Does Inward FDI Promote Exports and GDP: Dynamic Panel Evidence from Selected MENA Countries

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Abstract

FDI, GDP and exports are highly related in the economic theory. We aim to investigate the impact of inward Foreign Direct Investment FDI on both exports and national output, i.e. whether inward FDI led-exports and led-output growth or not, in seven middle income MENA countries, which are (Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine, and Tunisia), for the period from 2000 to 2019, using four equations and two different econometric techniques, which are simultaneous equations and Dynamic Panel Data estimators. We found a positive limited FDI impact on both GDP and exports. Positive association with exports indicates complex type of FDI, which services the local market and re-export to home or third country, in the area. This indicates an important result that complex vertical, Knowledge Capital model and platform exports "third country effect" types may stand, and FDI complement exports in the area and during the mentioned period. Several limitations were captured that face attracting FDI and increasing its impact on exports and GDP have been concluded. We recommended of an ambitious series of public, financial, institutional and budget reforms, and structural policies that may enhance FDI role to boost GDP and exports.

Keywords: Inward FDI, Exports, GDP, Dynamic Panel Model, MENA

JEL classification: C33, E23, F14, F21.

1. Introduction

Foreign direct investment FDI significance and amounts have increased dramatically especially in the developing countries, and in addition, discussion regarding its determinants and relationships with other economic factors either in home or host countries, increased dramatically. One of the most important issues raised recently is the impact on output and exports in the host countries. i.e. whether inward FDI led-exports and led-output growth or not. In fact, FDI, exports and output are highly related in the economic theory.

FDI flows from home country to the host country for different motives or incentives. First is for splitting part of the production value chain in host country to exploit the cheap production

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factors such as raw materials or labor, and re-export to the home country or other countries or regions, hence FDI complement exports.

Second motive raise to target the local market when its big and to avoid high tariffs, in fact, FDI is an alternative to serve the foreign market. i.e. multinationals export or produce overseas to serve the host country, which replace exports, or in other word, substitutes it.

Third motive is a type combined, when FDI flows to serve local market profiting the low cost production in the host country, and furthermore, re-export to the home country or other countries in the region/s, and multinationals use host country such as an export platform. Production overseas serves the host country and may serves the region through re-export, and hence, inward FDI cause exports or in other words complement it.

In fact, all different types of FDI can learn local producers and exporters through learning by doing and learning by observation and providing new technologies and techniques, furthermore, it brings know-how, human capital formation, trade expansion and job opportunities, increasing productivity and boosting exports.

In this work, we investigate the impact of inward FDI flows on both home country output and exports, using different techniques in seven selected middle income MENA countries.

We proceed as follows: first, we review the literature, theoretical and empirical, second, we derive the model, then we introduce data and quantitative econometric methodology, later we present the results and finally we conclude and recommend.

2. Literature review

Significance of foreign direct investment (FDI), including, in developing countries has widely been discussed in the economic literature. FDI, besides other capital inflows play an essential role to bridge the saving-investment gap in developing countries. In addition, a key concern about the impact of FDI inflows on host countries is the impact on the host country's trade. In fact, FDI inflows may substitute or complement of aggregate exports of host country. On one hand, FDI enhances local investment, human capital formation and domestic production, which increasing production techniques, know-how, new advance technology, quality of production, create new products, employment opportunities, trade expansion and therefore facilitate penetrating foreign markets, whereas Multinational Corporations MNCs established its strong global marketing networks and off course enforce local exporters ability. Hence, FDI inflows play an essential and imperative in boosting host country's production, complement exports and export performance. On the other hand, FDI may create imbalances in balance of payments, crowding out local production and investment, and hence, substitutes exports.

Several incentives attract FDI inflows in the host countries, the horizontal FDI, which is market seeking FDI serves local and regional market. The horizontal FDI conditions to rise are countries similar in size, factor endowments, market growth, and the presence of transportation costs, that called tariff-jumping or export-substitution strategy to serve foreign market, and in addition, economies of scale at the company level, Markusen, (1995). This horizontal type of FDI contributes directly to the host country's ability for supplying output in international markets, the FDI and aggregate exports are expected to be complementary, Jawaid, Raza, Mustafa and Karim, (2016).

