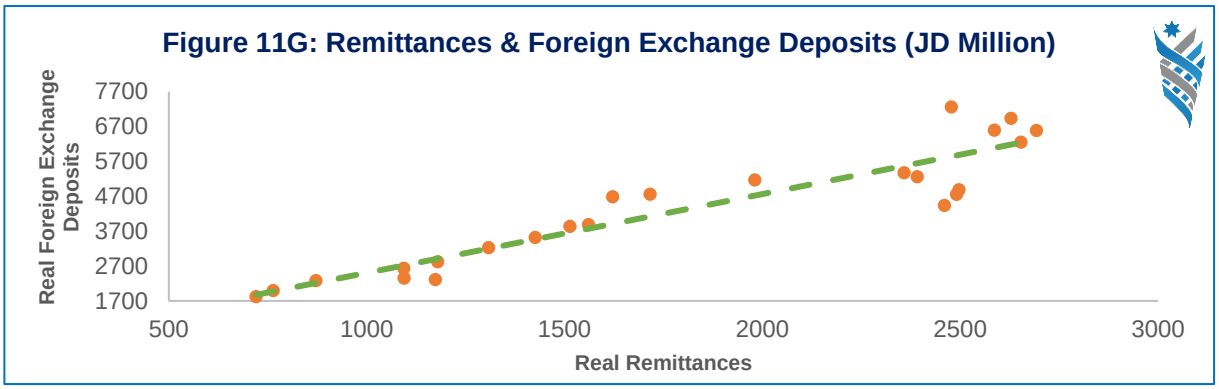












Based on these Figures, however, we cannot state that when remittances increase real per capita income would increase. Similarly, we cannot argue that bank deposits increase when remittances increase. In statistics, spurious (wrong) relationship is a relationship in which two variables are not causally related to each other, and yet it may wrongly be inferred that they are due to coincidence or the presence of another (third) variable (not seen). For

example, "a spurious relationship can be seen by examining a city's ice cream sales. These sales are highest when the rate of drownings in city swimming pools is highest. To allege that ice cream sales cause drowning, or vice versa, would be to imply a spurious relationship between the two. In reality, a heat wave may have caused both. The heat wave is an example of a hidden or unseen variable, also known as a confounding variable" (Wikipedia).

To examine the relationship between remittances and real per capital income, inflation, imports, trade deficit, bank deposits, bank credit, and foreign exchange deposits, we need to use more sophisticated methodologies than just reporting Figure 11A-11G. This is why, and for the technical reader, our methodology and detailed statistical results are reported in Appendix A. Here, we simply outline the main results and provide comments.

1. The long-run real per capita income elasticity is equal to 0.986. This means that when real remittances increase by, for example, 5%, real per capita income increases by 4.93% [5*0.986 = 4.93].

2. The long-run real GDP elasticity is equal to 1.534. This means that when real remittances increase by, for example, 5%, real GDP increases by 7.67% [5*1.534 = 7.67%].

3. The long-run real import elasticity is equal to 1.722. This means that when real remittances increase by, for example, 5%, real imports increase by 8.61% [5* 1.722 = 8.61%]. This result implies that a decent proportion of the remitted funds are spent on durable and luxury imported items, and this accelerates imports and ultimately widening the trade deficit.

4. The long-run real credit to the private sector elasticity is equal to 1.606. This means that when real remittances increase by, for example, 5%, real bank credit to the private sector increases by 8.03% [5* 1.606= 8.03%].

5. There is no long-run relationship between real remittances and inflation. This result is not really surprising given the fact that the Jordanian Dinar is pegged to the US dollar, and a large proportion of Jordanian imports are from the European Union countries. The inflation rate in Jordan is affected by not only the euro price of these imports, but also the change in the euro against the dollar. Also, one must not forget the relatively huge oil imports and their prices on the international market.

6. The long-run bank real deposits elasticity is equal to 1.714. This means that when real remittances increase by, for example, 5%, real bank deposits increase by 8.57% [5* 1.714= 8.57%].

