



Master's Thesis of International Studies

## Fiscal Decentralization and Foreign Direct Investment in Vietnam

## 베트남 지방 재정 분권 및 해외직접투자 현황

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# Fiscal Decentralization and Foreign Direct Investment in Vietnam 베트남 지방 재정 분권 및 해외직접투자 현황 지도 교수 문 우 식

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## Abstract

This study is designed to investigate the relationship between fiscal decentralization and inward foreign direct investment (FDI) in Vietnam. In specific, this study uses a panel data of 63 provinces and cities in Vietnam during the period of 2010-2020, and incorporates other variables that might affect inward FDI and fixed time and province effects in its empirical model. Both least square dummy variable (LSDV) regression and system generalized method of moments (GMM) estimation results manage to find that fiscal decentralization has a positive and statistically significant impact on inward FDI. The results are robust to all three measures of fiscal decentralization, which measure the scale of fiscal autonomy, the scale of fiscal importance, and the degree of fiscal decentralization respectively. These findings are linked back to previous studies to find relevant theoretical explanations, and some important policy implications are then provided.

Keyword : Fiscal Decentralization, Public Finance, Public Policy, Foreign Direct Investment, National and Sub-national Competitiveness, Panel Data Analysis, LSDV Regression, System GMM Regression

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### **Chapter I. Introduction**

#### 1. Purpose of the Study

Since the introduction of Doi Moi (open door) policy in 1986, Vietnam has made some substantial structural reforms to its economic system. Along with fundamental economic policies aiming at market liberalization, Vietnam has also initiated several political and administrative reforms, including fiscal decentralization. Decentralization of fiscal policy was first introduced in Vietnam's regulation in 1996, in the State Budget Law (SBL). The SBL was then revised in 2002 and officially exercised in 2004, enabling the central government to shift some important fiscal responsibilities to local authorities (Morgan and Trinh, 2016). The impact of this federal policy has been studied in a few research studies, especially on enhancing the economic performance across provinces and cities in Vietnam. Nevertheless, keeping in mind that economic growth is an essential goal, it is important that local governments are capable of utilizing their autonomy in fiscal responsibilities to enhance the investment landscape and accumulate different factors of growth for the areas under their jurisdiction. Taking this mechanism into account, this study aims to examine the effect of fiscal decentralization policy on attracting inward foreign direct investment (FDI) across provinces and cities in Vietnam.

#### 2. Significance of the Study

Fiscal policy refers to the government's tax revenue collection as well as expenditure assignment activities. Therefore, when fiscal decentralization takes place, lower levels of governments would be given authorities over their taxation and spending policies. The autonomy given to local governments can have some significant impacts on various aspects of the local provinces' economic growth and development. In particular, the relationship between fiscal decentralization and inward FDI is crucial as it can reflect how local governments' fiscal policies can influence the foreign investors' decision to make their investment into a specific location within a host country. Nevertheless, the number of empirical studies on this particular topic has been relatively small. Hence, the following study is significant as it can enrich the understanding on the relationship between decentralized fiscal policies and FDI attraction at sub-national level.

In the case of Vietnam, since the introduction of the SBL 2002, the contribution of local governments to the national budget has been increasing. In specific, according to Figure 1, local governments have been active in public investment, as they continue to account for half of the state budget over the period of 2010-2021. This has showcased how fiscal decentralization policy in Vietnam has encouraged their local governments to hold more autonomy and responsibility on their fiscal arrangements.



Figure 1. State investment at current prices by management level from 2010 to 2021

Data Source: General Statistics Office of Vietnam (GSO)

Furthermore, not only until the implementation of the Doi Moi policy in 1986 did the country start to open its economy and welcome foreign investors. After the first Law on Foreign Investment in Vietnam was passed in 1987, the government has placed great emphasis on working closely with foreign corporates to increase the country's capital, technology, human skills and export competitiveness. In other words, FDI has become a key factor in the nation's grand strategy of industrialization and modernization (Vu, 2012). Figure 2 would demonstrate the significant growth of inward FDI to Vietnam over the past 30 years.



Figure 2. FDI projects licensed in Vietnam from 1988 to 2021

Data Source: General Statistics Office of Vietnam (GSO)

Vietnam has also become a major FDI recipient in the region. In 2021, the FDI inflows of the Association of Southeast Asian Nations (ASEAN) was only second to China (ASEAN Secretariat, 2022). According to statistics provided by the United Nations Conference of Trade and Development (UNCTAD), Vietnam accounted for 8.0% of the FDI inflows to ASEAN in 2021, ranking third in the region, after Singapore (54.1%) and Indonesia (11.0%) (Figure 3). As a result, a case study on Vietnam can greatly contribute to understanding the determinants of FDI towards developing and emerging economies.



**Figure 3.** FDI inflows to China, India and ASEAN countries from 2000 to 2021 (million USD)

Data Source: United Nations Conference on Trade and Development (UNCTAD)

#### 3. Provincial and Regional Divisions of Vietnam

At the moment, Vietnam is divided into 63 provinces and cities, comprising of 58 provinces and 5 major cities. One major change that has led to the current provincial arrangement of Vietnam is the expansion of Ha Noi, Vietnam's capital city. Resolution No. 15/2008/QH12, which was released by the National Assembly of the Socialist Republic of Vietnam (2008), has established the merging of the entire land area and population of Ha Tay province and the whole Me Linh district of Vinh Phuc province into Ha Noi city.

In terms of population, according to the statistics provided by the Ministry of Natural Resources and Environment, Vietnamese total population has reached 98,506,190 people at the end of 2021. The most populous administrative unit, in particular, is Ho Chi Minh city, where 9,166,840 people live in the area of 2,095.39 km2. The second most populous administrative unit is Ha Noi, where 8,330,830

people live in the area of 3,359.82 km2. In terms of land area, Nghe An is currently the largest province in Vietnam with 16486.5 km2; while Bac Ninh is the smallest province with 822.71 km2. Table 1 would provide the list of Vietnam's provinces, with detailed information on its area, average population, and population density based on the Statistical Yearbook 2021 provided by the General Statistics Office (GSO) of Vietnam (2022).

Duration of Cites No.	A	Average Population	Population Density
Province/City Name	Area (Km2)	(thousand person)	(person/km2)
Ha Noi city	3,360	8,331	2,480
Vinh Phuc	1,236	1,192	964
Bac Ninh	823	1,463	1,778
Quang Ninh	6,208	1,351	218
Hai Duong	1,668	1,937	1,161
Hai Phong city	1,527	2,072	1,358
Hung Yen	930	1,285	1,381
Thai Binh	1,585	1,876	1,184
Ha Nam	862	875	1,015
Nam Dinh	1,669	1,836	1,100
Ninh Binh	1,412	1,008	714
Ha Giang	7,928	887	112
Cao Bang	6,700	542	81
Bac Kan	4,860	324	67
Tuyen Quang	5,868	802	137
Lao Cai	6,364	762	120
Yen Bai	6,893	843	122
Thai Nguyen	3,522	1,323	376
Lang Son	8,310	797	96
Bac Giang	3,896	1,875	481
Phu Tho	3,535	1,508	427
Dien Bien	9,540	625	66
Lai Chau	9,069	478	53
Son La	14,110	1,288	91

**Table 1.** List of provinces and cities in Vietnam

Hoa Binh	4,590	872	190
Thanh Hoa	11,115	3,716	334
Nghe An	16,487	3,410	207
Ha Tinh	5,994	1,314	219
Quang Binh	7,999	911	114
Quang Tri	4,701	648	138
Thua Thien-Hue	4,947	1,154	233
Da Nang city	1,285	1,195	931
Quang Nam	10,575	1,518	144
Quang Ngai	5,155	1,244	241
Binh Dinh	6,066	1,508	249
Phu Yen	5,026	876	174
Khanh Hoa	5,200	1,248	240
Ninh Thuan	3,355	596	178
Binh Thuan	7,943	1,246	157
Kon Tum	9,677	569	59
Gia Lai	15,510	1,570	101
Dak Lak	13,070	1,909	146
Dak Nong	6,509	664	102
Lam Dong	9,781	1,322	135
Binh Phuoc	6,874	1,024	149
Tay Ninh	4,042	1,182	292
Binh Duong	2,695	2,597	964
Dong Nai	5,864	3,169	540
Ba Ria - Vung Tau	1,983	1,176	593
Ho Chi Minh city	2,095	9,167	4,375
Long An	4,495	1,726	384
Tien Giang	2,556	1,779	696
Ben Tre	2,380	1,296	544
Tra Vinh	2,391	1,019	426
Vinh Long	1,526	1,029	674
Dong Thap	3,382	1,601	473
An Giang	3,537	1,910	540
Kien Giang	6,352	1,752	276
Can Tho city	1,440	1,247	866
Hau Giang	1,622	730	450