Other main incentive is FDI resource seeker, this vertical type of FDI rise as long as relative factor endowments between countries are standing. This vertical-export oriented FDI relocates parts of the production value chain to the host country to lower costs. Hence, It seeks

resources such as natural resources, raw materials or low-cost labor, meanwhile transport costs and tariff barriers must be low in order to make the separation more valuable in the production value chain. The implications of vertical FDI activity are always explained by an absence of Factor-Price-Equalization (FPE). The driving force of the model was the absence of FPE, Markusen, (2002). If otherwise the difference in relative endowments of countries is not sufficiently large, trade in goods will lead to the equalization of factor prices between countries. This vertical type of FDI should establish an association between FDI and host country's exports, Jawaid, Raza, Mustafa and Karim, (2016)

Previous both incentives of rising FDI inflow boosts exports and can be standing together. This allows for knowledge- capital (KC) model rising, which combines the main features of the vertical and horizontal models, and support for the theory of horizontal and vertical FDI results. Similarity in market size and relative factor endowments with high trade cost support horizontal FDI theory. On the other hand, differences in relative factor endowments with low trade costs encourage the vertical theory of FDI according to the KC model. The model nests the motivations behind FDI decision, both market seeking that stands behind the horizontal MNEs and resource seeking and cost minimization that stands behind the vertical MNEs, which both types may raise exports, either to home country or the region of host country. These motivations are the driving force of the FDI to be vertical or horizontal, Markusen et al. (1996) and Carr, Markusen and Maskus, (2001) and Markusen (1997).

Finally, complex vertical MNEs operate plants abroad to serve the demotic market more cheaply or produce locally to save trade costs, where engages in trade or even FDI with third market, realizing third country effect or "export platform FDI", which suggested by Ekholm et al. (2003). It tends to dominate in case of total region high income, or bilateral countries are similar in size, or home and host countries are similar in relative factor endowments, or home and third countries are different in relative factor endowments, or bilateral countries are different in relative unskilled labor and if transport costs between countries are high, Matsuura and Hayakawa (2008).

Different incentives or types of FDI inflow in recipient countries can cause a positive association with exports, either indirectly through enhancing local production, or with associating host country's exports to the home country, or finally association host country's exports to a third country in the region. In fact, detecting the impact of FDI inflows on home country's output and exports can be discovered only through the empirical investigation in a particular economy or region. Several empirical have been investigated the relationship between FDI and either growth or/and exports, meanwhile, very limited work regarding the MENA countries and, furthermore, we don't find work investigate the impact of inward FDI on exports in the area.

Wongpit, (2006) examines the impact of FDI on the manufacturing export and investigated whether FDI substitutes or complements the manufacturing export from source countries to Thailand. Study used a gravity model, which shows that FDI has a positive impact on the manufacturing export from Thailand to other countries. Others, using a gravity models and data from OECD and six ASEAN countries, Chaisrisawatsuk and Chaisrisawatsuk, (2007), examines whether trade and investment linkages are different between developed and developing economies, and suggests that there are bi-directional effects between international trade and investment. Exports is found to be complementary with FDI inflows. In addition, FDI inflows are observed to have feedback effects with exports of the trading partners and of the other trading partners.

