Debt Dynamics and Investment Patterns:

Public Debt-Investment Nexus in G7 and ASEAN Economies

ديناميكيات الدين وأنماط الاستثمار:

العلاقة بين الدين العام والاستثمار في اقتصادات مجموعة الدول السبع ورابطة دول جنوب شرق آسيا

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Abstract

This study examines the impact of debt on domestic and foreign investment in both G7 and ASEAN countries over a period spanning from 1995 to 2015. Our analysis reveals that debt accumulation has a notably adverse effect on the economies of ASEAN countries. Conversely, in G7 countries, the relationship between debt and investment appears to be influenced by other macroeconomic factors. The research further indicates that increased public spending and enhancements in institutional quality tend to foster an environment conducive to both foreign and domestic investment across the G7 and ASEAN regions. The findings of this paper, documented by prior empirical studies, underline that the influence of debt on economic indicators is dependent upon various factors, including the 'debt threshold', 'debt allocation', 'governance', and the dynamics of 'crowding in' versus 'crowding out' effects.

Keywords: *investment, FDI, national debt, G7, ASEAN.*

المستخلص:

تبحث هذه الدراسة في تأثير الديون على الاستثمار المحلي والأجنبي في كل من دول مجموعة السبع ورابطة دول جنوب شرق آسيا على مدى فترة تمتد من عام ١٩٩٥ إلى عام ٢٠١٥. يكشف تحليلنا أن تراكم الديون له تأثير سلبي ملحوظ على اقتصادات دول رابطة دول جنوب شرق آسيا. وعلى العكس من ذلك، في دول مجموعة السبع، يبدو أن العلاقة بين الديون والاستثمار تتأثر بعوامل اقتصادية كلية أخرى. يشير البحث أيضًا إلى أن زيادة الإنفاق العام وتحسينات الجودة المؤسسية تميل إلى تعزيز بيئة مواتية للاستثمار الأجنبي والمحلي في جميع أنحاء منطقة مجموعة السبع ورابطة دول جنوب شرق آسيا. تؤكد نتائج هذه الورقة، الموثقة بدراسات تجريبية سابقة، أن تأثير الديون على المؤشرات الاقتصادية يعتمد على عوامل مختلفة، بما في ذلك "عتبة الديون"، و"تخصيص الديون"، و"الحوكمة"، وديناميكيات "الاستقطاب" مقابل "الاستبعاد."

الكلمات المفتاحية: الاستثمار، الاستثمار الأجنبي المباشر، الدين الوطني، مجموعة السبع، رابطة دول جنوب شرق آسيا.

Introduction:

The G7 and ASEAN are two influential groups of countries with significant economic impact on the global stage. However, both groups have faced challenges related to government debt, which can have a significant impact on macroeconomic indicators such as domestic and foreign direct investment (FDI).

Government debt is the total amount of money owed by a government to its creditors, which can include other countries, banks, and individuals. When a government's debt levels become too high, it can lead to decreased investor confidence, lower FDI, and higher inflation rates. This can ultimately result in slower economic growth. Moreover, High levels of government debt can negatively impact domestic investment, leading to decreased productivity and economic growth. This is because high debt levels can raise the cost of borrowing for businesses and individuals, making it difficult to access credit and invest in capital projects. Additionally, high debt levels can lead to higher taxes, which can reduce disposable income, further decreasing domestic investment.

Furthermore, government debt can also have a significant impact on FDI. Foreign investors typically look for stable and secure economies with a low level of risk before investing in a country. High levels of government debt can signal a lack of stability and security, leading to decreased FDI.

The G7, consisting of Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States, has experienced varying levels of government debt

over the years. In recent years, some G7 countries, such as Italy and Greece, have struggled with high levels of debt, which has led to economic challenges.

Similarly, ASEAN countries, which include Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam, have also faced challenges related to government debt. Countries such as Indonesia and the Philippines have struggled with high levels of debt, which has led to increased inflation and slower economic growth.

Overall, government debt in G7 and ASEAN countries can have a profound impact on both domestic and foreign investors. As such, it is essential for governments to manage their debt levels carefully to promote economic growth, stability and attract foreign investment.

