Tax Burden and Foreign Direct Investment: Theory and Practice in Vietnam

Nguyen Huu Cung[12] and Liu Hua[1]

Abstract

Tax burden is one of the important determinants in attracting foreign direct investment (FDI). In the case of Vietnam, the tax burden is considered a powerful tool that Vietnam has used to create a competitive advantage compared to other countries in the area to attract FDI flows. In addition to above factor, there are still a number of other factors also affecting the attraction of FDI flows in Vietnam such as cheap labor costs, inflation index, economic growth rate, labor productivity, investment in science and technology, the rise of labor forces, natural resources and other factors. Through descriptive statistical method and empirical method, the authors found that the tax burden for foreign-invested sector was one of three most important factors of the attraction of FDI flows into Vietnam during the period 1999-2011, two other factors were unit labor costs and inflation index.

1 Introduction

The appearance of "FDI" term is an essential requirement of the human society development. This appearance was derived from the optimal efficiency use requirement of the resources of humanity. And the practice has proven that. Theories in FDI have become a light source to light the road to the successes of foreign investors in all countries with the desires looking benefits of maximum from their investment. The benefits of foreign direct investment is not only for subjects of home country, but also for subjects of the host country.

The reasons that have created appearance and development of FDI be derived from the

---

[1]School of Management, Huazhong University of Science & Technology, China.
[2]Faculty of Economics and Business Administration, Hung Vuong University, Vietnam.
e-mail: cungnh_hvu@yahoo.com

theories include: Life-cycle theory, Theory of market interests, Theory of market imperfections, Product cycle theory, Theory of risk diversification, etc. In addition, many articles analyzed on the relationship between tax burden and FDI in scopes, periods, objects and different research methods such as: Tax incentives for FDI in the tax systems of Poland, the Netherlands, Belgium and France [5]; Tax effects on foreign direct investment [4]; Corporate taxation on foreign direct investment: 1991-2001 [6]; An analysis of China's taxation of foreign direct investment [8]; Foreign direct investment and taxation: A meta-study [7]; Taxation and business environment as drivers of foreign direct investment location in OECD countries [9]; The influence of the tax burden in attracting the foreign direct investment [10]; Effective tax rates as a determinant of foreign direct investment in central and east European countries: A panel analysis [11], etc.

The development of FDI inflows has achieved in large scale and in a global scope. Almost all countries and territories of the world have attracted a certain capital amount of FDI and be different both in quality and quantity. The cause of this issue is determinants in attracting FDI. For Vietnam, the originated moment of these capital inflows flowed into Vietnam since the formation of Foreign Investment Law in 1987. This Law could be considered as a first important milestone of realization of managing thinking from centrally-planned to market economy mechanism, openness and integration with the world [1]. The Foreign Investment Law in Vietnam at that moment, many experts in domestic as well as foreign rated that it was relatively opening and most progressive in the area, especially may be compared with China. However, this was not a factor to create a powerful investment wave into Vietnam by foreign investors, but the fact that that capital flows were relatively "dripping", "slow" and feature of "exploration". The result was from 1987 to 1990, total registered capital of FDI only reached 1.1 billion dollars, but the total implementation capital of FDI was still less and only reached about a few hundred million dollars. The main reason of this fact due to Vietnam was still a strange land for foreign investors at that moment, their understanding level on the status of the Vietnamese economy was still incomplete. But to the year 1991, Vietnam implemented many various actions to create a breakthrough in attracting FDI inflows. The result was a rapid increase in terms of both quality and quantity of capital flows, from which many Multinational Corporations (MNCs or MNEs) gradually arrived in Vietnam. Vietnam has continuously reformed the policies to compete and attract the FDI flows in both two targets of scale and quality.

However, so far the studies are the scale and quality of the relationship between tax burden and FDI in Vietnam is still considered a scarcity. At the same time, the research results of this relationship in Vietnam were mainly investigations and polls for foreign investors on determinants of their investment demand. This is still a question that needs a serious research attention of scientists. The purpose of this article is to answer some questions: How does the tax burden for foreign investors affect the attraction of FDI inflows in Vietnam? The impact level of tax burden was a mainstream factor of the group of the impact factor or not? The tax burden for foreign investors in Vietnam in the period 1999-2011 was optimal efficiency in attracting FDI inflows or not? To answer these questions, the authors will conduct analysis and evaluation of an overview about determinants of FDI inflows into Vietnam in the period 1999-2011. Furthermore, the authors will use empirical method to find out the specific numbers on the impact of tax burden and other factors for FDI in Vietnam to demonstrate for the qualitative conclusions.

2   Theoretical Framework

2.1 Basic Definitions

FDI - a name that is so difficult to highlight its full meaning. There were times, FDI has become a hot topic of international organizations as well as researchers from all over the world. Until now, the FDI term still always be mentioned as a new topic for researchers and as an important capital for any country and territory around the world. It is an inspiration to wake the creativity and innovate policies of Government if want to attract this investment capital flows. Also because of FDI inflows that the countries are always in a competitive status and policy research each other to capture the advantages and weaknesses of competitors, from which improving the policy and law system and reforming the economy, so can have opportunities to attract FDI flows.

For the definition of FDI, it is difficult to have its most general definition. Actually has emerged many different concepts from international organizations of financial and economic and scientists in the world. But overall there are some definitions that be considered reliable below:

According to the WTO's definition, foreign direct investment occurs when an investor based in one country (the home country) acquires an asset in another country (the host country) with the intent to manage that asset. The management dimension is what distinguishes FDI from portfolio investment in foreign stocks, bonds and other financial instruments. In most instances, both the investor and the asset it manages abroad are business firms. In such cases, the investor is typically referred to as the "parent firm" and the asset as the "affiliate" or "subsidiary" [2].

According to the IMF and OECD's definitions, foreign direct investment reflects the objective of obtaining lasting interest by resident entity in one economy ("direct investor") in an entity resident in an economy other than that of the investor ("direct investment enterprise"). The lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence on the management of the enterprise. Direct investment involves both initial transaction between the two entities and all subsequent capital transactions between them and among affiliated enterprises, both incorporated and unincorporated [3].

Thus, the contents of two definitions were mentioned two subjects both home-country and host-country. FDI occurs if and only if both subjects expect that shall be received the benefits of this activity. So, what are the benefits?

