



Empirical Investigation of Capital Flight and Illicit Financial Flows, Economic Growth in Palestine

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

In the present study was to verify the relationship between capital flight and illicit financial flows, exhibiting the impact of stable economic growth in Palestine during the period (2009-2018). We also use models of the balance of payments of the State, the study results showed that the total illicit financial flows, about \$14.42 million annually, 16.4% of GDP. In addition, through the application of the net omissions and style error in the balance of payments and expenditures, the total capital flight estimated at \$26.61 million, 19.6% of GDP. The Granger causality test shows that economic growth granger causes both the illicit financial flows and the capital flight. The study also found that there is a negative and significant relationship between economic growth and capital flight. Furthermore, there is a positive relationship between illicit financial flows and capital flight. We have examined theory (Granger) causality, which shows that economic growth causes all of the illegal financial flows and capital flight. The study showed also negative correlation and significant between economic growth and capital flight. Besides, it can be this relationship is negative between illicit financial flows and capital flight. This relationship can be detailed in this research. It seems this

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experimental investigation is also a strong relationship and engagement between capital flight and financial flows from the standpoint of their impact on economic growth in Palestine. It can be summarized in the study that the process of capital flows and capital flight represent an important role in raising the rate of economic recovery in the country and that the flow of capital within the state is one of the most important factors for national economic growth.

Keywords: Empirical investigation; Illicit financial flows; capital flight; economic growth; Palestine.

JEL Classification: E44, F21, G31, O16.

1. INTRODUCTION

Illicit financial flows have shown that illegally acquired funds have disappeared from the country's records. The illicit financial flows can be detected in the national accounts and balance of payments; it is possible to take various forms, such as the mispricing of trade and movements of cash in large quantities, bank transfer transactions. For example, it may involve illicit financial flows on the transfer of funds illegally acquired through corruption and criminal activities or tax evasion.

However, flows could be also include funds legally acquired. In other words, unregistered capital flows, are illegal for the purposes of this study. The problem of illicit financial flows may be more apparent in developing countries. Developing countries had a responsibility to address that problem. However, the expression of illicit financial flows may lead to a better role in clarifying that this phenomenon is a two-way street.

The (2014) Palestine Human Development Report (Development for Empowerment), in recent years, the Palestinian economy has been characterized by positive but weakening Gross Domestic Product (GDP) growth, high unemployment, and high pressure on real wages. The Palestinian government burdened by high public debt, especially to the private sector. Private sector growth has stifled by Israeli restrictions on access and movement, as well as other influences associated with the occupation's highly capricious regime.

Data from Palestinian firms surveyed in (2006) and again in (2013) showed no significant growth in capital investment or employment during this period due to the uncertainty and fragmentation related to Israeli-imposed restrictions. When considering economic development in Palestine, it is important to note that growth patterns have differenced in the Gaza Strip and the West Bank

(including East Jerusalem). These trends and supporting Israeli government policies threaten the economic and social cohesiveness of these two regional entities, contradicting their designation as a single territorial and legal entity as enshrined in UN resolutions and the Oslo Accords. Real Gross Domestic Product (GDP) per capita for Palestine, as calculated by the PCBS, was \$461 during the second quarter of (2014).

Regional disaggregation reveals, however, severe disparity in living standards between the West Bank and the Gaza Strip: \$591 per capita in the West Bank, and \$274 in the Gaza Strip. For the period of the second quarter of (2013) until the second quarter of 2014, growth in real GDP for Palestine overall was 0.9%. Again, analysis requires a regional perspective, as although the GDP for the West Bank grew by 5.2% in this 12-month period, the GDP of the Gaza Strip fell by 10.2%.

A review of the literature shows that several of the economic models may use to estimate the size of illicit financial flows and capital flight. Hence, these models can summarized as follows:

First, the models of the World Bank Residual (WBR): They are forms of money that enter the country as a source of (capital inflows) such as the increase in the net public sector external debt and net foreign direct investment flows (FDI), and to compare those sources with the use of their (training and / or capital expenditure) such as the deficit in this account that financing of capital accounts and financial flows and additions by the Palestinian Monetary Authority internal reserves. If total financial resources are more than used, they refer to capital loss, which means that they are illegal financial flows.

Second model hot money (models narrow): This model estimates illicit financial flows by focusing strictly on the Net Errors and Omissions

(NEO) line item in the town accounts of Foreign Affairs. Thus, and persistently large and negative net errors and Omissions figures, interpreted as a signal of financial flows are illegal.

The third model is the commercial model livery bills: According to this model, it is clear evidence on illicit financial flows can be detected through the comparison between the exports and imports of a country to the rest of the world where you can mix import bills of the country under the bills of their exports.

The goal or the purpose of this study is to estimate and evaluate the relationship between illicit financial flows, capital flight and the level of economic growth in Palestine during the period (2009-2018).

That the policies and functions of the anti-money laundering were on the top of the international agenda for more than two decades there have been many conventions placed on the criminalization of these acts: the (1988) United Nations Convention Against Illicit Trafficking in drugs; and the (1999) United Nations International Convention for the suppression of the financing of terrorism in the world of the (2000) United Nations Convention Against Transnational Organized Crime and other to the obligations contained in these conventions have been incorporated to the recommendations of the Financial Action Task Force (FATF).

Nor were the economic and financial crimes international free traditionally a priority in the work of development agencies and banking. However, this is changing with a greater focus on illicit financial flows and their adverse effects on developing countries.

The forecasts of PMA for the economic performance include the most important developments to key variables of the Palestinian economy in (2019) (baseline scenario), risk analysis of potential shocks of different degrees (optimist scenario, pessimist scenario) that are expected to have positive and negative impacts on the economic situation.

