CHAPTER 2

Theory of Capital Inflows

This chapter states about review of literature, the theory of capital inflows.The theory of capital inflows mean that each composition is explained with their theory and induced in factors affecting such compositions. Moreover,there are assumptions and models of each part of capital inflows.

2.1 Review of Literature

The studies in the past about capital inflows are divided into various aspects which are:

Private Foreign Direct Investment and Its Causes.

Jeerasak Pongpisanupichit[1] analyzed the causes and effects of private direct foreign investment in Thailand. Regression analysis was used to analyze the variation in the foreign firms' share in domestic sales and production, and the variation in the share of foreign affiliate production in total foreign involvement in Thailand' s manufacturing industries. The method that has been used in evaluating the impact of direct foreign investment on the host economy was a comparison of actual events to supposed events as might occur in a number of proposed hypothetical alternatives to direct foreign investment. The study has tested a few hypotheses concerning the determinants of direct foreign investment in Thailand across different industries by using regression analysis.

It has been found that the technological advantage possessed by foreign firms over their local competitors is the major factor which enables the firms to have a relatively high share in domestic sales and production in Thailand or there is no evidence of any significant relationship between the foreign firms' share in Thailand's manufacturing industries and the intangible assets associated

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[1] J. Pongpisanupichit. *Private Direct Foreign Investment and Thai Economy.* Doctoral dissertation, Cornell University.1985.

with product differentiation which are generated through advertising. Given the fact that exporting and affiliate production represent alternative means for foreign firms to participate in Thailand's manufacturing industries. Tariffs imposed on final products by Thailand(as measured in terms of nominal rate of protection) and the relatively low wage rate in Thailand appear to have a significant influence on the foreign firms' decision to substitute foreign affiliate production in Thailand of exporting to the country.

Friedrich Schneider and Bruno S.Frey[2] disagreed with the existing empirical literature analyzing the determinants of foreign direct investment in less developed countries because most studies concentrate exolusively on either political or economic determinants, instead of taking into account their joint and simultaneous effect . The study tried to present a model of the determinants of foreign direct investment based on an application of public choice to international economic and political issues. four models were developed on the basis of the existing literature with the purpose of comparing the quality and were tested with data for 54 LCD's for three different years - 1976, 1979 and 1980. All four competing models for explaining the determinants of foreign direct investment are quite satisfactory judged from the point of view of the usual test statistics. The politico-economic model which combines economic and political determinants performs the best with respect to goodness of fit R^2 in all three years considered.

Portfolio Foreign Investment and Capital Flows

Herbert G. Grubel[3] illustrated that the international diversification of portfolio was the source of an entirely new kind of world welfare gains from international economic relations and international capital movements were a function not only of interest rate differentials but also of rates of growth in total asset holding in two countries. Information on rates of return from portfolio investment in common stock market averages of 11 major countries was collected, covering the period from January 1959 to December 1966 and following monthly observations for each of those 11 markets. The analysis suggested that its recent experience with

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[2] F.Schneider and B.S.Frey "Economic and Political Determinants of Foreign Direct Investment. *World Development*, Vol.13 (1985):161-175.

[3] H.G. Grubel "Internationally Diversified Portfolio:Welfare Gains and Capital Flows."*The American Economic Review* , Vol 58 (1968):1299-1314.

foreign investment returns would have given rise to substantial gains in welfare to wealth holders. If past experiences were considered to be indication of future development, the data suggested that future international diversification of portfolios is profitable.

The international capital movements can explain as resulting from the size of total wealth assets held by the public, the size of the interest rate differential, the size of the risk differential , the degree of correlation of returns on domestic an foreign assets and the tastes of the public. It differed from the classical theory of factor movements considered rates of return alone as the determinants of international capital flows.Such theory could not explain the real world phenomenon.

The Cause of Demand for Capital Flows

Laddawan Pongtipsukon[4] searched for the trade gap problems which limit the revenue needed for Thailand economic development.The study emphasized the role and the magnitude of the demand for foreign resources. The time- series data covering the period 1966-1983 was use in this study.The econometric model of Thailand's trade gap was estimated by the ordinary least squares method.

The study found that the magnitude of Thailand's problem remarkably developed in figures because of two major factors which were the dependence on foreign products import and the incapability to expand export markets. Capital inflows ,particularly in the form of loans, showed a highly increase the measurement of the degree of Thailand is dependency on foreign resources and the productivity of foreign resources gave the study inconclusive result methods and the rigidity of the structural model employed in the study.

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[4] Laddawan Pongtipsukon.*The Foreign Capital Needs For Financing Trade Deficit.* Master Thesis, Department of Economics, Gradnate School, Chulalongkorn University, 1985.

The Determinants of Capital Inflows

Jeerasak Pongpisanupichit, Wisarn Pupphavesa, Somjai Phagaphasvivat, Pipat Pitayachariyakul and Duangmanee Vongpradhip[5] examined the development of FDI in Thailand and searched for factors affecting FDI in Thailand.The motivation can be classified into four groups which are resource utilization, maintaining or regaining cost advantage through dynamic comparative advantages or product life cycle , gaining of maintaining demand advantage and capital stock adjustment

For the second components of capital flows, the study used two regression analyses to investigate the possible relationship between the net inflow of foreign investment funds and the gross domestic product and the relationship between the net inflow of foreign investment funds and realized market investment return. Monthly data recorded between 1984-1988.For net inflow of foreign investment funds and investment return were collected and the corresponding GDP figures were interpreted for the purpose. It was found that the net inflow of foreign investment funds was correlated with GDP and investment returns 14 months later, with explanatory power of 31 percent and 39 percent respectively. In the part of foreign loan inflows, the study indicated factors affecting net foreign loan inflows which are the country's interest rate differential, exchange rate risk, domestic liquidity situation, and regulation and rules.OLS regression used in analyzing the factors with monthly data from 1986 to 1988.

