Determinants of Foreign Direct Investment in Thailand: The Role of Debts

Mukda Teeralertpanich [*]
Faculty of Economics, Thammasat University, Thailand

Abstract

𝕿his paper investigates the impact of debts, classified by borrowers and sources, on foreign direct investment (FDI) inflows, both aggregate and selected sectors, in Thailand during 1997: Q1 to 2020: Q4. Drawing upon the OLI paradigm and considering the motivations of multinational enterprises (MNEs) in conducting direct investment, the study applies the ARDL approach to examine this relationship in both the short run and the long run. The results showed that increases in total debt adversely affect total FDI inflows both in the short run and the long run. The results of public, private, household, and corporate debt are in line with the outcome of total debt. Interestingly, in the short run, increases in domestic debt helped attract FDI inflows, but in the long run, its undesirable impact became evident. External debt also negatively impacted FDI inflows, but only in the short run. When analyzing key sectors, the impacts of debt on FDI inflows vary. The negative impact of debt on FDI inflows was highest in the manufacture of electrical equipment, followed by the manufacture of computer, electronic, and optical products, while no significant impact was observed in the manufacture of motor vehicles, trailers, and semi-trailers.

[*]**Corresponding author**: E-mail: mukmemail@gmail.com

1. Introduction

Foreign direct investment (FDI) is one of the key factors in developing countries for domestic economic development. Multinational Enterprises (MNEs) have brought a high level of capital with advanced technologies, knowledge, and efficient managerial systems while also fostering competition within industries. Under the right circumstances, FDI tends to be more likely to promote long-term economic growth for host countries.

Thailand has historically done very well in attracting FDI and has relied heavily on it. In 2020, FDI contributed 4.57% of the country's GDP, amounting to 22.8 billion US dollars (UNCTAD, 2021). While the importance of FDI to Thailand's economy has been increasing, the figures of FDI have significantly fallen in the past few years compared to the other five Asian countries. From 2001 to 2005, Thailand's FDI had a share of 44% of Asian FDI, but the share decreased to 14% in 2016-2019, especially in the manufacturing sector, which is a key attraction of FDI, with almost half of FDI inflows spent in the past decade.[1] Nowadays, a third has noticeable disappeared; the flows were only 7.2 billion US dollars during the period 2016-2019 compared to 2006-2010.

Along with a reduction in FDI inflows, investors have lost confidence in Thailand's economic stability in the past few years due to rapidly accumulating debt in many sectors, both public and private sector. In 2020, the Thai government ran a budget deficit and recently raised the ceiling of the public debt-to-GDP ratio to 70% from 60% to cope with the impact of the Covid-19 pandemic on the economy. Furthermore, household debt to GDP in Thailand rose from 78.05% in 2017 to 83.8% in 2020 and reached 90.5% in 2021. The NESDC economic report showed the rapid expansion of household debt to GDP due to individual consumption and personal loans, which are two key components of consumer purchasing power (NESDC, 2021). A higher debt formation tends to affect economic stability, which may lead to the decline of FDI attraction.

This situation raises the important question of whether a rapid formation of debt, both aggregate and disaggregate, classified by borrowers, which are public, private, household, and corporate debt, and classified by sources, domestic and external debt, has affected FDI. Former studies on the relationship between debt and FDI in Thailand are limited. There are some studies on these two variables in Asian countries, including Thailand (Tri et al., 2019; Xaypanya et al., 2015). But there are few studies that have focused directly on the Thailand context, and most of their objectives are to explore the determinants of FDI (Changwatchai, 2010; Siamwalla et al., 1999). There is no clear conclusion to the relationship between them. Thus, this research's main objectives are to study the role of total debt and the main types of debt, classified by borrowers, and sources, on foreign direct investment in Thailand. Specifically, this research has 3 main objectives: (1) to study the role of total debt on FDI in Thailand. (2) to study many types of debt, classified by borrowers as public, private, household, and corporate debt, and classified by sources as domestic and external debt, on FDI, and (3) to study the role of

---

[1] The three sectors with the highest volumes of investment in the manufacturing sector are (1) the manufacture of computer, electronic, and optical products (2) the manufacture of electrical equipment; and (3) the manufacture of motor vehicles, trailers, and semi-trailers, which have contributed almost a third, or 29.7% of total Thailand FDI inflows in 2021 (BOI, 2020).

total debt on manufacturing FDI, classified by three main business sectors, which are manufacture of computer, electronic, and optical products; manufacture of electrical equipment; and manufacture of motor vehicles, trailers, and semi-trailers.