Using detailed cross-section data for 1995, non-Chinese MNEs are found to generate technological and international market access spillover benefits for Chinese firms, while overseas Chinese investors confer only market access benefits. State-owned enterprises reap no

benefits, and indeed receive negative spillovers from overseas investors, in marked contrast to the positive spillovers gained by collectively owned firms. They recommend the importance of reform in state-owned enterprises to raise the absorptive capacity1 of the Chinese domestically owned sector, Buckley, Clegg & Wang, (2002). Marinescu and Constantin, (2010) investigates the relationship between FDI and exports in Romania, it doesn't find either relationship between the FDI inflows and exports, or high relatively foreign penetration rate. Furthermore, majority of FDI were oriented towards comparative disadvantage sectors and started seeking resource-based industries, whereas FDI inflows in Romania does not participate in developing the comparative advantage sectors. Later, FDI began to move to more technology-intensive industries, as is the case with the automotive industry. Zhang and Song, (2001) investigates the relationship between provincial manufacturing exports and FDI, using panel data at the provincial level in the period of 1986 to 1997. Their findings support the widely believed positive relationship between FDI and export performance. Hisarciklilar, Kayam and Kayalica, (2006) used a panel of 18 countries from 1980-2001. Their results show that FDI in the MENA region is market-oriented exploits trade opportunities within the region; as well as targeting the domestic market in the host economy. Kalai and Zghidi, (2019) analyzes the interrelationship between FDI, international trade, and economic growth for 15 selected Middle Eastern and North African countries over the period 1999–2012 using autoregressive distributed lag test as an approach to examine the cointegration and the vector error correction model. Their findings show that there exists a long-run unidirectional relationship running from FDI to economic growth, and FDI can generate positive spillover externalities. Their results failed to confirm the widespread belief that FDI can create positive productivity externalities for the host country. Kherfi and Soliman, (2005) examines the effect of FDI on economic growth in two different regions, which are Central and Eastern Europe (CEE) and MENA countries. Their findings suggest that FDI has a positive effect on growth only in EU accession countries while the effect of FDI on growth in MENA and non-EU accession countries is negative. In addition, no causal relationship between FDI and GDP for most of the Mediterranean countries.

Previous empirical work asserts the dominance of wide believe of the positive impact of inward FDI either on output or exports. Actually, this fact widely vary between countries, regions and analysis level either country, industry or firm one. Attractive markets and business environment, adequate governmental policies and trade liberalization in region enhance considerable FDI inflows and impacts positively on local market, productive spillover and penetrating the foreign market. Some limited empirics show weak impact or negative on product in MENA region countries. Absence of a clear-cut results especially concerning the impact on exports encourages running such investigation.

3. Model derivation

We aim to investigate the impact of inward FDI on both local production and exports. A very limited work investigates these relationships especially using simultaneous equations, and the dynamic panel data techniques namely Allerano-Bover / Blundell-Bond estimators. Hence, no pioneer model is standing, therefore, we derive our model detect our target of such research. We build four equations, two for the simultaneous analysis, and the others for the dynamic estimations, which are more reliable in the interpretation and recommendations. A well-known determinant in the literature is used either in the exports equation or the GDP equation. In both equations we use inward FDI to detect its impact on both dependent variables, exports and output (GDP) as mentioned. Furthermore, in the dynamic analyses, lagged dependent variables are included as independent variables. In addition, each dependent variable, included as an independent variable in the other equation, as long as exports and national production size determine each other. Other determinants, following the literature, are included such as

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[1] Absorption capacity that expresses the country ability to effectively and productively using capital.

government expenditure in both equations; labor and Gross Fixed Capital Formation (GFCF) as determinants of output; openness as an important determinant of exports.

3.1 Lagged dependent variables

Exports lagged in one time period have to be taken into consideration in the dynamic analysis, however, export performance in one year would normally act as a good predictor for the next years' exports. Marketing penetration and establishing marketing networks for the foreign markets provide logistic support and encourage exporters to engage in a new or existing foreign markets (Girma et al., 2007; Pain and Wakelin, 1997; Roberto, 2004). In addition, when exporters decide to engage in serving markets overseas, they are influenced strongly by location decision of previous exporters. Hence, exporters are relatively well developed learning capability is likely to reap the early benefits from their previous exporters, Sabra, (2015). In addition, we have also to include a lagged dependent variable to account for the fact that, exports decisions are part of a dynamic process, i.e. more exports in the region seems to attract more exporters to the same region. Similarly, lagged GDP in the dynamic process is the best indicator for the future income, market size, market dimensions and potentiality; as long as GDP is a proxy for market size, Majeed and Ahmad, (2007).