Soc Trang	3,298	1,207	366
Bac Lieu	2,668	919	344
Ca Mau	5,275	1,209	229

Data Source: General Statistics Office (GSO) of Vietnam (2022)

In addition to that, at regional level, Vietnamese government often groups these provinces and cities into six regions based on their geographical locations and characteristics: Red River delta, Northern midlands and mountain areas, Northern central and coastal areas, Central Highlands, South East, and Mekong River delta. First, the Red River Delta consists of 11 provinces and cities: Ha Noi city, Vinh Phuc, Bac Ninh, Quang Ninh, Hai Duong, Hai Phong city, Hung Yen, Thai Binh, Ha Nam Nam Dinh, and Ninh Binh. Second, the Northern midlands and mountain areas include 14 provinces: Ha Giang, Cao Bang, Bac Kan, Tuyen Quang, Lao Cai, Yen Bai, Thai Nguyen, Lang Son, Bac Giang, Phu Tho, Dien Bien, Lai Chau, Son La, and Hoa Binh. Third, the Northern central and coastal areas are comprised of 14 provinces and cities: Thanh Hoa, Nghe An, Ha Tinh, Quang Binh, Quang Tri, Thua Thien-Hue, Da Nang city, Quang Nam, Quang Ngai, Binh Dinh, Phu Yen, Khanh Hoa, Ninh Thuan, and Binh Thuan. Fourth, the Central Highlands include 5 provinces: Kon Tum, Gia Lai, Dak Lak, Dak Nong, and Lam Dong. Fifth, the South East region consists of 6 provinces and cities: Binh Phuoc, Tay Ninh, Binh Duong, Dong Nai, Ba Ria - Vung Tau, and Ho Chi Minh city. Sixth, the Mekong River delta is comprised of 12 provinces and cities: Long An, Tien Giang, Ben Tre, Tra Vinh, Vinh Long, Dong Thap, An Giang, Kien Giang, Can Tho city, Hau Giang, Soc Trang, and Bac Lieu. The six regions of Vietnam can also be classified into three macroregions: Northern, Central and Southern.

### **Chapter II. Literature Review**

1. Theoretical Framework

#### 1-1. The Theory of Fiscal Decentralization

Fiscal decentralization is also known as fiscal federalism, which concerns with the division of public financial responsibilities in vertical structure (Oates, 1999). The term "fiscal federalism" was first introduced in the book Theory of Public Finance published in1959, in which the author Richard Musgrave attempted to develop a contemporary model for fiscal policy (Musgrave, 1983). Since then, fiscal federalism has become an important concept in public finance and economic policy. In specific, Musgrave identified the three main objectives of economic policy: (1) efficient allocation of resource, (2) equitable distribution of wealth and income, and (3) stable employment and output. In accordance to these three goals, theoretical analysis on fiscal federalism can be divided into three branches of function: Allocation, Distribution and Stabilization (Kee, 2003; Oates, 1968). In general, the theory of fiscal federalism claims that a federal system of government would be efficient in dealing with the problems associated with distributing wealth and income, allocating resources, and maintaining economic stability. In specific, the degree of government participation or intervention in each branch of function may differ. While the Stabilization and Distribution functions should be managed primarily by the federal or central governments; the Allocation function should be assigned to the state or local governments (Moges, 2005; Musgrave, 1983; Oates, 1968; Oates, 1999; Shah, 2008). In the Stabilization branch, the power of local governments in fiscal policy would be critically restrained because not only do they lack access to monetary tools but the multiplier effects of their taxation and spending policies would be relatively small in an open economy. In the Distribution branch, freedom in mobility among economic units would limit local governments' abilities in redistributing income. For example, if a local authority attempts for a highly progressive tax regime to support the poor, it is very likely that wealthy residents

move to other provinces or regions that have more favorable fiscal treatment towards them. In the Allocation branch, local authorities would play an important role in providing a variety of public goods and services that would match the preferences and conditions of the area under their jurisdictions. In addition to that, it would be ideal if the central government should provide all communities with national public goods, such as national defense, in an efficient manner.

The traditional theory of fiscal federalism would often emphasize on the benefits of implementing fiscal decentralization. One of the most fundamental benefits of fiscal decentralization would be the boost in economic efficiency (Kee, 2003; Musgrave, 1983; Oates, 1993; Oates, 1999). Since local governments are more responsive to the varying circumstances of local units, they can tailor their provision of public goods and services. In other words, decentralized provision of public goods and services would allocate resources in a more efficient manner, and create higher economic welfare than centralized or uniform one. Another benefit brought about by fiscal decentralization policy is competition among local governments (Tiebout, 1956; Ahmad and Brosio, 2006). As citizens and consumers can freely move from place to place, they would choose to live where they can get access to the public goods and services that they want at the lowest costs, especially in terms of tax (Musgrave, 1983, Oates, 1999). This would induce local authorities to enhance their local accountability by reducing their administrative costs and diversify their collection of public goods and services (Kee, 2003; Tiebout, 1956). At the same time, competition among local governments, or horizontal competition, would also encourage vertical competition between central and local authorities. Separation of power across different levels of government would allow experimentations and innovations at lower level of authorities, which can help prevent large-scale efficiency or failures at higher level of governments (Ahmad and Brosio, 2006; Kee, 2003). Moreover, because local governments try to provide poor people with insurance and protection, it would maximize individual political and economic freedom. As a whole, a thorough check-and balance system would be established;

with different levels of government are monitored from within and outside the federal system (Ahmad and Brosio, 2006).

On the other hand, some prominent theoretical findings have expressed doubts on the practice of fiscal federalism, or fiscal decentralization. From the viewpoints of redistribution, stabilization and allocation, Prud'Homme(1995) identified three different risks associated with fiscal decentralization. First, decentralization can amplify income disparities not only among individuals but also among regions. For example, if a local authority tries to impose higher taxes to provide more benefits to the poor, the rich would move to other regions that have lower taxes. At the same time, the poor from other regions would move to this local unit to enjoy the benefits. Second, decentralization can lead to endanger stability, especially in times when there is conflict of interests between central and local governments. In practice, there are many times when the central government wants to carry out countercyclical fiscal policy, but central governments prefer to have higher taxes. Third, decentralization can undermine efficiency; particularly when local governments lack the infrastructure to allocate resources and match the local supply and demand in a cost-effective manner. Corruption can also arise from decentralization, because a check-and-balance system is often underdeveloped at the sub-national level. Another analysis by Tanzi and Schuknech (1996) claimed that fiscal decentralization, as a tool for political reforms, is rather unnecessary in developing countries. The two authors have suggested that there should a change in the role of government, from the provider to the overseer; and advocated the privatization of many public goods, such as healthcare and education.

The difference in perspectives between the two groups of theories on fiscal decentralization has indicated the variety in interactions among government levels across countries. For countries like the United States or the Netherlands, which came into existence through the merging of existing territories; the inter-governmental interactions would be higher as they share the goal of coming together as a single entity (Ahmad and Brosio, 2006). In the case of unitary states, especially developing

countries, the benefits of fiscal decentralization are rather ambiguous as the intergovernmental interactions in these countries are less developed (Prud'Homme, 1995; Tanzi and Schuknech, 1996). Hence, it is important to acknowledge the fact that fiscal decentralization can only be efficient when it not only clearly separates powers or functions by hierarchy, but also maintains consistency in functional arrangements in the same level and coordination harmony across different levels (Ahmad and Brosio, 2006; Shah, 1998).

#### 1-2. The Theoretical Link between Fiscal Decentralization and FDI

Foreign direct investment (FDI) has been growing at a substantial rate, and it has been well recognized as a critical factor to economic growth and development (UNCTAD, 2000). FDI is a type of cross-border capital investment which provides a firm with ownership and control to its business entity in a foreign territory. One of the earliest theories on FDI, namely Hymer (1967[1960]), suggested that multination enterprises (MNEs) would make an investment abroad when there exist market imperfections that give them opportunities to exploit their advantages over different markets and strengthen their competitiveness However, even though MNEs can freely entry and exit a foreign market, making a capital investment to a foreign entity holds high chance of uncertainty. MNEs would need to take into account of the risks that the host country's government may make changes to its political, cultural and social conditions; which might undermine their economic efficiency (Dunning and Rugman, 1985). In other words, public policy of the host country can exert influence over the decision of a MNE to invest into a foreign market.