Srisuda Jirakoonsawat[6] studied the impact of foreign on domestic savings and factors affecting foreign capital inflows of Thailand.In the study , foreign capital inflows is separated into foreign direct investment ,foreign loan and portfolio, and the domestic saving is divided into private and government saving. The data using in the study is from 1977-1990 with the multiple regression analysis, it found that foreign direct investment ,foreign loan and portfolio are

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[5] J. Pongpisanupichit *et al., .Direct Foreign Investment and Capital Flows.* TDRI Year-End Conference. Bangkok:The Thailand Development Research Institute,1989.

[6] Srisuda Jirakoonsawat.*The Impact of Foreign Capital on Domestic Savings and Factors Affecting Foreign Capital Inflows of Thailand.* Master'sThesis, Department of Economics, Graduate School, Kasetsart University,1991.

positively correlated to the domestic saving that means foreign capital inflow has directed impact on domestic growth and saving.

For the factors affecting foreign capital inflow,the study found that the gross national product of Thailand and the profit and dividend yields of the foreign direct investment have the positive effects on foreign direct investment.In the part of portfolio investment, the study found that gross national product has the positive relationship with portfolio investment but interest rate differential and dividend yields of portfolio investment has the negative relationship with the statistical significant. For foreign loans ,it was found that interest rate differential has the positive relationship but gross national product and government balance budget has the negative relationship with loans.

Leonardo Hernandez and Heinz Rudolph[7] attempted to advance the understanding of the causal factors behind the surge in private capital inflows by including both pull and push factors in a model of the determinants of private capital inflows. In particular, it uses a partial adjustment model in which both domestic and external explanatory variables are defined, to explain the private capital flows to developing countries. The model is estimated using panel data for 1986-1993 for 22 developing countries, including countries that have benefited from the new wave of private capital flows and countries that have not received capital flows. In addition, they compare the means of several economic indicators for two groups of countries: those that have received significant capital inflows and those that have not.The results showed evidence that domestic factors play a significant role in explaining private capital flows. Thus countries may expect to continue to receive capital flows as long as domestic policy reforms remain on the right track: that is the increase of domestic savings, the use of capital flows to improve their long-term prospects by increasing investment rates, and the increase of growth rate of exports.

Jerome L.Stein[8] studied private short-term capital movements between the United States and United Kingdom. The study tried to decide which model of capital flows was inconsistent with the data. The stock model and the flow

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[7] L.Hernandez. and H.Rudolph *Sustainability of Capital Flows to Developing Countries:Is a Generalized Reversal Likely?* Working paper 1518. Washington D.C.:World Bank..1993.

[8] J.L. Stein "International Short-Term Capital Movement." *The American Economic Review*, Vol.55 (1965):41-46.

model are used in the study with monthly data from November 1958 to December 1962.He found that empirical results which obtained by considering the interest rate differential and the residual as determinants of the allocation of a flow of international capital among countries were more practical than as determinants of the allocation of a stock of capital among countries.It meant the flow theory can explain the capital movement better than stock. Moreover,he found that the interest rate differential was a significant variable in explaining the stock of U.S. capital.

George H. Borts and Kenneth J. Kopecky[9] used a growth model to generate a country's equilibrium pattern of investment and saving, flow of capital and the return flow of interest and dividends from overseas. The feature of this model was that international capital movements were independent of national differential in interest rate and continue in a given direction with a uniform worldwide interest rate. Multiple regression analysis applied to statistical data on the variables for 13 countries during 1956-1965. The study showed that movements of capital can be explained by the same factors that explain the growth of an economy which were the growth of population and technology, the improvement in the terms of trade between exports and imported capital goods , the saving rate, and the capital coefficient.

Government policy directed toward influencing capital movements could operate on these parameters. Futhermore,monetary factors were not necessary to explain why or how capital transfer occur because the model implied that monetary and foreign exchange policies directed toward target values of international reserves have no influence on the balance of trade.

Eduardo Fernandiz- Arias and peter J. Monteil[10] explained the factors driving and directing the capital inflows .The capital inflows should feature some combination of push and pull factors. The pull view perceived inflows as attracted to the recipient countries by an improved domestic policy environment . This push view attributes phenomenon to lower returns available in the creditor countries. The combination of low interest rates and recession forced low rates of

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[9] G.H. Bort and K.J. Kopecky. "International Mobility and Movement of Capital.", *Capital Movements and Economic Growth in Developed Countries*. New York:National Bureau of Economics Research,1972.

[10] E. Fernandez-Arias and P.J. Montiel. "The Surge inCapital Flows to Developing Countries: An Analytical Overviews." *The World Bank Economic Review*, Vol10(1995):51-77.

return on industrial-country assets, creating an incipient capital outflows as investors in the countries sought higher-yielding assets for their portfolios. The studied stated that push variables were easier to measure than pull factors in case of the domestic factors. Inflows are endogenous with respect to a wide range of domestic policies, and no single indicator was likely to represent the broad thrust of such policies with the same degree of accuracy as external interest rates do for foreign financial condition.