There are five sections in the paper. Section II reviews the theoretical framework, including past and present studies on the topic. Section III provides the empirical model of inward FDI and the role of debt, as well as the data and econometric method. The results are presented and discussed in Section IV. The final section provides a conclusion and some policy inferences.

2. Theoretical Framework

Since there are various theories trying to explain the determinants of FDI inflows, such as Product Life Cycle Theory (Vernon, 1966) or Uppsala Theory (Johanson & Vahlne, 1977), the product life cycle theory explains the internationalization of production based on sequential stages of product development, assuming that FDI moves from developed to developing countries as products mature. In contrast, the Uppsala Theory states that firms expand internationally progressively, starting with nearby markets and gradually entering more distant ones, relying on experiential learning and reduced uncertainty. However, both Vernon's theory, which focuses on product life cycles, and the Uppsala Theory, which emphasizes gradual internationalization, fail to adequately address the dynamic nature of FDI motivations, government policies, investment incentives, strategic motivations, and the role of multinational enterprises in driving FDI inflows.

The most knowledgeable theory covering the motives of MNEs to invest overseas is the eclectic paradigm, or OLI framework (Dunning & Lundan, 2008). The drivers of MNEs' investments from their home country consist of ownership advantage, location advantage, and internalization, which means they have more advantages from internal control of their resources than other types of investment (Rugman, 2010). The right circumstances, especially economic stability, are one of the important factors to attract FDI inflows, as explicitly stated in location advantage. Former research by Hill (2019) confirmed the significance of debt found in variable L in the OLI Paradigm.

Most recent works focused on the relationship between debt and FDI have mostly been conducted using the OLI Paradigm and the motives of MNEs (Abala, 2014; Asiedu, 2006; Banga, 2003; Tanna et al., 2018). Based on these frameworks, variables chosen in an empirical model would represent resource seeking, market seeking, efficiency seeking, and strategic asset seeking, along with institutional factors (Dunning & Lundan, 2008). Through this approach, the economic impact of those seeking FDI becomes evident as they strategically consider factors such as access to resources, market opportunities, cost-efficiency, and strategic assets, thereby influencing economic development, technological transfer, job creation, and competitiveness within host countries.

More empirical studies on debt and FDI have been getting more attention continuously due to their importance. For example, Flexner (2000) studied this relationship in Bolivia using data from 1990-2002 and Mostafa (2000) studied using Bangladesh's data from 1980-2017. Meanwhile, some studies have not found statistically significant results, such as Ogunjimi (2019). In addition, significant positive results were found in some studies, such as Khrawish and Siam (2010) using Jordan's data from 1997-2007.

However, past studies cannot conclude the direction of impact of debt formation and various types of debt on FDI inflows or the statistical significance of the impact.

The objective of most studies is to determine the key factors driving FDI inflows (Changwatchai, 2010; Siamwalla et al., 1999; Tri et al., 2019; Xaypanya et al., 2015). In the context of Thailand, some studies investigate capital controls during the Asian financial crisis (Jansen, 2003), and many studies investigate manufacturing FDI from Japan (Jongwanich, 2011; Milner et al., 2004). Meanwhile, previous studies in Thailand have not considered various types of debt. The relationship between the role of debt and FDI inflows remains unclear.

