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The Nexus between Budget Deficit and Foreign Direct Investment

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ABSTRACT

Debate has focused on the nature of the connection between foreign direct investment and the budget deficit. Moreover, the majority of earlier research papers looked at a unidirectional relationship between FDI and the budget deficit. Theoretical and empirical research on FDI and the budget deficit is thus examined in this paper. However, the empirical research confirms that there is a reciprocal relationship between FDI and the budget deficit, and a number of theories were assessed on both topics. Although there is evidence linking foreign direct investment (FDI) to the budget deficit, the findings of these studies are contradictory, with the majority of empirical research showing a positive association and a small number showing a negative one. Consequently, this paper provides an outline of the theories related to each of them and explains how the budget deficit and foreign direct investment are related.

Keywords: Budget Deficit; Foreign Direct Investment; Theoretical and empirical review.

1.Introduction

The "government budget" is regarded as the most significant financial plan that aids the government in achieving the following goals: resource reallocation, a decrease in income and wealth disparities, economic stability, economic growth, job opportunities, public enterprise management, and a reduction in regional disparities. As a result, policymakers considered the budget deficit to be one of the fiscal indicators with various definitions and measurement techniques. Furthermore, foreign direct investment (FDI) is regarded as a crucial variable for any nation; nonetheless, the relationship between FDI and the budget deficit has been the subject of relatively few studies [16]. The effect and the direction of the relationship between FDI and the budget deficit have been a key subject of debate in the literature of economic development. No doubt, there is actually a small number of research that has dealt with this relationship, but in a superficial way, so the importance of this paper lies in clarifying the economic paradigms of the budget deficit such as (Neoclassical, Keynesian, Ricardian) and theories of FDI (micro and macro perspectives, perfect and imperfect market theories) in a deeper way. Therefore, the main objectives of this paper is to cover all the theoretical part that determine the border of the relationship between the FDI and the budget deficit, through 3 sections the first section refers to the budget deficit, outlining the key ideas, definitions, and measurement techniques. FDI is covered in the second section along with its definitions, types, and theories. The theoretical and empirical research on the connection between foreign direct investment and the budget deficit is covered in the third section.

2. Budget Deficit

Over the past few decades, the terms "budget deficit" and "budget balance" gained a lot of attention [23]. The majority of economists and financial professionals believe that a budget deficit is to blame for a number of economic issues, including excessive inflation, a nation's loss of sovereignty, and the exclusion of the private sector [9] [13]. The following are the five categories of budget deficits: [31]

Primary Deficit

It is the sum of the government's total revenue and expenses minus the interest payment on loans.

Revenue Deficit

Revenue deficit occurs when the government's revenue receipts are less than its total revenue expenditure.

Fiscal Deficit

The shortfall in the government ’s total revenue compared to the total expenditure. It covers both revenue and capital transactions.

Trade Deficit

It occurs when the value of a country's imports exceeds the value of its exports, resulting in a net outflow of foreign exchange.

Also there are alternative definitions of budget deficit according to theoretical analysis and its problems or causes [21]. So, the following section discusses the main alternative definitions and measurements of the budget deficit.

2. 1 The Main Alternative Definitions and Measurements of the Budget Deficit

When government spending surpasses receipts, there is a budget deficit. There are two ways to define the conventional or "overall" budget balance, according to economic research and the policies of international organizations like the World Bank and the IMF. A traditional or "overall" budget balance is defined as "the difference between current revenue and current expenditure of government, which reflects the financing gap that needs to be closed by way of net lending, including lending from the central bank," [6].

The World Bank described the budget deficit as "the difference between expenditure items such as salaries and wages, capital expenditure, interest on public debt, transfers and subsidies, and revenue items including taxes, user charges, grants received, and profits of non-financial public enterprises and the sale of assets.". According to the IMF's 1986 manual on government finance data, the following fiscal balance is equivalent to the budget balance: "Fiscal balance= {(revenue + grants) – (expenditure on goods & services + Transfer) – (Lending – Repayments)}". Additionally, "the difference between total government expenditure, including interest payments on public debt but excluding any amortization payment, and total cash receipts, including taxes and non-tax revenues + grants and loans," is another alternative definition of the budget deficit on a cash basis. "The measurement of balance is a reflection of current cash flow positions of government calculated by only using the cash receipts and cash expenditure in a given period of time; expenditure includes interest payments but excludes repayments of public debt". [20]

"The measurement of extent to which government expenditures (for policy purposes) exceed government revenues without incurring new liabilities" is another way to define the budget balance [6].

Additionally, each definition highlights a distinct aspect of fiscal exposure and might be useful from the perspective of policy analysts and investors. In conclusion, the method used to calculate the budget deficit determines its value. It is important to note that the government budget is typically presented utilizing the three categories of economic, administrative, and functional.

First, citizens can learn about the activities for which funds will be allocated through the functional classification. Healthcare, education, social assistance, and environmental protection are just a few of the ten services that make up the government budget. Second, administrative classification tracks spending by departments and ministries within the government. Knowing who is spending the money is very useful since it provides some clarity, accountability, and transparency. Lastly, the budget is divided into revenue and expenditures using the economic classification. The government budget's economic classification is displayed in the following table.