Capital inflows and the Thai economy

Prisadee Jindahra[11] studied whether capital inflow influx into the country would limit the degree of monetary policy effectiveness. The concept was proposed by the Hypothesis of offsetting Capital Flows. The study used ordinary least squares regression on total capital flows in the context of Hypothesis of Offsetting Capital Flows to test the monetary policy effectiveness Reaction function of the Bank of Thailand is estimated to represent the central bank behavior against capital inflows. Foreign interest rate elasticity of domestic interest rate is used to test the sensitivity of domestic interest rate adjustment. The study started from 1981-1993

The findings showed that the hypothesis has supported in the long run in case of Thailand , but not in subperiods before and after financial liberalization. Capital inflows induced the Bank of Thailand to reduce its net domestic asset prior the financial liberalization period in 1990.After financial liberalization, it can't be find any significant of such sterilization policy. Although domestic interest rates were drastically sensitive to changes in foreign interest rates right after the relaxation of capital control, the sensitively moved back into its normal range after that short period.

Narongchai Akrasanee, Karel Jansen, Jeerasak Pongpisanupichit[12] analyzed the role of foreign capital in the economic development of Thailand. The

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[11] Prisadee Jindahra *Capital Flows and Monitary Policy in Thailand.* Master's Thesis, Graduate School,Thammasat University,1995.

[12] N.Akrasanee , K.Jansen and J.Pongpisanupichit. *International Capital Flows and Economic Adjustmetn inThailand.* Research Monograph No.10. Bangkok "The Thailand Development Research Institute,1993.

study tried to assess the role of external finance in the processes of growth and structural change and searched for the impact of the inflows in the patterns of Thailand's domestic savings and investment, on the rate and structural of economic growth, and macroeconomic stability.It was particular focus on the policy problems that inflows created , and on how actual economic policy responded to them. The characteristic of the methodology was the interaction between international financial flows and the savings and investment behavior of the main institutional agents in the society that receives the funds .It is hypothesized that structural differences in the spending behavior of households and one corporated businesses,private corporations,public enterprises and the government process and evaluate the effectiveness of structural adjustment policies and debt management in a developing countries . The study was in 1970-1990 and are divided into 5 periods which are 1970-1974,1975-1979,1980-1982,1983-1986 and 1987-1990. In those 5 periods,the study showed that the growth and stability of the Thai economy had been very sensitive to the shock that affected international trade and finance.

2.2 Theoretical Background of Capital Inflows

Capital inflows that will be referred below comprise of three components, namely, Foreign Direct Investment(FDI), Portfolio Foreign Investment (PFI) ,and Foreign Loans and will be explained in its parts as follows:

2.2.1 Some Characteristics of Foreign Direct Investment

The Foreign Direct Investment was defined as " Foreign Direct Investment is the class of capital movements which aims mainly at the control over management and profits of the enterprise abroad. In other words, it includes the ownership of the firms by capital participation with management authority by: (1) the acquisition of the stocks of the existing foreign firms to participate in the management of the firms concerned , or take-over of the existing firms themselves; (2) the establishment of a new subsidiary abroad (in case of 100 percent ownership) or participation in a joint venture through stock holdings: and (3) the acquisition of real assets for the purpose of business activities(e.g. the establishment of new

foreign branches, offices and factories, take-over of existing factories or the expansion of the existing foreign branches and factories.)"[13]

The Patterns of Foreign Direct Investment

For the geographic pattern of foreign direct investment,Aliber[14] thought that it reflects the dispersion in capitalization rates for equities denominated in different currencies.The United States used to be the largest net source of foreign investment because capitalization rates for U.S. firms are higher than those of foreign firms.Higher capitalization rates attached to U.S. equities reflect a preference by the markets for having assets denominated assets exceeds that on assets denominated in other currencies. The surge in U.S. foreign direct investment which occurred in the 1920s coincided with the fall in the currency premium in dollar assets relative to that of sterling assets. Prior to World War I, the currency premium in sterling assets was higher than that on dollar assets, and Great Britain was the largest source country for foreign direct investment.

The differences in the pattern of foreign direct investment reflect the size of the host-country market, the value of patents,the height of tariffs, the costs of doing business abroad in a particular industry, and the dispersion in capitalization rates, both by country and by industry within countries. Other things being equal, for any given difference in the capitalization rates of countries, foreign investment will tend to be greater in those industries in which the spread in capitalization rates is greatest.The higher the tariffs,the greater the incentive to exploit the patent in the host country; the greater the dispersion in capitalization ratios, the larger the incentive for foreign investment relative to licensing in a host-country market of any given size. In some industries, differences in the size of the market among possible host countries will dominate differences in capitalization rates; thus foreign investment may be higher in developed countries than in the developing countries, where markets are smaller.Where the cost of economic distance is high and the value of the patents is low,direct investment will tend to be low.

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[13] Kiyoshi Kojima *Japanese Direct Foreign Investment: A Model of Multinational Business operations*. Tokyo: Charles E. Tuttle Company,1988.

[14] R.Z.Aliber " A Theory of Direct Foreign Investment." in *The International Corporation: A Symposium*, ed. by C.P. Kindleberger. Massachusettes: MIT Press, 1970.