2.2 Benefits of Home Country and Host Country

For the home country, individuals or MNCs have the decisions of implementation of FDI due to the following causes: Firstly, there are disparities in the marginal productivity of capital between the countries (total additional output that a manufacturer can be received by the addition use of an input factor unit) [12] [13]. Secondly, be derived from product life-cycle including three phases (the new product; the maturing product; the standardized product), the standardized product phase will be lead to the formation of FDI [14]. Thirdly, MNCs have specific advantages (such as basic capacity) allowing to overcome cost obstacles in overseas, so they are ready for foreign direct investment [15]. Fourthly, FDI is as a measure to avoid the bilateral trade conflicts. Such as, Japan was often complained by the U.S. and the Western-European countries due to Japan had a trade

surplus, meanwhile the U.S. and the Western-European countries were in trade deficit in the bilateral relations with Japan. To cope these barriers, Japanese has strengthened the direct investment into markets of that. Japan not only produced and sold cars and computers right in the U.S. and Europe to reduce the export of these products from Japan, but also invested in third countries to export to these markets. Fifthly, the implementation of FDI form is to exploit experts and technologies. For example, Japan has actively invested in the U.S. to exploit the expert team of this nation, in addition other development industry countries also have had similar policies. China recently has boosted FDI inflows in overseas, in which invested in the U.S.. Sixth, FDI is to approach the abundant natural resources and cheap labor resources. Represent of this strategy was Japan in the 1950s, and to present this wave is also promoted strongly by the emergence of China.

For the host country, the main benefits include: Firstly, supplementing for the investment capital and increasing its diversity, from which contributing to rapid economic growth. Secondly, there is opportunity to access the modern technologies and advanced management qualification that MNCs deployed and developed over many years. Thirdly, contributing to increase the number of jobs and there are many opportunities to raise the quality of workers in the host countries, from which will enhance incomes and living standards of employees be working direct or indirect in MNCs. Fourthly, when MNCs invests in production and business in the host countries, these MNCs must implement the tax obligations same as the enterprises of the host countries (depending on the attraction policies of FDI of different countries, the level of taxes and fees must pay also different), so the state budget revenues will be supplemented. Fifthly, when MNCs go to another country to implement the direct investment, the enterprises of the host country will have many business partnerships with MNCs, so the enterprises of the host country will become a part of participation in the international labor division process and have opportunities to participate into global production networks. Sixth, creating the competitive pressure and improving the production efficiency for the enterprises of the host country.

2.3 Determinants of FDI

FDI flows are moved based on the stimulation of the impact factors at the locations that it comes. Between the different locations, determinants as well as the attraction level of FDI flows are also different. This difference is reflected by the sequential arrangement on the influence level of each factor on FDI. The countries or territories attract FDI flows through many impact factors such as cheap labor costs, or lower tax burden, or economic growth rates, or abundant natural resources, etc.

In fact, many researchers have also had differences in the determination of the impact level of each factor on FDI. But overall review, determinants in attracting FDI inflows included four groups of main factors such as economic, political, social and policy [16]. For the group of economic factors including: For the group of economic factors including: GDP (or GNP); GDP per capita; GDP growth rate; per capita growth rate; manufactured imports/GDP; ratio of exports to imports; international liquidity (average annual percentage change); purchasing power of currency (charge in external value relative to internal value); local credit (ratio of banking sector claims on economy to GDP and on private sector to GDP); ratio of commerce, transport and communication to GDP; energy production (equivalent tonnes of coal per 1000 population); degree of economic

integration; ratio of manufacturing to GDP; ratio of raw material exports to GDP. For the group of social factors including: ratio of literacy and school enrolment; availability of technical and professional workers (size of middle class); modernization of outlook; strength of labours movement; extent of urbanization. For the group of political factors including: frequency of government change by type and period; number of internal armed attacks period; degree of administrative efficiency; degree on nationalism; per capita foreign and from U.S., non-U.S. source, and sum of both; colonial affiliation; role of government in economy. For the group of policy factors including: corporate taxation (typical manufacturing burden); tax incentive laws (complexity vs. simplicity); attitude toward joint ventures; local content requirements; limitations on foreign personnel. The relationship between each factor and FDI is a positive or negative sign?

Research results of economists on the relationship between taxation and FDI could be a positive or negative sign depending on the type of FDI [17]; or to be negative [10] [18] [19] [20]. For the relationship between GDP and FDI, most of the results of researchers found that to be a positive relationship [10] [22] [24]. For the relationship between inflation and FDI, it was a priori ambiguous [11]; on the one hand it may have a negative impact upon FDI due to the macroeconomic instabilities high inflation rates imply [31]. For unit labor costs, this variable has a negative relationship with FDI [10]. Political risk as an impact factor of FDI, the relationship between them was a negative relationship [11]. For operating costs, the sign of the coefficient of this variable was a priori ambiguous [24]; or to be a negative impact [23]. For index of economic freedom, this variable was a positive impact with FDI [10]. For the total population of both home and host country, this variable has a positive relationship with FDI [10] [11].

3 Overview Analysis

3.1 Contributions of FDI for the Vietnamese Economy

Vietnam always recognizes formally and widely that the role of FDI is important in the development of Vietnam in many aspects [21]. The aspects that FDI has been contributing to help in the development of Vietnam such as capital, technology, ability enhancement of international payment, development of export, participating in international markets, economic growth, economic restructuring, creation of many jobs and the increase of incomes of laborers, etc.

3.1.1 Capital

Review on absolute values, total investment capital of the foreign invested sector in the period 2000-2011 has been increased constantly, the later year was higher than the previous year, but solely the year 2009 was an exception and decreased compared to 2010. For total registered capital (including supplementary capital to licensed projects in previous years) and implementation capital, these two indicators increased from 2565.4 million USD and 2334.9 million USD in 1999 to 15598.1 million USD and 11000.0 million USD in 2011, about 10 times (the data in 2011 were estimated).

Review on relative values, this capital source has accounted for a higher relative proportion of total capital investment for the economy. However, review on annual average of the period 1999-2011, investment capital of the state sector has accounted for

the highest about 47.48%, the non-state sector was 32.21% and the foreign-invested sector was about 20.21%.

3.1.2 GDP at current prices

According to the data of the General Statistics Office of Vietnam, the contribution of FDI in GDP has increased in the period 1999-2011. Review on absolute values, Its contribution in GDP at current prices was about 590 billion VND in 1989. After 10 years, this number has been increased 48,958 billion VND in 1999, about 82.98 times higher than the year 1989. In the year 2009, this number has been increased 304030 billion VND, about 515.3 times higher than the year 1989 (after 20 years) and about 6.21 times higher than the year 1999 (after 10 years). By 2011, this number was estimated nearly 480,890 billion VND, increased about 10.08% times more than the year 2010.