However, the sensitivity of the findings to changes in actual data of previous years at their official sources; mainly the Palestinian Central Bureau of Statistics and the Ministry of Finance and Planning, is taken into consideration. Key forecasts of Palestinian economy performance in (2019) are based on a number of main

hypotheses (baseline scenario) and their effects on the economic status in Palestine including, continuation in the drop of grants to Treasury.

They assumed to drop to USD 500 million in (2019); hence, government spending expected to drop by 4.0 percent compared to (2018). Increase in current transfers from abroad to the private sector at the rate of 2.0 percent. Increase in the number of Palestinian workers in Israel at the rate of 5.0 percent. Increase in loans granted to the private sector by 13 percent over (2018). Increase in the rate of import cost (inflation rate and exchange rate among trading partners) by 1.4 percent based on the expected inflation rate in Israel. Real growth of the Israeli economy by 3.6 percent in (2019) according to Bank of Israel estimates.

An estimated USD 1 trillion is paid each year in bribes. Reducing bribery reduces the opportunities for illicit gains, and hence illicit financial flows. The (1997) OECD Anti-Bribery Convention tackles the supply side: the bribe payers. The criminalization of bribe payers outside of developing countries, as well as their effective prosecution, is central for drying up this source of illicit financial flows. Over the past years, donor agencies have become increasingly involved in tackling illicit financial flows. Agencies have supported civil society organizations and researchers working on this agenda, and have supported countries' efforts to build capacity in fighting tax evasion, money laundering and corruption. Donor agencies are the link between OECD countries and countries that are the source of illicit financial flows.

Illicit financial flows originating in developing countries from money laundering, tax evasion and bribery often reach OECD countries. Recognizing these risks, OECD countries are taking action to avoid being safe havens for illegal money.

Combating illicit financial flows depends on the quality of national regulations, their implementation and whether they comply with international best practices. The performance of OECD countries against the essential international standards for countering illicit financial flows. It focuses on five policy areas: money-laundering, tax evasion, bribery, asset recovery and the role of donor agencies. These policy areas are described using publicly available data and by compliance reviews following international agreements. Taken

together, the analyses provide a measure of OECD countries' performance in fighting illicit financial flows.

Illicit financial flows often leave developing countries via the commercial financial system. Through this system, funds are laundered to disguise their origin. Anti-money laundering and Counter-Terrorist Financing (AML/CTF) regimes are effective tools to prevent illicit funds from being held, received, transferred and managed by major banks and financial centres. Every year huge sums of money are transferred out of developing countries illegally. These illicit financial flows strip resources from developing countries that can be used to finance much-needed public services, from security and justice to basic social services such as health and education, weakening their financial systems and economic potential.

1.1 Research Objective

The overall objective of this study are to achieve a demo on the effect of capital flight and illicit financial flows on economic growth in Palestine for the period (2009-2018).

1.2 Scope and Limitation of the Study

There are many factors affecting the flight of capital and financial flows and movement of capital, it is appropriate for the purposes of this study are limited to data and procedures of the World Bank and the Palestinian Monetary, and, moreover, do not include the study of all sectors of the state entirely, but limited to most important and write them. (World Bank, UN agency, the Palestinian Monetary Authority, Ministry of Finance and planning, center of Palestinian Statistics, etc.). The performance indicators considered in this study were time and quantity, cost performance and good performance.

2. LITERATURE REVIEWS

In literature, studies on capital flight and illicit financial flows are addressed, under two groups. The first studies group focused on the estimation of illicit financial flows such as:

Haq [1] show that over USD 10 billion as escaping taxation and being siphoned off outside the country.

There are various definitions of illicit financial flows, but essentially, they generated by

methods, practices and crimes aiming to transfer financial capital out of a country in contravention of national or international laws. Current literature on this issue suggests that illicit financial flows generally involve the following practices: money laundering, by international companies and tax evasion, trade mispricing. For many years, the problem of capital flight has overlooked in the academies and the policies they discuss methods of prevention of raising the standards in the development of ways and methods of prevention. That the external debt of the countries became a crisis of the international financial system as a whole, and did not begin to raise the topic publicly only recently, and even at that time it was initially known simply as the private possession of the assets of the foreign capital from developing countries, of course.

This is the terminology used to describe the fact that a large part of the flow of capital to developing countries in the form of foreign loans were converted into financial capital for investment abroad by personnel of the recipient country.

Flight capital seeks many ways of leaving the country and there seem to be no bounds to the ingenuity employed in this respect. The best-known way is probably to carry it in suitcases, a method that is definitely not confined to capital that has acquired illegally. From the point of view of debtor countries, an equally widespread practice is to invoice exports at less than their true value (under invoicing) and to do the converse in the case of imports (over invoicing). The foreign business partner then transfers the difference to an appropriate account. A similar effect achieved by falsifying the stated purpose of the payment; this method works particularly well with associated companies abroad.

The studies of this problem carried out hitherto have based their estimates of the scale of capital flight on the consideration that a heavily indebted developing country's current account deficit, its deficit on errors and omissions and its need to replenish its official foreign exchange reserves generate a borrowing requirement that must be matched by corresponding net capital inflows in order to bring the balance of payments into statistical equilibrium. If new external borrowing exceeds this figure, it must supposed that foreign loans have used for other purposes, in particular for outflows of private capital.

Direct investment (DI) in the developing countries constitutes another form of capital inflow that is

not freely accessible. Of course, there is no point in expecting that stable economic conditions in debtor countries will generate a larger volume of such resources, for the very objective is to restore economic stability, partly by using foreign equity capital. Interested foreign investors are looking for a return that is both attainable and adequate by international standards and as known that profits should be used according to business criteria, which may include transferring them abroad.

