KADIR HAS UNIVERSITY

GRADUATE SCHOOL OF SOCIAL SCIENCES

DEPARTMENT OF ECONOMICS

FINANCIAL LIBERALIZATION
AND
THE DIRECTION OF INTERNATIONAL CAPITAL FLOWS

Graduate Thesis

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Supervisor: Assoc. Prof. Dr. ÖZGÜR ORHANGAZİ

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I

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ÖZET

Bu çalışma gelişmiş ve gelişmekte olan ülkeler arasındaki sermaye akımlarının yönünü incelemektedir. Öncelikle, 1980 dönemi sonrasında finansal liberalleşme ile sermaye akımlarının önündeki neredeyse tüm engeller dünya çapında en aza indirilmiştir. Bu serbestleşme ve liberalleşme politikasının altında yatan en önemli amaçlardan biri, sermaye fazlasına sahip gelişmiş ülkelerden sermaye ihtiyacına gereksinimi olan gelişmekte olan ülkelere kaynak aktarımının sağlanması ve böylece ekonomik büyümenin canlandırılmasıdır. Bu durum çerçevesinde, gelişmiş ülkeler sermaye ihracatçısı rolünü üstlenmiş olacaklardır. Fakat gelişmekte olan ülkeler temelinde yapılan ve 2000-2011 arası dönemi kapsayan araştırma tam tersi bir sonuç ortaya koymaktadır. Sermeye, faiz ödemeleri, temettü giderleri, ülkelerin geçmiş borçları ve patent ve telif hakları ödemeleri gibi birçok neden dolayısıyla gelişmekte olan ülkelerden dışarı çıkmaktadır. Diğer bir anlamda, ana akım finans teorisinde planlananın aksine, gelişmiş ülkeler yerine gelişmekte olan ülkeler bu dönem içerisinde net sermaye ihracatçısı konumunda bulunmaktadır. Bu sonuca ulaşmakta kullanılan en temel göstergeleri ise ödemeler dengesi içerisindeki cari hesap ve bu hesabın iki alt kalemi olan net gelir hesabı ve telif ve lisans ücreti hesabı oluşturmaktadır. Tüm bu üç hesaptaki değişimler gelişmekte olan ülkelerin sermaye ihracatçısı rolünü istatistiksel olarak kanıtlamaktadır.

GENERAL KNOWLEDGE

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ABSTRACT

This study examines the direction of capital flows between developed and developing countries. Primarily, almost all restrictions on capital mobility have reduced following the financial liberalization all over the world after 1980 period. One of the most important aim behind the liberalization policy is the providing of the resource allocation from capital-abundant developed countries to capital-scarce developing countries and thereby the stimulation of economic growth. In other words, by doing so, developed countries would become net capital exporter. However, the analysis depending developing countries case and covering 2000-2011 period put different result. Actually, capital is on net outflowing from developing countries to developed countries due to various reasons such as interest payments, dividend payments, past borrowings and copyright and patent fees. In other words, contrary to the theoretical concept of the mainstream finance, developing countries is placed as a net capital exporter in this period instead of developed countries. The main indicators which are using so as to reach this result, are the current account and its two sub-items which are net income and royalty and licensing fees. Changings in both measures statistically prove that the developing countries are net capital exporter to developed countries.

ACKNOWLEDGEMENTS

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LIST OF ABBREVIATIONS

DCs   Developed Countries

EMH   Efficient Market Hypothesis

FDI   Foreign Direct Investment

FRA   Financial Repression Approach

GDP   Gross Domestic Product

IMF   International Monetary Fund

LDCs   Least Developed Countries

LMI   Low and Middle Income Countries

MENA   Middle East and North Africa

MPT   Modern Portfolio Theory

OTC   Over-the-Counter

TRIPS   Trade-Related Aspects of Intellectual Property Rights

UMM   Unorganized Money Markets

U.S   United States

WDI   World Development Indicators

WTO   World Trade Organization

PART 1

INTRODUCTION

1.1 The Aim of the Thesis

The thesis grounds on the investigation of the international capital flows between developed countries (DCs) and low and middle income (LMI) countries (Note LMI countries reported in this and the following paragraphs will also be named as developing countries and will be used changeably). In this analysis, I will try to show that the arguments of mainstream economics about the capital flows between DCs and LMI countries are not reflect the real case over 2000-2011 period. To show that I will use three measures which are current account balance, net income and royalty and licensing fees. These three measures will lead us to argue that capital is not flowing into LMI countries from DCs, rather it is flowing out from LMI countries to DCs. In this case, interest payments and dividend payments to DCs causing from past borrowings and also the patent and copyright fees imposed by Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement are the main factors behind this outflowing process of capital from LMI countries.

1.2 The Outline of the Thesis

The rest of the thesis is organized as follows. In the second part of the thesis, I will look at the financial sector and its functions depending to the arguments of mainstream finance literature. Primarily, I will begin by classifying the financial sector in three points: The first classification will be on money markets and capital markets, the second classification will be on primary markets and secondary markets and the third classification will be on formal markets and informal markets. Later on these classifications, I will present six functions of financial markets. Even though these functions may seem to exhibit different structures, they complement each other. These six functions include mobilization of funds, risk management through

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diversification, reduction of transaction costs and information costs, reduction of monitorizing costs of firm managers, rise of exchange of goods and services, and the reduction of financial intermediation costs. Additionally, I will focus on the explanation of financial liberalization approach by looking at McKinnon-Shaw hypothesis and on the critical approaches. Actually, stressing on this hypothesis will lead us to understand the theoretical basis of mainstream finance. Furthermore, I will adress to the financial development model of Maxwell Fry which contributed the development process of financial liberalization approach by showing the tripartite relationship between savings, investment and economic growth. Also, I will try to present theoretical and empirical investigations on financial liberalization. On the other hand, the critical approaches are another important section of this part. It is important because they critically approach to the financial liberalization process by examining almost all of the determinants of the economic functioning of developing countries. Most influential approach comes from the neostructuralists comprising of the ideas of Van Wijnbergen and Lance Taylor. In addition to neostructuralists arguments, I will present the analyses of two different approaches. These approaches will include the asymmetric information and finance-based macroeconomic models. At the final section of the second part, I will stress on modern portfolio theory. Focusing to this theory will provide us an overview to understand the mainstream ideas about the capital flows process. It will also provide basis for at least in the context of mainstream views before the analysis of the direction of capital flows between DCs and LMI countries.

In the third part of the thesis, I will try to show the direction of international capital flows between DCs and LMI countries over 2000-2011 period. Actually, my argument is grounded on the critiques of traditional views for capital flows which argue that money is flowing into LMI countries from DCs. However, the statistics show much more different results than traditional arguments. Three measures prove that situation. These measures include capital account balance, net income and royalty and licensing fees. In the light of these measures, the money is on net outflowing from LMI countries into DCs. Indeed, the main factors in this process can be depended to the interest payments, dividend payments, past borrowings, patent

and copyright fees, and also inadequacy of technological development of LMI countries and the role of TRIPS agreement.

PART 2

FINANCIAL LIBERALIZATION

Primarily, in mainstream finance literature, financial sector is explained as an organization that facilitates the flows of funds in the economy depending to different factors that affect these flows and contribute to the formation of funds. It includes different types of financial markets and these markets provide the basic economic function of channeling funds from households, firms, and governments that have save excess funds by spending less than their income to those that have a scarce of funds due to a wish towards spending more than their income (Mishkin, 2007: 23).

Financial markets also "…allow funds to move from people who lack productive investment opportunities to people who have such opportunities" (Mishkin, 2007: 25). These markets are critical because they provide efficient allocation of capital and improve the well-being of consumers, thereby contribute to higher production and efficieny for the overall economy. (Mishkin, 2007: 25)

Two kinds of financing methods have an important impact on the functioning of these financial markets: direct finance and indirect finance. In direct finance, "…borrowers borrow funds directly from lenders in financial markets by selling them securities" (Mishkin, 2007: 24) and there is unstraightforward relationship between economic agents. In other words, there is no need for financial intermediation. However, in an indirect finance, economic agents come together by using financial intermediaries such as deposit institutions (banks), contractual savings institutions and investment intermediaries. Both of these financing methods try to minimize transaction and information costs, and risks emerging in financial relations.

Financial markets can be categorized according to their characteristics. First categorization is about the maturity of securities traded in two financial markets

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which are money markets where "…only short-term debt instruments (generally those with original maturity of less than one year) are traded" (Mishkin, 2007: 27), and capital markets where "…longer-term debt (generally those with original maturity of one year or greater) and equity instruments are traded" (Mishkin, 2007: 27). Second categorization is about the characteristics of transaction of financial markets and includes primary markets and secondary markets. Primary markets can be explained as a financial market in which "…new issues of a security, such as a bond or a stock, are sold to initial buyers by the corporation of government agency borrowing the funds" (Mishkin, 2007: 26). On the other hand, secondary markets are financial markets in which "…securities that have been previously issued can be resold" (Mishkin, 2007: 26) and can be categorized into two ways: one way is to organize exchanges and the other way is to have an over-the-counter (OTC) markets. Final classification is about the characteristics of the organizational form of financial markets and includes formal markets and informal markets. On the one hand, formal markets have a physical place where funds are exchanged and government plays an active role as a supervisor in these markets. On the other hand, informal markets do not necessarily have a physical place for an exchange of funds. In this case, financial intermediaries and OTC markets can be shown as an example for formal and informal markets, respectively.

Finally, all of these financial markets have different kinds of functions in the economic system and are assumed to complement each other. Therefore, these functions can be ranged as follows (Levine, 1997): mobilization of funds; risk management through diversification; reduction of transaction costs and information costs; reduction of monitorizing costs of firm managers; rise of an exchange of goods and services; and reduction of financial intermediation costs.

2.1 FINANCIAL LIBERALIZATION

It is argued that pre-1980 era is described as financially repressed period for almost all developing countries. In most of these countries, it is not allowed for the determination of prices by market forces because of the requirement and necessity of

resource transfers to public sector. This repression can be examined in two areas. They consist of the repression of interest rates and the limitations to capital flows. In financially repressed economies, interest rates and exchange rates are determined below the levels than the levels determining in free market conditions. However, with the increasing in inflation level, macroeconomic stability of repressed economies are affected negatively. In such a case, while real interest rates occur in negative values, the domestic exchange rate is overvalued. Although it causes negative effects on current account balance, it also causes to a decrease in investment levels and thereby decrease in economic growth.

Financial liberalization approach can be thought as a result of these processes and suggests different policies against the problems of financially repressed economies. For instance, the collapse of Bretton Woods system and the stagflationary economic conditions of 1973 can be shown as a starting point for financial liberalization approach, especially in developing countries.

In fact, financial liberalization approach is an adopted condition of neoclassical theory of finance to developing countries. It actually takes its theoretical foundations from studies of McKinnon (1973) and Shaw (1973) who are known as the most popular economists in Stanford school of thought. In the basis of this approach, there are two assumptions. These assumptions indicate that financial liberalization will provide efficient allocation of savings across the world and, therefore, there will be an equality in interest rates between countries. Additionally, in the light of these arguments, removing of financial repression and providing of an financial deepening bring along with an efficient allocation of resources and increase in economic growth.

Williamson and Mahar (2002: 15-16) outline six different but also incorporated dimensions of financial liberalization. First, it supports the abolishment of all credit controls in order to provide of free flows of financial assets. Second, interest rates should be freely determined in the free market system. Third, all of the restrictions and impositions on banks and on financial sector should be removed. Fourth, banks

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should have their own autonomy. Fifth, banks and private system should be subjected to the concept of private property. Finally, international capital flows should be liberalized in line with an abolishment of all credit controls.

According to financial liberalization approach, interest rate ceilings decrease the rate of economic growth in developing countries. One of the most important reason of that decrease is an impede of interest rate ceilings to acquire funds. Also, it causes to a contraction of financial sector. Ceilings on nominal interest rates widen the spread between real interest rates and inflation in the long run. Therefore, the interest rates deviate from its equilibrium level. Hence, low and even negative real interest rates become dominant in the economy.

In this case, the effects of low or negative real interest rates arise as a detering factor for an incentive to save but rather as a promoting factor for an incentive to consume. However, decrease in savings rate causes to a contraction in credit supply. In some cases, it results with the self-financing method but its efficiency mostly remains limited. Also, the lack of financial intermediaries can be added as a reason to that constraint.

Contraction of credit supply and low rates of interest rates are caused to a misallocation of resources. In other words, these funds do not canalize into productive areas. Rather, available capital is allocated depending to credit rationing, government intervention and political repression.

In the light of these informations, the policy implications of financial liberalization can be described as follows: abolition of all controls upon the deposit and credit interest rates; abolition of exchange rate controls; loosening of restrictions on the entry of foreign institutions into domestic financial sector; permitting of residents to enter into foreign financial markets; and reduction of high rates of taxes on financial profits.

Also, financial liberalization can be divided into two parts as an internal financial

liberalization and external financial liberalization. On the one hand, by an application of internal financial liberalization, establishment of nominal interest rates is provided by banks rather than by government. By doing this, it is aimed of an determination of interest rates in money markets in line with demand and supply. In order to provide it, all of the restrictions and limitations on interest rates are removed. On the other hand, providing of an integration with international financial markets and determination of exchange rates in free markets can be ranged as an example for an external liberalization. Free movements of capital will be provided together with the removing of financial repression on financial sector which will in turn equalize factor incomes. It means that income inequality will be narrowed between capital and labour. Also, as a result of the liberalization in financial markets, new types of tools, institutions and sectors will be emerged and these innovations in the economy will in turn bring an increase in investment and economic growth.

2.2 MCKINNON (1973) AND SHAW (1973) HYPOTHESIS

Financial liberalization approach introduces basic points of the theoretical underpinings of financial sector in the process of economic development of developing countries. Actually, this approach has created rationale for an understanding of the pre-1980 period. It has mainly focused on the explanation of the interventionist policies in credit markets by considering interest rates, inflation, selective credit controls and subsidies; and it has tried to present the functioning of public sector and its role in the development process of developing countries.

The theoretical basis of financial liberalization approach depends on the studies of McKinnon (1973) and Shaw (1973) and their arguments are called as McKinnon-Shaw hypothesis in the literature. They define financial liberalization as an approach in which economic system should be determined by free movements of market forces in order to provide of an efficient allocation of scarce resources. By allocating these resources efficiently, they channel into most productive investments. In this context, financial liberalization, on the one hand, will provide of an increase in savings and investments by increasing the real interest rates; and, on the other hand, it will

stimulate the economic growth by means of an increase in the efficiency of investments.

According to McKinnon (1973) and Shaw (1973), financial markets of developing countries are under repression. That's why, they name this kind of markets in developing countries as "financially repressed" and, hence, the policies and applications of pre-1980 period are defined in financial repression approach (FRA). Basically, the essential elements of FRA can be ranged as follows: the limitation of deposit interest rates and credit interest rates; the application of different required reserve ratios as to the deposits; the prohibition of bank entries; the application of selective credit policies; and the imposition of restrictions to capital inflows and outflows.

For example, according to Roubini and Sala-i Martin (1992: 1), there were four reasons for financial repression. First, the government required to impose anti-usury laws thereby intervening in the free determination of interest rates. Second, regulated banking system was much more effective in order to control money supply. Third, governments had better information than free markets and private banks for what the optimal allocation of savings was or what kind of investment would be desirable for social perspective. Fourth, following the financial repression, interest rates would be below market rates, which reduces the costs of government.

