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تأثير المساعدات الخارجية على النمو الاقتصادي الأردني
منهجية استخدام السلاسل الزمنية
(ملخص رسالة ماجستير نوقشت و أجلت عام 2015)
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تهدف هذه الدراسة تحليل أثر المساعدات الخارجية على النمو الاقتصادي في الأردن، من خلال سلسلة زمنية من البيانات السنوية تمتد إلى 37 عاماً خلال الفترة 1976-2012، وقد تم استخدام نموذج السلاسل الزمنية كمنهجية في التحليل على المدى القصير والمتوسط والبعيد، كما استعرضت الدراسة الجدل في فقه التماسك بين مؤيد ومعرض لمساعدات الخارجية ومنهم من قيدها بشروط، وقد استعرضت الدراسة التحديات التي تواجه استقرار الاقتصاد الأردني تبعاً للأحداث السياسية التي تمر بها المنطقة العربية. كما خلصت النتائج بأنه ضمان الحفاظ على النمو المستدام للاقتصاد الوطني يتطلب تبني السياسات الرشيدة في توظيف المساعدات الخارجية بحيث تعزز تخصص الموارد الاقتصادية من خلال الاستثمار في المشاريع الإنتاجية والتي ينبغي أن تشمل مشاريع البنية التحتية؛ والتي كان لها أثر واضح في النمو على المدى البعيد مقارنة بالفترات الزمنية الأخرى في سلسلة الدراسة الزمنية.
The Effect of Foreign Aid on Jordanian Economic Growth  
Time Series Approach  
(Master Thesis Summary)

Ala’a Hatoqai  
Master of Arts in Economic Change in the Arab Region (ECAR), March 2015  
Philipps-Universität Marburg/ Germany

Introduction  
This thesis aims to shed light on the effectiveness of foreign aid on economic growth in Jordan. More specifically, an attempt is made to ascertain if there is any link between foreign aid and economic growth in Jordan by employing a recent method in the theoretical and empirical aid-growth relationship.

Theoretically, foreign aid provided by more economically developed countries should be able to promote social and economic development in recipient countries. This foreign aid should then lead to prosperity by supporting and strengthening different economic sectors: productive sectors like agriculture, manufacturing, and infrastructure, service sectors such as education, health.

However, the empirical evidence on the impact of foreign aid on economic growth has been hotly debated and after several decades of research, no general consensus has been reached. Some investigators into aid-growth relationship claim that aid has no effect or even hurts the economic growth in recipient countries, while others support a positive relationship between aid and growth. They claim that aid can spur growth in a certain level, after which effectiveness will decrease as the aid inflows into the economy. A third group of economists and development practitioners take a different approach claiming that foreign aid may affect economic growth positively or negatively depending on certain donor conditions and recipient country economic, social and political circumstances.

Jordan’s economy is considered one of the smallest in the Middle East and it depends heavily on foreign assistance due to the fact that the country has limited natural resources not capable to meet the population
needs (Demand); Challenges that Jordan faces such as water scarcity and
drought arias, high population growth, low energy supply, food and
regional security, chronic high rates of poverty, unemployment, inflation,
large budget deficit, and more over recently the political and social unrest
in the region, specifically the conflicts in Syria and Iraq, and growing crises
of social and economic burden of hosting Syrian refugees. The net official
development assistance (ODA) in constant 2011 US $ has fluctuated from
$2120.3 million in 1976 to reach its peak of $3984.720 million in 1979, and
then started to decline until it reached $1661.430 million in 2003, and to
$1440.390 million at the end of our study period in 2012.

Methodology

The empirical method is applied on annual data over a period of 37
years, spanning from 1976 to 2012, and four variables are used: first, the
real gross domestic product as a measure of economic growth, second, the
net official development assistance as a measure of foreign aid, third, the
domestic credit to private sector to account for financial liberalization, and
finally, exports of goods and services as a variable for measuring trade
openness, All data has been collected from the World Bank Data Base.

The empirical analysis is started by testing the existence of unit roots
for each time series using both unit root tests: Augmented Dickey-Fuller
(ADF) test and Phillips-Perron (PP) test, the result indicates that all
variables are stationary after first difference i.e. l(1). Then, we run a
Johansen’s Cointegration test to test the long run impact of foreign aid on
economic growth for 1976-2012 period, determine the number of co-
integrating vectors in the system and calculate the normalized long-run
equilibrium model for Jordan. The long run relationship among the
variables in the model is found. Existence of cointegration allows for the
analysis of the short run dynamic model that identifies adjustment to the
long run equilibrium relationship through the Error Correction Model
(ECM) representation, so in the last step, we estimated a Vector Error
Correction Model (VECM) to facilitate the discrimination of the short run
and long run impact of foreign aid on economic growth (Using Eviews8.0 econometric software).

The model for estimation is specified in the linear form as:

\[ \ln(RGDP_t) = \beta_0 + \beta_1 \ln(ODA_t) + \beta_2 \ln(DC_t) + \beta_3 \ln(EXPO_t) + \mu_t \]

**Where:**

*RGDP_t:* Real gross domestic product (in constant 2005 US $) year \( t \).

*ODA_t:* Net official development assistance received (in constant 2005 US $) year \( t \).

*DC_t:* Domestic credit to private sector (% of GDP) year \( t \).

*EXPO_t:* Exports of goods and services (in constant 2005 US $) year \( t \).

\( \beta_0 \) is the constant term, \( \beta_1, \beta_2, \beta_3 \) are elasticity coefficients, and \( \mu_t \) is the white noise error term.
Results and Conclusions

The results in general indicate that aid support growth in Jordan; it has a short and long run positive and significant impact on growth, it has a significant positive impact on real GDP in the long run, but it has a modest shot-run effect. This result might be reasonable since the effect of foreign aid on economic growth takes its time and appears with lags.

Trade openness (measured as exports of goods and services) found to have a positive and long run relationship with economic growth, while in the short run the impact of exports of goods and services on economic growth appears to be negative and statistically significant. The long run positive association between exports and economic growth reveals that economic reform policies and the shift towards a free market helped the economy to reallocate its resources to productive uses.

Based on our empirical investigation, we found a long run aid-growth relationship in Jordan, which means that over the long run, Jordan has been successful in utilizing the foreign aid in boosting economic growth. However, to maintain and ensure sustained growth, Jordan has to concentrate on policies that strengthen the allocation of foreign resources into investment projects, these policies should not be limited to investment on consumer goods and services only, but also include investment in infrastructure and transportation system.

It is worth emphasizing that these results are obtained without considering the effects of governance and institutional quality in account; many recent studies on aid-growth relationship include different variables for economic policy and the institutional quality which received particular attention in the literature.

However, a continuous time series data for policy variables for our study period of 1976-2012 are not available for Jordan. In addition, including the governance in the growth equation may lead to the problem of “Multicollinearity”, since aid and aid governance can be highly correlated. According to that relying on available time series data of the macroeconomic variables and depending on the first generation theoretical models of aid-growth relationship which are mentioned in the literature review section seems to be the best choice for our empirical investigation.