Review on relative values, annual average of the period 1999-2011, the contribution of the state sector in GDP at current prices was about 37.44%, the non-state sector was about 46.58% and the foreign-invested sector was about 15.98%.

3.1.3 Kinds of economic activity

The FDI inflows have been investing for almost all sectors of the Vietnamese economy. Based on the data of General Statistics Office of Vietnam, accumulation of projects having effect as of 12/31/2011, foreign direct investment profects licensed by kinds of economic activity as follows: for Agriculture, forestry and fishing, number of projects was 495 projects and total registered capital was 3264.5 million USD; Mining and quarrying was respectively 71 projects and 3015,5 million USD; Manufacturing: 7661 projects and 94675.8 million USD; Electricity, gas, stream and air conditioning supply: 72 projects and 7391.6 million USD; Water supply, sewerage, waste management and remediation activities: 27 projects and 2401.9 million USD; Construction: 852 projects and 10324.1 million USD; Wholesale and retail trade, repair of motor vehicles and motorcycles: 690 projects and 2119.1 million USD; Transportation and storage: 321 projects and 3256.8 million USD; Accommodation and food service activities: 319 projects and 10523.3 million USD; Financail, banking and insurance activities: 75 projects and 1321.6 million USD; Real estate activities: 377 projects and 48155.9 milion USD; Professional, scientific and technical activities: 1162 projects and 976.1 milion USD; Administrative and support service activities: 107 projects and 188.0 million USD; Eduocation and training: 154 projects and 359.2 million USD; Human health and social work activities: 76 projects and 1081.9 million USD; Arts, entertainment and recreation: 131 projects and 3602.6 million USD; Other service activities: 114 projects and 711.5 million USD.

Thus, foreign investors main have invested into high margin sectors such as manufacturing, real estate activities, accommodation and food service activities, construction. Meanwhile, the agriculture and forestry and fishing have only attracted about 16.4% of the total registered capital. Although the Vietnamese government has adopted the incentive solutions to encourage foreign investors in these sectors, but it was still very difficult to receive their special attention.

3.1.4 State budget

Practice in Vietnam, the role of FDI inflows for the state budget is increasingly important. That role was proven through its contribution in recent years, the later year was higher than the previous year. Total state budget revenues from foreign-invested sector was about 3874 billion VND in 1999. That number was about 9942 billion VND in 2003, was about 2.57 times higher than the year 1999; 43953 billion VND in 2008, was about 11.35 times higher than the year 1999 and 4.42 times higher than the year 2003; and 81123 billion VND in 2011, about 20.94 times higher than the year 1999, about 8.16 times higher than the year 2003, about 1.85 times higher than the year 2008. The annual average of the period 1999-2011, total tax revenues from foreign-invested sector was approximately 27870.1 billion VND, accounted for about 17% of total domestic revenues (excluding oil revenues).

3.1.5 Economic regions

The contribution of FDI for economic regions in Vietnam was a large difference. The cause of this situation was mainly derived from a basic cause, which was the differences in the development conditions of economic and social between the economic regions. The differences were mainly in natural conditions, natural resources, labor, advantage of transport network and communication information, the large level of consumer market, income of people, transportation costs and policies in the attracting FDI inflows, etc. In fact, FDI inflows was mainly concentrated in the plains and urban areas (ranked in descending order) such as Red River Delta, South East, North Central and Central coastal areas, Mekong River Delta, Northern midlands and mountain areas, Central Highlands. In addition, FDI inflows have also invested into the Oil and Gas with a relatively large amount of capital and was more than two economic regions Northern midland - mountain areas and Central Highlands. To prove this assertion, we can see the data in Figure 1.
Review on the number of projects, accumulation of projects having effect as of 12/31/2011 was 13440 projects. In which Red River Delta: 3682 projects; North Central and Central coastal areas: 809 projects; Mekong River Delta: 678 projects, Northern midlands and mountain areas: 345 projects; Central Highlands: 135 projects; Oil and Gas: 45 projects. If compared by provinces and cities, the number one was Hanoi by 2253 projects and 23596.0 million USD. The next positions were respectively Ho Chi Minh City by 3967 projects and 32019.6 million USD; Ba Ria - Vung Tau: 274 projects and 25891.1 million USD; Dong Nai: 1075 projects and 18200.4 million USD; Binh Duong: 2135 projects and 15461.6 million USD, etc.

3.1.6 Contribution of FDI by country

Accumulation of projects having effect as of 12/31/2011, total licensed FDI capital was 199078.9 million USD, the total projects were 13440. If compared by countries and territories, the top ten countries were mainly focused in the East Asia and South Asia. The number one was Japan by 1555 projects, the total registered capital was 24381.7 million USD. The next positions as follows: South Korea was 2960 projects and 23695.9 million USD; Taiwan: 2223 projects and 23638.5 million USD; Singapore: 1008 projects and 22960.2 million USD; British Virgin Islands: 503 projects and 15456.0 million USD; Hong Kong SAR (China): 658 projects and 11311.1 million USD; Malaysia: 398 projects and 11074.7 million USD; United States: 609 projects and 10431.6 million USD; Caymen

Islands: 53 projects and 7501.8 million USD; Thailand: 274 projects and 5853.3 million USD.
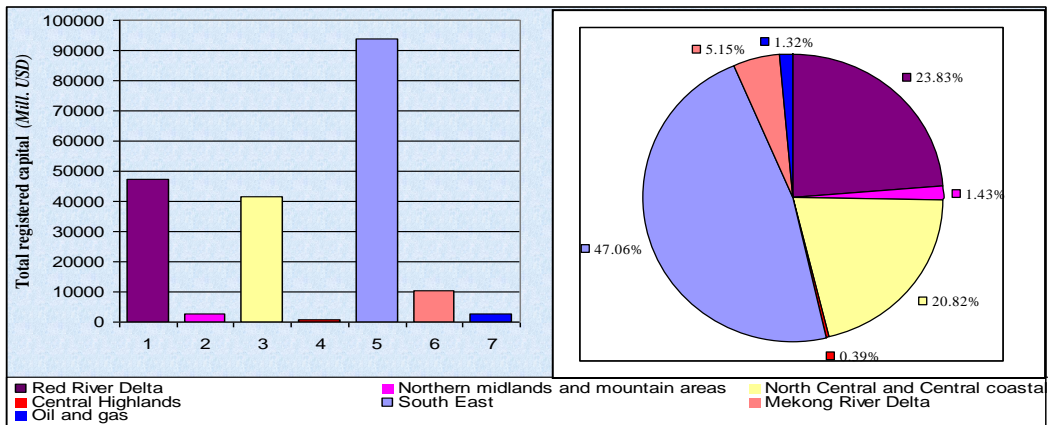

