

Foreign Aid and Dutch disease in Palestine

المعونة الأجنبية والمرض الهولندي في فلسطين

عبد الحكيم أحمد الطلاع

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ملخص:

تأثير المساعدات الخارجية غير واضح على متغيرات الاقتصاد الكلي للدول النامية. المساعدات الخارجية تعزز الإنفاق مما يؤثر على سعر الصرف الحقيقي ونقل الموارد بعيدا من إنتاج السلع القابلة للاستيراد و التصدير الى إنتاج السلع الغير القابلة للاستيراد و التصدير. تبحث هذه الورقة تأثير زيادة المساعدات الخارجية بنسبة 30% على المتغيرات الاقتصادية الكلية في فلسطين. حيث تمت محاكاة زيادة المساعدات الخارجية باستخدام مصفوفة الحسابات الاجتماعية (SAM) الفلسطينية لعام 2012 وهي إطار بيانات اقتصاد واسعة لنموذج التوازن العام المحسوب و نموذج التوازن العام المحسوب (CGE). وبينت نتائج المحاكاة زيادة الناتج المحلي الإجمالي الحقيقي بنسبة 1.60% والناتج المحلي الإجمالي الاسمي بنسبة 2.69% و ارتفع مستوى الاستهلاك الخاص الحقيقي بنسبة 10.01% و زيادة الاستيراد بنسبة 11.21% وانخفاض الصادرات بنسبة 10.08%. العجز التجاري يزداد بنسبة 31.64%. زيادة معدل سعر الصرف الحقيقي بنسبة 4.60% و زيادة الاستيعاب بنسبة 6.54% هذه الزيادة حدثت من خلال مؤشر الأسعار المحلي (السلع الغير القابلة للاستيراد و التصدير) حيث ارتفع بنسبة 1.50%. المساعدات الخارجية تضخم أسعار السلع الغير القابلة للاستيراد و التصدير في فلسطين مما يؤدي الى إعادة تخصيص الموارد من إنتاج السلع القابلة للاستيراد و التصدير الى إنتاج السلع الغير القابلة للاستيراد و التصدير. ونتيجة لذلك المساعدات الخارجية تسبب المرض الهولندي في فلسطين.

الكلمات الرئيسية : المساعدات الخارجية، المرض الهولندي، مصفوفة الحسابات الاجتماعية ، التوازن العام المحسوب.

Abstract:

Foreign aid has an uncertain impact on the macroeconomic variables of the beneficiary developing economies. Foreign aid boosts expenditure that appreciates the real exchange rate and move resources away from tradable into non-tradable goods production. This paper investigates the impact of increasing foreign aids by 30% from the base line on the aggregate Palestinian economy variables. A simulation is carried out using a 2012 Palestinian Social Accounting Matrix (SAM) and Computable General Equilibrium (CGE). The simulation results show that real GDP increases by 1.60 % and nominal GDP by 2.69%. The level of real private consumption increases by 10.01%. Import increases by 11.21% and export decreases by 10.08 % in real term. The trade deficit increases by 31.64 %. Real exchange rate appreciated by 4.60% from the base line. Absorption increases by 6.54% in real terms. This increase occurs through the domestic (non-tradable) price index, which increases by 1.50%. Foreign aid inflows inflated the prices of non-traded goods. This reallocates resource from the production of traded goods to non-traded goods. Consequently, foreign aid inflows caused the Dutch disease effect in Palestine.

Keywords: Foreign aid, Dutch disease, Social Accounting Matrix, Computable General Equilibrium.

Introduction:

The Palestinian economy faces a more uncertain prospect with fundamental changes: GDP is driven more by government spending and foreign aid, and there are less resources for investment, thereby further reducing the productive base of the economy, which is needed for a stable and viable independent Palestine (UNCTAD, 2009). The main constraints on Palestinian economic freedom follow from the “security first” policy enclosed in the Oslo Agreements (1993) and the subsequent Road Map (2003). The logic of the policy is that Israeli security requirements can override critical issues affecting the Palestinian economy, territory and political sovereignty (UNCTAD, 2006). The Israeli controls over the borders and not approving infrastructure projects in the areas that are controlled directly by Israel have prevented investment in infrastructure. For example the construction of a seaport in the Gaza Strip; Gaza seaport construction has stopped because of Israeli opposition. Other important infrastructure projects include the intercity roads in the West Bank. Little investment was made in the intercity road network, because of the Israeli refusal to give permits; the

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intercity road network is in poor condition due to neglect during the occupation period 1967-1993. The lack of investment in intercity roads is obvious at city entrances, where local roads are better and wider than the intercity roads (World Bank, 2008).

