Etikonomi
Volume 25(1), 2026: 157 - 172
P-ISSN: 1412-8969; E-ISSN: 2461-0771
https://doi.org/10.15408/etk.v25i1.32745

Debt, Current Account, and Intellectual Property on Foreign Direct Investment: Cross-Country Analysis

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JEL Classification:
G31
H62
E22

Received: 08 June, 2023

Revised: 07 February 2025

Accepted: 20 February 2025

Available online: May 2026

Abstract

Research Originality: This study uses panel data from 148 countries for 1991 - 2022 to investigate the effects of debt, current account balances, and intellectual property licensing fees on foreign direct investment.

Research Objectives: The paper aims to determine the effects of foreign direct investment on debt, the current account balance, and charges for the use of intellectual property.

Research Methods: This paper employed OLS, POLS, DK, 2SLS, and GMM.

Empirical Results: The study demonstrates a favorable association of foreign direct investment with external debt, receipts from selling intellectual property rights, and revenue, while an unfavorable association with current account balance, government debt, and payments for using intellectual property rights is bolstered through a GMM model that ensures coherence with the existing literature. It has provided further insights into how payments or receipts from intellectual property rights are significantly impacting foreign direct investment across countries.

Implications: This undertaking is noteworthy for the nation as it yields valuable insights into debt, current accounts, and intellectual property.

Keywords:

foreign direct investment; debt; current account; intellectual property; revenue; expense

How to Cite:

Paul, S. C., Or-Rosid, M. H., Begum, F., & Hossain, S. (2026). Debt, Current Account, and Intellectural Property on Foreign Direct Investment: Cross-Country Analysis. *Etikonomi, 25*(1), 157 – 172. https://doi.org/10.15408/etk.v25i1.32745.

INTRODUCTION

Because the resources are scarce, it is difficult for a growing nation to sustain itself on what it has. Besides, to ensure long-lasting economic development in a nation, particularly a developing one, the dual gap framework recognized the need for foreign financing to supplement scarce internal financial resources. Macroeconomic factors such as FDI and external debt tend to support the economy. That is why they both signify capital inflows, which are likely to accelerate the pace of capital composition for an expanding economy. One common issue that less developed nations (LDCs) face is a lack of capital to finance investments and the infrastructure required for economic expansion. Some have claimed that the capital flows from foreign direct investment and external loans can close the deviation between internal savings and targeted investments.

Dawood et al. (2024) used panel data from 32 Asian Developing Economies (ADE) spanning 1995 to 2020. They employed GMM & DCCE models to explore the intricate relationship between external debt, debt service, and economic growth. The study showed that public and private investment, total factor productivity, and national savings are pivotal channels through which the non-linear effect of external debt on economic growth is transmitted. Ale et al. (2023) created a panel dataset covering 1980-2020 for five South Asian nations to examine the link between external debt and economic growth. They found a significant negative association between external debt and economic growth in South Asia in both the short- and long-run.

Ozdemir et al. (2021) examined the connection between the current account balance (CAB) and Turkey's industry FDI (foreign direct investment). The robust impacts of FDI on the current account balance are examined quarterly and cumulatively using Jorda's (2023) local projection (LP) technique. Total FDI and CAB are negatively correlated. The industrial and service industries as a whole have this dynamic effect verified as well. Regarding the sub-sectors, FDI imposes a favorable long-term effect on the CAB in eight of them. The combined bad effects of FDI in all other subsectors are detrimental to CAB.

Lyu (2021) used doctrinal legal analysis to assess the extent to which intellectual property rights are currently protected for international investors in mainland China. It does this by using laws, rules, and legal theories. In this thesis, the shielding of intellectual property in China is compared to international fair and equitable treatment standards, prior legislation, and the Phase 1 Trade Agreement. It is concluded that the Phase 1 Trade Agreement has been largely incorporated into existing Chinese laws, which have also been significantly improved to safeguard the rights and interests of foreign companies. However, given the history of the rule of law in China, this theory also acknowledges that the way Chinese laws are created differs from how Western cultures view them. As a result, despite China's efforts to conform to international investment law norms, its laws remain insufficiently clear, precise, and effectively implemented.