Table 1

The Economic classification of the Budget

Revenues	Expenditures
General revenues consist of taxes, grants, and other non-tax revenues	Spending on products and services, interest payments, wages, subsidies, and social benefits are all considered general expenditures.
Funding Resources: this category includes receipts from lending and selling financial assets, as well as borrowing and selling securities.	**acquiring both foreign and domestic assets. Loan repayment, both domestic and foreign.**

Source: Ministry of Finance

2. 2 Theoretical Review

There are two basic types of budget deficit theories. Keynesian, Ricardian, and Neo-classical theories are among those that focus on the impact of fiscal deficits on economic variables. Some ideas, like those that deal with foreign direct investment, focus on the other direction.

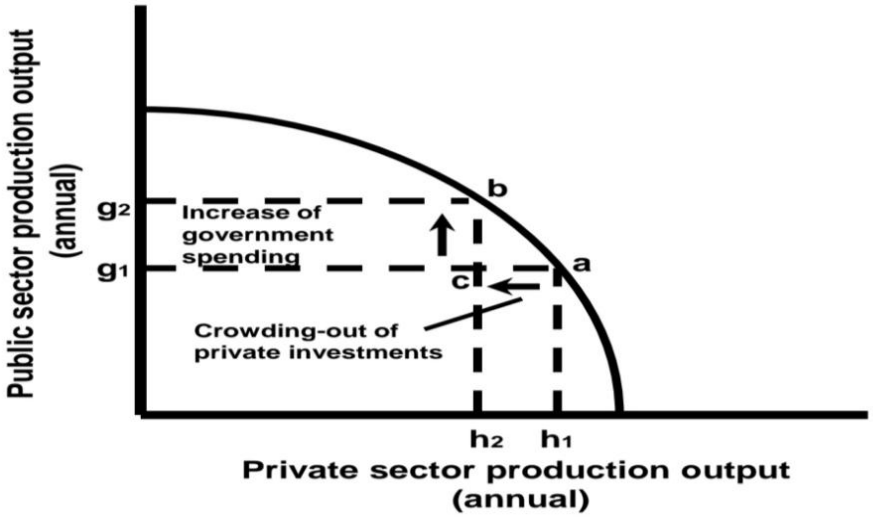
2. 2. 1 The Neoclassical Paradigm

According to the Neoclassical school, there is a negative correlation between macroeconomic factors and the budget deficit. According to their argument, budget deficits raise the demand for loanable funds or force the government to borrow more money, which raises interest rates, deters the issuance of private bonds, private investment, and private spending, raises inflation, results in a corresponding rise in current account deficits, and slows economic growth by crowding out private investment [36] [25]. The phenomenon of crowding out is happened When governments borrow, they compete with everybody else in the economy who wants to borrow the limited amount of savings available. As a result of this competition, the real interest rate increases and private investment decreases.

Figure 1 shows that when government spending rises and the economy shifts from point (a) to point (b), public sector production rises by (g1-g2) but private sector production falls by (h1-h2).

Figure 1

Crowding -out effect



Source: Zahariev, 2021.

2. 2. 2 The Keynesian Paradigm

The development of economic theory in the 20th century was significantly influenced by J.M. Keynes' theory. These ideas led to the imposition of a policy of aggressive government involvement in the economy. Because of this engagement, the state was compelled to finance government spending in a number of ways, which resulted in a concentration on deficit finance. Keynesian theory contradicts the classical school's idea that deficit financing should be limited [2].

Keynesian economists concentrate on the idea that a budget deficit has an expansionary or crowding-in effect on the economy. However, if a government budget deficit results from spending more than it takes in on public investments like infrastructure, social welfare, or education, the Keynesian theory does not view it as a problem. Due to specific improvements in private investment and domestic production, this improves the economy's future economic activity [2].

2. 2. 3 The Ricardian Paradigm

The Ricardian paradigm states that the government can either borrow money or impose taxes on present taxpayers to pay for its expenditures. When the government borrows money, it eventually pays it back. Typically, this is accomplished by raising taxes over what they would have otherwise been. In order to maintain real and consequently private investment, the current account balance, the exchange rate, and domestic output, a reduction in taxes now must be accompanied by an increase in taxes in the future. Accordingly, there is neither a positive nor a negative association between budget deficits and macroeconomic indicators [4].

2. 3 Foreign Direct Investment (FDI)

This section gives an overview of FDI definitions, types, and theories.

2.3.1 Definitions of Foreign Direct Investment

The Foreign Direct Investment (FDI can be defined according to three main classifications:

1- General Definition
2- Economic Definition
3- Institutional Definition

In general, foreign direct investment (FDI) is a direct infusion of capital into the host nation's economy [9]. The economic definition of foreign direct investment (FDI) states that it "is the mechanism to transfer resources, including financial capital as well as technology and human resources, across national borders while keeping it under control of the parent company" [39]. The IMF (2011) states that "FDI is defined as an investment that is made to acquire a lasting interest in a company operating in an economy other than that of the investor, the purpose of the investor being to have an effective voice in management of the company." This definition is nearly identical to that of the UNCDTAD, according to institutional definitions. The UNCTAD (2011) defined FDI as "an investment that involves a long term relationship and reflecting lasting interest and control of a resident entity in one economy (foreign investor or parent company) in a company resident in an economy other than that of a foreign investor".