3.2 Inward Foreign Direct Investment

FDI is a direct investment involving a strategic long-term relationship and reflecting a lasting interest of a resident entity in one economy (direct investor) in an entity (direct investment enterprise) resident in an economy other than of the investor. An increase in FDI accelerate economic growth due to the influx of capital, enhances local investment, increasing production techniques, know-how, employing labor, enforce human capital formation, improve technology, facilitate penetrating foreign markets, improve managerial skills of local firms and increased tax revenue for the host country. Therefore, we expect a positive impact of FDI on both GDP, Yao, (2006), Gruben and Mcleod (1998), and exports.

3.3 Government expenditure

It is general government final expenditure, which includes all government current expenditures for purchases of goods and services, and most expenditure on national defense and security. The government expenditure is an important explanatory variable of economic growth, furthermore, it's a source of economic growth as in Barro model, Barro, (1990). The government expenditure is a source of GDP and expected to affect GDP positively.

Regarding government expenditure impact on exports, it based on the favorable trade environment that may create by the governmental institutions that may consists of ambitious policies promote investment, financial system, trade agreements, market penetration, education system, physical infrastructure, which reduces trade cost and improve firms competitiveness in the foreign markets, besides, improving doing business indicators, hence, the expected impact can be positive. On the other hand, government expenditure with inflating current expenditure and bureaucratic staff, rent seeking behavior, corruption, red tape and other behavior enhance imports, reduce productive sectors and rising the Dutch disease in the country. In such case, government expenditure impacts negatively on exports. Furthermore, inflated government expenditure increases fiscal deficit, which in turn generates macroeconomic instability, poor credit position of a country and higher rates of interest that leads to crowd out local and foreign investment, and hence impacts negatively on FDI, Majeed and Ahmad, (2007), and exports.

3.4 Openness

The main goal behind more openness and trade liberalization is to enhance exports and increase income employment, and economic growth. In fact, we are interested to detect the

impact of openness on exports. Openness influences both exports and imports growth positively, hence, we expect a positive impact on exports. However, it may impact positively or negatively on the trade balance subject to which component is higher influenced exports or imports Chaudhary and Amin, (2012), letting the net impact on economy ambiguous, in such research.

3.5 Gross Fixed Capital Formation and labor force

Gross Fixed Capital Formation (GFCF) participates essentially in boosting growth, increasing capital accumulation, output and exports. The increasing in all physical and social capital and the acquisitions value of new or existing fixed assets by the business sector, governments and households, in an economy such as schools, construction of roads and railways and machinery enhances invention, innovation and overall productivity, also besides improving the human capital. Capital accumulation improves attracting FDI and other international capital inflows that enhance more employment, savings, growth, output and exports. We expect a positive impact on GDP as well as exports, whereas GCFC captures the predictions of Romer (1986) and Lucas (1988) growth models which confirm that capital accumulation increasing increase growth, product and exports of a specific economy.

Labor force is the second main source of growth and output size. Our countries sample is highly labor abundant and labor exporting countries that point out that labor force is educated, productive and represent a human capital can attract FDI, especially for vertical, complex vertical and KC model types. We expect a positive impact on output basing on a asserted believe in economic theory.

Finally, both dependent variables that are exports and GDP, interconnected transversely between the two dynamic equations, this interconnection is done by using each dependent variable as an explanatory variable in the other equation, as long as they determine each others, furthermore, this is to detect the impact of inward FDI on exports considering its impact on GDP as well. Positive association in both directions is highly expected.