Moreover, McKinnon and Mathieson (1981) present four characteristics of financially repressed economies. First, the domestic financial sector is isolated from the foreign markets due to being depended to strict controls of capital account. Second, the primary markets are generally at the insignificant level and the monetary system is played an important role as an intermediate between savers and investors. Third, goverments are repressed for acquiring income in order to provide necessary resources for the realization of the desired expenditure level. Finally, under low interest regime, the competent authorities provide credit subsidies and if the sufficient resources are not satisfied at the stable price level in order to close the deficit in public financing, it is possible to see an increase in inflation.

According to McKinnon-Shaw hypothesis, low rates of savings are the main characteristics of the financial repression. Low savings rate affect investments negatively and, therefore, reduces the economic growth. In order to increase savings, they suggest that the ceilings on interest rates should be removed and should be determined in free market conditions. Also, they argue that financial markets should be liberalized with economic reforms in order to escape from the low interest rate-low economic growth paradox. Thus, it will be given up from artificial determination of interest rates in low levels and these interest rates will be realized in high levels in free market conditions. High real interest rates will increase domestic savings and necessary resources for new investments will be provided. Thus, economic growth will be affected positively in the long-run. In other words, entrepreneurs will tend to move into productive investments rather than to move into unproductive investments by means of high interest rates. In summarize, the process will be developed as follows: High interest rates will attract savings for deposits in banks, thereby average premiums and efficiency of savings will be increased. Investment in low return projects will in turn be decreased because deposits will provide more returns and hence, these deposits will canalize into productive areas. With an increase in investments in productive areas, unemployment rate will be decreased, income inequality will be reduced, investment will be stimulated and thereby the economic growth will be increased.

Also, according to McKinnon-Shaw hypothesis, liberalization of interest rates provide necessary qualification in order to acquire full information from financial markets. In this sense, equilibrium between savings and investments also provides much more robust information to market players. Hence, interest rate ceilings should be removed in order to equalize savings and investments. For instance, some of the negative effects of these ceilings on economic development can be ranged as follows (Fry, 1997): First, they create deviation in favor of current consumption rather than the future consumption. This situation may cause savings to take place below its optimal rate in the sense of social welfare. Second, the potential lenders can use their savings either for high returns assets such as gold or exchanges, nor for an unproductive investments. Third, credits may be used in capital-abundant

investments rather than labour-abundant investments. Finally, risky entrepreneurs can take credits from loanable funds markets to use them in low return projects. Therefore, it may be possible that these risky entrepreneurs cause to induce other investors to low return projects.

In this case, it can be stated that McKinnon (1973) and Shaw (1973) define problems in developing countries as a lack of necessary resources for investments rather than as a lack of investments. Indeed, the basis of financial liberalization approach depends on the lack of savings problem rather than lack of investments problem in developing countries. Hence, it should be introduced promotive policies, especially in line with an increase in real interest rates, in favor of an increase in savings.

According to McKinnon-Shaw hypothesis, a positive impact of financial liberalization on economic growth depends on other factors in addition to an increase in domestic savings. For instance, financial liberalization can increase global competition in financial markets. This increase in global competition will in turn stimulate an increase in the ranges of product and thereby quality of services and technological developments will be increased. Also, the reserve requirements will be hold in low levels which will decrease the using costs of funds and will provide of an efficient functioning of banking sector as an intermediary.

In the light of these ideas, financial liberalization approach grounding on McKinnon-Shaw hypothesis can be described as the partially or fully abolishment of controls in exchange markets, financial markets, labour markets and even in agricultural product markets. According to Fry (1997: 755), some of the important points of McKinnon-Shaw hypothesis can be ranged as follows. First, a saving function that responds positively to both the real rate of interest on deposits and the real rate of growth in output. Second, an investment function that responds negatively to the effective real loan rate of interest and positively to the growth rate. Third, an administratively fixed nominal interest rate that holds the real rate below its equilibrium level. Finally, inefficient non-price rationing of loanable funds.

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Also, Fry (1995: 454-460, quoted in Fry (1997: 759)) states five prerequisites for an application of successful financial liberalization: the proper prudential regulation and the supervision of commercial banks; the necessary arrangements in the legal and accounting standards; the price stability at a reasonable level; sustainable public debt policy and fiscal discipline; working of commercial banks in a competitive environment on the purpose of profit maximization; and the non-discriminate tax system as an open or implicitly upon the financial intermediation transaction.

In addition to abolition of ceilings on interest rates, liberalization of exchange rate regime and the liberalized banking system, it should also be focused on the idea of foreign capital. Actually, the main idea about the role of foreign capital is almost similar in McKinnon (1973) and Shaw (1973)'s analysis. However, McKinnon (1973, 1991) gives more robust and extended informations about the movements of capital and liberalized capital account. According to McKinnon (1973: 151), in financially repressed economies of 1950s and 1960s, "…several of the developing countries undertook to curb inflation through tighter monetary and fiscal controls, with mixed results". He explains issues related with the high inflation rates by giving examples from different developing countries such as Chile, Brazil, Colombia, Pakistan and Argentina. The common characteristics of these countries were the suffering from high inflation coupled with economic stagnation. Thus, most of these countries went to change in policy to curb high inflation by readjusting exchange rates, liberalizing trade regime, allowing capital inflows with debt rescheduling, taking large inflows of foreign financial assistance and devaluating domestic currency against foreign currency. According to McKinnon (1973), prohibition of these kinds of policies would bring high inflation and would thereby reduce the economic growth. Hence, there was a need for liberalizing financial sector and also for the trade regime against government interventions in the form of interest rate ceilings, high reserve requirements and directed credit programmes; for stimulating economic growth. However, financial liberalization policies (i.e., increasing capital flows and liberalizing of trade regime) of McKinnon (1973) and Shaw (1973) has shown inconclusive evidence for developing countries which of them are always associated with economic crises and with reducing growth rates. In other words, the

consequences of the liberalization policies toward foreign capital, was very different than was predicted by McKinnon (1973) and Shaw (1973). First, real interest rates rocketed up to unprecedented levels. The main reason was the fierce competition for foreign funds and excessive risk taking by banks and firms. Second, with an increasing interest rates, speculation augmented but when debts remained unpaid, many banks failed and governments were forced to rationalize them with giving large fiscal deficits. Third, unemployment rate soared up instead of an increase in economic growth. Fourth, instead of more prosperity and declining income inequality as suggested by McKinnon (1973) and Shaw (1973), there was more poverty. Finally, instead of developed financial system, there were failed banks that were rationalized by governments. Actually, although McKinnon (1991) accepted these problems in developing countries, he suggested that the incorrect sequencing was the root reason of the financial crises. Therefore, he argued that financial liberalization in developing countries should have been always preceded by real sector reforms such as privatization of state enterprises, aimed at guaranting that relative prices adequately show economic scarcities (Demetriades and Andrianova, 2003: 11). He (1991) also suggested that fiscal deficit and high inflation should be reduced before these reforms in order to remove any price distortions related with high inflation. Additionally, there may be need for adequate regulation and supervision for banking sector in order to prevent moral hazard problems. Finally, according to McKinnon (1991), internal financial liberalization (i.e., abolition of ceilings on interest rates, relaxation of exchange rates, abolition of directed credit programmes) "…should precede liberalization of capital flows, with restrictions on long-term flows, such as FDI, being lifted first while those on volatile short-term flows being lifted last". However, McKinnon and Pill (1994: 7) state that "when undertaking reform and stabilization programs, countries are prone to excessive foreign borrowing that ultimately proves unsustainable". They (1994: 7) also add that "because banks fail as efficient information conduits between depositors and borrowers, excessively optimistic expectations about the success of the reform are created among domestic residents, international investors, and the policy authorities". Additionnaly, they (1994: 7) note that "…improved economic performance and large inflows of foreign capital justify such optimism. Only later do

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the sustainability conditions bind so that the economy collapses into a recession, financial crisis, and capital flight".

Some of the distinguishing features of an overborrowing issue in line with the large capital inflows can be ranged as follows (Schadler et al., 1993; Fischer and Reisen, 1993): rapid growth of domestic credit; widening of current account deficit; weaker domestic monetary control; high domestic price inflation; appreciation of the real exchange rate; increasing portion of overseas deposits placed in domestic banking system; greater vulnerability to adverse shocks; and culmination in financial crises, capital flight and recession.

In the light of these problems in developing countries, McKinnon and Pill (1994: 35) draw different kinds of policy options by focusing on the experiences of the East Asian countries that have successfully liberalized. Although they (1994) suggest that improved and developed banking regulation with higher capital and reserve requirements may help to overcome these problems, they do not give approval to those policies because "…such measures are unlikely to prove fully effective, given the banking industry's inherently asymmetric information structure" (McKinnon and Pill, 1994: 35). Thus, their policy suggestions can be ranged as follows (McKinnon and Pill, 1994: 35): First, restrain short-term capital flows, particularly those intermediated through the domestic banking system. The prefered policy instrument is probably reserve requirements rather than direct administrative controls. These level the playing field between domestic and foreign sources of funds and are harder to evade. Marginal reserve requirements could be increased if capital controls become unduly large. Second, be more liberal with "direct" investment, perhaps in the form of joint ventures with domestic partners. Direct investment brings new technology into the economy and by-passes the banking system. Third, limit organized consumer borrowing and restrict access to mortgage finance. Finally, consolidate compulsory social security contributions into a Singapore-style provident funds. A fully funded compulsory saving program should be considered earlier rather than later in the liberalization process.

Although financial liberalization approach is known with the analyses of McKinnon (1973) and Shaw (1973), there are some differences between their arguments. On the one hand, McKinnon (1973) concentrates on the relationship between interest rates and investment through self-financing method with domestic funds. His arguments are called as complementarity hypothesis. On the other hand, Shaw (1973) stresses on the interaction between financial deepening through looking at the role of foreign funds. His views are named as debt-intermediation view.

First of all, in the context of his complementarity hypothesis, McKinnon (1973) focuses on financial intermediation and the role of domestic funds. According to McKinnon (1973), investors are constrained to self-finance. Also, investment is an indivisible expenditure in his hypothesis between money and capital. His views reveal the difference with neoclassical approach for money and capital. For McKinnon's hypothesis, money and capital are assumed as complementary for each other, however, for neoclassical approach, money and capital are assumed as a substitute for each other. Additionally, money demand is positively related with incomes, real interest rates and average return of capital. For instance, if the average return rate increases, demand for capital will in turn increase and thereby it will be resulted in higher money demand in order to finance the capital stock. Fry (1995: 27) argues that "McKinnon's formal analysis of how the real deposit rate of interest affects saving, investment, and growth is based implicitly on an outside money model". He (1995: 27) adds that it depends on two assumptions which are "…all economic units are confined to self-finance; and…indivisibilities in investment are of considerable importance-investment expenditures are lumpier than consumption expenditures".

Because investors are constrained to self-financing, they will hold cash. Also, increase in cash holdings may cause to an increase in savings through banks because they should accumulate cash up to required amount of savings in order to finance investments. Additionally, if there is a lack of borrowing possibilities, investors will incline to savings rather than to invest. However, as the interest rates are high, so the accumulation of savings will increase and these savings will then be realized in

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profitable investments. Furthermore, as the total expenditure in investments are high, so the indivisibility will be high. That's why, "the lower the opportunity cost of accumulating real money balances or the higher the real deposit rate of interest, the greater is the incentive to invest" (Fry, 1995: 27). In this case, "…the relative lumpiness of investment expenditures implies that aggregate demand for money will be greater the larger the proportion of investment in total expenditures" (Fry, 1995: 27). Hence, "...McKinnon's model has to be interpreted as an inside money model in which there are borrowing constraints and indivisibilities that prevent some investors from borrowing all they wish to borrow for particular lumpy investments" (Fry, 1995: 29).

Furthermore, the complementarity hypothesis is required to the accumulation of financial assets as the prerequisite for making physical investment. However, if the return of holding money increases, self-finance investment will also be increased. This means that the complementarity relations between money and capital work bilateral. Any increase in average return in capital will in turn increase the expected real cash amount in the money demand function, however, it will also affect investment positively in the form of self-finance of the real return of money.Thus, liberalization of financial sector will be resulted in higher investment levels and therefore in higher growth rates by means of an increase in necessary funds. In this sense, by the construction of an autonomy of banks in developing countries, the resources will be allocated more efficiently. Hence, if people hold their cash into bank accounts, the role and the impact of self-finance will be reduced in time.

In sum, essential elements of McKinnon's complementarity hypothesis can be summarized as follows. First, a great majority of economic units should depend on the self-finance in order to make an investment. Second, a great majority of modern production processes are required relatively high amount of lump-sum investment and the indivisibilities of physical capital are confered as an important element. Third, the formal financial sector are compounded their credits to modern and exporting industries. Finally, the government is not included in capital accumulation process with its direct tax and expenditure plans.

Secondly, Shaw (1973) stresses on the debt-intermediation view focusing on the difference of financial sector between developed and developing countries. The financial intermediaries play an important role in Shaw's model. This view focuses on external factors for capital accumulation. Shaw (1973) constructs a monetary model in which money is backed by productive investment loans to the private sector. Additionally, the larger is this money stock in relation to the level of economic activity, the greater is the extent of financial intermediation between savers and investors through the banking system. By focusing the role of deposits which are composed the sources of necessary funds for the financial intermediation, Shaw (1973) argues that the high deposit rate of interest can stimulate investments through the expansion of necessary credit supply due to financial needs of the productive sectors of an economy. Shaw (1973) maintains that expanded financial intermediation between savers and investors resulting from financial liberalization (higher real institutional interest rates) and financial development increases the incentives to save and to invest; it also raises the average efficiency of investment. As the money stock related to economic activity is high, so the size of the financial intermediation will also be high between savers and investors via the banking system. As Fry (1979: 196) states that "...financial intermediaries raise real returns to savers and, at the same time, lower real costs to investors by accommodating liquidity preference, reducing risk through diversification, reaping economies of scale in lending, increasing operational efficiency and lowering information costs to both savers and investors through specialisation and division of labor...".

Above mentioned points indicate general framework for McKinnon-Shaw hypothesis. However, this hypothesis has further developed by different new ideas. One of the most important is the financial development model of Maxwell Fry. His major contribution to this hypothesis depends to the introduction of selective and sectoral credit policies. Following sub-section will point on this issue.

2.2.1 Financial Development Model

The tripartite relationship between savings, investment and the long-run economic

growth has an important role in Fry's (1979) financial development model. First of all, Fry (1979) starts to his analysis with an examination of selective and sectoral credit policy. Especially, his major contribution to financial liberalization approach is to introduce of an analysis of the selective and sectoral credit policy.

Primarily, both selective and sectoral credit policies are the common elements of the financially repressed economy (Fry et al., 1996: 35). For instance, low interest rates and high inflation rates can be shown as two basic results of those policies of pre-1980 period. As Fry (1979: 348) states that "for a selective credit policy to work at all, financial markets must be kept segmented and repressed". Nonetheless, financial repression can be presented as the essential method in order to imply selective and sectoral credit policies which will in turn become available for priority sectors together with subsidied interest rates (Fry, 1979: 348). Similarly, Fry et al. (1996: 35) point on that "selective credit policies necessitate financial repression, since financial channels would otherwise develop expressly for rerouting subsidised credit to uses with highest private returns". However, selective credit policies have six types of inconsistencies (Fry, 1979: 348-350). First, the selective credit policy creates an incentive through low return investments along with subsidied interest rates. Second, the loan rates have a downward sloping in spite of a deposit rates having steeply upward sloping. Third, it comprises the reversal of deposit rates of interest and loan rates of interest. Fourth, it affects unemployment negatively by distorting factor prices. Fifth, it affects savings negatively and thereby decreases the supply of investible funds. Finally, it transmits wrong signals to institutional lenders.