One consequence of this view is that foreign direct investment will tend to be larger in the more capital-intensive industries, since the disadvantage of the host-country firms is larger, the larger the contribution of capital to production,Similarly,foreign direct investment should tend to be high in research-intensive industries, since research is a form of capital investment.Foreign direct investment may be small in some capital-intensive industries like steel production either because the cost of doing business abroad is higher of because the value of patents is low.

Foreign direct investment through takeovers can be explained by the difference in capitalization ratios. The takeover involves the purchase of a patent, distribution system, or managerial talents by source-country firms: the source-country firm incurs added cost of doing business abroad.In some cases, the explanation for takeovers may be in terms of certain complimentarities not necessarily available to other host country firms.

The question is why these firms invest abroad rather than export and why these foreign firms have not sold their patents to U.S. firms.The answer lies in terms of the price at which they can sell their patents, and the market's valuation of their income stream generated in a country whose currency is subject to a lower currency premium.If the price offered for a patent is very low, then the firm may invest in that country rather than license,even though its profit rate will be lower than the profit rates of host country competitors. Given the national differences in capitalization rates, the foreign firm might invest the receipts outside the United States and increase its total earnings. Each foreign firm compares the income stream from investment in a country whose currency is subject to a lower currency premium. If the price offered for a patent is very low, then the firm may invest in that country rather than license, even though its profit rate will be lower than the profit rates of host country competitors.

Given the national differences in capitalization rates, the foreign firm might invest the receipts outside the united States and increase its total earnings. Each foreign firm compares the income stream from investment in a variety of countries and the capitalization ratio the market attaches to each income stream.Some foreign firms might found it attractive to have direct investments in the United States, for the presence of dollar income stream may increase the market valuations of their equities by more than would larger income streams from sources

outside the United States. The difference in the capitalization rates applied by the market to the income is consistent with a currency premium, as long as the market recognizes that the foreign firm receives and income stream generated in a currency in which the market attaches a high currency premium.

The Notion about Foreign Direct Investment

Foreign direct investment has some noticeably items as Kindleberger[15] has stated about them which are

1.Direct investment involved with continuing control by the investor depending upon whether the equity ownership in various percentage amount of the foreign subsidiary. The economist might thought that the test is not the extent of ownership, but the locus of decision-making power.It is said that the 100 percent owned subsidiary of an the other company has carried decentralized decision-making so far that it tells its parent rather than ask it, even on the focal issues of dividends, capital budgeting, new products, research, and top personnel appointments, which decentralized corporations ordinarily reserve for centralized decision. If this is true, it is no different from and ordinary portfolio investment.

The control aspect of direct investment, which economists have been inclined to dismiss, is increasingly assuming political significance.In part it is the result of an unresolved conflict in international law: in part the result of what we may loosely characterize as pure nationalism. On the first score,For example, The United States assumes that it has the right if require parent companies to direct the operations of their subsidiaries in ways that conform to American purposes,While foreign governments, sovereign over the territory where these subsidiaries are located,deny the existence of such a right.

What it has been called pure nationalism is the uneasiness that many people instinctively have when they contemplate the fact that the activities of institutions within their economy and policy are "controlled" from outside the political unit. It could argue that this feeling,like so many of the instincts direct investment or the international corporation arouses over the glove, is not to be

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[15] C.P. Kindleberger *American Business Abroad.* New Haven: Yale University Press, 1969.

trusted.The international corporation should be judged by how it operates, not for what it is. Scratch any of us deeply enough and it will be found instincts of nationalism, overlain though they may be with layers of civilizing repression, and equally,instincts of peasant attachment to the soil: also populist fear of outside capital,mercantilist pleasure in expanding exports, and perhaps others. The reactions are understandable, but they are not on that account to be approved.

The political,as distinct from the economic and legal,issue of control is thus made up of two elements, one involving attempts by governments to achieve national purposes through international corporations with headquarters in their jurisdictions and of other countries to resist them, and one it has been called pure nationalism. It will be difficult to keep distinct.

2.A local company has an advantage over a foreign company and it is expensive to operate at a distance, expensive in travel, communication, and especially in misunderstanding. To overcome the inherent native advantage of being on the ground, the firm entering from abroad must have some other advantage not shared with its local competitor. The advantage typically lies in technology or patents. It may inhere in special access to very large amounts of capital, amounts far larger than the ordinary national firm can command. It may have better access to markets in foreign countries merely by reason of its international status.The company may coordinate operations and invested capital requirements at various stages in a vertical production process and , because of its knowledge of requirements at each stage and the heavy cost of inventories, be able to economize through synchronizing operations.It may merely have differentiated products built on advertising.Or it may have truly superior management.But some special advantage is necessary if the firm is going to be able to overcome the disadvantage of operating at a distance.

The firm must be able not only to make higher profits abroad than it could at home, But it must also be able to earn higher profits abroad than local firms can earn in their own markets, For all its imperfections, the international capital market would be expected to be able to transfer the capital from on country to another better than a firm whose major preoccupations lie in production and marketing.

Thus,Kindleberger agreed with Stephen Hymer that direct investment tends to be monopoly competition and it can be further imply that first, direct investment will not occur in industries with pure competition. Second,a company is not interested in acquiring local partners in a joint venture, seeking to keep the good thing for itself: at the same time, the local investors naturally resist the suggestion that they should buy the shares of the parent company: the return on the overall stock is diluted as compared with the profitability of the local situation which they observe. Third, direct investment takes place in two directions in the same industry, which would not be the case if the movement were based on general levels of profit.