Figure 1: Accumulation of total registered capital having effect as of 12/31/2011
Source: General Statistics Office of Vietnam

3.2 Determinants of FDI Inflows in Vietnam

3.2.1 Taxation

In theory and practice have demonstrated that tax burden reduction would be one of the most effective tools to attract FDI inflows and stimulate its increasing both the quantity and quality. The actual case of Vietnam is also not an exception. To raise the efficiency of business activities and to strengthen the accumulation and expanded reproduction of enterprises and able to compete with other countries in the area in attracting FDI, Vietnam has amended and supplemented many policies to facilitate and reduce the pressure for enterprise systems, in which reduced corporate income tax, value added tax and other taxes.

For the corporate income tax, its precursor is the income tax. It was applied for before the 90s of the twentieth century and economic establishments of the non-state (the economic establishments of the state-owned applied the profit deduction regime). On 06/30/1990, the Vietnamese National Assembly enacted the income tax Law. It had been applied uniformly to all organizations and individuals in production and business activities of all economic sectors with the tax rates such as 30% (for electricity, mining, metallurgy, mechanical engineering, basic chemicals, fertilizers, pesticides, building materials, exploitation and processing of forest and fishery, construction, transportation), 40% (for light industries, food industry and other production sectors) and 50% (for commerce sector, meals, all kinds of other services) [24]. On 05/10/1997, the Vietnamese National Assembly had passed the corporate income tax Law, takes effect from the date of 01/01/1999 with the tax rates from 15% to 50% depending on the different investment projects and business sectors [25]. On 06/17/2003, the corporate income tax Law was amended and passed by the National Assembly of Vietnam and came into effect on 01/01/2004 with the tax rates such as 28% (for business establishments) and 28% - 50% (for business establishments conducting the prospection and exploration, exploiting the oil and gas and other scarce resources suitable for each project and business establishment) [26]. On 06/03/2008, the National Assembly of Vietnam had enacted the new corporate

income tax Law (called the corporate income tax Law 2008) and came into effect on 1/1/2009 with the tax rates such as 25% (for business establishments) and 30% - 50% (for business establishments conducting the prospection and exploration, exploiting the oil and gas and other scarce resources suitable for each project and business establishment) [27]. For value-added tax in Vietnam, its precursor is the revenue tax. On 05/10/1997, the Vietnamese National Assembly had officially enacted the value - added tax Law with 4 tax rates (0%, 5%, 10% and 20%). Its appearance had created the favorable conditions for the simplified and efficiency enhancement of the tax management compared to the application period of the revenue tax Law [28]. On 06/03/2008, the Vietnamese National Assembly had amended the value-added tax Law 1997. The highlight of the value-added tax Law 2008 was reduced some groups of non-taxable goods and services, it created favorable conditions for the calculation and deduction of the tax be continuous between the stages of the production and business process [29]. This promulgation time had been reduced down from four tax rates to three tax rates (0%, 5% and 10%) [30]. In addition to these taxes, there are a number of other taxes, they were also amended and supplemented in attracting FDI such as special consumption tax, personal income tax, resource tax, excise tax and other taxes.

Practice in Vietnam showed that the reduction of the taxes above not only did not make the total tax revenues from foreign-invested sector reduced down, but also increased up in the period 1999-2011. Review on relative values, the annual average of the period 1999-2011, the tax revenue growth rate of this sector was about 28.5%. Review on absolute values, total annual average tax revenues of the sector is shown in Figure 3. With what was analyzed, the authors expect that the relationship between FDI (dependent variable) and tax burden for foreign invested sector (independent variable) is a negative relationship.

3.2.2 Unit labor costs

This factor is as an important role in attraction of FDI inflows. On the appearance and development history of FDI inflows, in the early stage which country with low labor costs will be an advantage in stimulation of FDI inflows into that country. The labor cost of a country becomes a comparative advantage or not, it should be considered in the relationship with the labor cost of other countries in the area. So far, in many countries and territories are still poor or developing, incomes of almost population are relatively low, so the majority of demands for consumer goods are correspond to medium or low prices. At this period, foreign investors usually only use normal technologies to produce products to meet demands of these markets. In practice, many countries or territories have gone through this development history stage, Vietnam and other countries in the area are also not an exception.

Unit labor costs (annual average income of a labor) in Vietnam have increased in the period 1999-2011 (see Figure 5). However, the increase of this cost type if considered in the relationship with other countries in the area was still considered relatively low. This was actually an advantage of Vietnam to encourage foreign investors to invest in Vietnam. According to some surveys at foreign-invested sectors showed that all foreign investors have had the same opinion that low labor costs was one of the leading factors to encourage them to survive and increase the investment capital sources in Vietnam. Thus, in this case, the relationship between FDI and unit labor costs may be a positive or negative relationship.

3.2.3 Inflation

In terms of theory and practice show that if the inflation index is exceeded compared to the actual requirements of the economy's development, the economy not only does not ensure high growth and stability, but also can occur the crisis. This will affect the attraction of FDI inflows. The impact mechanism that FDI inflows will be gradually reduced, if inflation index is high and prolonged, FDI flows will be stopped, foreign investors will have to calculate other plans to move to other markets.

In Vietnam, although the economy has had some years of double-digit inflation. For example, the year 2008 was about 23.12% and the year 2011 was about 13.46%, but review on annual average of the period 1999-2011, this index was only about 7.24%. If only review on the relationship between inflation index and FDI, the Vietnamese economy was considered relatively safe for foreign investors. The average inflation rate was relatively consistent such, FDI flows into Vietnam has increased in both types of statistical data, total registered capital and total implementation capital (see Figure 4). Through this analysis, the authors expect that the relationship between FDI and inflation index is a positive sign.

