

# A CONCEPTUAL LITERATURE ANALYSIS OF THE RELATIONSHIP BETWEEN FDI AND EXPORTS

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## Abstract

The study investigates the theoretical and empirical literature framework that explains the relationship between foreign direct investment (FDI) and exports. Three prominent views explaining the causality relationship between exports and FDI were discussed and these include the FDI-led exports view, exports-led FDI view and the feedback view. FDI-led exports view mentions that exports can increase or decrease in direct response to changes in foreign direct investment inflows or outflows. The exports-led FDI view suggests that exports spur FDI whilst the feedback view says that both exports and FDI promote each other. The trend analysis between FDI and exports for Botswana as a case study was also looked into using time series annual data ranging from 1980 to 2011 obtained from World Development Indicators. The literature review framework analysis shows that the FDI-led exports view is more popular with most theoretical and empirical studies. It is against this background that the author recommends authorities to come up with policies that attract FDI into their economies in order to boost export sector for growth reasons.

**Keywords:** Conceptual Analysis, FDI, Exports, Growth

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## 1 Introduction

Majority of the studies have so far focused on the FDI-led growth and the export-led growth nexus with little focus on exclusively the FDI-exports hypothesis (Shabbir and Naveed, 2010). There are three outstanding views that explain the causality relationship between FDI and exports. These are exports-led FDI growth hypothesis, FDI-led exports growth hypothesis and the feedback hypothesis.

Proponents of the view that exports Granger cause FDI (exports-led FDI growth hypothesis) include but not limited to Tekin (2012), Zhang and Felmingham (2001), Djokoto (2012), Dash and Sharma (2011). Empirical studies which established a uni-directional causality relationship running from FDI to exports (FDI-led exports growth hypothesis) were done by Kosekahyaoglu (2006), Dasgupta (2009), Lee et al (2007), Tekin (2012), Xing (2007), Alguacil and Orts (2002), Xuan and Xing (2008), Andraz and Rodrigues (2010), Adhikary (2012), Akoto (2012), Zhang and Song (2000), among others. The feedback view whose proponents says both FDI and exports promote each other (feedback hypothesis) in the short and long run include but are not limited to Kosekahyaoglu (2006), Klasra (2011), Aizenman and Noy (2006), Zhang and Felmingham (2001), Wong and Tang (2007), Akoto (2012), Liu et al (2002) and Pfaffermayr (1994). The previous theoretical and empirical studies clearly show the absence of

consensus with regard to the directional causality relationship between exports and FDI. This is clear evidence that this discussion is still inconclusive and far from over hence this study focuses on filling this gap in literature.

This current theoretical framework analysis will help policy makers to develop relevant policies to sustain FDI inflows in order to boost's exports competitiveness in the international market. If this study discovers a uni-directional causality relationship running from exports to FDI as the popular view, then policy makers would need to introduce more exports promotion strategies in order to attract more FDI inflows for economic growth purposes. If the study reveals a uni-directional causality relationship running from FDI to exports as the most popular view, then authorities would be encouraged to come up with more FDI inflows strategies so as to enhance the export sector. If the study establishes a feedback view to be the most popular view, then authorities and policy makers would be encouraged to develop other viable alternative strategies and policies to stimulate both FDI inflows and exports in order to enhance economic growth in their respective economies.

The remaining section of the research is structured as follows: Second section investigates theoretical and empirical literature review framework whilst the third section looks at Botswana as a case study in as far as the FDI-exports trends is concerned.

Section four gives concluding remarks and suggestion for future research.

## 2 Theoretical and Empirical Literature Review Framework

Three categories of both theoretical and empirical literature review with regard to the directional causality relationship between exports and foreign direct investment have been discussed in this section. The first category states that FDI positively influence exports (FDI-led exports hypothesis) whilst the second category (exports-led FDI hypothesis) says exports growth spur FDI. The third category stipulates that both FDI and exports influence each other (feedback hypothesis).

Studies that are consistent with the first category include but not limited to Kosekahyaoglu (2006), Dasgupta (2009), Lee et al (2007), Tekin (2012), Xing (2007), Alguacil and Orts (2002), Xuan and Xing (2008), Andraz and Rodrigues (2010), Adhikary (2012), Akoto (2012), Zhang and Song (2000). In a study on Poland, Kosekahyaoglu (2006) revealed findings that are consistent with other FDI-led exports hypothesis. Using time series data analysis, Dasgupta (2009) established that FDI outflows negatively Granger caused by exports growth in India without any feedback. The performance of the exports sector heavily relied on the quantity of outbound FDI for India, argued Dasgupta (2009). Moreover, Lee et al (2007) suggested that the causality relationship between exports and FDI depends on the type of the industry. FDI was found to have Granger caused exports in labour intensive industry whilst exports positively influenced FDI in capital intensive industries in both Korea and China, revealed Lee et al (2007).