Import of goods and services are essential to investment and production for the developing countries; but import costs generally surpass export earnings. Consequently, foreign exchange shortage limits economic growth in the developing countries. As a result, foreign aid and foreign capital inflows are necessary to cover the existing savings gap or trade gap. Moreover, developing countries might be able to grow faster than their domestic resources permit. Palestine depends upon foreign aids for its development requirements owing to low domestic resource mobilization. In theory, aid promotes economic growth. Successful aid experiences indicate that countries accomplishing, more rapidly physical and human capital growth. However, there are harmful impacts to foreign aid in assisting beneficiary economies that avert large portion of foreign aid to non-productive public expenditure. In addition, improper public sector preference and institutions ineffectiveness reduces the impact of foreign aid on growth and on poverty alleviation (Ahmed and Wahab, 2010). The Dutch disease, in economics, is the relationship between a raise in incomes from inflows of income from natural resources sector (or inflows of foreign aid) and deterioration in the manufacturing sector. The implication is that a raise in incomes inflows will enhance demand for non-tradable goods and boosts their price. However, prices in the tradable good sectors are set globally. This appreciates the real exchange leading to dear exports and cheap imports, which lower the competitive of manufacturing sector. The impact of foreign aid inflows depends to a certain extent on the reaction of relative prices and the consequent adjustment in the sectoral structure of the output. Foreign exchange income inflows are expected to influence relative prices. The effectiveness of foreign aid might be diminished if it causes a decline in the relative price of globally tradable goods (an appreciation to the real exchange rate), that decline has an adverse impact on the efficiency of production. In the case, foreign aid boosts household expenditure, which appreciates the real exchange rate and move resources away from tradable into non-tradable goods production. However, aid for investment in the tradable sector able to alleviate this consequence. In addition, a high productivity in the non-tradable sector with a high investment causes real

exchange rate depreciation (Doucouliagos and Paldam, 2009, Fielding and Gibson, 2012).

The foreign aid, direct and indirect, effect on the developing countries economic growth may be positive, negative, or not exist. The objective of this study is to show empirically the impact of a 30% increase in foreign capital inflows, which could come in the form of foreign aid inflows on macroeconomic indicators such as on domestic production, imports, export, household consumption, and other related variables. To quantify the impact of inflow of foreign capital (increasing foreign aids) on the Palestinian Economy, we constructed a general equilibrium model that captures the economic conditions and characteristics of the Palestinian economy, and we constructed a 2012 social accounting matrix for Palestine. The study focuses on the impacts of a 30% increase foreign capital inflows as relative to the baseline.

Literature Review:

The inflow of foreign capital can induce the real exchange rate to appreciate, which boosts real wages and imports and affects exports and future economic growth. In small open economy a higher domestic expenditure will increase non-tradable goods prices, because the price of globally tradable goods is exogenous. As a result, the price changes generate a reallocation of resources among production sectors, output of tradable goods decrease and output of non-tradable goods increase. The resource reallocation reduces aggregate productivity (Dutch disease). Doucouliagos and Paldam (2009) found that the literature on foreign aid success has failed to prove that foreign aid effective. They concluded that the trivial long run impact has many possible causes, such as fragile institutions, corruption and appreciation of the real exchange rate in the beneficiary countries. Fielding and Gibson (2012) estimated the effect of foreign aid inflows on the real exchange rate and output across sub-Saharan Africa. They found a significant degree of heterogeneity. Foreign aid inflows initiate a real exchange rate appreciation in most countries. However, the extent of the impact differs significantly, and in some countries, the real exchange rate depreciates. In addition, the reactions of output are similarly differed. Ahmed and Wahab (2010) used a computable general equilibrium (CGE) model to illustrate that a 50 percent raise in foreign inflows boosted real