Therefore, the abolition of interest rate ceilings and of subsidization of interest rates, and also the abandonment of selective credit policies for priority sectors should be targeted as the compulsory requirements in order to reach long-run economic growth and to the optimum loan rates. According to Fry (1979: 190-191), interest rates perform three basic functions in the economy. These are the mobilization of savings; allocation of scarce resources among alternative investments via its efficient role in rationing; and providing of a social discount rate about the decisions for saving and investment (through this role, the equilibrium will in turn be enabled

between planned saving and investment).

Hence, interest rate ceilings distort economic functioning in various ways. For instance, Fry (1997: 755) gives different results. First, current consumption is more desirable than future consumption because of low interest rates. Second, potential lenders may incline to low-yielding direct investment instead of lending by way of depositing money in a bank. Third, because bank borrowers obtain funds at low loan rates, they may choose relatively capital-intensive projects. He (1997: 755) also adds that "…the pool of potential borrowers contains entrepreneurs with low-yielding projects who would not want to borrow at the higher market-clearing interest rate. To the extent that banks' selection process contains an element of randomness, some investment projects that are financed will have yields below the threshold that would be self-imposed with market-clearing interest rates".

Following the abolition of ceilings on interest rates, the volume of loanable funds and savings will be increased and thereby investment will be stimulated by means of allocation of necessary funds (Fry, 1979: 351). Furthermore, the average efficiency of investment and the inherent risk-taking by financial institutions will also be increased in economic development process because "...the higher rates which ensue will reduce the demand for investible funds by those with the lower yielding investment projects" (Fry, 1979: 351-354).

In addition to above mentioned implications about the benefits of the abolition of interest rates ceilings, loan rate ceilings may contradict long-run economic growth because of different reasons. For instance, "loan rate ceilings, when binding, eliminate the possibility of charging differential risk premia..." (Fry, 1979: 351), therefore, "...risky borrowers and risky projects are rationed out completely" (Fry, 1979: 351). Additionally, "loan rate ceilings discourage risk taking on the part of financial institutions; risk premia can not be charged when ceilings are binding and effective" (Fry, 1979: 195). Thus, despite whatever reasons are for those who were previously rationed out of the market, the liberalization of resources will in turn provide of an efficient allocation of those resources among different investment

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projects. As a result, "...the incremental capital/output ratio will fall" (Fry, 1979: 354).

Furthermore, while low institutional interest rates cause to an inefficient operation of financial intermediation for savings and investment, as it mentioned above, higher the rates of real institutional interest will be resulted with the raise of the average efficiency of investment and with an increase of incentives to save and to invest (Fry, 1979: 196). As Fry (1979: 196) states that "when real institutional interest rates rise, disintermediation falls and financial intermediaries can use their expertise to allocate more efficiently the larger volume of investible funds which is then forthcoming".

Moreover, the competition between financial institutions, and also between these institutions and the bond markets will be increased as a consequence of the abolition of ceilings on interest rates (Fry, 1979: 354). Fry adds to that (1979: 354) "increased competition will help small and medium size enterprises in particular, because they are the first to be rationed out under noncompetitive conditions".

Furthermore, financial repression may allow to an expropriation of high amount of seigniorage by government (Fry, 1979: 356). As Fry (1979: 357) states that "successful financial restriction is exemplified by a higher proportion of funds from the financial sector being transferred to the public sector...". Thus, it encourages financial institutions with their instruments while discourages all other non-financial institutions (Fry, 1979: 356). For instance, by way of stamp duties, special tax rates on income from capital, transaction taxes or unconductive legal framework, financial restriction is repressed private bond markets and equity markets (Fry, 1979: 356-357).

Besides the interest rate ceilings and the seigniorage by the government, high inflation is another symptom of financially repressed economy (Fry, 1979: 363). High volatility of inflation and its unpredictable changes can affect the portfolio choices by shifting them towards short-run instruments such as currency and deposits (Fry, 1979: 363). Hence, long-term instruments become unattractive and more

expensive in consequence of an increase in liquidity premium (Fry, 1979: 363). Financial repression can also become highly destabilizing in the wake of inflationary shocks about the competition which is limited via the ceilings on nominal interest rates (Fry, 1979: 358). Additionally, capital markets may be affected negatively by high, volatile and unpredictable inflation.

Contrary to the financial repression, in the context of financial development model of Fry (1979), financial liberalization will increase savings and thereby investment and economic growth will be stimulated accompanied with high real institutional interest rates and mild inflation rate. Thus, there will be an indirect relationship between economic growth and the real institutional interest rates and the inflation rate. However, the casuality is from economic growth to savings and investment. In other words, according to Fry (1979: 200), the rate of economic growth determines the level of savings and investment. For example, if growth rate increases, savings will accompany to this increase and it will in turn free resources for the available investments which will then help to sustain growth in higher rates. However, any negative effect on investment will decrease the economic growth and thereby savings too (Fry, 1979: 200). Moreover, "...a buoyant investment climate ensures that higher saving rates will be absorbed by higher investment" (Fry, 1979: 200). On the other hand, increase in financial intermediation will lower the gross costs to investors (Fry, 1979: 203). Because low rate of deposit interest causes to a decrease in real money demand and, therefore, reduce savings, the real money supply of domestic credit will be reduced in economic process. Hence, any increase in real deposit rate will in turn provide of an available credit mechanism for investment and the economic growth (Fry, 1979: 203-204).

The fundamental policy change should be provided before the financial development and financial innovations. As Fry (1979: 366) states that "financial development and innovation can start once basic financial reform has taken place". In addition to freeing of nominal interest rates and to the stabilization of inflation rate, these reforms should include following factors which are the control over the nominal supply of money, decrease in income tax and increase in competition in

banking system (Fry, 1979: 364-369). According to Fry (1979: 369), "were income from capital not taxed at all, saving would rise, the return to capital would consequently fall...The consumption tax is not only a more efficient tax, but may in fact be less regressive than an income tax in the long run". Furthermore, "...inappropriate monetary, fiscal, price and exchange rate policies can all deter investment, particularly efficient investment" (Fry, 1979: 373).

In sum, robust financial development necessitates well-functioning management without any imposition of foreign exchange controls, high required reserve ratios, repression of private capital markets, prohibition of bank entries, restriction on international capital flows, ceilings on interest rates, application of selective or sectoral credit policies, regulation of financial sector and also necessitates a stable or moderate inflation rate, freely determining interest rates and a low tax rates on capital in the context of Fry's financial development model. In other words, these factors will be provided by the free interaction of the forces of supply and demand in order to reach to an automatic functioning of these three factors which are savings, investment and economic growth (Fry, 1979: 191).

2.2.2 Theoretical and Empirical Literature on Financial Liberalization

Until now, the paper has tried to present a framework for the financial sector, financial liberalization arguments, McKinnon-Shaw hypothesis and the financial development model. It has also been tried to show many different channels that interact with the economical and social phenomenons. In this sub-section, I now lean over the most cited empirical literature about financial liberalization in order to assess whether they are consistent within their concepts through various topics. Actually, investigation will mostly be about the review of the theoretical and empirical analysis for the relationship between financial liberalization and economic growth. However, since the financial liberalization is a broad issue, it will be focused on other topics which are related with the role of savings and investment, banking sector development, stock market development, poverty and international capital flows.

In the 1970s, McKinnon (1973) and Shaw (1973) approach brought a much more detailed investigation for finance-growth nexus in the context of financial liberalization theories against the financial repression. They mostly tried to show growth-inducing effects of these theories. Their approach suggested that increase of the rates of interest would provide an increase in the volume of savings which would in turn raise the volume of quality and quantity of investment. This increased investment level would then raise the productivity and thereby raise the economic growth. However, this approach remained ambiguous about the empirical analysis for an explanation of sustained growth rates within the financial structure.

In the light of the finance-based macroeconomic models and the neostructuralists arguments, the period of 1980s witnessed a much more different return about the analysis of finance-growth nexus. These analyses both took various arguments within the micro (market failure related) and macro concepts.

Finally, from beginning of the 1990s, the literature have mainly shaped around the endogenous growth models. The related questions which had come before the 1990s were incorporated in these endogenous growth models. Together with the development in econometric analysis, some authors have tried to show the reciprocal externalities between the financial sector and the real sector. Also, one wing provided an empirical results supporting the view that finance promotes growth by suggesting uni-directional causality, but the other wing found bi-directional causality and they offered some suggestions about the sequencing process of financial development. On the other hand, stock markets as an indicator for the links between finance and growth have started to incorporate into the analyses. Hence, in this section, I begin to assess the theoretical and empirical analysis primarily by looking to literature about the relationship between financial liberalization and endogenous growth.

The first topic is about the relationship between finance and endogenous growth. It includes the studies of Greenwood and Jovanovic (1990), Levine (1991), Pagano (1993), King and Levine (1993a), Bencivenga, Smith and Starr (1995), Rajan and Zingales (1998), and Shan and Jianhong (2006). Both of these studies find positive

relationship between finance and economic growth with different types of results. According to Greenwood and Jovanovic (1990), economic growth increases investment level with organizational capital in which this process then stimulates further growth. Also, financial intermediaries play an active role in this process by allocating resources efficiently. Additionally, Levine (1991) states that taxes related to stock market transactions retard economic development by causing inefficient allocation of resources. Because stock markets can affect financial relations related with economic growth in various ways, both taxes should be removed on these transactions. Pagano (1993) states that channelling savings to firms increase the level of investment and efficiency for production. Also, banks can reduce the idiosyncratic liquidity shocks and financial development closes the spread between the rate of borrowing and the rate of lending. Moreover, public policies can affect the financial development. According to King and Levine's (1993a), financial system gives priority for funds to private sector rather than to the government or to the state enterprises. Bencivenga, Smith and Starr (1995) state that improvements in the efficiency of financial markets in line with the reduction in costs of transactions in capital resale markets will be growth-reducing. Also, Rajan and Zingales (1998) state that banks can reduce costs created by the adverse selection and moral hazard problem. Financial development has a further meaning for economic growth more than just a provider of funds to industry. Industrial sector should be supported by finance in order to increase investment opportunities. Finally, empirical results of Shan and Jianhong (2006)'s study show that financial development in China is the second force after the labour contributions for the economic growth. Also, trade stimulates growth of gross domestic product (GDP) but credits are not a good channel for the increase of net investment.

The second topic is about the relationship between financial liberalization, and savings and investment and includes the studies of Boskin (1978), Fry (1978), Tybout (1983), DeMelo and Tybout (1986), Gelb (1989), Bayoumi (1993), Bandiera et al. (1998) and Obamuyi (2009). First, Boskin (1978) finds that there is a robust link between private saving and the interest rate, and also tax on capital income distorts economic conditions. Furthermore, he argues that monetary policies are an

efficient tool for economic growth. Fry (1978) shows that interest rate ceilings discourage financial institutions from risk-taking and thus risk premia can not occur which in turn leads to a decline in economic growth. Tybout (1983) investigates Colombia and states that quantity constraints at controlled prices distort the volume and allocation of savings. DeMelo and Tybout (1986) focus on Uruguay and state that financial intermediation causes to a reducing in the spread between borrowing and lending rates and also credit allocation become efficient in return of the removal of the interest rate ceilings following financial liberalization. Gelb (1989) finds a positive relationship between real interest rates and growth and thus depends to the efficiency effect which is measured by the incremental output capital ratio. The causality is from growth and efficient to higher returns on all assets to interest rates in the context of the degree of financialization of savings. Bayoumi (1993) finds that financial deregulation makes savings more sensitive to changes in several measures such as wealth, real income, demographies and real interest rates. Bandiera et al. (1998) find that there is no credible interest rate effect on savings and the effect of financial reform on savings is mixed. Finally, Obamuyi (2009) finds strong and robust relationship between lending interest rates and economic growth for Nigeria.

The third topic is about the relationship between banking sector development and economic growth. It includes the studies of King and Levine (1993b), Demetriades and Luintel (1996), Rousseau and Wachtel (2000), and Deidda and Fattouh (2001). Primarily, King and Levine (1993b) find that financial sector collects and mobilizes funds for most productive uses. Also, it reduces the uncertainty and provides to reach the expected return by diversifying risks. Additionally, it creates new techniques by rewarding innovations and eliminates the old ones. Demetriades and Luintel (1996) investigate India and their findings indicate that financial development are affected negatively by the banking sector controls but interest rate ceilings have a positive impact on financial development in India. Also, financial development and economic growth are jointly determined and there is a bi-directional causality among them which is also consistent with the endogenous growth literature. Rousseau and Wachtel (2000) find that inflation distorts economic growth both directly and indirectly. The direct effects are not so important because it can disappear when the

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inflation is moderate. However, even if the inflation is moderate, indirect effects are effective through its effects on financial depth. Furthermore, the strong effects of financial depth on growth is not affected from inflation. Deidda and Fattouh (2001) find that the financial depth and economic growth is positively and strongly related with each other in high income countries but there is no effect for low income countries and also financial intermediation creates positive growth effects.

The fourth topic is about the relationship between financial liberalization and poverty. It includes the studies of Dollar and Kraay (2002), Arestis and Caner (2004), Klasen (2004) and Kraay (2004). Dollar and Kraay (2002) find that the average income of the poor (the poorest fifth of society) rises one-for-one with the increases in average incomes. However, smaller the government size and low inflation disproportionately benefit the poor but the evidence is not strong. They (2002) examine the impacts of policies and institutions on average but they do not create any improvements in the distribution of income. Also, they (2002: 3) state "...on average, greater economic integration benefits the poorest in society as much as everyone else". However, they (2002) did not find any systematic effects that related to the share of income of the poorest positively. Additionally, they (2002) support the idea that the growth-enhancing policies should be accompanied with the strategies of reduction in poverty. Arestis and Caner (2004) produce an idea about the channels that affect the interaction among financial liberalization and poverty. They (2004) separate these channels into three parts which are economic growth, the financial crises, and the access to credit and financial services. They (2004) try to show that these three channels have an important effects on economic growth through financial liberalization. Actually, they (2004) support the mild regulation and supervision rather than full liberalization of financial institutions. Without any control on financial markets, economic agents may take excessive risks. They (2004) support the mechanisms in which they alleviate poverty by creating an access to consumption smoothing. They (2004) also state that the education, safety nets and the basic health services should be prepared within an appropriate legal structure and policies. Klasen (2004) argue that financial liberalization stimulates economic growth which in turn benefits poors by favouring the sectors or regions where the poor lives and benefits

the poor by operating the public redistributive policies via taxes, transfers and government spending. Finally, Kraay (2004) states that most of the variation in poverty changes is depended to the growth in average incomes in the medium to long-run.