Three primary analytical indicators pertaining to foreign direct investment are used to track investments: [30]

1) Flows of foreign direct investment, which were fresh investments made over a given time frame, typically a year.
2) Foreign direct investment stocks, which showed the total value of investments at the conclusion of the study period. FDI stocks are separated into reinvested earnings and equity capital.
3) Foreign direct investment revenue is separated into:
   a) Profit distributed to direct investors without income tax deduction
   b) Reinvested profits

2. 3. 2 The Main Types of Foreign Direct Investment

Conglomerate FDI, vertical outward FDI, horizontal outward FDI, and technology sourcing FDI are the four main categories of FDI. Furthermore, fewer studies have examined the flow of foreign direct investment (FDI) to recipient nations; therefore, countries may receive three additional forms of FDI: joint ventures, mergers and acquisitions (M&A), and greenfield investment.

2. 3. 3 Horizontal outward FDI

When multinational corporations open several factories in several nations, each of which supplies the local market with locally produced goods or services, this is known as horizontal foreign direct investment (FDI). Avoiding transportation expenses or gaining access to a foreign market that can only be served locally are the primary drivers of horizontal FDI. [35]

2. 3. 4 Vertical outward FDI

Multinational corporations deploy "vertical" external FDI because they outsource certain manufacturing stages to other countries, thereby separating the production chain vertically. Multinational corporations that disperse their manufacturing geographically are referred to as vertical FDI. Relocating production processes and stages to many places where production elements can be supplied at lower costs also affects it [18].

2. 3. 5 Conglomerate FDI

A conglomerate company is not vertical or horizontal. Rather, it expands to new activities that add value. The primary aim of conglomerates is diversification through the merger of businesses with no shared industry [21].

2. 3. 6 Technological – sourcing FDI

When a company sources its technology base, it refers to the technology, management practices, know-how, and market knowledge that foreign affiliates acquire [18].

2. 3. 7 Greenfield investment

One sort of foreign investment known as "greenfield" occurs when a parent business establishes a subsidiary in another nation and builds its operations from the ground up. Conversely, it is created when foreign businesses expand their production capabilities or make larger investments in the host nation. This form of FDI or comparable subtypes is most welcomed because of the high unemployment rate in most nations, particularly when the investment lowers the unemployment rate by creating a large number of jobs. Greenfield investments can also result in technology transfer and connections to the global marketplace. [39]

2. 3. 8 Mergers and Acquisitions (M&A)

The transfer of current assets from domestic companies to foreign companies is referred to as a merger or acquisition. Additionally, this kind of FDI boosts worker productivity but is unable to create jobs. As stated by IPAK (2012), "M&A provides no long term benefits to the local economy because, in most deals, the owners of the local firm are paid in stock from the acquiring firm, meaning that the money from the sale could never reach the local economy." [39]

2. 3. 9 Joint Ventures

A local business, the government, or a foreign business operating in the host nation may be involved in a joint venture. Technical spillover is one beneficial human capital spillover, particularly when local and foreign businesses are involved. The choice of partner and mutual confidence between partners are two major elements affecting the feasibility and success of cross-border joint ventures, claim Dunning and Lundan (2008). However, according to the framework developed by Casson (2000), "formation of joint ventures has nine factors such as economies of scale, technological change, economies of scope, market size, cultural difference, protection of autonomy, technological uncertainty, interest rate, and missing patent rights." [38]

2. 4 Determinants that push and pull of the FDI

The majority of scholars concentrate on macroeconomic ideas, such as market size in relation to GDP, as the primary drivers of FDI inflows. Because of the impact of economies of scale in the context of market-seeking investment, larger markets (economies) will draw a higher amount of FDI. Regardless of whether this component is referred to as market size, economic size, the size of the economy, or the size of the domestic market [35], all studies make direct reference to GDP, even though the names used vary from study to study.

Inflation, which is a macroeconomic indicator of instability, is another factor thought to have an impact on FDI inflows. Wage levels that represent labor costs are frequently considered to be one of the primary factors influencing FDI inflows, with low wages being seen as a benefit in luring in foreign companies due to the reduction of production costs. In the analysis of foreign investment, the macroeconomic component

of the exchange rate is also thought to be significant. Infrastructure amenities, including transportation, energy supply, and communication facilities, impact incentives for attracting foreign direct investment (FDI) into a nation by determining production and transaction costs [35].

It's also common knowledge that developing nations view foreign direct investment (FDI) as the primary means of facilitating technology transfer from wealthy nations and closing the technological divide. Lastly, there is no question that uncertainty in the process of making decisions about foreign investment is influenced by the political environment (political regime, stability, risk, etc.) [35].

2. 5 Main Theories of Foreign Direct Investment

The earliest historical attempt to explain foreign commerce and foreign direct investment was Ricardo's idea of comparative advantages [10]. A theory based solely on two countries, two products, and complete resource mobility is insufficient to explain FDI. International trade, FDI, and capital flow all showed a sharp rise recently. The initial analysis, factor analysis, and long-term goals of the investors all influence the choice of FDI [1].

It is challenging to identify a general framework method or theory that can accept or explain all about FDI, even with the most recent plethora of theories and hypotheses that are utilized to distinguish FDI from international trade. As a result, there are three primary ways to study FDI hypotheses. Classifying all theories under the titles of 1-micro point of view and 2-micro point of view is the first method. While the third approach divides into theories that assume imperfect markets, the second approach divides into three major theories assuming ideal markets.