Ud-din et al. (2020) investigated the impact of external debt on Pakistan's economic growth using annual time-series data from 1976 to 2018. For this purpose, the syntheses of debt overhang and debt crowding-out hypotheses are examined within the framework

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DOI: https://doi.org/10.15408/etk.v25i1.32745

of the augmented Solow growth model. An autoregressive distributed lag (ARDL) model, an error-correction model, and appropriate diagnostic tests are applied. The empirical results indicate that external borrowing and debt servicing hamper economic growth in Pakistan (Chaudhry et al., 2017). Chaudhry et al. (2017) analyzed the relationship between foreign direct investment, external debt, and economic growth. For this reason, they used data from 1990 to 2014 of a sample of 25 region-wise selected developing countries and applied the FMOLS method. The method showed that foreign direct investment and external debt are significantly related to economic growth.

Faheem et al. (2022) assessed the influence of migrant remittances on financial development over the period of 1976-2018 in Pakistan. This study has applied the linear autoregressive distributed lag (ARDL) and non-linear autoregressive distributed lag (NARDL) models to examine the symmetric and asymmetric effects of remittances. Results of the ARDL and NARDL bound test confirm that remittances, FDI, real GDP, and inflation significantly contribute to financial development. Tanna et al. (2018) investigated the relationship between external debt and foreign direct investment. To do so, they used annual data, along with 5-year averages for 39 developing countries over the period 1984-2010, and applied threshold regressions. They found that FDI-induced growth is dependent on the external debt constraint.

Many academic studies support FDI as a significant and expanding source of funding for capital-poor nations because it has numerous beneficial effects on economic growth, employment levels, infrastructure development, and other factors. The majority of the writing currently available in this field thus views FDI as a boon for the host nation. FDI inflows are rarely taken into account as a factor in studies that consider current account balance determinants across countries (Ehimare, 2011; Jaffri et al., 2012; Kaur et al., 2012; Kwalingana & Nkuna, 2009; Nguku, 2013; Siddiqui & Ahmad, 2012; Zaman & Vasile, 2012). No studies have examined how FDI imports affected the CAB among the panel of South Asian nations. Therefore, there is a need to investigate the possible impact of FDI inflow on the CAB position of the panel for the aforementioned nations.

The above literature clearly shows how FDI is impacting many aspects of an economy. Unlike the above studies, this study adopted a reverse-causality approach to examine the factors surrounding FDI, which is supported by the study of (Ali et al., 2019; Arun & Yildirim, 2017; Shiyalini & Suresh, 2022; Hansen & Rand, 2005; Li & Tanna, 2018; OECD, 2022; Pham et al., 2022; M. H. Rahman, 2023; Schnitzer, 2002; Smith, 2001). These studies have shown that a CAB deficit may attract FDI while demotivate FDI during surplus. Debt may compel governments to seek new FDI. These studies have highlighted popular factors, like debt and the current account balance, but an important factor, like intellectual property, has been ignored. How the proceeds and disbursements for intellectual property rights might significantly change the direction of FDI has largely been ignored. Alongside popular factors, this study sought to incorporate this factor into the development of a more inclusive yet exhaustive model that explains their partial nature and the direction of their relationships. Following a brief overview of the literature, this endeavor aims to address the above concerns by using data from

a 32-year panel spanning 148 nations. The analysis is organized around three factors: FDI dependency, debt level, current account balance, and intellectual property rights.

METHODS

This paper is an exploratory work with the following data and methods. We collect secondary panel data for 148 countries spanning 1991-2022. Data are collected from the World Bank's World Development Indicators, which contain 11 variables. For conduction purposes, the data are first log-normalized. Next, to eliminate the autocorrelation problem, the data are first degree-separated.