4. Empirical model

4.1 Two stage least squares estimation

4.1.1 Model One

We use panel data of seven MENA countries (Morocco, Algeria, Egypt, Palestine, Jordan, Lebanon and Tunisia) for the period 2000 to 2019 basing on data availability that collected from World Bank database. The estimations based on two model, two equations for each, a GDP equation and an exports equation. Estimations of economic growth and exports equations simultaneously might ensure non bias equations due to the explanatory variables might not be truly exogenous. Consequently, we estimate the equations of GDP and exports equations simultaneously. Equations 1 and 2 are used in the simultaneous analysis. This is to detect, in addition, the impact of inward FDI on GDP besides exports, which is the main purpose of research. In fact this allows to detect which if FDI moves to host country to serves the local market or as an export platform, and consequently serves the region "third country effect". FDI impact, if exists, and elasticity size on both GDP and exports, which expected positive, show the participation in output and exports, respectively.

These models consider the interconnection between GDP and exports, furthermore, it considers the double impact of inward FDI impact on GDP in one equation, and impact on exports in the other. Hence, using a single linear regression equation that relates inward FDI to both GDP and exports may show a significant weakness of this technique is the failure to

consider the interconnection between growth and exports and the fact that some explanatory variables are likely to be jointly determined.

Therefore, the total impact of inward FDI on exports, including each direct impact, and the impact of inward FDI on GDP, can only be adequately captured in multiple-equation models. We believe that the estimation of a single-equation model by ordinary least-squares (OLS), as done by some others, is likely to produce biased and inconsistent parameter estimators. In addition, the problems arising from simultaneity bias in single-equation estimation of the FDI-exports relationship, and the merits of simultaneous-equation estimation.

The two-equation model avoids the simultaneity bias occurred in single-equation models. In addition, two-equation model allows for jointly determination of both GDP and exports.

$$\ln \text{Exports} = \beta_0 + \beta_1 \text{Ln InFDI} + \beta_2 \text{Ln GDP} + \beta_3 \text{Ln GFCF} + \beta_4 \text{Ln Gov} + \beta_5 \ln \text{OPEN} + \epsilon \tag{1}$$

$$\text{Ln GDP} = \alpha_0 + \alpha_1 \text{Ln InFDI} + \alpha_2 \text{Ln Exports} + \alpha_3 \text{Ln GFCF} + \alpha_4 \text{Ln Gov} + \alpha_5 \ln \text{Labor} + v \tag{2}$$

Where: Exports is exports of goods and services. InFDI is inward foreign direct investment flow. GDP is gross domestic product. GFCF is gross fixed capital formation, Gov is government expenditure. OPEN is the trade openness measured by the sum of exports plus imports as a share of GDP. Labor is total labor force And ϵ and v are error terms. The parameters β_1, β_2, β_3, β_4, β_5 and α_1, α_2, α_3, α_4, α_5 represent the elasticities of Exports and GDP with respect to InFDI, GDP, GFCF, Gov, OPEN and InFDI, Exports, GFCF, Gov, Labor, respectively.

Model aims to detect the impact of inward FDI inflows on exports from one side and impact on GDP from the other side, which both expected to be positive.

4.2 Dynamic Panel Data System

4.2.1 Model Two

In addition, we use the dynamic panel data GMM systems approach which estimates the parameters from a system of equations. This method is important for the dynamic panel data analysis, and it the first use, according our knowledge, in the empirical studies relating to the subject and region. It shows the transversely connection between equations 3 and 4, for the areas and time zone, mentioned before.

$$\Delta \text{ Ln Exports} = \beta_0 + \beta_1 \Delta \text{ Ln Exports}_{t-1} + \beta_2 \Delta \text{ Ln InFDI} + \beta_3 \Delta \text{ Ln GDP} + \beta_4 \Delta \text{ Ln Gov} + \beta_5 \Delta \text{ Ln OPEN} + \mu + \Delta v_t \tag{3}$$

$$\Delta \text{ Ln GDP} = \beta_0 + \beta_1 \Delta \text{ Ln GDP}_{t-1} + \beta_2 \Delta \text{ Ln InFDI} + \beta_3 \Delta \text{ Ln Exports} + \beta_4 \Delta \text{ Ln GFCF} + \beta_5 \Delta \text{ Ln Gov} + \beta_6 \Delta \text{ Ln Labor} + \mu + \Delta v_t \tag{4}$$

Where: Exports$_{t-1}$ and GDP$_{t-1}$ are the lagged variables of both dependent variables. These lagged independent variables are strong explanatory variables can explain the dependent variables. μ represents the unobserved country specific effects, and v_t is the standard error. DPD system takes into consideration the cross country heterogeneity raise from pooled OLS estimation with cross section data. In addition, DPD system analysis provides more coherent estimation compared to fixed or random effect models, which addresses several biases related to heterogeneity across countries and time, Mitze (2010).