Several studies have identified tax incentives as the crucial theoretical link between fiscal decentralization policy and inward FDI. In a comprehensive analysis on the benefits and risks of decentralization policy in relation to FDI, Kessing et al. (2007) highlighted that decentralization policy would result in horizontal competition that can promote inward FDI. In particular, when local governments can independently determine their capital tax rate and private households and firms can freely choose the location of their savings; inter-regional competition would increase. Foreign investors tend to retain their capitals within a country, due to the fact that the inter-regional relocation cost would be lower than the inter-national transaction cost; and they would then choose the region that can offer them the best tax option. This would induce local governments to reduce their taxes and also maintain a consistent tax system throughout time.

Building upon the same mechanism, Jo and Kim (2019) pointed out that the effect of decentralization in tax revenue collection on FDI is more direct and powerful than that of decentralization in expenditure assignment. Tax revenue decentralization, according to Jo and Kim (2019), can strengthen the power of local authorities in two main ways. First, when sub-national governments are given the power to collect tax at the local level, they can enhance their local resources and reduce their dependence upon the central government for intergovernmental grants and transfers. This would eventually resolve the problem of fiscal imbalance, which can stabilize the local investment landscape and welcome more MNEs. Second, tax revenue decentralization would enhance the competition for FDI among lower level governments, as they lower their tax rate to attract more MNEs. This particular method is also known as "incentive-based competition", referring to the government provision of not only fiscal but also financial incentives to enhance local competitiveness (Oman, 2000). If fiscal incentives are mostly associated with tax reduction or exemption, as well as different types of allowances; financial incentives would take the form of grants or subsidies. In addition to that, a report by UNCTAD (2000) specifically found that 85 percent of the countries surveyed were offering tax holidays and tax reduction in either full or partial term; and 60 percent of the countries surveyed were offering giving out different types of allowances for foreign investors.

Regarding expenditure decentralization, one feasible argument would be that when local governments have autonomy over their own budget, they would make more investments into public infrastructure to attract more foreign capitals moving across regions and provinces of a country (He and Sun, 2014; Qian and Roland, 1998). This assessment is also based on the assumption that the capital flows of FDI tend to stay in one country and move across regions. Therefore, expenditure decentralization would facilitate local governments in providing an optimal variety of public goods and services for foreign investors and enhance their provincial competitiveness for FDI. In addition to that, the federalism-growth nexus often suggests that fiscal federalism would foster economic growth and development through efficient allocation of resource. A great number of theoretical studies have focused on measuring the impact of fiscal decentralization on economic performance of a country or a group of countries, measured by gross domestic product (GDP). For example, Oates (1993) claimed that since local authority would have better understanding of the local population's wants and needs than the central government would, the former can allocate the necessary expenditure on local infrastructure and other social elements that would enhance provincial economic development. Moreover, Zhang and Zou (1998) argued that transfer of taxation and spending responsibilities to local government would boost the efficiency of public investment, and reduce local budget deficits; which would contribute greatly to provincial economic growth. The theoretical argument of the federalism-growth nexus can also extend its scope to inward FDI, as the degree of FDI attractiveness at not only national but also sub-national levels has become an important indicator for economic growth and development (He and Sun, 2014).

In contrast with positive assessments on the impact of fiscal decentralization on inward FDI, some studies have also suggested that the former can have a negative effect on the latter. While recognizing the benefits of horizontal completion under a decentralized system, Kessing et al. (2007) believed that vertical disintegration would create conflicts between the host country's government and foreign investors. When local governments are not completely disintegrated from the central government, Kessing et al. (2007) identified that two main problems would arise, namely "the common pool problem" and "the free-rider problem.". First, most countries would have the overlapping in the tax base for the national and sub-national levels of government. Therefore, when the fiscal arrangement between the central and the provincial government are not clearly defined and well aligned, it would result in overtaxing (Kessing et al., 2007). Kalamova (2012) also identified overtaxing as a major problem to the efficiency of fiscal decentralization. Second, when local governments are allowed to compete with each other by providing different subsidies to foreign investors, they would solely care about the capitals directly brought into their jurisdiction. This might disrupt the cooperation among different levels of government, as the local government would lose its motivation in attracting FDI projects that are directly managed by the central government (Kessing et al., 2007). While recognizing the positive impact of fiscal decentralization, Jo and Kim (2019) emphasized that tax incentives would not sufficiently motivate MNEs in choosing to invest their capitals into a specific region in the host country. At the same time, when the contribution of local government in the state budget for public investment increases, the central government might lose its motivation in developing public infrastructure and improving the quality of its public goods and services (Kalamova, 2012).

#### 2. Previous Empirical Studies

#### 2-1. Previous Cross-Country Analyses

The impact of fiscal decentralization on FDI across countries has often been incorporated in studies aiming to understand the comprehensive impact of decentralization policies on FDI. Kessing et al. (2007) tested the influence of vertical decentralization, in not only administrative but also fiscal responsibilities, on FDI. With the main focus on vertical dimension of decentralization, the study has considered various measurements, such as the number of government tiers in the host country, and sub-national government share of fiscal revenue and expenditure. Using data on international cross-border mergers and acquisitions (CBAs) from 67 source countries to 147 host countries over the period 1997-2003; the study has found a robust and negative relationship between the number of government tiers in the host country and inward FDI. This result has suggested that a country would be less attractive to foreign investors when there is overlapping authority on the decision-making process. Conversely, the study has indicated fiscal decentralization may have positive effects on FDI, but it did not provide a separate theoretical perspective on this aspect. A similar empirical study has also been conducted by Kalamova (2012); as the author testified the impact of vertical decentralization in different measures on FDI coming from 28 source countries to 19 OCED host countries over the period 1994-2002. Nevertheless, this study has found that fiscal decentralization, including both tax and expenditure decentralization, would exert consistent and negative influence on inward FDI. Moreover, Kalamova (2019) pointed out that a U-shaped relationship existed between fiscal decentralization and FDI.

Madhu (2009) conducted an empirical analysis on the impact of different forms of governance, including democracy and federalism, on FDI inflows in 71 countries over the period 1970-1998. Not only did Madhu (2009) manage to find that federalism marginally enhance the positive effect of democracy on FDI inflow, but this study also indicated that federalism did not assist non-democratic countries in attracting more inward FDI. On the other hand, Jo and Kim (2019) took into account of fiscal and political decentralization, and measured their separate as well as combined effects on inward FDI. Using data from 81 countries over the period 1970-2010 to carry out ordinary least square (OLS) regression with panel-corrected standard errors (PSCE), this study has indicated a significant and positive relationship between fiscal decentralization and FDI inflow. Another noteworthy finding from this study is the significant and positive correlation between the interaction term of fiscal and political decentralization and FDI inflow, suggesting that an increase in the degree of political decentralization would enhance the positive marginal effect of fiscal decentralization on inward FDI.

Molotok (2020) conducted a panel data regression analysis which aimed to investigate the sole effect of fiscal decentralization on FDI. The author has considered both revenue and cost decentralization; and used various measures for FDI attractiveness, including net inflow of FDI, gross capital formation and business network density. Using a panel data regression analysis with data from 12 unitary European countries over the period 2008-2018, the study has found a significant and positive correlation between expenditure decentralization and net inflow of FDI and business network density; and a significant and negative association between expenditure decentralization. On the other hand, the relationship between revenue decentralization and these three measurements was statically insignificant in this study.

#### 2-2. Previous Single-Country Analyses

Empirical studies on the relationship between fiscal decentralization and FDI at one specific country have often referred to the case of China. He and Sun (2014) conducted an empirical study to examine whether China's fiscal decentralization facilitated inward FDI. This study utilized the system Generalized method of moments (GMM) regression and managed to find a positive and significant correlation between fiscal decentralization and FDI inflows into a number of Chinese provinces for the period of 1995-2002, but not for the period of 1987-1994. This would imply that fiscal decentralization, applied alone, might not be sufficient in attracting FDI to China at sub-national levels. In addition to that, Wei et al. (2017) collected a cross-sectional dataset consisting of China's 276 prefecturelevel cities in 2014 and used species distribution model (SDM) to test the effects of fiscal decentralization on FDI inflows to Chinese cities. The findings indicated that fiscal decentralization, specifically in term of expenditure decentralization, would have positive impact on FDI inflow. This study suggested that decentralized local authorities in China would be more motivated to invest into public infrastructure and human capital accumulation, which would enhance the city's FDI inflow. Wei et el. (2017) also pointed out a positive spatial interdependence effect, meaning that FDI inflows to a city would be determined not only by its own factor endowment but also by its neighbor's attractiveness towards foreign investors.