Literature Review:

Most researchers agree that there is a significant relationship between investment and debt. Investments can also be classified into domestic and foreign, and both types of investments are critical to a country. Foreign lending expands a country's resources, which leads to an increased output. Domestic lending tends to distribute the resources within the country with lower susceptibility to debt crisis. Consequently, a country's debt level is a key indicator to potential investors who are interested in the knowledge about the country's future ability to repay its debts. High debt levels, especially in low-income countries, tend to affect the investors' confidence, which directly affects both domestic and foreign investment in a country. As a result, a decrease in investment leads to a corresponding decrease of economic growth of a country.

According to Hossein and Samin (2014) there is a strong correlation between the Rwandese GDP per capita and foreign direct investments (FDI) affirmed by the positive impact on the economic growth. The FDI inflows in Rwanda have been growing over the recent years, which have led to a corresponding increase in GDP per capita. These economic events are subject to the Rwandese government reforms put in place to stabilize the macroeconomic and political environment to create a conducive environment for investments.

Moreover, if Federal borrowing does not compete with the funds available in the capital markets that will reduce the interest rates and raise the investments in structures and equipment. As a result, entrepreneurs (private) investors must deal with low capital costs, potentially increasing innovation and increasing the opportunities for new breakthroughs that can boost the overall health of the economy. In some cases, both the domestic and foreign investors start to cast doubts on the government's readiness and ability to pay off the government debt. They also begin to feel that the government

is ready to raise the interest rates on investments to get more money to pay off debts or run the economy if it is in a state that hampers borrowing.

On a similar note, GCF and FDI are known to boost the production levels in the developing countries, Table (2) reports that an increase in either domestic investment or FDI lead to an increase in GDP. FDI, for instance, leads to an inflow of modern technologies that enhance productivity, increase employment opportunities, and open the markets for further investments thus contributing to an economic growth (growth in GDP) as stated by Spinova and Ougate(2017). Furthermore, it increases employment opportunities and expand the governments' tax base and consumption rates which directly increases the country's GDP.

Domestic Investment, Debt, and Interest Rates

Economic policies whether in developed or developing countries have been aimed at creating sustainable growth rates through the accumulation of capital as stated by Ucan (2014). Noteworthy, investments are one of the determinants of GDP in any country, the level of economic development notwithstanding. From a number of empirical studies and as reiterated in a research study by Ucan (2014) and Iqbal and Jamil (2015), interest rates are amongst the many factors that determine the level of investments in these countries. Besides, other factors that affect the interest rates such as investment by the government have been shown to affect the Level of investments in both the developing and the developed countries (Ucan, 2014). In this regard, Kim, Kose, and Plummer (2003) stated that the higher rates of interest in most of the Asian countries through much of the late 20th century caused a decline in investments and economic growth in these regions.

Another perspective of investigating the effects of interest rates on the investment of a country is looking at its effects on the currency exchange rates. After the Asian crisis, for instance, most of the countries resorted to implementing policies aimed at averting the effects of the runaway exchange rates of the time (Kayhan, Bayat, and Ugur, 2013)

According to a research study by quoted by Kayhan, Bayat, and Ugur (2013), there is a positive relationship between the interest rates and exchange rates in some developed countries such as Italy and Japan. Though not explicitly stated, this has the effect of improving the level of investments in these countries. On the other hand, Kaminsky concluded that in Thailand, Malaysia, China, and the Philippines, there is a negative relationship between the interest rates and the currency exchange rates in those countries (Kaminsky, 1998) as cited in Kayhan, Bayat, and Ugur, 2013). From these researchers, therefore, it can be asserted that interest rates in the G7 countries

promote investment while in the ASEAN countries interest rates tend to lower investments.

Foreign Investors' Vision of the Government Debt

The interest rate is amongst the various determinants of FDI. According to (Singhania and Akshay 2011), interest rates provide a good mechanism for measuring FDI, especially when it is adjusted for inflation. Notably, most of the investors look for regions that provide a higher interest rate as investment destinations. As such, most countries with higher rates of return attract more foreign direct investment as opposed to those which provide lower rates of return. Thus, capital will always flow from a lower rate country to a higher rate country.

