The Effects of IMF Lending Arrangements

A study of the intentions of the International Monetary Fund, and the macroeconomic effects of their lending arrangements

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This master's thesis is carried out as a part of the education at the University of Agder and is therefore approved as a part of this education. However, this does not imply that the University answers for the methods that are used or the conclusions that are drawn.

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ABSTRACT

The International Monetary Fund (IMF or the Fund) has been acting as an international lender of last resort, mainly supporting emerging and developing countries the last decades. After various crises hit the world economy in the second half of the 1990s, intensive criticism against the IMF has emerged, related to the macroeconomic effects of their lending arrangements. This thesis contributes to the debate on how the IMF's lending arrangements affect their member countries in terms of macroeconomic outcomes, with emphasize on balance of payments, economic growth, and inflation. I will present a literature review, and base the conclusions of the study on secondary research available in literature. It seems to be a general consensus among researchers that the IMF, through their lending arrangements, do cause a positive effect on balance of payments and that their intervention tend to cause negative effects on countries' economic growth, while there is no evidence found of any effects on inflation. The issue of the existence of moral hazard caused by the IMF is also closely investigated, whereof no conclusions can be drawn due to the lack of reliable methods to measure the concept.

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It was my professor, Mr. Daniel Arthur Lapres, in the course International Finance at ISC Paris Business School who first inspired me to write about the International Monetary Fund. His interesting classes on international finance provided brief insights to the IMF and its work, which inspired me to choose the IMF as the topic for investigation for my master's thesis.

I would like to thank my supervisor, Arngrim Hunnes for helpful insights, quick feedbacks, and guidance throughout the process of writing of this paper.

The writing of this thesis has been a challenging, but yet inspiring task.

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Idun Berge Ottersen

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1. INTRODUCTION

"The International Monetary Fund (IMF [or the Fund]) is an organization of 188 countries, working to foster global monetary cooperation, secure financial stability, facilitate international trade, promote high employment and sustainable economic growth, and reduce poverty around the world" (IMF, 2013a).

IMF programs are much more common than people might think, and participation rates are steadily increasing. Based on numbers up until the year 2000, Vreeland states in his book that "during any given year, about one quarter of the world was under an IMF program at some point" (2007, p. 75). IMF's arrangements (or programs) are designed to reach specific and multiple goals. To fairly discuss and evaluate the Fund's interference in the world economy and outcomes of their work, it is important to first address IMF's intentions, and then later debate on how their work have affected, and may affect the countries participating in one or more IMF programs/arrangements in the future. Various studies have shown different results on how IMF arrangements affect different indicators such as; balance of payments, inflation, economic growth, income distribution, poverty, the environment, foreign direct investments (FDI) and social spending. Some have focused their research to only one of the mentioned indicators, other have extended their studies into deeper macroeconomic analysis.

A difficult task is to identify what outcomes are due to the circumstances of the recipient countries (country-specific factors such as; economic factors, type of government, political motivation etc., and general world economic conditions such as; level of international trade, international lending rates etc.), and what outcomes are due to the IMF's participation. The Fund has been under a lot criticism, and the intensity of this criticism increased in the second half of the 1990s after a various crisis hit different parts of the world economy (Özgür, 2009). It is mainly the conditions the IMF attaches to its loans that attract most of the criticism. Moral hazard has also been a term widely discussed by critics, where "moral hazard is a forward-looking concept: where moral hazard exists in financial markets, borrowers and lenders take risks now based on the support they anticipate receiving in the future if certain undesirable events occur" (T. Lane & Phillips, 2002).

True field experimentation with a "treatment" and "control" group would obviously in these studies be considered both controversial and unethical. One of the studied groups would here suffer in one way or another, leading millions of people to experience negative outcomes from

an economic recession or crisis. Theories, educated guesses, outcome evidence and estimations are what researchers have to rely on for statistical methods in order to get any verifying results.

1.1 Research Questions

The purpose of this thesis is to investigate the intentions of the International Monetary Fund, and the impact and macroeconomic effects participating countries experience through their lending arrangements. I will limit the research to the most discussed terms in literature, which includes the effects on balance of payments, economic growth and inflation. The question if IMF lending arrangements create moral hazard will also be investigated. The research will strive to create a picture of the typical outcomes of IMF arrangements and not create country specific overviews. I will be presenting a literature review based on secondary data available, where the most prevailing theories and key researchers are highlighted. In this thesis, the ambition is to answer the following research questions:

- ➢ What are the IMF's intentions with their lending arrangements?
- ➢ What are the outcomes of the IMF's lending arrangements for the recipient countries in terms of balance of payments problems, economic growth and inflation?
- ➢ Do the IMF lending arrangements contribute to moral hazard, and to what extend?

The remaining of this thesis is organized as follows; chapter two will provide the reader with information about the International Monetary Fund and their lending arrangements. Chapter three will give information about the methodology approach used for this thesis, and the approaches widely used in earlier research on the field of inquiry, while chapter four will provide the necessary theories for analyzing the effects and outcomes of IMF lending arrangements. Chapter five and six will present information about IMF intervention and the results of effects on the Funds' lending arrangements, while chapter seven will provide the conclusions of the study.

2. THE INTERNATIONAL MONETARY FUND

2.1 History of the IMF

The IMF was founded in New Hampshire, USA in 1944 after the Second World War at the Bretton Woods Conference, where the founders agreed on a framework for international economic cooperation. In the aftermath of the Great Depression of the 1930s, countries had been trying to raise barriers for foreign trade in order to shore up their economies. This led the founders of IMF to form an international monetary system in attempt to ensure exchange rate stability and encourage its member countries to continue their trade without exchange rate restrictions. The IMF closely monitored all currencies of its members, and lent to countries if their value of currency dropped in order help shore up their economies. Also devaluation of currencies had to be approved by the Fund. This monitoring of exchange rates, primarily between the industrialized countries of Western Europe and the US, has little to do with the Fund's economic programs as they have been during the recent decades, where the focus area have mainly been the developing world.

In December 1945 the first 29 member countries ratified the Fund's *Articles of Agreement*, and the IMF officially started their work.[1] The countries that joined up until 1971 agreed to keep their exchange rates pegged in order to IMF's agreement,[2] but after the breakdown of the Bretton Woods system - between 1968 to 1973, the IMF lost its major function as the guarantor of fixed exchange rates among developed countries. Consequently, the IMF's role now expanded into many new areas. Many researchers say that it is around this time the IMF shifted their focus from the industrialized world towards the developing world. During the last three decades, the Fund's activities have been mainly concentrated on underdeveloped and developing countries. However, after the hit of the global financial crisis in the late 2000s, the Great Recession, the IMF has recently been resurrected in the industrialized world (Fischer, 1997; IMF, 2013b; Vreeland, 2007; Özgür, 2009).

The Fund has today 188 membership countries, which makes it a near-global financial institution, including all regions of the world and embracing all from poor to rich countries. It is headquartered in Washington, D.C., and has offices around the world in order to reflect its global reach and close ties with its members. Its role is to help member governments with

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[1] The original members of the IMF is enclosed in the appendix – table A1
[2] "The value of their currencies in terms of the U.S. dollar and, in the case of the United States, the value of the dollar in terms of gold" (IMF, 2013b)

policy advice and financing, helping them to take advantage of opportunities, and to manage challenges caused by globalization and economic development. It is a goal for the IMF to help member governments achieve macroeconomic stability and to reduce poverty on a global scale. The IMF states that their fundamental mission today is to help ensure stability in the international system. This is done in three ways; "keeping track of the global economy and the economies of member countries; lending to countries with balance of payments difficulties; and giving practical help to members" (IMF, 2013d). The IMF's article of agreement below states the purposes of the Fund.

Table 2.1: IMF's Article of Agreement I – Purposes
Source: (IMF, 2013a)

The purposes of the International Monetary Fund are:

(i)   To promote international monetary cooperation through a permanent institution which provides the machinery for consultation and collaboration on international monetary problems.

(ii)   To facilitate the expansion and balanced growth of international trade, and to contribute thereby to the promotion and maintenance of high levels of employment and real income and to the development of the productive resources of all members as primary objectives of economic policy.

(iii)   To promote exchange stability, to maintain orderly exchange arrangements among members, and to avoid competitive exchange depreciation.

(iv)   To assist in the establishment of a multilateral system of payments in respect of current transactions between members and in the elimination of foreign exchange restrictions which hamper the growth of world trade.

(v)   To give confidence to members by making the general resources of the Fund temporarily available to them under adequate safeguards, thus providing them with opportunity to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity.

(vi)   In accordance with the above, to shorten the duration and lessen the degree of disequilibrium in the international balances of payments of members.

The Fund shall be guided in all its policies and decisions by the purposes set forth in this Article.

2.2 The IMF and World Bank

The IMF and World Bank share the same goal of raising living standards in their member countries and collaborate in several joint initiatives in issues that are relevant for both, and in areas where their responsibilities overlap each other. Since March 29, 2006, they have had a working External Review Committee working to examine the areas where the collaboration can propose improvements. "Under the Joint Management Action Plan on World Bank–IMF Collaboration, IMF and World Bank country teams discuss their country-level work programs, which identify macro-critical sectoral issues, the division of labor, and the work needed from each institution" (IMF, 2013e, 2013g).

2.3 IMF Membership

To become a member of the IMF, a country has to apply and be accepted by the majority of the Fund's existing members. The financial and organizational relationship between the member countries and the IMF is mainly determined by the countries' quotas. The quotas assigned to each country are broadly based on the relative size of the country in the world economy. The countries joining must pay a subscription based on its assigned quotas, and up to 25 percent of this must be paid in IMF's own currency, Special Drawing Rights (SDRs)[3]. US dollars, euros, Japanese yen and pounds sterling are widely accepted currencies, and can at any time replace SDRs. The remaining subscription is paid in the country's own currencies. The quotas have an impact on the member countries' voting power in the Fund, its access to financing and its share in SDR allocations. The quota is held as an interest bearing deposit at the Fund, and it is not a sum paid each year. A varies of decisions based on votes, called from the Articles of Agreement, calls most often on a simple majority from the member countries, sometimes by 85 percent super-majorities. The largest quota belongs to the United States, and it controls currently 16.75 percent of the Fund's votes. This large percentage of votes is enough to give USA veto power in decisions that require 85 percent majority of the votes. Japan, Germany, the UK, France, together with the US counts for the five countries with the largest amount of quotas in the Fund. Every five years, the Board of Governors (or the Board) normally review the size of quotas assigned to each member country to ensure that the size of

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[3] Special Drawing Rights (SDR) was created as a new reserve asset by the IMF, and was approved in 1986 by the IMF members. SDRs can only be held by governments, not private by holders. The asset (currency) is interest bearing and can at any time be converted into *hard currency* (dollars, euros, yen or pound sterling) (Joyce, 2013). "On April 30, 2013, the SDR/U.S. dollar exchange rate was US$1 = SDR 0.662691, and the U.S. dollar/SDR exchange rate was SDR 1 = US$1.509" (IMF, 2013g, p. 3)

the quotas correctly reflects the countries' relative size in the world economy (IMF, 2013c, 2013h; Vreeland, 2007).

2.4 IMF Lending

Any member country can borrow from the IMF; it doesn't matter if it's rich, middle-income or poor. If it cannot find sufficient financing to make its international payments on affordable terms in the capital market, a country can sign to the IMF for financial support or assistance. The Fund works as an international lender of last resort - a term closer discussed later in this thesis.

"The IMF is not a development bank and, unlike the World Bank and other development agencies, it does not finance projects" (IMF, 2013d). The main goals for the IMF loans are to help stabilize economies, restore sustainable economic growth and help to deal with balance of payments problems. The IMF and the retrieving country have to agree on the participation of the Fund program and on a suitable program of policies in order to achieve the specific and quantified goals. A country agrees to adjust its economic policies in order to overcome its economic problems. The Fund require these loan conditions ("conditionality") to ensure that the retrieving country will be able to repay its loans without having to face harmful measures to national or international prosperity. The conditions for each program are described in a letter of intent (LOI), which the recipient country is responsible to select, design and implement. The content and objectives of this letter of intent will broadly depend on the country's circumstances, with always having IMF's guidelines and missions in focus. The content and structure of the letters of intent vary from country to country, but the most common recommendations from the IMF include privatization, capital market liberalization and deregulation of the private sector. The LOI is usually signed by the president of the member country's central bank, or the president or prime minister of the country. If the requesting country has provided the 25 percent quota in "hard" currency or SDRs, it may request loans up until this amount without any conditions attached (IMF, 2013a; Vreeland, 2007).

2.4.1 IMF Lending Arrangements

The IMF provides various types of loans to its member countries, and it classifies and tailors its loans according to the reason the money is needed and the circumstances of the country

membership. Polar (1991) in (Przeworski & Vreeland, 2000) states that the differences between the Fund's offered programs relate to conditions, timing, and size of the loan disbursements, while the fundamental objectives of the programs are the same. IMF lending is intended to be temporary with a repayment period of one to five years. The main loan instruments are called Stand-By Arrangements, Precautionary and Liquidity Line, Flexible Credit Line, Extended Fund Facility and Poverty Reduction and Growth Trust. These are the main loans provides as of today, some of them have been added in later years, and some of them have changed during the life period of the Fund. This part of the thesis will give a brief introduction to the main lending arrangements, and table 2.2 on the next page gives a summary of the different types of arrangements, scheduled time period, maximum lending amounts and the policy conditions attached to each program.

Stand-By Arrangement

IMF calls its *Stand-By Arrangement* (SBA) its workhorse lending instrument for emerging market countries. This program is used time and again, mostly by middle income and advanced member countries, and is created to help countries overcome their short-term balance of payments problems. It provides interest rates that are non-concessional, but that usually are lower than the ones offered from private markets.[4] The duration of the SBA program is flexible, where one to two years is the typical program period, with no more than 36 months. Repayment under the SBA is due within 3¼ to 5 years of disbursement (IMF, 2013f).

Precautionary and Liquidity Line

"The Precautionary and Liquidity Line (PLL) provides financing to meet actual or potential balance of payments needs of countries with sound policies [and that are committed to maintain sound policies in the future], and is intended to serve as insurance and help resolve crises" (IMF, 2013f). The duration of the PLL can either be of six months, or one to two years, where renewal of the PLL program is normally possible after a two-year cool-off period. The PLL follows the same qualification process as the FCL, and carries the same interest rates as the SBA (IMF, 2013f).

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[4] "The lending rate is tied to the IMF's market-related interest rate, known as the basic rate of charge, which is itself linked to the Special Drawing Rights (SDR) interest rate" (IMF, 2013f).

Table 2.2: Main IMF Lending Arrangements
Source: (IMF, 2013f; 2013g, pp. 37-38)

Type of Arrangement	Time Period -Scheduled Years-	Maximum Lending Amount *(percentage of member's quotas)*	Conditions
Stand-by arrangements (SBA)	Medium-term 3¼ to 5 years	Annual: 200% ; cumulative: 600%	"Adopt policies that provide confidence that the member's balance of payments difficulties will be resolved within a reasonable period"
Precautionary and liquidity line (PLL)	Medium-term 3¼ to 5 years	Up to 250 percent for 6 months, maximum 1000 percent for the entire lending time	"Strong policy frameworks, external position, and market access, including financial sector soundness"
Flexible credit line (FCL)	Medium-term 3¼ to 5 years	No preset limit	"Very strong ex ante macroeconomic fundamentals, economic policy framework, and policy track record"
Extended fund facility (EFF)	Longer-term 4½–10 years	250% for 6 months; 500% available upon approval of 1- to 2-year arrangements; total of 1,000% 12 months of satisfactory progress	"Adopt up to 4-year program, with structural agenda, with annual detailed statement of policies for the next 12 months"
Poverty reduction and growth trust (PRGT)	Medium- to longer-term 4-10 years	Annual: from 25% to 100%; cumulative: from 100% to 300%.	Adopt to 3-4 years / 12-14 month programs according to the specific PRGT arrangement

Flexible Credit Line

The Flexible Credit Line (FCL) is IMF's lending instrument for countries with very strong economic fundamentals and policy track records. Countries that are under this lending program can draw from a pre-specified window of credit line at any time, while the cost of

borrowing under the FCL is the same as under SBA and PLL. "The FCL works as a renewable credit line, which at the country's discretion could initially be for either one- or two-years with a review of eligibility after the first year" (IMF, 2013f). Repayment should take place over a period of 3¼ to 5 years.

