27th Annual Conference
Online

May
June
2021

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On the Determinants and Outcomes of IMF Loans: A Political Economy Approach

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Abstract

The main objective in this paper is to empirically analyze the economic and political determinants of IMF lending in low- and middle-income countries. Compared to the existing literature, our main contribution is twofold. First, using the IMF Monitoring of Fund Agreements (MONA) database, we merge domestic political and institutional factors with international political economy factors to analyze IMF lending determinants. Second, we use the predicted values of determinants of IMF lending as instruments to explain the consequences of this lending on economic outcomes. Our main findings show that economic and political proximity to the IMF major shareholders matter for the likelihood of obtaining an IMF non-concessional loan. Furthermore, most of the loans seem to exert either an insignificant or a negative effect on the trend component of GDP, pointing out to what extent such loans can stabilize the economies in the short term without improving the long run steady state. Yet, democratic regimes compared to autocratic ones improves the effects of these loans on economic growth and other outcomes (such as the current account and inflation). By contrast, structural variables (for instance investment and schooling) do not seem to be significantly affected by such loans.

JEL Classification: P16, F33, F34, F55.

Keywords: IMF lending, Political economy, Structural Adjustment Programs.

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1. Introduction

The role and mission of the International Monetary Fund (IMF) have evolved along with the global economy. In addition to economic surveillance and technical assistance, one of the IMF main objectives is to provide financial support to its member countries to address actual or potential balance of payments problems. This suggests that the IMF lending should be mainly based on technical economic considerations. However, this does not seem to be the case and controversial anecdotal evidence along with some studies found that politics largely play a role in the IMF's lending decisions. This is why the IMF faced some serious criticism and calls for its reform took place across the political spectrum. Critics included among others promoting moral hazard and dependency or recidivism through repetitive lending and imposing stabilization reforms that might not correspond to local needs (Steinward and Stone, 2008; Bird, 2007; Bird et al., 2004; Dreher and Vaubel, 2004; Stone, 2004). Yet, less attention has been attributed to the role of institutions in the recipient country. Thus, this paper examines both the economic and political determinants of IMF loans and how the domestic politics of the recipient country affects the outcomes of these loans.

Several theoretical models explain why politics have to be included when analyzing IMF lending. From a public choice theory perspective, the Fund can be considered as an independent actor that aims at maximizing its own objective function incorporating power, prestige, responsibility and resources (Bird, 2007; Vaubel, 1996 and 1986). If a principal-agent perspective is adopted, the Fund has an interest in providing lending and its principals (major shareholders) would prefer that the Fund enforces conditionality (Stone, 2004 and Vaubel, 1986). On the domestic side, a government can resort to the Fund to overcome domestic opposition to policy reforms (Putnam, 1988 and Vreeland, 2003). On the empirical front, a universal consensus is not achieved yet concerning the determinants and outcomes of IMF lending (Bird, 2007). The literature offered a variety of models explaining IMF programs participation. Early studies which attempted to explain IMF lending by exclusively relying on economic factors suffered from low explanatory power (Bird, 2007; Thacker, 1999). Hence, subsequent literature augmented their models with some political economy aspects. However, results from these models are sometimes contradictory and there is a little consensus on which political determinants really matter (Steiwand and Stone, 2008; Sturm et al., 2005) and this represents an important motivation for this paper.

Against this backdrop, our main objective in this paper is to empirically analyze the economic and political determinants of IMF lending in low- and middle-income countries and how the domestic politics affects the outcomes of these loans. Compared to the existing literature, our main contribution is twofold. First, using the IMF Monitoring of Fund Agreements (MONA) database, we merge domestic political and institutional factors with international political economy factors to analyze IMF lending determinants. Second, we use the predicted values of determinants of IMF lending as instruments to explain the consequences of this lending on economic outcomes. This will help us consider several issues that arise in the literature on the consequences of IMF programs including the endogeneity treatment and the selection problem since these programs usually come as a response for an economic crisis.

Our main findings show that economic and political proximity to the IMF major shareholders matter for the likelihood of obtaining an IMF non-concessional loan. Furthermore,

most of the loans seem to exert either an insignificant or a negative effect on the trend component of GDP, pointing out to what extent such loans can stabilize the economies in the short term without improving the long run steady state. Yet, democratic regimes compared to autocratic ones improves the effects of these loans on economic growth and other outcomes (such as the current account and inflation). By contrast, structural variables (for instance investment and schooling) do not seem to be significantly affected by such loans.

The paper will be organized as follows. Section 2 reviews the literature on the IMF loans determinants and outcomes. Section 3 provides a summary of the stylized facts related to the size and different types of IMF lending while relating to the political economy context by region. Section 4 is dedicated to the methodology and data. Section 5 analyzes the empirical findings. Section 6 concludes and offers some policy recommendations.