3. Empirical Model: Determinants of inward FDI and the role of debt

The determinants of FDI inflows are constructed by the OLI paradigm developed by Dunning and the key motives of MNEs. Among the selected variables, as shown in Equation (1), the inclusion of debt is based on its significance as a location advantage impacting the economic stability of the host country. Drawing on previous empirical research in Thailand, the chosen variables aim to capture the country's competitive advantage and the essential economic factors that drive FDI. The hypothesis suggests that higher levels of total debt, as indicated by the LNTOTALDEBT variable, will have a negative effect on net FDI inflows, reflecting the potential concerns about economic stability associated with increased debt levels. Time series data in the form of quarters between 1997 and 2020 are used in this study, received from the CEIC database and the Bank of Thailand. Net foreign direct investment is considered a dependent variable, whereas total debt, or many types of debt, is considered an independent variable in the equation.

$$LNFDI = f(LNTOTALDEBT, LNRESOURCE, LNSCHOOL, \\ LNPERCAPITA, LNINTERNET, POLITIC, \\ LNRGDPG, LNFE, LNREER) \qquad (1)$$

where:
LNFDI is net foreign direct investment as a percentage of GDP
LNTOTALDEBT is total debt to GDP
LNRESOURCE is the share of crude material (SITC 2) and fuel (SITC 3) exports as a percentage of GDP
LNSCHOOL is the ratio of secondary school enrolment to gross enrolment
LNPERCAPITA is real GDP per capita (adjusted price 2013)
LNINTERNET is the portion of internet users measured by subscription density
POLITIC is the Political Stability and Absence of Violence/Terrorism index
LNRGDPG is real GDP growth year-over-year
LNFE is foreign exchange reserves as a percentage of GDP
LNREER is the real effective exchange rate (base 100=2005)

LNRESOURCE and LNSCHOOL represent resource-seeking FDI, LNPERCAPITA represents market-seeking FDI, LNINTERNET represents efficiency-seeking FDI, POLITIC represents institutional factors, and LNRGDPG, LNFE, and LNREER present economic stability. Note that many infrastructure variables are considered to represent efficiency-seeking FDI, such as paved road to total length of road ratio, equation 1 shows the best result in aspects of accuracy and essential diagnostic tests such as the Lagrange Multiplier Test, and the Normality Test.

Due to time series analysis, data must be processed by a stationary or unit root test by Augmented Dickey-Fuller (ADF) as a first step. The result shows a combination of integration orders I(0) and I(1).[2] Given the characteristics of the data, including variables that are stationary at different orders and a small dataset, the Autoregressive Distributed Lag (ARDL) model is well-suited for estimating short-term relationships. The choice of the ARDL approach in analyzing the relationship between FDI and debts is motivated by the need to address the issue of reverse causality or endogeneity by incorporating lagged variables. In addition to alleviating concerns about the bidirectional relationship between FDI and debts, the ARDL method has been demonstrated to provide unbiased estimates that overcome endogeneity concerns, as evidenced by Monte Carlo experiments (Pesaran & Shin, 1995; Pesaran et al., 2001). The use of the Bounds Test in conjunction with the ARDL model is essential for determining the existence of a stable and cointegrating relationship between these variables, indicating a long-run equilibrium. To ensure reliable results, it is necessary to evaluate the model's accuracy and conduct diagnostic tests such as Heteroskedasticity, Serial Correlation, Stability, and Normality.

4. Empirical results

The empirical studies showed that increases in total debt adversely affect total FDI inflows, both in the short run and the long run. Other types of debt classified by both borrowers and sources found a strong impact on foreign direct investment inflows in Thailand. A 1% increase in total debt could lead to a 0.12% decrease in FDI in the short run and a 0.05% decrease in the long run, with 1% statistically significant (Table 1).

The results of debt classification by borrowers are in line with the outcome of total debt in the long run and the short run (Table 2). A 1% increase in public, private, household, and corporate debt decreases long-run FDI inflows by 0.057%, 0.117%, 3.108%, and 0.12%, respectively. Although public and private debt could stimulate foreign investment in some quarters, overall results found harmful effects on short-run FDI.