Extended Fund Facility

The Extended Fund Facility (EFF) is created to help countries address medium- and longer-term balance of payments problems. The EFF has a longer duration period and repayment period than the Stand-By Arrangement (SBA). Normally, the duration period of the program doesn't exceed three years, with a maximum time limit of four years. "Repayment is due within 4½–10 years from the date of disbursement" (IMF, 2013f).

Poverty Reduction and Growth Trust

In order to help low-income countries, the IMF provides more flexible lending facilities to meet increased demand for financial assistance for countries in need. The Poverty Reduction and Growth Trust (PRGT) includes; Extended Credit Facility (ECF), the Standby Credit Facility (SCF) and the Rapid Credit Facility (RCF)", which are programs that provide financial assistance to low-income countries with protracted, urgent, and short-term balance of payment problems. These loans have different maturity, lasting from 12 months up to 10 years, and carry no interest rates. "In addition to concessional loans, some low-income countries are also eligible for debts to be written off under two key initiatives" (IMF, 2013d); The Heavily Indebted Poor Countries (HIPC) and The Multilateral Debt Relief Initiative (MDRI) (IMF, 2013d; Przeworski & Vreeland, 2000).

To give an idea of how large these main lending arrangements are relative to each other, table 2.3 on the next page presents the percentage of the total IMF ongoing lending arrangements of 2013 divided into the number of arrangements approved and amounts committed. As shown, the PRGT accounts for the largest number of arrangements, but the lowest amount committed. The arrangement accounting for the largest amount committed by the IMF in 2013 was the FCL – which accounted for 47.9 percent of the total IMF lending.

Table 2.3: Percentage of Total IMF Ongoing Lending Arrangements and amounts committed for the fiscal year of 2013. *Source: (IMF, 2013g)*

Type of Arrangement	Percentage of Total IMF Lending *(data of 2013)*	
	Number of arrangements	**Amounts committed**
Stand-by arrangements (SBA)	17.07 %	3.36 %
Precautionary and liquidity line (PLL)	2.44 %	2.69 %
Flexible credit line (FCL)	7.32 %	47.90 %
Extended fund facility (EFF)	12.20%	44.00 %
Poverty reduction and growth trust (PRGT)	60.90 %	1.90 %

3. METHODOLOGY

Several methods are used in order to study IMF program macroeconomic effects. What we would like to figure out is what would have happened if countries had not participated in an IMF program, and on the other hand; countries that didn't participate, what would have happened if they actually had participated. These types of scenarios can naturally not be measured or observed, but a lot of estimation has been made in order to try to come as close to a verified answer as possible.

3.1 Literature Review

This thesis will be a literature review based on secondary data available. I will give an overview of the field of inquiry, and base my research on literature that has already been written in order to investigate my research questions:

- ➢ What are the IMF's intentions with their lending arrangements?
- ➢ What are the outcomes of the IMF's lending arrangements for the recipient countries in terms of balance of payments problems, economic growth and inflation?
- ➢ Do the IMF lending arrangements contribute to moral hazard, and to what extend?

I will highlight the key writers, the prevailing theories and hypotheses, and emphasize the methods used in available studies and previous research on the subject. The methods mentioned are highly qualitative, as the aim is to create a picture of the IMF's lending arrangements in respective countries. The research will be limited to create a picture of the typical outcomes of IMF arrangements and will not create country specific overviews. Available information and studies will be used to create an overall picture of the intentions of the IMF and the typical outcomes of their work (University of Canberra, 2013).

3.2 Previous Research

This section aims to give a brief summary of the alternative methods previously used to study the macroeconomic effects of IMF arrangements. Examples of different research methods used are "the before-after approach, the with-without approach, an approach to control for selection on observed variables, an approach to control for selection on unobserved factors, and an alternative method to control for non-random selection, called an instrumental variable approach" (Vreeland, 2007, p. 76). Haque and Khan (1998) mention a generalized evaluation

approach and a comparison of simulation approach to list the main methods used. Dreher (2006) mentions in addition regression analysis as one way of analyzing the effect on economic growth.

The Before-After Approach

The before-after approach compares the economic conditions for countries before and after an IMF arrangement. Killick, Malik, and Manuel (1990) claim that this method is the most commonly and easiest method to use. The results show whether the arrangements were associated with an improvement on the initial situation. Among critics of this method is Haque and Khan (1998), Bird (2001) and Vreeland (2007) who state the results of this method can give misleading results, because it is a big assumption to make that everything, considering all economic and social conditions, stays the same after program participation as it did before. This method misses the counterfactual test, as it assumes that policies and the external environment remain constant after an IMF intervention.

The With-Without Approach

The with-without approach compare the outcomes of IMF arrangements of participating countries with non-participation countries. This method includes the counterfactual aspect by using a control group, but the difficulties lies in finding a complete match in order to get verifying research results (Killick et al., 1990). As Vreeland (2007) states; a country is much more likely to participate in an IMF program when they meet economic difficulties or crises than countries that don't face these problems, which is a somewhat unfair comparison. Garuda (2000) has an approach to this method by using a statistical technique known as "propensity score estimation", where the treatment and control groups used are countries that have approximately the same probability to agree to an IMF arrangement - this in terms of the countries pre-program economic/financial problems.

Selection on Observed or Unobserved Factors

The next two methods follow the with-without approach, and control the perceived outcomes of IMF programs for selection on observed or unobserved factors. By including unobserved factors in their studies, researchers may have to consider that their results include error terms that cannot be correlated. Unobserved factor may be the difference in the design of the actual

IMF programs, the political willingness of the governments, and the likelihood of actually getting approval for IMF arrangements. A similar approach is called the *generalized evaluation estimator (GEE) approach*, and is mentioned by, among others, Haque and Khan (1998). The GEE is a with-without approach that "accepts the non-random selection of program countries, identifies the specific differences between program and non-program countries in the pre-program period, and then controls for these differences in initial positions in the comparison of subsequent economic performance" (Haque & Khan, 1998, p. 10).

Comparison of Simulations

This methodology approach determines the effects of IMF arrangements by comparing simulations of country performance under IMF arrangements with simulations of macroeconomic models and policy packages instead of actual macroeconomic outcomes. Haque and Khan (1998) describe this approach as useful when evaluating the design and effectiveness of IMF-supported arrangements in general – by estimating the effects of IMF arrangements. They further mention several advantages using this approach, among others that one does not have to be concerned about countries' compliance with the IMF's policy conditions in order to study the effects. The lack of available and comprehensive econometric models for comparisons creates limitations for this approach in order to capture the real effects for the studies (Haque & Khan, 1998).

The Instrumental Variables Approach

When using an instrumental variables approach to control for non-random selection, researchers try to find some factors that drive selection into IMF programs – factors that do not affect the outcome one is trying to evaluate. One critique against the IMF is for example that some countries may have a greater chance to get IMF loans or to get softer conditions, most often due to some prior connection with the IMF - political or otherwise. The before-after approach and the with-without approach are so-called simple research methods that do not control for the selection problem. The instrumental variables approach can help with the selection problem in these cases, but are not easy to come by as the variables that drive selection into IMF arrangements also influence the effects of the actual IMF arrangements (Vreeland, 2007).

The Extent of Program Completion

This approach compares the compliance of countries and governments with the IMF arrangements in terms of loans completion and policy conditions. When studying the extent of program completion, researches try to find out the reasons for program shortfalls. Also discontinuance of IMF arrangements before the intended time period is used as an indicator of program performance (Killick et al., 1990).

It is clear that there are a variety of different approaches for studying the outcomes of IMF arrangements, and many researchers have tried to combine different methods in order to verify their results and outcomes. As mentioned before, real field experiments in order to study the effects of IMF arrangement are considered quite unethical and are impossible to follow through. Some approaches are more informative than others and give more reliable information. Killick et al. (1990) has made an attempt to summarize the uses and limitations of each method – which is presented in table 3.1 on the next page. The authors have in this summary added *target-actual test* which compares the outcomes of IMF arrangements with the targets written into the Fund's conditions in order to check for the intended results from the Fund – in addition to country or program *case studies*. These two approaches will not be emphasized further.

Table 3.1: Uses and Limitations of Alternative Tests of IMF Programs

Source:(Killick et al., 1990, p. 9 Table 1)

	Before-after	Target-actual	With-without	Comparison of simulations	Generalized evaluation	Completed-uncompleted	Case-study
Research methods							
Program results:							
1. Does the program improve on the initial situation	Y	Y	Y		Y		Y
2. Do program countries do better than non-programs?			Y	Y	Y		
3. Do programs improve upon likely alternative outcomes?	W	W	D	Y	Y	W	Y
4. Are program effect sustained?	Y		Y		Y	Y	Y
5. At what costs are their results secured?		W			Y		Y
6. Can the results be generalized?			D	D	Y		W
7. Do results differ for							
(a) Country types?	Y		Y			Y	
(b) Program types?	Y		Y			Y	
Result determinants:							
8. Influence of exogenous factors	W			Y	Y		Y
9. Program implementations					W	Y	Y
10. Impact on instrument variables		Y					Y
11. Impact on financial flows							Y
Key:	Y = The test provides useful information bearing on the issue in the left-hand column						
	W = The test is particularly in this area						
	D = Debatable. There is disagreement in the literature on whether this test can provide useful information of the type asked for						

4. THEORY

The aim of this chapter is to give a brief introduction to the most used terms and relationships for analyzing the effects and outcomes of IMF lending arrangements. Also a brief introduction to financial crisis theory is presented, in addition to giving some insights to other theories related to better understand the discussions of this thesis.

4.1 Terms

There are some terms that are widely used in researcher's discussions on the IMF's arrangements. These include GDP, inflation, economic growth, balance of payments, and income distribution.

4.1.1 Gross Domestic Product (GDP)

The gross domestic product (GDP or Y) is the most used indicator of economic development and can be described as the value of all goods and services produced in a country or an economy in one year, and reflect the average income of a country's citizens. GDP can be measured by summing up a country's yearly output/expenditures -in forms of consumption, investment, government expenditures/purchases, and net exports-, or the country's total national income -in forms of wages, interest, profits, and rents earned- divided by the population (Soubbotina, 2004; Steigum, 2004; Weil & Sharma, 2013).

The GDP consists of private consumption (C), government spending (G), investments (I) and export surplus – export (EX) minus import (IM).

$$Y = C + G + I + (EX − IM)$$

GDP per Capita

GDP per capita is also called income per capita, and is the nation's GDP divided by its population. When comparing and converting the GDP among different countries and for different time periods, we have to use exchange rates based on the purchasing power parity (PPP). "By using the PPP conversion factor instead of the currency exchange rate, we can convert a country's GNP per capita calculated in national currency units into GNP per capita in U.S. dollars while taking into account the difference in domestic prices for the same goods" (Soubbotina, 2004, p. 142).

4.1.2 Inflation

Inflation describes the rise in the general price levels of commodity and services quoted in units of money over a certain period of time. The inflation rate represents the annualized percentage growth of several indexes, where the main index is the consumer price index – which is an index that considers the most common goods and services in the economy. Inflation measures the loss of money purchasing power, while deflation represents the opposite, where the general price levels decrease and cause a gain in money purchasing power. A hyperinflation represents a very high level of inflation, and the general threshold used by economists describes the term when the monthly inflation rate perceives 50 percent. Central banks in most countries prefer to keep a low, but positive inflation rate. A target rate is typically specified at one to three percent per year ("Inflation and deflation," N.D.; Salemi, 2008; White, 2008).

4.1.3 Economic Growth

Economic growth can be described as the quantitative change or expansion in a country's economy and is measured as the yearly percentage increase in a country's or economy's GDP. An economic growth can either be "extensively" or "intensively" which means that the economy grows either by using more resources or by using the same amount of resources more efficiently. Inflation is an important factor, and affects economic growth. By considering the inflation rate one would get more accurate values of the economic growth. The economic growth where the inflation rate is taken in to consideration is called the real economic growth[5] (Soubbotina, 2004).

4.1.4 Balance of Payments (BOP)

The balance of payments (BOP) accounts for a record of a country's international transactions, a record of the country's trade in goods, services, and financial assets with other countries.

The BOP consists of the current account (CA), the capital account (CP), and the official reserve account (OR).

$$BOP = CA + CP + OR = 0$$

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[5] While the economic growth where the inflation rate is not taken into consideration is called the normative economic growth (Soubbotina, 2004).

"The current account records goods, services, and transfers into the country [,] the capital account records the flow of financial assets into and out of the country [, while] the official reserve account records the purchases and sales of foreign currency by the central banks" (Gärtner, 2006, p. 18). BOP compares the amount of exports and imports, and if all transactions are included, the payments and receipts must be equal. A BOP surplus or deficit occurs if more money is coming into the country than flowing out, and vice versa (Gärtner, 2006; Stein, 2008).

4.1.7 Income Distribution

The term income distribution arises from people's interactions through markets and is affected by the country's tax system. These interactions embrace people's attitudes and ability to work, their savings and investments. The term can be described as an average of national income divided among groups of individuals, households, social classes and factors of productions (Levy, 2008).

4.2 Lender of Last Resort and Moral Hazard

A lender of last resort (LOLR) provides funds and liquidity to financial institutions when they cannot borrow from the market. When no other lender is willing or capable to provide funds for institutions, a lender of last resort can step in to protect and prevent problems due to liquidity problems and to prevent sovereign debt crises. For the banking sector, a LOLR can help protect depositors, prevent panics from braking out, and help to prevent a collapse of the financial systems. Central banks typically hold the role as domestic lenders of last resort and are only available to deposit-taking banks in times of crisis. Joyce (2013) defines that the domestic lender of last resort "is to lend freely to temporarily illiquid but nonetheless solvent banks at penalty rate with good collateral" (p. 139).

The IMF typically holds the role as an international lender of last resort. Joyce (2013) describes the IMF's justifications as acting as an international lender of last resort, which is presented in table 4.1 on the next page.

Table 4.1: IMF's Justifications as acting as an International Lender of Last Resort
Source: (Joyce, 2013, pp. 140-141)

1. There are externalities resulting from the occurrence of crises that are not incorporated in domestic decisions on crisis prevention.
2. Multilateral lenders, such as the IMF, may be able to stop speculative runs due to coordination failures by supplying adequate liquidity.
3. The IMF can deal with informational problems in private financial markets.
4. The IMF can strengthen the position of domestic reformers through its lending programs.