A more recent study by Nguyen (2019) attempted to examine the role of FDI in the relationship between fiscal decentralization and economic growth in Vietnam. With a panel data of 52 provinces of Vietnam over the time period 2007-2016, Nguyen (2019) incorporated two-step GMM Arellano-Bond and FE-2SLS estimators for regression analysis. The results showed that both fiscal decentralization and FDI were positively correlated with economic growth, on separate terms, but their interaction variables were negatively associated with economic growth. This would suggest that as fiscal decentralization enhances Vietnamese local governments' taxation autonomy, they would excessively grant tax incentives to compete with each other for FDI inflows. Another analysis by Haptari et al. (2022) investigated the impact of fiscal decentralization, along with different economic and business aspects at local level, on FDI in Indonesia. With data collected from 514 districts and cities in Indonesia over the time period 2016-2022, Haptari et al. (2022) used structural equation modeling (SEM) and found a significant and positive relationship between fiscal decentralization and FDI. Haptari et al. (2022) indicated that implementation of fiscal decentralization policy would encourage local authorities in Indonesia to increase their investment on public infrastructure, improve the efficiency in provincial spending and reduce budget imbalances in order to attract more entries of FDI.

#### 3. Overview of Fiscal Decentralization in Vietnam

#### 3-1. Fiscal Decentralization in Vietnam before 2015

Along with the introduction of the Doi Moi policy in 1986, Vietnam has gone through some fundamental reforms, ranging from fiscal, administrative to political decentralization (Vu, 2016). The most essential legal document that has facilitated the fiscal decentralization process in Vietnam is the State Budget Law (SBL), which was first introduced in 1996 and then revised in 2002. The first State Budget Law of Vietnam, the SBL 1996, is unique in the sense that it has established clear divisions of fiscal rights and responsibilities between the central and local governments, and also among different tiers of local government. (Nguyen et al, 2018; Vu, 2016). In addition to that, this law has made Vietnam such a unique case in fiscal decentralization, because it covers both nation and sub-national fiscal arrangements; while other countries often provide separate regulations for decentralization and local authorities (Morgan and Trinh, 2016; World Bank, 2014). The SBL 1996 officially came into effect in the following year; and some amendments were added in a legal document released in 1998. These modifications not only enable greater autonomy over revenue and expenditure responsibilities for local communes and districts, but also provide a clear outline in the role of different agencies for central budget planning as well as local budget operation (Morgan and Trinh, 2016).

The SBL 1996 and its following amendment in 1998 were officially replaced by the SBL 2002, which was eventually enforced in 2004. The SBL 2002 is similar with its predecessor in its key principles in revenue collection and spending assignment across different levels of government, as well as intergovernmental transfers. At the same time, Morgan and Trinh (2016) have identified five significant changes that the SBL 2002 has brought about to the relationship between central and local budget responsibilities. First, while the SBL 1996 strictly manages the intergovernmental fiscal duties among all tiers of government; the SBL 2002 only regulates the relationship between central and provincial-level authorities, and allows the later to allocate their budget among lower administrative levels within their jurisdiction. Second, the SBL 2002 enhances the power of local governments; by allowing them to have access to some types of taxes that used to be solely controlled by the central government, namely special consumption taxes, and oil and gasoline taxes. Third, it constructs a reward and recognition system for the central government to encourage the local governments to efficiently manage their fiscal tasks. Fourth, it establishes a legal framework for the central government to calculate, keep track and adjust intergovernmental fiscal transfers. Fifth, it establishes budget stability periods of 3 to 5 years, which are determined by the National Assembly.

The implementation of the SBL 1996 and 2002 has obtained great achievements, as reported by the World Bank (2014) that while more than 50% of the state budget expenditure came from local spending; more than 30% of the state budget revenue, or more than 50% of that if extra budgetary sources were included, came from local revenue. Nevertheless, one significant drawback in Vietnam's fiscal decentralization process until 2015 is the hierarchical nature of its fiscal system (Figure 3). According to Morgan and Trinh (2016), even though lower-level authorities can determine their budget to some extent, they are still subject to the examination and approval of higher-level governments. The former would also need to modify their budget planning and implementation if the later request so. As a whole, the whole process is still under the control of a single state budget, which is ultimately managed by the National Assembly under the SBL 2002. Hence, this hierarchical system does not only overcomplicate the budget-making process, but also diminishes the freedom and power of local governments.



#### Figure 4. Fiscal system in Vietnam

#### Source: Morgan and Trinh (2016); World Bank (2014)

#### 3-2. Fiscal Decentralization in Vietnam after 2015

Along with adoption of a new Stability period of 2016-2020, a new State Budget Law was approved in 2015 and implemented in 2017. According to Vu (2016), one remarkable feature of this amended State Budget Law is that it has dismissed the demand from a great number of provinces to collect import tax at local levels. Alternatively, it allows corporate income tax to be shared between the central and local governments (Table 2). In addition to that, this law differentiates the balance between debt and decentralized revenue across cities and provinces (Vu, 2016). In particular, for Ha Noi and Ho Chi Minh city, the ratio of debt to their local budget revenue must not exceed 60%. For provinces which are allowed to retain an amount of local revenue higher than its recurrent expenditure, the maximum ratio is 30%. For provinces which are not allowed to do so, the maximum ratio is 20%.

	0 0	
Fully Retained by the Central	Shared between the Central	Fully Retained by the
Government	and Provincial Government	Provincial Government
Import and export duties		Severance tax (except that
Value Added Tax (VAT) on	VAT (except that on imported	from petroleum exploration
imported goods		and exploitation)
Special excise tax on imported	goods)	License tax
goods	that from natroloum	Taxes and levies on land
Environmental protection tax	avalaration and avalatation)	(except revenues from selling
on imported goods	Demonal in come tox	land associated with state-
Taxes and other revenue	Fersonal income tax	owned properties under the
from petroleum exploration	special excise tax (except that	control of the central
and exploitation	Environmental protection tax	government)
Foreign grants for the central	Environmental protection tax	Revenues from lease of land
government	(except that on imported	and water surface; lease and
Charges, fees and fines	goods)	sale of state-owned housing
collected by central regulatory		Registration fee

**Table 2**. Revenue-sharing arrangements in Vietnam

agencies (except for registration fees) Revenues from state-owned properties, including revenues from selling land under the control of the central government Revenues and profits associated with the central government's investments to business corporates and organizations Revenues from central financial reserve fund Revenues from surplus of central government budget Revenues carried over from last year's central government budget Other revenues prescribed by law

Revenues from lottery Revenues and profits associated with the local government's investments to business corporates and organizations Revenues from local financial reserve fund Revenues from selling stateowned properties that are under the management of local units, including levies on land associated with those properties Foreign grants for the local government Charges, fees and fines collected by local regulatory agencies Revenues from state-owned properties that are managed by local regulatory agencies Revenues from public land and other public benefits Contributions by other organizations and individuals as prescribed by law Surplus of local government budget Other revenues prescribed by Law

Data Source: MOF (2015)

This amended State Budget Law is also a part of the national strategy which aims restructure the state budget and achieve fiscal sustainability, along with other policies such as the Law on Fees and Charges, the national 5-year Financial Plan for the period of 2016 - 2020, the medium-term Public Investment Plan for 2016 - 2020, and the Plan to restructure the economy for 2016 – 2020 (Nguyen, 2018). This has showcased that a variety of policies needs to be well-coordinated in order to achieve economic stability. Vu (2016) specifically recognized a close association between fiscal and investment decentralization policies. Since the late 1990s, local governments have been given more power not only in collecting tax and assigning expenditure, but also in licensing FDI projects and managing public investment at local units. Nevertheless, Vu (2016) has identified the two main principles that limited the scope of implementing investment decentralization: (1) "decentralization of scale", and (2) "top-down decentralization". The first principle refers to the fact that bigger investment projects would often be kept for the central government, while smaller ones are assigned to the provincial authorities. The first principle would be supported by the second principle, in which the hierarchical nature of the relationship between the central and local governments would be sustained in the decision-making process.