2. Literature Review

Political economy determinants that were accounted for in the literature include domestic political factors in the member country asking for lending, foreign policy objectives of the most influential IMF shareholders and IMF bureaucratic considerations as follows. On the domestic demand side, the different stages of an IMF program, including the government's decision to resorting to the IMF and accepting conditionality costs, the negotiation stage, the consideration of programs distributional consequences and implementation, entail political dynamics. As for the IMF supply side, various political factors can affect the decision-making process of lending (Sturm et al., 2005). The weighed voting and lending procedures at the Fund can give a room for political dynamics (Thacker, 1999). To that effect, major shareholders can have strong influence on IMF decisions, and they can be rather inclined to provide lending to some countries in comparison to others. This suggests that a country's political proximity to these shareholders can raise the probability and size of an IMF loan.

While analyzing the economic and political determinants of IMF programs participation is important in its own sake, these determinants results can serve as instruments to understand the consequences of IMF lending on economic outcomes. Indeed, politics and institutions in the domestic economy affect the implementation of an IMF program through several channels. First, in democratic countries, negotiations are generally complicated at both the international and domestic levels in order to reach an agreement. This is chiefly attributed to the presence of different stakeholders (including lobbies, trade unions and various chambers) that have to be part of the domestic negotiations. By contrast, in less democratic regimes, this decision is likely to emanate from a centralized power without lengthy negotiations. Indeed, an autocratic regime can have a smaller incentive to resort to the IMF lending since it can undertake itself unpopular reforms. Another contrasting view suggests that a dictatorship can be less constrained by domestic public opinion and hence, can make easier negotiations with the IMF which increases its likelihood of getting the lending (Sturm et al., 2005; Bird and Rowlands, 2001; Przeworski and Vreeland, 2000). Second, the more complicated the negotiations, the more accountable the executive power will be once the loan is obtained. Clearly, governments that are more accountable will be obliged to improve the macroeconomic outcomes in order to be re-elected. Third, since autocratic regimes are likely to stay more in power, they might have more incentives to implement reforms as they

will see their policies. Moreover, an autocratic regime can be perceived as more capable of enforcing adjustment policies or an impediment for sustainable development since it can compromise good governance (Bird and Rowlands, 2001). Yet, if the executive power is not likely to stay in power in democracies, reforms can suffer from the so-called "*time inconsistency*". The latter is a situation where the decision-maker's preferences change over time in such a way that a preference can become inconsistent at another point in time, which reduces the likelihood of reforming and hence macroeconomic outcomes will not improve. This is why the discussion on the effects of IMF lending on economic outcomes would be relevant to this paper.

Existing literature is rather inconclusive as to whether IMF programs affect economic growth or not and in which direction and hence, there is no consensus yet on the impact of IMF lending (Steinward and Stone, 2008; Bird, 2007; Dreher, 2006). Much of the existing literature suggest that participation in IMF programs would significantly reduce economic growth (see for example: Vreeland, 2003; Przeworski and Vreeland, 2000; Conway, 1994; Khan, 1990) whereas some studies found positive or mixed results economic growth effects (see for example Bal Gunduz et al., 2013; Dicks-Mireaux et al., 2000). Some of these studies suggest that the participation in IMF programs can reduce growth over the short run but increase it over the long run. These conflicting results arise from different sources including the differences in the methodologies adopted, the types of programs studied (stand-by arrangements versus structural adjustment facilities), the group of countries included, and the time period considered. It is also worth highlighting that on the methodological front, the literature on IMF programs outcomes has focused on possible statistical methods to correct the selection problem that might arise. In comparison to other strands of IMF literature, this selection problem can be more pronounced in the assessment of IMF programs outcomes and it does not seem to be adequately addressed yet (Steinward and Stone, 2008). Various methods have been considered to deal with this problem, including Heckman estimators (see for ex: Przeworski and Vreeland, 2000; Eichengreen et al., 2008) or instrumental variables (See for ex: Marchesi and Sirtori, 2011; Dreher, 2006; Barro and Lee, 2005; Butkiewicz and Yanikkaya, 2005; Easterly, 2005) or the method of matching (See for ex: Bird and Rowlands, 2017; Bal Gunduz et al., 2013).

At the regional level, there are several examples confirming the fact that the domestic political narrative matters for IMF lending. For instance, the MENA countries resorted to the IMF in several incidents, including early 1990s and post uprisings. Nevertheless, the focus was mostly on stabilization policies whereas structural reforms were usually delayed which resulted in lack of markets contestability, lack of equal jobs and severe inequalities (see also Youssef and Zaki, 2019). In fact, several countries in the region performed well in terms of economic growth prior to the Arab Spring. However, the different uprisings waves indicated that the region needs to rethink its economic model and social contract to respond to people's aspirations. The IMF tried to account for these changes since its specific strategies for these countries post uprisings highlighted issues of social and economic inclusion (Mossallem, 2016).

3. Stylized Facts

Annex 1-Table 1 provides an overview on the evolvement of the different types of facilities offered by the Fund and Figure 1 describes this evolution over the period 1992 till 2020. Several conclusions can be withdrawn as follows.

First, the Stand-By Arrangements (SBA) and the Extended Fund Facility (EFF) are the main non-concessional facilities of the Fund. In terms of number of arrangements, it seems the relative importance of SBA has been somehow declining over the last decade where the total number of SBA arrangements was 20 over 2011- 2020, compared to 71 and 97 over 2001-2010 and 1992-2000 respectively. This is also confirmed in terms of the size of loans where the total SBA arrangements reached 77022 million SDR over the last decade (2011-2020), down from 168939 million SDR in the prior decade (2001-2010).[3] In contrast, the EFF importance increased over the last decade where the total number of EFF arrangements increased to 24 over 2011-2020, up from 3 over 2001-2010. Similarly, the total size of EFF arrangements reached 96541 million SDR in 2011-2020 compared to 20142 million SDR a decade earlier.