3.Direct investment differs from free competitive system. Such system that firms lack power and countries do not intervene. Moreover,there is a determinate solution and resources are allocated by the invisible hand price. Firms maximize profits in the scale economies and the need the maximize national income as well.

But in direct investment case, firms have power over price,and governments intervene.But firms and governments have and opportunity to choose the basis for intervention and, specifically, whether they are concerned with short-run or long-run interests. The difficulties crowd in especially where firm and country, engage in confrontation, choose different standards of conduct or wear each other down with countervailing power.

Take the interest of the firm:in the short run it benefits from paying the lowest possible prices for outputs. Under competition, it pays competitive prices for factors and sells goods at competitive prices. In monopolistic competition it benefits from buying at monopsonistic prices and selling at monopoly prices - the short run. But short-run maximization may breed ill will and encourage entry. An important judgment is how long these reactions will take to be realized, and at what rate of interest on should discount the difference between monopoly profits and some lower level that produced a lesser reaction. The company with a low rate of interest may maximize its life expectancy, if not its short-run profits,by charging prices below the monopoly and, approaching the competitive level, by paying somewhat more than monosony wages, rents, royalties, and taxes, to the extent that it can affect its taxes by choosing where to earn income. It may buy supplies locally in the host country despite their higher price, or it may import supplies from

the parent despite their higher price, depending upon which government it chooses to court more assiduously. Still a longer-run view may be to calculate competitive price and buy and sell where profits would be maximized on this basis. The procedure can be defended by liberal standards.

For the host country,short-run maximization conduct turns on whether it wants to attract another company as an investor. If so, it must behave generously toward direct investors .If not, the maximization course in the very shortest run probably lies through confiscation.

4. Direct investment can increase welfare in the host country because where direct investment transfers capital, technology, and management from countries where they are abundant to countries where they are scarce, it is evident that efficiency has been increased and Parrot optimality approached. Whether world welfare has been increased depends on the observer's international social welfare function. Labor in the home country will be worse off, having to be combined with less capital, technology, and management and hence receiving lower returns, and perhaps even experiencing unemployment. The gain for the investing country may include special benefits for capital and losses for labor which are regarded as unattractive: on the other hand, in the host country there are likely to be gains for labor and losses for capital, as well as the world cosmopolitan gain.

Apart from the static improvement through moving in the direction of equalizing factor prices internationally, there are also possibilities of dynamic gains: of training workers, or stimulation savings and capital formation through private and governmental increases in income.

The technology that the foreign firm brings to the host country may be suitable for the home country , with one set of factor proportions, but not for the host country, with cheaper labor and more expensive capital. Nonetheless,economies of scale may make it economical for the international company to adopt on technology worldwide rather than to adjust its technology and factor proportions from country to country to varying factor endowments and prices.

2.2.2 Background Theory for Foreign Direct Investment

The theory of foreign direct investment developed almost exclusively during the 1960s and 70s response to an unprecedented growth. In the fifties, the differential rate of return hypothesis gained the popularity. It was explained that foreign direct investment is a function of international differences rates of return on capital movement. Foreign direct investment flows out of countries with low returns to these expected to yield higher returns per unit of capital. It is derived from the traditional theory of investment which assumed that the objective of a firm is to maximize profits by adopting the marginalist approach of equating the expected marginal return with marginal cost of capital. The output hypothesis assumes a positive relationship between the FDI of the firm and its output(sales) in the host country. This hypothesis has the reason that firms increase that firms increase their investment in response to their sales and that domestic investment of a country rises with its rising GDP. This was developed later by Jorgenson[16] whose his theoretical model showed the relationship between the FDI and the output in the host country by using a generalized form of the flexible accelerator model by Koyck and the neoclassical domestic investment theories.

Other attractiveness of host countries which drawn from other hypothesis is labor cost by Vernon[17]. He thinks that foreign firms decided to invest in other countries to obtain some cost advantages that was cheaper labor. This hypothesis has been widened later many times and he finally included other factors costs, that were land and material cost. Hymer[18] and Caves[19] traced the hypothesis in the same direction.Hymer believes that the primary objective for firms to have overseas investment is to control foreign operation due to imperfect market power in the home market.The imperfect market power arises because of the firm's ownership-specific advantages such as better or superior technology, better entrepreneurship,etc.Caves explains that FDI occurs mainly in industries characterized by certain market structures in both home and host countries. He

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[16] Dale W. Jorgenson "Capital Theory and Investment Behavior." *The American Economic Review*, vol. 53 (1963) :247-259.

[17] Raymond Vernon " International Investment and International Trade in the Product Cycle" *Quarterly Journal of Economics*, vol. 80(May 1966).

[18] Stephen H. Hymer "International Investment and International Trade in the Product Cycle." *Quarterly Journal of Economics*, vol.53(1963):247-259.

[19] Richard E. Caves "International Corporations: The Industrial Economic of Foreign Investment" *Economics*,vol.38(Feb 1971).

devides FDI into horizontal and vertical . horizontal FDI usually occurs in industries where product differentiation and oligopolistic power exist while vertical FDI occurs mainly because the firms want to secure its raw materials or intermediate products for its own operation in the home market.

In Buckley and Casson[20] opinion, the internalization of markets across national boundaries leads to FDI, and this process is continued till the benefits and costs of further internalization are equalized at the margin. Benefits include avoidance of time lags, bargaining and buyer uncertainty, minimization of the impact of government intervention through transfer pricing and the ability to use discriminatory prices. Costs of internalization arise e.g. from administrative and communication expenses.