A big difference between a domestic and an international LOLR is that the domestic lender (central banks) has the possibility to create money, in addition to holding bank reserves, and can draw upon unlimited resources. This is not the case for international lenders, as the IMF, who only has the member countries' quotas to draw upon for its lending. Another difference between these lenders is that the IMF has been reluctant to charge a penalty rate from its borrowers in order to make it easier for countries in need of financial assistance to seek help. The IMF's low interest rates could encourage member countries to borrow more frequently and in larger amounts, which could create the situation known as moral hazard – which is further discussed in the next section (Buckley, 2011; Joyce, 2013; Kindleberger & Aliber, 2011; Vreeland, 2007).

4.2.1 Moral Hazard

A lender of last resort could lead to the term known as *moral hazard*, where the availability of funds and bailouts could lead to reckless behavior from both debtors and creditors in terms excessive risk taking. Bird (2007, p. 692) states that "Moral hazard occurs where action designed to alleviate a problem creates incentives that may actually make it worse". One way to look at moral hazard is in a way of an insurance, where the insured party's incentives are reduced and is encouraged to make preventive actions. A party may be more willing to take a greater risk, knowing that the cost and burdens will be borne by another party. In the case of IMF lending, the topic widely discussed is that rescues from international lending institutions encourages lenders and borrowers to behave irresponsibly. The IMF's support comes in form of loans that are to be repaid with interest, not a simple cash payout as would have been the

case if an actual insurer would provide the insurance. The "insurance benefit" provided by the IMF is lower interest rates, which is different from other lending institutions who in times of crisis may carry very high interest rates (T. Lane & Phillips, 2000).

Moral hazard concerns both creditor-side and debtor-side moral hazard. Creditor-side moral hazard can be described as a greater willingness to lend. Investors might be more likely to lend excessively to member countries at low interest rates without taking the full risk into consideration. Noy (2008, p. 65) states that "an (implied) insurance of bond issues or inter-bank lending can lead to the following: (1) an increase in the amount lent; (2) a decrease in the price of loans so that it no longer reflects insurance-free risk; (3) a change in the composition of investment away from uninsured investment (e.g., equity) to insured flows (e.g., sovereign bonds); and (4) a change in the composition of international portfolios away from less risky but less profitable investment opportunities to more risky but more profitable ones if outcomes are positive." Likewise, member countries may not undertake the risks of borrowing and act in an imprudent way if there is a chance that they could be (at least partially) bailed out in the case of balance of payment problems, and increase the likelihood of a crisis. This scenario describes the debtor-side of moral hazard (T. Lane & Phillips, 2002; Lee & Shin, 2008).

4.2.2 Too Big to Fail

Some companies are in a manner "too big to fail" (TBTF); that the business has become so large, interconnected and important to the economy (and society) that a failure could cause a disastrous ripple effect for the entire financial system. These businesses must be supported by governments when facing difficulties, because the cost of a bailout may be less than the cost of the failure to the economy and society as a whole (Federal Reserve Bank of Kansas City, N.D.).

The failure of one large bank in a country, for example, could cause a domino effect resulting in indebtedness and failure of other banks, and in worst case scenario; cause failure of every other bank in the country. Further, the systemic risk is that the problems in one financial institution spread and endanger the entire financial system (Buckley, 2011). One example of this is US banks, as emphasized in an article by Michael Snyderin (2013) in the blog "The Economic Collapse", where he states that the six largest banks in the United States have become so big that they have outcompeted 1,400 smaller banks during the last five years, and

now control 67 percent of all US banking assets. This makes the banks JPMorgan Chase, Bank of America, Citigroup, Wells Fargo, Goldman Sachs and Morgan Stanley crucially important for the US economy, and a collapse of these banks would mostly guaranteed result in a brutal economic depression. The author explains this situation as that the banks have become "too colossal to collapse". "Our entire economy is based on credit, and these giant banks are at the very core of our system of credit" (Snyderin, 2013).

Moral hazard becomes a problem when *too big to fail* companies deliberately take high-risk high-return chances, as they are able to carry these risks with a *bailout insurance* held by governments. This does not only cause excessive risk on businesses itself, but on the entire economy. The moral hazard goes both ways, and cause imprudent behavior in both debtor and creditor-side of these companies, squeezing out competition and creating danger to the financial systems. As former Federal Reserve Chairman of the United States, Alan Greenspan, explains the situation regarding US banks when referring to the danger of a collapse in the financial system; "If they're too big to fail, they're too big" (McKee & Lanman, 2009). Buckley (2011) suggests that one should try to prevent big banks from growing too big in the first place or to break up the largest banks into smaller units, as big banks are difficult to regulate and manage.

4.3 Financial Crises

We want to look deeper into the relationship between IMF participation and the probability of future currency, banking and twin crises. In this section we outline brief theoretical insights to financial crises, balance of payments problems, and financial distress. In addition we give insights to events that have occurred in economic history.

Countries, banks, individuals, and firms again and again build up excessively high debt in good times without taking into account the risk that will follow when the inevitable recession hits. In many cases, players in the global financial system build up much more debt than they can reasonably expect to escape from in the future. Financial crises are not some new phenomenon, but have been around since the development of money and financial markets. There are different reasons why crises occur; countries may have difficulties handling their foreign debt, or there may be a financial distress on a world basis (Vreeland, 2007). Nesvetailova (2007, p. 26) claim that financial crises, in one way or another, "always result

from some policy miscalculation or governmental ineptness, plain corruption or a severe external shock to the economic system".

Financial crises often occur in clusters and follow a rhythm of *boom and bust* through periods of time. It is very difficult to predict the timing of debt crises, since it is the nature of confidence and the dependence on the public's expectations on future events that marks the start of a crisis. Reinhart and Rogoff (2009) state again and again in their book; that even though people and governments, when referring to previous crises and periods of financial distress, claim that the current time *is* different from other periods of distress; the truth is that we have definitely been here before. This is what the authors call the *this-time-is-different* syndrome.

> "The essence of the this-time-is-different syndrome is simple. It is rooted in the firmly held belief that financial crises are things that happen to other people in other countries at other times; crises do not happen to us, here and now. We are doing things better, we are smarter, we have learned from past mistakes. The old rules of valuation no longer apply. Unfortunately, a highly leveraged economy can unwittingly be sitting with its back at the edge of a financial cliff for many years before chance and circumstances provoke a crisis of confidence that pushes it off" (2009, p. 1).

As the world gets more interconnected in terms of trade and financial channels, distress in one country's financial and corporate sectors is more closely linked to external financial difficulties and exchange rate instabilities. The distinctions between different types of crises are not clear-cut either, as imbalances in one sector often transfer into others and may lead liquidity problems to insolvency (IMF, 2002; Nesvetailova, 2007).

4.3.2 Different Types of Financial Crises:
Both sovereign debt crises and banking crises can be traced long back in history, through centuries and across regions. Many advanced economies seem to have "graduated" from sovereign debt crises after a historical periodic bout of government insolvency, while these crises remain a recurring problem in emerging markets. Banking crises, however, still remain a recurring problem everywhere, affecting rich and poor countries alike (Reinhart & Rogoff, 2009). Different types of financial crises include inflation crises, currency crises, sovereign debt crises and banking crises.

4.3.2.1 Inflation Crises

Inflation crises occur when any unexpected increase in inflation takes place and allows all debtors to repay their debts in currency with much less purchasing power. The debt is inflating away, and many high-inflation crises often last for many years. It is very difficult for countries to escape these situations, to permanent graduate, if they have had a long history of high and volatile inflation. Reinhart and Rogoff (2009) use a threshold of 20 percent per annum to define an inflation crisis. As further discussed in this thesis; banking crises indicates a likely rise in sovereign defaults in addition to signal a potential rise in a country's inflation rate. There can also be found a close connection between inflation crises and currency crashes – which is discussed in the next section. "In most cases, high inflation and collapsing exchange rates result from a government's abuse of its self-proclaimed monopoly on currency issuance" (Reinhart & Rogoff, 2009, p. 180). Countries that have experienced sustained high inflation often shift towards using foreign hard currency, often towards dollarization. This again may lead to a weakening of a country's currency monopoly, which can take a long time to destabilize.

Throughout history, every continent - especially countries in emerging market phases, has experienced multiple episodes of high inflation, often long-lasting and recurrent. No emerging country in history has managed to avoid periods of high inflation, and from the twentieth century, episodes of high inflation have spiked radically. After World War II, Africa and Latin America represent the two regions that have experienced the highest degree of inflation, with the 1980s and 1990s as the most intense periods (Reinhart & Rogoff, 2009).

4.3.2.2 Currency Crises

"A foreign exchange, or currency, crisis occurs when a speculative attack on a country's currency results in a devaluation or sharp depreciation or forces the central bank to defend the currency by selling large amounts of reserves or by significantly raising interest rates" (IMF, 2002). A sharp decline in a country's demand for domestic currency, as mentioned – often triggered by high inflation, often leads to reserve losses, an increase in short-term interest rates, a depreciation of a country's currency against another country's currency, or a combination of these three situations (Nesvetailova, 2007). Reinhart and Rogoff (2009) define a currency crash (crisis) as an annual depreciation of a country's currency versus the US dollar (or the relevant anchor currency) with 15 percent per annum or more. Currency crisis can be caused by speculative disturbances based on anticipations of future policies, which

may be based on bad experiences with previous administrations in a country and a lack of private sector credibility. Expectations of a devaluation of a country's exchange rate may lead to an investor bailout, caused by anticipated unattractive interest rates. Investors turn to other countries, causing large capital outflows and losses of international reserves (Nesvetailova, 2007).

The Mexican crisis of 1982 is one example of currency crisis to emphasize in this section. Mexico became a major oil exporting country in the mid-1970s, where oil export accounted for 60 percent of their earnings by the mid-1980s. The Mexican government's expenditures in this period exceeded their export earnings and the deficit was partly covered by monetary emission, partly by foreign earnings. This led to a fast growing inflation in the country, which again led to an increased real exchange rate of the peso. In early 1982, the American demand for Mexican exports declined, which made the Mexican government devalue the peso in response. "Devaluation, however, failed to reassure foreign commercial banks in the government's policy credibility. By the summer 1982, the traditional sources of foreign borrowing were exhausted, and Mexico was left with an unsustainable debt burden" (Nesvetailova, 2007, p. 37). Reinhart and Rogoff (2009) in addition emphasize other exchange rate crisis since the 1990s; Russia in 1998, Brazil in 1999, and Argentina in 2001.

4.3.2.3 Sovereign Debt Crises:

Sovereign default describes when a government fails to meet principal or interest payment on due date or within the grace period of the loan. A debt crisis can also occur when lenders withhold new loans and try to liquidate existing loans in believe that default is likely to take place (IMF, 2002). Serial defaults refer to multiple or several sovereign defaults on external or domestic public (or publicly guaranteed) debt, or both. *External debt crises* involve default on a government's external debt obligations. This includes payments to creditors in other countries, typically held mostly by foreign creditors and denominated in foreign currencies. *Domestic debt crises* involve default on a government's public debt issued under the country's own legal jurisdiction, typically held mainly by residents and denominated in the local currency. In addition to defaults on principal or interest payments, domestic debt crises have involved the freezing of bank deposits and/or forcible conversions of such deposits from dollars to local currency (Reinhart & Rogoff, 2009).

Many countries, especially emerging markets, can be defined as *debt-intolerant*. These debt-intolerant countries experience extreme difficulties managing their external debts, typically resulting from loss in market confidence, spiraling interest rates on external government debt, and political resistance to repaying foreign creditors. This may lead to serial defaults, and once a country has become a serial defaulter, a recovery may take decades or even centuries (Reinhart & Rogoff, 2009).

One recent example of a sovereign debt crisis is the ongoing crisis in Europe. The global financial crisis which entered its first phase in August 2007 in the United States, also known as the Great Recession, triggered major reassessment among investors in the euro area, and caused a severe shock in all of Europe. "In turn, the combined impact of domestic recessions, banking-sector distress, and the decline in risk appetite among international investors would fuel the conditions for a sovereign debt crisis" (P. R. Lane, 2012, p. 54). So far, the most severe crises in the euro area have been in Greece, Ireland, and Portugal, followed by Italy and Spain.

4.3.2.4 Banking Crises:

Banks traditionally borrow at short term, but they usually provide loans at the same time with far longer maturity. This means that banks may face difficulties converting their loans into cash on short notice. If, for instance, a panic occurs and the depositors all try to withdraw their funds at once, the banks will experience trouble providing these funds and may not be able to pay off the panicked depositors. Heavy investments losses and/or banking panics resulting in bank insolvency are typical reasons for the outbreak of a banking crisis. A banking crisis can be described as an event where there are significant signs of financial distress in the banking system that leads to bank runs which again leads to closure, bankruptcy, merging, significantly losses in the banking system, and/or takeover by the public sector.

Systemic banking crises (SBC) are severe and can be defined as those crises that are connected with recessions. SBC are rare events, and recessions following a SBC are often deeper and more long-lasting than other recessions. Advanced economies tend to have worse outcomes of banking crises than emerging and developing countries, in terms of real effects. A deeper banking system makes a banking crisis more disruptive and cause larger output

losses and larger increase in public debt (Boissay, Collard, & Smets, 2013; Reinhart & Rogoff, 2009).

The Nordic banking crisis in Norway, Sweden and Finland are good examples to mention in this section, with emphasize on the Norwegian banking crisis. These Nordic countries experienced systemic banking crises in the early 1990s, whereof the Norwegian banking crisis lasted from 1988 to 1993, and preceded the crises in Sweden and Finland by one year. The Norwegian crisis followed a similar pattern as other countries in crises. "Among them were: prior to the crisis; deregulation of a heavily regulated financial sector immediately followed by an excessive increase in bank lending, and a boom followed by a bust particularly in real estate prices" (Moe, Solheim, & Vale, 2004, p. 3). Norway managed to reduce its interest rates considerably in 1992 as it de-pegged its currency from ECU and let the krone float, were by 1994 the losses of the crisis were minuscule (Moe et al., 2004).

4.3.2.5 Twin Crises

Twin crises can be described as the simultaneous occurrence of two economic crises; currency crises with bank crises, currency crises with sovereign debt crises, or banking crises with sovereign debt crises. The occurrence of currency crises along with either banking or sovereign debt crises are the most common cases of twin crises. Most bank crises are accompanied by currency or sovereign debt crisis, but not necessarily vice versa. Kaminsky and Reinhart (1999) found that banking crises most commonly precede balance of payments distress. Laeven and Valencia (2012) found that in the same country, within three years following the start of a banking crisis, 21 percent of banking crises are followed by a currency crisis and five percent are followed by a sovereign debt crisis. Kindleberger and Aliber (2011) points out that nearly all of the banking crises since the early 1980s have been associated with currency crises, with a few exceptions – such as the banking crisis in Ireland in 2008 and 2009. Twin crises tend be more severe than individual banking and currency crises, and have been found to be more frequent in developing countries and emerging markets than in industrial countries. Examples of dual banking and currency crises include Chile in 1982, Finland in 1992, Sweden in 1992 and Mexico in 1994 – among many other incidents (Hagen & Ho, 2003; Joyce, 2013; Kaminsky & Reinhart, 1999; Laeven & Valencia, 2012).

4.4 Economic Distress through History

This section will start by introducing the big ten financial bubbles we have experienced throughout history, presented by Kindleberger and Aliber (2011) in table 4.2 below. As we can see from the table, six out of the ten biggest bubbles in history have occurred since the 1970s. The history of financial distress and crises further discussed in this section will emphasize episodes starting from the 1970, as it is most relevant for investigating the IMF's intentions, and the macroeconomic effects of their lending arrangements.