Second, SBA and EFF facilities do not cover low-income countries since these countries difficult external indebtedness conditions prevent them from borrowing based on the regular non-concessional conditions. This is why the Fund developed later some concessional facilities particularly designed for these countries, notably the Structural Adjustment Facility (SAF) in 1986 and the Enhanced Structural Adjustment Facility (ESAF) in 1987 (Bal Gunduz et al., 2013; Barro and Lee, 2005). It seems the effectiveness of these two facilities was questioned for several reasons mainly related to the absence of social considerations. For instance, these programs did not include poverty reduction as an explicit goal. Critics accordingly perceived these programs as promoting short-term stabilization objectives ahead of other important social objectives. Furthermore, there was no formal component to assess the programs impact on poor. Hence, some claims suggested that poverty worsens under these programs. To that effect, the Fund carried out reviews of these programs and replaced them with the Poverty Reduction and Growth Facility (PRGF) in 1999 (Bal Gunduz et al., 2013; IMF Website). However, it seems that the PRGF relative importance is lower than ESAF and SAF in terms of both number of arrangements as well as size. The total number of ESAF and SAF agreements over 1992-2000 was 150 agreements with total size of 16658 million SDR whereas the total number of PRGF arrangements over 1999-2010 was 102 arrangements with total size of 9654 million SDR.[4]

Third, over the period 2002 until 2008, the demand for IMF lending dropped sharply and this seems reflected on both the number of arrangements and their size. This might be because global economic conditions were improving, and countries were repaying their commitments to the Fund. Afterwards, the global economy was hardly hit by the financial crisis in 2008 and this indeed had significant impact on the Fund and debates were reinitiated on its role and legitimacy. The IMF response to this crisis included among other introducing new facilities for concessional lending, namely the Extended Credit Facility (ECF), the Standby Credit Facility (SCF), and

[3] These numbers exclude any arrangement that was classified in the IMF MONA dataset under two types of programs to avoid misclassification, namely those classified as: SBA-ESF and SBA-SCF.

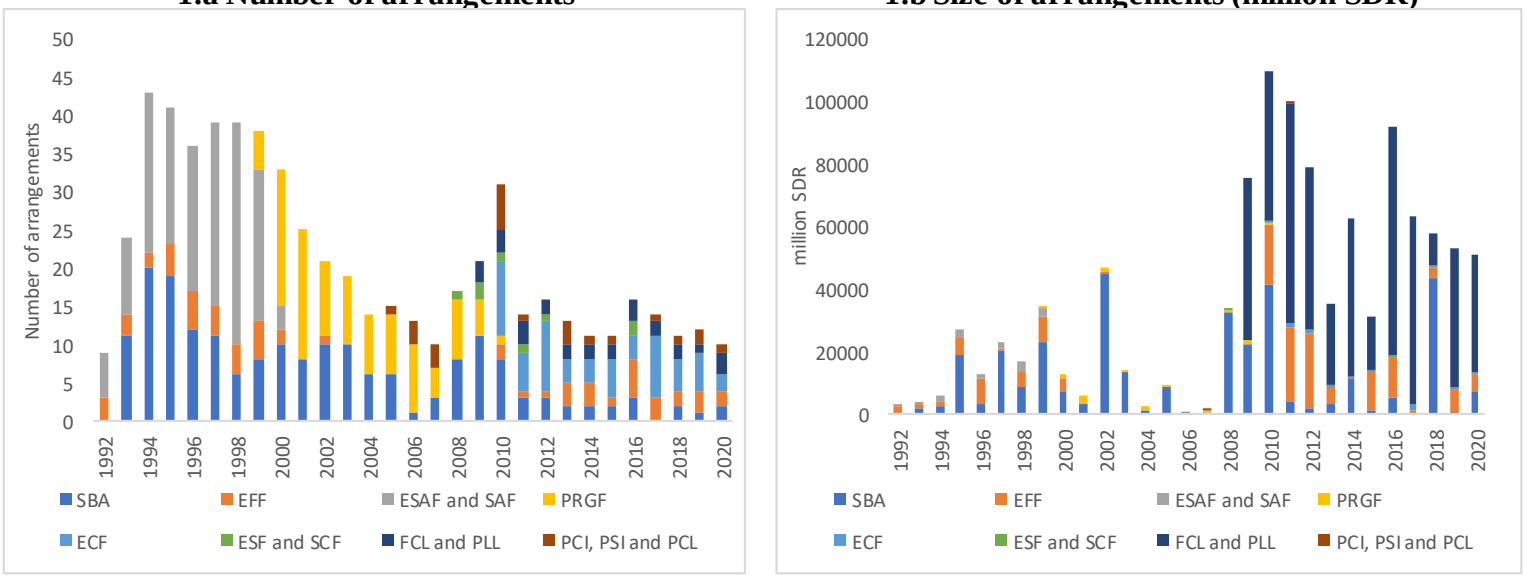
[4] These numbers exclude any arrangement that was classified in the IMF MONA dataset under two types of programs to avoid misclassification, namely those classified as PRGF-EFF.