2. 5. 1 Micro and Macroeconomic Point of View

The microeconomic perspective looks at "the consequences to investors to the country of origin and to the host country of the multinationals operations rather than investment flows and stocks" and attempts to present the primary drivers of foreign investment. [25]. However, FDI is "a specific type of cross-border capital flow from origin countries to host countries, which is founded in the balance of payments," according to macroeconomic theory. According to Denisia (2010), the variables of interest are capital flow, stocks, and investment revenues [10].

2. 5. 2 Theories Assuming Perfect Market

There are three main theories assuming perfect market at the following:

a) The portfolio diversification theory

In 1952, Harry Markowitz developed the concept of portfolio diversification, arguing that "the investments in a portfolio should be selected based on how the price movement of one asset is related to the total value of the portfolio." Furthermore, this theory seeks to maximize return at any risk level. [28] [14]

b) The differential rate theory

One of the earliest hypotheses that aims to explain why some businesses pursue new markets or engage in foreign direct investment is the differential rate of return theory. According to Olga Vasyechko (2012), the central thesis of this theory is that capital moves from nations with low rates of return to those with high rates of return [32]. "The rationale for this hypothesis is that companies considering FDI behave in such a way as to equate the marginal return on and the marginal cost of capital" [28].

c) The Market size theory

Since the market size hypothesis explains the volume and directions of FDI in the context of the host country, a large market size is anticipated to have a favorable impact on FDI. GDP is commonly used to gauge a nation's market size [27].

Theories Assuming Imperfect Market

There are numbers of theories that assume imperfect market at the following:

A) The location theory

According to the location hypothesis, FDI exists because certain production elements, including labor and natural resources, are mobile. As a result, this movement causes the cost of the factors of production to diversify. Foreign investors prefer nations with low relative wages when it comes to human capital, but the labor should also be highly productive and of good quality. The cost of the reallocation and adjustment resources is also a significant factor in foreign investors' decision to choose a particular location. [34]

B) The internalization theory

Hemert, 1982; Buckley and Casson, 1976, 1983; Hymer, 1976; Coase, 1937) created the internalization theory. According to Denisia (2010), this theory "gives insights into the reasons for FDI and provides an explanation of the growth of MNCs." It also mentions that internalizing some processes can save certain expenses. Corporations are conditionally active in foreign direct investment (FDI), and this hypothesis is better at explaining certain advantages. Additionally, corporations will only accept FDI if the benefits of utilizing particular advantages outweigh the relative costs of conducting business overseas. [10]

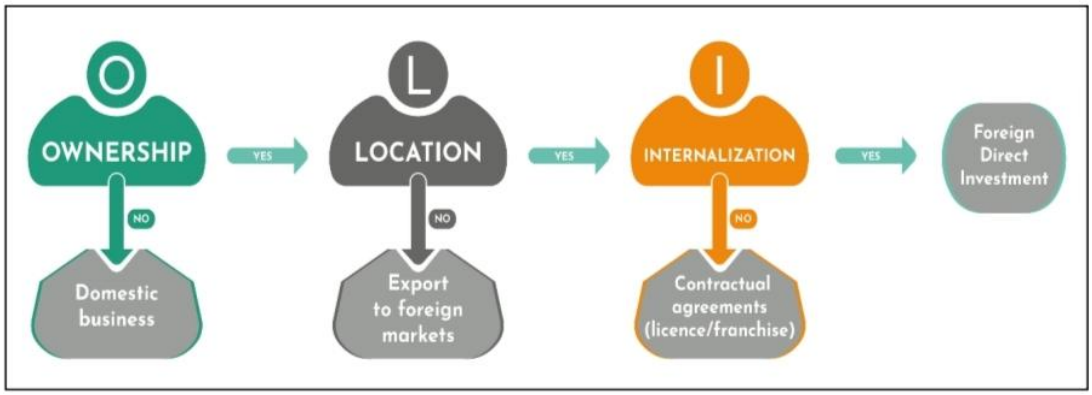
C) Eclectic theory or Ownership, Location and Internalization (OLI) paradigm

Dunning developed eclectic theory at various points in time (1977, 1979, 1988, and 2008). This theory combines location theory, industrial organization theory, and internalization theory into a single, comprehensive framework. "International flows and FDI are explained by eclectic theory in terms of the motivation rather than the appropriate level and structure of foreign investment," according to Dunning (2008). Eclectic theory is based on the three advantages of internalization (I), location (L), and ownership

(O). This theory states that "ownership (O) advantage explained "why" or "motivation of MNCs activities; it is also defined as the extent to which a firm processes sustainable ownership-specific advantages over other firms in the market, while location (L) advantage explained "where" or "location" of companies and which are specific to the country, and internalization (I) explained "how" or the manner of MNCs activities, as internalization refers to the degree of ownership and control" [11]