Table 4.2: The Big ten Financial Bubbles. *Source: (Kindleberger & Aliber, 2011, p. 11)*

1. The Dutch Tulip Bulb Bubble 1636
2. The South Sea Bubble 1720
3. The Mississippi Bubble 1720
4. The late 1920s stock price bubble 1927–29
5. The surge in bank loans to Mexico and other developing countries in the 1970s
6. The bubble in real estate and stocks in Japan 1985–89
7. The 1985–89 bubble in real estate and stocks in Finland, Norway and Sweden
8. The bubble in real estate and stocks in Thailand, Malaysia, Indonesia and several other Asian countries 1992–97 and the surge in foreign investment in Mexico 1990-99
9. The bubble in over-the counter stocks in the United States 1995–2000
10. The bubble in real estate in the United States, Britain, Spain, Ireland, and Iceland between 2002-2007 – and the debt of the government of Greece

4.4.1 Economic Crises since the 1970s

There have been four waves of financial crises since the early 1970s, each followed by a wave of recession and credit bubbles. The common feature among these waves of crises is that the financial troubles resulted from the impacts of monetary shocks and credit market shocks on the direction and scope of cross-border money flows – which in several cases occurred at the same time (Kindleberger & Aliber, 2011).

> "The monetary shocks involved unanticipated changes in the rates of money supply growth and the accompanying impacts on anticipated inflation rates and on interest rates. The credit market shocks involved the relaxation of financial regulations that

allowed the banks to increase their loans to specific groups of borrowers, who then became more attractive to lenders" (Kindleberger & Aliber, 2011, p. 282).

The first wave of crises found place in the 1980s in Mexico, Brazil, Argentina, and ten other developing countries, when they defaulted on their USD 800 billion US dollar-denominated loans. The 1980s became what has become called the Third World debt crisis, or the "lost decade" for Latin America. The second wave of crises include the "Big Five" banking crises in Japan, Spain and the three Nordic countries; Finland, Norway and Sweden in the early 1990s. The third wave began in mid-1997 with the Asian Financial crisis, including Thailand, Malaysia, and Indonesia – which preceded the crises in South Korea, Russia, Brazil, and Argentina. Finally, the fourth wave started in 2007 after a relatively calm period, known as the Big Recession, and was triggered by declines in the prices of real estate in the United States, Great Britain, Spain, Ireland, and Iceland – followed by declines in prices of bonds of the Greek, Portuguese, and Spanish governments (Kindleberger & Aliber, 2011; Reinhart & Rogoff, 2009)

Laeven and Valencia (2012) (based on research from Beim & Calmoris (2001), the World Bank (2002), Sturzenegger & Zettlemeyer (2006), and the IMF) identify 66 episodes of sovereign debt crises and debt restructuring during the period from 1970-2011, where three of these episodes took place during 2008-2011. Additionally, Greece restructured its public debt in the first half of 2012. In the same time period there have been a total of 211 currency crises and 147 banking crises worldwide, where several countries have experienced multiple crises. Only two countries, Argentina and the Democratic Republic of Congo, have experienced more than two banking crises during this time period. Figure 4.1 below shows the range and frequency of systemic banking crises from 1970 to 2011 (Laeven & Valencia, 2012).
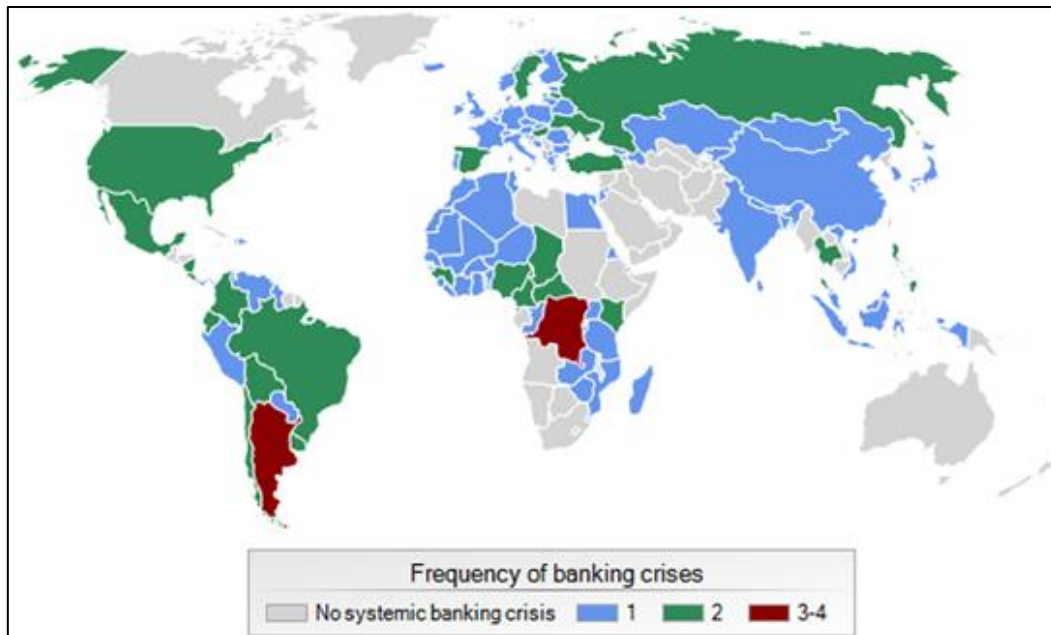
Figure 4.1: Frequency of Systemic Banking Crises around the World, 1970-2011
Source: (Laeven & Valencia, 2012, p. 9)

4.4.3 Outcomes of Crises

The decades following the 1980s have caused more collapses in national banking systems than in any previous comparable period. This period has been the most troubled in monetary history - this is in terms of the number, scope, and severity of financial crises. "The loan losses of banks in Japan, in Sweden, Norway and Finland, in Thailand and Malaysia and Indonesia, and in Mexico (twice), in Brazil and Argentina, and in the United States and Britain and Iceland and Ireland ranged from 10 to 50 percent of their assets" (Kindleberger & Aliber, 2011, p. 278). The losses in some countries during this period were much bigger than those in the US during the Great Depression of the 1930s. Most of the banking crises in this period were systemic and, as mentioned earlier, nearly all of the banking crises since the early 1980s were associated with currency crises – making the outcomes even more severe. Many of these countries turned to the IMF as a lender of last resort in order to help limit the deregulation of their currencies, but many were reluctant due to that the policy conditions of the Fund would deflate their economies (Kindleberger & Aliber, 2011).

Table 4.3 below shows the outcomes from banking crises during the time period 1970-2011 as presented by Laeven and Valencia (2012), where four main variables measure the outcomes; the fiscal cost of a crisis, the output losses, the increase in public debt, and the peak in

nonperforming loans (NPL's). "The increase in public debt is measured as the change in the public debt-to-GDP ratio over the four-year period beginning with the crisis year" (Laeven & Valencia, 2012, p. 15). As we can see, the advanced countries have bigger output losses and larger increases in debt than the emerging and developing countries. As mentioned before, deeper financial and banking systems in the advanced economies tend to cause more disruptive outcomes of a crisis- which is shown in table below.

Table 4.3: Banking Crises Outcomes, 1970–2011
Source: (Laeven & Valencia, 2012, p. 17 Table 2)

Country	Output loss	Increase in debt	Monetary expansion	Fiscal costs	Fiscal costs	Duration	Peak liquidity	Liquidity support	Peak NPLs
	Medians								
	In percent of GDP				In percent of financial system assets	In years	In percent of deposits and foreign liabilities		In percent of total loans
All	23.0	12.1	1.7	6.8	12.7	2.0	20.1	9.6	25.0
Advanced	32.9	21.4	8.3	3.8	2.1	3.0	11.5	5.7	4.0
Emerging	26.0	9.1	1.3	10.0	21.4	2.0	22.3	11.1	30.0
Developing	1.3	10.9	1.2	10.0	18.3	1.0	22.6	12.3	37.5

5. IMF INTERVENTION

Up until the year 2000 about one quarter of the world was in an arrangement with the IMF, during any given year. This makes the IMF intervention quite large and common on a world basis (Vreeland, 2007). The Fund may have several active programs at once, but the number of programs varies from year to year. The distribution of different lending arrangements has also changed during the lifetime of the IMF. Table A2 shows the number of ongoing arrangements and amounts committed from the IMF to member countries from 1953 to 2013. This chapter of the thesis will provide brief insights to IMF intervention through history and try to create an overview of their lending arrangements on a worldwide basis.

Figure 5.1 below shows the number of approved arrangements on a year basis from 1970-2011. As we can see, the Fund has had a varying number of arrangements during these years, and there have also been a big variance is the distribution of the different lending arrangements. The stand-by arrangements (SBA) have been the main lending arrangements for years, but during the last decades the Fund has made a shift in the distribution of total lending arrangements, where of the fiscal year of 2013, 17 percent of the total ongoing lending arrangements were SBAs while the poverty reduction and growth trust arrangements (PRGT) accounted for 60.9 percent (IMF, 2013g).
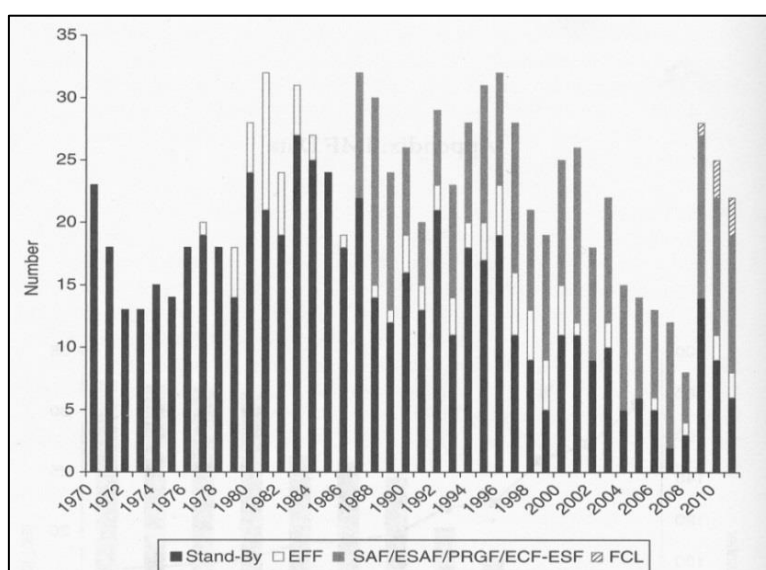
Figure 5.1: IMF Arrangement Approved: 1970-2011
Source: (Joyce, 2013, p. 198)

The lending support from the IMF was in a declining period in the beginning of the 2000s, but the activities increased radically again after the global financial crises hit in 2008-9. The number of new lending arrangements fell from 26 in 2001 to eight in 2008, and then drastically increased to 28 in 2009 (IMF, 2013g).

The amounts committed from the Fund have drastically increased in time, from SDR[6] 55 million (USD 82.9 million) in ongoing arrangements in 1953 to SDR 152.5 million (USD 230 million) in 2013. While the PRGT is the most frequent ongoing lending arrangement by the Fund in 2013, it accounts for the smallest amount committed (1.9 percent). The lending arrangement that accounts for the biggest amount committed by the Fund is the flexible credit line (FFL) which accounts for 7.32 percent of the arrangements and 47.9 percent of the amounts committed in 2013. Figure 5.2 below presents the amounts committed each year by the IMF from 1970 to 2011. As we can see, the most drastically increase has taken place since 2009, after the hit of the Great Recession.
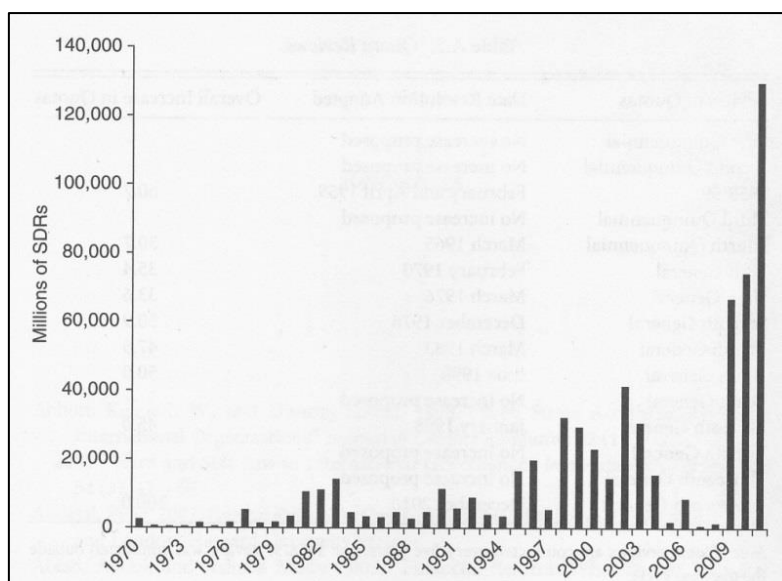
Figure 5.2: Amounts Committed under IMF Lending Arrangements: 1970-2011
Source: (Joyce, 2013, p. 199)

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[6] "On April 30, 2013, the SDR/U.S. dollar exchange rate was US$1 = SDR 0.662691, and the U.S. dollar/SDR exchange rate was SDR 1 = US$1.509" (IMF, 2013g, p. 3).

5.1 IMF Lending Through History

The IMF lending is supposed to be temporary; the different lending arrangements are intended to last from one to five years in order to help countries with their balance of payment problems. The average length of IMF arrangements is 5.5 years, with 5.2 years among countries with no past history with the Fund. The overall pattern seems to be extensive participation, especially among developing countries. The typical pace of re-entering for developing countries is that they stay five years under an IMF arrangement, then spend five years without, then re-enter an arrangement for another five years, and so on. There are some extreme cases of time spent under IMF under consecutive arrangements and these include; South Korea - that spent 13 years from 1965-1977, Zaire spent 14 years straight from 1976-1989, Liberia spent 15 years from 1963-1977, and Haiti that spent 21 years under consecutive arrangements up until 1990 (Vreeland, 2007).

During the 1980s debt crisis, from 1982 to 1985, "the IMF engaged in twenty-five lending arrangements with thirteen heavily indebted countries: Argentina, Brazil, Chile, Costa Rica, Ecuador, Jamaica, Mexico, Peru, and Uruguay in Central America and South America, and Côte d'Ivoire, Morocco, the Philippines, and Yugoslavia" (Joyce, 2013, p. 58). During this period, many of the policy conditions attached the programs were not fully implemented, and the programs often broke down. Only eleven of these arrangements were fully utilized, and several were modified during its duration time. During the East Asian crisis in the late 1990s, the IMF engaged in lending arrangements with Thailand, Indonesia, and South Korea. Russia was also in an arrangement with the Fund during the 1990s, and Argentina, Brazil, Spain and Turkey turn to IMF during the early 2000s – to mention a few noteworthy examples. From the IMF's first agreement in 1952 up until 2000 there have been a total of 936 separate IMF arrangements that spanned a total of 1,838 country-years. 725 of these arrangements have taken place from the 1970s, whereof 594 were short-term and mid-term stabilization programs. Latin America represents the region with most arrangements, and by 1965 every Latin American country had participated in an IMF arrangement – most of them on a repeating basis (Barro & Lee, 2003; Joyce, 2013; Vreeland, 2007).

Even though most countries have participated in lending arrangements with the IMF, some countries have yet never turned to the Fund for support - and these are listed in table A3. A few of these countries are not members of the IMF, such as North Korea, Lichtenstein, and Nauru, but most of the countries are currently members. Vreeland (2007) states that there are no obvious reasons for their non-participation. Some of these countries are resource rich, such

as the oil-rich countries of the Middle East and diamond-exporting Botswana – but being resource rich does not explain the existing pattern of IMF lending.