Using panel data analysis, Tekin (2012) discovered a uni-directional causality relationship running from FDI to real exports in Yemen, Niger, Chad, Benin, Haiti, Mauritania and Togo. Moreover, Xing (2007) found out that Japanese direct investment played a significant positive role in positively influencing bilateral intra-industry trade between Japan and the US. However, the same study by Xing (2007) found no evidence that US direct investment promoted the growth of intra-industry between Japan and the US.

Using the vector autoregressive model and controlling for relative market size and prices, Alguacil and Orts (2002) found evidence of a uni-directional causality relationship running from foreign direct investment to exports without any feedback effects in Spain. In an empirical study, Xuan and Xing (2008) found out that FDI from 23 countries was one of the major factors that positively influenced exports growth in Vietnam. A 1 percent increase in FDI inflows gave rise to a 0.13 percent increase in Vietnam's exports to the FDI source countries, revealed Xuan and Xing (2008). Employing the three-

stage procedure based on unit root test, co-integration and Granger causality tests, Andraz and Rodrigues (2010) discovered results that are consistent with other FDI-led exports hypothesis proponents both in the short and long run in Portugal.

Adhikary (2012) suggested that Bangladesh should formulate FDI friendly policies in order to stimulate exports growth. This suggestion by Adhikary (2012) was on the backdrop of research findings that concurred with the FDI-led exports growth hypothesis both in the short and long run in a study on Bangladesh. Akoto (2012) agreed with Adhikary (2012) and other empirical studies whose findings confirmed FDI-led exports hypothesis in the long run. Export volumes went up by 1.87 percent in response to a 10 percent increase in FDI inflows in South Africa, according to Akoto (2012). According to a study carried out by Zhang and Song (2000), FDI positively Granger caused provincial manufacturing exports growth in China. A 0.29 percent increase in exports in the following year was found to be as a result of a 1 percent increase in FDI inflows in the previous year, revealed Zhang and Song (2000).

The second category which stipulates that exports promote FDI was undertaken by Tekin (2012), Zhang and Felmingham (2001), Djokoto (2012), Dash and Sharma (2011), among others. Using panel data approach, Tekin (2012) found out that real exports Granger caused FDI in countries like Madagascar, Malawi, Senegal, Zambia, Rwanda, Mauritania and Haiti. Zhang and Felmingham (2001), using panel analysis established that exports Granger caused FDI in medium FDI recipients regions of China. Moreover, Falk and Hake (2008) using panel data approach that included seven European Union countries revealed that exports positively influenced FDI without any feedback effects. The same study when it used destination country in the panel data analysis produced similar findings.

Djokoto (2012) also discovered results that are consistent with the exports-led FDI hypothesis in Ghana. Agricultural exports were found to have Granger caused FDI inflows without any feedback effect in the long run in Ghana, according to Djokoto (2012). Using Vector Autoregression (VAR) model, Dash and Sharma (2011) discovered a uni-directional Granger causality relationship running from exports to FDI without any feedback whilst imports and FDI were found to have promoted each other in India.

The third category (feedback view) which mentions that both FDI and exports promote each other were done by Kosekahyaoglu (2006), Klasra (2011), Aizenman and Noy (2006), Zhang and Felmingham (2001), Wong and Tang (2007), Akoto (2012), Liu et al (2002), Pfaffermayr (1994), among others.

A study by Kosekahyaoglu (2006) suggested the existence of feedback effects between FDI and foreign trade in Czech Republic and Hungary. Using the recently developed autoregressive distributed lag

(ARDL), Klasra (2011) discovered the existence of a bi-directional relationship between exports and FDI in Turkey. According to Klasra (2011), both FDI and exports complimented each other in Turkey. Aizenman and Noy (2006) also revealed the existence of a bi-directional Granger causality relationship between FDI and exports in developing countries. They discovered a Granger causality from FDI to trade openness to be represented by an elasticity of 50% and FDI to have been 31% Granger caused by exports in developing countries. Employing error correction modeling (ECM) technique, the national research during the period 1986 to 1999 carried out by Zhang and Felmingham (2001) revealed the existence of a bi-directional causality relationship between exports and FDI in China. However, the same study produced the same results when a different methodology (panel data approach) was used. Using panel data analysis, Zhang and Felmingham (2001) revealed the existence of feedback effects in both high FDI recipients (HFDI) and low FDI recipients (LFDI) regions of China.