the Rapid Credit Facility (RCF). The ECF is in fact the equivalent of EFF for low-income countries. Its relative importance has considerably increased over the last decade (2011-2020), where the total number of ECF arrangements increased to 47 arrangements with a total size of 7680 million SDR, compared to 10 arrangements with a total size of 683 million SDR in the prior decade (2001-2010).[5]

Finally, the Fund also offers precautionary facilities, namely the Flexible Credit Line (FCL) and the Precautionary and Liquidity Line (PLL). Over the last decade (2011-2020), the total number of FCL and PLL arrangements was lower than ECF, SBA and EFF (22 FCL and PLL compared 51 ECF, 20 SBA and 24 EFF). However, FCL and PLL seems to be quite significant in terms of size compared to other types of loans and this might be explained by their precautionary characteristics.

Figure 1: IMF lending by type of arrangements, 1992-2020

1.a Number of arrangements **1.b Size of arrangements (million SDR)**



Source: Constructed by the authors using IMF Monitoring of Fund Arrangements (MONA) Database
Notes:

i. Data are compiled in these figures based on the starting year of each arrangement.
ii. IMF loans mentioned here stand for:
SBA: Stand-By Arrangement; EFF: Extended Fund Facility; ESAF: Enhanced Structural Adjustment Facility; SAF: Structural Adjustment Facility; PRGF: Poverty Reduction and Growth Facility; ECF: Extended Credit Facility; ESF: Exogenous Shocks Facility; SCF: Standby Credit Facility; FCL: Flexible Credit Line; PLL: Precautionary and Liquidity Line; PCI: Policy Coordination Instrument; PSI: Policy Support Instrument; PCL: Precautionary Credit Line.
iii. These figures exclude any arrangement that was classified in the IMF MONA dataset under two types of programs to avoid misclassification, namely those classified as: ECF-EFF, PRGF-EFF, SBA-ESF and SBA-SCF.

Figure 2 describes the distribution of Fund arrangements by region over three decades in terms of number of arrangements and their size. The following conclusions can be withdrawn about the relative importance of IMF lending by region and the political economy context.

[5] These numbers exclude any arrangement that was classified in the IMF MONA dataset under two types of programs to avoid misclassification, namely those classified as ECF-EFF.

First, it seems that the Middle East and North Africa (MENA) region is the only region that has an increasing number of loans in the last decade (2011-2020) in comparison to the two previous decades, whereas the number of arrangements declined in other regions. This increase in demand for IMF lending can be explained by the political economy context of post Arab Spring Uprisings transition period.

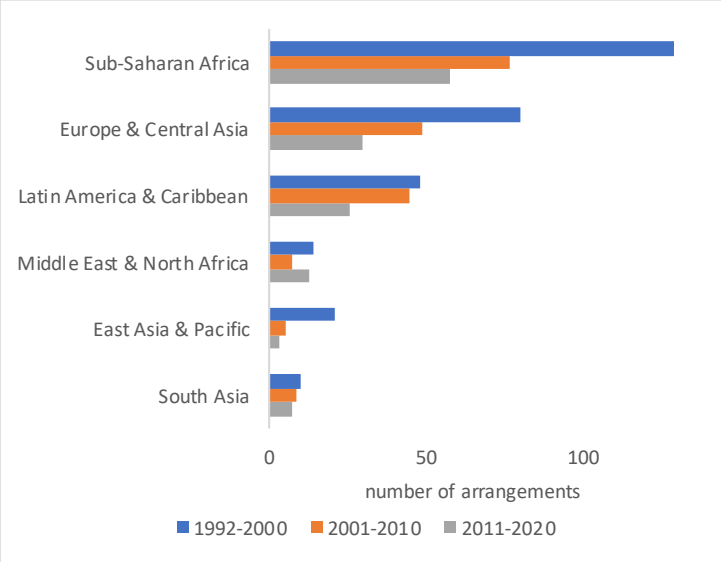
Second, the IMF lending to Europe and Central Asia has been quite important over 1992-2000 and 2001-2010 in comparison to the most recent decade (2011-2020) in terms of both the number of arrangements and their size. This increase in demand for IMF lending in these countries in the earlier two decades can be related to the 1990s transition process of Central European Countries and the 2008 global financial crisis. For instance, the severe economic crisis in Eastern Europe countries during the early transition period was somehow perceived as a result of the communism era mismanagement and this accordingly induced a sort of a popularity for the adjustment measures proposed by the Fund (Pop-Eleches, 2009). This indeed confirms the fact that domestic political perceptions can have an impact on the demand for the Fund lending.

Third, with the end of cold war and the resolution of Latin American debt crisis in 1989, the international economic and political environment seemed more favorable to the compliance to the Washington Consensus. This was also coupled with a boom in international lending and some reforms in IMF conditionality. These factors altogether had led to an increase in demand for IMF lending in Latin American countries in the 1990s. For instance, political and economic elites understood that they had to pursue the economic reforms suggested by the Fund in order to take advantage from the international lending boom since IMF lending would lead to an increase in outside financing (Pop-Eleches, 2009).