7. The long-run bank real deposits in foreign exchange elasticity is equal to 0.964. This means that when real remittances increase by, for example, 5%, real bank deposits in foreign exchange increase by 4.82% [5* 0.964= 4.82%].

8. Real remittance inflows reflect increasing power in explaining the annual variability (changes) of real per capita income over time and real GDP over time.

9. Real remittance inflows reflect increasing power in explaining the annual variability (changes) of imports, bank deposits, and foreign exchange deposits over time. However, the largest increasing power of remittance inflows lies in explaining the annual changes of bank credit to the private sector.

10. Real remittance inflow reflect very weak power in explaining the annual variability (changes) of inflation over time.

4. Summary & Policy Implications

This policy paper, issued by the JSF, examined the economics of Jordanian remittances in terms of some issues. Based on our analyses, the results are encouraging. Remittances do promote real economic growth (per capita income and GDP), bank deposits, bank credit to the private sector, and bank foreign exchange deposits. In addition, remittances have no impact on inflation. The only discouraging observation is the positive impact of remittances on both imports and trade deficit.

IN A NUTSHELL, Jordanians who work in the Gulf countries and in other regions are too important for the national economy. For so long, the Jordanian economy has been suffering from consistently high unemployment rates. Official statistics (Department of Statistics) report that male and female unemployment rates stand at 15.4% and 30.0% respectively (3rd quarter 2017). Naturally, these figures reflect that the economy has not been growing sufficiently enough to reduce unemployment. This is why Jordanians who work abroad, not only benefit the Jordanian economy through their remitted funds and their impact on real economic growth, but also by reducing pressure on the labor market. Without labor emigration, the unemployment challenge would become more than a challenge.

The Policy Implications are Clear…..

First, the issue of Jordanian emigration and their resultant remittances must always remain a priority for all stakeholders.

Second, to increase the inflow of remittances, and to enhance their impact on, among others, economic growth, we desperately need to understand Jordanians who work abroad and their remitting behavior. **We need to have regular surveys of Jordanians in diaspora that inform policy-makers** about the total number of Jordanians who work abroad, their socio-economic characteristics (gender, age, education level and specialization, marital status, type of work, income level, amount and uses of the remitted funds, years spent in diaspora, reasons for emigration, challenges they face in the host country, job opportunities and competition in the host country, intention to come back to Jordan and after how long, and many others).

Third, We also need to understand the dynamics of the regional labor markets in terms of the jobs they create, their needs for foreign labor, and the competition that Jordanians face in these markets. With such sufficient, accurate, timely and regular information, all stakeholders, including those who think or plan to emigrate themselves, can be instrumental in maximizing the inflow of remittances into the Jordanian economy.

Fourth, if the cost of sending remittances is reduced from 5.71% to say, 3.0%, the 2.71% reduction implies that official remittances in 2016 would have increased by around JD70 million (2628*0.0271). This increase might not be large. However, reducing the cost of sending remittances might well increase the inflow of official instead of unofficial remittances. This is at least one way to have a better estimate of the true size of remittance inflows.

Finally, the impact of remittances on imports and the trade deficit are obviously not encouraging. However, this problem (trade deficit) is not caused by just remittances. This is a structural problem that needs reducing or solving. A subject matter that warrants a separate paper.

References

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Appendix A

The Data and Methodology:

Annual data (1993-2016) of real per capita income (GDPPC), real imports (IMPORT), real trade deficit (DEFICIT), consumer price index (INFLATION), real credit to the private sector (CREDIT), real bank deposits (DEPOSIT), and real foreign exchange deposits (FOREIGN) are used in the analysis.