According to Wong and Tang (2007), FDI and Malaysia's top five electronics exports promoted each other or had a bi-directional causality relationship in the short run whilst in the long run FDI was found to have been Granger caused by electronics' exports in Malaysia. On the other hand, Akoto (2012) established the existence of a bi-directional causality relationship between FDI and exports in the short run in South Africa. Moreover, Ahmadi and Ghanbarzadeh (2011) revealed in a panel data analysis study that FDI and exports promoted each other in the Middle East and North Africa (MENA) region. Liu et al (2002) discovered that in the long run, exports, imports and FDI were co-integrated in China. The causality was specifically found out to be bi-directional between exports and FDI in the long in the Republic of China. Using multivariate time series approach, Pfaffermayr (1994) found out a bi-directional causality relationship between FDI and exports in Austria. Exogenously foreign direct investment was found to have a strong positive impact on exports whilst export shocks were discovered to have a negative influence on foreign direct investment in Austria revealed Pfaffermayr (1994).

### 3 Case Study - Botswana

The trend for FDI inflows has been mixed whilst that of exports of goods and services exhibited a general increase for Botswana during the period 1980 to 2011 (see Figure 1). FDI net inflows went down by 51.94%, from US\$111.55 million in 1980 down to US\$53.61 million in 1985 whilst exports of goods and services increased by 31.28% during the same period. FDI net inflows and exports increased by 78.86% and 182.4% respectively during the five year period ranging from 1985 to 1990. The period 1990 to 2000 saw FDI inflows experiencing consistent decline whilst exports

continued on the upward trend. Exports of goods and services increased by 16.52%, from US\$2 086.92 million to US\$2 431.81 million whilst on the other hand FDI inflows registered a decline of 26.57% during the same period. Whilst FDI inflows further took a plunge by 18.8% during the period 1995 to 2000, exports of goods and services continued on an upward trend by registering a 23.37% growth to reach US\$3 000.19 in 2000.

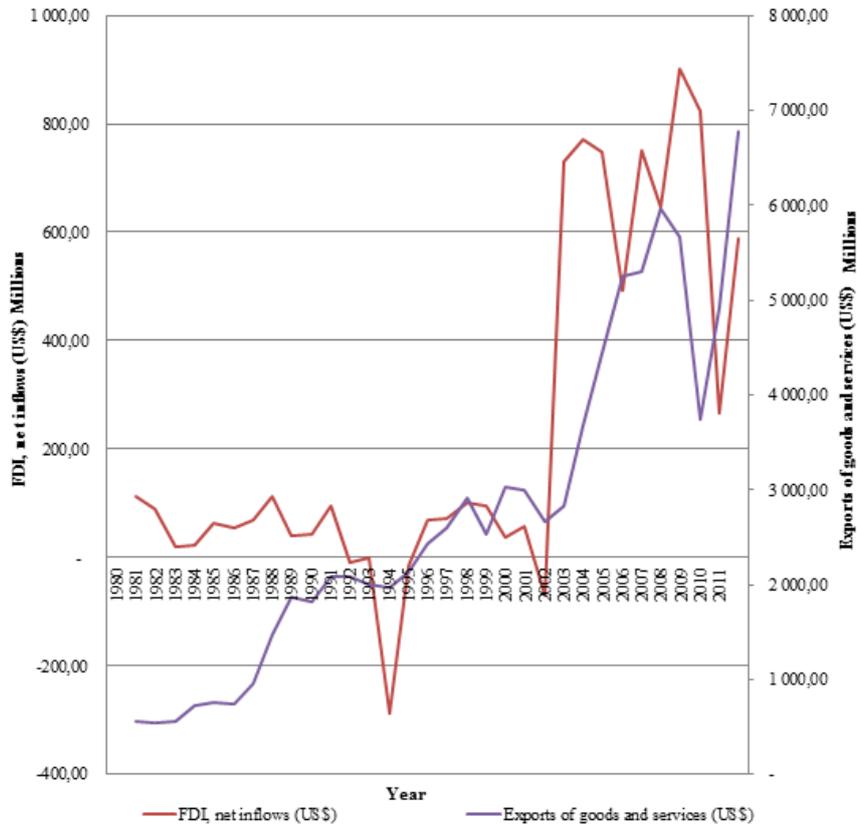
Both FDI inflows and exports of goods and services registered an increase of 761.17% (from US\$57.18 million to US\$492.38 million) and 75% (from US\$3 000.19 million to US\$5 255.96 million) respectively during the period 2000 to 2005. On the contrary, both exports of goods and services and FDI inflows plummeted by 6.46% and 46.19% respectively during the period between 2005 and 2010. FDI inflows declined from US\$492.38 million in 2005 down to US\$264.95 million in 2010. The year 2011 saw both FDI inflows and exports of goods and services registering positive growth rates. FDI inflows went up by 121.59%, from US\$264.95 million in 2010 to US\$587.12 million in 2011 whilst exports of goods and services also increased by 37.95% (from US\$4916.67 million to US\$6782.32 million) during the same period (see Figure 1).