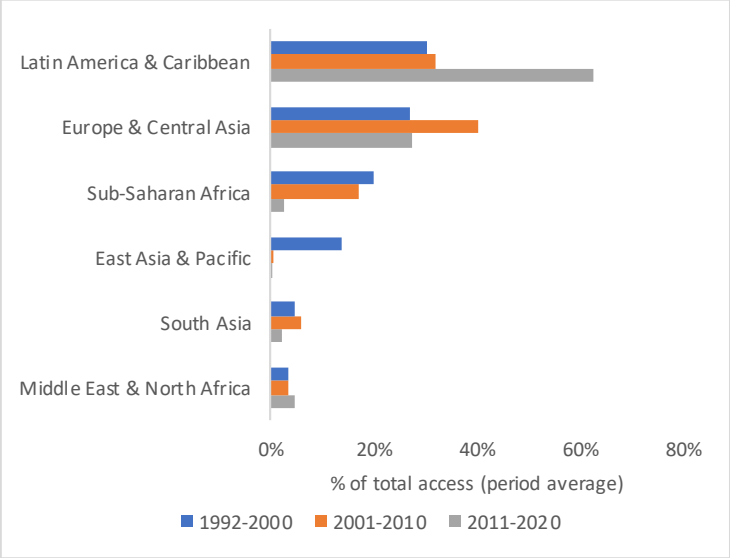
Finally, although significant in terms of number of arrangements, the IMF lending to Sub-Saharan seems to be broadly declining. In particular, the total number of arrangements declined from 129 arrangements (worth 12513.19 million SDR) over 1992-2000 to 77 arrangements (worth 7103.44 million SDR) over 2001-2010. This might be due to the fact that these countries were enjoying stable economic growth in the latter period and hence they did not need to heavily resort to the Fund resources. In the wake of the financial crisis (2010-2013), the size of IMF lending to this region was declining, yet it picked up again in 2014. This is possibly due to the collapse in oil prices in this latter year that adversely affected commodity dependent countries in the region and thereby increased the demand for IMF lending.

Figure 2: IMF lending by region

2.a Number of arrangements



2.b Percentage of total access by region (period average)



Source: Constructed by the authors using IMF Monitoring of Fund Arrangements (MONA) Database
Notes:

i. Data are compiled in these figures based on the starting year of each arrangement.
ii. These figures include all types of IMF agreements (even the ones classified under two types of arrangements)
iii. Regions are classified based on the World Bank definitions.

The MENA region presents an interesting example on the interaction between the IMF lending and domestic politics. Table 1 provides a description of the IMF lending to the MENA region in terms of size and types of programs contrasted to their regime types (measured by the Polity Scores). The following conclusions can be withdrawn. First, apart from regimes considered as in transition or interruption periods, it seems that most of the MENA countries which resorted to the Fund lending over 1992-2020 are classified according to Polity Scores as anocracies or autocracies (see Table 1 notes for a detailed description of Polity Scores regimes classification). This confirms an argument previously mentioned that autocratic regimes can be less constrained by public opinion and competitive elections and hence they can easily negotiate with the IMF which would increase their likelihood of obtaining the loan (Sturm et al., 2005; Bird and Rowlands, 2001; Przeworski and Vreeland, 2000). Second, MENA countries demand for IMF lending increased post Arab Spring uprisings. There is indeed a strong economic justification for this increase in demand for IMF support during this period, including the significant deterioration in these countries' external accounts as well as in their fiscal balances. Yet, from a political perspective, an IMF agreement can also help a government in pushing unpopular policies that can face domestic resistance. For instance, rejecting a policy suggested by the Fund can be more costly for domestic opposition since it can send negative signals to creditors and investors (Przeworski and Vreeland, 2000).

Table 1: MENA countries IMF arrangements and political regimes

Country	IMF Loan	Start year of the program	Total access (in million SDR)	Polity Score
Algeria	ESAF	1994	42.36	-7
	SBA	1994	457.2	-7
	EFF	1995	1169.28	-3
Djibouti	SBA	1996	8.245	-6
	PRGF	1999	19.082	1
	PRGF	2008	22.26	2
Egypt	EFF	1993	400	-6
	SBA	1997	271.4	-6
	EFF	2016	8596.57	-4
	SBA	2020	3763.64	na
Iraq	SBA	2005	475.36	-66 (interruption period or system missing)
	SBA	2007	475.36	-66 (interruption period or system missing)
	SBA	2010	2376.8	-66 (interruption period or system missing)
	SBA	2016	3831	6
Jordan	EFF	1994	189.3	-2
	EFF	1996	238.04	-2
	EFF	1999	127.88	-2
	SBA	2002	85.28	-2
	SBA	2012	1364	-3
	EFF	2016	514.65	-3
	EFF	2020	926.37	na
Morocco	PLL	2012	4117.4	-4
	PLL	2014	3235.1	-4
	PLL	2016	2504	-4
	PLL	2018	2150.8	-4
Tunisia	SBA	2013	1146	-88 (transition period)
	EFF	2016	1952.25	0
Yemen	SBA	1996	132.4	-2
	ESAF	1997	264.75	-2
	EFF	1997	79.9	-2
	ESAF	1998	264.75	-2
	PRGF	2001	238.8	-2
	ECF	2010	243.5	-2
	ECF	2014	365.25	-77 (interregnum period)