5.1.1 The Barrier of the First Time Borrower

It is said that if a country first has signed an agreement with the IMF, it is more likely to make an agreement with the Fund in the future. Przeworski and Vreeland (2000, p. 61) state that "Countries with no previous experience with IMF programs are less likely to enter into an IMF arrangement even when facing bad economic conditions; one reason is that governments face a more severe stigma for sacrificing national sovereignty in these situations". Pride is one major factor that implies that a country is reluctant to seek help, and tries as best as it can to manage its financial difficulties on its own. When this barrier first is broken, it is easier to ask the Fund for help at a later point. Governments are more likely to seek financial help from the IMF if former leaders previously have done the same. The threshold isn't as high then as for first time borrowers. There is a pattern that shows that the proportion of countries entering IMF arrangements with past experience is two to four times greater than countries with no previous experience with the Fund One example of this is Nigeria, who entered its first arrangement in 1987, following with a new arrangement in 1989, and a third one in 1991 (Vreeland, 2007).

5.2 Ongoing IMF Arrangements

By the end of the fiscal year 2013, the Fund had 41 ongoing lending arrangements, accounting for SDR 152.5 million (USD 230 million). During the last year there were approved twelve new arrangements; five under the IMF's non-concessional financing facilities and additionally seven new arrangements to low-income countries (concessional loans) – which together accounted for SDR 75.5 million (USD 114 million). What is noteworthy here is that the number of new arrangements approved by the Fund once again is in a declining period. "Successor arrangements under the Flexible Credit Line for Mexico and Poland accounted for the vast majority of the amount committed, and a sizable percentage of the amount disbursed went to three euro area countries with IMF programs" (IMF, 2013g, p. 11). Table 5.1 on the next page presents the arrangements approved by the Fund during the fiscal year of 2013. The numbers and amounts committed follow the same trend as the Fund's ongoing lending arrangements, with the PRGT as the most frequent arrangement in quantity, while the FCL accounts for the largest amounts approved.

Table 5.1 IMF Arrangements Approved during the Financial Year Ended April 30, 2013
Source: (IMF, 2013g)

Member	Type of Arrangement	Amounts Approved *(millions of SDRs)*
Bosnia and Herzegovina	Stand-By	338.2
Jordan	Stand-By	1,364.0
Mexico	Flexible Credit Line	47,292.0
Morocco	Precautionary and Liquidity Line	4,117.4
Poland	Flexible Credit Line	22,000.0
Central African Republic	Poverty Reduction and Growth Trust	41.8
Gambia, The	Poverty Reduction and Growth Trust	18.7
Liberia	Poverty Reduction and Growth Trust	51.7
Malawi	Poverty Reduction and Growth Trust	104.1
Säo Tomé and Príncipe	Poverty Reduction and Growth Trust	2.6
Solomon Islands	Poverty Reduction and Growth Trust	1.0
Burkina Faso	Poverty Reduction and Growth Trust	36.1
Tanzania	Poverty Reduction and Growth Trust	149.2
Mali	Poverty Reduction and Growth Trust	12.0
Total		**75,528.8**

By the end of the fiscal year 2013, eight European countries[7] were participation in IMF arrangements, accounting for 62 percent of the IMF's total disbursing and precautionary commitments. In the most recent financial years, a number of European countries have requested support from the IMF, including Greece, Ireland, Cyprus, and Portugal due to the financial distress after the hit of the Great Recession. As mentioned earlier, the Fund has recently been resurrected in the advanced economies after decades of activities mainly concentrated in underdeveloped and developing countries. There were established joint European Union/IMF programs for each of these European countries during 2010-2012 which provided conditions to implement fiscal austerity and structural reforms to boost growth (especially in Greece and Portugal), and recapitalize and deleverage overextended banking

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[7] "Bosnia and Herzegovina, Kosovo, and Romania (Stand-By Arrangements), Greece, Ireland, Moldova, and Portugal (Extended Fund Facility), and Poland (Flexible Credit Line) (IMF, 2013g, p. 19).

systems (especially in Ireland). The lending required for these countries far exceeded normal IMF lending amounts, leading the European Union to act as the major fund provider (IMF, 2013g; P. R. Lane, 2012).

6. THE EFFECTS OF IMF ARRANGEMENTS

It is hard to distinguish the effects of IMF intervention from those events that would have otherwise occurred. The consequences of IMF arrangements crucially depend on the structure of the economy, the specific terms of the stabilization program, the level of program implementation (conditionality) and the structure of poverty in the borrowing country (Garuda, 2000). Haque and Khan (1998) emphasize in their study that the IMF supported programs is only one of many macroeconomic shocks the participating countries experience. "External shocks, such as changes in the terms of trade or in the cost of servicing foreign debt, will also affect the country's ability to achieve the macroeconomic objectives of the program. Measures of program effectiveness have to filter out these unanticipated exogenous shocks" (1998, p. 5). Steinwand and Stone (2008) focus on whether ineffective IMF programs are caused by poorly designed arrangements or that the arrangements are poorly implemented by the recipient member countries. Other difficulties one has to consider when studying this topic is the time aspect; one cannot assume that the effects of IMF programs follow a linear path over time or that the effects measured on some economic variables will be matched by similar effects on others (Bird, 2001). There is no completely satisfactory means to say exactly what a country will experience when participating in an IMF arrangement, but it is more likely that one can find out and understand the typical effect of an outcome. The most typical outcomes from IMF arrangements do not make headlines - it is rather the worst cases that are discussed in the public (Vreeland, 2007). IMF arrangements are as mentioned quite common, and the participation rates are increasing – see figure 6.1 below.
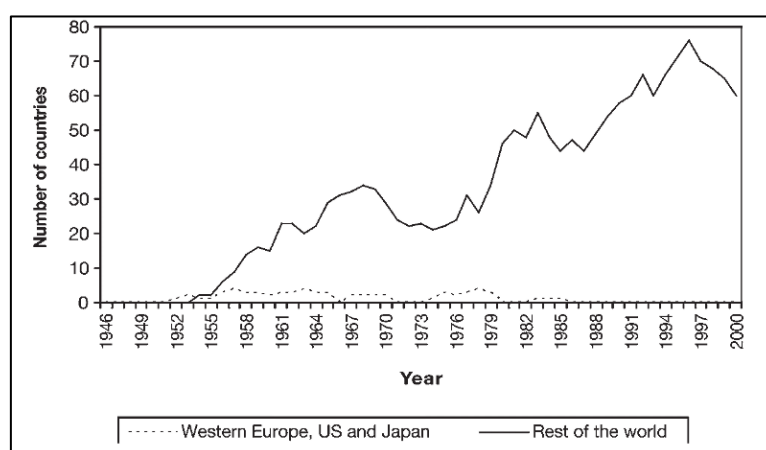
Figure 6.1: Number of countries participating in IMF programs 1946 to 2000
Source: (Vreeland, 2007, p. 10)

In order to study the effect of IMF arrangements, one has to be able to identify and separate the circumstances that are due to the IMF's arrangements and what are due to other circumstances. Different research techniques do not always give the same results, and a number of researches have published studies with different approaches and hence; different results. The aim of this chapter is to give an overview of IMF's intentions, the critiques against the Fund, and finally, the effects of the lending arrangements presented from different studies. The heated issue regarding IMF lending arrangements and the possibility that the Fund's activities encourage moral hazard will also be investigated at the end of this chapter.

6.1 IMF Transparency

One issue that has made IMF programs difficult to investigate is the level of transparency from the Fund itself. Most details about their programs have been kept confidential up until the last few decades, which have made it difficult to investigate IMF intervention - at least studying the degree of countries' implementation and compliance with the policy conditions. The Fund made a policy shift after the East Asian financial crises in the late 1990s and made at least some portions of nearly all letters of intent (LOI) publicly available through their website. Some publications from the Fund are first published five years after their issuance, and some are not publicly available before ten or twenty years after issuance. However, even though some details about IMF arrangements now are available to the public, the level of details in the publications makes it complicated to evaluate and observe the intended outcomes from the Fund. There are still some negotiations between the IMF and governments that are kept secret from the public of the recipient countries and the general public as a whole. Özgür (2009) believes that this secrecy affect both the governments' liabilities and the public confidence in the IMF, and suggest that any unfavorable information, in addition to all letters of intent, should be made public immediately (Vreeland, 2007; Özgür, 2009).

6.2 Countries' Relationship with the US

Many decisions in the IMF that are based on votes most often calls on a majority from the member countries, sometimes by 85 percent. As mentioned before, the United States holds the largest quota in the Fund, together with 16.75 percent of the votes per 2013. This amount of votes is large enough to give the United States veto power in decisions that require 85 percent majority of the votes. The five countries that counts for the largest amount of quotas and

voting power in the IMF is the United States, Japan, Germany, the UK and France (IMF, 2013a; Vreeland, 2007). Some countries are said to have a better chance in getting softer conditions than others, and countries facing better conditions are countries that either political or on other terms have some prior connection with the IMF. Many critics have stated that the US has too much voting power in the IMF, and that the outcomes of the Fund's decisions heavily rely on the countries' relationship with the US. Systematically differences among IMF arrangements thus may lead to biased results when comparing participating countries (Vreeland, 2007).

Barro and Lee (2003) mention a common claim against the IMF; that the Fund plays the role that is best suited for its biggest shareholder – the United States. They conducted a study to investigate this issue, and the focus of their study was short-term stabilization programs (SBA and EFF) in 130 countries during 1975-99. They investigated the number of quotas, the countries' nationals among the IMF professional staff of economists[8], voting patterns in the United Nations, and the extent of bilateral trade linkages in order to study each country's political and economic connection to the most influential members of the IMF. Their analysis shows that "IMF loans are more likely to exist and to be larger in size when countries have larger quotas, more nationals on the IMF staff, and are more connected politically and economically to the United States and the major Western European countries" (2003, p. 2).

Vreeland (2007) has cited several studies that come to the same conclusion as Barro and Lee, which includes studies by Tony Killick (1995), Strom Thacker (1999), Graham Bird and Dane Rowlands (2001), and Randall Stone (2004).

6.3 IMF Conditionality

The IMF has policy conditions attached to its loans because it believes that the need for a loan is a result of bad economic policies in the demanding country, and the conditions are intended to help the country to recover in the long run. As mentioned earlier countries may require loans, or the first tranche of their loans, up until 25 percent of its quota without any policy conditions attached. The Fund recognizes that these loan requests may not always be a result of bad economic policies, but rather just bad luck, and does not necessarily believe that they will lead to moral hazard (Vreeland, 2007). The conditionality is not legally enforceable, and

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[8] "Officially, to avoid conflicts of interest, the IMF does not allow staff members to have a direct influence on lending decisions for their home country" (Barro & Lee, 2003, p. 8).

if a country does not comply with the Fund's policy conditions, the maximum penalty the Fund can impose is to exempt the current country from future IMF lending arrangements (Evrensel & Kim, 2006).

The policy conditions attached to each loan varies according to program type, but even among programs of the same type there are large variations depending on each individual case. The IMF conditions are broad, but are mostly intended to lower consumption, especially in the public sector. The conditions often include structural reforms in terms of "trade liberalization, price liberalization, privatization, the introduction of indirect means of monetary control, foreign-exchange market liberalization, banking-system restructuring, tax reform, subsidy cuts, and changes in the structure of government spending" (Fischer, 1997, p. 25). Over time, the conditions from the IMF have become more and more specific, from very simple to containing more and more detailed conditions. For example, the conditions attached to Peru's loan in 1954[9] was a promise from the Peruvian government to "lower domestic consumption by stabilizing the country's fiscal position, which involved a slowing down of some investment projects already under way and the postponement of additional investment expenditures" (Vreeland, 2007, p. 22). The conditions attached to Peru's arrangement in 1963 contained fiscal- and monetary conditions, while the arrangement in 1993 in addition contained "targets for international reserves, limitations of foreign debt, a prohibition against import restrictions, further provisions for trade liberalization, as well as conditions calling for privatization and the deregulation of labor laws" (p. 22).

The original conditions of the Fund have been called "macro-conditionality", but in the 1990s the overall number of conditions had increased, and the level of details had become so great that the term shifted to "micro-conditionality". It is the micro-conditionality that has been under attack when referring to the handling of crises after the 1990s – that the conditions attached to IMF arrangements were too many and too detailed to be followed. In response to this criticism, the IMF has stated that lack of commitment from the participating countries has been the rout of the problems (Vreeland, 2007). Other criticism towards the IMF conditionality is that the conditions impose reforms that do not correspond to local conditions and that they promote the interest of investors rather than the interests of the borrowers (Steinwand & Stone, 2008). Some critics claim that the policy conditions from the IMF in fact exacerbate the economic problems that led to the economic problems in the first place,

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[9] This was the first IMF arrangement with a developing country.

something that only lead countries to return to the Fund on a repeating basis (Vreeland, 2007). One example of this is the actions of rapid privatization that is often demanded by the Fund without preparing the countries with the necessary infrastructure. Özgür (2009, p. 90) emphasize that even though "it has been argued that IMF programs are the products of mutual negotiations between the Fund and the member country, it is generally agreed that the Fund, which is the powerful side of the negotiations, imposes its actions on member countries".

6.3.1 Implementation of Conditionality (Compliance)

Before there can be drawn any conclusions that the policy conditions from the IMF cause any effect in one way or another, it is important to investigate if governments actually follow through with these conditions. We want to figure out if the countries participating in IMF arrangements keep their part of the deal, with compliance of the policy conditions - and to what extent. Some governments succeed in having a larger degree of implementation than others, and according to Killick et al. (1990) a large portion of all programs break down during their intended lifestyle. The macroeconomic effects of IMF lending arrangements further discussed in this thesis are to a large extent affected by the policy conditions of the Fund, as they are a large part of each arrangement. There are two types of critiques regarding conditionality of the Fund's policy conditions; one is that the negative outcomes of the arrangements are due to bad policy conditions, the other critique implies that the policy conditions, which are the correct ones, are not followed – and the real problems are due to the loans, not the conditions (Vreeland, 2007).

Dreher (2003) lists several reasons for countries' noncompliance. The first is that exogenous shocks might prevent the government from implementing the agreed conditions, and one example is that "a worsening of the external macroeconomic situation could lead to deficits or inflation rates higher than targeted" (p. 102). The second reason is that some of the loan conditions often contradict the recipient government's own agenda, which governments may know in advance will never be implemented – and lead to a program interruption after a few tranches from the Fund.

Approaches to Measure Compliance

Vreeland (2007) mention two ways of measuring compliance, and the most basic and common measure is the percentage of the IMF loan that is used or "drawn" by a country, also

called an *aggregate approach*. A country can draw about 25 percent of the loan on approval of the loan arrangement, and the remaining amount is provided if the IMF staff determines that the government is in compliance with the attached policy conditions. Therefore, "if a government has drawn more than 25 percent of the loan, one can assume some degree of compliance with the arrangement policy conditions. If the government draws less than 100 percent of the loan, however, one can assume some degree of noncompliance" (Vreeland, 2007, p. 98). With this approach all policy conditions are gathered in one index, and one does not need to know the specific conditions from the Fund in order to investigate countries' compliance. However, using this method implies that countries' noncompliance is the only reason why 100 percent of the intended loan are not drawn, which can lead to misleading assumptions. There can be many reasons for countries not to draw the entire amount granted by the Fund; sometimes they do not need the entire loan package because they entered an arrangement only on a precautionary basis, or the reason they turn to the Fund may be that they want to signal to creditors that they are attempting to shore up their economies. Also, a country may experience compliance problems during the time period of the arrangements even if the full loan is disbursed. A third problem that may arise when using this approach to measure countries' compliance is the possibility that powerful countries, such as the US, may pressure the IMF to treat strategically important allies more favorably, and hence; not follow through with the punishments[10] on an equal country basis (Dreher, 2003; Vreeland, 2007).