Since the emergence of the debt crisis, capital flight has been an increasing source of concern for policy makers in developing countries because it implies a loss of resources that could have used to increase domestic investment and to service debt. Capital flight is associated with the fraction of the stock of external claims held by a country's residents that does not generate recorded investment income.

Capital flight, especially from the developing countries as Palestine, was a source of concern for policymakers in the governments of the states, especially since the advent of the debt crisis and inflation in some countries, and the associated sharp decline in capital inflows from industrialized countries and the need. Capital flight is a constraint on economic growth because it involves the loss of resources that can be used in domestic investment and the transfer of consideration.

Moreover, the opposite of that is often argued, capital flows can be contributed significantly to solving the crisis of internal and external debt, and then renew developing countries access to international capital markets and the markets of the stock exchanges of the world. These considerations led the authorities to consider policies that encourage the re-capital flight or at least stop such flows to the outside. Otherwise, the identification of policies that can be more effective in achieving these goals depends greatly on the importance and the role of factors that initiated these capital outflows in the first place.

Slowdown in the performance of the Palestinian economy continued throughout recent years due to political and economic developments and changes, which had negative impact on key economic drivers and weakened economic activity. This happened at the same time while the private sector lagged behind its role of advantage boosting growth due to an obscure

and fragile political and economic prospect. This has overshadowed macroeconomic indicators and economic growth.

The pressures on the macroeconomic indicators increased in (2018) leading to overall weakness in local demand and further slowdown in performance throughout the first three quarters of the year. The pressures were to do with several obstacles and challenges, some of which had been there for a long time, and some were new. Apparently, the global economic momentum started to stabilize and become moderate; thus, the global growth rate in (2018) stayed at the same level of (2017) at 3.7%.

However, the stability of the global economic momentum hid dissimilarities among countries groups. In developed economies, the gap between the United States of America, Europe, and Japan increased due to different monetary and fiscal policies and slowdown in global trade and industrial production. Growth in developing and emerging economies of Palestine; on the other hand, experience slowdown as a result of restricted financial situations, alteration in economic policies and global trade, and different capacity to respond to the new alterations and shocks.

Economic activity experienced relative slowdown at the end of (2017).

The signs of improvement and recovery of (2016) did not last; hence, slowdown overshadowed again the economy due to being subject to opposing currents that weakened the forces that supported the economic activity and negatively influenced the process of production. These opposing currents included mainly drop in international grants, drop in the size of private and public final consumption, and increased reliance on imported goods and services.

The slowdown in growth rate and increase in unemployment rate mean that the living standards of Palestinian citizens will not get any better. In fact, these developments expected to negative affect the average income per capita, especially in Gaza Strip where unemployment rates hit record levels because of big drop in economic activity. The slowdown in growth and accompanying drop in public and private consumption had an impact on prices level, which slightly grew.

According to the PMA's estimates, it expected that some improvement would occur to growth in

the fourth quarter of (2018) to hit approximately; however, the rates would not be sufficient to large influence annual growth rate. The estimates based on multi leading indicators used in estimating the GDP; most importantly, Palestine Monetary Authority Business Cycle Index (PMABCI), construction and foreign sectors indicators, and some other indicators linked to Israeli economy.

Gorelova [2] indicated that the financial flows and the sustainable development of the regional and national economy are the declared strategic objective of the state. Among these positions, the study of regional socio-economic phenomena and processes is very important, and the corresponding research and management tools must therefore be developed as real tasks.

Badwan [3,4] examined the financial flows and capital flight plays a very important role in the speed of economic growth within the country in addition to the mechanism of the flow of capital also and health of their distribution also plays a positive role to raise the GDP of the state and this leads to increase the government budget for the country by imposing high taxes on foreign investment within the country in which the sovereignty of the country the investor to tax on such foreign investment under the name of tax policies imposed by the state or the government.

Badwan [5,6] mentioned that the imports, and financial flows, the movement of capital flight circulation have an essential role to play in the country's GDP expansion. They are among the most important factors in accelerating the economic growth of developing countries.

Capital flight into the country helps to boost the domestic economy, reduce internal unemployment, increase production, increase exports, reduce imports by setting up production and export companies and factories abroad and increase financial flows from abroad into the state. The authors suggested also that at the regional level is the economy as a system of hierarchy is complex and requires it to determine its condition and structure specificities in its development and management, thus here the case of capital flight and its impact on economic development in the national and regional levels to achieve economic prosperity within the state.

Kar and Spanjers [7] find that developing countries lost a total of USD 6.6 trillion from (2003-2012) due to illicit financial outflows.

Kar and LeBlanc [8] find that during the period (1960-2011); illicit financial outflows from the Philippines totaled \$132.9 billion, while illicit inflows amounted to \$277.6 billion.

Baker [9] affirmed that the top five sources of outward capital flight from developing countries in (2012-2015) are China, Russia, Mexico, India, and Malaysia.

Boyce and Ndikumana [10] find that the group of 33 Sub-Saharan African countries lost a total of USD 814 billion in capital flight from (1970-2010).

Kar and Freitas [11] estimated USD 5.86 trillion illicit financial flows from developing countries from (2001-2010).

Kar [12] finds that India has lost a total of US\$ 213 billion dollars due to illicit flows from (1948-2008).

Kar and Cartwright [13] estimated illicit outflows from Africa over the period (1970-2008) at USD 854 billion.

Kar and Cartwright's [14] study shows that developing countries lost an estimated USD \$858.6 billion to USD \$1.06 trillion in illicit financial outflows during the study period (2002-2006).