The basic models specifying the role of remittances are expressed as follows:

$GDPPC_t = \alpha_0 + \beta_1 REM_t + \varepsilon_t$

$IMPORT_t = \alpha_0 + \beta_1 REM_t + \varepsilon_t$

$DEFICIT_t = \alpha_0 + \beta_1 REM_t + \varepsilon_t$

$INFLATION_t = \alpha_0 + \beta_1 REM_t + \varepsilon_t$

$CREDIT_t = \alpha_0 + \beta_1 REM_t + \varepsilon_t$

$DEPOSIT_t = \alpha_0 + \beta_1 REM_t + \varepsilon_t$

$FOREIGN_t = \alpha_0 + \beta_1 REM_t + \varepsilon_t$

where, REM is real remittance inflows, t is the time period (1993-2016) and ε is the error term. Finally, all of the variables are in their natural logarithm form.

The focus of this analysis is on the parameter β. If there is an impact of remittances on each variable, the term β will have a positive sign ($\beta > 0$) in all expressions.

In such an exercise, the usual techniques are applied and these include, stationarity test, co-integration, Vector Error Correction Model (VECM), Granger Causality, and variance decomposition analysis.

TABLE ONE
Stationarity Tests

	Dickey-Fuller		Philips-Perron	
	Level	First-Difference	Level	First-Difference
Variable				
REMIT	3.763	-2.853*	3.763	-2.853*
GDPPC	-0.903	3.503*	3.503	-3.394**
GDP	2.429	-2.946**	6.880	-2.916**
IMPORT	3.303	-2.316*	3.303	-2.392*
DEFICIT	0.986	-3.240*	2.055	-3.225*
INFLATION	-2.150***	-7.208*	-1.996***	-7.246*
CREDIT	7.223	-1.844*	6.317	-1.765*
DEPOSIT	5.604	-1.531*	5.603	-2.413*
FOREIGN	2.792	-3.981*	3.908	-3.981*
*,**, and *** imply significance at the 99%, 95%, and 90% confidence levels.				

TABLE TWO
Johansen Multivariate Co-Integration Test
REMIT & GDPPC

Hypothesized No. of CE(s)	Max-Eigen Statistic	Trace Statistic
None*	14.934*	17.617*
At most 1	2.683	2.683

TABLE THREE
Johansen Multivariate Co-Integration Test
REMIT & GDP

Hypothesized No. of CE(s)	Max-Eigen Statistic	Trace Statistic
None*	15.009*	17.582*
At most 1	2.573	2.573

TABLE FOUR
Johansen Multivariate Co-Integration Test
REMIT & IMPORT

Hypothesized No. of CE(s)	Max-Eigen Statistic	Trace Statistic
None*	12.661**	15.631**
At most 1	2.970	2.970

TABLE FIVE
Johansen Multivariate Co-Integration Test
REMIT & DEFICIT

Hypothesized No. of CE(s)	Max-Eigen Statistic	Trace Statistic
None*	16.537*	22.714*
At most 1	6.176	6.176

TABLE SIX
Johansen Multivariate Co-Integration Test
REMIT & INFLATION

Hypothesized No. of CE(s)	Max-Eigen Statistic	Trace Statistic
None*	7.384	11.405
At most 1	4.021	4.021

TABLE SEVEN
Johansen Multivariate Co-Integration Test
REMIT & CREDIT

Hypothesized No. of CE(s)	Max-Eigen Statistic	Trace Statistic
None*	13.641*	13.806*
At most 1	0.165	0.165

TABLE EIGHT
Johansen Multivariate Co-Integration Test
REMIT & DEPOSIT

Hypothesized No. of CE(s)	Max-Eigen Statistic	Trace Statistic
None*	14.160**	15.627**
At most 1	1.466	1.466

TABLE NINE
Johansen Multivariate Co-Integration Test
REMIT & FOREIGN

Hypothesized No. of CE(s)	Max-Eigen Statistic	Trace Statistic
None*	14.533*	20.107*
At most 1	5.574*	5.574*

TABLE TEN
Estimates of VEC Model (REM & GDPPC)

Variable	Coefficient	Std. Error	t-statistic
λe_{t-1}	-0.249	0.100	-2.467*
ΔGDPPC(-1)	-0.712	0.224	-3.181*
ΔGDPPC(-2)	0.337	0.301	1.119
ΔREMIT(-1)	0.192	0.175	1.094
ΔREMIT(-2)	0.443	0.184	2.408
Adjusted R-Squared	0.614		
F-Statistic	6.037		