Stronger economic structure and infrastructure tend to attract foreign investors to invest directly into that country. Similarly, the government intervention in the economy is bound to increase if the free market fails to work properly such that the market mechanism is incapable of using its facilities or developing new competitive advantages. The reduction of foreign debt burden leads to an increase in financial resources because of capital inflows.

However, the increase in the foreign debt blurred the foreign investors' vision while creating a negative view of the future economic expectations, which significantly reduced the level of investment in a country. Additionally, the size of the government was discovered to have a negative impact on attracting foreign direct investments whereas the increased presence of the government led to lower participation of the private sector. However, GDP is related positively with FDI such that increased production would lead to increased prospective consumption and investment. Ultimately, foreign direct investment is attractive. In recent years, the relationship between foreign direct investment (FDI) and institutional factors has received great attention (Kurul and Yalta, 2017).

Trade openness has been noted to pull foreign investors. Most commonly, private investors pay close attention to the framework of the institutions of the countries where they undertake their ventures. On this note, therefore, Daude and Stein (2007) as cited by Kurul and Yalta (2017) recorded that developing countries need to pay close attention to the quality of their institutions to attract more foreign direct investments. For example, from the empirical studies, corruption was found to be a hindrance to FDI (Kurul and Yalta, 2017). Consequently, Sim et al (2015) noted that the level of corruption in Thailand has been one of the factors leading to a sharp fluctuation in FDI. Similarly, the high corruption levels have been a hindrance to FDI in Singapore between the year 2000 and 2010 (Sim et al., 2015). Other notable

governance factors that have negatively influenced FDI in the ASEAN countries include the rampant political instability, regulatory quality, and the rule of law (Kurul and Yalta, 2017)

Methodology

In this study, a panel model is employed to account for country-specific effects, and generalized least squares that account for heteroscedasticity across countries are used to estimate the models. To determine the best approach for handling unobserved effects, a Hausman test was conducted. The purpose of this test is to examine whether the random effect approach is appropriate, or the fixed effects estimation is more suitable. The Hausman test results indicate that the null hypothesis should be rejected, indicating that the fixed effects estimation approach is more appropriate. As a result, this study will utilize two major specifications for the dependent variables.

FDI= *f* (Government debt, interaction terms, X)

INV= *f* (Government debt, interaction terms, X)

The sample covers the data from 1995 to 2015, for two groups of countries, G7 that include France, Germany, Italy, Japan, Canada, the United Kingdom, and the United States, and only five ASEAN countries, which are Malaysia, Singapore, Thailand, the Philippines, and Indonesia which have the complete data. The goal from this research is to study the impact of government debt on macroeconomic indicators. The database has been collected from various sources: Word Bank's World Development Indicator (WDI), OECD Economic Outlook database and United Nations Development Reports.

Results and Discussion

A. Domestic Investment

The impact of debt on domestic investment in G7 and ASEAN countries could be a good example of "crowding in" vs. "crowding out". Table (3) reports to the result different specification, where the GCF is the dependent variable. Several specifications indicate that debt has a positive impact the investment level, which subsequently contributes to modernizing the economy and fostering its development (Alfaro, et al., 2006). Figure 74indicate to the percentage of investment in G7 countries between 1995 to 2015. argues that there exists two forms public expenditure; a consumption spending such as transfer payment, which might best be viewed as lump-sum gifts to part of the population, or government purchase of physical capital, which would then be rented to entrepreneurs for use in the production process. In this regard, Aschauer (2000) acknowledges that when a government debt is spent on capital formation, it results in

an increase in domestic investment and GDP. On the other hand, if the public debt is used to purchase consumables that do not directly translate into capital formation, the net effect is a reduction in GDP. Table (4) reports the opposite case in table (3), at which the debt has a negative impact on investment in ASEAN countries. Figure 5and 6 show the investment decrease in Malaysia and Thailand.