3.2.4 GDP at current prices and GDP per capita

The GDP is considered as one of the impact factors in attracting FDI inflows. Review on economic rule, in the condition of other factors is constant, if only review on the relationship between economic growth and FDI, when economic growth rates are high, it will encourage foreign investors. The cause of this problem include: (1) When high economic growth, per capita income will be also increased up, the people's consumption will be also increased up, from which the market size will be increased up. (2) Economic growth of a country is mainly due to the dedication of the enterprise system, this proves that the business activities of enterprises are in the status of development, it will have the large ability of expanded reproduction due to the increase of accumulation and investment. This issue has occurred in many countries, especially in the case of China. China has had high economic growth rates and relative stable in many years ago. This is one of the important reasons that China has charmed foreign investors. However, in practice not only economic growth factor effects on the attraction of FDI, but also there are many other important factors. Thus, the GDP growth does not guarantee the certainty in attracting FDI, its impact level may be great or less or not on FDI.

Practice in Vietnam has also taken place the same. In the period 1999-2011, Vietnam was a country with high economic growth rates and higher than many countries in the area. Moreover, Vietnam was ranked among the countries of high economic growth rates in the world. If we only analyze on the relationship between FDI and GDP, we can assert that Vietnam's GDP in recent years as one of the important factors has stimulated foreign investors to invest in Vietnam. However, according to the viewpoint of the authors that the practice was not such. The reasons that the impact of the GDP was not strong in attracting FDI in Vietnam include: Firstly, although per capita income in Vietnam has increased over the years, but the people's living standards was not raised respectively. The increase of GDP per capita was nominal. Because the CPI of Vietnam was always positive, some years have reached double-digit levels, total CPI in recent 10 years was about 50%. Secondly, according to the observation of the authors as well as the assessment of many experts and economists, the tax burden in Vietnam was considered relatively high compared to many countries in the area, could exceed the economy's

stamina. Thus, due to the impact of excessive tax burden, the accumulation of people and enterprises have not been increased correspondingly, so the consumption and extended reproduction was affected. The result of this analysis is also consistent with the surveys in the foreign-invested enterprises that major factors have encouraged foreign investors to invest in Vietnam were other factors, not GDP. Therefore, we can eliminate this variable.

3.2.5 Some other factors

In theory, the following factors may also affect on the attraction of FDI inflows. However, they are the mainstream factors or not depends on the situation of each economy in each country. Practice in Vietnam, based on the data sources as well as the survey results in foreign-invested enterprises, these factors have also affected in attracting FDI in Vietnam, but their impact level was not strong. The first factor is average population, this factor has increased in the years ago, the market size has been expanded. But as analyzed above, between per capita income and CPI canceled each other, so its impact on the attraction of FDI inflows was not large. The relationship between this variable and FDI in Vietnam is a positive sign. The second factor is political risk, political situation in Vietnam in general was relatively stable, but review on relationship with other countries in the area, the political stability level of countries was relatively the same. This factor was a strength of Vietnam as well as of other countries in the area. So it was not comparative advantage of Vietnam to become an important determinant of FDI. The authors expect that relationship between political risk and FDI in Vietnam is a positive sign. The third factor is index of economic freedom, it has not been changed large in the period 1999-2011 (see Figure 6), its impact level in attracting FDI in Vietnam was not strong. Furthermore, the data of this factor showed that there was the increase/decrease compared to the previous year. Therefore, the authors expect the relationship between this variable and FDI is an ambiguous sign. The fourth factor is investment in education and science and technology, based on the observations of the authors and the assessment of many experts that investment in education and science and technology in Vietnam was inefficient compared to the actual requirements. In summary, we think that these factors are not important determinants of FDI inflows in Vietnam.
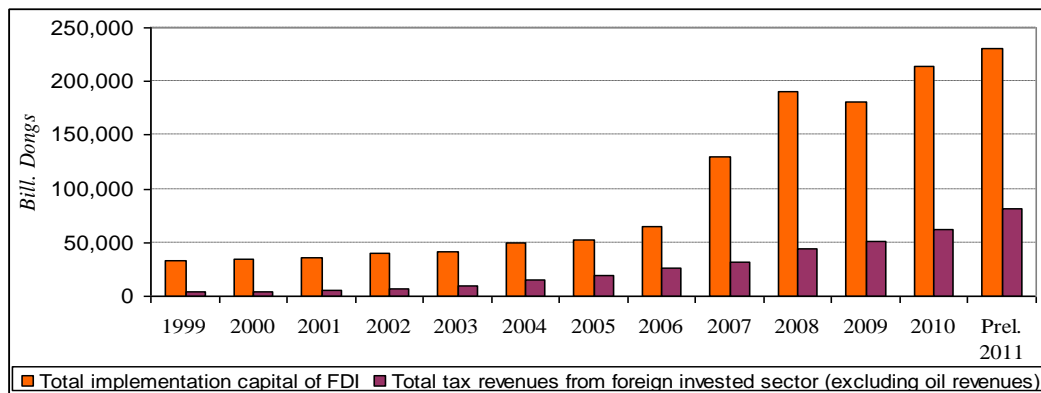
\

Figure 2: Implementation FDI and Tax revenues from foreign invested sector
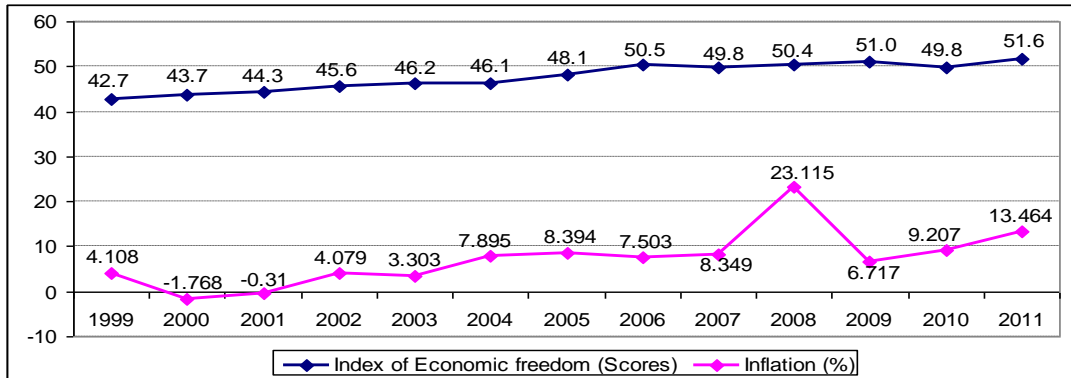Source: Ministry of Finance and General Statistics Office of Vietnam