TABLE ELEVEN
VARIANCE DECOMPOSITION OF GDPPC

Period	GDPPC	REMIT
1	100.000	0.000
2	93.366	6.633
3	94.689	5.311
4	83.952	16.047
5	81.935	18.064
6	80.022	19.977
7	79.265	20.734
8	79.671	20.328
9	80.447	19.552
10	80.792	19.207

TABLE TWELVE
Pair-wise Granger Causality Tests

Null Hypothesis	F-Statistic	Probability
REMIT does not Granger cause GDPPC	1.272	0.307
GDPPC does not Granger cause REMIT	6.983	0.006

TABLE THIRTEEN
Estimates of VEC Model (REM & GDP)

Variable	Coefficient	Std. Error	t-statistic
λe_{t-1}	-0.100	0.068	-1.439*
ΔGDP(-1)	-0.297	0.215	-1.378*
ΔGDP(-2)	-0.187	0.185	-1.011
ΔREMIT(-1)	0.018	0.204	0.091
ΔREMIT(-2)	0.304	0.151	2.005*
Adjusted R-Squared	0.448		
F-Statistic	3.575		

TABLE FOURTEEN
VARIANCE DECOMPOSITION OF GDP

Period	GDP	REMIT
1	100.000	0.000
2	93.838	6.161
3	89.606	10.393
4	85.872	14.127
5	85.957	14.043
6	87.076	12.924
7	87.910	12.089
8	88.686	11.313
9	89.301	10.698
10	89.648	10.351

TABLE FIFTEEN
Pair-wise Granger Causality Tests

Null Hypothesis	F-Statistic	Probability
REMIT does not Granger cause GDP	3.342	0.061
GDP does not Granger cause REMIT	0.062	0.940

TABLE SIXTEEN
Estimates of VEC Model (REM & IMPORT)

Variable	Coefficient	Std. Error	t-statistic
λe_{t-1}	-0.427	0.117	-3.636*
ΔIMPORT(-1)	-0.362	0.158	-2.294*
ΔIMPORT(-2)	-0.473	0.152	-3.115*
ΔREMIT(-1)	0.968	0.391	2.478*
ΔREMIT(-2)	0.349	0.280	1.244*
Adjusted R-Squared	0.594		
F-Statistic	5.629		

TABLE SEVENTEEN
VARIANCE DECOMPOSITION OF IMPORT

Period	IMPORT	REMIT
1	100.000	0.000
2	88.599	11.401
3	62.910	37.089
4	53.734	46.266
5	53.000	46.999
6	50.999	49.000
7	49.426	50.574
8	48.655	51.344
9	47.540	52.459
10	46.547	53.452

TABLE EIGHTEEN
Pair-wise Granger Causality Tests

Null Hypothesis	F-Statistic	Probability
REMIT does not Granger cause IMPORT	0.701	0.508
IMPORT does not Granger cause REMIT	0.602	0.559

TABLE NINETEEN
Estimates of VEC Model (REM & DEFICIT)

Variable	Coefficient	Std. Error	t-statistic
λe_{t-1}	-0.516	0.156	-3.299*
ΔDEFICIT(-1)	-0.264	0.159	-1.656*
ΔDEFICIT(-2)	-0.236	0.167	-1.408*
ΔREMIT(-1)	1.407	0.759	1.852*
ΔREMIT(-2)	0.443	0.545	0.811
Adjusted R-Squared	0.530		
F-Statistic	4.571		

TABLE TWENTY
VARIANCE DECOMPOSITION OF DEFICIT

Period	DEFICIT	REMIT
1	100.000	0.000
2	84.452	15.574
3	62.644	37.355
4	55.807	44.192
5	54.391	45.608
6	53.062	46.938
7	51.907	48.092
8	50.763	49.236
9	49.735	50.264
10	48.984	51.015