2.2.2.1 Theoretical and Empirical Literature on Financial Liberalization and International Capital Flows

One of another important topic instead of the link between financial liberalization and the other measures such as economic growth, savings, investment, banking and stock market development, and poverty, is the investigation of the relationship between financial liberalization and international capital flows. It includes the studies of Calvo (1998), Bacchetta and Wincoop (2000), Santana and Garcia (2004), Evans and Hnatkovska (2005), and Sompornserm (2011). Primarily, Calvo (1998) analyzes the mechanisms of sudden stop in international credit flows which may in turn bring about financial and balance of payments crises. Calvo states that even if the current account deficit is fully financed by FDI, these crises can occur. However, equity and long-term bond financing can protect economies from crises arising due to sudden stop in capital flows. Calvo adds that the greater independence that countries have, as compared to regions of a given country, can help to analyze why sudden stop crises are more destructive at international than at national levels. Bacchetta and Wincoop (2000) look at the capital flows for emerging markets. The main conclusion of their analysis states that both capital inflows and outflows generate significant turbulence in emerging market economies. This turbulence affects, among other things, asset prices, economic activity and the exchange rate significantly. For them, it is important to understand the issues related with the absorption of the capital inflows. Hence, in this case, understanding of the role of financial sector is particularly important. Santana and Garcia (2004) search for the relationship between financial liberalization and capital flows for the sample of 51 countries over 1970-2000 period and state that liberalized capital account have a great and important impact on capital flows. Also, they say that liberalization has the same positive effects on FDI flows. Additionally, in the case of private capital flows, liberalization has a significant effect

on developed nations. Evans and Hnatkovska (2005) investigate that how greater economic integration in world financial markets affects the behaviour of international capital flows and financial returns. They find that international capital flows are large and volatile in the early phases of integration when international asset trading is gathered in bonds. However, when integration proceeds and households get access to world equity markets, the size and volatility of international bond flows fall significantly but also continue to overcome the size and volatility of international equity flows. Furthermore, they find that the equilibrium flows in bonds and stocks are largely driven by variations in equity risk premium. Finally, Sompornserm (2011) search for the sample of 30 emerging markets countries from 1973 to 2005 in order to test an array of relationship between financial liberalization policies and the behaviour of international capital flows. The main aim is to analyze how foreign direct investment (FDI), portfolio flows, private loan flows and net capital flows react to financial liberalization policies in terms of direction, volume, and the probability of an increase in capital flows. The results show that the impacts of financial liberalization on capital flows have different characteristics depending on the economic region, the types of financial liberalization policies and the forms of capital flows. Also, results indicate that the relaxation of domestic financial restrictions is related to the higher probability of an increase in capital flows. Furthermore, the probability of an increase in private loan flows decrease when capital account liberalization is accompanied by strong prudential regulation and banking supervision.

2.3 CRITICAL APPROACHES

2.3.1 Neostructuralists and the Financial Liberalization

One of the most comprehensive criticism against the financial liberalization approach comes from neostructuralists which consist of the studies of Van Wijnbergen (1982, 1983a, 1983b, 1985) and Lance Taylor (1983). Principally, the neostructuralists approach emerged as a reaction to financial liberalization theories led by McKinnon (1973) and Shaw (1973) by taking account of the functions of curb

markets in LDCs. The main reason behind these critiques was the failure of the planned policies in these LDCs.

Even though neostructuralists approach agrees on the importance of financial sector in the economic development process of LDCs, it states that the major analysis should focus on the structural limits (such as economic, social and institutional) of the financial variables in LDCs. Actually, it can be argued that neostructuralists approach supports rather more moderate financial repression than the unlimited policy usages of financial liberalization.

Basically, neostructuralist models consist of five arguments differently from the financial liberalization arguments of the McKinnon-Shaw school. For instance, Fry (1995: 110) summarizes these arguments as follows. First, class conflict plays an important role in the determination of wages. Second, the relative power between capitalists and workers determines the inflation. Third, savings takes place only out of profits, not wages. Fourth, fixed markups over costs of labour, imports, and working capital finance (the interest rate) determine the price level. Finally, developing countries need for imports of raw materials, capital equipment, and intermediate goods.

Furthermore, their criticism depends on four criterias. First, LDCs have an unorganized money markets (UMM)/informal curb markets, and in the presence of UMM in LDCs, households have to choose to allocate their funds between three kinds of assets which are gold or currency, bank deposits and curb market credits. Because of an existence of UMM in LDCs, the analysis of household asset allocation is different from the McKinnon-Shaw approach which consists of two kinds of assets: gold or other inflation hedges and money. Second, the curb markets do not have to hold any required reserve on deposits contrary to banking system; therefore, curb markets provide more efficient intermediation. Also, it should be remembered that there is no leakage in curb markets contrary to banking system. Third, any increase in the curb market interest rates will cause to an increase in the cost of inputs and thereby to an increase in working capital costs. Furthermore, cost-push

effect on aggregate supply will shift it upward and the output will in turn be lower and the inflation will be higher. In other words, Cavallo (1977) effect has an important effect for their analyses of neostructuralists models. Finally, financial liberalization in LDCs leads to stagflation if UMM securities are closer substitutes to deposit rather than unproductive assets such as gold. There is a degree of substitutability among three assets that households face when they decide to allocate their funds.

2.3.2 Asymmetric Information and Finance-Based Macroeconomic Models

Primarily, the arguments about the asymmetric information problem are another case for the critical approach against FRA. Actually, asymmetric information problem is mostly revealed in the functioning of financial markets. It focuses on the examination of the effects and the consequences of decisions of one side having no adequate information and the other side having sufficient information in transactions. It also reveals the difficulties in the analysis of the relationship among two parties (agents and principals) which deals with the issues in mobilizing one party (agent) to act in the interest of other party (principal), rather than to their own interest.

Basically, adverse selection and moral hazard problems are intensified following the abolition of ceilings on interest rate. However, this liberalization process of interest rate is occured in line with the insufficient capitalized banks. According to Demetriades and Andrianova (2003: 12): "under-capitalised banks have incentives to take excessive risks, especially if they are protected by government safety nets (deposit insurance of 'too big to fail' policies). It is often believed that such safety nets encourage banks to behave imprudently, since they allow them to benefit from a one-way (unfair) bet against the government". They (2003: 12) also add that " by making speculative loans at very high interest rates they stand to make very large profits, assuming of course that the borrowers do not default. If the borrowers do default, the bank will not suffer the full cost of these defaults if it is bailed out by the government. Even if the bank is not allowed to fail, the depositors may not suffer if they are protected by deposit insurance". Hence, it shows that there will be no

incentive to control bank managers when they are protected by deposit insurance.

However, bank shareholders have no power to control bank managers either when they don't have much capital at risk. For instance, in the extreme, "bank shareholders may even benefit from gambling behavior by the managers, if they have little or no capital at stake" (Demetriades and Andrianova, 2003: 12). In such case, this may be advantageous to inform bank managers to gamble which is called as gambling for resurrection (Llewellyn, 1999). However, both these situations are exacerbated adverse selection and moral hazard problems. Most influential studies about asymmetric information problem can be found in Akerlof (1970), Grossman (1976), Grossman and Stiglitz (1980), Black (1986). Also, it can be extended with the studies of Fama (1970), Fama and Laffer (1971), Fama and Miller (1972), Fama (1973), Fama (1976), Ingersoll (1987), Jarrow (1988), Duffie (1988) and Duffie (1989).

On the other hand, finance-based macroeconomic models which are pioneered by the studies of Stiglitz (1985, 1998a, 1998b) are placed as the other critical approach against FRA. Actually, it is based on the market failure concept but it also gives references to asymmetric information problem. According to Stiglitz (1985, 1998a, 1998b), the existing financial markets have great effects on growth but they also face some limitations. These limitations therefore create problems for individual entrepreneurs who rarely have their own capital. Hence, they need to liquid resources. However, "individual savers, without pooling their money, would not be able to take advantage of the potential increasing returns to scale of their investments, and would face a large degree of risk with little liquidity" (Stiglitz, 1998a: 1). Basically, the financial sector tries to overcome these issues by agglomerating, by allocating and by monitorizing capital.

However, Stiglitz (1998a: 9) notes that the financial repression can have negative implications like high and volatile inflation rate and low growth rate. Therefore, he suggests mild financial restraint which "…requires low inflation with slightly positive and predictable real interest rates" (Stiglitz, 1998a: 9). In this juncture, the slightly positive and predictable real interest rates distinguish the role of the analysis

of Stiglitz from the McKinnon and Shaw approach. The main factor is the creation of rents in private sector itself rather than transferring rents by government from the private sector. These rents should implement the socially beneficial actions with the private sector projects. Following the reduction in costs, the government increases investments in parallel with an increase of profits in firms. This is also the implementation of low interest rates to households. As Stiglitz (1998a: 9) argues that "...lower interest rates mean that banks will atrract a safer mix of applicants, thus lowering the probability of default and increasing the safety of banks". Increases of franchise value may cause to more prudent behaviors by banks and thereby a more efficient financial sector (Caprio and Summers, 1996, quoted in Stiglitz, 1998a: 9). Additionally, increases of safety may bring in company with the increase in savings. In other words, it shows that increases in capital requirements are an inefficient substitute for the franchise value as a consequence of financial liberalization.

His major arguments about these models have developed depending to the financial crises of 90's. According to Stiglitz (2000), the main reason behind these crises was the premature financial and capital market liberalization. He (2000) also adds that global economic arrangements are weak in itself. His analysis about the causes of instability, not growth, which is produced by capital market liberalization, focuses on the fallacy in financial liberalization arguments. He (2000) suggests that financial and capital markets are different than markets for goods and services. Additionally, he (2000) asserts that capital flows are pro-cyclical; hence, "…the argument that the openning of capital markets would allow diversification and enhance stability is deficient" (Roy, 2007: 7). Finally, he (2000) questions the notion that the destabilizing effects of capital account liberalization is transitory but the benefits are permanent; therefore, shocks to output can be long-lasting. He (2000) focuses on the destabilizing influence of short-term capital flows in his analysis, stating that "…there is a fairly compelling case against full liberalization" (Roy, 2007: 7) and "…stresses for the effective designing of interventions against short-term capital flows" (Roy, 2007: 7).

2.4 THE MODERN PORTFOLIO THEORY

The portfolio investments have had a huge impact on financial markets after the financial liberalization of 1980s, especially for developing economies. Actually, portfolio theories have played an important role in an international investment for financial assets. These theories have provided a rationale for investors to analyze the risk and the expected return of an assets. Providing of an accurate analysis will also bring reduction for the necessity of scarce resources for new investments of developing countries and will provide of the flowing of capital into these countries in line with an increasing interest rates. The roots of these theories are mainly depended to the theory of Markowitz (1952) which is called the "portfolio choice". However, there are also other studies that can be added to portfolio choice which are pioneered Modigliani and Miller (1958), Sharpe (1964), Murphy (1977) and Markowitz (1991).

In the literature, Markowitz's theory is known as the Modern Portfolio Theory (MPT). Briefly, "the MPT is a theory of investment which attempts to maximize portfolio expected return for a given amount of portfolio risk, or equivalently minimize risk for a given level of expected return, by carefully choosing the proportions of various assets" (Omisore et al., 2012: 20).

In other words, the diversification of the portfolio takes an important place in the MPT. As Omisore et al. (2012: 21) point on that "the theory encourages asset diversification to hedge against market risk as well as risk that is unique to a specific company". The motive for the selecting the right assets is to lower the risk of collectivity rather than the individual asset.

Markowitz's model (1952) is based on several assumptions regarding the behaviour of investors. These assumptions can be ranged as follows. First, investors consider each investment alternative as being presented by a probability distribution of expected returns over the same holding period. Second, they minimize one-period expected utility, and their utility curves demonstrate diminishing marginal utility of wealth. Third, they estimate the risk of the portfolio on the basis of the variability of

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expected returns. Fourth, they base their decisions solely on expected return and risk, so their utility curves are a function of expected return and the expected variance (a standard variance) of return only. Finally, for a given risk level, investors prefer higher returns than lower returns and investors prefer less risk than more risk.

Moreover, MPT depends on four different but also integrated components. First of all, the risk aversion characteristic of investors is the basic point. It means that investors are interested more with risks than with rewards. For instance, if the returns are the same for a given two securities, the investor will choose the less risky asset. As Choudhry et al. (2012: 1) state that "...rational investors will not accept additional risk unless the level of return compensates them for this risk".

Secondly, security markets are all efficient. This assumption mainly depends on the efficient market hypothesis (EMH). As Mishkin (2007: 160) states that "the efficient market hypothesis is based on the assumption that prices of securities in financial markets fully reflect all available information". Mishkin (2007: 162) also adds that "in an efficient market, all unexploited profit opportunities will be eliminated". "As new information enters the market it is quickly reflected in the prices of securities, and thus temporary pricing discrepancies are extremely difficult, if not impossible, to exploit for profit" (Choudhry et al., 2012: 1).

Thirdly, concentrating on all portfolio structure is more informative than only on individual securities.

Finally, with an optimal combination of asset classes at every risk level, it can be reached to the maximization of returns. In this case, the correlation of one asset to another plays an important role in the process of portfolio diversification. In other words, the correlation of these assets is much more important than the so much function of many individual stocks or bonds. As Choudhry et al. (2012: 1) state that "the higher a correlation between two investments, the more likely they are to move in the same direction".

Furthermore, there are other factors which can be added to these four components. These factors can be ranged as the asset returns are (jointly) normally distributed random variables, correlations between assets are fixed and constant forever, all investors aim to maximize economic utility, there are no taxes or transaction costs, all investors are price takers, any investor can lend and borrow an unlimited amount at the risk free rate of interest, and all securities can be divided into parcels of any size (Omisore et al., 2012: 23).

In this case, these factors can be thought by adding the open economy concept into the concept of capital flows within an issue of differences in returns and risks. According to Melvin (1997: 121), "no doubt the differences in the returns on various countries' assets provide an incentive for capital flows". Because there are different kinds of assets and their different rates of returns, it is assumed that the interest rate would not be equalized. Moreover, Melvin (1997: 121) adds to this condition that "...we would anticipate a certain random component in international capital flows because money flows to new investment opportunities as they open up in various countries". As he (1997: 121-122) points that "given the short time needed to shift funds around the world, the expected profit (adjusted for risk differences) from investing in different assets should be equal. If this were not the case, then money would flow internationally until it was true".

Also, the diversification of portfolio provides incentives for international capital flows even with a stable interest rate. It is this diversification motive that leads to the two-way flows of capital between countries. As Brazenor (2008: 1) states that "portfolio diversification is a widely embraced investment strategy that helps mitigate the unpredictability of markets for investors". He (2008: 1) also adds to that "it has the key benefits of reducing portfolio loss and volatility and is especially important during times of increased uncertainty". Hence, "by diversifying and selecting different assets (including assets of different countries) for a portfolio, we can reduce the variability of the portfolio" (Melvin, 1997: 122).

If there is an increase in the size of portfolio of an investor, it can be possible that

investor will be acted towards buying more assets as to sustain the desired degree of diversification (Melvin, 1997: 124). Hence, as the wealth of investors increases, they will maintain the optimal rate of portfolios (Melvin, 1997: 124). In other words, it shows that the two-way of capital flows between countries is provided even within the constant international interest rates.

In sum, according to MPT, the benefits of the diversification can be summarized as follows. First, the global diversification of assets may promote demand for foreign securities by investors. Second, due to an additional security gaining from the global diversification, the value of the portfolios can be increased in consequence, if this security helps to reduce the risks at a given return rate or if it helps to increase in expected returns at a given risk level. Third, following the benefits of global diversification and security, the demand of assets will be increased by investors. However, any increase in demand will increase the price of the security which in turn lower the cost of capital for the firm at a given limits of supply of these securities. Hence, the firm which is placed as supplier will raise capital at a lower cost.