In the short run, the accumulation of domestic debt stimulates FDI attraction by signalling increased economic activity, investment opportunities, and improved infrastructure, driven by government policies and increased domestic demand. Interestingly, a 1% increase in domestic debt has a positive impact of 0.017% on FDI inflows in the short run. However, in the long run, the undesirable impact of domestic debt becomes evident, with a negative impact of 0.19% on FDI. When economic shocks occurred, a co-integrated coefficient showed that it would take around 15 quarters for the economy to fully eliminate the shock and move to long-term equilibrium[3]. Additionally, external debt has a negative impact on FDI inflows, but only by 0.081% in the short run, and its impact becomes insignificant in the long run. The insignificant impact in the long run could, to a certain extent, be due to a relatively low level of external debts after the Asian financial crisis in 1997.

---

[2] All variables are measured in functional form of national logarithms because they are appropriate for diagnostic tests. The logarithm variable is shown as ln(1+x), where x represents the ration. *DCRISIS* are dummy variables that represents the economic crisis period.

[3] The long-run equilibrium adjustment formula is 1-X=1-AT, where coefficient A is the cointegrating coefficient of the equation assigned to the domestic debt variable of 0.9.

Table 1: Short-run Relationships between Determinants and FDI

Variables	Net Foreign Direct Investment to GDP (ΔLNFDI) ARDL(2, 3, 3, 1, 0, 4, 4, 4, 3, 4)	
	Coefficients	**t-statistics**
Constant	0.194	(1.65)
ΔLNTOTALDEBT	-0.054	(0.37)**
ΔLNRESOURCE	0.038	(3.47)***
ΔLNSCHOOL	0.076	(2.80)***
ΔLNPERCAPITA	0.103	(2.79)***
ΔLNINTERNET	-0.037	(0.37)***
ΔPOLITIC	0.007	(0.27)**
ΔLNRGDPG	0.591	(9.36)**
ΔLNFE	0.017	(0.36)***
ΔLNREER	0.023	(0.60)***
D2009Q2	0.040	(3.81)***
D2011Q4	-0.081	(-7.54)***
D2013Q34	0.046	(6.16)***
D2016Q3	-0.051	(-5.21)***
ECM(-1)	0.036	(0.38)***
$\underline{R^2}$	0.8827	
F(9,92)	17.3038	
DW	2.0472	
LM4, $\chi^2(4)$	0.4642 (p-value=0.76)	
JBN, $\chi^2(2)$	0.0417 (p-value=0.98)	
RESET, $\chi^2(1)$	0.1687 (p-value=0.68)	
ARCH, $\chi^2(42)$	0.4513 (p-value=0.99)	

Cointegrating equation for the long run relationship

$$D(LNFDI) = -0.0506 * (LNFDI(-1) - (-0.1232 * LNTOTALDEBT + 0.0312 * LNRESOURCE + 0.0603 * LNSCHOOL + 0.1071 * LNPERCAPITA - 0.0257 * LNINTERNET + 0.0099 * POLITIC + 0.5644 * LNRGDPG + 0.0173 * LNFE - 0.0566 * LNREER + 0.2016))$$

Notes. (1) t-statistics in parenthesis, *** p-value<0.01, ** p-value<0.05, * p-value<0.1. Test statistics: LM = LM Test for Serial Correlation, JBN = Jarque-Bera Normality Test, RESET = Ramsey RESET Test for stability, and ARCH = Breusch-Pagan-Godfrey Heteroskedasticity Test. (2) For cointegration equation t-statistics as follows LNTOTALDEBT (-3.49)***, LNRESOURCE (2.71)***, LNSCHOOL(2.93)***, LNPERCAPITA (2.74)***, LNINTERNET (-3.67)***, POLITIC (1.58), LNRGDPG (2.44)**, LNFE (1.55), LNREER (-1.34) and Constant (1.64).
Source: Author's estimation from ARDL Model.