Kar [15] examined capital flight and illicit financial flows and its relation to macroeconomic problems in Brazil. The results showed that illicit financial flows are the motive behind the flight of capital causing macro-economic problems in the monetary policy and the terms of investment.

Kar [16] investigated the total illicit financial flows from Mexico over the period (1970-2010). The illicit financial flows estimated at USD\$ 872 billion, with the volume of illicit outflows rising during the onset and post-Mexico's macroeconomic crises. In addition, the researcher finds significant evidence that the underground economy in Mexico mainly driven by illicit outflows related to the size of the underground economy in the previous time.

The rest of the paper and forms organized as follows:

The second section presents a review of the literature and reports illicit financial flows and capital flight, while the third section describes the data and methodology. The fourth section

discusses the data and the empirical results. The fifth section concludes the study and the conclusions & the policy implications of the study and the proposed recommendations.

The main goal of the paper is to measure the effect of capital flight on the growth of real GDP using an available panel dataset, which contains estimates of capital flight by different models for all developing countries in the world as Palestine. This study analyzes some developing countries especially Palestine for the period of (2009-20018).

The second group of studies dealt with the impact of illicit financial flows on macro-economic factors. The following is a detailed view of the most important studies:

Wahyudi and Maski [17] investigated the causal relationship between capital flight and Indonesia's economic growth over the period (2000-2009). The results indicated that a high level of capital flight out of the country. In addition, the causality test results show that capital flight has an impact on economic growth.

Khalaf Fatima [18] examined the relationship between the financial and administrative corruption and fiscal policy in the case of Egypt during the period (1980-2008). The results showed that the increase in public revenues by 1%, leads to a reduction of financial and administrative corruption by 87%.

Sugata and Kyriakos [19] studied the effect of financial and administrative corruption on fiscal policy. The result indicated that the financial and administrative corruption reduces tax revenues collected from families, and it reduces the productivity of government expenditures.

Bakare [20] examined the extent and magnitude of contributions of external debt in Nigeria and corruption to capital flights plus other factors that have examined in the works of literature. The study found that the greatest shock to capital flight came from external debt and corruption. The findings of the study demonstrated that, capital flight limits growth potential, crowding-out investment, and worsening capital formation.

Njimanted Forgha [21] measured the impact of capital flight on the real economic growth in Cameroon. The study results revealed that large capital outflows from Cameroon is due to the following: political instability, fiscal deficits,

interest rate inflation differential, and external debt servicing to GDP ratio. Capital flight also has a negative impact on economic growth.

Quan and Meenakshi [22] investigated the impact of corruption on capital flight. The results of the study suggested that corruption had a positive and significant impact on capital flight; also, capital flight and corruption are the main causes of poverty in the south.

3. MATERIALS AND METHODS

We have chosen the study period (2009-2018) to assess the variables of the study because the Palestinian Monetary Authority has adjusted the methods of the balance of payments depending on the work material as of (2009).

3.1 Theoretical Framework

The research paper based on the standard theory of growth, which was significantly extended by empirical testing to explain the economic growth by the increasing number of factors. However, to complete the picture, we find it necessary to present the theory, which explains the behavior of individuals who transfer their money abroad.

When we use the financial sources over the others (i.e. non-financial), this explains that increasing in the proportion of financial flows from abroad and rely on them heavily and between the flow of illicit capital. To measure the relationship between illicit financial flows, capital flight and economic growth during the study period in Palestine, we will use the following approaches:

(Source of Funds): $K = [\Delta \text{ External Debt} + \text{FDI (net)}]$

(Use of Funds): $[\text{CA Deficit} + \Delta \text{ Reserves}]$

Illicit Financial Flows. The World Bank residual method (World Bank) computes illicit financial flows, according to the following formula:

$$\text{WBR} = \Delta \text{EXD} + \text{NFDI} - \text{CAD} - \Delta \text{IR} \quad (\text{Eq. 1})$$

Where the sources of funds given by the change in external debt (ΔEXD) and net foreign direct investment (NFDI), and uses of funds the current account deficit (CAD) and the change in international reserves (ΔIR). If all transactions reported appropriately, double-entry accounting

practice must ensure that the uses of funds equal the sources of funds.

When capital seeps out of the economy, it reflects a hatred of domestic assets and resources. When the sources of funds less uses, sneaking foreign capital to the domestic economy, there is a relative preference for domestic assets.

The study uses current data from the Palestinian Monetary Authority put by the World Bank to address the remaining issues.

3.2 Primary Source of Data

The data were collected from the ministries of the Palestinian National Authority and especially from the Palestinian Statistical Centre stated in the size of the search sample.

3.3 Secondary Source of Data

They were gotten from the internet, online libraries, textbooks etc.

Sample Size: For the purpose of this study, the researchers used the response of the different members selected from some of the national companies (the World Bank, the official website of the agency of the United Nations, the Palestinian Monetary Authority, the Ministry of Finance and Planning, Palestinian Statistical Centre, National Industries Group, the Palestinian Ltd, the insurance company PA Holdings Ltd, company Palestine telecommunications, Bank of Palestine, Al-Quds Bank). The researcher's justification for choosing this sample size is that the findings and conclusions reached will give better representation to the entire population.

Method of Data Collection: The method of data collection used in this study is the way to everyone's personal data. The data collection method was due to the receipt of the necessary data from the competent authorities of the Palestinian National Authority government, most importantly the Palestinian statistics center.

Method of Data Analysis: The researchers focusing here on the method involving analysis of data gathered by the researchers. It requires the researchers to address the problem as follows:

- What are the most important factors affecting the financial flows and the flight of

capital in developing countries and in Palestine in particular.