When taking a comprehensive look at the implementation of fiscal decentralization in Vietnam over the past 20 years, Vietnam Financial Times (VFT) (2021) found that if the number of cities and provinces which could achieve fiscal balance and transfer parts of their local revenue to the central government budget was only 5 before 2004; that number has increased to 15 over the period of 2004-2007 and 11 over the period of 2007-2011. Furthermore, Dan Tri (2021) indicated that despite the sever impacts of the COVID-19 pandemic, it was reported that 17 out of 63 provinces managed to balance their local budget and support the state budget in 2020. However, Nguyen et al. (2019) believed that the number of provinces and cities managing to achieve fiscal balance is substantially small, considering the highly fragmented provincial division of Vietnam.

## **Chapter III. Main Arguments**

1. Research Question

Oman (2000) indicated that the competition for FDI to facilitate economic development has been intensifying at both national and sub-national levels. At the same time, He and Sun (2014) and Nguyen (2019) also recognized that FDI became an essential tool for developing countries, namely China and Vietnam, in indicating the efficiency of fiscal decentralization policy in promoting economic growth. Reflecting upon these points, this study would ask the following question:

What is the relationship between fiscal decentralization and inward FDI in *Vietnam*?

#### 2. Research Hypothesis

Previous studies indicated that local governments would face a trade-off when allocating their resources to attract more inward FDI. On the one hand, when local governments are given the autonomy to determine their taxation, they can provide tax incentives to compete with each other in attracting inward FDI (Jo and Kim, 2019; Nguyen, 2019; Oman, 2000). On the other hand, local authorities also find it important to increase their investment in public infrastructure to make their local units more attractive towards foreign investors (Haptari et al., 2022; He and Sun, 2014; Wei et al., 2017). Nevertheless, it is important to note that both arguments have suggested that when the local government is given more autonomy in arranging its income and spending, it can attract more FDI into its jurisdiction. In either direction, it can be inferred that fiscal decentralization policy can encourage more inward FDI to a country. Therefore, the research hypothesis of this study is as follows:

A higher degree of fiscal decentralization would lead to higher inward FDI in Vietnam

### **Chapter IV. Research Design**

#### 1. Empirical Model

The empirical model that would be used in this study is as follows:

$$(FDI)_{i,t} = \beta_0 + \beta_1 (FDC)_{i,t} + \beta_2 \ln(GDP)_{i,t-1} + \beta_3 (Growth)_{i,t} + \beta_4 (Labor)_{i,t} + \beta_5 (Infra)_{i,t} + \beta_6 (Trade)_{i,t} + u_i + T_t + \varepsilon_{i,t}$$

This model is derived from He and Sun (2014), with some modifications in the measurement of the variables. In specific, the dependent variable used in He and Sun (2014) is the yearly ratio of inward FDI to GDP of a province. This study, instead, would use the inward FDI stocks per capita of province or city i accumulated from year 1988 to year t as the dependent variable, denoted as (FDI)<sub>i,t</sub>. The number of i 58 provinces and 5 cities that are under direct control of the central government, and the range of t is from 2010 to 2020. Even though the current provincial division of Vietnam was settled in 2008, the panel data of this study excludes 2008 and 2009 as global financial crisis and recessions happened during these years. Furthermore, FDC is the degree of fiscal decentralization, while  $u_i$  and  $T_t$  would refer to the fixed effects of province and time respectively. Other control variables are added to the model, with reasons explained as bellow.

First, He and Sun (2014) identified market size and the growth rate of the local economy as two significant determinants of a country's FDI inflows. Meivitawanli (2021) specified that when these two variables are taken into account together, they would be important indicators for market-seeking FDI, or FDI motivated by the interests in the local market. While He and Sun (2014) measured both ln(GDP)<sub>i,t-1</sub> and growth rate based on real GDP, this study would use nominal GDP, or GDP at current prices. In specific, ln(GDP)<sub>i,t-1</sub>calculated as the lagged value of the logarithm of nominal gross regional domestic product (GRDP), and would determine the market size of a province or city in the previous year. For (Growth)<sub>i,t</sub>, instead of measuring the growth rate of real GDP per worker, this study would use

the growth rate of nominal GRDP in order to determine the opportunities of profitability for foreign investors. Second, He and Sun (2014) took into consideration of human capital, measured by human capital investment rate. In this study, while recognizing the importance of human capital, this variable would be measured as the percentage of trained and employed workers at the age of 15 and above over the total labor force by provinces or cities and by years, and denoted as Labor. By using this particular measurement, it can represent the efficiency of local governments in training their labor force to attract more foreign investors into their jurisdiction. Third, as He and Sun (2014) specifically focused on the relationship between public and private investment in attracting FDI inflows to China, the ratio of nominal physical capital investment to nominal GDP was added. Instead of using this measurement, this study would use the ICT Index, provided by the Ministry of Information and Communications (MIC) of Vietnam to determine a local government's capacity in high-quality infrastructure. The ICT Index, with a numerical range of 0 to 1, is a comprehensive indicator of a city or province's technological and human capital when incorporating information technology (IT) into its public administration. This would be an important determinant for foreign investors as it can help evaluate the local government's competence when developing high-quality infrastructure. Hence, this index is denoted as  $(Infra)_{i,t}$  in the empirical model. Finally, this study would add another control variable, namely trade openness, to determine the level of interaction of a local economy with the global market. Many empirical studies, including Ang (2008), Dellis et al. (2017), Mottaleb and Kalirajan (2010) and Nguyen (2021), have indicated that a higher degree of trade openness can encourage economies of scale and therefore promote inward FDI. In this study, trade openness, denoted as  $(Trade)_{i,t}$  in the model, would be measured by the ratio of the sum of import and export volume to nominal GRDP. Data on import and export volume at provincial level is derived from the database of Ministry of Industry and Trade (MIT) of Vietnam.

#### 2. Research Methodology

He and Sun (2014) pointed out that when conducting a study on the relationship between fiscal decentralization and inward FDI, there is a high risk of endogeneity. In specific, one possible source of endogeneity, indicated by He and Sun (2014), would be two-way causality. One possible source of endogeneity, indicated by He and Sun (2014), would be two-way causality. This factor is particularly relevant to this study for a number of reasons. First, revenue decentralization would allow the local government to provide more tax incentives to attract more foreign investors. On the other hand, higher inflows of FDI would lead to higher demand from MNEs for corporate tax deduction or exemption, which would encourage the local government to demand for larger extent of fiscal decentralization to have more control over its taxation policy. Second, expenditure decentralization can facilitate the local government's higher spending on public infrastructure, which would attract more FDI inflows. On the other hand, as the flows of inward FDI increase, MNEs can exert their influence on the local government to spend more on public infrastructure, and therefore help promote fiscal decentralization.

Other possible sources of endogenity would include omitted variable bias or reverse causality, which would result from controlling for other variables that might have an impact on FDI inflows (He and Sun, 2014). In this study, for example, when the local government allocates a greater proportion of its budgetary expenditure to public infrastructure to attract more FDI inflows, this can also lead to higher growth of the local economy. As a result, it is necessary to find an efficient mean that can correct endogeneity and provide robust regression results.

This study would use system GMM estimation for regression analyses, after taking into account of the distinguishing characteristics and their relevance to this study. In specific, system GMM would yield lower bias and higher efficiency than other estimation methods when being applied to a short time range (T) and large sample size (N) with lagged variables (Blundell and Bond, 1998; He and Sun, 2014). Furthermore, Soto (2009) indicated that even for a small N, specifically when N is smaller or equal to 100, the superior performance of the system GMM estimation is still valid. As the panel data of this study comprises 63 provinces and cities over the period of 2010-2020, it would fit this "large N and small T" characteristic of GMM estimation.

In addition to that, system GMM can overcome the problem of weak instruments in the first-difference GMM because of its asymptotic property (He and Sun, 2014; Roodman, 2006). All instruments for the levels equation are assumed to be orthogonal to fixed effects. Nevertheless, in the case that T is very small, it is advised that time-invariant fixed effects should not be included (He and Sun, 2014; Roodman, 2006). Hence, when conducting system GMM estimation, the empirical model of this study would not include the province fixed effects, but only include the time fixed effects as an exogenous instrument. The empirical model would then be transformed as follows

$$\begin{split} \Delta(FDI)_{i,t} &= \beta_1 \Delta(FDC)_{i,t} + \beta_2 \Delta \ln(GDP)_{i,t-1} + \beta_3 \Delta(Growth)_{i,t} + \beta_4 \Delta(Labor)_{i,t} + \beta_5 \Delta(Infra)_{i,t} \\ &+ \beta_6 \Delta(Trade)_{i,t} + \Delta T_t \end{split}$$

#### 3. Data and Measurement of FDI

As previously mentioned, the dependent variable of this study is the yearly inward FDI stocks per capita of a province and city. It would be calculated by dividing the total registered capital of inward FDI of a province or city from 1988 to the year in consideration by its total population. The unit of the dependent variable is thousand USD/person. The data for both the total registered capital of inward FDI and the total population of 63 provinces and cities over the period of 2010-2020 are available in the Statistical Yearbooks released by the GSO.