TABLE TWENTY ONE
Pair-wise Granger Causality Tests

Null Hypothesis	F-Statistic	Probability
REMIT does not Granger cause DEFICIT	1.465	0.261
DEFICIT does not Granger cause REMIT	0.162	0.852

TABLE TWENTY TWO
Estimates of VEC Model (REM & CREDIT)

Variable	Coefficient	Std. Error	t-statistic
λe_{t-1}	-0.145	0.080	-1.809*
ΔCREDIT(-1)	-0.118	0.199	-0.592
ΔCREDIT(-2)	-0.329	0.176	-1.867*
ΔREMIT(-1)	0.237	0.254	0.932
ΔREMIT(-2)	0.404	0.193	2.092*
Adjusted R-Squared	0.514		
F-Statistic	4.356		

TABLE TWENTY THREE
VARIANCE DECOMPOSITION OF IMPORT

Period	CREDIT	REMIT
1	100.000	0.000
2	60.613	39.386
3	55.871	44.128
4	45.315	54.684
5	38.512	61.487
6	32.641	67.358
7	30.200	69.799
8	27.169	72.830
9	24.812	75.187
10	22.798	77.202

TABLE TWENTY FOUR
Pair-wise Granger Causality Tests

Null Hypothesis	F-Statistic	Probability
REMIT does not Granger cause CREDIT	3.770	0.045
CREDIT does not Granger cause REMIT	2.020	0.165

TABLE TWENTY FIVE
Pair-wise Granger Causality Tests

Null Hypothesis	F-Statistic	Probability
REMIT does not Granger cause INFLATION	2.453	0.118
INFLATION does not Granger cause REMIT	1.667	0.219

TABLE TWENTY SIX
Estimates of VEC Model (REM & DEPOSIT)

Variable	Coefficient	Std. Error	t-statistic
λe_{t-1}	-0.225	0.109	-2.057*
ΔDEPOSIT(-1)	0.369	0.326	1.133
ΔDEPOSIT(-2)	0.318	0.230	1.383
ΔREMIT(-1)	0.219	0.248	0.883
ΔREMIT(-2)	0.305	0.220	1.389
Adjusted R-Squared	0.577		
F-Statistic	5.324		

TABLE TWENTY SEVEN
VARIANCE DECOMPOSITION OF DEPOSIT

Period	DEPOSIT	REMIT
1	100.000	0.000
2	82.246	17.754
3	81.465	18.534
4	74.729	25.271
5	73.331	26.668
6	70.484	29.515
7	70.304	29.695
8	66.965	33.034
9	65.341	34.658
10	62.933	37.066

TABLE TWENTY EIGHT
Pair-wise Granger Causality Tests

Null Hypothesis	F-Statistic	Probability
REMIT does not Granger cause DEPOSIT	1.235	0.317
DEPOSIT does not Granger cause REMIT	0.720	0.501

TABLE NINE
Estimates of VEC Model (REM & FOREIGN)

Variable	Coefficient	Std. Error	t-statistic
λe_{t-1}	-0.516	0.195	-2.639*
ΔFOREIGN(-1)	-0.749	0.159	-4.704*
ΔFOREIGN(-2)	-0.440	0.161	-2.728*
ΔREMIT(-1)	0.209	0.523	0.399
ΔREMIT(-2)	-0.235	0.354	-0.663
Adjusted R-Squared	0.675		
F-Statistic	7.593		

TABLE THIRTY
VARIANCE DECOMPOSITION OF FOREIGN

Period	FOREIGN	REMIT
1	100.000	0.000
2	72.038	27.961
3	68.953	31.047
4	73.448	26.551
5	63.689	36.310
6	65.254	34.745
7	64.988	35.011
8	61.613	38.386
9	62.711	37.288
10	61.580	38.419

TABLE THIRTY ONE
Pair-wise Granger Causality Tests

Null Hypothesis	F-Statistic	Probability
REMIT does not Granger cause FOREIGN	2.757	0.094
FOREIGN does not Granger cause REMIT	0.990	0.393

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