This research employed a step-by-step model-based combined analysis. Firstly, we used the Ordinary Least Squares (OLS) model to examine the association between FDI and variables related to debt, the current account, intellectual property, etc., across 148 countries worldwide. Then we use Pooled Ordinary Least Squares (POLS), the two-stage least squares (2SLS) model, and the Generalized Method of Moments (GMM) model to assess the robustness of the association between them.

Table 1. Variables Description

Variables used	Description
LnFDI	Foreign direct investment, net inflows (BoP, current US$)
LnCGDpgdp	Central government debt, total (% of GDP
LnTDSpex	Total debt service (% of exports of goods, services and primary income)
LnSTDptr	Short-term debt (% of total reserves)
LnEDScusd	External debt stocks, total (DOD, current US$)
LnEDSpgni	External debt stocks (% of GNI)
LnCABcusd	Current account balance (BoP, current US$)
LnREVegpgdp	Revenue, excluding grants (% of GDP)
LnEXPpgdp	Expense (% of GDP)
LnCUIPRcusd	Charges for using intellectual property, receipts (BoP, current US$)
LnCUIPPcusd	Charges for using intellectual property, payments (BoP, current US$)

We employ the increasingly popular linear generalized method of moments (system GMM) model for empirical modeling, developed by Arellano (1995) and Bond (1991). In experimental growth research, the system GMM is a justifiable strategy for addressing certain methodological problems in growth regressions. First, endogeneity bias: Usually, the institutional and development funding variables on the right wing of Equation (1) are endogenous. A typical characteristic of growth regression models is this. This is the conclusion that Kosack & Tobin (2006) get from their investigation of how assistance and FDI affect economic development. Burnside and Dollar (2000) and Boone (1994) provide similar arguments for aid's endogeneity in growth regressions.

Then we need to use an efficient and consistent econometric technique in the presence of endogenous regressors to ensure the model's estimates are impartial. System

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DOI: https://doi.org/10.15408/etk.v25i1.32745

GMM is more effective and preferred for handling endogeneity in panel data, even though instrumental variable techniques such as two-stage least squares (2SLS) are commonly used (see Kosack & Tobin, 2006). In theory, system-GMM estimators use moment conditions and the assumption of endogeneity to provide a set of useful tools for endogenous regressors, thereby greatly increasing efficiency (Kosack & Tobin, 2006; Roodman, 2009).

Second, Omission Bias: Traditionally, growth-related experimental studies have relied on basic econometric techniques such as instrumental variable (IV) estimation and ordinary least squares (OLS) (Beck & Laeven, 2006; Edison et al., 2002). Due to the possibility of weak tools and the exclusion of unnoticed time-invariant country-specific effects, these comparatively easy approaches would probably skew the results (Kosack & Tobin, 2006). The latter is typical of growth models like ours. Because there is a good chance that country-specific effects and the starting income level will correlate significantly, unnoticed consequences may skew the results of this study. The next step should be to use a regression strategy that accounts for these impacts. The definition variables from this research are shown in Table 1.

Third, static Framework: Dynamic panel techniques, such as system GMM, match growth models more accurately than static panel approaches (Barro & Sala-i-Martin, 1997; Eicher, 2007; Sachs, 2003). Sachs (2003) states that the initial apparent stipulation issue is between statics and dynamics.

RESULTS AND DISCUSSION

Table 2 summarizes data from 148 countries spanning 32 years across nine variables. The dependent variable, FDI, averages 9.60 billion dollars across the countries inspected, with a large spread of 4.28 billion dollars. This result indicates a notable deviation in FDI across countries. The average central government debt across 148 countries is 54.55 percent of gross domestic product, with a deviation of 36.05 percent. The average debt service among 148 countries is 14.74 percent of exports of goods, services, and primary income, with a standard deviation of 13.40 percent of exports of goods, services, and primary income. The average short-term debt among 148 countries is 953.869, with a standard deviation of 15146.385. The average external debt stock for the countries inspected is 5.22 billion dollars, with a large spread of 2.92 billion dollars.