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consumption by 2.8 percent, imports by 3.7 percent, exports by 6.5 percent and reduced poverty by 3.1 percent. Siddiqui and Kemal (2006) used Computable General Equilibrium model for Pakistan to measure the impact of an increase in foreign capital on poverty both in the presence and in the absence of trade liberalisation. They found that increase in foreign capital inclines to decrease poverty in the presence as well as in the absence of trade liberalisation. Reinhart and Reinhart (2008) evaluated capital inflow in 181 countries for the period of 1960-2007. They found that for emerging markets, capital inflows are related to a higher possibility of financial and economic crisis. Bresser-Pereira and Gala (2008) highlight that the inflows of foreign capital appreciate the exchange rate. That consecutively increases the real wages and imports. This has implications for exports and future economic growth. Although medium income countries are capital poor, current account deficits will boost consumption rather than enhance the rate of capital accumulation and aggregate demand. As a result, the rate of substitution of foreign savings for domestic savings will be to a certain extent high, and the country will indebted to consume, not to invest and grow. Collier and Dollar (2002, 2001) found that foreign aid effective in countries that have an adequately good policy environment. They suggested that the effect of foreign aid differs with policy performance which determined by the World Bank's CPIA index. Therefore, the foreign aid should be received by poor countries with good policies. They emphasized that a mixture of policy improvement in Africa and an optimal foreign aid distribution, will reduce poverty by half by 2015. Choong et al (2010) examined the impact of different types of capital flows on economic growth in 51 developed and developing countries for the duration of 1988-2002. They found that FDI has a positive effect on growth, whereas foreign debt and portfolio investment have a negative effect on growth. Nowak-Lehmann et al. (2012) found that foreign aid does not directly influence per capita income. However, they detected that foreign aid effect indirectly long-run per capita income through domestic savings, investment and the real exchange rate. Though, the impact of foreign aid on investment may increase per capita income, while the impact on domestic savings and the real exchange rate decreases per capita income. Kang et al. (2013) found that the reactions of exports and GDP to foreign aid shocks are positively related. In addition, the size of both responses is negatively related to the real exchange rate, which might account as evidence for Dutch Disease (Dutch disease

effect: an increase in foreign aid inflows appreciate the real exchange rate and decline in tradable goods production.). However, they found that evading real exchange appreciation might permit aid recipient economies to escape the Dutch disease. Burke and Ahmadi-Esfahani (2006) empirically examined the effect of foreign aid on growth by utilizing data from 1970 to 2000 in three Asian countries, Indonesia, the Philippines and Thailand. They found no significant relationship between foreign aid and economic growth. Mallik (2008) examined the effectiveness of foreign aid for economic growth in the six poor African countries (the Central African Republic, Malawi, Mali, Niger, Sierra Leone and Togo). He found a relationship between per-capita real GDP, foreign aid and investment as a percentage of GDP. Mallik found a negative impact of foreign aid on growth for most of these countries. Weisman (1990) utilized CGE model to investigate the effect of foreign aid inflows to Papua New Guinea. He found that foreign aid boosts government spending, which inflated the prices of non-traded goods. This reallocates resource from the production of traded goods to non-traded goods. Consequently, foreign aid inflows caused the Dutch disease effect that endangered the export earnings.

Foreign Aid to the Palestinian:

Foreign aid given to the Palestinians before 1994 was limited to assistance for Palestinian refugees displaced since the creation of Israel in 1948. With the signing of the Oslo Accords in 1993, foreign aid has increased to support the Palestinian Authority. Since the Second Intifada in 2000 the foreign aid has increased rapidly for budget support see table one. Up until the Second Intifada in 2000, foreign aid was focused on the development of the economy and of institutions. However, with the start of the Second Intifada and the severe decline in the economic and social conditions, which undermined the viability of the Palestinian Authority, foreign aid was re-directed towards budgetary financial support to enable the Palestinian Authority to pay salaries and address urgent humanitarian needs. The aims were to revive the economy, keep the Palestinian Authority afloat, and help it in preparing itself for statehood. The foreign aid received in the post-Oslo period has been outweighed by the cost of closures and punitive measures taken by Israel (Hamed, 2008; Le More, 2008).

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Table (1) Foreign Aid to the Palestinian from 1996-2014 (Million\$)

Year	Budget Support	Development Support	Total Foreign Aid
1996	49.2	242.3	291.5
1997	5.8	262.3	268.1
1998	0.5	235.8	236.3
1999	5.6	239.3	244.9
2000	54.0	465.0	510.0
2001	531.0	318.0	849.0
2002	468.0	229.0	697.0
2003	261.0	359.0	620.0
2004	353.0	0.0	353.0
2005	34.09	287.0	636.0
2006	738.0	281.0	1019.0
2007	1012.0	310.0	1322.0
2008	1763.1	215.0	1987.1
2009	1355.8	46.8	1401.8
2010	1131.5	78.8	1210.3
2011	814.3	169.0	983.3
2012	777.1	155.0	932.1
2013	1251.2	106.8	1358.0
2014	1029.4	201.1	1230.4