Source: Compiled by authors based on data from the IMF Monitoring of Fund Arrangements (MONA) Database and Polity5 Political Regime Characteristics and Transitions

Notes:

i. The Polity Score captures a regime authority spectrum on a 21-pont scale ranging from -10 (hereditary monarchy) to +10 (consolidated democracy). The Polity scores can also be converted into regime categories in a suggested three part categorization of "autocracies" (-10 to -6), "anocracies" (-5 to +5 and three special values: -66, -77 and -88), and "democracies" (+6 to +10).

ii. Polity score corresponds to the start year of the program

iii. IMF loans abbreviations mentioned here stand for:

ECF: Extended Credit Facility; EFF: Extended Fund Facility; ESAF: Enhanced Structural Adjustment Facility; SBA: Stand-By Arrangement; PLL: Precautionary and Liquidity Line; PRGF: The Poverty Reduction and Growth Facility

4. Econometric Specification and Data

4.1. Econometric Specification

Following Barro and Lee (2005), we will study the economic and political determinants of IMF lending. Using a large panel of low- and middle-income countries (including MENA countries) over the period 1993-2019[6], we estimate a panel regression where i is the country and t is the time as follows:

$$Ln(Loan)_{it} = \beta_0 + \beta_1 X_{it} + e_{it} \quad (1)$$

The dependent variable ($Ln(Loan)_{it}$) measures the amount of the IMF credit[7] obtained by country *i* in year *t*. As it was mentioned before, four types of loans that are taken into consideration: Poverty Reduction and Growth Facility (PRGF), Stand-By Arrangement (SBA), Extended Fund Facility (EFF) and Extended Credit Facility (ECF). Following previous literature (Sturm et al., 2005; Bird and Rowlands, 2001), we include (X_{it}) a vector of time variant economic determinants affecting the IMF credit as follows: international reserves, current account balance as percentage of GDP, inflation rate, exchange rate and government budget deficit as percentage of GDP. These variables are lagged once to avoid potential endogeneity problem and to improve the confidence in assigning causality.

Yet, since not all low- and middle-income countries obtain an IMF loan, equation (1) is likely to suffer from a selection bias. In order to overcome the selection bias, we estimate our regressions using a Heckman selection procedure (Heckman, 1976). Our estimable equation is:

$$Ln(Loan_{it}) = V_{it}\beta + \eta_{ijg} \quad (2)$$

The dependent variable is not, however, observed for all countries since some of them did not obtain an IMF loan. It is only observed if

$$Z_{it}\gamma + \varepsilon_{it} > 0$$

While the first step (the probability of obtaining an IMF loan) is estimated using a probit model, the second step (the value of the loan) corrects for self-selection by incorporating a transformation of the predicted loan probabilities. The Heckman selection technique helps us therefore to overcome the problem of selection bias. Our exclusion variables (*Z*) that explain the likelihood of obtaining an IMF loan is measured by political and economic proximity to the IMF major shareholders. Indeed, the two variables *Pol Prox.* and *Econ. Prox* account for proxies for the country's political and economic proximity to the IMF major shareholders which are also permanent members of the UN Security Council (United States, France, China and the United Kingdom): the country's votes in the UN General Assembly along with each major shareholder

[6] We use a group of 156 countries including all low- and middle-income countries according to the World Bank classification and all countries which were enrolled in any IMF agreement over the period of our study. See Annex 2 for a complete list of these countries.

[7] Some studies exclusively focus on two types of IMF programs (Stand-By Arrangement (SBA), Extended Fund Facility (EFF)) since they are the major programs offered by the IMF.

and the ratio of the country's bilateral trade with each major shareholder to the country's GDP (Barro and Lee, 2005). To construct these two variables, we multiply the share of bilateral trade and the vote similarity by the quota share of the major shareholders in the total IMF quota, then we add these multiplicative terms to obtain a weighted average of economic and political proximity respectively. Finally, η_{ijg} and ε_{ijg} are the discrepancy terms.

The second step of our analysis will examine the effect of the obtained loans on macroeconomic outcomes. We will mainly focus on GDP growth by distinguishing between the cyclical and trend components as measures of short and long term effects respectively as follows:

$$Growth_{it} = \alpha_0 Inv_{it} + \alpha_1 School_{it} + \alpha_2 Land_{it} + \alpha_3 Nat.\ Res._{it} + \alpha_4 Loan_{it} + \varepsilon_{it} \quad (3)$$

Where $Growth_{it}$ is measured by the growth rate of real GDP, Inv_{it} gross fixed capital formation, $School_{it}$ secondary school enrollment, $Land_{it}$ the share of arable land, $Nat.\ Res._{it}$ the share of natural resources rents to GDP and $Loan_{it}$ the predicted loan from the Heckman selection model and ε_{it} the discrepancy term. Using the Hodrick-Prescott filter, our dependent variable is decomposed to two parts: the cyclical component (measuring the output gap) and the trend one (measuring potential GDP). This distinction helps us disentangle the stabilization (short term) vs. the allocation effect (long run) of IMF loans on growth.