5. Econometric Methodology

The Two-Stage Least Squares (2SLS) is a well-known econometric technique and widely used in the literature. In fact, it used to estimate the parameters of a simultaneous equations when errors across the equations are not correlated and the equations concerned are over-identified or exactly identified, Mishra, (2008). Estimation of exports and GDP equations individually might endure simultaneous equations bias due to some of the explanatory variables might not be truly exogenous. Consequently, we estimate the two equations simultaneously.

Standard estimators for the static panel data model, which control for the existence of individual effects, are the Fixed Effects Model (FEM) and Random Effects Model (REM) approaches. The econometric analysis with these two models addresses several biases, these biases related to heterogeneity across countries and time. The problem with standard FEM is that it cannot estimate parameters such as time invariant variables. On other hand, the problem of standard REM is the biases caused of endogeneity problem due to the potential correlation between one or several explanatory variables, and the residuals, in addition. However, choosing among the FEM and REM estimator rests on an all or nothing decision with respect to the assumed correlation of right-hand side variables (explanatory variables) with the error term. In empirical applications, the truth may often lie in between these two extremes, Mitze (2010). Arellano-Bover, Blundell-Bond is a recent econometric technique, which is dynamic panel data system (DPD system) analysis. This method is based on the generalized method of moment GMM technique that has been widely used in empirical estimation of dynamic panel data models. (Blundell and Bond 1998) proposed system GMM estimators to overcome the inconsistent instrumental variables estimators caused by weak instruments. Firstly, They showed that the level GMM estimators by Arellano and Bover (1995) are free from weak instruments when even the parameters concerning the lagged variables is close to unity, and then combined the moment conditions, which are used in first differencing, and the level GMM estimators to improve the efficiency of the estimators, Hayakawa, (2005)

The dynamic panel data is GMM systems approach that estimates the parameters from a system of equations: the first differenced model using lagged levels exports as instruments for the lagged difference of exports equation, (similarly to GDP). Secondly, use the difference instrumental variables in the model, Arellano and Bover, (1995); Arellano and Bond (1998); Blundell and Bond, (1998). Therefore, we run dynamic panel data system analysis, which is Arellano Bover Blundell Bond. In fact, we rely on the DPD system estimation to detect the impact of inward FDI on both exports and local economy output. The long run coefficients are calculated by the equation: long run parameter (coefficient) = determinant (independent variable) coefficient / 1- dependent variable coefficient, Sabra, (2015).

6. Data

This paper uses panel data of seven selected middle income MENA countries (Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine, and Tunisia) for the period 2000 to 2019. We use exports, inward FDI flows, openness, government expenditure, GFCF, labor force and GDP variables. Trade openness measured by the sum of exports plus imports as a share of GDP. Government expenditure is general government final consumption expenditure. GDP is the proxy can capture output size and economic growth. The proxies of our variables are widely used in the previous literature. We use each of exports and GDP as dependant variables as shown in models before. These variables are used as independent variables in the simultaneous equations and transversely (exports and GDP) in the dynamic model to detect the impact of inward FDI on exports considering its impact on GDP as well. In addition, we have both exports and GDP, which are the lagged variables of the two dependent variables in the dynamic model. All row data of variables are collected from World Development Indicators of the World Bank,

except FDI inflows, which collected from UNCTAD database, besides openness calculated as exports plus imports divided on GDP. Limited missing values are still standing. All variables are taken in logarithm. We use the variables in algorithm to get the elasticities, guarantee linearity and reducing any potential multicollinearity. STATA software has been used for the analyses.