Source: Palestine Monetary Authority 2015

Computable General Equilibrium and Social Accounting Matrix:

Computable general equilibrium (CGE) models are economy wide models the result to which represents an instantaneous general equilibrium in all markets of the economy. Computable general equilibrium models are utilized to policy study in developing countries when we study the links between various sectors in the economy, and the effect of different policies and exogenous shocks on production, and household welfare. Computable general equilibrium analysis takes account of connections between a broad range of markets and presents quantitative solutions to policy questions about integration. The core of the analysis is to compute prices, production, and demand quantity that make expenditures equal incomes, and supply equal demand in various markets. To compute the equilibrium, prices are adjusted until consumers have selected a required basket of goods given their incomes; firms have produced the quantities that maximize their profits, and

the demand for factors of production equivalent to available endowments. Computable general equilibrium models simulate the impacts of policy modifications by introducing the effects of policy changes such as tariff or transaction cost changes into an initial equilibrium and prices adjusted until a new equilibrium is achieved. Computable general equilibrium analysis uses data from a benchmark year, social accounting matrix, and its mathematical modeling is built on neoclassical assumptions about the incentive of economic agents, consumer preferences, market structure, and production technology. These assumptions are programmed as mathematical equations and include parameters. The parameters of the mathematical model are calibrated to social accounting matrix, which formulate the baseline solution that corresponds to real-world data in a benchmark year. Most of the model parameters are set endogenously in a manner that assures that the base solution to the model exactly reproduces the values in the social accounting matrix. Computable general equilibrium models are built to evaluate the consequences of policy changes or exogenous shocks; their framework is more comprehensive and economy-wide than other models.

Econometric models need reliable and extended time series data on economic variables for the assessment of relationships between economic variables. In contrast, computable general equilibrium models require fewer historical data. Most of the parameters for computable general equilibrium models are based on economic data (summarized in the social accounting matrix) of a benchmark year. The calibration process assigns values to the parameters of the model equations using the base year social accounting matrix. Furthermore, the Econometric models have to be based on recent relevant available data to be reliable for policy analysis. Therefore when historical data are used, it should be established that the structure of the economy has not substantially changed for the assessment and analysis of policies to be reliable and valuable. This is not the case in Palestine. The environment of the West Bank and Gaza and their economic structure altered dramatically after the Second Intifada in 2000. This is the reasons we used computable general equilibrium model because it provide insights into the impacts of shocks even without time series data. A Palestinian Computable general equilibrium (CGE) model has built based on the standard model used by the International Food Policy Research Institute (IFPRI) (Lofgren et al., 2002). Lofgren et al. (2002) has a complete description of the IFPRI's standard model.

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A social accounting matrix is a comprehensive economywide data framework which is a presentation of the accounting identities double entry, where revenues and expenditures for all sectors of the economy must be equal. Columns correspond to expenditures and rows correspond to revenues. Since revenues must be accounted for by expenditures, the total of rows and columns are equal for a given account. The source of data for the social accounting matrix comes from input-output matrix, national income, household income and expenditure statistics. It links the information available in the Input-output matrix to other economic and social data gathered through the use of surveys on the labor force and on household spending decisions (King, 1985; Round, 2003; Roland-Holst, 2008; Lofgren et al., 2002). A 2012 social accounting matrix for Palestine is constructed. The 2012 social accounting matrix is used as the initial data for the calibration of the Palestinian computable general equilibrium model. See table 3: Macro 2012 social accounting matrix for Palestine million of dollars.

Simulation and Empirical Results:

We simulate the impact of a 30% increase in foreign aid inflows, which could come in the form of foreign capital inflows. The simulation results show that real GDP increases by 1.49 % and nominal GDP by 2.69%. The level of real private consumption increases by 10.01%. Import increases by 11.21% and export decreases by 10.08 % in real term. The decline in exports indicates worsening in the trade balance. The trade deficit increases by 31.64 %; net taxes increases by 5.74%, as a percentage of GDP the trade deficit increases by 13.04 percentage points from 44.16 % of GDP at base line to 52.80% of GDP after foreign capital inflows shock (tables 2). The shock can considerably change the real exchange rates, which in turn affect the trade balance. Real exchange rate appreciated by 4.60% from the base line. In addition, changes to the production of domestically consumed goods; absorption (total domestic spending on a good estimated at the domestic prices) increases by 6.54 % in real terms. This increase occurs through the domestic (non-tradable) price index, which increases by 1.50%. Foreign aid inflows inflated the prices of non-traded goods. This reallocates resource from the production of traded goods to non-traded goods. Consequently, foreign aid inflows caused the Dutch disease effect in Palestine.