Figure 2

OLI Paradigm



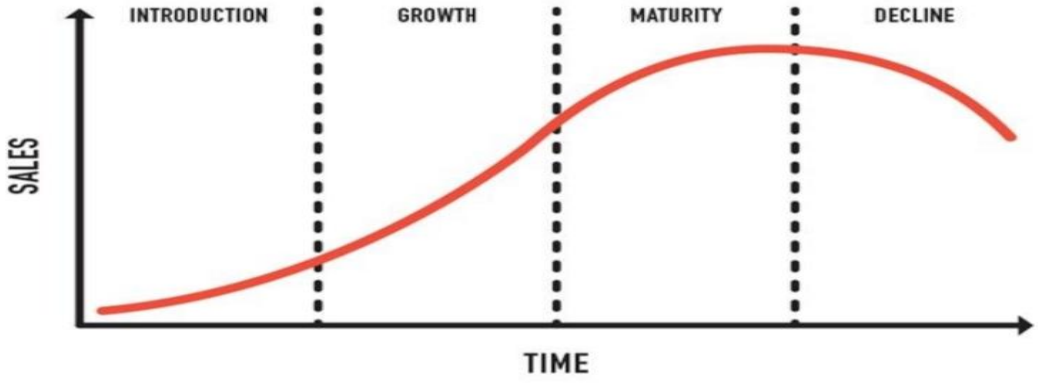
Source: Dunning, 2001.

D) The international product life cycle theory

Vernon (1966) created the international product life cycle theory by fusing trade theory with the micro theory of the product cycle. Innovation, growth, maturity, and decline are the four stages of production, according to his theory [10]. The image below depicts the four stages:

Figure 3

International production life cycle- Raymond Vernon, 1966



Source: Dunning and Lundan, 2008

Figure 3 shows the stages that the product goes through when it enters and exist the market**.** [12].

The first stage is the introduction or innovation stage, which entails launching new items primarily for domestic consumption and exporting the excess to outside markets. Furthermore, high-income consumers who are ready to try new items and are prepared to purchase them make it easy for innovation to be accepted in industrialized nations.

The second stage is growth; during this phase, general standards and product attributes are determined. Additionally, when FDI reduced the cost of manufacturing by minimizing labor and shipping expenses, the value of demand rose and improved both domestically and internationally.

Stage Three: As businesses attempt to lower manufacturing costs, industrialized nations lose their technological and innovative competitive edge. This stage is associated with maturity. Therefore, domestic manufacturing in industrialized nations will begin to decline and eventually cease. As a result, developing nations with cheaper labor costs begin exporting their goods to industrialized nations, while the latter are occupied with launching novel and inventive items.

The fourth stage, which might occur or begin with the introduction of a new, inventive product, is the last stage, when the market is content with the current product and there is no longer any desire for it.

2.6 The theoretical linkage between FDI and budget deficit.

Since there is disagreement over the reciprocal relationship between FDI and government budgets, this article examines the theoretical research on FDI and budget deficits. This contentious issue is divided into two sections: the first discusses the positive and negative effects of foreign direct investment (FDI) on the budget deficit, while the second section examines the reverse relationship between the budget deficit's positive and negative effects on FDI.

2. 6. 1 The positive and negative effects of foreign direct investment on the budget deficit

This topic addresses how FDI affects the budget deficit both favorably and unfavorably. FDI helps reduce the budget deficit by raising government revenue through a variety of avenues, including corporate tax, foreign tax, VAT, technological transfers, and the exploitation of natural resources. FDI's detrimental impact on the budget deficit, which shrinks the tax base and puts pressure on government expenditures to safeguard the domestic economy, became more sensitive as FDI influx increased.

2. 6. 2 The positive effect of FDI on budget deficit

According to certain research, FDI can boost international tax resources for trade by improving exports, enhance income labor tax by creating jobs, and make it easier to access suppliers or markets [3] [14]. FDI-generated capital gains and profits help the host nation's corporate tax revenue [35]. Another study claims that every foreign investment has both direct and indirect costs and advantages, including pollution,

employment, indirect taxes, and technology transfer. Thus, by expanding the taxpayer base and increasing income tax collection, promoting investment and job prospects can aid in revenue mobilization [15].

2. 6. 3 The negative effect of FDI on budget deficit

Some studies, on the other hand, describe how FDI can reduce the tax base through a number of FDI is capable of and causes. According to another, "transfer pricing" allows multinational corporations to move their taxable income to nations with less stringent tax laws. Multinational corporations have an incentive to overstate input prices for business-to-business (B2B) commerce since doing so will maximize profits in countries with low tax rates and decrease profits in those with high tax rates, hence reducing worldwide tax responsibilities [17]. Due to tax incentives such as free economic zones, where items are typically exempt from tariffs and taxes and corporate taxes are low or nonexistent, foreign direct investment (FDI) can result in losses for tax collection. FDI can reduce the revenue effect when it is accompanied by a large tax cut. [5]. Government spending may rise as a result of FDI since host nations are now more vulnerable to global economic shocks, demanding higher government spending to safeguard their own economies. The "negative consequences" of tax incentives, tax fraud and evasion, and multinational corporations' avoidance of revenue via rent-seeking activities could all have an impact on revenue mobilization. FDI can result in the outflow of financial resources through the repatriation of profits or expenses. In certain cases, it can also displace domestic enterprises, especially small and medium-sized businesses [36].

2.7 The positive and negative effects of the budget deficit on foreign direct investment

The benefits and drawbacks of budget deficits for foreign direct investment are covered in this section. Through the introduction of tax incentives and increased government spending on physical and human capital, the scholars contend that a budget deficit has a beneficial impact on foreign direct investment (FDI). Conversely, another group contends that an increase in government spending has a detrimental impact on FDI.