- The impact of capital flight and financial flows on economic growth in Palestine.
- Identify the positive effects of economic growth and its contribution to growth and development.

3.4 Variable Consideration

Illicit Financial Flows and Capital Flight: Following Claessens and Naude [23], Deppler & Williamson [24], and Schneider [25], we adopt their method in measuring the relationship between the illicit financial flows and capital flight from the balance of payment.

The following variables used in the equation (2) of the balance of payment: the current account balance (CAB), the net equity flows (EF), the other short-term capital of other sectors (STC), the portfolio investments (PI), the change in deposits of foreign assets in banks (DMB), the change in Palestinian Monetary Authority reserves (CR), the net errors and omissions (NEO), and the change in external debt (CED). Then, the balance of payments is:

$$CAB + EF + STC + PI + DMB + CR + NEO + CED = 0$$

$$\text{Alternatively, } STC + PI + DMB + NEO = - (CAB + EF + CR + CED) \quad (\text{Eq. 2})$$

The (NEO) measured from the balance of payments identity quite as follows:

$$NEO = - (CAB + EF + CR + CED) - STS - PI - DMB$$

$$\text{Alternatively, } NEO = - (CAB + EF + CR + CED) - (STC + PI + DMB) \quad (\text{Eq. 3})$$

The difference between licit private capital flows and broad capital flight will represents the NEO.

Economic Growth. Real GDP specified as a standard Cobb-Douglas production function, which links inputs; capital (K) and labor (L), and outputs. The formula is:

$$GDP = P f (K, L) \quad (\text{Eq. 4})$$

The study focuses on the importance of illicit financial flows to explain the gap between financial resources and uses. We expect that illicit financial flows will affect investors'

confidence in the domestic economy, thus affecting the rate of economic growth.

The Complete Model. We model capital flight as follows:

$$\ln \text{Cap F}_t = h_0 + h_1 \ln \text{IFF}_t + h_2 \ln \text{RGDP}_t + \epsilon_i \quad (\text{Eq. 5})$$

Where:

- Cap F: capital flight as estimated by equation 3.
- IFF: illicit financial flows as estimated by equation 1.
- RGDP: real gross domestic product as estimated by equation 4.

4. DATA ANALYSIS, ESTIMATION RESULTS AND DISCUSSION

Estimation of Capital Flight and Illicit Financial Flows: The results obtained from the analysis of the data Table 1 shows that the illicit financial flows during the period (2009-2018) using the World Bank residual model according to equation (1), capital flight using the net error and omission according to equation (2). Table 1 shows that the total illicit financial flows USD 14.420 million during the study period which is approximately USD 1034 million per a year, and the total of capital flight USD 26.614 million which is approximately USD 1232 million per a year. These results can explain the theoretical relationship between illicit financial flows & capital flight, and economic growth in Palestine,

and draw our attention to study this relationship practically leading to strengthening the theoretical side of this study on the one hand, and the achievement of the objectives of this study, on the other hand. The percentage rate of total illicit financial flows and total of capital flight to the GDP during the study period were 16.4%, 19.6% respectively.

4.1 Presentation of Data

The results obtained from the analysis of the data collected in the section where Table 1 shows the broad of illicit financial flows and capital flight, for the period (2009-2018).

First, we will estimate the Cobb-Douglas equation, in order to show that if RGDP is sensitive more to labor or capital through their elasticity, α and, β respectively.

The Cobb-Douglas equation is:

$$\begin{aligned} \text{RGDP} &= f(L, K, T) \\ \text{RGDP} &= TL\alpha K\beta \end{aligned}$$

By taking Logarithm for both sides, the equation will be:

$$\ln \text{RGDP} = \ln T + \alpha \ln L + \beta \ln K + e$$

Where:

L: Labor, K: Capital, T: Technology, α elasticity of labor, and β : elasticity of capital.

Table 1. Palestine: Broad capital flight and illicit financial flows, for the period 2009-2018

Year	Illicit financial outflows USD Million	Broad capital flight USD Million	Illicit financial flows to GDP (%)	Capital flight of GDP (%)
2009	1461.20	2048.20	13.8	14.2
2010	2608.40	2456.40	21.4	23.0
2011	2123.00	3032.10	12.8	15.5
2012	1301.70	1637.50	6.3	8.7
2013	2632.60	4260.20	13.5	13.3
2014	1071.50	2112.30	4.9	6.9
2015	576.20	525.50	1.9	1.5
2016	2356.30	2168.60	7.4	6.7
2017	1018.80	8768.90	23.4	25.6
2018	-729.20	-394.80	-2.4	-1.1
Total	14.420.5	26.614.9		
Average	1034.39	1232.34	16.4	19.6

Source: Author calculation, using data from Palestinian Monetary Authority

Table 2. ADF test with intercept and trend

Variables	Level	First difference	Results
Cap F	0.88	4.14**	I (1)
RGDP	1.28	4.08**	I (1)
IFF	1.05	3.03*	I (1)
LL	3.11**	6.12*	I (0)
LK	0.088	2.88	I (1)

Source: Author calculation using E-views 15/33

Note: *, **, *** indicate the level of significant at 1%, 5% and 10%

Table 3. Cointegration test

Unrestricted Cointegration rank test (Trace)			
Hypothesized		Trace	0.05
No. of CE (s) \$	Eigenvalue	Statistic	Critical value
None *	0.881641	47.18810	42.91525\$
At most 1	0.728309	21.57973	25.87211\$
At most 2	0.390565	5.942670	12.51798\$