Table 2: National Accounts

	Base line	Millions USD		As % of GDP	
		Foreign saving shock	% Change	Base line	Foreign saving shock
Absorption	9794.700	10434.778	6.535	144.162	151.989
Private consumption	6394.380	7034.458	10.010	94.115	102.461
Gov. consumption	2302.570	2302.570	-	33.890	33.538
Investment	1097.750	1097.750	-	16.157	15.989
Exports	1091.460	981.404	-10.083	16.065	14.295
Imports	4091.930	4550.695	11.211	60.227	66.284
Net Taxes	1408.024	1490.387	5.743	17.291	21.708
GDP	6794.230	6865.487	1.049	100.000	100.000
Trade Deficit	3000.470	3948.505	31.645	44.157	57.192

Source: Authors' calculations.

Table 3: The macro 2012 social accounting matrix of Palestine

	1	2	3	4	5	6	7	8	Total
1-Activities		10456.04							10456.04
2-Commodities	4886.99	1033.29		6394.38	2302.57	1097.75		1091.46	16806.44
3-Factors	5386.21								5386.21
4-Households			5671.96		371.43				6043.39
5-Government							1801.95	818.65	2626.60
6-Saving-Invest.				-750.92	-47.40			1896.07	1097.75
7-Taxes	182.84	1225.18		399.93					1801.95
8-Rest of the world		4091.93	-285.75						3806.18
Total	10456.04	16806.44	5386.21	6043.39	2626.60	1097.75	1801.95	3806.18	

Source: Authors' calculations.

Conclusion:

Foreign capital inflows are necessary for developing countries to supplement domestic savings and therefore, invest in their infrastructure and social sector requirements. This paper represents quantifying of the impacts of inflows of foreign aid in the Palestinian economy by using a computable general equilibrium model. The results show that a 30% increase in foreign capital inflows leads to higher household's welfare that measured in terms of real household consumption. However, a 30% increase in Palestine foreign savings, which could come in the shape of foreign aid will harm the economy's production side by at first adversely influencing the country's by the appreciation to the real and the nominal exchange rates. That lowers the competitiveness of domestic goods on the foreign market, which influences exports adversely. In addition, exchange rate appreciation promotes consumption and reduces private savings. The production side of the economy is adversely affected while the consumption side is positively impacted. Investment as a percentage of GDP declines following a cut in the production of export goods. As a result of the exchange rate appreciation the price of domestic non tradable goods is weaken as consumers preferences lean to cheaper imported substitutes. The increases in domestic prices relative to world prices lead to change in relative prices, which damage the tradable sector. The reduction of the tradable sectors relative to the non-tradable sectors reveals the existence of Dutch disease. Thus, a 30% increase in foreign savings, which could come in the form of foreign aid, has a Dutch Disease impact on the Palestinian economy. The Dutch disease, in economics, is the relationship between a raise in incomes from inflows of foreign aid (or inflows of income from natural resources sector) and deterioration in the manufacturing sector. The implication is that a raise in incomes inflows will enhance demand for non-tradable goods and boosts their price. However, prices in the tradable good sector are set globally. This appreciates the real exchange leading to dear exports and cheap imports, which lower the competitive of manufacturing sector. The real exchange rate appreciates shift resources away from tradable goods production into non-tradable goods production. However, aid for investment in the tradable goods sector able to mitigate that consequence. In addition, a high productivity in the non-tradable goods sector and a boost in investment lead to real exchange rate depreciation. The results reveal that policy selection

alters the macroeconomic reaction to aid inflows if it effects investment and productivity. Due to this, elements of aid package should contain instruments to mitigate real exchange rate appreciation. Enhance institutional quality and macroeconomic policy to affect investment and productivity in the non-tradable goods sector. One policy for preventing real exchange rate appreciation is to boost saving in the economy by managing a budget surplus. A country can promote households and businesses to increase savings by lower income and profit taxes. Investments in education and infrastructure improve the competitiveness of manufacture and agriculture sectors. Further research is needed to investigate the impact of increasing the household savings on the macroeconomic variables in Palestine.

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