The other approach to measure compliance is called a *disaggregate approach*, which takes into account that the determinants and consequences of compliance in different policy dimensions may not be the same. Countries receive different policy conditions from the Fund, because no country faces exactly the same difficulties and does not requires the same need of help when turning to the Fund for support. Therefore, in the disaggregate approach the conditions are not gathered in one simple overall index, but viewed separately within several policy areas – as compliance may be higher in some policy areas than in others (Vreeland, 2007).

6.3.2 Researchers' Investigations of Compliance

There has not yet been done much research on compliance of IMF arrangements, and how to measure compliance is difficult, and not a straightforward task. Up until the 1990s there was

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[10] Such as withholding/suspending loans – and in that way noncompliant countries may be coded as compliant.

not much information to base any studies, caused by the lack of transparency from the Fund. It is only the earliest researches on compliance that have used disaggregate approaches, all the recent work uses aggregate approaches, and a few results from known studies in literature will be presented next.

Killick (1995)'s study is referred to by both Dreher (2003) and Vreeland (2007), and represent the first study to use the aggregate approach to measure compliance. In this study, programs were coded as uncompleted if at least 20 percent of the initial credit line remained undrawn at program expiration. Killick investigated 305 IMF arrangements from the period of 1979-93, and the study shows that only 47 percent of these were cases of compliance. In addition, the author claims that highly indebted countries, as well as countries with small amount of IMF credit are less likely to complete the programs. Dreher (2003) claim that non-compliance is quite common. He used an aggregate approach to study compliance in 104 countries during 1975-98. He concludes that compliance with conditionality under IMF programs is traditionally quite low. Dreher emphasize further that "past compliance, low government consumption, a low share of short-term debt in GDP and high per capita GDP at the beginning of the programme period were found to be reliable indicators of future compliance" (2003, p. 116). The study also concludes that interruptions of IMF arrangements are significantly more frequent in the more democratic countries, and especially prior to elections.

Two examples where a disaggregate approach is used, is a study by Ivanova, Wolfgang, Mourmouras, and Anayiotos (2003), and one by the IMF (2001). Ivanova et al. analyzed the implementation of 170 arrangements approved between 1992 and 1998, and find that "about 44 percent of all programs experienced an irreversible interruption, while 70 percent of all programs experienced either a major or minor interruption" (2003, p. 7). The IMF reports compliance in 57 percent of all arrangements between 1987 and 1999. They find the worst implementation for conditions related to privatization (45 percent) and the social security systems (57 percent).

A few results regarding the effects of compliance are also worth mentioning. The issue regarding the effects of IMF arrangements on economic growth is discussed later in this thesis, but Dreher (2003) states a finding that is worth emphasizing here; that compliance seems to mitigate the negative effect he claims the IMF arrangements have on economic growth – but not enough to make a significant difference. Another study by Ilan Noy, cited by

Vreeland (2007), finds the same; that IMF program hurts growth even after controlling for compliance.

How to measure compliance and the subsequent effects is a difficult and complicated task, and the different studies have limitations in form of focus areas and reliable results. Vreeland (2007) states that this is the reason why many researchers have avoided the issue of compliance in their studies. The question of compliance, how to measure it completely and the effects related to compliance is yet an area that needs more investigation. There are many criteria that have to be considered when measuring compliance. Recall the possible reasons for countries' noncompliance cited by Dreher in the previous subsection, and the question of countries' political relationship with the IMF are just some criteria that have to be taken into consideration. What has become clear from the different studies available, however, is that compliance is far from 100 percent, and that the rates differ across different policy areas.

6.4 The Effects on Balance of Payments, Economic Growth and Inflation

Following in this section, IMF's intentions and results on the macroeconomic effects; balance of payments, economic growth, and inflation will be presented. The countries studied are mostly developing countries, which is understandable as the Fund's activities have mainly been concentrated in underdeveloped and developing countries during the last decades. In each section the results of various studies will be emphasized, presented in groups of similar outcomes in order by the time period covered, and a table summarizing the most known studies in literature will conclude the findings. The far most studied topic is the effects of IMF arrangements on economic growth, and economic growth represents the topic with most diverged results. Many of the researchers mentioned have contributed to results on several or all of the mentioned macroeconomic effects, and a representable group of the studies will be presented in the following subsections.

6.4.1 Balance of Payments

If we look at the IMF's Article of Agreement 1 (v) and (vi) from table 1, and recall their purposes, we see that one of the intentions of the IMF is to address balance of payments (BOP) problems.

(v) To give confidence to members by making the general resources of the Fund temporarily available to them under adequate safeguards, thus providing them with

opportunity to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity.

(vi) In accordance with the above, to shorten the duration and lessen the degree of disequilibrium in the international balances of payments of members.

IMF loans are intended to help countries that are taking in more imports or fixed assets or finance than they can balance out through their exports. The loans help countries dealing with their outstanding foreign debt so they can continue their necessary imports and services. The conditionality attached to the loans is intended to deal with the BOP problems so that the country can handle this balance without assistance in the future (Vreeland, 2007).

The Effects of IMF Arrangements on Balance of Payments

Many studies have addressed the IMF's effects on balance of payments (BOP) through their lending arrangements. The results varies, from none effect on BOP, a positive effect, and a negative effect on BOP. There are studies covering the both the overall BOP and the current account[11] component of the BOP, and some studies that only emphasize one of these two.

The first two studies presented give no statistically significant results of any effect on the balance of payments in IMF-supported arrangements. The first was conducted by Reichmann and Stillson (1978), using a before-after approach, to study 79 stand-by arrangements (SBAs) during 1963-72[12]. The other study was conducted by Hutchison and Noy (2003), who used a general evaluation estimator (GEE) approach as they investigated 67 developing countries, covering the time period 1975-99. They emphasized short-term stabilization programs, stand-by arrangements (SBAs) and extended fund facility arrangements (EFFs), and differentiated between IMF program participation in Latin America and elsewhere to be able to identify the uniqueness of the IMF's intervention in Latin America. As mentioned earlier, Latin America represents the region with most IMF arrangements, and it is also the region most closely studied in literature. Both studies conclude with little or no improvement in the balance of payments. Hutchinson and Noy emphasize further that "Latin America has higher output costs of IMF programs (especially when ''successfully'' completed), […] and a much higher likelihood of program failure and recidivism than other regions of the world" (2003, p. 1011).

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[11] «The current account of the balance of payments is the credits minus the debits of goods, services, income, and currents transfers» (Vreeland, 2007, p. 84).

[12] The number of countries is not stated in this study, only the number of arrangements.

Manuel Pastor (1987) conducted a study on balance of payments measures, inflation rates, growth rates, dependency measures, and indicators of labor's share of income in 18 Latin American countries covering the time period 1965-1981. The countries studied engaged in short-term stabilization programs, SBAs and EFFs. Pastor used a before-after approach to compare periods before and after IMF programs, along with Killick et al. (1990) who also conducted a before-after study in 17 Latin American countries during 1979-85. They both find a statistically significant positive effect on the balance of payments in the long run. Khan (1990) used a combination of a regression approach, the general evaluation estimator (GEE) method, a before-after approach, and a method controlling for nonrandom selection on observed variables to study the balance of payments, long-term growth performance, and inflation in 69 developing countries engaging in Fund-arrangements during the period 1973-88. In all of the mentioned methodology approaches he finds the same positive statistically significant effect on the balance of payments.

Some of the studies find that IMF arrangements have a positive effect on the current account of the BOP in particular. Researchers who have come to this conclusion includes Killick et al. (1990), Khan (1990) and Conway (1994); who conducted a study using a regression-based methodology approach on 74 developing countries during 1976-86.

To mention a couple of studies with contradictive results, another before-after study by Evrensel (2002) and a with-without study by Garuda (2000) is emphasized. Garuda investigated 39 low-income countries, where Latin American countries are overrepresented, covering the time period 1975-91. The author used a propensity score estimation method, which is an with-without approach where the treatment and control groups used are countries that have approximately the same probability to agree to an IMF arrangement in terms of the countries pre-program economic/financial problems. The conclusion of the study is that countries participating in IMF arrangements show less significant improvements on the BOP than countries not participating. Garuda states that the study has limitations in forms of a limited sample size and that it does not cover a representable composition of countries, which raise doubts about the reliability of the findings. Evrensel investigated 191 developing countries during 1978-97, and the study includes all IMF lending arrangements. The results of this study show that the stabilization programs significantly improve the balance of payments and reserves during the program period, but that the improvements do not sustain in the post-program period and are even reversed once the program is over.

Haque and Khan (1998) reviewed 16 studies, covering a time period from 1963 to 1993 where the research methods used are the *before-after* approach, the *with-without* approach, *a regression-based / generalized evaluation* method and *comparison of simulations*. Some of these studies only give results to the balance of payments, not the current account, and vice versa. The list of Haque and Khan's review together with the results of other researchers are shown in table A4. Table 6.1 below shows a summary of the effects on the balance of payments related to the methodology approach used in the studies.

Table 6.1: Researchers' Results of the Effects on Balance of Payments

Methodology Approach	Number of Studies	Results on Balance of Payments					
		No Effect		*Positive Effect*		*Negative Effect*	
		BOP	*Current Account*	*BOP*	*Current Account*	*BOP*	*Current Account*
Before-after	8	3	4	3	1	1	1
With-without	4	1	1	2	1	1	0
Regression-based / Generalized Equation	5	0	0	3	3	1	1
Simulations	2	0	0	2	2	0	0
Total	*19*	*4*	*5*	*10*	*7*	*3*	*2*

The overall mutual consensus is that IMF arrangements do have a positive effect on the balance of payments. Most studies come to this conclusion, supported by a variety methodology approaches and data sets. Even though there are some studies that come to the conclusion of a negative outcome, as emphasized by Vreeland (2007); there are no cited study in available literature that finds a statistically significant negative effect on the balance of payments. This implies that the IMF does obey their first article of agreement and help member countries correct maladjustments in their balance of payments.

6.4.2 Economic Growth

Economic growth is an indicator widely used to control for IMF outcomes. The development and prosperity of economic growth addresses many of the other issues regarding economic difficulties in a country. A country with a steady economic growth can handle some difficulties in the BOP and can afford to maintain some degree of inflation (Vreeland, 2007).

From a joint statement from the IMF and the World Bank in 2000, they announce that "the purpose of our institutions is to help all our member countries develop their human potential and productive resources, thereby building the foundations for sustainable economic growth" (IMF & Bank, 2000). In addition, Butkiewicz and Yanikkaya (2005) highlight several speeches from the former IMF Managing Director, Michael Camdessus (1994, 2000) who states "that the IMF's primary goal is not only growth but also 'high quality growth'''" (p. 372). This shows that the intention from the IMF is so their arrangements should help member countries to obtain and maintain a sustainable, high quality economic growth. Economic growth is the far most studied topic when referring to the effects of IMF lending arrangements, and there are a multiple number of published studies available.

The Effects of IMF Arrangements on Economic Growth

There has been done a lot of research on the effects of IMF arrangements on economic growth, and the results varies from; none effect on economic growth, an increase in economic growth, decrease in economic growth, and decrease in the short run and increase in the long run. A lot of the published studies claim to have statistically significant results, whereby the results diverge in different directions.

The first two studies presented give results of none effect on economic growth. The first is Pastor's (1987) before-after study in 18 Latin American countries, covering the period 1965-81. The second study is conducted by Atoyan and Conway (2006), who used a combination of the with-without and instrumental-variable methodology approach to study 95 developing countries during 1993-2002. Atoyan and Conway include all types of different IMF lending arrangements and find "little statistical support that IMF programs contemporaneously improve real economic growth in participating countries, but stronger evidence of an improvement in economic growth in years following a program" (2006, p. 99).

A few studies showing a positive result on economic growth are conducted by Dicks-Mireaux, Mecagni, and Schadler (2000), Killick et al. (1990), and Conway (1994). Dicks-

Mireaux et al. (2000) conducted a study of 74 low-income countries engaging in enhanced structural adjustment facility (ESAF)[13] arrangements during 1986-91, and find statistically significant results on an increase in economic growth. However, the authors find that many of the assumptions in their study are doubtful, which cause them to raise doubts about the reliability of the findings. Both Killick et al. (1990)'s before-after study during 1975-85 and Conway (1994)'s regression-based study on 74 developing countries, based on SBAs and EFFs, during 1976-86 find a negative short-run effect on growth and a longer-term improvement after three and two years.

Przeworski and Vreeland (2000)'s study was also based on a regression-based approach, and the authors investigated 135 countries during 1970-90. They did not consider which lending arrangement the countries were under, but in their sample of 725 arrangements – 88 percent were SBAs. The results of their study are as follows; "Our results indicate that countries that do not enter into IMF programs grow faster than those that do even when both groups face high domestic deficits or foreign reserves crises" (2000, p. 403). They come to the final conclusion that countries participating in IMF arrangements are worse off than countries that do not participate. Another regression-based study presented were conducted by Butkiewicz and Yanikkaya (2005), who investigated the long-term growth rates of 100 developing countries during 1970-99. This study gives results of a significant negative growth effect of IMF lending, on both public and private investments. The authors emphasize further that IMF policy conditions require reductions in public expenditures, and the first cut is usually in public investments – which have negative effects on overall investments and growth in a country. They also mention that the larger the Fund supported loans, the larger the economic problems of the participating countries.

One of the more recent studies by Hutchison and Noy (2003) in 67 developing countries, with emphasis on Latin America during 1975-99, come to the conclusion that IMF arrangements have a negative effect on growth rates, and that the evidence is even worse for Latin American countries. They use a variety of different methodology approaches, and show that the effect is even worse for successfully completed programs. Barro and Lee (2005), who conducted a study using an instrumental variable approach to investigate 130 countries during 1975-2000, also come to the conclusion of a negative effect on economic growth, but

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[13] The ESAF was replaced by the Poverty Reduction and Growth Facility (PRGF) in November 1999 (IMF, 2013a).

emphasize further that the negative effect seems to involve in fact, rather than the amount, of IMF lending.

Dreher (2006) and Haque and Khan (1998) each list a summary of multiple studies on economic growth, counting 32 studies in a time period from 1963 to 2002 where the research methods used are the *before-after* approach, the *with-without* approach, a *regression-based / GEE* approach, and a *simulation* approach. Table A5 presents their summary, and table 6.2 below shows the results according to the methodology approaches used. Note that the instrumental-variable approach in this summary are listed under the regression-based approach, and that the study of Atoyan and Conway (2006) is listed twice.

Table 6.2: Researchers' Results of the Effects on Economic Growth

Methodology Approach	Number of Studies	Results on economic growth		
		No effect	*Increase*	*Decrease*
Before-after	9	6	3	0
With-without	8	6	1	1
Regression-based / Generalized equation	14	5	3	6
Simulations	2	0	1	1
Total	*33*	*17*	*8*	*8*

Butkiewicz and Yanikkaya (2005) think there is a limitation in the short period of observations used in most studies published on the topic, where the likelihood of the reported results reflect business cycle effects rather than the growth effects of the IMF arrangements or some combination of these two. They also think that the conflicting result on the effect on economic growth may arise from differences in the types of IMF programs that are investigated – in terms of differences in groups of countries, methodology approaches, and controlling for other determinants of economic growth. Atoyan and Conway (2006) highlight three reasons why the results vary in such a big scale, which is much of the same critique presented by Butkiewicz and Yanikkaya. Different time periods covered for the studies is the first reason, where IMF arrangements in the 1970s may have been quite different in economic-growth impact than programs in the 1990s. The aspect of which type of lending

arrangements covered is the second reason, where there are large differences between the different arrangements. The third reason is the different research techniques and methodology approaches used in order to collect and analyze the data of the study.