4. Data and Measurement of Fiscal Decentralization

Many previous studies, including Kalamova (2012), Kessing et al. (2007), Nguyen (2019), and Zhang and Zou (1998), measured fiscal decentralization in term of revenue and expenditure functions. Revenue decentralization is calculated by dividing the income of sub-national or provincial government by the total fiscal revenue. Expenditure decentralization is calculated by dividing the spending of subnational or provincial government by the total fiscal expenditure. In both calculations, the budget of sub-national government would exclude intergovernmental transfers from the central to the local government. Some other studies, such as Kessing et el. (2007) and He and Sun (2014), tried to improve these two conventional measures by further dividing them by the sub-national population, so that these measures would not over-estimate the capacity of larger and richer provinces. While recognizing the importance of these two conventional measures, this study finds it necessary to incorporate measurement of fiscal decentralization that can consider the transfer of rights and responsibilities for both revenue collection and expenditure assignment simultaneously. It is also crucial that the measurements are well-justified for the case of Vietnam. Hence, this study would use the three measurements of fiscal decentralization developed by Vo (2008, 2009). These measurements have been used in a number of studies on Vietnam's fiscal decentralization, such as Le and Hart (2022) and Nguyen et al. (2019). These measurements are as follows:

FDC1 = Provincial own-sourced revenue Provincial own-sourced spending

 $FDC2 = \frac{Provincial own-sourced spending}{Total fiscal spending of country}$ 

 $FDC3 = \sqrt{FA \times FI} = \sqrt{\frac{Provincial \text{ own-sourced revenue}}{Provincial \text{ own-sourced spending}}} \times \frac{Provincial \text{ own-sourced spending}}{Total fiscal spending of country}$ 

First, FDC1 is the ratio of provincial own-sourced revenue to provincial own-sourced spending. Provincial own-sourced revenue would be calculated by deducting the budgetary transfer from the central to the local government from the total budgetary revenue of the province or city. The provincial own-sourced spending would be the total public spending of the province or city. According to Nguyen et al. (2019) and Vo (2008, 2009), FDC1 is important in determining the degree of fiscal autonomy of the local government. In specific, as the value of FDC1 gets higher, it would suggest that the local government has larger capacity in self-funding its public spending and become less dependent on the central government.

Second, FDC2 is the ratio of provincial own-sourced spending to total fiscal spending of a country. Total fiscal spending of a country is the sum of total spending of the central government and total spending of the local governments. The value of FDC2 would be in the range of 0 to 1. The higher the value of FDC2, the higher the contribution of the public spending of the province to the total fiscal spending, which would also indicate the important role of the province in national economic development. Hence, FDC2 is also known as the indicator for fiscal importance of the local government (Nguyen et al., 2019; Vo, 2008; Vo, 2009).

Third, FDC3 is an enhanced measurement that combines the two indexes for fiscal autonomy and fiscal importance. According to Nguyen et al. (2019) and Vo (2008, 2009), there are 4 degrees of fiscal decentralization determined by the range of value of FDC3. If FDC3 is equal to 1, the province would have Perfect Fiscal Decentralization. If the value of FDC3 is in the range of 0.5 to 1, the province would belong to the Relative Fiscal Decentralization group. If the value of FDC3 is equal to 0, the province would have Perfect Fiscal Centralization.

Revenue and expenditure statistics would be collected from the annual budget of MOF, as well as local statistical database.

#### 5. Data and Measurement of Other Variables

As previously mentioned, other variables are added into the empirical model as control variables. The data and measurement of these variables are included in the summary list of variables in the Table 3 below.

Variable Name	Measurement	Data Source	
FDI	Total registered capital of inward FDI / Total population	GSO	
	(thousand USD per person)		
FDC1	Provincial own-sourced revenue /	GSO MOE	
ibei	Provincial own-sourced spending	GSO, MOF	
FDC2	Provincial own-sourced spending /	and local	
TDC2	Total fiscal spending of country	databasa	
FDC3	$\sqrt{\text{FDC1 x FDC2}}$	database	
ln(GDP) <sub>t1</sub>	ln (nominal GRDP of year t-1)	GSO	
Growth	(Nominal GRDP of year t – Nominal GRDP of year t-1) /	GSO	
Growin	Nominal GRDP of year t-1	630	
Labor	Number of trained and employed workers at the age of 15	GSO	
Labor	and above / Total labor force	020	
Infra	ICT Index	MIC	
Trada	(Import Volume + Export Volume) /	MIT and	
Irade	Nominal GRDP	GSO	

 Table 3. List of variables

### **Chapter V. Findings and Analyses**

#### 1. Data Summary and Correlation Test

As previously mentioned, the panel data cover 63 provinces and cities over the period of 2010-2020. Table 4 provides the summary statistics for the response and explanatory variables included in this study.

Variables	Number of Observations	Mean	Standard Deviation	Minimum	Maximum
FDI	693	2.46	4.07	0	28.03
FDC1	693	0.68	0.27	0.09	1.76
FDC2	693	0.01	0.01	0.002	0.06
FDC3	693	0.07	0.04	0.02	0.27
ln(GDP) <sub>t-1</sub>	630	7.57	0.94	5.19	10.98
Growth	630	0.13	0.09	-0.29	0.54
Labor	693	0.58	0.04	0.46	0.71
Infra	693	0.42	0.13	0.09	0.94
Trade	693	0.96	1.40	0.002	10.87

Table 4. Summary statistics

In particular, the wide range of values of the variable FDI, from 0 to 28.03, indicate that the yearly inward FDI stocks per capita vary greatly across provinces and cities in Vietnam. Figure 5 shows the inward FDI stocks per capita of 10 provinces and cities, including five with the highest and five with the lowest inward FDI stocks per capita in 2020. Ba Ria-Vung Tau, a province located in the South East region of Vietnam, has the highest inward FDI stocks per capita in 2020 (28.03 thousand USD/person). On the other hand, Lai Chau, a province located in the Northern midlands and mountain areas of Vietnam, has the lowest inward FDI stocks per capita in 2020 (0.003 thousand USD/person).



Figure 5. Inward FDI stocks of selected provinces and cities in Vietnam from 2010 to 2020 (thousand USD/person)

In addition to that, the descriptive statistics of the three measures of fiscal decentralization provide some interesting insights on the fiscal arrangements in Vietnam. FDC1, or the indicator of fiscal autonomy, also has a wide range of value, from 0.09 to 176. This would suggest that there is significant gap in the degree of fiscal autonomy among provinces and cities in Vietnam. According to Figure 6, Ba Ria-Vung Tau has the highest FDC1 ratio in 2020 (1.76), followed by Ho Chi Minh city (1.31) and Hanoi (1.20), the two largest cities in Vietnam. On the other hand, the three provinces with the lowest FDC1 ratios in 2020 are Ha Giang (0.22), Bac Kan (0.27) and Dien Bien (0.30). These three provinces are located in the Northern midlands and mountain areas, and listed in the top 10 provinces and cities with the highest poverty rates in 2020 (GSO, 2021).

The range of values of FDC2 is between 0.002 and 0.06. This means that the contribution of a local government to the total fiscal spending of Vietnam fall in the range of 0.2% and 6%. Since Vietnam's provincial division is highly fragmented, it

Data Source: GSO

is inevitable that the contribution of each local government to the total public expenditure is rather small. According to Figure 7, the top three provinces with the highest FDC2 ratios in 2020 are Hanoi (0.06), Ho Chi Minh city (0.05) and Dong Nai (0.02). While Hanoi and Ho Chi Minh city are the two largest cities in Vietnam; Dong Nai is the second largest province in the South East region, which is richest region in Vietnam according to GSO (2021). Conversely, the top three provinces with the lowest FDC2 ratios in 2020 are Bac Kan (0.002), Ninh Thuan (0.003) and Hau Giang (0.003); which are all relatively poorer and smaller provinces. Regarding the values of FDC3, as they fall in the range of 0 and 0.5, this would mean that all provinces and cities in Vietnam belong to the Relative Fiscal Centralization category.