PART 3

INTERNATIONAL CAPITAL FLOWS

3.1 INTRODUCTION

This part investigates the movements in the international capital flows and tries to show its direction by looking at LMI countries over 2000-2011 period. The method of this investigation depends on the study of Morrissey and Baker (2003). In their study, they analyzed capital flows between LMI countries and DCs by looking at the year of 2000 with three measures which are current account, capital income and royalty and licensing fees. In this part, I will extend the case with the same measures for 2000-2011 period and try to prove their arguments for these years.

So far, I have tried to offer an outlook about the role and functions of financial sectors, financial liberalization and the theoretical and empirical investigation on the relationship between finance and other indicators, critical approaches for financial liberalization and the modern portfolio theory. Now, I will lean over to much more specific issue which is the international capital flows between rich and poor countries in the context of LMI countries. Primarily, I describe these LMI countries as developing countries and separate those from developed countries such as the United States, Germany, France, Italy, England and Japan, in order to evaluate whether money is on net flowing into developing countries or on net flowing out of developing countries. Actually, my aim is to assess the general belief which states that developing countries are the net capital importer from developed countries. However, does this belief accurate? Briefly, the answer is no because three measures show different movements in the direction of capital flows.

In order to understand the direction of capital flows, these measures include current account balance, net income and royalty and licensing fees which are obtained from World Bank database. On the one hand, the analysis starts with the

basic measure which is current account balance to determine whether the developing countries are net lender or net borrower. On the other hand, other two are the sub-accounts of current account which are net income and royalty and licensing fees. These two measures will be examined to determine whether money is on net outflowing from developing countries to developed countries or on net inflowing from developed countries to developing countries after subtracting from the current account balance. The first component comprises of interest payments and dividend payments and the second component includes payments to patents and copyrights. Because developing countries have deficits in these sub-accounts, they must perform large trade surplus in order to reach current account surplus. The general results are as follows.

First of all, the current account indicates the fact that developing countries are the net exporter of money to the developed countries. In other words, money is on net outflowing from LMI countries to developed countries. Even though, most countries are the net receipts of capital (especially the Europe and Central Asia region countries and the Latin America and the Caribbean region countries) according to the measure of the current account, the balance turns into positive when other developing countries take into account with their amount of exports level (in this case, the East Asian and Pacific region countries, especially the China, play an important role). In sum, the net money outflows remain positive over the 2000-2011 period for LMI countries. For instance, some developing countries' net outflows of money reach almost 15,1 percentage point (such as Middle East and North Africa (MENA) region countries in 2005) of their GDP. However, from the beginning of economic crisis, 2007 to 2011, this positive relationship turns into negative for almost all regions, except the East Asia and Pacific region and MENA region. Also, through East Asia and Pacific region and MENA region, the net outflows of money into the developed countries, as a whole, still remain positive for 2007-2011 period (see Appendix 3.A).

Secondly, I look at the net income measure as a sub-account of current account for LMI countries. From 2000 to 2011, all regions perform negative values for net income measure. One exception is the MENA region from 2006 to 2009 (see

Appendix 3.B). Actually, when we look at the reasons of these income outflows, they can attribute to developing countries' past borrowings, lack of resources, low technological developments and especially the low level of savings rate. Among these different kinds of reasons, the past borrowings and the low level of savings rate can be shown as the most important ones for the outflowing of money from developing countries to developed countries. Hence, most developing countries are exposed to large net outflowing of capital income. These outflows can be either payments to interest or payments to dividend. As Morrissey and Baker (2003: 1) state that "the prior lending or investment that was the cause of these payments may have benefited developing countries in previous years, but at present the outflows of capital income present a drain on the resources available to poor countries". However, interesting point is that if we subtract the capital income flows from the current account, the size of the net capital flows from LMI countries to developed countries become increasing to higher levels. Especially, for East Asia and Pacific region, this condition is more visible. Even if there are fluctuations in these values such as in the crisis time of 2007 and the 2000-2001 period, the measure increases substantially year to year. This condition also shows that developing countries are the net exporters of capital to developed countries (see Appendix 3.D).

Thirdly, payments to the international property claims is another drain for LMI countries. This measure is an important indicator in order to show that the developing countries are the net exporter of capital to developed countries. In this case, we look to the royalty and licensing fees on patent and copyright. Actually, all regions over the 2000-2011 period give a negative value for this measure (see Appendix 3.C). One exception is MENA region for 2006 year, however, it turns into negative value in following years. Royalty and licensing fees show that payments to intellectual property claims are another indicator in order to show that the money is on net outflowing from developing countries to developed countries besides the current account and net income. Morrissey and Baker (2003: 1) state that "while these payments are still relatively small, research from the World Bank indicates that they are likely to growth considerably in the future as a result of the TRIPS agreement". When we look at the World Bank database for 2000-2011 period, this point of view is

true almost all regions even though the negative values increase quite slowly. Also, if we subtract this measure from current account and net income, the net outflows of money become even larger and prove our hypothesis (see Appendix 3.E). On the other hand, payments to intellectual property claims indicate the imbalances of power between LMI countries and developed countries. Because developed countries hold the right of patents and copyrights, they force developing countries to pay fees in order to get these rights.

3.2 CURRENT ACCOUNT BALANCE

The current account is a measure that shows the interaction of a typical domestic country with the abroad. According to International Monetary Fund (IMF) (1993: 38), "covered in the current account are all transactions (other than those in financial items) that involve economic values and occur between resident and nonresident entities". In other words, the current account shows the balance between spending to abroad and earning from abroad. By looking at the current account, as Morrissey and Baker (2003: 2) state that we learn "...whether a country is spending more than it is earning". It has three components which are goods and services, capital income flows and current transfers (IMF, 1993: 38). Goods and services component includes different items (IMF, 1993: 38-39). On the one hand, goods cover general merchandise; goods for processing, repairs on goods; goods procured in ports by carries and nonmonetary gold. On the other hand, services cover transportation; travel; communication services; construction services; insurance services; financial services; computer and information services; royalties and licensing fees; other business services; personal, cultural and recreational services and government services.

The basic rule in an international economics is that if any country has a deficit in its current account, it must be close this deficit by financing from abroad as an inflows of capital; and on the contrary, if any country has a surplus in its current account, it must balance this surplus by outflowing capital to abroad. This capital inflows measure is written into the capital and financial account. It can take three

forms which are FDI, portfolio investment and other investment. First, in the form of FDI, the capital can be used in the construction of new plants, factories, firms or equipments which will in turn enhance overall productivity. Second, in the form of portfolio investment, the capital can be used in equity securities and debt securities. Finally, the capital can be used in other investments such as "...short- and long-term credits; loans...; currency and deposits...; and other accounts receivable and payments" (IMF, 1993: 42). However, as Morrissey and Baker (2003: 2) point on that "in any case, the existence of a current account deficit requires that foreign capital enter the country in some form in order to pay for the shortfall of earnings from abroad". On the contrary, if country gives a current account surplus, then there will be a capital outflows to foreign countries.

Appendix 3.A shows the current account balance for LMI countries over 2000-2011 period. As it can be seen that the East Asia and Pacific region and the MENA region are the most steady ones across other regions. These two regions give positive value for all periods (except MENA region for 2006 (-2,2 percentage point) and 2009 (-0,1 percentage point)) and comprise the highest part of the total value in all regions. China plays the most important role in the East Asia and Pacific region. It shows that East Asia and Pacific region and the MENA region are the basic places where money is on net flowing out from developing countries to developed countries. Europe and Central Asia's position is not stable. It is possible to see that the region starts to give current account deficit on the eve of the beginning of 2007 economic crisis. However, before this economic crisis, the region almost gives current account surplus (except for 2003 (-0,1 percentage point)). Also, Sub-Saharan Africa performs different results. The region gives surplus with 1,1 percent in 2000, 1 percent in 2004, 3,9 percent in 2005, 3 percent in 2006 and 0,3 percent in 2007; however, it gives deficit with -1,2 percent in 2001, -1,2 percent in 2002, -0,8 percent in 2003, -0,6 percent in 2008, -2,8 percent in 2009, -0,5 percent in 2010 and -1,3 percent in 2011. Finally, South Asia gives current account deficit almost all years from 2000 to 2011, except for 2001 with 0,4 percentage point, for 2002 with 0,4 percentage point and for 2003 with 1,6 percentage point.

Figure 3.2.A: Current Account Balance (LMI Countries), Millions $
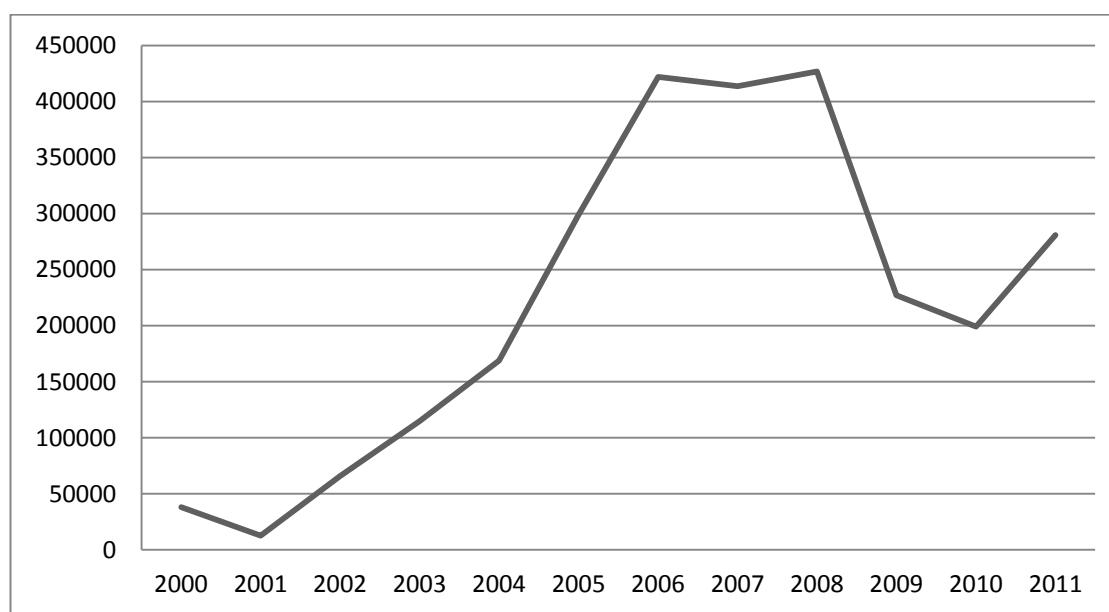
Source: World Bank, World Development Indicators

Moreover, with the beginning of the economic crisis, the speed in the increase of current account surplus slows down but it picks up speed again in 2010 (see Appendix 3.A). In this acceleration, the MENA region plays an incredible role. The MENA region gives deficit in current account in 2009 by the amount of $780 million, however, the region increases their value equal to $44,6 billion in 2010 and $132,2 billion in 2011 (see Table 3A.10, Table 3A.11 and Table 3A.12). It can be caused from the increase in net trade of goods and services, from the increase in FDI or from the increasing oil revenues or gold reserves.

However, the surge in oil prices and the increasing volume of gold reserves explain the story's only one part for many oil exporters in region base. In country base, for instance, although the East and Pacific region gives current account surplus, it does not tell anything for the large surpluses for Phillipiness which is not an oil exporter.

Appendix 3.A gives detailed information for several indicators for different regions. There are variations within regions. However, in sum, the results show that

the belief about the developing countries' role as a net recipients of money from developed countries is no longer accurate. On the contrary, the developing countries are a net lender to developed countries. Although there are some differences in their current account measures, as a whole, the developing world can be placed as a net lender of money to developed world.

3.3 CAPITAL INCOME FLOWS

In section 3.2, I stressed on the current account balance of LMI countries. However, the current account comprises of different types of income flows. Thus far, I have excluded the specific types of income flows. In this section, I take into account of this point by looking to the impact of capital income flows.

Briefly, a country with a negative value of capital income flows is defined as net debtor. On the contrary, a country with a positive value of capital income flows is defined as the net creditor. However, Morrissey and Baker (2003: 4) state that "...this isn't always true". For instance, a country may have a negative asset position with having a net capital inflows due to its high return investments of the past. Also, a country may have a negative asset position with having a net capital outflows due to its past borrowings.

Even though most of the developing countries perform a current account surplus, their capital income flows are mostly negative. Actually, these conditions may cause mainly from that their past borrowings and interest and dividend payments. For example, Sub-Saharan Africa region gives the largest income outflows over 2000-2011 period. It can be attributed to its past borrowings such as interest payments and dividend payments.

Figure 3.3.A: Income Flows from LMI Countries to Developed Countries, Millions $
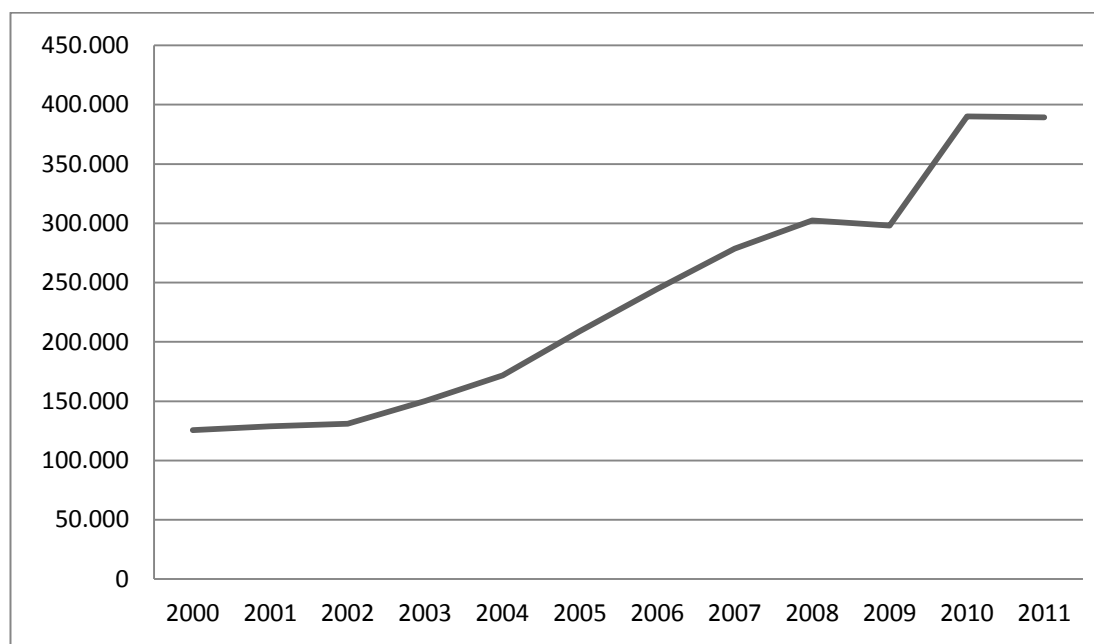
Source: World Bank, World Development Indicators

Appendix 3.D shows the current account balance by region for developing world, adjusted for net income over 2000-2011 period. By this measure, almost every region over 2000-2011 run large current account surplus in the absence of capital income inflows.

