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RESEARCH ARTICLE

INVESTIGATING THE EFFECTS OF FOREIGN DIRECT INVESTMENT ON EXPORT GROWTH IN CAMEROON¹

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ABSTRACT

The theoretical relationship between FDI and export growth can be explained by using the flying geese model, Vernon's product life cycle theory and the new growth model. These three theories have different explanations of FDI flows; however, they all agree that FDI has an influence on the recipient economy. First, MNE subsidiaries exploit the host country's factor endowments for lowering production costs to increase their export competitiveness. Therefore, the host country's export expansion by MNE subsidiaries is to be expected (capacity-increasing effect). Secondly, the host country's export can be increased by domestic firms through the spillover effects of FDI such as competition and transfer of knowledge (spillover effect). This study attempts to estimate the potential effects of FDI inflows on export growth in Cameroon over the 1980-2003 period. We separate the effects of FDI into supply capacity-increasing effects and spillover effects. The major hypothesis of the study is that FDI has had a positive impact on Cameroon export performance. Using the Engle-Granger two-step co-integration procedure we find evidence that FDI inflows contributed to higher supply capacity and spillover effects in Cameroon, leading to higher export growth during the period of study.

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INTRODUCTION

There has been a long debate in the literature on how host country's exports respond to inward foreign direct investment (hereafter referred to as FDI). A crucial issue in this debate is whether FDI is a means of stimulating export performance of the host countries. The influence of FDI on the host country's export performance can be explained by using the flying geese model, Vernon's product life cycle theory and the new growth theory. Although these three models have different explanations of FDI flows, the direct and indirect effects of FDI provide a starting-point that FDI is likely to have a positive influence on the host country's export performance. Firstly, FDI is undertaken for the purpose of cost reducing, and the use of the host country's factor endowments (for instance, cheaper labour costs and relatively abundant resources directly decreases the foreign firm's production costs and increases their export competitiveness). Secondly, the existence of competition between multinational enterprises (MNEs) and local firms provokes the local firms' export propensity to protect their sales and markets. Moreover, the transfer of new technology and skills from MNE subsidiaries to indigeneous firms (spillover effects) is expected to increase local firms' export ability (Caves, 1996; Zhang and Song, 2000). As a consequence, the direct and indirect effects of FDI together enhance the host country's export performance. The available empirical evidence of the role of FDI on export performance of host countries is mixed. Several cross-country studies found support for the hypothesis of a negative relationship between FDI and export (Jeon, 1992). Moreover,

Sharma (2000) does not see any statistically significant impact of FDI on Indian exports. In contrast, other studies indicated that FDI actually has a positive effect on export performance of host countries (Cabral, 1995; Blake and Pain, 1994). Cameroon's exports have grown much faster than GDP over the past few decades. For example, its exports have grown over 11 percent per year while GDP growth was about 4.5 percent over the period 1994-2003 (INS, 2005). Several factors appear to have contributed to this phenomenon including foreign direct investment (FDI) which has been rising consistently especially from the late 1990s. However, despite increasing inflows of FDI there has been limited attempt to assess its contribution to Cameroon export performance- one of the channels through which FDI affects growth. Moreover, there's little or no empirical research that separates the potential effects of FDI into supply-increasing effects (capacity effects) and spillover effects. The supply-increasing effects arise when FDI inflows induce increases in the host country's production capacity, which, in turn, increase export supply capacity. The FDI-spillover effects arise because foreign capital inflows may incorporate different competitive advantages, such as superior knowledge and technology and thus, higher productivity, or better information about export markets as compared to local firms (Basu, 1997). We believe that differentiating between these two effects of FDI on exports is especially important in terms of policy implications. It is often argued that successful FDI promoting policies should lead to, among other things, a significant

increase in the host country's exports. However, if evidence indicates that FDI increases exports only through increasing export supply capacity, then FDI inflows are not special in that policymakers could increase exports through alternative means as well, such as promoting domestic investment, rather than FDI. If, on the other hand, one finds that there are positive spillover effects of foreign capital inflows on exports, this would mean that specific efforts aimed at attracting further FDI would be justified. The main objective of this study therefore is to investigate the contribution of FDI capacity effects and FDI-spillover effects on the export performance of the Cameroonian economy over the period from 1980 to 2003. We hypothesize that FDI inflows had a positive impact on the export growth of the Cameroon economy over the period 1980-2003. The rest of the paper is organized as follows. Section 2 casts some light on FDI inflows and the export performance of the Cameroonian economy. Section 3 dwells on the theoretical framework of the impact of FDI on exports. Description of the data and the empirical model is presented in Section 4. Estimation results are discussed in Section 5, while concluding remarks with policy implications are offered in the last Section.