Source: Author calculation using E-views 15/33

Table 4. Granger causality test

Null Hypothesis:	Obs.	F-statistic
LGDP does not Granger Causes LCAPF	13	9.301880
LCAPF does not Granger Cause LGDP		1.02662
LIIF does not Granger Cause LCAPF	13	1.31770
LCAPF does not Granger Cause LIIF		1.09449
LIIF does not Granger Cause LGDP	13	1.04982
LGDP does not Granger Causes LIIF		12.2700

Source: Author calculation using E-views 15/33

Table 5. Cobb-Douglas estimation

Cointegrating Eq:	CointEq1
LGDP (-1)	1.0906990
LL (-1)	-1.0957609
	0.04753
	-19.2253
LK (-1)	-0.442869
	0.015760
	-17.4275
C	-0.097659

Source: Author calculation using E-views 15/33

Table 6. Estimation of capital flight by OLS in the long run

Variable	Coefficient	Std. error	White-Noise errors	t-statistic
C	3.239876	2.981717	1.863242	3.868482
LGDP	-1.863456	0.814846	0.626497	-2.403668
LIFF	1.759536	0.249498	0.487569	2.167602
R-squared	0.927145		S.D. dependent var	
Adjusted R-squared	0.978006			
S.E. of regression	0.396526		Akaike info criterion	
Sum squared resid	0.486639		Schwarz criterion	
Log likelihood	11.248897		Hannan-Quinn criter.	
F-statistic	76.69870		D.W stat	

Source: Author calculation using E-views 15/33

$$LCapF = 4.24 - 1.86 LGDP + 1.76 LIFF$$

Productivity and technology are assumed to remain fixed. Both capital and labor were found to be significant at the 95% confidence interval.

Then we estimate the equation of Capital Flight according to equation (5).

$$\ln \text{Cap F}_t = h_0 + h_1 \ln \text{IFF}_t + h_2 \ln \text{RGDP}_t + \varepsilon_t$$

4.2 Unit Root Test

Prior to the transition to the estimation process, model variables were tested for unit root. The findings referred to the persistency problem, with exception of LL, all level variables integrated of order 1. Statistical evidence is presented at a 5% level of significance in the Table 2.

4.3 Cointegration Test

According to results of co-integration test in the Table 3, which shows that there is one of the co-integrating vectors at the level of 5%, this means accepting the alternative hypothesis ($R = 1$) and refusing the null hypothesis ($R = 0$), where r expresses the number of integrative vectors \$.

4.4 Granger Causality Test

The test of causation is one of the most important statistical tests to determine the direction of the relationship between economic variables, to check the direction of relationship between variables time-series models. The idea of Granger causality on the assumption that the past can cause the present, but the future cannot affect the present or the past. Granger believes that the problem of self-identification is one of the inherited problems of analyzing the time series, making the process of determining causality difficult [26].

The results in Table 4 indicate the rejection of the null hypothesis at the level of significance of 1%, which says that real GDP does not explain changes in Capital Flight because that the value of F was (9.30188). In addition, we reject the null hypothesis at the level of significance of 1%, which says real GDP does not explain changes in Illicit Financial Flows, because that the value of F was (12.27).

4.5 Estimation of Cobb-Douglas

In the case of Cointegration, we can use error correction model, in order to estimate the

equation of Cobb-Douglas. Table 5 results that suggest a positive relationship between Labor and capital on one hand and real GDP on the other. In addition, the results indicate that real GDP is more sensitive to the employment of capital, this result is logical because Palestine is abundant in labor. The results of the Cobb-Douglas estimation reported as in the following equation: $LGDP = 0.068 + 1.045 LL + 0.223 LK$

4.6 Capital Flight Estimation

After verifying that the time series is stable at levels, chose to test for co-integration between the variables of the study. The test results indicate the common integration of the variables included in the model. In the case of co integration, we can use the regression Cointegration of the process to determine the relationship between study variables over the long term. The results of the assessment presented in Table 6.

According to the results presented in Table 6, we can see that indicated to a negative relationship and significant between the economic growth and capital flight. This means that if economic growth is 1%, and capital flight is -1.86%. In addition, we find that there are positive relationship and significant between illicit financial flows and capital flight. This suggests that if illicit financial flow increases by 1%, capital flight will increase by 1.76%.

The adjusted box R-squared is 0.927, which means that 0.927 of the changes in capital flight were associated with real GDP and illegal financial flows. F-statistics are 76.70, which means the model is appropriate. When we test the remainder of this decline, the value is 0.396, which is lower than all critical values. We will therefore accept the false premise that residues are stable at the level.

The results of the test confirmed that the relationship indicated between the variables a strong relationship between the variables, with one important difference: the GDP is adversely affected by the financial flows of illicit capital flight also, the variable importance in the one percent level. This indicates that the increase in the proportion of GDP is associated with a decrease in the volume of illicit flows. This result confirms that illicit flows divert resources away from the formal economy.

Table 7. Testing residuals by Kwiatkowski-Phillips-Schmidt-Shin

Null Hypothesis: E is stationary		
Exogenous: Constant		
Bandwidth: 0 (Newey-West automatic) using Bartlett kernel		
LM-Stat.		
Kwiatkowski-Phillips-Schmidt-Shin test statistic		0.086414
0.01 Level		0.739
Asymptotic Critical Values*:	0.05 Level	0.463
0.10 Level		0.347

Source: Author calculation using E-views 15/33

According to the results presented in Table 7, we can see that there is a negative relationship and significant between the economic growth and capital flight. Table 7 shows the results of hypothetical testing Residuals by Kwiatkowski-Phillips-Schmidt-Shin, which Kwiatkowski-Phillips-Schmidt-Shin test statistic equal 0.086414 by LM-Sat.