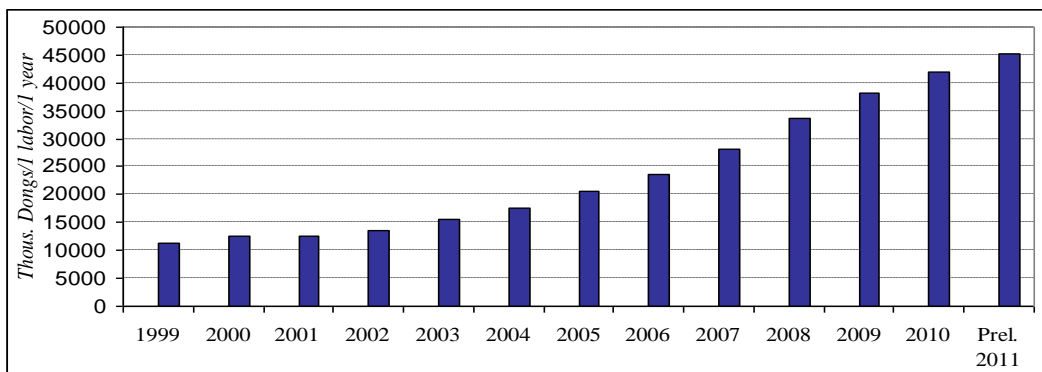Figure 3: Economic freedom index and Inflation of Vietnam
Source: http://www.heritage.org/index/explore?view=by-region-country-year;
http://data.worldbank.org/indicator/FP.CPI.TOTL.ZG?page=2

Figure 4: Labor costs of Vietnam
Source: Ministry of Labour- Invalids and Social Affairs of Vietnam

4   Empirical Analysis

4.1 Method

On the one hand, based on the research results of the authors and the survey results of a number of organizations for foreign-invested sector, the tax burden and unit labor costs were considered two most important factors stimulating foreign investors to invest in Vietnam. On the other hand, the authors have discovered that the inflation index was also one of three most important determinants of FDI inflows in Vietnam. The role of other factors in attracting FDI was not or less important. Therefore, the authors will use empirical analysis method to conduct a regression analysis on the impact of the independent variables (tax burden for foreign-invested sector, unit labor costs and inflation index) on the dependent variable (total implementation capital of FDI) in Vietnam. The time period that the authors will use by 13 years (from 1999 to 2011).

Implementation method will undergo two steps. Step 1, we will conduct a regression analysis on the relationship between total implementation capital of FDI and two independent variables (tax burden for foreign-invested sector and unit labor costs). The regression results of this step are statistically significant. Based on the results of R^2 and

Durbin-Watson test suggests, the regression model is appropriate. Step 2, the regression analysis on the relationship between total implementation capital of FDI and three independent variables (tax burden for foreign-invested sector, unit labor costs and inflation index). The most regression results of this step are statistically significant, but only one Durbin-Watson test shows that the regression model is autocorrelation phenomena grade 1. To remedy this violation, the authors will use the general differential equation to implement the regression process. The regression results are statistically significant. Based on the results of R^2 and Durbin-Watson test suggests that the regression model is appropriate. The model of three independent variables is suitable more than the model of two independent variables.

4.2 Data

The data source of total implementation capital of FDI by USD is from the General Statistics Office of Vietnam. The data source of tax burden for foreign-invested enterprises by VND is from the Ministry of Finance of Vietnam. The data source of unit labor costs by VND is from the Ministry of Labour- Invalids and Social Affairs of Vietnam, it is the average annual income of one employee that has worked in types of enterprises in Vietnam. The data source of inflation index by percent is from the World Bank. However, due to tax burden and unit labor costs calculated by VND. The authors will change from VND to USD. The exchange rates are used from the annual average exchange rates between VND and USD.

4.3 Model

The authors will use the following two non-linear models:

The regression model 1: $Y = \hat{\beta}_0 + \hat{\beta}_1 LnX_1 + \hat{\beta}_2 X_2 + \mu$ (1)

The regression model 2: $Y = \hat{\beta}_0 + \hat{\beta}_1 LnX_1 + \hat{\beta}_2 X_2 + \hat{\beta}_3 X_3 + \mu$ (2)

With Y is the total implementation capital of FDI (Million USD); LnX_1 is the tax burden for foreign-invested enterprises (Million USD); X_2 is unit labor costs (USD); X_3 is the inflation index (%).

For the results of the model (2), the Durbin-Watson test shows that it is autocorrelation phenomena grade 1. The authors will use the general differential equation to remedy this violation. The first, we need to test autocorrelation phenomena based on the consideration of the remainder ε_t depends on its latency or not. And then, the autocorrelation test grade 1 by the accessories regression:

The model has not the block coefficient: $\varepsilon_t = \alpha_1 \varepsilon_{t-1} + \upsilon_t$ (3)

The model has the block coefficient: $\varepsilon_t = \alpha_0 + \alpha_1 \varepsilon_{t-1} + \upsilon_t$ (4)

After performing the regression model (3) and (4), the correlation coefficient estimation grade 1 $\hat{\rho} \cong 0.158$, the general differential equation is:

$$(Y - 0.158 * Y_{(-1)}) = \hat{\beta}_0 (1 - 0.158) + \hat{\beta}_1 Ln(X_1 - 0.158 * X_{1(-1)}) \tag{5}$$
$$+ \hat{\beta}_2 (X_2 - 0.158 * X_{2(-1)}) + \hat{\beta}_3 (X_3 - 0.158 * X_{3(-1)})$$
$$+ (\mu - 0.158 * \mu_{(-1)})$$

4.4 Estimation Results

4.4.1 The estimation model of two independent variables

After performing the operation, the regression results in Table 1 below:

Table 1: The regression results of the model (1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10401.45	4396.183	2.366018	0.0395
Log(X_1)	-3109.396	934.2574	-3.328200	0.0076
X_2	12.01160	1.589297	7.557804	0.0000
R-squared:	0.969392	Durbin-Watson stat:		2.042395
Adjusted R-squared:	0.963270	F-statistic:		158.3559

The regression equation of the fo

$$Y = 10401,45 - 3109,396LnX_1 + 12,01160X_2 \tag{6}$$

According to the results of this regression, the value *d* of Durbin-Watson test by 2.042395. While reliability $\alpha = 5\%$, the sample size n = 13, number of independent variables in the model k' = 2, inferring $d_L = 0,861$ and $d_u = 1,542$. Due to $d = 1.894767 < d_u = 1.320$, the differential model is not autocorrelation phenomena grade 1. Due to *p.value* = 0,0076 and $0,0000 < \alpha = 0.05$, the independent variable (tax burden for foreign-invested sector and unit labor costs) totally affects on the dependent variable (total implementation capital of FDI). The regression results also shows us, $R^2 = 0.935900$, which means the change of two independent variables explained 96.9392% of the independent variable's fluctuation. Due to $R^2 = 0.969392$ and F = 158.3559, the model is very suitable.