Our analysis is extended in two ways. First, we examine how the IMF loan can exert a differential impact on economic growth depending on the regime type (autocratic, anocratic and democratic regimes)[8]. For instance, an autocratic regime can have a smaller incentive to resort to the IMF lending since it can undertake itself unpopular reforms. Another contrasting view suggests that a dictatorship can be less constrained by domestic public opinion and hence, can make easier negotiations with the IMF which increases its likelihood of getting the lending (Sturm et al., 2005; Bird and Rowlands, 2001; Przeworski and Vreeland, 2000). On the implementation side, depending on the context, an autocratic regime can be perceived as more capable of enforcing adjustment policies or an impediment for sustainable development since it can compromise good governance (Bird and Rowlands, 2001). Second, we examine the association between the different types of loans and various macroeconomic outcomes that include both stabilization variables (fiscal balance, debt services, reserves, current account, inflation and exchange rate) and structural ones (investment and savings). Later, we plan to extend our analysis in several ways. The previous model will be contrasted to another two models where our dependent variable will be the participation rate in IMF loans (F_{it}: fraction of months during each year that a country operated under an IMF loans). We will accordingly use Tobit models with the same previous explanatory variables.

[8] The regime type classification is based on Polity Scores. The Polity Score captures a regime authority spectrum on a 21-pont scale ranging from -10 (hereditary monarchy) to +10 (consolidated democracy). The Polity scores can also be converted into regime categories in a suggested three part categorization of "autocracies" (-10 to -6), "anocracies" (-5 to +5 and three special values: -66, -77 and -88), and "democracies" (+6 to +10).

4.2. Data

Studying the IMF programs determinants and impact on economic outcomes is currently more feasible since the IMF made detailed data on its lending programs publicly available. Hence, with regards to the IMF related variables, two complementary sources of data are used: the IMF Monitoring of Fund Arrangements (MONA) Database and the IMF Financial Data Query tool. In particular, the IMF MONA database is available for all IMF historical arrangements since 1993 till present.

The economic determinants affecting the IMF credit (international reserves, current account balance as percentage of GDP, inflation rate, exchange rate and government budget deficit as percentage of GDP) as well as the growth rate of real GDP and its determinants (human capital (secondary school enrollment), physical investment as a measure of capital, natural resources and arable land as a measure of endowments and the changes in terms of trade) and are obtained from the World Development Indicators of the World Bank. The regime type classification is based on the Polity Scores obtained from the Polity5 Political Regime Characteristics and Transitions Database, 1800-2018.

The exclusion variables that explain the likelihood of obtaining an IMF loan are proxies for the country's economic and political proximity to the IMF major shareholders and members of Security Council (United States, France, China and the United Kingdom) as follows: the country's votes in the UN General Assembly along with each major shareholder are obtained from Erik Voeten Dataset for United Nations General Assembly Voting Data (Harvard Dataverse), the ratio of the country's bilateral trade with each major shareholder are obtained from the UN Comtrade dataset.

5. Empirical Findings

5.1. Determinants of Obtaining an IMF Loan

As it was mentioned before, not all low- and middle-income countries obtain an IMF loan. This is why we run a Heckman selection model where economic and political proximity determine the likelihood of obtaining an IMF loan and lagged macroeconomic variables determine its size. First, for both EFF and SBA, economic and political proximity exert a positive impact on the likelihood of obtaining a loan. It is important to note that these loans are non-concessional, have a longer time span and thus more demanding in their conditionality/rates. These proximity variables are negatively associated to the PRGF that is a concessional loan given to low-income countries. The same result holds for the ECF that replaced the PRGF as the main tool for addressing balance of payments problems for low-income countries (see Table 2).

As per the determinants of the value of the loan, it is clear that the lower the international reserves the higher the EFF. This can be attributed to the fact that this loan is mainly provided to countries that have problems of balance of payments. The same result holds for the PRGF. As per the fiscal stance, the lower the fiscal balance (a larger deficit), the higher the IMF loan (for both EFF, PRGF and SBA). This shows how such loans help consolidate the fiscal stances of recipient countries.