As mentioned earlier, the difference of the impact of debt on investment between G7 and ASEAN countries may be because debt funds allocation causes a “crowding in” in G7, while causing a “crowding out” in ASEAN. That is, debt impact relies mostly on the way each group allocates the debt funds, and how much the governments of these countries puts in to increase economic activity. In this regard, it seems that G7 countries uses government deficit spending to boost economic activities, which creates opportunities for businesses to increase their operations towards profitability. Thus, the private sector crowds in to satisfy increasing consumer needs. In his seminal work, argued that the debt-financed deficits need not "crowd out" any private investment, but to "crowd in". He adds that the difference between "crowding out" and "crowding in" are determined not only by the type of projects the government invest in but also by the government's choice of debt instrument for financing the deficit that, which he includes three assets - money, government bonds, and real capital. That is, debt management policy can take its place in augmenting the potency of fiscal policy, or in improving the trade-off between short-run stimulation and investment for long-run growth.

This trend indicates that much of the accrued debt by the government is spent on consumption rather than capital formation or investments, a case synonymous with the developing countries as aforementioned and confirmed by Aschauer (2000). Similarly, in most developing countries, debt whether public or private is mostly used for consumption rather than capital formation. As such, a rise in debt causes a decrease in the gross fixed capital formation. Sassi and Gasmi (2014) for example noted that if much credit is given to households rather than to firms, the net effect is a reduction in the GDP which by extension lowers the GCF, a trend common in the developing countries. point out that an increase in the level of government debt may depress investment in ASEAN countries. Since both the domestic and foreign investors start to cast doubts on the government’s readiness and ability to pay off the government debt

Table (3) also reports the results for other control variables for G7 countries, which shows the expected positive relationship between investment and government spending, HDI, and population. Surprisingly, Table (4) for ASEAN countries reports a positive impact of government spending and inflation on domestic investment.

Table 3 GCF (Investment) in G7 Countries

Debt	**.0241*** **	**.0698** **	**-.1341*** **	**.0922** **
	.0069	.0411	.0301	.0362
GOVT	.6543***	.6588***	1.141***	.0543
	.1464	.1476	.1886	.1206
HDI	.3178**		-.0369***	.0543
	.1234		.9176	.0704
Inflation	-.5321***	-.3570*	.5230***	-.4116
	.1114	.2145	.1081	.2259
Population	.5900	1.366**	.5182	.0057
	.3965	.6784	.0375	.5378
GDPPC	.2596***	.3981***	.2499***	.1786
	.0611	.1202	.0578	.1244
FDI	.0405	-.0373	-.0590	.0252
	.0460	.1017	.0437	.1006
Trade	-.1746***	-.0886***	-.1738***	-.0560***
	.0212	.0161	.0201	.0168
Education expenditure		-1.040***		
		.3155		
Health expenditure		.0005		
		.1198		
Debt * education expenditure		.0071**		
		.0033		
Government spending * Debt			.0058***	
			.0014	
Debt * governance **-.0828 *****				

				.0285
Constant	9.200*	36.74***	1.474***	44.94***
	5.203	4.800	5.570	10.04
R square	0.65	0.56	0.61	0.39
Observation	133	133	133	133

Note: *** indicates the significance level at 1% significant level. ** indicates the significance level at 5% significant level.* indicates the significance level at 1% significant level.

Table 4 GCF (Investment) in ASEAN Countries

Debt	**-.0245**	**-.9851*** **	**-.1041***	**-.6472*** **
	.0670	.2949	.0599	.1278
GOVT	.1605*	.2330***	.7839***	.1788***
	.0838	.0833	.0759	.0828
HDI	.6846**		.3171	.1271
	.3121		.1580	.1241
Inflation	.4443***	.4253**	.3285	3.245***
	.1492	.1512	.9418	.71211
Population	.9009***	.8226**	.5322***	.7237**
	.3313	.3295	.1620	.3318
GDPPC	3.340***	.3981***	.2499***	.1224
	.5861	.1202	.0578	.2033
FDI	.2286	.0373	.0590	.0252
	.2533	.1017	.0437	.1006
Trade	-.1686	-.1976	-.1382	.1224
	.2065	.0203	.0995	.2033
Education expenditure		-1.406*		
		.8138		
Health expenditure		.0115		
		.0203		
Debt * education expenditure		.0698***		

		.0153		
Government spending * Debt			-.0101***	
			.0011	
Debt * governance .4505* **				
				.1463
Constant	38.75**	66.68***	1.930	47.43***
	12.01	15.53	10.69	14.73
R Square	0.70	0.71	0.68	0.73
0bservation	105	105	105	105

Note: *** indicates the significance level at 1% significant level. ** indicates the significance level at 5% significant level. * indicates the significance level at 1% significant Level.