2. 7. 1 The positive effect of budget deficit on FDI

The previous section's post-studies demonstrated the critical role tax breaks and incentives play in luring foreign direct investment (FDI) to both industrialized and developing nations. Additionally, public spending is a crucial tool for the government's economic development because it is used to build and run public utilities like health, education, social security, and agriculture, as well as better physical assets like transportation, infrastructure, technology, and electricity, which all contribute to economic growth, strong performance, increased productivity, and the attraction of foreign direct investment (FDI) [24] [33].

2. 7. 2 The negative impact of budget deficit on FDI

According to a few numbers from previous studies in the previous section, increasing government spending and tax incentives has a negative impact on economic growth as well as a crowding out effect on private investment; indeed, in addition to private investment, FDI inflows may be affected. [29]

2. 8 Empirical literature

Much of the economic literature has concentrated on the impact of budget deficits (tax breaks and government spending) on FDI attraction, but few studies have investigated the impact of FDI on budget deficits.

2. 8. 1 Empirical literature of the positive impact of FDI on the budget deficit

FDI generally has a beneficial effect on the budget deficit (increased government revenue), according to past research. Gropp and Kostial (2000) examined the relationship between corporate tax receipts, taxes, and foreign direct investment in 19 OECD nations between 1987 and 1997. They discovered that FDI inflows had a favorable impact on corporation tax income using panel data analysis.

Mahmood and Chaudhary (2013) used the ADF, ARDL, Phillips-Perron test, and Ng-Perron test to examine how foreign direct investment (FDI) affected Pakistan's tax revenue between 1972 and 2010. The findings demonstrated that foreign direct investment (FDI) significantly and favorably affects Pakistan's tax collection.

Okey (2013) investigated the effects of FDI and its sectoral allocation on tax revenue in eight West African countries between 1989 and 2009 and discovered that FDI had a positive impact on revenues.

Bunescu and Comaniciu (2014) examined the economic and noneconomic elements influencing tax revenues in 27 EU nations between 1995 and 2011 using correlation analysis. They found that tax revenues were somewhat positively impacted by FDI inflows.

Aslam (2015) looked at the long-term relationship between Sri Lanka's revenues and foreign direct investment inflows from 1990 to 2013 and found that the former greatly increased the latter.

Bal and Fazl (2016) looked into how FDI inflows affected the tax payments of Turkish companies with varying degrees of technology between 2004 and 2012. They discovered that FDI influx raised company revenues, particularly for high-tech enterprises.

Using panel cointegration and causality analysis, Bayar and Ozturk (2018) examined the effect of foreign direct investment inflows on tax revenue in OECD nations between 1995 and 2014. They discovered a one-way causal relationship between total revenues and inflows of foreign direct investment.

Abdramane Camara (2019) calculated how FDI affected government revenue in 92 developing nations between 1990 and 2015. With the exception of resource-exporting nations, where FDI has a negative effect

on income, the estimation results demonstrated that FDI had a long-term positive influence on government revenue in developing nations.

THABANG MOSES (2020) examined the connection between foreign direct investment (FDI) inflows and budget deficits in a panel of five countries that are members of the Southern African Development Community (SADC): Malawi, South Africa, Tanzania, Namibia, and Zambia. The study examined the relationship between FDI and the budget deficit using the Panel Auto Regressive Distributed Lag (PARDL) model. The use of PARDL was made possible by the panel unit root test results, which showed several integration orders (at levels and first-order). A long-term link in the budget deficit FDI series was validated by the findings of the co-integration test. Both the budget deficit and foreign direct investment have long-term benefits. Additionally, it was suggested that in order to reduce budget deficits, the government should increase foreign direct investment, which might accelerate the development of SADC countries.

2. 8. 2 Empirical literature of the negative impact of FDI on the budget deficit

The relationship between FDI and tax income in Pakistan between 1975 and 2012 was examined by Tabasam (2014). He came to the conclusion that FDI inflow had a detrimental effect on revenues by employing time series analysis.

Gaalya (2015) used regression analysis to investigate the interaction between FDI and tax revenue in Uganda between 1994 and 2012 and discovered that FDI inflows had a negative impact on revenues.

Jeza, Hassen, and Ramakrishna (2016) examined how foreign direct investment affected Ethiopia's tax receipts between 1974 and 2014. They discovered that tax breaks intended to draw foreign direct investment would result in a drop in Ethiopia's revenue.

2. 8. 3 Empirical literature of the positive impact of budget deficit on the FDI

Hartman (1984) reviewed early research on how taxes affected foreign direct investment in the United States between 1965 and 1979. He discovered that FDI and changes to tax laws had a favorable and noteworthy impact.

Government spending on infrastructure had a favorable influence on FDI inflow, according to Cheng and Kwan's (2000) analysis of the effects of FDI determinants in 29 Chinese regions between 1985 and 1995.

From 1998 to 2007, Du, Harrison, and Jefferson (2004) looked at several shifts in China's industrial policies. China emerged as the leading destination for foreign direct investment (FDI) due to a lower corporate tax rate for foreign companies compared to domestic companies.

From 1984 to 2002, Timothy, Jorge, and Li (2007) looked at both established and developing nations in various regions. The findings of the regression showed that improved infrastructure and reduced taxes had a beneficial impact on FDI.

Groh and Wich (2012) investigated why certain nations draw more foreign direct investment than others. Additionally, using infrastructure, political climate, business climate, and economic standing as independent factors, they computed an FDI activity index for 127 nations. The findings showed that the FDI was positively impacted.