Asymptotic critical values equal 0.739 by level 0.01; it means that the levels between 0.01 & 0.05 & 0.10, so these values give a close score on this test. This result means a long-term relationship between the dependent and the independent variable. If the LM statistic is greater than the critical value (given in the table below for alpha levels of 0.10, 0.05 and 0.01), then the null hypothesis has rejected; the series is non-stationary.

After the termination of the test, we see in Table 7 that the critical value is 0.086, which is less than all critical values. Therefore, we accept the false assumption that residues are stable at the level. This result means that there is a long-term relationship between the dependent and the independent variable (see Table 7).

5. THE POLICY IMPLICATIONS OF THE STUDY

In this research we analyze the impact of capital flight on the GDP growth in the developing countries especially Palestine. For this purpose, we used a recently computed data on estimates of capital flight, performed by the models of World Bank (Econometric model). We found, that the capital flight does negatively affect the economic growth; however, the significance of the estimate comes at questions. This impact has a country-individual origin, which motivated us to use fixed effect estimation procedure.

However, after controlling for years, we find that the effect of capital flight is insignificant. There

are many different ideas on ways to overcome the problem of capital flight from developing countries, such as the state of Palestine comes always the need to study all the lines of attack and determine the responsibilities about this issue, and identify priorities for action to a large extent in the reduction of barriers to capital flows such as this type and foremost to achieve consensus. Until is possible or not, we believe, that capital flight should not be allowed to disappear from the agenda.

The perfect way to prevent the capital flight of capital that drained from before is to create confidence in economic development in developing countries such as Palestine in the future by creating conditions of stable economic and financial policies useful and effective and highly efficient.

However, we will not be able to avoid the study and application of other best of the above measures, not least so because in many cases it does not seem possible to find a safety to follow the ideal path in an acceptable period. This study describes the results obtained and these are shown clearly in the tables by conducting data analysis using assumptions and methodology in economics. There is no doubt in the society that the capital flight is a lost opportunity for the economy and, thus, is bad.

However, the empirical analysis performed in the paper casts a doubt on the significance of this effect on GDP per capita growth. Initially, we found negative significant effect of capital flight on the economic growth. However, after controlling for the years effect, the capital flight turned out to have no significant effect on GDP per capita growth.

The policy of legitimate governments in some States like developing countries, similar to the policy of debt-equity swaps or foreign currency deposits, although insufficient property to solve

the problem of capital flight, can contribute to these policies in reducing capital flight. Capital controls are likely to be a short-term deterrent to the flight of capital through additional distortions, to reduce the long-term severity of the problem.

6. CONCLUSIONS

After conducting this study reached some results and recommendations, so that the total illicit financial flows 14.42 million during the period (2009-2018), about 1034 million USD per a year. The percentage of total illicit financial flows to GDP during the period under review increased by 16.4%. Capital flight totaled \$ 26.61 million during the study period (2009-2018), or \$ 1232 million per a year. The percentage of total capital flight in relation to GDP during the period covered by the study, 19.6%, and the interpretation of real GDP to changes in capital flight. We can mention also that the real GDP changes in illicit financial flows.

There is also a positive relationship between Labor and capital on one hand and real GDP on the other. The real GDP is also more sensitive and effective for the employment of capital, and it has been discovered that there is a long-term relationship between capital flight and illicit financial flows to GDP, also there is a negative relationship and significant between the economic growth and capital flight, we can sum up also there is a positive relationship between illicit financial flows and capital flight, which is an important sign.

There are many different ideas on ways to overcome the problem of capital flight and illicit financial flows from developing countries but there is a need to study all lines of attack to determine responsibility, identify priorities for action to substantially reduce the incentives for capital flows of this type and foremost, you must achieve consensus, but we see the need. Until what is possible or not, we believe, that capital flight should not be allowed to disappear from the important agenda of the state and decision-makers.

The optimal energy and to prevent capital flight and policy to limit capital flight that drained away the previously is to create confidence in the future of economic development in developing countries through the stabilization of the economic situation within the country. However, we will not be able to avoid the study and application of second-best measures mentioned

above, not least because in many cases it does not seem possible to find solutions to the substance safely and to follow the best way during an acceptable period.

7. RECOMMENDATIONS

This study offers some recommendations after completing this study, as should fight against the phenomenon of corruption in Palestine on all levels. Should encourage re-funds, capital flight and work on the reduction of illicit financial flows.

We should know the tax and tariffs with accepted international standards on accepted international standards within the country and train staff, as should the government and decision-makers in the state to reduce bad rating trade (reduction of air conditioning mono).

Governments should establish public registries of verified beneficial ownership information on all legal entities, and all banks should know the true beneficial owner(s) of any account in their financial institution.

The policymakers should require multinational companies to publicly disclose their revenues, profits, losses, sales, taxes paid, subsidiaries, and staff levels on a country-by-country basis.

The government must also encourage foreign direct investment (FDI) and foreign investment, as well as portfolio investment, and create new employment opportunities to increase production rates and increase the state's GDP.

The developing countries as Palestine should continue to fully implement the international standards on exchange of information, further expand their network of EOI agreements with developing countries, exploring possible automatic exchange of information where appropriate, and increase their efforts to build capacity in developing countries to exchange information.

Government authorities should adopt and fully implement all of the Financial Action Task Force's (FATF) anti-money laundering recommendations; laws already in place should be strongly enforced.

Developing countries as Palestine need to proactively strengthen their institutions and systems to prevent tax evasion, and to investigate and prosecute offenders. The

developing countries as Palestine could benefit from of a whole-of-government approach to fighting tax crimes and other illicit flows and could strengthen their ability to detect the eligible illicit financial flows.