When key sectors are analysed, impacts of debt on FDI inflows vary, as shown in Table 3. The negative impact of debt on FDI inflows was highest in the manufacture of electrical equipment, followed by the manufacture of computer, electronic, and optical products, while an irrelevant impact on the manufacture of motor vehicles, trailers, and semi-trailers was revealed. The non-linear relationship between debt and manufacturing foreign FDI inflows suggests that a debt-to-GDP ratio beyond 80% tends to have a

negative impact on FDI inflows.[4] The capital-intensive nature of manufacturing industries, combined with the need for robust infrastructure, makes them particularly sensitive to high debt levels. This finding highlights the importance of managing debt levels in order to attract FDI into the manufacturing sector. Therefore, countries must prioritize sustainable debt management, invest in infrastructure, and create an environment that fosters a conducive investment climate to mitigate the adverse effects of excessive debt on manufacturing FDI inflows.

Finally, the empirical studies found importance of resources, education, political stability, and economic growth in attracting FDI inflows. However, the negative impact of internet infrastructure on FDI may reflect insufficient development of infrastructure, especially digital ones, in attracting foreign direct investment in the country.

Table 2: Short-run and Long-run Relationships between Various Types of Debt and FDI

Model	Long-run Relationship	Short-run Relationship					
		All	L0	L1	L2	L3	L4
LNPUBDEBT	-0.057**	-0.0160***	-0.0991***	0.083***	-0.0369		
	(-2.32)		(-3.59)	(-2.87)	(-1.31)		
LNPRIVDEBT	-0.1174***	-0.0658**	-0.0151	-0.0318	-0.2185**	0.1527***	
	(-3.48)		(-0.21)	(-0.35)	(-2.32)	(-2.71)	
LNHHDEBT	-3.1018**	-5.1689**	-0.8808	4.9999	-1.5018	-5.1689**	
	(-2.30)		(-0.41)	(1.37)	(-0.42)	(-2.10)	
LNCORPDEBT	-0.1272***	-0.1050***	-0.1050***				
	(-3.56)		(-3.68)				
LNDOMDEBT	-0.1888***	0.0166*	-0.0611	-0.0567	-0.0731	0.1345*	-0.1178**
	(-3.96)		(-1.14)	(-0.85)	(-1.00)	(1.84)	(-2.17)
LNEXTDEBT	-0.0085	-0.0810**	-0.0405	0.0292	0.0101	0.0741	-0.081**
	(-0.30)		(-1.01)	(0.5)	(0.16)	(1.30)	(-2.33)

Notes. (1) LNPUBDEBT represents a public debt model, LNPRIVDEBT represents a private debt model, LNHHDEBT represents a household debt model, LNCORPDEBT represents a private corporate debt model, LNDOMDEBT represents a domestic debt model, and LNEXTDEBT represents an external debt model.
*(2) t-statistics in parenthesis, *** p-value<0.01, ** p-value<0.05, * p-value<0.1, Diagnostic tests included in the study are as follows: Breusch-Pagan-Godfrey Heteroskedasticity (p-value for each equation range from 0.7797 to 0.9953) LM Test for Serial Correlation (p-value for each equation range from 0.1590 to 0.9588) Ramsey RESET Test for stability (p-value for each equation range from 0.1313 to 0.8444) and Jarque-Bera Normality Test (p-value for each equation range from 0.5240 to 0.8862).*
(3) With space limitations, results of other control variables as in equation (1) do not report here.
(4) Public debts, private debts, household debts, private corporate debts, domestic debts, and external debts included separately in each equation. Note that we also include all these debts together, however, high correlation among different types of debts causes statistical insignificances in some debt variables.
Source**:** Author's estimation from ARDL Model

---

[4] The estimation of the return point does not consider results from the standard error of non-linear variables. Including the error term in the calculation, the return point of lowest debt is 80% of GDP.