The average external debt stock is 64.71 percent of gross national income across the countries inspected, with a wide range of 73.74 percent. The average current account balance for the countries inspected is 6.76 billion dollars, with a massive spread of 4.60 billion dollars. The average revenue excluding grants is 25.18 percent of gross domestic product across the countries inspected, with a spread of 10.97 percent. The average of the countries inspected's expenses is 26.15 percent of gross domestic product, with a deviation of 11.65 percent. The average receipt of charges for the use of intellectual property is 2.09 billion dollars, with a deviation of 1.023 billion dollars. Lastly, the average payment of charges for using intellectual property is 1.66 billion dollars, with a volatility of 5.56 billion dollars.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
SL	4350	2175.5	1255.881	1	4350
ID	4350	127.52	77.159	2	264
Year	4350	2004	8.368	1990	2018
FDI	4271	9.605e+09	4.285e+10	-2.393e+11	7.338e+11
CGDpgdp	1148	54.55	36.057	1.89	289.845
TDSpex	2979	14.745	13.406	.152	156.858
STDptr	2888	953.869	15146.385	0	527646.78
EDScusd	3248	5.228e+10	2.925e+11	0	5.696e+12
EDSpgni	3113	64.711	73.745	.239	1111.27
CABcusd	3949	6.767e+08	4.610e+10	-8.060e+11	4.206e+11
REVegpgdp	2731	25.181	10.977	1.703	91.43
EXPpgdp	2614	26.159	11.657	2.806	98.165
CUIPRcusd	2316	2.096e+09	1.023e+10	-1450000	1.297e+11
CUIPPcusd	2950	1.665e+09	5.568e+09	-13920000	7.216e+10

Table 3. Ordinary Least Squares (OLS) Model

LnFDI	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
LnCGDpgdp	-.108	.083	-1.29	.196	-.272	.056	
LnTDSpex	.073	.166	0.44	.657	-.251	.398	
LnSTDptr	-.104	.075	-1.39	.165	-.25	.043	
LnEDSc	.176	.031	5.63	0	.115	.237	***
LnEDSpgni	-.593	.173	-3.43	.001	-.932	-.255	***
LnCABc	-.042	.008	-5.55	0	-.057	-.027	***
LnREVegpgdp	.453	.263	1.72	.085	-.063	.968	*
LnEXPpgdp	.175	.257	0.68	.498	-.33	.679	
LnCUIPRc	.086	.026	3.28	.001	.034	.137	***
LnCUIPPc	.191	.026	7.34	0	.14	.242	***
Constant	12.245	.417	29.35	0	11.427	13.063	***
Mean dependent var	17.948		SD dependent var		8.911		
R-squared	0.106		Number of obs		4031.000		
F-test	47.872		Prob > F		0.000		
Akaike crit. (AIC)	28641.081		Bayesian crit. (BIC)		28710.400		

*** p<.01, ** p<.05, * p<.1

The ordinary least squares model (see Table 3) shows the association between foreign investment and central government debt, total debt service, short-term debt, external debt stock, current account balance, revenue, expense receipts for the use of intellectual property, and payments for the use of intellectual property. In this approach, we found a significant positive relationship between foreign direct investment and external debt stock, current account balance, and the receipt of charges for using intellectual property, and a negative relationship between foreign direct investment and the current account

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DOI: https://doi.org/10.15408/etk.v25i1.32745

balance. It indicates that a country with more foreign investment experiences a boom in external debt, the current account balance, expenses, receipts from charges for the use of intellectual property, and payments of such charges. Conversely, under this model, foreign direct investment reduces the current account balance. Moreover, other variables, such as central government debt, total debt service, and short-term debt, exhibit mixed relationships with foreign direct investment but are insignificant at the 10% level.