For β_0, β_1, and β_2, the authors will use the confidence interval tested method to demonstrate the suitability or unsuitability of the regression coefficients. When reliability $\alpha = 5\%$, inferred $t_{(\alpha/2; n-k-1)} = t_{(\alpha/2; n-2-1)} = t_{(0.025;10)} = 2.228$.

$$\hat{\beta}_i - t_{(\alpha/2;n-3)} \times S_e(\hat{\beta}_i) \leq \beta_i \leq \hat{\beta}_i + t_{(\alpha/2;n-3)} \times S_e(\hat{\beta}_i) \tag{7}$$
$$(i = 0 \rightarrow 2)$$

Symmetry confidence interval of β_0:

$$606.75 \leq \beta_0 \leq 20196.15$$

Symmetry confidence interval of β_1:

$$-5190.92 \leq \beta_1 \leq -1027.87$$

Symmetry confidence interval of β_2:

$$8.47 \leq \beta_2 \leq 15.55$$

Review on the annual average of the period 1999-2011: For β_0, when foreign investors do not bear tax burden for foreign-invested sector and unit labor costs by 0, total

implementation capital of FDI ranges from 606.75 million USD to 20196.15 million USD. For β_1, in terms of other factors are constant, when tax burden for foreign-invested sector was increased up 1 million USD, total implementation capital of FDI would reduce from 1027.87 million USD to 5190.92 million USD. For β_2, in terms of other factors are constant, when unit labor cost was increased up 1 USD, total implementation capital of FDI would   increase from 8.47 million USD to 15.55 million USD.

4.4.2 The estimation model of three independent variables

After performing the operation, the regression results in Table 2 below:

Table 2: The regression results of the model (2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	13477.22	3601.018	3.742614	0.0046
$Log(X_1)$	-3637.631	752.2629	-4.835584	0.0009
X_2	11.89084	1.237750	1.237750	0.0000
X_3	105.2052	38.39498	2.740077	0.0228
R-squared:	0.983313	Durbin-Watson stat:		1.551193
Adjusted R-squared:	0.977750	F-statistic:		176.7788

The regression equation of the form:

$$Y = 10401,45 - 3637,631 LnX_1 + 11,89084X_2 + 105,2052X_3 \qquad (8)$$

The table of regression results shows that the value d of Durbin-Watson test by 1.551193. While the sample numbers n = 13, number of independent variables in the model k' = 3, inferring d_L = 0.715 and d_u = 1.816. Due to $d < d_u$, the model is autocorrelation phenomena grade 1. To correct the autocorrelation phenomena, the authors will implement the regression of the general differential equation (5) and the regression results are in Table 3 below:

Table 3: The regression results of the model (5)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	14970.54	3909.485	3.829287	0.0050
$LOG(X_1-0.158*X_1(-1))$	-3880.179	814.3849	-4.764552	0.0014
$X_2-0.158*X_2(-1)$	13.06015	1.450026	9.006840	0.0000
$X_3-0.158*X_3(-1)$	123.3695	34.68163	3.557201	0.0074
R-squared:	0.982608	Durbin-Watson stat:		2.239656
Adjusted R-squared:	0.976087	F-statistic:		150.6640

According to the results of this regression, the value *d* of Durbin-Watson test by 2.239656. Due to $d < d_u$, the differential model is not autocorrelation phenomena grade 1. Number of p_value is too small compared to the significance level α = 5% = 0.05. The table of the regression results also shows us, R^2 = 0.982608, which means the change of the independent variables (tax burden for foreign-invested sector, unit labor costs and inflation index) explained 98.2608% of the dependent variable's fluctuation (total implementation capital of FDI). After the change of variables, the block coefficient estimate of the differential model is 14970.54, therefore the block coefficient estimate of

the model (2): $\hat{\beta}_0 = [14970.54/(1 - 0.158)] = 17779.74$. The slope estimate of the original model $\hat{\beta}_1 = -3880.179$, $\hat{\beta}_2 = 13.06015$ và $\hat{\beta}_3 = 123.3695$. Thus, the model (2) takes the following form:

$$Y = 17779.74 - 3880.179LnX_1 + 13.06015X_2 + 123.3695X_3 \qquad (9)$$

For β_0, β_1, β_2 and β_3 the authors will use the confidence interval tested method to demonstrate the suitability or unsuitability of the regression coefficients. When reliability $\alpha = 5\%$, inferred $t_{(\alpha/2; \, n-k-1)} = t_{(\alpha/2; \, n-3-1)} = t_{(0.025;9)} = 2.262$.

$$\hat{\beta}_i - t_{(\alpha/2;n-3)} \times S_e(\hat{\beta}_i) \leq \beta_i \leq \hat{\beta}_i + t_{(\alpha/2;n-3)} \times S_e(\hat{\beta}_i) \qquad (10)$$

$$(i = 0 \to 3)$$

Symmetry confidence interval of β_0:

$$8936.49 \leq \beta_0 \leq 26623.00$$

Symmetry confidence interval of β_1:

$$-5732.32 \leq \beta_1 \leq -2038.04$$

Symmetry confidence interval of β_2:

$$44.92 \leq \beta_2 \leq 201.82$$

Symmetry confidence interval of β_3:

$$3.65 \leq \beta_2 \leq 4.24$$

Review on the annual average of the period 1999-2011: For β_0, when foreign investors do not bear tax burden for foreign-invested sector, unit labor costs and inflation index by 0, total implementation capital of FDI ranges from 8936.49 million USD to 26623.00 million USD. For β_1, in terms of other factors are constant, when tax burden for foreign-invested sector was increased up 1 million USD, total implementation capital of FDI would reduce from 2038.04 million USD to 5732.32 million USD. For β_2, in terms of other factors are constant, when unit labor cost was increased up 1 USD, total implementation capital of FDI would   increase from 44.92 million USD to 201.82 million USD. For β_3, in terms of other factors are constant, when inflation index was increased up 1%, total implementation capital of FDI would   increase from 3.65 million USD to 4.24 million USD.