policies, and imported obsolete technology (Zisuh, 2003). This resulted in a process of naturalization of all foreign concerns and maximum State control of the public and private sectors of the economy. Nevertheless, foreign investors still participated in a few private enterprises in the form of equity holdings and joint ventures (Awa, 1993). This type of equity participation accounted for a substantial part of FDI flows to the country up to the mid-1980s when the government allowed for the establishment of foreign affiliates in the country. Foreign investment in Cameroon today is mostly in the form of direct investments with an insignificant amount of portfolio investments. According to UNCTAD (2000), FDI in Cameroon is still limited but increasing. Table 1 summarizes the magnitude of FDI in Cameroon for selected years. Cameroon was one of the lowest recipients of FDI among developing countries until the early 1980s. For instance, inward FDI stocks reached 330 million dollars or 4.9 percent of GDP as against an outward stock of 23 million dollars or 0.3 percent of GDP (Table 1). A possible reason for this low level of FDI is state involvement in owning the largest share in big business concerns thereby limiting foreign shareholdings of equity.

Table 1. FDI Descriptive Statistics for Selected Years (in US\$ m and percentages)

	FDI Inflows		As % of GFCF		FDI Stocks		As % of GDP		Net FDI Flows (% of GDI)
	Inward	Outward	Inward	Outward	Inward	Outward	Inward	Outward	
1980	13	12	0.3	0.3	330	23	4.9	0.3	8.2
1985	18	13	0.7	0.6	1125	53	13.8	0.6	1.0
1985-89 (av.)	23	17	1.0	0.8	954	78	10.2	0.9	1.4
1990	13	19	1.6	0.4	1044	150	9.4	1.3	1.6
1995	34	4	2.7	0.3	1664	227	13.3	2.9	2.7
1998	50	1	3.1	0.1	1985	239	13.9	2.9	3.1
2000	59	3	2.3	0.2	2463	255	14.2	3.4	0.4
2001	67	4	2.1	0.2	2939	257	14.7	3.6	19.2
2003	75	3	2.2	0.2	3521	280	16.1	3.7	4.8

Source: Compiled by authors based on data from World Investment Report (2005); and World Bank Africa Database CD-ROM (2005)

FDI Inflows and export performance in Cameroon

Pattern of overall FDI Inflows in Cameroon

Foreign involvement and the participation of multinational enterprises (henceforth MNEs) in economic activity in Cameroon can be traced as far back as 1884 with the German annexation of Cameroon. During this period, European colonial masters saw developing countries as source of raw materials and markets for their finished products. This was manifested in Cameroon by the creation of huge corporations to produce both food and cash crops – cocoa, coffee, banana, plantain, and rubber – on huge industrial plantations. With the defeat of the Germans during World War one, Cameroon was partitioned between Britain and France under the trusteeship rule of the League of Nations in 1922 (Awa, 1993). However, the emphasis did not shift from production and exportation of agricultural raw materials and full foreign control over the domestic economy. Imports into Cameroon consisted mainly of manufactured goods for consumption and machinery for agricultural production.

The lessons from colonial rule were evident a few years after independence when the British and French territories united to form the present day Cameroon. In the early years following independence, FDI and MNEs in general were perceived as an evil that negatively influenced internal decision making, induced loss of control over domestic

Lengthy approval process and restrictions of foreign participation in many areas – such as utility industries – also appear to have discouraged foreign investment. Although the absolute value of inward FDI stocks rose sharply in the 1990s in comparison with earlier periods its share of GDP has not made any remarkable progress. Observe in Table 1 that it was only after 1995 that Cameroon experienced a significant inflow of FDI, which has been on an increase to date.