According to Tanna et al. (2018), increasing financial development can mitigate the adverse impact of large foreign debt on the relationship between growth and foreign direct investment. Higher public debt and inflation rates hampered growth, while FDI, domestic investment, trade openness, human capital (HC), and institutional quality all had significant positive effects (Onafowora & Owoye, 2019). Jilenga et al. (2016) investigated the impact of foreign direct investment (FDI) and external debt on Tanzania's economic development using time series data spanning 1971 to 2011. Their research showed that, in the long run, debt helps Tanzania's economy grow.

The host economy's CAB may deteriorate as a result of prolonged profit repatriations from FDI inflows (Ali & Shaheen, 2013; Jaffri et al., 2012; Mohammed & Arabi, 2014; Rahman & Ferdous Bristy, 2015; Sahoo et al., 2016; Seabra & Flach, 2005; Strauss, 2015, 2016). However, it is thought that capital inflows in the form of direct foreign investment might help improve the economy's current account position if the host nation is underdeveloped and has available resources (Ali et al., 2019; Ehimare, 2011). According to Tanaka Iwaisako (2014), improving IPR security encourages FDI and innovation. Furthermore, expanding IPR protection can also improve welfare if the South's initial IPR protection was inadequate and the rate of R&D subsidies was reasonable.

Table 4. Pooled Ordinary Least Squares (POLS) Model

LnFDI	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
LnCGDpgdp	-.231	.105	-2.20	.028	-.437	-.025	**
LnTDSpex	-.257	.19	-1.35	.177	-.63	.116	
LnSTDptr	-.35	.089	-3.93	0	-.525	-.176	***
LnEDSc	.275	.044	6.27	0	.189	.362	***
LnEDSpgni	-.008	.206	-0.04	.968	-.413	.396	
LnCABc	-.047	.009	-5.54	0	-.064	-.03	***
LnREVegpgdp	.371	.285	1.30	.193	-.188	.929	
LnEXPpgdp	.416	.276	1.50	.132	-.126	.958	
LnCUIPRc	.122	.032	3.82	0	.06	.185	***
LnCUIPPc	.108	.031	3.43	.001	.046	.169	***
Constant	10.505	.661	15.90	0	9.21	11.8	***
Mean dependent var	17.948		SD dependent var		8.911		
Overall r-squared	0.077		Number of obs		4031.000		
Chi-square	306.983		Prob > chi2		0.000		
R-squared within	0.071		R-squared between		0.056		

*** p<.01, ** p<.05, * p<.1

The pooled ordinary least squares method (see Table 4) shows the relationship between foreign investment and central government debt, total debt service, short-term debt, external debt stock, current account balance, revenue, expense receipts for using intellectual property, and payments for using intellectual property. Within the model, we found a notable positive association between foreign investment and the receipt and payment of charges for using intellectual property, and a notable adverse association between foreign investment and central government debt, short-term debt, and the current account balance. It indicates that a nation with more foreign investment experiences a boom in external debt stock, as well as in the receipt and payment of charges for using intellectual property. In contrast, foreign investment is the cause for declining central government debt, short-term debt, and current account balance under this model. Furthermore, other variables, such as total debt service, current account balance, revenue, and expenses, exhibit mixed relationships with foreign investment. For more robustness, we run the next model.

Ali et al. (2019) claim that by reducing the CAB gap, foreign direct investment (FDI) may raise the host economy's CAB. Using the system GMM technique, the study demonstrated that inbound FDI had a positive impact on the external sector of East Asian economies. Further investigation found that inbound foreign direct investment had a positive impact on the receiving nation's imports and exports. In a similar vein, Ehimare (2011) confirmed that FDI inflows significantly improve Nigeria's current account position due to the country's resource-based, underdeveloped economy. Jashua et al. (2020) found that governmental enhancement aid, debt stock, and foreign direct investment all contribute to success in the chosen countries. Additionally, they demonstrated that debt stock had no effect in fostering development. However, trade freedom and exchange rates have mixed impacts on economic development, both positive and negative.