Data Source: MOF and local statistical database



Figure 7. FDC2 ratio of selected provinces and cities in Vietnam from 2010 to 2020

Data Source: MOF and local statistical database

Prior to regression analyses, this study also examines the correlation matrix among all variables included in the empirical model, in order to have an overview on the degree and the strength of the relationship of these variables. The correlation matrix results show that there are strong correlations among the three measurements of fiscal decentralization. Therefore, this study finds it necessary to use these three variables in separate term for regression analyses.

Table 5. Th	e correlation	matrix	among	variables
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Variables	EDI	EDC1	EDC2	EDC2	ln(CDD)	Crowth	Labor	Infro	Trada
variables	FDI	FDCI	FDC2	FDC3	$III(GDP)_{t-1}$	Glowin	Labor	mna	Trade
FDI	1.00								
FDC1	0.56	1.00							
FDC2	0.22	0.47	1.00						
FDC3	0.40	0.75	0.93	1.00					
ln(GDP) <sub>t-1</sub>	0.58	0.76	0.68	0.82	1.00				
Growth	-0.06	-0.03	-0.01	-0.02	-0.21	1.00			
Labor	-0.30	-0.49	-0.37	-0.48	-0.49	0.09	1.00		
Infra	0.39	0.56	0.43	0.56	0.56	-0.02	-0.43	1.00	
Trade	0.39	0.39	0.14	0.27	0.39	0.11	-0.08	0.29	1.00

#### 2. LSDV Estimation Results

The study first investigates the relationship between fiscal decentralization and FDI with the least square dummy variable (LSDV) estimation. It is the ordinary least squares (OLS) regression with 63 province dummies and 9 time dummies included. The LSDV estimation results are provided in Table 6.

According to Table 6, the estimated coefficient of FDC1, the indicator of fiscal autonomy, is positive and statistically significant at the 5% level. The estimated coefficients of FDC2 and FDC3 are positive and significant at 1% level. Furthermore, out of the three measures of fiscal decentralization, the estimated coefficient of FDC2, the indicator of fiscal importance, yield the largest magnitude. As a whole, it can be concluded that fiscal decentralization has had positive and significant impact on inward FDI across provinces and cities in Vietnam during the period of 2010-2020.

Moreover, the estimated coefficients for the lagged value of the logarithm of nominal GRDP are positive and significant at the 1% level. The estimated coefficients for economic growth rate are also positive, but statistically insignificant. The estimated coefficients for the employment rate of skilled labor, or the indicator of human capital, are negative and statistically insignificant. The estimated coefficients for the ICT index, or the measure of high-quality infrastructure, are positive and significant at the 5% level in columns (6.1) and (6.2), and significant at the 10% level in column (6.3) The estimated coefficients for the degree of trade openness are positive and statistically significant at the 1% level.

Variables	6.1	6.2	6.3
FDC1	0.90**		
	(0.38)		
FDC2		102.1***	
		(23.34)	
FDC2			20.62***
			(4.15)
ln(GDP)t-1	1.50***	1.28***	1.13***
	(0.38)	(0.38)	(0.39)
Growth	0.48	0.45	0.30
	(0.63)	(0.62)	(0.62)
Labor	-1.46	-1.38	-1.91
	(3.12)	(3.07)	(3.06)
Infra	1.17**	1.16**	1.11*
	(0.58)	(0.57)	(0.57)
Trade	0.31***	0.32***	0.31***
	(0.07)	(0.07)	(0.07)
Constant	-11.99***	-10.66***	-9.77***
	(3.55)	(3.52)	(3.52)
Time fixed effects	Yes	Yes	Yes
Province fixed effects	Yes	Yes	Yes
Observations	567	567	567
R-squared	0.97	0.97	0.97

Table 6. LSDV regression results between FDI and fiscal decentralization.Dependent variable: inward FDI stocks per capita (unit: thousand USD/person),<br/>2010-2020

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

#### 3. System GMM Estimation Results

As previously discussed, it is necessary that this study use system GMM estimation to deal with endogeneity and generate robust results. System GMM estimation can have either the one-step or two-step covariance matrix. According to Roodman (2006), the two-step covariance matrix is efficient and robust, regardless of the heteroskedasticity and cross-correlation patterns of the model taken into account. Furthermore, Hwang and Sun (2018) stated that two-step system GMM estimator because the formers has smaller asymptotic variance. Hence, this study uses the two-step system GMM estimation, and the results are provided in Table 7 below.

Variables	7.1	7.2	7.3
FDC1	1.34***		
	(0.42)		
FDC2		25.20***	
		(9.62)	
FDC3			9.16***
			(3.35)
ln(GDP) <sub>t-1</sub>	4.19***	3.50***	4.01***
	(1.60)	(1.26)	(1.23)
Growth	0.33	0.10	0.13
	(0.25)	(0.20)	(0.22)
Labor	1.31	0.42	1.07
	(1.02)	(1.37)	(1.13)
Infra	0.89***	0.23	0.28
	(0.25)	(0.33)	(0.26)
Trade	0.06***	0.05***	0.07***
	(0.02)	(0.02)	(0.02)
Time fixed effects	Yes	Yes	Yes
Hansen OverID test	17.69	16.75	18.16
(p-value)	(0.28)	(0.33)	(0.25)
Number of instruments	36	36	36
Arellano-Bond test for AR (1)	Pr > z = 0.01	Pr > z = 0.01	Pr > z = 0.01
Arellano-Bond test for AR (2)	Pr > z = 0.68	Pr > z = 0.72	Pr > z = 0.74
Observations	504	504	504
Number of nPROVINCE	63	63	63

**Table 7.** Two-step system GMM regression results between FDI and fiscaldecentralization. Dependent variable: inward FDI stocks per capita (unit: thousand<br/>USD/person), 2010-2020

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

According to Table 7, the results for the Hansen tests for over-identifying restrictions confirm that the set of instruments is valid. The Arellano-Bond AR(1) test results also suggest that the null-hypothesis of no first-order autocorrelation in first differences can be rejected, while the Arellano-Bond AR(2) test results indicate that the null-hypothesis of no second-order autocorrelation in first differences cannot be rejected. These results would support the empirical model developed in this study.

Furthermore, the estimated coefficients all three measures of fiscal decentralization are positive and statistically significant at the 1% level. The estimation coefficient of FDC1 yields a larger magnitude in the system GMM estimation than in the LSDV estimation. This means that after addressing

endogeneity, the positive and significant impact of fiscal autonomy on inward FDI in Vietnam gets higher. The estimated coefficients of FDC2 and FDC3, however, yield a smaller magnitude in the system GMM estimation than in the LSDV estimation. Therefore, the positive impact of fiscal importance and fiscal decentralization on inward FDI in Vietnam is still significant after dealing with endogeneity, but with lower extent. It is also noteworthy that out of the three measures of fiscal decentralization, the estimated coefficient of FDC2 continues to yield the largest magnitude.

The estimated coefficients for the lagged value of the logarithm of nominal GRDP remain positive and significant at the 1% level, and also yield larger magnitude. This means that after addressing endogeneity, the positive and significant impact of market size on inward FDI of Vietnam is robust. The estimated coefficients for the economic growth rate of the local economy remain positive and statistically significant, but yield smaller magnitude. This would indicate that even after addressing endogeneity issues, economic growth rate would not have a significant impact on inward FDI of Vietnam. The estimated coefficients of the employment rate of skilled workers become positive, but they are statistically insignificant. This would suggest that there is no conclusive evidence on the impact of human capital on the FDI inflows of Vietnam.

The estimated coefficients of the ICT index, or the indicator for high-quality infrastructure, remain positive but yield smaller magnitude. They also yield mixed results in terms of statistical significance; with the estimated coefficient of the ICT index being significant at the 1% level in column (7.1), but insignificant in columns (7.2) and (7.3). Hence, there is no conclusive evidence on the impact of high-quality infrastructure on inward FDI in Vietnam. The estimated coefficients for the indicator of trade openness remain positive and significant at the 1% level, but yield smaller magnitude. This means that even after addressing endogeneity, there is a positive and significant relationship between trade openness and FDI inflows of Vietnam, but to a lower extent.