Although Cameroon is not yet anywhere near most African countries and second to Gabon in the franc zone in attracting FDI, it has done remarkably well in recent years compared with its own past performance. Table 1 show that FDI inflows reached 50 million dollars in 1998 just from over 13 million dollars during 1990. The share of FDI in both gross fixed capital formation and GDP reached over 2 percent from less than 0.8 percent before 1985. This increase in FDI inflows appears to be due to the opening up of the Cameroon economy since 1992. Cameroon's inward FDI performance index¹ increased from -0.3 over the period 1988-90 to 0.1 over 1998-2000, while inward FDI potential also increased from 0.16 to 0.28 revealing that some progress was being made (INS, 2005). Despite Cameroon's promising economic potential in Sub-Saharan Africa, foreign investors considered the country to be a high-risk zone for investments when political and

¹ Inward FDI performance index is the ratio of a country's share in global FDI flows to its share in global GDP.

economic conditions deteriorated during the early 1990s. Since the devaluation of the CFA franc in 1994, net FDI has been on a steady increase, driven almost exclusively by occasional privatization and oil sector investment (EIU, 2002).

Trade and Investment Policy Reforms in Cameroon

a) Trade Policy Reforms in Cameroon

Before 1989, Cameroon's trade policy was protectionist with important non-tariff barriers (NTBs), the fiscal structure had about 20 different taxes applicable selectively to import and export products at rates sometimes reaching 150% of the cost-insurance-freight (cif) value (Bamou et al. 2006). This protectionism was reduced from 1989 with the implementation of the Structural Adjustment Programme. Quantitative restrictions as well as price controls were gradually abandoned. In 1994, the substantial tax reform proposed within the framework of the Central Africa Economic and Monetary Community (CEMAC) was implemented and further simplified the fiscal system to improve competitiveness and promote foreign investment. The fiscal system was further boosted by the devaluation of the CFA franc² in 1994. From 1994, market access conditions improved significantly thanks to the commitments of the Uruguay Round (which consists among others; limiting the use of NTBs, avoiding future increases in tariff protection etc) and the decision to apply the Most Favoured Nation's clause thereby granting to developing countries including Cameroon, a number of trade preferences.

During this adjustment period, the government of Cameroon also implemented many sectoral reforms. In the agricultural sector, subsidies to support farmers were fully or partially suppressed and agro-enterprises were restructured, followed by privatization, liquidation or outright closure. In the industrial sector procedures for obtaining technical importation visas were simplified. The banking and insurance services were liberalized and opened to competition and placed under the authority of Central African Banking Commission (COBAC) and Community Code of the International Conference on Insurance Markets (CIMA) (Bamou et al. 2006).

b) Investment Policy Reforms in Cameroon

The import-substitution era in Cameroon started in 1963 with the creation of the Société Nationale d'Investissement (SNI) and subsequent resolutions (Zisuh, 2003). According to the regulations, the state generally took a shareholding in larger ventures in the private sector, thereby forming joint ventures with the private sector. Thus, before 1980, the state was largely involved in both public and private sectors under its policy of balanced development and FDI was strictly limited to equity participation in joint ventures (Encyclopedie du Cameroun, 1983). From 1990 to 2002, a new wave of investment policy reforms was launched to adapt the investment policy to the new liberal economic environment following the implementation of the SAPs. The concepts of competition and the need to process primary products before

exportation were strongly stressed in this reform. Two structures were created to support this new policy: the National Industrial Free trade Zone and the Investment Code management Unit. In the framework of this structure, any manufacturing or service industry authorized by the zone's administrative body, can import the means of production, equipment and raw materials free of duty, licenses and customs control, provided more than 20 percent of the annual turnover of the enterprise crosses the zones boundaries into Cameroon customs territory (BEAC, 2005 ; MINEFI, 2006). Zone users are exempted from exchange control regulations and can freely export the proceeds of their investment. After ten years in operation companies will be subject to corporation tax but other zone tax exemptions remain. Outside the industrial free zone, overseas firms and foreign employees are subject to local income tax requirements but income and profits can be freely remitted within the franc zone and elsewhere in accordance with the zone's regulations.

In 2001 an investment charter was passed by parliament and includes incentives to attract foreign investment capital (MINEFI, 2006). In this charter, the state promises to ensure the exercise of justice and to guarantee the safety of persons and property through sensitization, the termination of all forms of bureaucracy and harassment, the fight against corrupt behavior, the expedition of hearing of court cases, and ban all forms of discrimination.