The results of the different published studies are mixed. There has not been a clear consensus among the researchers on the effects on economic growth, but Vreeland (2007) claims that that the newly emerging consensus is that IMF arrangements hurt economic growth. The most recent studies, which show statistically significant results of negative effects on economic growth, use more sophisticated and advanced methodology approaches. This can be closer investigated in the summary of results shown in table A5 in the appendix.

6.4.3 Inflation

In the early years of the IMF, inflation targets were first implemented by a number of industrialized countries, and the Fund's involvement was restricted to a surveillance function. In the recent decades, however, after "a number of emerging market economies have abandoned their fixed exchange rate regimes and moved toward a flexible exchange rate system with an explicit inflation targeting framework for monetary policy" (Blejer, Leone, Rabanal, & Schwartz, 2001, p. 3) there had become a need for a inflation targeting framework within the conditionality of the IMF. There are some difficulties related to how to include inflation targeting frameworks in the policy conditions, however, because the implementation is largely based on the premise that an independent central bank can use "at its own discretion, its various policy instruments, in the proportions considered appropriate in each particular circumstance, so as to ensure the attainment of its inflation goal" (Blejer et al., 2001, p. 3). As concluded earlier, the conditionality focuses on addressing balance of payments problems, and the inflation targeting by the Fund is, in principal, accommodated within the traditional structure of monetary conditionality, given that the primarily focus is on a country's BOP objective (Blejer et al., 2001). To conclude, the IMF is not operating with a tight control over inflation, but as emphasized by Pastor (1987, p. 257); "the Fund generally argues that its programs tend to reduce the rate of inflation or at least the rate at which it increases".

The Effects of IMF Arrangements on Inflation

Most of the studies contributing to the effects on inflation have been mentioned in the last two subsections, and in the case of these studies only the results will be presented. Most of the

known studies in literature show a decrease in the inflation rate, and only one study currently available for this study shows the result of an increase, which is the study of Goldstein and Montiel (1986), cited in Haque and Khan (1998)'s study.

Easterly (2006) investigated 107 developing countries in the time period from 1980-99, and the results of the study show no statistically effect on inflation. This conclusion is in agreement with the results of Pastor (1987), Evrensel (2002), and Barro and Lee (2005), who also found no statistically effects of IMF arrangements on inflation. Researchers who find a negative effect on inflation in their studies include Killick et al. (1990), Khan (1990), Conway (1994), and Dicks-Mireaux et al. (2000).

As with the results on BOP and economic growth, Haque and Khan (1998) also reviewed the effects of inflation, and their summary of 17 studies together with the results from other researchers are shown in table A6. Table 6.3 below shows the results according to the methodology approaches used.

Table 6.3: Researchers' Results of the Effects on Inflation

Methodology Approach	Number of Studies	Results on Inflation		
		No effect	*Increase*	*Decrease*
Before-after	8	5	0	3
With-without	3	0	0	3
Regression-based / Generalized Equation	7	2	1	4
Simulations	2	0	0	2
Total	*19*	*4*	*1*	*12*

Even though it seems like the overall consensus is that IMF arrangements cause a negative effect on inflation, many of the studies listed that have come to the conclusion of a significant negative effect are older and use earlier with-without and before-after methodology approaches, as emphasized by Vreeland (2007). If we study table A6 in the appendix, we see that the studies of a more recent date show no significant effect regarding inflation. The newer studies use more sophisticated methodology approaches which control for nonrandom selection in a more reliable way; and hence give more reliable results.

6.5 Moral Hazard

As we recall; moral hazard describes a scenario when a party may be more willing to take greater risks, knowing that the cost and burdens will be borne by another party, which may lead to imprudent actions. In terms of IMF lending; the creditor-side of moral hazard implies a greater willingness to lend, while the debtor-side implies that member countries may not undertake the realistic risks of borrowing – both sides with the believes that the IMF will bail out countries in event of trouble. The possibility to be bailed out by the Fund may reduce the motivations of both borrowers and lenders to take preventive actions, and the presence of the Fund may be compared to an insurance in order to be able to act in an imprudent way. But, as pointed out by Lee and Shin (2008, p. 818) "Unlike insurance contracts, IMF lending helps to mitigate the ''real hazard'' of a crisis. […] When IMF lending decrease real hazard and simultaneously increase moral hazard, the separation between the two effects becomes a critical issue. For example, the presence of IMF financial support can increase international lending to borrowers through a decrease in real hazard of a crisis or an increase in moral hazard, or both".

The IMF has implemented policy conditions (conditionality) in their lending arrangements, among other reasons to deal with the possibility of moral hazard. "IMF conditionality was not designed to minimize moral hazard with respect to third parties,[however,] such as other countries, private creditors, or, in borrowing countries with less-than-benevolent governments, the citizens of those countries" (Jeanne, Ostry, & Zettelmeyer, 2008, p. 6).

The debate concerning moral hazard and the IMF emerged after the massive Mexican bailout in 1995, and the increased frequency and size of IMF lending the last few decades. This increased intervention by the Fund may signal a significant distortion of incentives to investors, which may cause creditor moral hazard (Lee & Shin, 2008). The aim of this section is to investigate and interpret the results of different studies available. Different methodology approaches and researcher's results will be presented in the following subsection in order to investigate if the IMF contributes to moral hazard through their lending arrangements.

Approaches to Measure Moral Hazard

It is hard to measure the existence of moral hazard related to IMF intervention directly and precisely. As of the case with measuring compliance and the macroeconomic effects of IMF arrangements, there are several approaches used to investigate the possible existence of moral hazard. There are also large differences and conflicts among researchers on how to measure

the concept. The approaches for testing the moral hazard effects used in the variety of studies are quite complicated and comprehensive, and discussing the structure of these approaches is irrelevant for the purpose of this thesis. Therefore a simpler overview, based on Dreher (2004)'s study – which includes a multiple of studies, will be used in order to explain how the different result have emerged. Note that since the different approaches diverge in such an extent there is difficult to give a precisely overview. The available studies in literature differentiate between the creditor-side and debtor-side of moral hazard.

Table 6.4: Indices for Analyzing Creditor Moral Hazard. *Source: (Dreher, 2004)*

Analyzing the behavior of/evidence from bond spreads:	· Do bond spreads decrease? · Are more or longer-term funds flowing to emerging markets? · Do countries where bailouts are more likely receive more or cheaper capital? · Do bond spreads respond less to changes in fundamentals? · Is the dispersion of spreads reduced for given creditworthiness? (p.4) The effect of macroeconomic fundamentals on bond spreads before and after the crisis is emphasized by several researchers.
Testing for the impact of the IMF on stock markets.	"The announcement of an IMF rescue package [may increase] increases stock prices of banks in countries receiving the bailout, but not in other countries" (p. 17)
Analyzing the maturity structure of loans	As emphasized by Mina and Martinez-Vazquez (2002, p. 9); "If expectations of an IMF bailout reduce investors' risk perceptions and generate an increase in the maturity of international loans, then such reactions could reasonably be used as a measure for the existence of moral hazard".
Analyzing the likelihood to receive IMF loans	Recall the question of countries' political relationship with the IMF and the US.

The indices mainly used by the overall studies in literature to investigate the existence of creditor moral hazard, drawn by the study of Dreher, are summarized in table 6.4 above. The main indicator is the behavior of bond spreads, and the different approaches on how to analyze the evidence of data are also very extensive. The existence of debtor moral hazard has only been investigated by a small number of studies so far, and some of the focus areas in the available studies, drawn from Dreher's study, are shown in table 6.5 below.

Table 6.5: Focus Areas for Analyzing Debtor Moral Hazard
Source: (Dreher, 2004)

Focusing on "inter-program-periods"	"If IMF programs would induce moral hazard with the borrower, one would expect macroeconomic policies to worsen in inter-program-periods because otherwise the country could not negotiate additional programs" (p. 18).
Analyzing the degree of borrowing against the country's quota with the IMF, and the amount of credit available	"As the country's quota is increasingly exhausted and, by implication, the quantity of additional credit available from the IMF diminishes, the incentive to pursue excessive policy declines" (p. 19)
Controlling for the rate of real GDP growth and the inflation rate	The hypothesis that "budget deficits indeed rise with IMF money received, also gives support to the hypothesis of moral hazard in the wider sense" (p. 19).
Analyzing the likelihood to receive IMF loans	Recall the question of countries' political relationship with the IMF and the US.
Macroeconomic policies	"The possibility that the governments of program countries may adopt unsustainable macroeconomic policies due to the availability of Fund credit" (Evrensel, 2002, p. 584)

6.5.1 Evidence of Moral Hazard

Due to the variety of different methodology approaches that are used to draw conclusions, only a few examples of studies targeting IMF's causation of moral hazard will be mentioned in this subsection. Table 6.6 will conclude the findings, summarizing the most known studies in literature.

Noy (2008, p. 65) cites that creditor-side moral hazard, could lead to the following - which may also describe some of the outcomes for debtor-side moral hazard: "(1) an increase in the amount lent; (2) a decrease in the price of loans, so that it no longer reflects insurance-free risk; (3) a change in the composition of investment away from uninsured investment (e.g., equity) to insured flows (e.g., sovereign bonds); and (4) a change in the composition of international portfolios away from less risky but less profitable investment opportunities to more risky but more profitable ones if outcomes are positive".

Creditor Moral Hazard

First, the studies focusing on the creditor-side of moral hazard will be emphasized, and one example is the study of Noy (2008), who investigated the empirical evidence of creditor moral hazard by testing available data of large international post-crisis bailouts. The author used event-study methodology in addition to examine other possible explanations that might account for the effects. The study used indices of emerging market spreads for secondary-market sovereign bonds over US treasury bills, and analyzed these data on a monthly basis in the countries Argentina, Brazil, Bulgaria, Colombia, Ecuador, Korea, Mexico, Morocco, Panama, Peru, Philippines, Poland, Russia, Turkey, and Venezuela between 1994 and 2002. The conclusion of the study show weak or no evidence of moral hazard in the IMF arrangements studied.

One creditor-side study that shows evidence of moral hazard was conducted by Mina and Martinez-Vazquez (2002), who investigated 71 emerging and developing countries for the period 1992-97. They investigated if lender's perceptions about risk improved by analyzing the maturity structure of Fund-supported loans. They find that IMF arrangements tend to reduce short-term debt flows relative to total debt flows, and therefore generate creditor moral hazard.

Debtor Moral Hazard

All of the studies on debtor moral hazard found for this thesis conclude with finding evidence of debtor moral hazard contributed by IMF lending arrangements. One of these studies was conducted by Evrensel (2002), who also contributed to results of the effects on BOP, economic growth, and inflation. The author investigated 42 countries between 1971 and 1997, by checking for macroeconomic fundamentals before, after and in inter-program periods. Evrensel states that "Fund-supported programs implies the possibility that the governments of program countries may adopt unsustainable macroeconomic policies due to the availability of Fund credit" (2002, p. 584). The study concludes that by "considering the revolving nature of the Fund support, this result is inconsistent with the effectiveness of stabilization programs and may be interpreted as a signal of moral hazard" (2002, p. 586).

Table 6.6: Researchers' Evidence of Moral Hazard

Focus area of study	Number of studies	Results of evidence of moral hazard			
		Debtor-side		Creditor-side	
		Evidence	No evidence	Evidence	No evidence
Bond spreads	11			7	4
Stock returns	3			3	0
Maturity structure of loans	2			2	0
Macroeconomic policy	3	3	0		
Probability of IMF programs	1	1	0		
Budget deficit and monetary expansion	1	1	0		
Total	*21*	*5*	*0*	*12*	*4*

In his comprehensive study, Dreher (2004) investigated 20 studies of moral hazard. 16 of these studied investigated the creditor-side evidence of moral hazard, while only 4 the debtor-side. The study by Corsetti, Guimarães, and Roubini (2006) can be added to the list of debtor-side studies, which now counts five studies. Table A7 show the complete list of these studies, while table 6.6 above show the result according to the focus area the results are drawn upon.

The results of the different studies show a clear picture that IMF arrangements do cause moral hazard. How to interpret the results, however, is a difficult task. The variety of different methodology approaches, and the degree of variety among the different data that are used to draw the results makes it hard to draw any final conclusions. There are definitely shortcomings among the available studies on moral hazard, and one interesting feature pointed out by Mina and Martinez-Vazquez (2002) is that none of their cited studies explicitly takes into account the level of IMF lending. What is the most statistically challenging task regarding the investigation of moral hazard is to be able to isolate the impact of the IMF from other factors that might that might affect the results (Bird, 2007). As pointed out by Conway and Fischer (2006), the results from many of the debtor-side studies are equally likely to reflect the effect of conditionality than evidence of moral hazard.

7. CONCLUSIONS

The International Monetary Fund is acting as an international lender of last resort, and their intervention is quite extensive on a world basis. Up until recent years, their lending arrangements have mainly been implemented in developing countries, but once again the industrialized world is turning to the Fund for assistance.

Through their lending arrangements, the IMF does have the intentions of addressing balance of payments problems, and to obtain and maintain a sustainable, high quality economic growth among their member countries. The Fund is not operating with a tight control over inflation, however, but the need for a closer focus on inflation is emphasized by several researchers. The results emerging from different studies are that IMF lending arrangements do seem to have a positive impact on balance of payments, but do cause a negative effect on economic growth. At the same time, the lending arrangements do not seem to cause any statistically significant effects regarding inflation for the recipient countries. Newer and more comprehensive methodology approaches have led to some degree of consensus among researchers on the studied macroeconomic outcomes and effects. One major concern regarding the macroeconomic effects of IMF arrangements, however, is that the degree of compliance with the policy conditions may have an impact on the actual results. The lack of studies on compliance and the lack of consensus on how to measure compliance creates some degree of uncertainty regarding the results of the macroeconomic effects, and more research are needed in order to conclude with more reliable results.

The reason why the discussions of whether or not the IMF contributes to moral hazard through their lending arrangements are so heated is quite clear. How to measure the concept, however, is far from clear. The existing research seems to give an overview that the lending arrangements of the Fund do create both debtor-side and creditor-side moral hazard, but the lack of consensus on how to measure the concept, the variance of different methodology approaches used to draw the conclusions, and the overall extent of data used in the available studies makes it impossible to draw any final conclusions at this stage. More research is crucially needed in order to conclude whether there exists evidence of moral hazard or not.

The focus areas of the majority of studies in literature have been emerging and developing countries, and the lending arrangements most investigated have been short-term stabilization programs, mainly stand-by arrangements and extended fund facility arrangements. There

seems to be an overall consensus that the existing studies on how the IMF affect member countries through their lending arrangements show limitations in the short period of observations used, and in the types of IMF programs and countries that are investigated.