Table 3: Short-run and Long-run Relationships between Total Debt and
FDI Classified by Business Sectors

Model	(1) MANU		(2) COM		(3) ELEC		(4) MOTOR	
Relationship	LR	SR	LR	SR	LR	SR	LR	SR
LNTOTALDEBT	6.9831***	30.2119	-0.0403***	-0.2283*	-5.1329***	-8.2756*	-0.8901	-28.0151*
	(6.11)		(-3.04)		(-10.76)		(-0.77)	
LNTOTALDEBT^2	-0.6888***	-2.9801			0.5058***	0.6903*	0.083	2.7094*
	(-6.17)				(10.87)		(0.74)	

Notes. (1) MANU Model represents manufacturing FDI, (2) COM Model represents sectoral FDI from manufacture of computer, electronic and optical products, (3) ELEC Model represents sectoral FDI from manufacture of electrical equipment, and (4) MOTOR Model represents sectoral FDI from manufacture of motor vehicles, trailers, and semi-trailers.
*(2) t-statistics in parenthesis, *** p-value<0.01, ** p-value<0.05, * p-value<0.1, Diagnostic tests included in the study are as follows: Breusch-Pagan-Godfrey Heteroskedasticity (p-value for each equation range from 0.1736 to 0.9958) LM Test for Serial Correlation (p-value for each equation range from 0.1038 to 0.5823) Ramsey RESET Test for stability (p-value for each equation range from 0.6268 to 0.9522) and Jarque-Bera Normality Test (p-value for each equation range from 0.6230 to 0.8429).*
(3) With space limitations, results of other control variables as in equation (1) do not report here.
Source: Author's estimation from ARDL Model

5. Conclusion and policy inferences

This research aims to investigate the role of debt, both aggregate and disaggregate, on FDI inflows in Thailand from 1997: Q1 to 2020: Q4. Based on the OLI Paradigm and the motivations of MNEs to conduct direct investment, the ARDL approach was applied to examine such relationships in both the short and long run. The results showed that increases in total debt adversely affect total FDI inflows, both in the short run and the long run. The results of public, private, household, and corporate debt are resembled the total debt's outcome. Interestingly, in the short run, increases in domestic debt helped attract FDI inflows, but in the long run, its undesirable impact became evident. External debt also negatively impacted FDI inflows, but only in the short run. When key sectors are analysed, the impacts of debt on FDI inflows vary. The negative impact of debts on FDI inflows was highest in the manufacture of electrical equipment, followed by the manufacture of computer, electronic, and optical products, while an irrelevant impact on the manufacture of motor vehicles, trailers, and semi-trailers was discovered.

The implications of the results indicate that the increase in public debt in the past two years, which is mostly domestic debt, may not have a significantly negative effect on FDI. According to the study, it takes at least 15 quarters for rising household debt to have a harmful impact on long-run FDI. However, a low level of external debt in Thailand may not be a cause for concern.

However, this study shows that the formation of debts of various types has explicit negative effects on FDI attraction, especially a rapid and consistent increase in household debt. In addition, high debt levels are likely to hurt other fundamental economic variables in the long run and could in turn affect FDI inflows. The government should alleviate the level of debt formation when a high and prolonged level of debt is evident. This paper could probably not address the critical level of public debt and the decent threshold for economic growth due to its scope. In the period of 2021-2022, Thailand's debt level was close to other countries in the same region, such as Malaysia, Indonesia, or the Philippines, and it was significantly lower than Singapore.

Finally, from this study, strengthening Thailand's potential by promoting economic growth, infrastructure, education, and political stability are considered priorities to attract foreign investment efficiently.

References

Abala, D.O. (2014). Foreign direct investment and economic growth: An empirical analysis of Kenyan data. *DBA-Africa Management Review*, *4*(1), 62-83.

Asiedu, E. (2006). Foreign direct investment in Africa: The role of natural resources, market size, government policy, institutions and political instability. *World Economy*, *29*(1), 63-77.

Banga, R. (2003). Impact of government policies and investment agreements on FDI inflows. *ICRIER Working papers* no. 16. New Delhi: ICRIER.

BOI (2020). *รายงานภาวะการณ์ลงทุนโดยตรงจากต่างประเทศในประเทศไทย ฉบับรายปี 2563 (มกราคม- ธันวาคม).* Retrieved from https://www.boi.go.th/upload/content/2563_6082a4cb538c1.pdf

Changwatchai, P. (2010). *The determinants of FDI inflows by industry to ASEAN (Indonesia, Malaysia, Philippines, Thailand, and Vietnam)*. (Doctoral dissertation, The University of Utah, Salt Lake City, Utah). Retrieved from https://collections.lib.utah.edu/dl_files/7d/58/7d5894fb6cff6e947b1b81452a45d001d45bd441.pdf

Dunning, J. H., & Lundan, S. M. (2008). *Multinational enterprises and the global economy*. Cheltenham: Edward Elgar Publishing.