Export Performance in Cameroon

The export growth performance of the Cameroon economy can be attributed to two key issues. Firstly, Cameroon benefits from its diversified export base although it is highly dependent on primary products. Secondly, as stated earlier, exports have grown rapidly since 1995. These can be attributed to several factors. Firstly, the devaluation of the CFA franc in 1994 made exports more competitive. Secondly, market liberalization as well as liberalization in investment policy after 1992 attracted domestic and foreign private investment and helped reduce the bias against exports. Export growth was slow in the mid-1980s and mid-1990s due partly to economic crisis and bad government practices that were unfavorable to export production. Table 2 summarizes the structure of Cameroon exports (that is, a sector-breakdown of exports). Table 2 indicates that the share of oil, which dominated exports in the 1980s, declined from 7655.5 in 1985-90 to 5014 barrels in 1997. This may be explained by improved earnings from coffee and cocoa boosted by rising world prices (UNCTAD, 2002). Cameroon's exports are dominated by non-manufactured goods, which account for over 28 percent of GDP (MINEFI, 2003). Six major items – forest product (logs and wood), petroleum and other oil products, cocoa, coffee, cotton, and oil palm - dominate primary exports. Because Cameroon is a typical agricultural country, it is important to mention that climate changes may also contribute significantly to output variations for the primary agricultural products. Growth in primary exports has been associated with a corresponding growth in merchandise exports, which stood at 2,165 million U.S. dollars in 2000 up from 1605 million dollars in 1995-96 (Table 2). On the other hand, manufactured goods export in Cameroon is at its infancy accounting for less than 5 % of GDP (see Table 2). Insufficient capital, inadequate skilled labor, poor and limited infrastructure, and above all

² Inward FDI performance index is the ratio of a country's share in global FDI flows to its share in global GDP.

³ CFA F means Franc de la Communauté Financière d'Afrique. ⁴ The National Accounts Statistics CD-ROM is obtainable from the National Institute of Statistics, department of the Ministry of the Economy and Finance.

administrative malpractice are the factors that impede modernization and growth in the industrial manufacturing sector. Thus, the manufacturing sector is mostly concerned with food processing, brewery, textile and leather, wood, rubber, metal and mechanical engineering, chemical, and electrical industries on a light and intermediate scales. Heavy industries are absent.

begin to undertake FDI and are inclined to enter into joint venture investment to set up production in other countries. Interestingly, MNEs' production at the growth phase of the product life cycle seeks local markets; in the meantime, foreign competitors start to enter the market (Basu, 1997). Consequently, the demand for exports from the US declines;

Table 2. The Structure of Cameroon Exports for Selected Years (metric tons unless stated otherwise)

	1980-85 (average)	1985-90 (average)	1990-95 (average)	1996	1997	1998	1999	2000
Forest products	534	630.5	932.5	987	1011	1097	1263	1311
Petroleum and other oil products	5113.5	7655.5	6412.7	5278.0	5014.0	5532	6200	5503
Cocoa	96.3	115.3	98.8	120	142	107	122	121
Coffee	93.3	121.3	91.2	63	74	82	53	69
Cotton	24.2	23.8	44.5	54	66	51	61	65
Oil-palm products	14.5	24.2	21.7	8	41	23	98	99
Manufactured goods (US\$ m)	96	277	268	259	302	291	423	299
Total Exports (US\$ m)	2285.5	2344.5	2166.7	2048	2306	2306	2241	2728
Merchandise exports (US\$ m)	1841	1970	1791	1605	1816	1800	1682	2125
Manufactured goods exports (% of GDP)	1.2	4.1	4.2	3.3	3.3	3.2	4.9	4.3
Non-manufactured goods exports (% of GDP)	28	18.4	17.8	19.6	22.1	23.2	19.8	26.2

Source: Compiled by authors from National Accounts Statistics CD-ROM 2004¹

Theoretical considerations of the impact of FDI on exports

We discuss three theoretical models regarding the potential effects of inward FDI on the exports of host countries.