Thus, factors which affect foreign direct investment are formed as follow:

$$FDI = f(GDP_t, y_t, MLC_t)$$

where:

FDI	=	Inflows of Foreign Direct Investment to Thailand.
GDP_t	=	Gross Domestic Product at time t
y_t	=	Yield from investment at time t
MLC_t	=	Minimum Labour Cost at time t

2.2.3 The Portfolio Investment

The portfolio investment covers transactions in equities, other securities, and financial derivatives-except when these transactions relate to the direct investment to reserve assets components of the financial account. Both short- and long-term instruments are covered under portfolio investment.The essential characteristic of instruments classified as portfolio investment is that such instruments are traded or tradable. That is, the instruments offer investors the

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[20] Peter J.Buckley and Mark Casson *The Economic Theory of the Multinational Enterprise*. London:Mcmillan, 1985.

flexibility to shift, regardless of the underlying maturity of the instrument, invested capital from one instrument to another. Portfolio investors are more concerned than direct investors about rates of return that are independent of any influence investors may have and about being able to move funds quickly if circumstances so dictate.

The Objectives of Portfolio Investment[21]

Establishing portfolios for individuals is the most diverse of investment situations. There is a different set of circumstances, needs, and opportunities for every individual investor. Considerations that shape and modify investment strategies and objectives are extremely wide.

Portfolios differ widely in their requirements, time horizons, risk thresholds, and cash flows. The objective of portfolio management is to reconcile these variables in such a manner as to minimize risk and maximize return, but the goal and the process of reconciling the variables is the same regardless of who owns the assets in question.

All portfolios share one objective: to provide the largest pool of assets from which the owner can finance expenditures now or at some future date. Since the future is uncertain, however, we can never know precisely what the value of assets will be over time, and we know even less about what their purchasing power will be. The degree of risk that we take should, therefore, vary in each case, based upon the time horizon within which we have to work and the likelihood that the portfolio will enjoy a net cash inflow of will be subject to cash withdrawals. The latter is a matter of liquidity. The art of portfolio management consists of nothing more than selecting securities that fit within the time and cash flow constraints of the investor; the application of this process to differing portfolios is only a variation on a constant theme.

Traditionally investors differentiate among four goals: current income, growth in current income, capital appreciation, and preservation of capital. If viewed rationally, however, all investors should want to achieve all four of these goals: obviously, no one wants to lose money, while everyone wants to have as much as possible. The problem is that most of the time circumstances deny investors

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[21] Donald E. Fischer and R.J. Jordan *Security Analysis and Portfolio Management.* Englewood Cliffs, N.J:Prentice-Hall ,1993.

opportunity to achieve all four goals simultaneously. The search for capital gains inevitably involves risk of loss of capital; assured income is seldom available with opportunities for capital gains - high income is frequently associated with high risk. Therefore, when the time horizon is short of when investors have to face cash withdrawals from the portfolio, they lean toward assets with the greatest certainty of income and capital value. As the time horizon stretches out into the future, and when investors are adding to rather than withdrawing principal, they can live more comfortably with uncertainty.

Portfolio Investment Constraints

1.Just as was true of investment objectives, the constraints imposed on individual investors are subject to wide variance. That is true of liquidity needs which are highly individualistic, and hence, highly variable across individuals.

some individuals use their investment accounts as combinations of checking and savings accounts. For these individuals, an adequate amount of fund should be kept in a liquidity reserve as large as the largest cash drain net of cash inflows that is budgeted. This reserve is usually easy to program. It should be invested in exceptionally high quality, short maturity debt issues such as a money market fund or the types of issues-Treasury bills, commercial paper, certificates of deposit. and bankers acceptances- in which these funds are invested.

Furthermore, if the assets have poor marketability, such as residential real estate or stock in a closely held business, liquidity needs should be estimated especially carefully and funded generously.

2.Almost as important as risk and return in investment decision making is time horizon. This is the investment planning period for individuals. It is highly variable from individual to individual.

As indicated in the discussion of life cycles, individuals who are early in their life cycle have a long horizon, one which can absorb and smooth out the ups and downs of risky combinations of assets like common stock portfolios. These individuals can build portfolios of riskier assets and can use more risky investment strategies.

Other individuals who are later in their lifetimes have a much shorter horizon and should therefore tend toward less volatile portfolios, typically consisting of more bonds than stocks, with the former of higher quality and shorter duration (maturity/coupon combination) and the latter of higher quality and lower volatility.

3.Individuals are subject to a wide range of marginal tax rates and taxes were an important modifier of portfolio strategy. High bracket investors should consider investing the fixed income portion of their portfolio in a diversified group of municipal bonds if their taxable equivalent expected return exceeds that of taxable issues of equal risk. These same investor no doubt will look to investing the equity portion of their portfolios in a diversified group of stocks with large capital gains components relative to dividend income for a given level of risk.

4.The discussions of risk have emphasized the fact that, for most investment decisions, the major uncertainty is the probable volatility in the price of the asset and, in particular, its volatility relative to the prices of all similar types of assets.

Since everyone obviously wants to make as much money as possible,the determining question in structuring a portfolio is the consequences of loss. This seems far more important than the chance of loss. Even if the chance of loss is small, the consequences can be so serious that the individual must either avoid the risk altogether or must insure against it if it is unable to avoid.