7. Results

The following tables show the estimation results of the previous two models.

Table 1: Two Stage Least Squares estimation for equations 1 and 2.

	Inward FDI	GDP	GFCF	Gov	Open	Constant	F statistics	RMSE
Exports	.024***	1.2***	.3***	-.45***	1.03***	-3.8***	1783.9***	.196
	(2.65)	(14.3)	(3.6)	(-4.4)	(72.8)	(-7.5)		
	Inward FDI	Exports	GFCF	Gov	Labor	Constant	F statistics	RMSE
GDP	.023***	.037***	.4***	.42***	.18***	1.84***	1042.8***	.173
	(3.02)	(3.17)	(6.2)	(5.1)	(5.96)	(3.46)		

Figures in parentheses are t statistics. R^2: 0.98 and 0.97 for equation one and two, the symbols ***, **,* indicate significance at 1%, 5%, and 10% levels respectively.

Table 1 shows model one estimation for equations 1 and 2. It shows highly and significant F-statistics, and low root mean square errors RMSE, which presents model validity. All variables' coefficients are significant at 1%, and R2 is 0.98 and 0.97 for both equations, respectively. Estimation shows inward FDI flows is associated positively with each exports and GDP that in line with the literature. Furthermore, a positive relationship between exports and GDP in both equation that widely believed in the literature. Exports are highly influenced by GDP, which in turn strongly influenced by GFCF, that reflects positively on exports. In addition, exports are highly and strongly influenced by openness that show trade liberalization cause more exports, meanwhile, the final impact on trade balance and the whole economy needs to detect openness impact on imports. Government expenditure shows a high source of GDP that agreed Barro, (1990) estimators. On the other hand, government expenditure associated negatively on exports that reflects inconvenient governmental policies toward exports promotion, in addition, this point is more widely explained in the dynamic estimation. Finally, results of multiple equations are in accordance with panel dynamic results.

Table 2: Dynamic Panel Data System estimation for equations 3 and 4.

	L. Exports	Inward FDI	GDP	Open	Gov.	Constant	chi2
Exports	.29***	.01***	1.1***	1.01***	-.3***	-2.57***	73318***
	(13.52)	(3.67)	(21.34)	(236. 3)	(-6.91)	(12.13)	
Long-run coefficient	-	.014	1.55	1.42	-4.23		
	H0: overidentifying restrictions are valid						474.3 ***
	L. GDP	Inward FDI	Exports	GFCF	Gov.	Labor	Constant	chi2
GDP	.6***	.012***	.0119***	.17***	.16***	.091***	.7***	11315***
	(17.68)	(5.08)	(3.19)	(5.54)	(4.16)	(3.53)	(2.93)	
Long-run coefficient	-	.03	.03	.425	.4	.23		
	H0: overidentifying restrictions are valid							263.5 ***

Figures in parentheses are z statistics. The symbols ***, **,* indicate significance at 1%, 5%, and 10% levels respectively.

Table 2 shows model 2 estimations for equations 3 and 4. It shows a robust model, all variables coefficients are significant at 1%. Furthermore, as shown in table 2, Sargant test shows that all moment restrictions are satisfied for the dynamic specifications can't be rejected. This means that the instruments are valid for both equations, model is robust and correctly specified. The lagged variables of exports and GDP show the influence of behavior of previous exporters, current exports level, from one side, and economy in the current level and current growth, from the other side, respectively. In fact, GDP is strongly influenced by previous GDP levels, comparing to exports regarding the previous exporter's behavior. These coefficients are in line with literature and expectation. In fact, government behavior in region is similar, which enjoys all of low level of integration, free trade areas, trade agreements, trade cooperation, capital movements that explains this result. In addition, government should alliance the legal and institutional factors such as maintain law effectiveness and enforceable of property rights that should attract more FDI and increase competitiveness internationally and therefore impacts positively on exports. Furthermore, Dutch disease standing cause shrinking of productive sectors, such as industries and agriculture, which reduces exports in favor of non-productive sectors, such as services and construction. This highlights the importance of FDI in participating in exports and enhance local exporters to increase their exports.