Flying Geese (FG) Model

The term *flying geese pattern of development* was initially coined by Akamatsu in the 1930s and introduced into academia in the early 1960 (Lee, 2007). According to the Asian Development Bank (ADB, 2005) labour costs and openness are the essential factors in the FG model. ADB (1999) points out that FDI has shifted from high labour cost home country to the lower labour cost host country. As the lower labour cost host countries develop they become high labour cost nations for a new set of low labour cost host countries (Lee, 2007). The implication of the FG model is that MNE subsidiaries increase the host country's export performance by using the host country's factor endowments to produce at lower cost. The increased export competitiveness of MNE subsidiaries directly enhances the recipient country's export supply capacity (ADB, 2005). Furthermore, the transfer of FDI also brings new technology, capital equipments and manufacturing expertise into the host countries which are behind in the availability and quality of factor endowment (Kwan, 1996). Therefore, according to the FG model, spillover effects of FDI are likely to stimulate local firms' export ability.

Product Life Cycle (PLC) Theory

The PLC theory was developed by Vernon (1966) to provide a framework to explain the increasing FDI from US MNEs and its influence on trade flows. There are four stages of production in the PLC theory including innovation, growth, maturity and decline. Vernon observes that, at the first stage of production, US MNEs tend to produce new and innovative products in the US for mainly home consumption without undertaking any FDI, and the rest of the output is exported to serve foreign markets. As products progress to the growth stage and become high in growth and demand, the US MNEs

and the US consumers begin to purchase some of the products from these newly industrialised countries (NICs). As the production progresses to maturity phase, the problem emerges from cost-reduction for the producers. Most FDI, which was initially allocated in advanced countries, is shifted to other lower cost NICs. Apart from the local market consumption, part of the output is exported to serve the US and other foreign markets. Therefore the US and other advanced countries have switched from being exporters to being importers. At the final stage of production, cost-minimising becomes the major task for the MNEs' production and the allocation of FDI will be the countries having lower and even the lowest production costs. MNEs' production at the final stage of production serves not only the local market but also the US and the rest of the world.

New Growth Theory

New growth theory incorporates two important points. Firstly, it views technological progress as a product of economic activity. Secondly, new growth theory suggests that knowledge and technology are characterised by increasing returns, and these increasing returns drive the growth process (Cortright, 2001). Consequently, growth is endogenous in new growth theory rather than exogenous as in old growth theory. Investment in human capital contributes to increasing returns in the production function (Meier and Rauch, 1995), and the more resources devoted to research and development, the faster the rate of innovations and the higher the rate of growth (De Castro, 1998). According to Shan *et al.* (1997), the capital accumulation FDI is expected to generate non-convex growth by encouraging the incorporation of new inputs and foreign technologies in the production function of the FDI recipients' countries. In addition, the transfer of advanced technology strengthens the host country's existing stock of knowledge through labour training, skill acquisition, the introduction of alternative management practices and organisational arrangements (De Mello and Sinclair, 1995). As a consequence, FDI increases productivity in the recipient economy, and FDI can be deemed to be a catalyst for domestic investment and technological progress (Shan *et al.*, 1997).

MODEL SPECIFICATION AND DATA

Model specification

In this section, we try to capture the two effects of FDI by using a popular empirical model of exports. In our model we include a proxy for the supply capacity of the recipient country that positively affects export supply capacity. We use FDI stock data to capture the spillover effects. We propose to include both variables in the same specification to see whether FDI has an additional impact on exports beyond its impact on exports through the domestic supply capacity variable. To test the impact of FDI on exports, it is important that we control for the other major determinants of exports in Cameroon. We use a parsimonious model which takes into consideration some trade reform indicators. Accordingly, we employ the following model specifications:

$$\log EXP_t = \alpha_0 + \alpha_1 \log REER_t + \alpha_2 \log PGDP_t + \alpha_3 \log TLI_t + \alpha_4 \log MKT_t + \alpha_5 \log EXP_{(t-1)} + \varepsilon_t \quad (1)$$

$$\log EXP_t = \alpha_0 + \alpha_1 \log REER_t + \alpha_2 \log PGDP_t + \alpha_3 \log TLI_t + \alpha_4 \log MKT_t + \alpha_5 \log EXP_{(t-1)} + \alpha_6 \log SFDI_{(t-1)} + \varepsilon_t \quad (2)$$

where subscript t denotes time and ε is the error term. In both specifications the dependent variable is real exports (EXP). Since we are dealing with time series data, we estimate the models using the Engle-Granger two-step co-integration procedure. To do this we first, estimate an equation by OLS method and test for a unit root in the residuals of the estimated model. As standard macroeconomic theory suggests, relative prices are important in explaining a country's exports. REER represents the real effective exchange rate index. We believe that REER is a good measure that would capture the competitiveness of the Cameroon economy. Thus, our empirical specifications include REER to capture the influence of relative prices. The index of real effective exchange rate is constructed in a way that an increase in REER denotes a real appreciation of the currency. Thus, it is expected that the coefficient α_1 is negative.