### **Chapter VI. Conclusion**

#### 1. Discussions of Key Findings

Along with the Doi Moi policy, which was first introduced in 1986, Vietnam has gone through significant structural reforms, including economic liberalization, and administrative, political and fiscal decentralization. This study particularly concentrates on investigating the impact of fiscal decentralization policy on attracting inward FDI to Vietnam at the subnational level. A panel data of 63 provinces and cities over the period of 2010-2020 is developed; and other possible factors that can affect inward FDI and fixed time and province effects are taken into account. Both LSDV and system GMM estimation results demonstrate a positive and significant association between fiscal decentralization and inward FDI in Vietnam. The results are robust for all three measures of fiscal decentralization, which evaluate the scale of fiscal autonomy, the scale of fiscal importance and the degree of fiscal decentralization respectively.

As previously discussed, FDC1 is the indicator for fiscal autonomy. According to Nguyen et al. (2019) and Vo (2008, 2009), a large scale of fiscal autonomy implies that the province has the sufficient budgetary revenue to finance its public expenditure. The values of FDC1 retrieved from this study confirms this implication, as richer and larger provinces and cities have larger scale of fiscal autonomy. Furthermore, a large scale of fiscal autonomy means that the province is efficient in balancing its fiscal budget, and therefore is independent from the central government in its fiscal responsibilities. In this regard, fiscal autonomy can help promote inward FDI, as provinces with more flexible and proactive fiscal policies would be able to provide foreign investors with more welcoming and progressive business environment.

Moreover, out of the three measures of fiscal decentralization, the estimated coefficients of FDC2, the indicator of fiscal importance, yield the largest magnitude

for both LSDV regression and system GMM estimation. This means that the contribution of a local government in the total fiscal spending would have the greatest impact on its ability to accumulate inward FDI stocks. According to Nguyen et al. (2019) and Vo (2008, 2009), the fiscal importance ratio would indicate the role of the local government in the national economic development process, which results from the freedom in fiscal spending rights. In this regard, He and Sun (2014) and Qian and Roland (1998) argued that expenditure decentralization would encourage local governments to increase their investment on public infrastructure to welcome more foreign capitals into their jurisdiction. As a whole, it can be inferred that when a local government becomes more active in managing its public expenditure activities, it can provide better public goods and services that can attract more foreign investors.

Both theoretical explanations linking to the measures of fiscal autonomy and fiscal importance respectively would imply that local governments need to compete with each other to attract inward FDI. This implication aligns with the argument that fiscal decentralization would boost horizontal competition. Separation of power and competition for accountability would encourage local governments to reduce costs and increase efficiency in delivering public goods and services (Kee, 2003; Musgrave, 1983; Oates, 1999; Tiebout, 1956). Horizontal competition for inward FDI, in particular, occurs as foreign capitals tend to move across provinces and regions within a country rather than across borders (He and Sun, 2014; Qian and Roland, 1998). As a result, provinces or regions that are efficient and coherent fiscal policies would be able to accumulate more inward FDI stocks. One example would be Ba Ria-Vung Tau, a province located in the South East region of Vietnam. As previously discussed, this province has not only the largest inward FDI stocks per capita but also the highest FDC1 ratio in 2020.

Nevertheless, the values of FDC3, an enhanced measurement that combines the two indexes of fiscal autonomy and fiscal importance, suggest that all provinces and cities in Vietnam belong to the Relative Fiscal Centralization category. This means that the implementation of fiscal decentralization in Vietnam is still greatly restraint. This empirical evidence would support previous theoretical arguments, including Morgan and Trinh (2016), Vu (2016) and World Bank (2014), which have raised concerns on the hierarchical nature of the country's fiscal system that tends to overcomplicate the budget-making process. In addition to that, the values of FDC1 imply that there is a substantial gap in the budgetary capacity among provinces and cities in Vietnam. This finding aligns with Nguyen et al. (2019), as they also found a significant income gap among 63 provinces and cities in Vietnam in the period of 2008-2013. In other words, larger and richer provinces would have more resources to collect their revenue and fund their expenditure, while smaller and poorer provinces would lack the means to do so. Hence, the former would be able to attract much more inward FDI than the later would.

As a whole, while contributing to the broad understanding on the relationship between fiscal decentralization and FDI, this study would also provide a starting point for further empirical investigations on this topic in Vietnam. As previously discussed, the relationship between fiscal decentralization and inward FDI in Vietnam has been understudied, despite inward FDI being an important indicator of economic development. While recognizing a positive and significant relationship between fiscal decentralization and inward FDI in Vietnam, this study suggests that the fiscal system of Vietnam should provide more transparent regulations and clear divisions of fiscal responsibilities between the central and local government. A coherent fiscal policy would play an important role in promoting subnational competitiveness and bridging the gap among provinces and regions, and therefore enhancing the national economic growth of Vietnam.

#### 2. Limitations and Suggestions

Along with some key contributions, there are also a few limitations in this study. First, in the process of data collection, this study finds some inconsistencies in the fiscal reports between the central and local governments. For example, the budgetary transfer from the central to the local government provided by some provinces did not match the final data included in the Resolution passed by the National Assembly. In the final fiscal reports of some provinces, the total fiscal revenue was sometimes overstated. Hence, this study is subject to the risks related to data quality and availability, which have previously been discussed by Le and Hart (2022). Second, Nguyen et al. (2019) pointed out that further studies on fiscal decentralization in Vietnam need to focus on the second layer of subnational governments, the district level. In this regard, another limitation of this study is its inability to consider the implementation of fiscal policies at the district levels.

Several directions for further studies can also be developed on the basis of this study. First, the impact of fiscal decentralization on FDI inflows in Vietnam can be investigated by using a smaller sample size to avoid the problem of data quality and availability. As previously mentioned, the provinces and cities of Vietnam are divided into six provinces or three macro-regions. Hence, one possible direction would be conducting a quantitative study on the impact of fiscal decentralization to the FDI inflows in a specific region or macro-region in Vietnam. Another feasible direction would be carrying out a qualitative study on the implementation of fiscal decentralization in a specific province and city and evaluate its performance at different tiers of sub-national governments. In both cases, the implementation of fiscal decentralization can be measured in separate term, or in interaction term with other decentralization policies. These studies would provide meaningful insights to sub-national policymakers who want to determine key factors to enhance their local competitiveness and economic growth.

Second, other studies can focus on investigating the impact of fiscal decentralization on FDI inflows in Vietnam when different regulatory frameworks are implemented. On the one hand, one can focus on examining the performance of the SBL 2002 in transferring fiscal rights and responsibilities to local governments, and assist provinces and cities in attracting more FDI inflows. Even though a number of studies have carried out qualitative analysis on the SBL 2002, such as Morgan and

Trinh (2016), Vu (2016) and World Bank (2014), more empirical evidences are needed to support their arguments. On the other hand, the introduction of the SBL 2015 has been mentioned in various studies on fiscal decentralization in Vietnam, but mostly to compare with the SBL 2002. In other words, no specific study has solely focused on investigating the performance of the SBL 2015. Therefore, this particular direction would be helpful in understanding the efficiency of SBL 2015, and guiding national policymakers to improve the regulatory framework for fiscal decentralization in the future.

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## **Abstract in Korean**

본 연구는 베트남의 지방 재정 분권화와 해외직접투자(FDI) 간의 관계를 조사하기 위해 고안되었습니다. 구체적으로, 본 연구는 2010-2020 년 기간 동안 베트남의 63 개성 및 도시의 패널 데이터를 사용하고, 실증 모델에 내부 FDI 에 영향을 미칠 수 있는 기타 변수와 고정 시간 및 지방 효과를 통합합니다. LSDV(최소 제곱 더미 변수) 회귀 및 시스템 일반화 모멘트 방법(GMM) 추정 결과 모두 재정 분권이 내부 FDI 에 긍정적이고 통계적으로 유의미한 영향을 미친다는 것을 발견합니다. 그 결과는 각각 재정 자율성의 규모, 재정 중요성의 규모, 그리고 재정 분권의 차수를 측정하는 재정 분권의 세 가지 측정 모두에 대하여 견고합니다. 이러한 결과는 관련 이론적 설명을 찾기 위하여 이전 연구와 다시 연결되며 몇 가지 중요한 정책 함의가 제공됩니다.

주제어 : 재정 분권, 공공 재정, 공공 정책, 외국인직접투자, 국가 및 지방 경쟁력, 패널 데이터 분석, 최소 제곱 더니 변수 회귀, 시스템 일반화 적률법 회귀

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