Finally, a series of structural reform policies, suggested in recommendations, are urgently needed to attract FDI and enhance exports through growth-led exports, and FDI-exports and exploiting the FDI potential in the area. Inward FDI flows associated positively with both exports and GDP. Comparing inward FDI elasticities with exports and GDP show that complex vertical, KC model and platform exports "third country effect" types may standing, which targeting both local and other markets in the area. This explained by the well known fact that sample countries are labor abundance and labor exporting countries2, that attracting and explaining the mentioned types of foreign investment. The magnitudes of inward FDI impact on both exports and FDI that around 0.01% show the need of structural policies creating convenient and favorable FDI attractive environment. In addition, the low level of magnitude shows the high marginal effect of future and potential FDI in the area. Finally, a recent research in MENA area failed to confirm the widely fact of FDI positive productivity externalities creation and referred that to the need of series reforms and ambitious governmental policies, Kalai and Zghidi, (2019). Exports is highly elastic to GDP size and expansion, which indicates growth-led exports hypothesis whereas domestic output dynamics explains aggregate exports, in fact, GDP represents several factors that associated positively on exports such as capital, labor, productivity, etc. Openness points out that more openness and trade liberalization enhance more exports and therefore, economic growth3. On the other hand, exports participate positively and weakly in growth, of course, comparing to other main growth determinants such as labor, GFCF and government expenditure.

Government expenditure, which is a proxy for governmental institutions and policies show that these factors doesn't work in favor of promoting exports. In contrast, government expenditure in these countries financed partially by foreign aid and directed essentially for current expenditure that enhance imports and causes Dutch disease, Sabra and Eltalla, (2016), Sabra and Sartawi, (2015), Sabra, (2016b). Furthermore, previous studies in the area show that government behavior does not improve investment environment or reduce transactions costs and it crowds out private sector, Sabra, (2016a). On the other hand, government expenditure structure tends to current and transfer payments instead of tending towards public investment spending on education, transports, health and R & D, which increases human capital, income,

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[2] Our sample countries are labor abundance, and they are labor exporting countries.
[3] In fact, this encourages future work to detect imports reaction to openness and trade liberalization to judge the overall impact of liberalization.

welfare, reduce cost of doing business, reduce shadow economy4, enhance private sector environment and facilitating market production environment.

8. Conclusions and recommendations

A wide range amount studies investigate the impact of inward FDI on output and exports, considerable work found opportunities around the world to exports and growth led by FDI. In MENA countries, limited work and evidence on the role of FDI-led growth, and no work has been found on the FDI impact on exports. In fact, positive impact on both output and exports have been concluded, although the limited impact that has been found. This may assert the importance the potential and marginal impact of new attracted FDI, and in addition, asserts the importance of carrying out of package of reforms and structural policies attracting FDI and encouraging FDI as well boosting exports to region. Structural policies such as structural adjustment policies (SAPs) to reform public budget spending and enhancing and regulating the private sector and to reduce shadow markets and guiding monetary, trade and financial reforms and developments. In fact, restructuring spending toward investment and developmental budgets, including enhancing legal and institutional factors, enforce public sector efficiency and private sector productivity. In one hand, such spending on social infrastructure, including health and education; and on physical infrastructure, such as transport system quality and efficiency of natural resources. On the other hand, institutional reform reduces transactional costs, shadow economy, corruption, rent-seeking in government behavior, such as natural resources exports and attracting foreign aid, and enhances doing businesses indicators. Furthermore, these policies should lead to more integration, trade, Free Trade Areas (FTAs), exports promotion policies and regional cooperation in different aspects, which consequently, attract more FDI intra the region and inter other regions, besides exports. Finally, this would positively and strongly impact on creating more jobs, enhancing human capital, physical capital, productivity, spillovers and economic growth, considering the multidirectional impacts between such factors and each export and inward FDI.

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