Figure 2 shows FDI, net inflows (% of GDP) and exports of goods and services trends for Botswana during the period 1977 to 2011.

FDI, net inflows (% of GDP) experienced a consistent decline during the period 1980 to 2000 whilst the trend for exports of goods and services (% of GDP) has been mixed for Botswana. The former declined by 5.71 percentage points, from 10.51% in 1980 down to 4.81% in 1985 whilst the latter went up by 13.23 percentage points during the same time frame. Both FDI, net inflows (% of GDP) and total exports (% of GDP) plummeted by 2.28 percentage points and 11.24 percentage points respectively during the period 1985 to 1990. The negative trend persisted between 1990 to 1995 for both variables. FDI, net inflows (% of GDP) further declined by 0.46 percentage points, from 1.48% in 1995 down to 1.02% in 2000 whilst the same period saw exports of goods and services (% of GDP) increased by 2.32 percentage points.

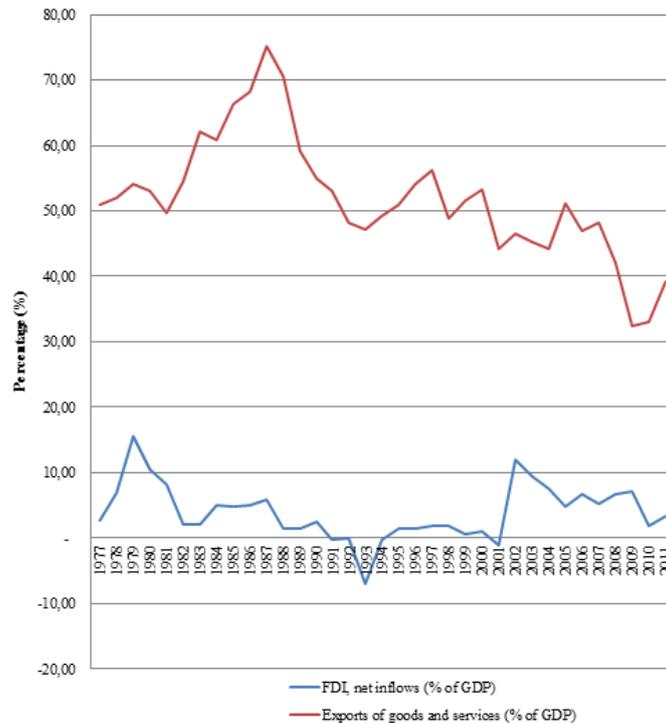
However, exports of goods and services (% of GDP) declined by 2.01 percentage points during the period 2000 to 2005 whilst FDI, net inflows (% of GDP) surged by 3.79 percentage points during the same time frame. The time frame 2005 to 2010 saw both FDI, net inflows (% of GDP) and exports of goods and services (% of GDP) plummeting by 3.02 percentage points and 18.26 percentage points respectively. However, the year 2011 saw both variables going up. FDI, net inflows (% of GDP) went up by 1.61 percentage points, from 1.78% in 2010 to 3.39% in 2011 whilst exports of goods and services (% of GDP) also increased by 6.15 percentage points (from 32.99% to 39.14%) during the same time frame.

**Figure 1.** Foreign Direct Investment, net inflows (US\$) and Exports of Goods and Services (US\$) Trends for Botswana -1980 to 2011



Source: World Bank (2011)

**Figure 2.** FDI, net inflows (% of GDP) and Exports of Goods and Services (% of GDP) Trends for Botswana -1977-2011



Source: World Bank (2011)

#### 4 Conclusion and Suggestion for Future Research

This research investigated the existence and causality relationship between exports and FDI from a theoretical and empirical literature conceptual framework point of view. The literature extensively discussed the three prominent views explaining the causality relationship between the two variables. FDI-led exports hypothesis is the first view which mentions that exports can increase or decrease in direct response to changes in foreign direct investment inflows or outflows. The second view which is exactly the opposite of the first view is known as the Exports-led FDI hypothesis. The third view (feedback hypothesis) says that there is a direct bi-directional causality relationship between exports and foreign direct investment. The literature review conceptual framework analysis revealed the FDI-led exports hypothesis to have been more popular among previous researchers. The study therefore recommends the creation of the conducive environment that attracts FDI inflows by the host country in order to spur export sector and economic growth. For future study, the author is firmly of the opinion that other factors that indirectly influence FDI and exports relationship needs to be investigated in order to gain a deeper understanding of how these two variables relate to growth.

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