Many studies currently available in literature should be labeled outdated, due to that the results are drawn from older and outdated methodology approaches, and due to that the actual work of the Fund most certainly has changed during their lifetime. One should not draw any comprehensive conclusions on that the effects caused by the Fund in during 1960s and 1970s should reflect how their arrangements affect the member countries today. Every organization has its learning curve, and one should always assume that everyone strive to continuously improve their actions. What is worth emphasizing, and what is yet a difficult task to embrace, is the distinction of which effects are due of IMF intervention and which are due to those events that would have otherwise occurred. We have to remember that member countries turn to the IMF in times of crises, and it is a difficult task to get a country "back on track" after it has experienced periods of distress. The fact that the IMF once again is resurrected in the industrialized world opens up for new areas of research and discussions.

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APPENDIX

Table A1: The Original Members of the IMF *Source: (Vreeland, 2007, p. 6)*

(Reported in the *Summary Proceedings of the First Annual Meeting on the Board of Governors*, September 27 to October 3, 1946)	
Belgium	Iceland
Bolivia	India
Brazil	Iran
Canada	Iraq
Chile	Luxembourg
China	Mexico
Colombia	Netherlands
Costa Rica	Norway
Cuba	Paraguay
Czechoslovakia	Peru
Dominican Republic	Philippine Commonwealth
Ecuador	Poland
Egypt	Union of South Africa
Ethiopia	United Kingdom
France	United States of America
Greece	Uruguay
Guatemala	Yugoslavia
Honduras	

Table A2: Number of ongoing IMF Arrangements[14]. *Source: (IMF, 2000, 2006, 2013g)*

| Year | *(Amounts committed under arrangements – in millions of SDRs)* | | | | | | |
	SBA	EFF	FCL	PCL/PLL	SAF	PRGT	Total
1953	2 *(55)*	-	-	-	-	-	2 *(55)*
1960	12 *(351)*	-	-	-	-	-	12 *(351)*
1965	24 *(2,159)*	-	-	-	-	-	24 *(2,159)*
1970	23 *(2,381)*	-	-	-	-	-	23 *(2,381)*
1975	12 *(337)*	-	-	-	-	-	12 *(337)*
1980	22 *(2,340)*	7 *(1,463)*	-	-	-	-	29 *(3,803)*
1985	27 *(3,925)*	3 *(7,750)*	-	-	-	-	30 *(11,675)*
1990	19 *(3,597)*	4 *(7,834)*	-	-	17 *(1,110)*	11 *(1,370)*	51 *(13,911)*
1995	19 *(13,190)*	9 *(6,840)*	-	-	1 *(49)*	27 *(3,306)*	56 *(23,385)*
2000	16 *(45,606)*	11 *(9,798)*	-	-	-	31 *(3,516)*	58 *(58,920)*
2001	17 *(34,906)*	8 *(8,697)*	-	-	-	37 *(3,298)*	62 *(46,901)*
2002	13 *(44,095)*	4 *(7,643)*	-	-	-	35 *(4,201)*	52 *(55,939)*
2003	15 *(42,807)*	3 *(4,432)*	-	-	-	36 *(4,450)*	54 *(51,689)*
2004	11 *(53,994)*	2 *(794)*	-	-	-	36 *(4,356)*	49 *(59,094)*
2005	10 *(11,992)*	2 *(794)*	-	-	-	31 *(2,878)*	43 *(15,664)*
2006	10 *(9,534)*	1 *(9)*	-	-	-	27 *(1,770)*	38 *(11,313)*
2007	6 *(7,864)*	1 *(9)*	-	-	-	29 *(1,664)*	36 *(9,537)*
2008	7 *(7,507)*	2 *(351)*	-	-	-	25 *(1,089)*	34 *(8,948)*
2009	15 *(34,326)*	-	1 *(31,528)*	-	-	28 *(1,813)*	44 *(67,668)*
2010	21 *(56,776)*	2 *(205)*	3 *(52,184)*	-	-	30 *(3,245)*	56 *(112,410)*
2011	18 *(59,052)*	4 *(19,804)*	3 *(68,780)*	1 *(413)*	-	31 *(3,345)*	57 *(151,394)*
2012	13 *(20,806)*	6 *(67,331)*	3 *(70,328)*	1 *(413)*	-	28 *(3,911)*	51 *(162,789)*
2013	7 *(5,130)*	5 *(67,152)*	3 *(73,162)*	1 *(4,117)*	-	25 *(2,929)*	41 *(152,490)*

[14] From 1953 up till 2000 only a five year interval of arrangements is shown in the table.

Table A3: Countries that have never participated in a conditioned IMF arrangement (1945-2005). *Source: (Vreeland, 2007, p. 28 Table 1.1)*

Africa			Asia		
Country	*IMF membership*		*Country*	*IMF membership*	
Angola	1989-		Bhutan	1981-	
Botswana	1968-		Brunei	1995-	
Eritrea	1994-		North Korea	-	
Libya	1958-		Malaysia	1958-	
Namibia	1990-		Maldive Islands	1978-	
Seychelles	1977-		Singapore	1966-	
Swaziland	1969-		Taiwan	1949-1980	
The Americas			**Europe**		
Country	*IMF membership*		*Countries*	*IMF membership*	
Antigua and Barbuda	1982-		Andorra	-	
Bahamas	1973-		Austria	1948-	
Canada	1945-		Denmark	1946-	
Saint Kitts and Nevis	1984-		East Germany*	-	
Saint Lucia	1979-		Germany	1952-	
Saint Vincent	1979-		Greece	1945-	
Suriname	1978-		Ireland	1957-	
			Liechtenstein	-	
			Luxembourg	1945-	
			Malta	1968-	
			Norway	1945-	
			San Marino	1992-	
			Slovenia	1992-	
			Sweden	1951-	
			Switzerland	1992-	
			USSR**	-	
Middle East			**Pacific Islands**		
Country	*IMF membership*		*Country*	*IMF membership*	
Bahrain	1972-		Kiribati	1986-	
Iraq	1945-		Marshall Islands	1992-	
Kuwait	1962-		Micronesia	1993-	
Lebanon	1947-		Nauru	-	
Oman	1971-		Palau	1997-	
Qatar	1972-		Tonga	1985-	
Saudi Arabia	1957-		Vanuatu	1981-	
Turkmenistan	1992-				
United Arab Emirates	1972-				
Yemen PDR (South)*	1969-1990				
Yemen Arab Rep.*	1970-1990				
Notes:	* Country ceased to exist as an independent state in 1990.				
	** Country ceased to exist in 1991.				

Table A4: Researchers' Results of the Effects on Balance of Payments[15]
Source: (Haque & Khan, 1998, p. 13 Table 1) in addition to own summary

Study	Time period	Number of programs	Number of countries	Effects on	
				BOP	Current Account
Before-after					
Reichmann and Stillson (1978)	1963-72	79	…	None	..
Connors (1979)	1973-77	31	23	None	None
Killick (1984)	1974-79	38	24	None	None
Zulu and Nsouli (1985)	1980-81	35	22	..	None
Pastor (1987)	1965-81	…	18	Positive*	None
Killick et al. (1990)	1979-85	…	16	Positive*	Positive*
Schadler et al. (1993)	1983-93	55	19	Positive	Negative
Evrensel (2002)	1971-97	n.a.	109	Negative	…
With-without					
Donovan (1982)	1971-80	78	44	Positive	Positive
Loxley (1984)	1971-82	38	38	None	None
Gylfason (1987)	1977-79	32	14	Positive*	..
Garuda (2000)	1975-91	58	39	Negative	
Regresion-based / Generalized Evaluation					
Goldstein and Montiel (1986)	1974-81	68	58	Negative	Negative
Khan (1990)	1973-88	259	69	Positive*	Positive*
Conway (1994)	1976-86	217	74	..	Negative, Positive*
Bagci and Perraudin (1997)	1973-92	…	68	Positive*	Positive*
Hutchison and Noy (2003)	1975–97	764	67	Positive	…
Simulation					
Khan and Knight (1981)	1968-75	…	29	Positive	Positive
Khan and Knight (1985)	1968-75	…	29	Positive	Positive
(*) Indicates statistically significant at the 5 percent level					

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[15] Some of the numbers and rears in the summary are adjusted according to the original source.

Table A5: Researchers' Results of the Effects on Economic Growth[16]
Source: (Dreher, 2006, p. 773 Table 2; Haque & Khan, 1998, p. 13 Table 1)

Study	Period	Number of programs	Number of countries	Effects of growth
Before-after:				
Reichman and Stillson (1978)	1963-72	79	n.a.	Increase
Connors (1979)	1973-77	31	23	None
Zulu et al. (1985)	1980-81	35	22	None
Killick (1986)	1974-79	38	24	None
Pastor (1987)	1965-81	n.a.	18	None
Killick et al. (1990)	1979-85	n.a.	16	Decrease, Increase*
Schadler et al. (1993)	1983-93	55	19	Increase
Evrensel (2002)	1971-97	n.a.	109	None
Hardoy (2003)	1970-90	460	69	None
With–without:				
Donovan (1981)	1970-76	12	12	Increase
Donovan (1982)	1971-80	78	44	Decrease
Loxley (1984)	1971–82	38	38	None
Gylfason (1987)	1977–79	32	14	None
Faini et al. (1991)	1978–86	n.a.	93	None
Hardoy (2003)	1970–90	460	69	None
Hutchison (2003)	1975–97	455	25	None
Atoyan and Conway (2006)	1993–2002	181	95	None
Regression-based:				
Goldstein and Montiel (1986)	1974–81	68	58	None
Khan (1990)	1973–88	259	69	Decrease*
Doroodian (1993)	1977–83	27	43	None
Conway (1994)	1976–86	217	74	Decrease, Increase*
Bagci and Perraudin (1997)	1973–92	n.a.	68	Increase*

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[16] Some of the numbers and years in the summary are adjusted according to the original source.

Bordo and Schwartz (2000)	1973–98	n.a.	24	Decrease
Dicks-Mireaux et al. (2000)	1986–91	88	74	Increase*
Przeworski and Vreeland (2000)	1970–90	465	135	Decrease
Hutchison and Noy (2003)	1975–97	764	67	Decrease
Nsouli et al. (2005)	1992–2000	124	92	None
Butkiewicz and Yanikkaya (2005)	1970–99	407	100	Decrease
Easterly (2005)	1980–99	107	107	None
Atoyan and Conway (2005)	1993–2002	181	95	None
Barro and Lee (2005)	1975–2000	613	130	Decrease
Simulations:				
Khan and Knight (1981)	1968-75	n.a.	29	Decrease
Khan and Knight (1985)	1968-75	n.a.	29	Decrease, increase*
(*) Indicates statistically significant at the 5 percent level				

Table A6: Researchers' Results of the Effects on Inflation[17]
Source: (Haque & Khan, 1998, p. 13 Table 1) in addition to own summary

Study	Time period	Number of programs	Number of countries	Effects on inflation
Before-after				
Reichmann and Stillson (1978)	1963-72	79	…	None
Connors (1979)	1973-77	31	23	None
Killick (1984)	1974-79	38	24	Decrease*
Zulu and Nsouli (1985)	1980-81	35	22	None
Pastor (1987)	1965-81	…	18	None
Killick et al. (1990)	1979-85	…	16	Decrease*
Schadler et al. (1993)	1983-93	55	19	Decrease
Evrensel (2002)	1971-97	n.a.	109	None
With-without				
Donovan (1981)	1970-76	12	12	Decrease
Donovan (1982)	1971-80	78	44	Decrease
Loxley (1984)	1971-82	38	38	Decrease*
Regresion-based / Generalized Evaluation				
Goldstein and Montiel (1986)	1974-81	68	58	Increase
Khan (1990)	1973-88	259	69	Decrease
Conway (1994)	1976-86	217	74	Decrease
Bagci and Perraudin (1997)	1973-92	…	68	Decrease
Dicks-Mireaux,et al. (1997)	1986-91	88	74	Decrease
Easterly (2005)	1980–99	107	107	None
Barro and Lee (2005)	1975–2000	613	130	None
Simulation				
Khan and Knight (1981)	1968-75	…	29	Decrease
Khan and Knight (1985)	1968-75	…	29	Decrease
(*) Indicates statistically significant at the 5 percent level				

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[17] Some of the numbers and years in the summary are adjusted according to the original source.

Table A7: Researchers' Evidence of Moral Hazard
Source: (Dreher, 2004, p. 26 Table 1)

Study	Period	Sample	Focus	Result*
Zhang (1999) *(creditor)*	1/1992-2/1997, quarterly	6 Eurobonds, 4 Brady bonds	Bond spreads	No evidence of moral hazard
Eichengreen and Mody (2000) *(creditor)*	1/1991-4/1999, quarterly	Bondware	Bond spreads	Consistent with moral hazard
Lane and Phillips (2000) *(creditor)*	1995-1999, daily	EMBI *plus*	Bond spreads	No evidence of moral hazard, except for Russian non-bailout
McBrady and Seasholes (2000) *(creditor)*	2/24/1999-2/26/1999, daily	402 Bonds	Bond spreads	Consistent with moral hazard
Tillmann (2001) *(creditor)*	1/1/1994-11/2/2000, daily	EMBI *plus*	Bond spreads	No evidence of moral hazard
Dell'Ariccia, Schnabel and Zettelmeyer (2002) *(creditor)*	1998-2000, daily	EMBI Global (21 countries) and Bondware (54 countries)	Bond spreads	Consistent with moral hazard
Evrensel (2002) *(debtor)*	1971-97, yearly	42 countries	Macroeconomic Policy	Consistent with moral hazard
Mina and Martinez-Vasquez (2002) *(creditor)*	1992-97, yearly	71 countries	Maturity structure of loans	Consistent with moral hazard
Mina and Martinez-Vasquez (2003) *(creditor)*	1992-97, yearly	6 MENA countries	Maturity structure of loans	Consistent with moral hazard
Haldane and Scheibe (2003) *(creditor)*	1995-2002, daily	7 UK banks	Stock returns of creditor banks	Consistent with moral hazard
Gai and Taylor (2004) *(debtor)*	1/1995-4/2001, quarterly	19 countries	Probability of IMF programs	Consistent with moral hazard
Kamin (2004) *(creditor)*	3/1992-11/2001, monthly	EMBI	Bond spreads, capital flows	Consistent with moral hazard between 1995-1998 but not thereafter
Dreher and Vaubel (2004) *(debtor)*	1975-97, yearly	94 countries	Budget deficit and monetary expansion	Consistent with moral hazard
Evrensel and Kutan (2004a) *(creditor)*	12/19/1996-2/27/2003 and 5/17/1996-	Indonesia and Korea	Bond spreads	Consistent with moral hazard

	2/27/2003, daily			
Evrensel and Kutan (2004c) *(creditor)*	6/1/1992-12/27/2002, daily	Indonesia and Korea	Stock returns	Consistent with moral hazard
Evrensel and Kutan (2004d) *(creditor)*	6/1/1992-12/27/2002, daily	Indonesia, Korea and Thailand	Stock returns in the financial sector	Consistent with moral hazard
Lee and Shin (2004) *(creditor)*	1/1998-12/2000, monthly	EMBI Global (16 countries)	Bond spreads	Consistent with moral hazard
Evrensel and Kim (2004) *(debtor)*	1967-96, yearly	91 countries	Macroeconomic Policy	Consistent with moral hazard
Zoli (2004) *(creditor)*	1993-2000, quarterly	32 countries	Bond spreads	Consistent with (limited) moral hazard
Noy (2004) *(creditor)*	1/1994-12/2000, monthly	EMBI plus (15 countries)	Bond spreads	No evidence of moral hazard
Corsetti et al. (2006) *(debtor)*		Brazil and Argentina	Macroeconomic Policy	Consistent with moral hazard
* The result is based on the authors' own judgment.				