2.2.4 Background Theory for Portfolio Investment

Portfolio investment can be explained by the theory of portfolio selection developed by Markowitz[22] and Tobin[23]. Markowitz views investor as a risk-averter. In a given expected rate of return,Those will always prefer the investment with minimum risk and in a given level of risk,those will always prefer the investment with maximum expected return. Markowitz assumes that the investor considers an investment in terms of the probability distribution of its return over a

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[22] Harry M. Markowitz "Portfolio Slection." *Journal of Finance*,vol.7(1952):77-91.

[23] James Tobin "Liauidity Priference as Behavior Towards Risk" *Review of Economic Studies*, vol.25(1958):65-86.

fixed holding period, that his decisions involve only consideration of the expected return and risk associated with and investment.

Markowitz showed that the variance of the rate of return was a meaningful measure of portfolio risk under a reasonable set of assumptions,and he derived the formulas for computing the variance of a portfolio. This formula for the variance of a portfolio not only indicated the importance of diversifying one investments to reduce the total risk of a portfolio, but also showed how to effectively diversify. The Markowitz model is based on several assumptions regarding investor behavior: first, investors consider each investment alternative as being represented by a probability distribution of expected returns over some holding period. Second, investors maximize one period expected utility, and their utility curves demonstrate diminishing marginal utility of wealth. Third, investors estimate the risk of the portfolio in the basis of the variability of expected returns. Fourth, investors base decisions solely on expected return and risk, so their utility curves are a function of expected return and risk, or their utility curves are a function of expected return and the expected variance(or standard deviation) of returns only. Fifth, for a given risk level, investors prefer higher returns to lower returns. Similarly, for a given level of expected return, investors prefer less risk to more risk.

Under these assumptions, a single asset of portfolio of assets is considered to be efficient if no other asset of portfolio of assets offers higher expected return with the same(or lower)risk, or lower risk with the same(or higher) expected return.

The application of portfolio model to modern portfolio theory has shown that wealthholders try to reduce risk of the assets by diversifying securities portfolio internationally.It can be seen in many studies such as Grubel[24] ,Levy and Sarnat[25] and Branson[26] .Markowitz provide a positive explanation for the diversification of risk asset, but the degree of which diversification can reduce risk

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[24] Herbert G. Grubel "Internationally Diversified Portfolios:Welfare Gains and Capital Flows" *The American Economic Review* vol.58(1968):1299-1314.

[25] Michael Sarnat and H.Levy "International Diversification of Investment Portfolios." *The American Economic Review*,vol.60(sept1970):668-675.

[26] William H.Branson , *Financial Capital Flows in the US Balance of Payments*. Amsterdam:North Holland Publishing Company,1968.

depends upon the correlation among security returns. If the returns are not correlated,diversification could eliminate risk. But if security returns are perfectly correlated, no amount of diversification can affect risk. The international diversification will be better. Grubel's study can explain international capital movement without the explanation from interest rate differentials. This work differs from the traditional yield theory which is use only interest rate attracting to support portfolio investment decisions. He shows that rates of growth in total asset holdings in two countries is the function in international capital movements.Thus, it is possible that an increase in the rate of economic growth of one country causes the rise of that country's gross purchases of foreign assets and causes the appearance of a net flow though the interest rate differentials remained at zero.

Interest rate was used as one of variables in explaining portfolio investment flows in Branson's study but he showed that using domestic interest rate and foreign interest rate together gave a better explanation.In fact, interest rate differentials seems to be more influential measurement than that of separated explaining.

The variables viewing above can be written in portfolio investment function as:

$$PFI = f(GDP_t, r_t^d, y_t)$$

where:

PFI = Inflows of Portfolio Investment to Thailand
GDP_t = Gross Domestic Product at time t
r_t^d = Interest rate differential at time t
y_t = Yield from market investment at time t

2.2.4 Foreign Loans

Foreign loans are forms of foreign capital. They are, however,different from other forms of capital because they are borrowed from foreign lenders to be used in a debtor country, Through a specific contract between domestic borrowers

and their foreign lenders, the loans explicitly impose commitment or obligation on the part of debtors to service their debts for a specific period of time . Unlike foreign direct and portfolio investment, the lenders of foreign loans do not have direct ownership privileges over the domestic borrowers' economic or business activities.[27]

Foreign loans has some determinants similar to those of foreign direct investment and portfolio foreign investmentAnother variable is current trade balance of the country which reflects the finance of loans to be balance;therefore the function of foreign loans will be

$$FL = f(r_t^d, CTB_t, y_t^d)$$

where:

FL	=	Inflows of Foreign Loans
r_t^d	=	Interest rate differential at time t
CTB_t	=	Current trade balance at time t
y_t^d	=	Domestic yield from loans at time t

2.3 The Capital Inflows Function

The function of capital inflows can be written in each part as follows:

Foreign Direct Investment function

Reviewing the past studies which stated about factor affecting foreign direct in investment above. The size of the market should be one of factors because it can serve the investment. Furthermore, there should be factors which is non economic aspects such as incentive to attract investment from abroad by government . It may be seen in the form of tax reduction. Another factor affects in determining investment abroad should be the government stability of the host

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[27] Charl Kengchon,*Thailand 's Perspective on Foreign Loans.* Bangkok:The Thailand Development Research Institute,1995.

country.Therefore, the function of determinants of foreign direct investment which will be used in this study is:

$$FDI = f(GDP_t , y_t , POP_t^d , MW_t , D1 , D2)$$

where:

FDI = Inflows of Foreign Direct Investment to Thailand.
GDP_t = Gross Domestic Product at constant price at time t
y_t = Yield from investment at time t
MW_t = Minimum Wages at time t
POP_t^d = Population in Thailand at time t
D1 = Political situation ;D1 = 1 if political shock,and D1 = 0, otherwise
D2 = Withholding tax ;D2 = 1 if exemption from tax,and D2 = 0,otherwise

The data of Gross Domestic Product is in the unit of millions of baht the same as yield from investment.The minimum labor cost is in the unit of one baht and is the average all through the year.