The current account surplus of the East Asia and Pacific region would rise even higher, to 4.6 percent of its GDP in the absence of capital income flows in 2000. It would even rise to 8.5 percent in 2006 and to 9.4 percent in 2007 for the East Asia and Pacific region. The Latin America and the Caribbean region would switch from current account deficit equal to the -5.2 percent of GDP (see Table 3A.1) to a modest current account surplus equal to 0.3 percent of GDP in 2000 (see Table 3D.1). Similar to 2000 measure, the Latin America and the Caribbean region would switch from current account deficit equal to -1.3 percent of GDP (see Table 3A.12) to a current account surplus equal to 1.5 percent of GDP (see Table 3D.12) in 2011. Also, the largest impact would be on the Sub-Saharan Africa region with a high rate of

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debts, which currently has a current account deficit equal to -1.2 percent of GDP (see Table 3A.2) in 2001. In the absence of capital income flows, this negative value would turn to positive value equal to 2.8 percent of GDP (see Table 3D.2). Furthermore, this largest impact can be seen by looking to the Europe and Central Asia region, which currently has a current account deficit equal to -0.1 percent of GDP (see Table 3A.7) in 2006 and equal to -2.2 percent of GDP (see Table 3A.8) in 2007. In the absence of capital income flows, these two negative values would be equal to 3 percent (see Table 3D.7) and 1 percent (see Table 3D.8) of GDP, respectively.

Figure 3.3.B: Current Account Balance, Adjusted For Net Income (LMI Countries), Millions $
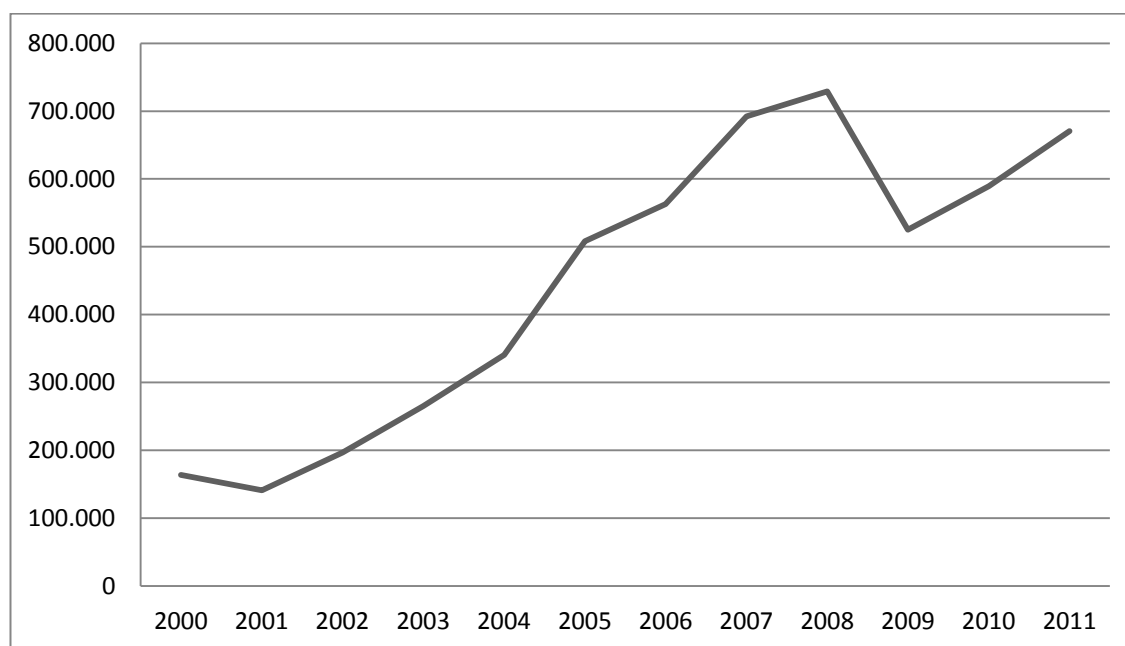
Source: World Bank, World Development Indicators

In sum, if the country did not have past borrowings such as interest payments and dividend payments, the money would not flow into the developed countries. Appendix 3.C and Appendix 3.D make this assumption clear.

3.4 INTELLECTUAL PROPERTY RIGHTS

Finally, money is on net outflowing from developing countries to developed countries when intellectual property claims take into account. Royalty and licensing fees can be considered as one the most important measure for these payments. They are associated with copyrights and patents. According to Morrissey and Baker (2003: 6), "...the difference between the prices for these products that prevails under copyright or patent-protected monopolies, and competitive prices". Because of their net importer position, these payments have increased in recent years and the money outflows have also increased from developing countries to developed countries as a consequence. These increases have caused due to the implementation of World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property (TRIPS). "TRIPS requires developing countries to set minimum standards on international property protections" (Morrissey and Baker, 2003: 6-7).

Principally, the main idea underlying in these protections is to create and to encourage of new innovations and production styles. However, as Morrissey and Baker (2003: 7) state that "…from the standpoint of developing countries, these laws can be viewed as arbitrary restrictions, imposed by rich nations, on the flow of knowledge and intellectual products". They (2003: 7) also add that "the rich nations have created a set of intellectual property protections that allow them to extract money for the use of this knowledge".

Actually, these intellectual property claims can be considered as the arbitrary transfers from developing countries to developed countries. Hence, it should be examined that how current account balance would be affected after subtracting both capital income flows and net royalty and licensing fees.

Appendix 3.E shows the current account balance, adjusted for net income and intellectual property claims for LMI countries by region. The data took from the World Development Indicator (WDI) of World Bank Statistics. However, most of the data are missed for many LMI countries and are low quality. As Morrissey and Baker

(2003: 7-8) point on that "…they do not include payments for intellectual property embedded in the prices of traded goods such as recorded music or movies, software installed in computers, or prescription drugs".

In spite of these problems, the surplus would be higher or deficit would be lower in the absence of payments to intellectual property claims for current account balance over 2000-2011 period for LMI countries (see Appendix 3.E). Both of these years in Appendix 3.E show that the current account balance are affected positively after subtracting net income and intellectual property claims for countries in LMI region.

Figure 3.4.A: Net Royalty and Licensing Fees from LMI Countries to Developed Countries, Millions $
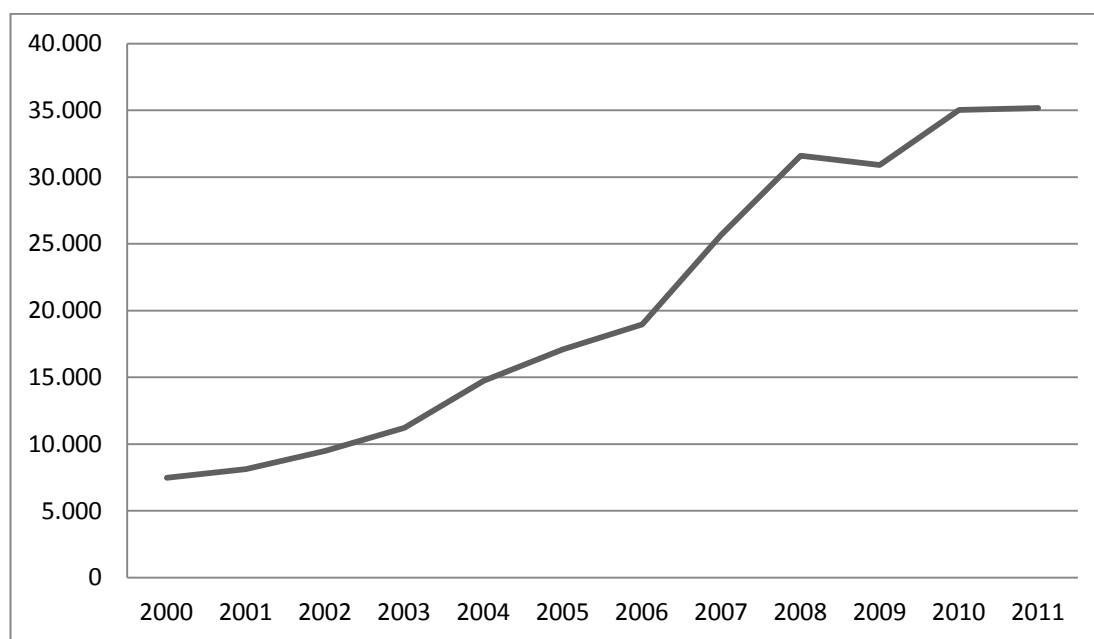
Source: World Bank, World Development Indicators

Figure 3.4.B: Current Account Balance, Adjusted For Net Income and Royalty and Licensing Fees (LMI Countries), Millons $
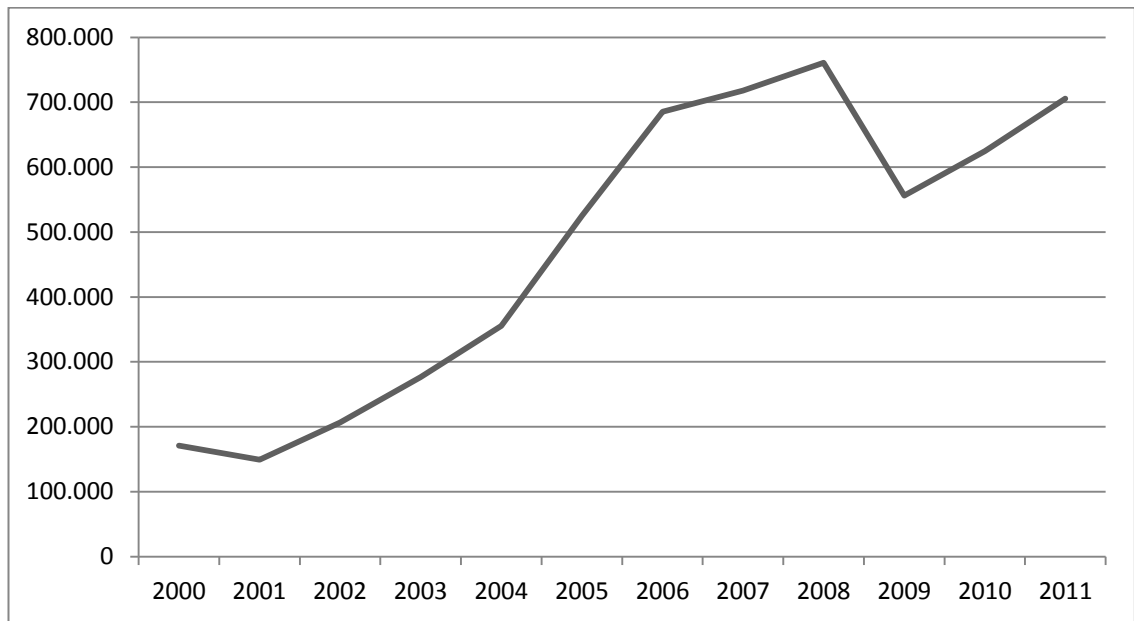
Source: World Bank, World Development Indicators

CONCLUSION

The main aim of the thesis was constructed on the investigation of the direction of international capital flows. I statistically examined the direction of capital flows between developed and developing countries. In order to assess these flows, I presented statistical outline by looking at the World Bank's World Development Indicators database for three measures over 2000-2011 period. These measures were current account balance, net capital income and royalty and licensing fees. I used these measures for LMI countries. The main idea behind to look at these countries depended to the analysis of the arguments of the mainstream finance suggesting in which it states developed countries are the net capital exporter to developing countries. In this case, the liberalization of capital account would be necessary to the free movements of these capital. By liberalizing the capital account, it would be provided of the necessary resources allocation from capital-abundant developed countries to capital-scarce developing countries and thereby would be stimulated the economic growth. However, statistical overlook to three measures showed that the traditional arguments of mainstream finance about the direction of capital flows were not valid over 2000-2011 period. Actually, results showed that capital was on net outflowing from developing countries to developed countries due to different reasons such as interest payments, dividend payments, past borrowings and patents and copyright fees. In other words, the results statistically proved that developing countries were placed as a net capital lender to developed countries in this period contrary to the theoretical concept of mainstream finance.

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APPENDIX 3.A: CURRENT ACCOUNT BALANCE FOR LOW AND MIDDLE INCOME (LMI) COUNTRIES

TABLE 3A.1 2000 CURRENT ACCOUNT BALANCE BY REGION			
Low and Middle Income (LMI) Countries			
Region	2000 Current Account Balance (Millions $)		2000 Current Account Balance (% GDP)
East Asia and Pacific	45.378		2,7
Europe and Central Asia	15.705		1,5
Latin America and Caribbean	-46.580		-5,2
Middle East and North Africa	26.476		5,4
South Asia	-6.218		-1
Sub-Saharan Africa	3.453		1,1
LMI Countries	*38.214*		*0,6*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3A.2 2001 CURRENT ACCOUNT BALANCE BY REGION			
Low and Middle Income (LMI) Countries			
Region	2001 Current Account Balance (Millions $)		2001 Current Account Balance (% GDP)
East Asia and Pacific	35.741		2
Europe and Central Asia	18.647		1,8
Latin America and Caribbean	-52.143		-2,7
Middle East and North Africa	11.449		3
South Asia	2.314		0,4
Sub-Saharan Africa	-3.449		-1,2
LMI Countries	*12.559*		*0,2*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3A.3 2002 CURRENT ACCOUNT BALANCE BY REGION			
Low and Middle Income (LMI) Countries			
Region	2002 Current Account Balance (Millions $)		2002 Current Account Balance (% GDP)
East Asia and Pacific	53.826		2
Europe and Central Asia	6.035		1,8
Latin America and Caribbean	-14.437		-2,7
Middle East and North Africa	11.270		3
South Asia	11.595		0,4
Sub-Saharan Africa	-2.443		-1,2
LMI Countries	*65.846*		*1*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3A.4 2003 CURRENT ACCOUNT BALANCE BY REGION			
Low and Middle Income (LMI) Countries			
Region	2003 Current Account Balance (Millions $)		2003 Current Account Balance (% GDP)
East Asia and Pacific	67.412		3
Europe and Central Asia	-1.267		-0,1
Latin America and Caribbean	10.203		0,6
Middle East and North Africa	29.449		6,6
South Asia	12.556		1,6
Sub-Saharan Africa	-3.326		-0,8
LMI Countries	*115.027*		*1,6*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3A.5 2004 CURRENT ACCOUNT BALANCE BY REGION			
Low and Middle Income (LMI) Countries			
Region	2004 Current Account Balance (Millions $)		2004 Current Account Balance (% GDP)
East Asia and Pacific	88.645		3,4
Europe and Central Asia	1.484		0,1
Latin America and Caribbean	22.290		1
Middle East and North Africa	52.488		8
South Asia	-986		-0,1
Sub-Saharan Africa	4.985		1
LMI Countries	*168.906*		*1,9*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3A.6 2005 CURRENT ACCOUNT BALANCE BY REGION			
Low and Middle Income (LMI) Countries			
Region	2005 Current Account Balance (Millions $)		2005 Current Account Balance (% GDP)
East Asia and Pacific	146.320		4,9
Europe and Central Asia	22.382		1
Latin America and Caribbean	34.086		1,3
Middle East and North Africa	88.285		15,1
South Asia	-14.836		-1,4
Sub-Saharan Africa	22.667		3,9
LMI Countries	*298.904*		*2,9*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3A.7 2006 CURRENT ACCOUNT BALANCE BY REGION			
Low and Middle Income (LMI) Countries			
Region	2006 Current Account Balance (Millions $)		2006 Current Account Balance (% GDP)
East Asia and Pacific	275.864		7,6
Europe and Central Asia	-2.414		-0,1
Latin America and Caribbean	44.788		1,5
Middle East and North Africa	100.152		-2,2
South Asia	-16.502		-1,4
Sub-Saharan Africa	20.082		3
LMI Countries	*421.970*		*3,5*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3A.8 2007 CURRENT ACCOUNT BALANCE BY REGION			
Low and Middle Income (LMI) Countries			
Region	2007 Current Account Balance (Millions $)		2007 Current Account Balance (% GDP)
East Asia and Pacific	408.415		8,9
Europe and Central Asia	-77.000		-2,2
Latin America and Caribbean	10.505		0,3
Middle East and North Africa	86.878		11,7
South Asia	-17.375		-1,2
Sub-Saharan Africa	2.247		0,3
LMI Countries	*413.670*		*2,8*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3A.9 2008 CURRENT ACCOUNT BALANCE BY REGION			
Low and Middle Income (LMI) Countries			
Region	2008 Current Account Balance (Millions $)		2008 Current Account Balance (% GDP)
East Asia and Pacific	453.800		7,8
Europe and Central Asia	-53.790		-1,2
Latin America and Caribbean	-35.264		-0,8
Middle East and North Africa	117.292		12,8
South Asia	-49.630		-3,3
Sub-Saharan Africa	-5.474		-0,6
LMI Countries	*426.934*		*2,4*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3A.10 2009 CURRENT ACCOUNT BALANCE BY REGION			
Low and Middle Income (LMI) Countries			
Region	2009 Current Account Balance (Millions $)		2009 Current Account Balance (% GDP)
East Asia and Pacific	308.667		4,9
Europe and Central Asia	-7.263		-0,2
Latin America and Caribbean	-23.193		-0,6
Middle East and North Africa	-780		-0,1
South Asia	-26.890		-1,6
Sub-Saharan Africa	-23.200		-2,8
LMI Countries	*227.341*		*1,3*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3A.11 2010 CURRENT ACCOUNT BALANCE BY REGION			
Low and Middle Income (LMI) Countries			
Region	2010 Current Account Balance (Millions $)		2010 Current Account Balance (% GDP)
East Asia and Pacific	286.173		3,8
Europe and Central Asia	-15.770		-0,4
Latin America and Caribbean	-58.758		-1,2
Middle East and North Africa	44.572		4,6
South Asia	-52.436		-2,6
Sub-Saharan Africa	-4.569		-0,5
LMI Countries	*199.212*		*0,9*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3A.12 2011 CURRENT ACCOUNT BALANCE BY REGION			
Low and Middle Income (LMI) Countries			
Region	2011 Current Account Balance (Millions $)		2011 Current Account Balance (% GDP)
East Asia and Pacific	242.066		2,6
Europe and Central Asia	-7.850		-0,2
Latin America and Caribbean	-66.261		-1,3
Middle East and North Africa	132.237		1,2
South Asia	-6.806		-1,7
Sub-Saharan Africa	-12.591		-1,3
LMI Countries	*280.795*		*1,3*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