Gondor and Nistor (2012) employed a pooled dataset of annual observations for six actual EU countries (Bulgaria, Hungary, Latvia, Lithuania, Poland, and Romania) from 2000 to 2010. They asserted that fiscal policy, as demonstrated by corporation tax rates and a business-friendly environment, had a beneficial effect on FDI inflows into developing European economies.

Radulescu and Drurica (2014) used monthly data series from 2000 to 2010 to show how Romania's fiscal and monetary policies affected the country's ability to draw foreign direct investment. According to the findings, FDI was drawn to monetary variables, while fiscal considerations only mattered in the long term. As a result, they recommended that Romania enhance its investment climate by implementing sound fiscal stimulus and budgetary policies, which would have a beneficial impact on FDI inflows.

Panel data from 24 developing nations between 1982 and 2014 was used by Othman and Yusop et al. (2018). They asserted that greater FDI is attracted to developing nations by more productive government spending.

Adman and Ismail et al. (2018) used a panel data set comprising seven ASEAN-5 countries, plus China and India, from 1982 to 2016 to examine the effect of government spending on foreign direct investment. The findings demonstrated that government expenditure had a long-term favorable impact on FDI inflows.

Time series data from 1985 to 2020 in Pakistan were studied by Nouman, Lui, and Azhar (2021). The study found that FDI inflow is motivated by cheap taxes.

Hadeer Ahmed and et al. (2024) investigates the nexus between budget deficit and FDI in Egypt during the period 1980 to 2020. ARDL bound test approach is used in two different models to examine the nature of bi-directional relationship between budget deficit and FDI. The results of both models convinced that there is short and long run relationship between FDI and budget deficit in Egypt where positive impact exists in both directions of the relationship.

2. 8. 4 Empirical literature of the negative impact of budget deficit on the FDI

Gastanaga, Nugent, and Pashmova (1998) used data from 49 emerging economies between 1970 and 1995 to examine the determinants influencing foreign direct investment. They came to the conclusion that FDI was negatively impacted by corporate tax rates.

In their study of 105 developed and developing nations between 1970 and 2001, Le and Suruga (2005) demonstrated that excessive public spending could have a negative effect on foreign direct investment (FDI). They also looked at other possible relationships between FDI and public spending and suggested

that more work be done to develop a theoretical model that illustrates how these factors interact to determine long-term economic growth.

Demrihan and Masca (2008) used cross-sectional data from 38 less developed nations between 2000 and 2004 using an econometric model. They discovered that FDI was significantly harmed by corporate and inflation tax rates.

Dornean and Cristian (2014) looked at government spending and revenue on foreign direct investment (FDI) in CEE nations between 1995 and 2012. According to the study's findings, spending had a greater detrimental effect on FDI.

Mandinga (2015) used panel data from 22 small island developing states (SIDS) from 2004 to 2013 to investigate the impact of corporate income tax rates on foreign direct investment. The study found a negative correlation between corporate income tax and foreign direct investment.

3.Results and Discussion

The empirical literature confirms that there is a reciprocal relationship between the budget deficit and foreign direct investment as a result of the paper's presentation of these two variables.

Additionally, these previous empirical literatures are considered to have been applied to a group of developing countries in different time periods, but the majority of the results showed a positive effect between these two variables.

4. Conclusion

Following a detailed discussion of each topic separately, this research looked at the theoretical and empirical underpinnings of both the budget deficit and foreign direct investment (FDI). In keeping with the earlier examination of all hypotheses in the empirical studies, the theoretical investigation demonstrated that increasing FDI inflows can either eliminate or raise the budget deficit and vice versa. However, prior research on the two-way relationship between FDI and the budget deficit has been covered in the empirical literature.

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- **Conflict of Interest**

The authors declare that there is no conflict of interest related to the article.

5. References

[1] Ahmed. S. (2018). “Public Finance in Egypt ITS structure and Trends”. World bank Working Paper, No.639. pp.5-40.

[2] Andrey, Z. (2021).” The Keynesian theory of the deficit financing”. Working paper. D.A Tsenov Academy of Economics- Svishtov. Pp.2-5.

[3] Anwar, S., and Nguyen, L. (2011).” Foreign direct investment and Trade: The case of Vietnam”. Research in International Business and Finance, 25(1), 39-52.

[4] Antony, et al. (2015). “Dynamics of Budget Deficit and Macroeconomic Fundamentals: Further Evidence from Nigeria”. International Journal of Academic Research in Business and Social Sciences.

[5] Arbatil, E. (2011).” Economic Policies and FDI Inflows to Emerging Markets Economies”. IMF Working Paper. Pp .1-26.

[6] Blejer, M.I. and Cheasty, A. (1991)." Association The Measurement of Fiscal Deficits: Analytical and Methodological Issues?”. Journal of Economic Literature, Vol.29(4), pp,1644-1678.

[7] Blejer, M.I. and Cheasty, A. (1993)." How to Measure the Fiscal Deficit: Analytical and Methodological Issues?”. Journal of Economic Literature International Monetary Fund, PP.40-43.

[8] Camara, A, (2019)."Long Run Effects of Foreign Direct Investment on Tax Revenue in Developing Countries ", PhD candidate, University Clermont Auvergne, CNRS, IRD, CERDI.