Portfolio Investment function

Besides the factors from the past studies, exchange rate may have effects in decision to invest in portfolio because if the currency of host country is depreciated, it will cause high risk then the investor may diversify portfolio to other countries. In addition to exchange rate, the stability of politic seems to be essential in this kind of investment. This study will use deviation of exchange rate instead to find out exchange rate effects to portfolio Investment.Thus,the function used in this study will be

$$PFI = f(GDP_t , r_t^d , y_t^p , Er_t , D1)$$

where:

PFI = Inflows of Portfolio Investment to Thailand

GDP_t = Gross Domestic Product at constant price at time t

$r^d_{t_p}$ = Interest rate differential at time t

y_t = Yield from market investment at time t

ER_t = Deviation of exchange rate at time t

D1 = Political situation ;D1 = 1 if political shock,and D1 = 0, otherwise

The data of Gross Domestic Product and Yield from market investment are in the unit of millions of Baht.

Foreign Loans function

From the reviewing of the past study this function should also has the effect of political situation and the effect of exemption of tax in motivate investment.Moreover, the effect of exchange rate is an important factor too and this study will use the deviation of exchange rate to consider. The function in this study which will be used econometric model estimation is

$$IFL = IFL(r^d_t , CTB_t , y^d_t , ER_t , D1 , D2)$$

where:

FL = Inflows of Foreign Loans

r^d_t = Interest rate differential at time t

CTB_t = Current trade balance at time t

y^d_t = Domestic yield from loans at time t[28]

ER_t = deviation of exchange rate at time t

D1 = Domestic political situation ;
D1 = 1 if political shock,and D1 = otherwise

D2 = Withholding tax ; D2 = 1 if exemption from tax, and D2 = 0,otherwise

[28] The domestic yields from loans will not be used to estimate because those yields can not be collected.

Current trade balance is in the unit of millions of Baht because it can be obtain from the balance value of export and import the same unit of yield.

2.4 Statement of Hypothesis

Hypothesis for determinants of Foreign Direct Investment

The relationship between Gross Domestic Product(GDP) and Foreign Direct Investment(FDI) goes in the same direction. GDP is used as an economic indicator. An increase in GDP will show good situation of economic. This will motivate the foreign direct investment .On the other hand, if GDP decrease,FDI will decrease.

Domestic yield from investment and FDI have a positive relationship.If domestic yield increase,foreign investors will increase their investment and if domestic yield from investment decrease, FDI will increase

Population is one of factors affecting FDI and has the positive relationship with FDI.The large amount of population in the home country shows the strong demand of consumption. This will attract FDI more than that of small amount of population.

Minimum wages of the host country has the negative relationship with FDI.It can be said that if the minimum labor cost is low,FDI will be high and if the minimum labor cost is high,FDI will be low.

Dummy variable(D1) is substitute for political situation.It should have a negative sign. Whenever the country has a stable politic, the investor will invest more and whenever the country has an political instability, the investors will not have confidence to invest.

The second dummy variable (D2) is substitute for withholding tax on interest and it should have a positive sign. Whenever government use this policy,it will be the motivation for FDI.

Hypothesis for determinants of Portfolio Investment

Gross Domestic Product has a positive relationship with Portfolio Foreign Investment. If GDP increases, it will attract more PFI in the country.On the other hand,if GDP is decrease , PFI will decrease too.

Interest rate differential between domestic and foreign rate has the positive relationship with PFI.If the difference between domestic interest rate and foreign interest rate is larger,there will be more PFI in host country and if the difference is smaller, PFI will increase.

Portfolio foreign investment and yields from investment have a positive relationship.High yield from investment in the market will stimulate foreign to invest more. Low yield from investment results in decreasing in portfolio foreign investment.

Portfolio foreign investment and deviation of exchange rate should have a positive relationship. If there is high value of exchange rate ,investment in portfolio will increase.

Dummy variable substitute for political situation has a negative sign with portfolio investment the same as in the FDI.

Hypothesis for determinants of Foreign Loans.

The difference between domestic and foreign interest rate goes in the same direction with foreign loans.Thus if there is a large interest rate differential,foreign loans will increase and if interest rate differential is snall,foreign loans will decrease.Because loans can be obtained from either domestic or foreign sources.

Current trade balance which we can get from the difference between export and import has a negative relationship with foreign loans or has a negative coefficient. High positive in current trade balance shows that there is current trade surplus:therefore foreign loans will be in low level. On the other hand, high negative in current account balance shows that there is current trade deficit.

Foreign loans and deviation of exchange rate should have a positive relation. If there is high value of exchange rate ,foreign loans will also increase.

Dummy variable substitution for political situation has a negative sign the same as in the FDI and PFI. Instability politic in the country cause the risk in foreign loans so foreign loans will be contracted.

Dummy variable substitution for withholding tax on interest in foreign loans has positive sign. If there is exemption on the levying of withholding tax,it will be the motivation in lending loans.