APPENDIX 3.B: NET INCOME BY REGION FOR LOW AND MIDDLE INCOME (LMI) COUNTRIES

TABLE 3B.1 2000 NET INCOME BY REGION			
Low and Middle Income (LMI) Countries			
Region	2000 Net Income (Millions $)		2000 Net Income (% GDP)
East Asia and Pacific	-32.892		-1,9
Europe and Central Asia	-19.735		-2,0
Latin America and Caribbean	-51.613		-2,6
Middle East and North Africa	-2.286		-0,5
South Asia	-7.669		-1,2
Sub-Saharan Africa	-11.332		-3,8
LMI Countries	*-125.527*		*-2,1*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3B.2 2001 NET INCOME BY REGION			
Low and Middle Income (LMI) Countries			
Region	2001 Net Income (Millions $)		2001 Net Income (% GDP)
East Asia and Pacific	-36.227		-2
Europe and Central Asia	-18.182		-1,8
Latin America and Caribbean	-53.378		-2,7
Middle East and North Africa	-2.893		-0,7
South Asia	-6.796		-1,1
Sub-Saharan Africa	-11.388		-3,9
LMI Countries	*-128.864*		*-2,1*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3B.3 2002 NET INCOME BY REGION			
Low and Middle Income (LMI) Countries			
Region	2002 Net Income (Millions $)		2002 Net Income (% GDP)
East Asia and Pacific	-33.781		-1,7
Europe and Central Asia	-22.879		-1,9
Latin America and Caribbean	-52.170		-3
Middle East and North Africa	-4.559		-1,1
South Asia	-6.761		-1
Sub-Saharan Africa	-10.804		-3,5
LMI Countries	*-130.954*		*-2,1*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3B.4 2003 NET INCOME BY REGION			
Low and Middle Income (LMI) Countries			
Region	2003 Net Income (Millions $)		2003 Net Income (% GDP)
East Asia and Pacific	-29.098		-1,3
Europe and Central Asia	-34.840		-2,4
Latin America and Caribbean	-56.988		-3,1
Middle East and North Africa	-8.405		-1,9
South Asia	-7.654		-1
Sub-Saharan Africa	-13.187		-3,3
LMI Countries	*-150.172*		*-2,1*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3B.5 2004 NET INCOME BY REGION				
Low and Middle Income (LMI) Countries				
Region	2004 Net Income (Millions $)		2004 Net Income (% GDP)
East Asia and Pacific	-30.226		-1,2
Europe and Central Asia	-49.320		-2,6
Latin America and Caribbean	-66.927		-3,1
Middle East and North Africa	-4.253		-0,6
South Asia	-7.040		-0,8
Sub-Saharan Africa	-14.052		-2,8
LMI Countries	-171.818		*-2*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3B.6 2005 NET INCOME BY REGION				
Low and Middle Income (LMI) Countries				
Region	2005 Net Income (Millions $)		2005 Net Income (% GDP)
East Asia and Pacific	-46.092		-1,5
Europe and Central Asia	-58.433		-2,5
Latin America and Caribbean	-73.118		-2,8
Middle East and North Africa	-4.038		-0,7
South Asia	-10.242		-1
Sub-Saharan Africa	-17.231		-2,9
LMI Countries	*-209.154*		*-2,1*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3B.7 2006 NET INCOME BY REGION			
Low and Middle Income (LMI) Countries			
Region	2006 Net Income (Millions $)		2006 Net Income (% GDP)
East Asia and Pacific	-35.597		-1
Europe and Central Asia	-83.749		-3
Latin America and Caribbean	-94.592		-3,1
Middle East and North Africa	964		0,15
South Asia	-10.584		-9
Sub-Saharan Africa	-21.052		-3,1
LMI Countries	*-244.610*		*-2*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3B.8 2007 NET INCOME BY REGION			
Low and Middle Income (LMI) Countries			
Region	2007 Net Income (Millions $)		2007 Net Income (% GDP)
East Asia and Pacific	-24.402		-0,5
Europe and Central Asia	-113.667		-3,2
Latin America and Caribbean	-98.026		-2,7
Middle East and North Africa	4.797		0,6
South Asia	-11.735		-0,8
Sub-Saharan Africa	-35.529		-4,6
LMI Countries	*-278.562*		*-1,9*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3B.9 2008 NET INCOME BY REGION			
Low and Middle Income (LMI) Countries			
Region	2008 Net Income (Millions $)		2008 Net Income (% GDP)
East Asia and Pacific	-8.101		-0,1
Europe and Central Asia	-135.177		-3,1
Latin America and Caribbean	-107.946		-2,6
Middle East and North Africa	5.463		0,6
South Asia	-11.828		-0,8
Sub-Saharan Africa	-44.718		-5,1
LMI Countries	*-302.307*		*-1,7*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3B.10 2009 NET INCOME BY REGION			
Low and Middle Income (LMI) Countries			
Region	2009 Net Income (Millions $)		2009 Net Income (% GDP)
East Asia and Pacific	-41.865		-0,7
Europe and Central Asia	-111.689		-3,2
Latin America and Caribbean	-98.188		-2,5
Middle East and North Africa	513		0,1
South Asia	-13.157		-0,8
Sub-Saharan Africa	-33.640		-4,1
LMI Countries	*-298.026*		*-1,7*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3B.11 2010 NET INCOME BY REGION			
Low and Middle Income (LMI) Countries			
Region	2010 Net Income (Millions $)		2010 Net Income (% GDP)
East Asia and Pacific	-74.175		-1
Europe and Central Asia	-132.044		-3,4
Latin America and Caribbean	-117.098		-2,4
Middle East and North Africa	-6.474		-0,6
South Asia	-18.413		-0,9
Sub-Saharan Africa	-42.026		-4,2
LMI Countries	*-390.230*		*-1,9*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3B.12 2011 NET INCOME BY REGION			
Low and Middle Income (LMI) Countries			
Region	2011 Net Income (Millions $)		2011 Net Income (% GDP)
East Asia and Pacific	-49.140		-0,6
Europe and Central Asia	-158.659		-3,5
Latin America and Caribbean	-126.241		-2,4
Middle East and North Africa	-4.218		-0,4
South Asia	-5.402		-1,3
Sub-Saharan Africa	-45.653		-4,7
LMI Countries	*-389.313*		*-1,8*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

APPENDIX 3.C: NET ROYALTY AND LICENSING FEES BY REGION, ADJUSTED FOR NET INCOME FOR LOW AND MIDDLE INCOME (LMI) COUNTRIES

TABLE 3C.1 2000 NET ROYALTY AND LICENSING FEES BY REGION			
Low and Middle Income (LMI) Countries			
Region	2000 Net Royalty and Licensing Fees (Millions $)		2000 Net Royalty and Licensing Fees (% GDP)
East Asia and Pacific	-2.618		-0,17
Europe and Central Asia	-1.473		-0,21
Latin America and Caribbean	-2.533		-0,14
Middle East and North Africa	-335		-0,21
South Asia	-203		-0,04
Sub-Saharan Africa	-319		-0,17
LMI Countries	*-7.481*		*-0,15*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3C.2 2001 NET ROYALTY AND LICENSING FEES BY REGION			
Low and Middle Income (LMI) Countries			
Region	2001 Net Royalty and Licensing Fees (Millions $)		2001 Net Royalty and Licensing Fees (% GDP)
East Asia and Pacific	-3.529		-0,22
Europe and Central Asia	-1.197		-0,15
Latin America and Caribbean	-2.341		-0,13
Middle East and North Africa	-336		-0,2
South Asia	-303		-0,05
Sub-Saharan Africa	-433		-0,19
LMI Countries	*-8.139*		*-0,16*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3C.3 2002 NET ROYALTY AND LICENSING FEES BY REGION			
Low and Middle Income (LMI) Countries			
Region	2002 Net Royalty and Licensing Fees (Millions $)		2002 Net Royalty and Licensing Fees (% GDP)
East Asia and Pacific	-4.926		-0,28
Europe and Central Asia	-1.121		-0,12
Latin America and Caribbean	-2.391		-0,16
Middle East and North Africa	-165		-0,1
South Asia	-340		-0,05
Sub-Saharan Africa	-549		-0,34
LMI Countries	*-9.492*		*-0,18*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3C.4 2003 NET ROYALTY AND LICENSING FEES BY REGION			
Low and Middle Income (LMI) Countries			
Region	2003 Net Royalty and Licensing Fees (Millions $)		2003 Net Royalty and Licensing Fees (% GDP)
East Asia and Pacific	-5.743		-0,29
Europe and Central Asia	-2.116		-0,18
Latin America and Caribbean	-2.232		-0,13
Middle East and North Africa	-49		-0,03
South Asia	-392		-0,05
Sub-Saharan Africa	-696		-0,3
LMI Countries	*-11.228*		*-0,19*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3C.5 2004 NET ROYALTY AND LICENSING FEES BY REGION			
Low and Middle Income (LMI) Countries			
Region	2004 Net Royalty and Licensing Fees (Millions $)		2004 Net Royalty and Licensing Fees (% GDP)
East Asia and Pacific	-7.723		-0,3
Europe and Central Asia	-2.932		-0,2
Latin America and Caribbean	-2.630		-0,14
Middle East and North Africa	-34		-0,02
South Asia	-639		-0,07
Sub-Saharan Africa	-795		-0,26
LMI Countries	*-14.753*		*-0,2*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3C.6 2005 NET ROYALTY AND LICENSING FEES BY REGION			
Low and Middle Income (LMI) Countries			
Region	2005 Net Royalty and Licensing Fees (Millions $)		2005 Net Royalty and Licensing Fees (% GDP)
East Asia and Pacific	-9.129		-0,31
Europe and Central Asia	-3.876		-0,21
Latin America and Caribbean	-2.270		-0,15
Middle East and North Africa	-66		-0,03
South Asia	-563		-0,06
Sub-Saharan Africa	-1.199		-0,32
LMI Countries	*-17.103*		*-0,22*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3C.7 2006 NET ROYALTY AND LICENSING FEES BY REGION			
Low and Middle Income (LMI) Countries			
Region	2006 Net Royalty and Licensing Fees (Millions $)		2006 Net Royalty and Licensing Fees (% GDP)
East Asia and Pacific	-10.567		-0,29
Europe and Central Asia	-5.038		-0,24
Latin America and Caribbean	-2.653		-0,15
Middle East and North Africa	198		0,08
South Asia	-843		-0,07
Sub-Saharan Africa	-52		-0,012
LMI Countries	*-18.955*		*-0,2*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3C.8 2007 NET ROYALTY AND LICENSING FEES BY REGION			
Low and Middle Income (LMI) Countries			
Region	2007 Net Royalty and Licensing Fees (Millions $)		2007 Net Royalty and Licensing Fees (% GDP)
East Asia and Pacific	-12.676		-0,28
Europe and Central Asia	-6.475		-0,24
Latin America and Caribbean	-3.439		-0,15
Middle East and North Africa	-168		-0,07
South Asia	-1.069		-0,07
Sub-Saharan Africa	-1.860		-0,39
LMI Countries	*-25.687*		*-0,22*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3C.9 2008 NET ROYALTY AND LICENSING FEES BY REGION			
Low and Middle Income (LMI) Countries			
Region	2008 Net Royalty and Licensing Fees (Millions $)		2008 Net Royalty and Licensing Fees (% GDP)
East Asia and Pacific	-14.963		-0,27
Europe and Central Asia	-8.836		-0,26
Latin America and Caribbean	-4.484		-0,17
Middle East and North Africa	-98		-0,06
South Asia	-1.477		-0,1
Sub-Saharan Africa	-1.747		-0,33
LMI Countries	*-31.605*		*-0,23*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3C.10 2009 NET ROYALTY AND LICENSING FEES BY REGION			
Low and Middle Income (LMI) Countries			
Region	2009 Net Royalty and Licensing Fees (Millions $)		2009 Net Royalty and Licensing Fees (% GDP)
East Asia and Pacific	-15.527		-0,25
Europe and Central Asia	-7.537		-0,28
Latin America and Caribbean	-4.197		-0,16
Middle East and North Africa	-119		-0,07
South Asia	-1.757		-0,11
Sub-Saharan Africa	-1.770		-0,35
LMI Countries	*-30.907*		*-0,22*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3C.11 2010 NET ROYALTY AND LICENSING FEES BY REGION			
Low and Middle Income (LMI) Countries			
Region	2010 Net Royalty and Licensing Fees (Millions $)		2010 Net Royalty and Licensing Fees (% GDP)
East Asia and Pacific	-17.144		-0,24
Europe and Central Asia	-8.663		-0,29
Latin America and Caribbean	-4.750		-0,14
Middle East and North Africa	-126		-0,05
South Asia	-2.441		-0,12
Sub-Saharan Africa	-1.904		-0,33
LMI Countries	*-35.028*		*-0,22*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3C.12 2011 NET ROYALTY AND LICENSING FEES BY REGION			
Low and Middle Income (LMI) Countries			
Region	2011 Net Royalty and Licensing Fees (Millions $)		2011 Net Royalty and Licensing Fees (% GDP)
East Asia and Pacific	-16.115		-0,19
Europe and Central Asia	-11.000		-0,31
Latin America and Caribbean	-5.342		-0,15
Middle East and North Africa	-355		-0,08
South Asia	-128		-0,04
Sub-Saharan Africa	-2.239		-0,43
LMI Countries	*-35.179*		*-0,21*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