[9] Davina, F., Jan, H. (2002).” Alternative Definitions of the Budget deficit and its impact on the Sustainability of Fiscal Policy in South Africa”. South African Journal of Economics 70(3):251-257.

[10] Denisia, V. (2010)." Foreign Direct Investment Theories: An overview of the main FDI theories". European Journal of Interdisciplinary Studies, Volume 2 Issue2, pp. 104-107.

[11] Dunning, J. (2001).” International production and the Multinational Enterprise”. London: Allen and Unwin.

[12] Dunning, S. and Lundan. (2008).” Multinational Enterprises and the Global Economy”. Edward Elgar Publishing Limited, Cheltenham, pp.79-115.

[13] Eisner, R. (1989)." Budget Deficit: Rhetoric and Reality". Journal of Economic Perspectives 3, pp.73-93.

[14] Faeth, I. (2011)." Foreign Direct Investment in Australia: Determinants and Consequences".

[15] Fuest, C., and Riedel, N. (2009): Tax evasion, tax avoidance and tax expenditures in developing countries: A review of literature”. Report Prepared for the UK Department for International Development, 1-69. Custom Book Center, University of Melbourne, pp. 3-50.

[16] Gaoussou. (2021).” The impact of Fiscal Policy on Investment in the South African Region”. Working Paper. pp, 9-88.

[17] Gropp, R. and Kostial, K. (2000)." The Disappearing Tax Base: Is Foreign Direct Investment Eroding Corporate income tax". IMF Working Paper No.2000/173, pp.3-39.

[18] Hazer, D. (2010)." Out ward FDI and Economic Growth”. Journal of Economic Studies Vol.37, No-5, pp.476-494.

[19] Hadeer, A. Dalia, k., and Ayman. H (2024)” Analyzes of the relationship between Budget Deficit and foreign Direct Investment in Egypt (1980-2020)”. Scientific Journal of Business Research and Studies. Vol,38. The 4th Issue, pp. 1845-1875.

[20] Heller, P., Haas, R., and Mansur, A. (1986).” A Review of the Fiscal Impulse Measure”. International Monatery Fund. ISSN: 0251-6356. P50

[21] Herger, Nils and Mccarriston, S. (2014)." Horizontal, Vertical and Conglomerate FDI: Evidence from Cross Border Acquisitions". Working Paper. Study Center Gerzensee, pp. 10-50.

[22] Jesaviciene, F. and Rudzionyte, E. (2015)." Analysis of Budget Deficit and its problems in Lithuania". Bulletin of Tares Shevchenko national university of Kyiv. Economics ;9(174): pp. 42-51.

[23] Laurence and Gregory. (1995).” What Do Budget Deficits Do?”. Working Paper. Pp,95-120.
[24] Le, M.V., and Suruga, T. (2015). "The effect of FDI and Public expenditure on economic growth: from the oretical model to empirical evidence". GSICS Working Paper Series, pp. 5-20.
[25] Lipsey, R. (2004).” Home and Country Effects of FDI”, Lidingo, Sweden
[26] Mahboub, A, (1997). "Foreign Direct Investment in Egypt How to encourage and maximize the benefits". Research of Zagazig University, Department of Economics, pp. 4-28.
[27] Majeed, M. Ahmed, E. (2008).” Human Capital Development and FDI in Developing Countries” Journal of Economic Cooperation Among Islamic Countries.
[28] Moosa, I. (2002).” Foreign Direct Investment Theory, Evidence and Practice”. Working Paper. RMIT University.
[29] Moosa, I. and Cardak, B. (2003).” The determinants of foreign direct investment: An extreme bounds analysis”. Journal of Multinational Financial Management, Vol. 16, issue2.199-211.
[30] M Stojanovic- Trivanovic and et al, (2017).” Foreign Direct Investment and Their Impact on the economic development of Bosnia and Herzegovina”. IOP Conference Series Materials Science and Engineering.200(1):012019
[31] OECD, (2020). “Investment Policy Reviews”. Report, pp 10-14.
[32] Olga, V. (2012). “A review of FDI theories: An Application for transition economics”. International Research Journal of Finance and Economics.89:118-137.
[33] Panigrahi, T. and Panda, B. (2012). “Factors influencing FDI inflow to India, China and Malaysia: An Empirical Analysis”. Asian-Pacific Journal of Management Research and innovation, 8(2):89-100.
[34] Patricia, L. (2015).” Foreign Direct Investment- the case of Botswana”. Acta Universitatis Danubius O Economica.11(4):160-173.
[35] Seshaiah, V., and Srivyal, V. (2004).” Budget Deficit and other Macroeconomic variables in India”. Applied Economic and International Development. Vol.4-1.
[36] UNCTAD, (1999).” Investment Policy Reviews”. Report, pp 5-30https://unctad.org/system/files/official-document/iteiipmisc.11_en.pdf
[37] Ussher, L. (1998).” Do Budget Deficits Raise Interest Rates? A Survey of the Empirical Literature”. Transformational Growth and Full Employment Project, Working Paper, no.3.New school for Social Research.
[38] Zahariev, A. (2021), "Modern Theories of Budget Deficit ". D.A. Tsenov Academy of Economics – Svishtov, pp. 26-32.
[39] Zaqiri, N. and Bajrami, H. (2016)." Foreign Direct Investment Types and Theories: the significance of human capital". UBT international Conference, University of business and technology in Kosovo, pp. 1-54.