Table 5. Driscoll-Kraay (DK) model

LnFDI	Coef.	Std.Err.	t	P>t	[95%Conf	Interval]
LnCGDpgdp	-0.108	0.077	-1.400	0.172	-0.266	0.050
LnTDSpex	0.073	0.197	0.370	0.712	-0.329	0.476
LnSTDptr	-0.104	0.120	-0.870	0.393	-0.349	0.141
LnEDSc	0.176	0.031	5.680	0.000	0.113	0.240
LnEDSpgni	-0.593	0.304	-1.950	0.061	-1.216	0.029
LnCABc	-0.042	0.007	-6.340	0.000	-0.055	-0.028
LnREVegpgdp	0.453	0.268	1.690	0.102	-0.095	1.001
LnEXPpgdp	0.175	0.245	0.710	0.481	-0.326	0.676
LnCUIPRc	0.086	0.032	2.710	0.011	0.021	0.150
LnCUIPPc	0.191	0.036	5.250	0.000	0.116	0.266
_cons	12.245	1.653	7.410	0.000	8.860	15.630
Number of Obs		4031		R-squared		0.1064
Number of groups		148		Root MSE		8.4343
F(10, 28)		66.85				
Prob > F		0.0000				

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DOI: https://doi.org/10.15408/etk.v25i1.32745

The Driscoll-Kraay (DK) approach (see Table 5) demonstrates the connection between foreign investment and central government debt, total debt service, short-term debt, external debt stock, current account balance, revenue, expense, receipt of charges for using intellectual property, and payment of charges for using intellectual property. Within the approach, we found a notable favorable connection between foreign investment and external debt stock, receipt of charges for using intellectual property, and payment of charges for using intellectual property, and a notable adverse connection between foreign investment and current account balance. It suggests that a country with more foreign investment experiences a boom in external debt and in the receipt and payment of charges for the use of intellectual property.

In contrast, in this approach, foreign investment causes a decline in the current account balance. Moreover, other variables, such as the central government. debt, total debt service, short-term debt, current account balance, revenue, and expenses show mixed associations with foreign investment, but these associations are negligible at the 10% level. For more robustness, we run the next model. Using panel data on SAARC nations, Rahman & Bristy (2015) assessed the effect of inward FDI on six macroeconomic factors (GDP, inflation, current account balance, government revenues, foreign exchange reserves, and GFCF). The findings showed that FDI has the potential to worsen the CAB status of the economy receiving FDI. Sahoo et al. (2016) conducted a study similar to this one for the Asian economies panel. According to the study, inbound FDI significantly and unfavorably affects the host economy's CAB.

Table 6. Two stage least squares model

Instrumental variables (2SLS) regression

LnFDI	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
LnCGDpgdp	-.108	.083	-1.29	.196	-.272	.056	
LnTDSpex	.073	.166	0.44	.657	-.251	.398	
LnSTDptr	-.104	.075	-1.39	.165	-.25	.043	
LnEDSc	.176	.031	5.63	0	.115	.237	***
LnEDSpgni	-.593	.173	-3.43	.001	-.932	-.255	***
LnCABc	-.042	.008	-5.55	0	-.057	-.027	***
LnREVegpgdp	.453	.263	1.72	.085	-.063	.968	*
LnEXPpgdp	.175	.257	0.68	.498	-.33	.679	
LnCUIPRc	.086	.026	3.28	.001	.034	.137	***
LnCUIPPc	.191	.026	7.34	0	.14	.242	***
Constant	12.245	.417	29.35	0	11.427	13.063	***
Mean dependent var	17.948		SD dependent var		8.911		
R-squared	0.106		Number of obs		4031.000		
F-test	47.872		Prob > F		0.000		