APPENDIX 3.D: CURRENT ACCOUNT BALANCE BY REGION, ADJUSTED
FOR NET INCOME FOR LOW AND MIDDLE INCOME (LMI) COUNTRIES

TABLE 3D.1 2000 CURRENT ACCOUNT BALANCE BY REGION, ADJUSTED FOR NET INCOME		
Low and Middle Income (LMI) Countries		
Region	2000 Current Account Balance Minus Net Income (Millions $)	2000 Current Account Balance Minus Net Income (% GDP)
East Asia and Pacific	78.270	4,6
Europe and Central Asia	35.440	3,5
Latin America and Caribbean	5.033	0,3
Middle East and North Africa	28.762	5,9
South Asia	1.451	0,2
Sub-Saharan Africa	14.785	4,9
LMI Countries	*163.741*	*2,6*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World
Bank has current account balance, net income and royalty and license fees

TABLE 3D.2 2001 CURRENT ACCOUNT BALANCE BY REGION, ADJUSTED FOR NET INCOME		
Low and Middle Income (LMI) Countries		
Region	2001 Current Account Balance Minus Net Income (Millions $)	2001 Current Account Balance Minus Net Income (% GDP)
East Asia and Pacific	71.968	4
Europe and Central Asia	36.829	3,7
Latin America and Caribbean	1.235	0,1
Middle East and North Africa	14.342	3,7
South Asia	9.110	1,4
Sub-Saharan Africa	7.939	2,8
LMI Countries	*141.423*	*2,3*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World
Bank has current account balance, net income and royalty and license fees

TABLE 3D.3 2002 CURRENT ACCOUNT BALANCE BY REGION, ADJUSTED FOR NET INCOME				
Low and Middle Income (LMI) Countries				
Region	2002 Current Account Balance Minus Net Income (Millions $)		2002 Current Account Balance Minus Net Income (% GDP)	
East Asia and Pacific	87.607		4,4	
Europe and Central Asia	28.914		2,5	
Latin America and Caribbean	37.733		2,2	
Middle East and North Africa	15.829		3,9	
South Asia	18.356		2,8	
Sub-Saharan Africa	8.361		2,7	
LMI Countries	*196.800*		*3,1*	

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3D.4 2003 CURRENT ACCOUNT BALANCE BY REGION, ADJUSTED FOR NET INCOME				
Low and Middle Income (LMI) Countries				
Region	2003 Current Account Balance Minus Net Income (Millions $)		2003 Current Account Balance Minus Net Income (% GDP)	
East Asia and Pacific	96.510		4,2	
Europe and Central Asia	33.573		2,3	
Latin America and Caribbean	67.191		3,6	
Middle East and North Africa	37.854		8,5	
South Asia	20.210		2,6	
Sub-Saharan Africa	9.861		2,5	
LMI Countries	*265.199*		*3,7*	

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3D.5 2004 CURRENT ACCOUNT BALANCE BY REGION, ADJUSTED FOR NET INCOME			
Low and Middle Income (LMI) Countries			
Region	2004 Current Account Balance Minus Net Income (Millions $)		2004 Current Account Balance Minus Net Income (% GDP)
East Asia and Pacific	118.871		4,5
Europe and Central Asia	50.804		2,7
Latin America and Caribbean	89.217		4,2
Middle East and North Africa	56.741		8,6
South Asia	6.054		0,7
Sub-Saharan Africa	19.037		3,8
LMI Countries	*340.724*		*3,9*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3D.6 2005 CURRENT ACCOUNT BALANCE BY REGION, ADJUSTED FOR NET INCOME			
Low and Middle Income (LMI) Countries			
Region	2005 Current Account Balance Minus Net Income (Millions $)		2005 Current Account Balance Minus Net Income (% GDP)
East Asia and Pacific	192.412		6,3
Europe and Central Asia	80.815		3,5
Latin America and Caribbean	107.204		4,1
Middle East and North Africa	92.323		15,8
South Asia	-4.594		-0,4
Sub-Saharan Africa	39.898		6,8
LMI Countries	*508.058*		*5*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3D.7 2006 CURRENT ACCOUNT BALANCE BY REGION, ADJUSTED FOR NET INCOME			
Low and Middle Income (LMI) Countries			
Region	2006 Current Account Balance Minus Net Income (Millions $)		2006 Current Account Balance Minus Net Income (% GDP)
East Asia and Pacific	311.461		8,5
Europe and Central Asia	81.335		3
Latin America and Caribbean	139.380		4,5
Middle East and North Africa	-4.629		-0,8
South Asia	-5.918		-0,5
Sub-Saharan Africa	41.134		6,2
LMI Countries	*562.763*		*4,7*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3D.8 2007 CURRENT ACCOUNT BALANCE BY REGION, ADJUSTED FOR NET INCOME			
Low and Middle Income (LMI) Countries			
Region	2007 Current Account Balance Minus Net Income (Millions $)		2007 Current Account Balance Minus Net Income (% GDP)
East Asia and Pacific	432.817		9,4
Europe and Central Asia	36.667		1
Latin America and Caribbean	108.531		3
Middle East and North Africa	82.081		11,1
South Asia	-5.640		-0,4
Sub-Saharan Africa	37.776		4,9
LMI Countries	*692.232*		*4,7*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3D.9 2008 CURRENT ACCOUNT BALANCE BY REGION, ADJUSTED FOR NET INCOME			
Low and Middle Income (LMI) Countries			
Region	2008 Current Account Balance Minus Net Income (Millions $)		2008 Current Account Balance Minus Net Income (% GDP)
East Asia and Pacific	461.901		7,9
Europe and Central Asia	81.387		1,9
Latin America and Caribbean	72.682		1,7
Middle East and North Africa	111.829		12,2
South Asia	-37.802		-2,5
Sub-Saharan Africa	39.244		4,5
LMI Countries	729.241		4,1

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3D.10 2009 CURRENT ACCOUNT BALANCE BY REGION, ADJUSTED FOR NET INCOME			
Low and Middle Income (LMI) Countries			
Region	2009 Current Account Balance Minus Net Income (Millions $)		2009 Current Account Balance Minus Net Income (% GDP)
East Asia and Pacific	350.532		5,6
Europe and Central Asia	104.426		3,1
Latin America and Caribbean	74.995		1,9
Middle East and North Africa	-1.293		-0,2
South Asia	-13.733		-0,8
Sub-Saharan Africa	10.440		1,3
LMI Countries	525.367		3,1

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3D.11 2010 CURRENT ACCOUNT BALANCE BY REGION, ADJUSTED FOR NET INCOME			
Low and Middle Income (LMI) Countries			
Region	2010 Current Account Balance Minus Net Income (Millions $)		2010 Current Account Balance Minus Net Income (% GDP)
East Asia and Pacific	360.348		4,8
Europe and Central Asia	116.274		3
Latin America and Caribbean	58.340		1,2
Middle East and North Africa	51.046		5,3
South Asia	-34.023		-1,7
Sub-Saharan Africa	37.457		3,8
LMI Countries	*589.442*		*2,9*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3D.12 2011 CURRENT ACCOUNT BALANCE BY REGION, ADJUSTED FOR NET INCOME			
Low and Middle Income (LMI) Countries			
Region	2011 Current Account Balance Minus Net Income (Millions $)		2011 Current Account Balance Minus Net Income (% GDP)
East Asia and Pacific	291.206		3,2
Europe and Central Asia	150.809		3,3
Latin America and Caribbean	60.242		1,5
Middle East and North Africa	136.455		12,8
South Asia	-1.404		-0,3
Sub-Saharan Africa	33.062		3,4
LMI Countries	*670.370*		*3,1*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

APPENDIX 3.E: CURRENT ACCOUNT BALANCE BY REGION, ADJUSTED FOR NET INCOME AND ROYALTY AND LICENSING FEES FOR LOW AND MIDDLE INCOME (LMI) COUNTRIES

TABLE 3E.1 2000 CURRENT ACCOUNT BALANCE ADJUSTED FOR NET INCOME AND ROYALTY AND LICENSING FEES		
Low and Middle Income (LMI) Countries		
Region	2000 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (Millions $)	2000 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (% of GDP)
East Asia and Pacific	80.888	5,3
Europe and Central Asia	36.913	5,2
Latin America and Caribbean	7.566	0,4
Middle East and North Africa	29.097	17,9
South Asia	1.654	0,3
Sub-Saharan Africa	15.104	7,4
LMI Countries	*171.222*	*3,5*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3E.2 2001 CURRENT ACCOUNT BALANCE ADJUSTED FOR NET INCOME AND ROYALTY AND LICENSING FEES		
Low and Middle Income (LMI) Countries		
Region	2001 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (Millions $)	2001 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (% of GDP)
East Asia and Pacific	75.497	4,7
Europe and Central Asia	38.026	4,9
Latin America and Caribbean	3.576	0,2
Middle East and North Africa	14.678	9,1
South Asia	9.413	1,5
Sub-Saharan Africa	8.372	4,4
LMI Countries	*149.562*	*2,9*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3E.3 2002 CURRENT ACCOUNT BALANCE ADJUSTED FOR NET INCOME AND ROYALTY AND LICENSING FEES

Low and Middle Income (LMI) Countries

Region	2002 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (Millions $)		2002 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (% of GDP)
East Asia and Pacific	92.533		5,2
Europe and Central Asia	30.035		3,3
Latin America and Caribbean	40.124		2,6
Middle East and North Africa	15.994		10,2
South Asia	18.696		2,9
Sub-Saharan Africa	8.910		5,5
LMI Countries	*206.292*		*4*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3E.4 2003 CURRENT ACCOUNT BALANCE ADJUSTED FOR NET INCOME AND ROYALTY AND LICENSING FEES

Low and Middle Income (LMI) Countries

Region	2003 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (Millions $)		2003 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (% of GDP)
East Asia and Pacific	102.253		5,1
Europe and Central Asia	35.689		3,1
Latin America and Caribbean	69.423		4,2
Middle East and North Africa	37.903		23
South Asia	20.602		2,7
Sub-Saharan Africa	10.557		4,6
LMI Countries	*276.427*		*4,6*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3E.5 2004 CURRENT ACCOUNT BALANCE ADJUSTED FOR NET INCOME AND ROYALTY AND LICENSING FEES

Low and Middle Income (LMI) Countries

Region	2004 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (Millions $)		2004 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (% of GDP)
East Asia and Pacific	126.594		4,9
Europe and Central Asia	53.736		3,7
Latin America and Caribbean	91.847		4,7
Middle East and North Africa	56.775		33
South Asia	6.693		0,8
Sub-Saharan Africa	19.832		6,2
LMI Countries	*355.477*		*4,8*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3E.6 2005 CURRENT ACCOUNT BALANCE ADJUSTED FOR NET INCOME AND ROYALTY AND LICENSING FEES

Low and Middle Income (LMI) Countries

Region	2005 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (Millions $)		2005 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (% of GDP)
East Asia and Pacific	201.541		6,8
Europe and Central Asia	84.691		4,7
Latin America and Caribbean	109.474		7,2
Middle East and North Africa	92.389		49
South Asia	-4.031		-0,4
Sub-Saharan Africa	41.097		11,1
LMI Countries	*525.161*		*6,7*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3E.7 2006 CURRENT ACCOUNT BALANCE ADJUSTED FOR NET INCOME AND ROYALTY AND LICENSING FEES

Low and Middle Income (LMI) Countries

Region	2006 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (Millions $)		2006 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (% of GDP)
East Asia and Pacific	322.028		8,9
Europe and Central Asia	86.373		4,1
Latin America and Caribbean	142.033		7,9
Middle East and North Africa	98.990		42
South Asia	-5.075		-0,4
Sub-Saharan Africa	41.186		9,3
LMI Countries	*685.535*		*7,3*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3E.8 2007 CURRENT ACCOUNT BALANCE ADJUSTED FOR NET INCOME AND ROYALTY AND LICENSING FEES

Low and Middle Income (LMI) Countries

Region	2007 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (Millions $)		2007 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (% of GDP)
East Asia and Pacific	445.493		9,8
Europe and Central Asia	43.142		1,5
Latin America and Caribbean	111.970		5
Middle East and North Africa	82.249		32,6
South Asia	-4.571		-0,3
Sub-Saharan Africa	39.636		8
LMI Countries	*717.919*		*6,1*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3E.9 2008 CURRENT ACCOUNT BALANCE ADJUSTED FOR NET INCOME AND ROYALTY AND LICENSING FEES

Low and Middle Income (LMI) Countries		
Region	2008 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (Millions $)	2008 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (% of GDP)
East Asia and Pacific	476.864	8,6
Europe and Central Asia	90.223	2,6
Latin America and Caribbean	77.166	2,9
Middle East and North Africa	111.927	66
South Asia	-36.325	-2,4
Sub-Saharan Africa	40.991	7,7
LMI Countries	*760.846*	*5,5*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3E.10 2009 CURRENT ACCOUNT BALANCE ADJUSTED FOR NET INCOME AND ROYALTY AND LICENSING FEES

Low and Middle Income (LMI) Countries		
Region	2009 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (Millions $)	2009 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (% of GDP)
East Asia and Pacific	366.059	5,9
Europe and Central Asia	111.963	4,1
Latin America and Caribbean	79.192	3
Middle East and North Africa	-1.174	-0,7
South Asia	-11.976	-0,7
Sub-Saharan Africa	12.210	2,4
LMI Countries	*556.274*	*4*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3E.11 2010 CURRENT ACCOUNT BALANCE ADJUSTED FOR NET INCOME AND ROYALTY AND LICENSING FEES

Low and Middle Income (LMI) Countries

Region	2010 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (Millions $)		2010 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (% of GDP)
East Asia and Pacific	377.492		5,2
Europe and Central Asia	124.937		4,1
Latin America and Caribbean	63.090		1,9
Middle East and North Africa	51.172		21
South Asia	-31.582		-1,6
Sub-Saharan Africa	39.361		6,8
LMI Countries	*624.470*		*3,8*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees

TABLE 3E.12 2011 CURRENT ACCOUNT BALANCE ADJUSTED FOR NET INCOME AND ROYALTY AND LICENSING FEES

Low and Middle Income (LMI) Countries

Region	2011 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (Millions $)		2011 Current Account Balance Adjusted For Net Income and Royalty and Licensing Fees (% of GDP)
East Asia and Pacific	307.321		3,6
Europe and Central Asia	161.809		4,5
Latin America and Caribbean	65.584		1,8
Middle East and North Africa	136.810		32
South Asia	-1.276		-0,4
Sub-Saharan Africa	35.301		7,2
LMI Countries	*705.549*		*4,2*

Source: World Bank, World Development Indicators. Includes all LMI countries for which the World Bank has current account balance, net income and royalty and license fees