Flexner, N. (2000). Foreign direct investment and economic growth in Bolivia, 1990-1998. Economic Policy Division. La Paz, Bolivias: Central Bank of Bolivia Research Paper. Retrieve from https://econwpa.ub.uni-muenchen.de/econ-wp/mac/papers/0309/0309009.pdf

Hill, H. (2019). *Managing FDI in a globalizing economy: Asian experiences*. London, UK: Palgrave Macmillan.

Jansen, W. J. (2003). What do capital inflows do? Dissecting the transmission mechanism for Thailand, 1980–1996. *Journal of Macroeconomics*, *25*(4), 457-480.

Johanson, J., & Vahlne, J. E. (1977). The internationalization process of the firm—A model of knowledge development and increasing foreign market commitments. *Journal of international business studies*, *8*(1), 23-32.

Jongwanich, J. (2011). Foreign direct investment in emerging Asia: Implications of the international production network. In Hutson, E., Sinkovics, R.R., Berrill, J. (Eds.) *Firm-level internationalization, regionalism and globalization* (pp. 27-47). London, Palgrave Macmillan.

Khrawish, H., & Siam, W. (2010). Determinants of direct foreign investment: Evidence from Jordan. *Business and Economic Horizons*, *1*(1), 67-75.

Milner, C., Reed, G., & Talerngsri, P. (2004). Foreign direct investment and vertical integration of production by Japanese multinationals in Thailand. *Journal of Comparative Economics*, *32*(4), 805-821.

Mostafa, M. (2020). Foreign direct investment, external debt, and balance of payment: A causality analysis for Bangladesh. *Bangladesh Journal of Public Administration, 27*(2), 50-69.

NESDC (2021). *ภาวะสังคมไทยไตรมาสสาม ปี 2564*. สำนักงานสภาพัฒนาการเศรษฐกิจและสังคมแห่งชาติ. 19(4). Retrieved from https://www.nesdc.go.th/ewt_dl_link.php?nid=5491&filename=socialoutlook_report

Ogunjimi, J. (2019). The impact of public debt on investment: Evidence from Nigeria. *DBN Journal of Economics & Sustainable Growth*, 1-27.

Pesaran, M. H., & Shin, Y. (1995). An autoregressive distributed lag modelling approach to cointegration analysis. Cambridge, UK: Cambridge University Press.

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, *16*(3), 289-326.

Rugman, A. M. (2010). Reconciling internalization theory and the eclectic paradigm. Multinational Business Review, *18*(2), 1-12.

Siamwalla, A., Vajragupta, Y., & Vichyanond, P. (1999). Foreign capital flows to Thailand: Determinants and impact. Bangkok: Thailand Development Research Institute. Retrieved from https://docs.google.com/viewerng/viewer?url=https://tdri.or.th/wp-content/uploads/2013/01/m52.pdf

Tanna, S., Li, C., & De Vita, G. (2018). The role of external debt in the foreign direct investment–growth relationship. *International Journal of Finance & Economics*, *23*(4), 393-412.

Tri, H. T., Nga, V. T., & Duong, V. H. (2019). The determinants of foreign direct investment in ASEAN: New evidence from financial integration factor. *Business and Economic Horizons (BEH)*, *15*(2), 292-303.

UNCTAD. (2021). *World Invest Report 2021*. Retrieved from https://unctad.org/system/files/official-document/wir2021_en.pdf

Vernon, R. (1966). International investment and international trade in the product life cycle. *Quarterly Journal of Economics, 80*(2), 190-207.

Xaypanya, P., Rangkakulnuwat, P., & Paweenawat, S. W. (2015). The determinants of foreign direct investment in ASEAN: The first differencing panel data analysis. *International Journal of Social Economics*, *42*(3), 239-250.