*** p<.01, ** p<.05, * p<.1

The Two-stage least squares approach (see Table 6) exhibits the association between foreign investment and central government debt, total debt service, short-term debt, external debt stock, current account balance, revenue, expense, receipt of charges for using intellectual property, and payment of charges for using intellectual property. Within the approach, we found a notable favorable connection between foreign investment and external debt stock, receipt of charges for using intellectual property, and payment of charges for using intellectual property, and a notable adverse connection between foreign investment and current account balance. It indicates that a country with more foreign investment experiences a boom in external debt stock, as well as in the receipt and payment of charges for using intellectual property. In contrast, in this approach, foreign investment causes a decline in the current account balance. Moreover, other variables, such as the central government. debt, total debt service, short-term debt, current account balance, revenue, and expense have a mixed relationship with foreign investment but are insignificant at the 10% level. Ali et al. (2019) found that FDI adversely impacts the current account imbalance, while exports and imports of the chosen countries are positively impacted. Yalta (2012) stated that profit transfers complicate the relationship between FDI and the current account, and, as a result, they should be taken into account when devising FDI flow policies. Akbas et al. (2013) showed a one-way causal relationship between GDP, the current account imbalance, and foreign direct investment. The current account shortfall and total assets were found to be causally linked in both directions.

Table 7. Generalized method of moments (GMM) model

LnFDI	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
L.LnFDI	.138	.021	6.66	0	.097	.179	***
LnCGDpgdp	.037	.175	0.21	.833	-.305	.379	
LnTDSpex	-.48	.326	-1.47	.141	-1.12	.16	
LnSTDptr	-.566	.185	-3.05	.002	-.93	-.203	***
LnEDSc	.252	.123	2.04	.041	.01	.494	**
LnEDSpgni	.083	.447	0.19	.853	-.793	.959	
LnCABc	-.032	.013	-2.51	.012	-.058	-.007	**
LnREVegpgdp	.204	.555	0.37	.714	-.884	1.291	
LnEXPpgdp	-.076	.539	-0.14	.888	-1.132	.981	
LnCUIPRc	.103	.056	1.85	.064	-.006	.213	*
LnCUIPPc	-.038	.053	-0.73	.468	-.141	.065	
Constant	12.368	1.879	6.58	0	8.685	16.051	***
Mean dependent var	18.143		SD dependent var		8.757		
Number of obs	3724.000		Chi-square		73.788		

*** p<.01, ** p<.05, * p<.1

The generalized method of moments (GMM) approach (see Table 7) examines the relationship between foreign investment and central government debt, total debt service, short-term debt, external debt stock, current account balance, revenue, expense receipts for using intellectual property, and payment of charges for using intellectual

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DOI: https://doi.org/10.15408/etk.v25i1.32745

property. Within the approach, we found a notable positive relationship between foreign investment and external debt stock and receipt of charges for using intellectual property, and a negative relationship between foreign direct investment and short-term debt and the current account balance. It suggests that a country with more foreign investment experiences a boom in external debt and in the receipt of royalties for the use of intellectual property. In contrast, foreign investment is the cause of declining short-term debt and the current account balance in this approach. Moreover, other variables, such as the central government. debt, total debt service, current account balance, revenue, and expenses have a blended relationship with foreign investment but are negligible at the 10% level. Arabi (2014) looked into Sudan's situation. The study used time-series data from 1972 to 2011 and found that FDI inflows maintained a stable long-term association with Sudan's current account balance and had a negligible negative impact.

Foreign direct investment has a favorable and considerable effect on the current account balance and balance of payments in the Nigerian economy, according to Ali et al. (2019) and Ehimare (2011), who investigated how inbound FDI might enhance the CAB of East Asian nations. Conversely, the results contradict those of Strauss (2015), Ali & Saheen (2013), Jaffri et al. (2012), Seabra & Flach (2005), and Strauss (2016), who discovered that FDI inflows exacerbate the CAB by increasing income outflows.

In all the models used in the study, we found a notable adverse relationship between foreign investment and external debt. Research such as Behname (2012), Sulaiman & Azeez (2012), Yagoob & Zhengming (2014), Melnyk et al. (2014), and Iqbal et al. (2013) have all documented the growth-stimulating impacts of FDI and foreign debt on the economy. As long as borrowing is used to boost economic productivity, it can be beneficial and essential to accelerate economic growth (Adegbite et al., 2008). According to Osinubi & Amaghionyediwe (2010), FDI enhances a nation's internal financial resources, enabling it to run its development programs effectively and to provide an enriched standard of living for its citizens.