PGDP is potential output which is a trend of real GDP, which we use as a proxy for the supply capacity of the country. This variable is expected to capture the effects of increased supply capacity due to FDI inflows. The PGDP variable enters the regression with one year lag since it may take some time before additional supply capacity is reflected in increasing exports. We expect the coefficient α_2 to be positive. Whether, and to what extent, FDI contributes to increased supply capacity is tested using a supplementary regression of PGDP on FDI stock. TLI represents the trade liberalization index. It is calculated as import ratio on total international trade volume (Bamou *et al.*, 2006). MKT represents the external market access indicator which is approximated by the growth rate of export penetration index, calculated as export ratio on total international trade. The reason for including these two trade-related variables is to account for the potential impact of the trade liberalization measures undertaken by the country. We expect the parameters α_3 and α_4 to be positive. $EXP_{(t-1)}$ is lagged exports. Our rationale of including this variable is to take into consideration the fact that the export performance in one year would normally act as a good predictor for the next year's exports. Equation 1 is our benchmark equation. In the second model specification we add the stock of FDI (SFDI) to

equation (1) to test the spillover effects on exports (with impact of increased supply capacity held constant). The SFDI variable enters the model with a one-year lag. This is suggested by the empirical results in Girma *et al.* (2007) which show lags in the effect of FDI on acquired domestic companies. Also, even for an export-oriented foreign investment, one can assume that building a new plant and achieving a desired level of production takes time. Barrios *et al.* (2005) also stress that the cumulative FDI stock variable is a better choice than FDI inflows. Thus, it is the cumulated FDI that matters. The same effect could possibly be achieved by using FDI inflows, but this would require using many lags of FDI variable, thereby reducing the number of observations. Also, there is a potential endogeneity issue, when regressing exports on FDI. Hence, using FDI stock with a one year lag should alleviate this problem (Girma *et al.*, 2007). We anticipate α_6 to be positive.

Data

In the present study, data from a secondary source are used. The data are obtained from various sources, notably: World Bank-World Development Indicators CD-ROM 2005, the IMF International Financial Statistics, UNCTAD Handbook of Statistics, and National Institute of Statistics (a department in the Ministry of the Economy and Finance). The period covered is 1980–2003 so as to better account for the trade and investment policy reform measures undertaken by the country during the early 1990s.

RESULTS

Before proceeding with our estimations, it is important to analyze the time series properties of the individual series. We first of all establish the order of integration (or stationarity) of the variables using the Augmented Dickey-Fuller (ADF) and the Phillips-Perron (PP) unit root tests. The results of the tests and their level of significance for the unit root tests are displayed in Table 3.

Table 3. Testing for Unit Roots

Variables	Levels		First Difference		Decision
	ADF	PP	ADF	PP	
logEXP	1.755	2.835*	2.875*	5.148***	I(0) I(1)
logREER	1.734	1.867	3.032**	5.675***	I(1)
logPGDP	0.571	0.499	4.938***	4.653**	I(1)
logTLI	2.286	2.693**	4.189***	3.872***	I(0) I(1)
logMKT	0.954	1.517	2.420	3.349**	I(1)
logSFDI	2.35	3.743*	5.907**	9.175***	I(0) I(1)

Source: Estimated by authors

Notes: ***, **, * represent statistical significance levels at the 1%, 5% and 10% respectively.

We cannot reject the presence of a unit root in the variables in levels, except for logEXP, logTLI and logSFDI based on the PP test at 10%, 5% and 10% significance levels respectively. While for the first differences of the series the results show presence of stationarity for all the variables, since all the absolute values of ADF and PP and their test statistics are found to be statistically significant. Therefore, since differencing once produces stationarity, we can conclude that the series are integrated of order one, I(1). These results imply that we can reasonably proceed with tests for co-integration relationships among combinations of non-stationary series. Co-integration among integrated variables of order one, implies the existence of a linear combination that yields a

stationary series. We then test for the existence of a long run relationship using the Engle-Granger two step procedures. To do this we first, estimate equation 1 by OLS method and test for a unit root in the residuals of the estimated model. Table 4 contains the estimates of equation 1 to capture the effects of FDI via changes in the supply capacity of the host economy. Real effective exchange is significant, with the expected sign. Potential output has a significant and positive effect on export growth Trade liberalization and market accessibility indices turn out to be insignificant in all the equations. This may reveal problems of competitiveness and effectiveness of Cameroon enterprises which may include aging equipment, low utilization of existing capacities; high cost of inputs and transactions, etc. Observe that the export growth performance is strongly and positively affected by the last year's exports.