8. THE LIMITATIONS OF THE RESEARCH AND THE OPEN UP AVENUES FOR FUTURE STUDIES

From this principle, we can summarize the above results of the current research as a clear way to open avenues of scientific research in this area because it searches for the usefulness of these economic problems, specifically the above research problem under the name of experimental research of capital flight and impact on economic growth in Palestine and clarify the quality of the tool functions.

The scientific method adopted to solve this problem, which allows the research method to be used as a tool and a tool to solve some of the economic problems related to capital flight as the problem of our current research, and this evidence of a near-accurate record of the factors affecting economic growth in Palestine as a movement capital and financial capital movement within the country.

Through the recommendations mentioned in this research, we can provide and provide one of the most suitable tools for use in solving capital problems as its escape. The approach to solving other economic problems may resemble the problem of capital flight with its characteristics.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Haq Ikramul. Hunt for black money; 2015. Available: <http://tns.the.news.com.pk/>.
2. Gorelova GV, Ginis LA, Kolodenkova AE. Cognitive and simulation modeling of development of regional economy system. *International Journal of Economics and Financial Issues*. 2016; 6 (5S):97-103.
3. Badwan NL. The impact of common problems between the sectors of industry and capital and ways of their solutions in the Russian Federation. *Journal of Sciences and Research Publishing*. 2017; 1(5):19-39.
4. Badwan NL. Increasing the Efficiency of the State Fiscal and Budgetary Policy in Modern Conditions. N. L. Badwan, N. M. Blazhenkova, E. V. Klicheva, A. K. Karaev, R. R. Yarullin. *International Journal of Applied Business and Economic Research*. 2017;15(22):125-138.
5. Badwan NL. Cognitive Modeling for the Intellectual System of Supporting Decision Making on Regulating Reproduction and Accumulation of Financial Capital / N. L. Badwan, G. V. Gorelova. *International Research Journal of Finance and Economics*. 2019;175:70-82.
6. Badwan NL. Cognitive modeling of sustainability of the Russian Financial Market / N.L. Badwan, E. A. Panfilova. *International Journal of Financial Research*. 2019;10(6):133-145.
7. Kar Dev, Joseph Spanjers. Illicit financial flows from developing countries: 2003-2012. *Global Financial Integrity*; 2015.
8. Kar Dev, Brian LeBlanc. Illicit financial flows to and from the Philippines: A study in dynamic simulation, 1960-2011. *Global Financial Integrity*; 2014.
9. Baker Raymond. Illicit financial flows: The scourge of the developing World, *Global Financial Integrity*; 2013.
10. Boyce James K, Ndikumana Léonce. Capital Flight from Sub-Saharan African Countries: Updated Estimates, 1970-2010, Political Economy, Research Institute University of Massachusetts/Amherst; 2012.
11. Kar Dev, Freitas Sarah. Illicit Financial Flows from Developing Countries: 2001-2010. *Global Financial Integrity*; 2012.
12. Kar Dev. The drivers and dynamics of illicit financial flows from India: 1948-2008. *Global Financial integrity*; 2010. Available: www.gfintegrity.org
13. Kar Dev, Cartwright-Smith. Illicit financial flows from Africa: Hidden resources for development. *Global Financial Integrity*; 2008.

14. Kar Dev, Cartwright-Smith. Illicit Financial Flows from Developing Countries: 2002-2006. Global Financial Integrity; 2006.
15. Kar Dev. Brazil: Capital flight, illicit flows and macroeconomic crises, 1960-2012. Global Financial Integrity; 2014.
16. Kar Dev. Mexico: Illicit financial flows, Macroeconomic Imbalances, and the Underground Economy. Global Financial integrity; 2012.
Available: www.gfintegrity.org
17. Wahyudi Setyo, Maski Ghozali. A Causality between capital flight and economic growth: A Case study Indonesia, The Eight Annual Conference Asia Pacific Economic Association APEA, Singapore; 2012.
18. Khalaf Fatima Ibrahim. The Fiscal Policy and managerial and financial corruption, applied study in Egypt at period 1980-2008, AL-Anbar University Journal of Economic and Administration Sciences. 2011;4(7).
19. Sugata Ghosh, Kyriakos Neanidis. Corruption, Fiscal Policy and growth: A unified approach, Department of Economics and Finance, Brunel University, United Kingdom Economics, University of Manchester and Centre for Growth and Business Cycles Research, United Kingdom, Working Paper. 2011;11-20.
20. Bakare AS. The Determinants and Roles of Capital Flight in the Growth Process of Nigerian Economy: Vector Autoregressive Model Approach, British Journal of Management and Economics. 2014;1(2): 100-113.
21. Njimanted Godfrey Forgha. Capital flight, measurability and economic growth in Cameroon: An econometric investigation. International Review of Business Research Papers. 2008;4(2):74-90.
22. Quan VLE, Meenakshi Rishi. Corruption and capital flight: An empirical assessment. International Economic Journal. 2006;20(4):523-540.
23. Claessens Stijn, Naudé David. Recent estimates of capital flight, working paper series no. 1186, Washington, DC: Debt and international finance division, International Economics Department, the World Bank. 1993;3-5.
24. Deppler Michael, Williamson Martin. Capital flight: Concepts, measurement and issues. Staff Studies for the World Economic Outlook, SM/87/24. Washington, DC: International Monetary Fund; 1987.
25. Schneider B. Measuring capital flight: Estimates and interpretations. London: Overseas Development Institute; 2001.
26. Gujarati Damodar N. Basic econometrics, 8th edition, McGraw Hill, International edition; 2003.

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