In all the models used in the study, we found a notable adverse relationship between foreign investment and the current account balance. Mohammed & Arabi (2014) looked into Sudan's situation. The study found that FDI inflows maintained a stable long-term association with Sudan's current account balance and had a negligible negative impact, using time-series data from 1972 to 2011. Using regression analysis and data tables, Hossain (2008) discussed how FDI affects Bangladesh's foreign balance of payments. The research findings indicate that while the immediate impact of foreign direct investment (FDI) inflows may be positive or negative on the recipient nation's balance of payments, the overall long-term effect is expected to be beneficial.

Correlation and straightforward regression. For the panel of SAARC nations, Rahman & Bristy (2015) assessed the effect of inward FDI on six macroeconomic factors (GDP, inflation, current account balance, government revenues, foreign exchange reserves, and GFCF). The findings showed that FDI has the potential to worsen the CAB status of the economy receiving FDI. Sahoo et al. (2016) conducted a study similar to this one for the Asian economies panel. According to the study, inbound FDI significantly

and unfavorably affects the host economy's CAB. According to Ehimare (2011), foreign direct investment has a favorable and noteworthy effect on the current account balance and balance of payments of the Nigerian economy. Conversely, the outcomes contradict those of Strauss (2015), Ali & Saheen (2013), Jaffri et al. (2012), Seabra & Flach (2005), and Strauss (2016), who discovered that FDI inflows exacerbate the CAB by increasing income outflows.

CONCLUSION

According to the study, we discovered a positive association between FDI and the growth of external debt and the payment for the use of intellectual property, and a negative correlation between FDI and the current account balance. We found a strong positive association between foreign direct investment and paying a charge for using intellectual property across all models except the GMM model. The POLS models showed that foreign direct investment and central government debt were strongly negatively correlated. Revenue and foreign direct investment have a considerable positive correlation, according to the OLS and 2SLS models. Furthermore, there was a clear negative correlation between short-term debt and foreign direct investment in both the POLS and GMM models.

The economic benefits of FDI should not be taken for granted by policymakers. The aforementioned can be interpreted as a policy implication: FDI can seriously deteriorate the balance of payments by creating a current account imbalance over time. Other things staying the same, the policies should be designed with an eye toward export promotion rather than FDI consumption dependent on imports. Due to FDI firms importing foreign technology and basic materials, imports rise. Export-oriented foreign direct investment (FDI) will not only improve the economy's trade position but also help prevent the current account imbalance from worsening. Additionally, FDI should focus on revenue-generating projects so that the income received by workers in the host nation offsets the loss of profits to home nations. The study can be expanded to examine the contribution of direct investors' profit transfers to their native nations to the current account imbalance.

This study does have several drawbacks, however. A significant drawback is that our models do not account for sector-specific differences in FDI, debt, the current account, and intellectual property fees. A more detailed analysis of the differing effects of these inflows across areas and their relationship to growth would be beneficial for future research. Therefore, while debt may influence social needs such as health care and literacy, an influx of foreign direct investment (FDI) may help low-income developing nations expand their infrastructure. These three inflows' influence on the locations of growth can be used to illustrate their respective effects and efficiencies.

ACKNOWLEDGMENT

This research was funded by a project titled “Debt, Current Account and Intellectual Property: A cross-country study” of the University of Barishal. This research is presented in the International Conference on Environment, Social and Governance Issues, Imperatives

https://journal.uinjkt.ac.id/index.php/etikonomi
DOI: https://doi.org/10.15408/etk.v25i1.32745

and Contemporary Business Perspectives, organized by the Department of Commerce, University of North Bengal, Darjeeling, West Bengal, India, in collaboration with the Eastern Institute of Integrated Learning in Management, Kolkata.

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