Table 4. Parameter Estimates of Benchmark Equation

Variable	Coefficient
Constant	-4.719 (6.401)
logREER	-0.368** (0.161)
logPGDP(-1)	0.903** (0.352)
logTLI	0.333 (2.956)
logMKT	1.103 (2.955)
logEXP(-1)	0.337* (0.191)
R ² adjusted	0.727
F-statistic	12.740
Prob (F-stat)	0.000
DW Stat	1.420
Obs	23 (adjusted)

Source: Estimated by authors

Notes: Standard errors are in parentheses

***, **, * represent statistical significance levels at the 1%, 5% and 10% respectively.

Results of the Engle-Granger second step co-integration procedure are displayed on Table 5.

Table 5. Unit Root Test for the Residuals and Diagnostic Tests

Unit Root Test for ECT		Diagnostic Tests	
ADF	2.903*	ARCH(1)	2.267 (0.041)
PP	5.203**	Normality	0.106 (0.947)
		RESET	0.410 (0.695)

Notes: ECT is the error correction term (residuals from the regression). The figures in parentheses are probabilities of rejecting the null hypothesis. ***, **, * represent statistical significance levels at the 1%, 5% and 10% respectively.

The unit root tests on the residuals from the regression or the error correction term indicate stationarity and reject the null hypothesis of a unit root problem. From the co-integration regression model it is observed that the residuals are integrated of order zero $I(0)$, which means that the linear combination of the variables in equation 1 is stationary. This is true since the t-statistics from the unit root test applied on the residuals using both the ADF and PP tests were found to be statistically significant at 10% and 5% respectively. This being the case, we therefore conclude that the variables are co-integrated, which means that the regression on the levels of variables is meaningful (that is, not spurious); and we do not lose any valuable information, which would result if we were to use their first differences instead. Diagnostic tests for the co-integration model are satisfactory. The ARCH(1) tests shows the absence of autoregressive-conditional heteroscedasticity at

5% level. The model also passed the Jarque-Bera normality test, implying that the residuals are white noise. The model is correctly specified as it passes the Ramsey RESET specification test. The explanatory power of the model is also satisfactory, explaining about 73.7% of the variations. The simple supplementary regression of potential output on FDI stock (Table 6) shows that FDI stocks significantly contributed to increasing potential output.

Table 6. Impact of FDI stocks on Potential Output

Variable	Coefficient
Constant	0.337* (2.955)
logSFDI (-1)	0.098*** (0.005)
R ² adjusted	0.811
F-statistic	15.204
Prob (F-stat)	0.000
DW Stat	1.839
Obs	23 (adjusted)

Source: Estimated by authors

Notes: Standard errors are in parentheses

***, **, * represent statistical significance levels at the 1%, 5% and 10% respectively.

Table 7 reports the results when FDI stock variable is added to the model. This provides evidence whether FDI has both supply-increasing and spillover effects. For this to be the case, both the supply capacity and FDI stock variable should be statistically significant and have positive signs. The real effective exchange rate variable in Table 7 continues to be significant with the expected sign. The supply capacity variable is also positive and significant, indicating supply-increasing effects of FDI stocks on exports. Trade liberalization and market access variables are still insignificant.