B. Foreign Direct investment

Table (5) and Table (6) illustrates the result of the third specification where the FDI is the dependent variable. The high levels of debt in G7 does not threaten away foreign investors because of the very low risk on defaulting on the debt. The result is not consistent with by Aschauer (2000). Using the case of the United States, he argues that unlike the developing countries, developed countries use public debt as productive capital which usually led to an increase in FDI in these countries. For ASEAN countries, one can argue that this group of countries are moving in the right direction and these levels of debt do not harm the health of these economies.

Table 5 FDI in G7 countries

Debt	.0078	.0082
	.0055	.0090
GOVT	.1030	.0147
	.0071	.0992
GCF	.0180	.0101
	.0691	.0687
Inflation	-.1871	-.2134
	.1790	.1766
Population	-.5277	-.6215
	.4467	.4416

HDI	.4455	.1166*
	.7264	.1800
GDPPC	.832	.0282
	.1024	.1026
Trade	.0028	.0039
	.0138	.0139
Interest rates		-.6165**
		.2395
Constant	4.543	5.628
	7.022	9.058
R square	0.29	0.48
Observation	133	133

Note: *** indicates the significance level at 1% significant level. ** indicates the significance level at 5% significant level. * indicates the significance level at 1% significant level.

Table 6 FDI in ASEAN countries

Debt	-.0284	-.1140***
	.0267	.0431
GOVT	.0129	.0213
	.0342	.0346
GCF	.0367	.0152
	.0407	.0410
Inflation	1.343	1.568**
	.6106	.6103
Population	.1656	.1692
	.1369	.1428
HDI	.0853*	.0070
	.0335	.0042
GDPPC	.4404	.2982
	.2683	.2694
Trade	-.0902	-.0911

	.0826	.0820
Interest rates		.7422**
		.3118
Constant	5.854	9.183*
	5.039	5.112
R square	0.41	0.41
Observation	105	105

Note: *** indicates the significance level at 1% significant level. ** indicates the significance level at 5% significant level. * indicates the significance level at 1% significant level.

In addition, the only control variables that have impact on FDI is interest rates. However, they have a positive relation with FDI in ASEAN, and a negative relation in G7. These results need a further investigation on the sources of funding of the foreign investment and operations in both groups. While the results may suggest that international companies may turn to domestic funding in G7, they do not use domestic funding in ASEAN.

Some countries have regulation that does not allow foreigners to fund their business from domestic banks. If this is the case, as interest rate increases in ASEAN countries, international companies find it more profitable to invest in there.

For ASEAN countries, inflation contributes in attracting foreign investment to them. In fact, inflation might contribute to revitalize the economic movement thus will attract foreign investors to invest in those countries. This result is in line with Sayek (2007), where he notes that multinational enterprises have developed a smoothing mechanism that allows them to switch production between two host countries to help them avoid the possible economic shocks. Therefore, an increase in FDI in ASEAN nations amidst increasing inflation rates is attributable to this smoothing effect.

GDP per capita also contributes to attracting foreign investment to ASEAN countries. Easy to explain, foreign investors are looking for a certain level of income that boost the purchasing power of the people.

Conclusion

This study investigates the impact of government debt in G7 and ASEAN countries on foreign and domestic investment, using panel data for the period from 1995 to 2015, While the results indicate that government debt contributes positively to the domestic and foreign investment in the G7 countries, it has an adverse effect on ASEAN countries' economies. It also appears, for the most part, that an increase in public spending and improvement in the quality of institutions promote an atmosphere that is attractive for foreign and domestic investors in both G7 and ASEAN countries. The results of this study, along with previous empirical evidence, suggest that the impact of debt on various economic indicators basically depends on several factors such as the "debt threshold", "debt allocation", "governance", and "crowding in" vs. "crowding out" effects.

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