4.5 Discussion

In the future, the authors expect that this article will be developed by two contents. Firstly, the authors will compare the impact of the tax burden in attracting FDI inflows between Vietnam and other countries in the area, especially with the countries have the same development conditions. Secondly, the authors will compare the effectiveness of the attraction of FDI inflows between regions or provinces of Vietnam.

5 Conclusion

For this article, the authors have implemented to analyze the determinants of FDI inflows in Vietnam. In all determinants, there are three most important factors that the authors have found out. This assertion is also appropriate with the opinions of foreign investors in Vietnam. Moreover, the relationship between most all determinants and FDI are appropriate with the research results of other researchers in other countries or areas around the world. There is only one factor that the authors have found difference with the results of different researchers. That is unit labor costs, the relationship between this variable and FDI is a positive sign.

The cause of this difference due to unit labor costs in Vietnam is considered very low compared to other countries in the area. This really is one of the few most important factors encouraging foreign investors to invest in Vietnam. Although this factor increased in the period 1999-2011, but according to the standpoint of the authors, the increase of this factor in Vietnam is generally lower than other countries in the area such as Singapore, Thailand, Malaysia, China, etc. This really is a comparative advantage of Vietnam. Thus, in this correlation comparison, foreign investors have also decided to increase investment capital into Vietnam under the impact of the low rise of unit labor costs. Thus, the rise of unit labor costs does not necessarily making the FDI reduced down, this is dependent on the approach of the researchers in the selection of the object, the time period and the research scope.

References

[1] M. Nguyen, *The breakthrough mark in attracting FDI*, E-news on investment, 2011. http://www.baodautu.vn.

[2] World Trade Organization, *Trade and Foreign Direct Investment*, New Report by the WTO, 9 October 1996.

[3] M. Duce, *Definition of Foreign Direct Investment (FDI): A methodological note*, Final draft, 2003. http://www.bis.org/publ/cgfs22bde3.pdf

[4] OECD, T*ax effects on Foreign Direct Investment,* Printed in France, No. 17, ISBN 978-92-64-03837-0, 2007

[5] B. Heimann, *Tax incentives for FDI in the tax systems of Poland, the Netrerlands, Belgium and France*, Nr. 74, 2001.

[6] K.Y. Yoo, *Corporate taxation on FDI: 1991-2001*, OECD Workshop on effective corporate taxation, 2006.

[7] L.P. Feld and J.H. Heckemeyer, *Foreign direct investment and taxation: A meta-study*, ZEW Discussion Papers 08-128, ZEW-Zentrum für Europäische Wirtschaftsforschung/Center for European Economic Research, 2008.

[8] O.Y. Kwon, *An analysis of China's taxation of FDI*, The Developing Economies, XXVII-3, 1989.

[9] D. Hajkova, G. Nicoletti, L. Vartia and K.Y. Yoo, Taxation and business environment as drivers of Foreign direct investment location in OECD countries, *OECD Economic Studies*, 43(2), (2006), 7 - 38.

[10] A.J. Coelho, *The influence of the tax burden in attracting foreign direct investment*, Mestrado em Economia, Ano Lectivo 2009/2010.

[11] C. Bellak and M. Leibrecht, *Effective tax rates as a determinant of foreign direct investment in central and east European countries: A panel analysis*, Working Paper, Discussion Paper Nr. 7, 2005.

[12] E. Helpman, A simple theory of international trade with multinational corporations, *Journal of Political Economy,* 92(3), (1984), 451 - 471.

[13] R.S. Eckaus, *A survey of the theory of direct investment in developing countries*, The IBK papers, Publisher: Industrial Bank of Kuwait, 1986.

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

[15] J.H. Dunning, *International Production and the Multinational Enterprise*, Published by Allen & Unwin in London, Boston, 1981.

[16] F.R. Root and A.A. Ahmed, The influence of policy instruments on manufacturing direct foreign investment in developing countries, *Journal of International Business Studies,* 9(3), (1978), 81 - 94.

[17] D.G. Hartman. Tax policy and foreign direct investment in the United States. *National Tax Journal,* 37(4), (1984), 475 - 487.

[18] J.R. Hines, Altered states: Taxes and the location of foreign direct investment in America, *American Economic Review*, 86(5), (1996), 1076 - 1094.

[19] C. Bellak, M. Leibrecht and J.P. Damijan, Infractructure endowment and corporate income taxes as determinants of foreign direct investment in Central- and Eastern European Countries, *The World Economy*, Wiley Blackwell, 32(2), (2009), 267 - 290, 02.

[20] R.A. de Mooij and S. Ederveen, *Taxation and foreign direct investment: A synthesis of empirical research*, CPB Netherlands Bureau for Economic Policy Analysis in its series CPB Discussion Paper with number 3, 2001.

[21] National Assembly of Vietnam, Law of profit tax, *No. 270b-NQ/HĐNN8*, June 30, 1990.

[22] C. Bellak and M. Leibrecht, Do low corporate income tax rates affect FDI? Evidence from Central- and Eastern European Countries, *Applied Economics*, 41(21), (2009), 2691 - 2703.

[23] C. Bellak, M. Leibrecht and R. Stehrer, The role of public policy in closing foreign direct investment gaps: An empirical analysis. *Empirica*, 37(1), (2010),19-46.

[24] A. Mold, The impact of the single market programme on the location determinant of US manufacturing affiliates: An econometric analysis, *Journal of Common Market Studies*, 41(1), 2003, 37 - 62.

[25] National Assembly of Vietnam, *Law on corporate income tax*, No. 57-L/CTN, May 10, 1997.

[26] National Assembly of Vietnam, *Law on corporate income tax*, *No. 09/2003/QH11*, June 17, 2003.

[27] National Assembly of Vietnam, *Law on corporate income tax*, *No. 14/2008/QH12*, June 30, 2008.

[28] National Assembly of Vietnam, *Law of value-added tax*, *No. 57/1997/L-CTN*, May 10, 1997.

[29] Vietnam General Department of Taxation, *General knowledges on tax, ethics and behavior of tax officers*, Financial publishing house, Volume 2, 2011.

[30] National Assembly of Vietnam, *Law of value-added tax*, *No. 13/2008/QH12*, June 3, 2008.

[31] C.M. Buch and A. Lipponer, *Clustering or competition? The foreign investment behavior of German banks*, Deutsche Bundesbank Discussion Paper Series 1: Studies of the Economic Research Centre No. 2004.