Table 7. FDI-Specific Effects on Export Growth

Variable	Coefficient
Constant	-4.953 (5.914)
logREER	-0.614*** (0.193)
logPGDP(-1)	0.730** (0.337)
logTLI	-1.402 2.868
logMKT	-0.357 (2.828)
logEXP(-1)	0.407** (0.180)
logSFDI(-1)	0.090* (0.045)
R ² adjusted	0.767
F-statistic	13.097
Prob (F-stat.)	0.000
DW Stat	1.705
Obs	23 (adjusted)

Source: Estimated by authors

Notes: Standard errors are in parentheses

***, **, * represent statistical significance levels at the 1%, 5% and 10% respectively.

The results imply that, FDI has significantly contributed to higher exports, through improvements in the supply capacity of the economy, that is, rising potential output. When potential output is controlled for (Table 7), the contribution of FDI is statistically significant only at 10 percent. This implies that the positive impact of FDI goes beyond increasing supply capacity in that there are additional indirect, positive effects from inward FDI. As it can be seen from the results, a 1% increase in FDI stock leads to 9% increase of exports. Possibly, the

foreign investment into the country created a higher level of competitive advantage which spread to the domestic producers. However, the marginal significance of the contribution of inward FDI to export performance is worrisome given the generous incentives offered by the regulatory and institutional framework especially from the 1984 Investment Code and the Free Trade Zone regime created during this period. In their study of foreign direct investments in Cameroon, Khan and Bamou (2005) found that a number of reasons appear to explain the poor performance of Cameroon in terms of FDI attraction: the non-respect by the state of tax and customs commitments created an atmosphere of suspicion and loss of confidence between the state and interested economic operators, the limited autonomy and resources of the body set up to manage the free trade zone, socio-political instability in Cameroon during the early 1990s, corruption, poor governance, and administrative bottlenecks, and finally, the silence observed by the Government regarding the setting up of accompanying structures and the texts of application to the Investment Charter.

Conclusion and policy implications

In this paper, we investigate whether inward FDI positively affected export growth in Cameroon over the period 1980 - 2003. Three theoretical models namely the flying geese model, Vernon's product life cycle theory and new growth theory are applied to explain the phenomenon of FDI flows and its influence on export. In the flying geese model, FDI is allocated to the country where the factor endowments would reduce production costs. The location for FDI changes over time in line with the country's industrialization. Outputs from the host country are expected to satisfy foreign markets. As for the flow of FDI in the product life cycle theory, FDI in the host country is mainly for local consumption. In the meantime, the surplus output of the MNE subsidiaries in the host country will serve the emerging markets outside the host country including the foreign firm's home country. In terms of the role of FDI in new growth theory, FDI can be a catalysts for domestic investment and technology progress. This not only involves the direct effect of FDI but also the spillover effect of FDI that the host country's export expansion through MNEs and local firms is expectable.

Although there is little difference on the explanation of the FDI flows in the three theories, they all agree that FDI has an influence on the host country's export performance. There are two positive influences. First, the host country's exports are expanded directly by MNEs' subsidiaries because they exploit the host country's factor endowments for lower production cost to increase their exporting competitiveness in the global market. Second, the host country's export performance can be enhanced by indigenous firms through spillover effects of FDI such as the transfer of advanced technology, knowledge and skills. In addition, the existence of competition between MNEs and local firms also spurs the indigenous firms to increase their exports in order to protect their market shares and earnings. Joint ventures and sub-contracting between MNEs and local firms are the most likely means to transfer spillover effects. We find evidence that, during 1980-2003, FDI inflows contributed to higher supply capacity and spillover effects in Cameroon, leading to an expansion in exports. Therefore the positive association between inward FDI and export

performance in Cameroon has been confirmed in this study. Our results have important implications for policymakers. Policy makers therefore need to encourage inward FDI by providing more incentives to foreign firms and designing other appropriate policies and reforms that would attract foreign investment. The encouragement of FDI should focus on export-oriented foreign firms. In addition, road infrastructure, electricity, transportation and telecommunication facilities are key factors that affect transaction and production costs and therefore the overall competitiveness of the economy. Thus strategies that would lead to improvements in infrastructure, human resources, good governance and the business climate are called for. These would create an enabling environment for FDI and hence raise the rate of private investment and the cost-effectiveness of total investment in the country.

The lack of sectoral data has restricted us to examine the impact of FDI on Cameroon export growth by depending on aggregated data. Our use of aggregate data unnecessarily assumes that the effects of FDI are equal across sectors. Where disaggregated data are available, we suggest a sectoral analysis of the linkage between FDI and the export performance of the economy. Such an approach would allow for capturing possible variations in the effects of FDI on export growth between different sectors, which may not be detected at the aggregated level. Furthermore, such a disaggregated analysis may have more important policy implications for designing development strategies and guiding FDI inflow to specific sectors.

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