Table 2: Determinants of IMF Loans – Heckman Selection Estimation

	EFF		**PRGF**		**SBA**		**ECF**	
	Ln(Loan)	Prob(Loan)	Ln(Loan)	Prob(Loan)	Ln(Loan)	Prob(Loan)	Ln(Loan)	Prob(Loan)
Cur. Acc/GDP(-1)	0.0350		0.00982		0.0193		0.000306	
	(0.0233)		(0.0133)		(0.0237)		(0.0953)	
Fisc. Bal./GDP(-1)	-0.109**		-0.00486		-0.146***		-0.00630	
	(0.0482)		(0.0149)		(0.0410)		(0.234)	
Res./GDP(-1)	-8.895***		-4.778***		3.543**		-5.510	
	(1.895)		(1.196)		(1.417)		(5.115)	
Ln(Ex. Rate)(-1)	0.0705		-0.191***		-0.0134		0.612	
	(0.0570)		(0.0379)		(0.0664)		(0.981)	
Ln(Inflation)(-1)	0.000225		0.0318**		0.000484		-0.0631	
	(0.000726)		(0.0132)		(0.00163)		(0.0765)	
Proxim. Vote		24.85**		-44.42***		63.81***		-9.100
		(10.59)		(9.529)		(7.040)		(20.73)
Proxim. Trade		3.149		-6.321**		5.956***		-22.11**
		(2.398)		(2.482)		(1.752)		(11.12)
Constant	5.589***	-3.567***	4.962***	0.853	5.554***	-5.169***	2.908	-1.579
	(1.582)	(0.624)	(1.098)	(0.525)	(0.982)	(0.420)	(17.86)	(1.186)
Observations	2,071	2,071	1,950	1,950	1,992	1,992	2,111	2,111

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

5.2. The Effect of IMF Loans on Growth Components

After estimating the determinants of IMF loans, we use the predicted value of loans in a growth equation. Table 3 present the results of the four types of loans for three dependent variables: the cyclical component, trend component and overall growth.

Interestingly, the EFF loan variable does not have a significant effect on the trend component of GDP while it has a positive impact on the cyclical one. As per PRGF and SBA, IMF loans have a negative effect on the trend component and an insignificant one on the cyclical one. This finding confirms the fact that, in some cases, most of the loans target stabilizing the economy (by reducing the gap between observed and potential GDP) without changing its structure and might even deteriorate its long-term steady state (because of a lower trend GDP component). This is result is in line with the one of Easterly (2006) who explains the dependency of the recipient countries on the IMF loans without an improvement of their macroeconomic outcomes in the long run.

As per our control variables, generally, while natural resources rents (that are a source of foreign currency) and investment (that measures physical capital) exert a positive effect on all growth components, arable land effect is insignificant and schooling enrollment has a counter-intuitive negative effect on the cyclical component of GDP.

Tables 4-6 extend the analysis by controlling for the regime type and its interaction with the IMF loan on growth and its different components. While the effect of autocratic regimes is not significant on the three measures of growth, its interaction with the EFF and PRGF has a negative impact on the trend component of GDP. This is chiefly attributed to the fact, in autocratic regimes, there is less accountability and transparency, which amplifies the negative effect of these loans on the long run economic growth. This interaction is insignificant for SBA and positive for ECF (see Table 4). Similarly, when the loan variable is interacted with anocratic regimes (regimes that lie between autocratic and democratic ones), both SBA and ECF have a negative impact on the trend component. Such an effect can be explained by the uncertainty that characterizes these regimes (since they are neither purely democratic nor autocratic). By contrast, this interaction turns to be positive for the cyclical component of GDP. As per the EFF and PRGF, the interaction term is positive and statistically significant as it is shown in Table 5. While this might seem to be counterintuitive, we can claim that these regimes that are semi-democracies, they mix democratic with autocratic features. Finally, Table 6 shows the case of democracies. In the case of SBA loans, a democracy increases the positive effect of the loan on the trend component of GDP. One potential explanation behind this result is democratic accountability. Indeed, the latter is perceived as a justification for the uses of power (or the use of loans) which leads to the good governance of the loan, enables the concept of checks and balance and allows the public control over the use of public resources (which is the case of the loan). The other interaction terms are generally less significant.

Table 3: Effect of IMF Loans on Growth Components

	EFF			**PRGF**		
	Cyclical	Trend	Growth	Cyclical	Trend	Growth
Inv.	0.177***	0.0494***	0.227***	0.159***	0.0469***	0.206***
	(0.0257)	(0.00578)	(0.0258)	(0.0257)	(0.00556)	(0.0257)
School	-0.0280*	-0.000227	-0.0282*	-0.0440***	-0.00149	-0.0455***
	(0.0155)	(0.00349)	(0.0156)	(0.0153)	(0.00329)	(0.0152)
Nat. Rent	0.133***	0.0303***	0.163***	0.108**	0.0326***	0.141***
	(0.0486)	(0.0109)	(0.0487)	(0.0486)	(0.0105)	(0.0484)
Arab. Land	-0.104*	0.00296	-0.101	-0.0553	0.00857	-0.0467
	(0.0614)	(0.0138)	(0.0616)	(0.0612)	(0.0132)	(0.0610)
Loan	0.664***	-0.0586	0.606***	-0.0348	-0.0690***	-0.104**
	(0.175)	(0.0393)	(0.175)	(0.0443)	(0.00957)	(0.0442)
Constant	-3.418	2.814***	-0.604	0.539	2.873***	3.412*
	(2.081)	(0.467)	(2.086)	(1.864)	(0.402)	(1.859)
Observations	868	868	868	868	868	868
R-squared	0.075	0.107	0.105	0.058	0.161	0.098
Number of codes	81	81	81	81	81	81
	SBA			**ECF**		
	Cyclical	Trend	Growth	Cyclical	Trend	Growth
Inv.	0.154***	0.0471***	0.201***	0.158***	0.0470***	0.205***
	(0.0263)	(0.00585)	(0.0263)	(0.0257)	(0.00555)	(0.0256)
School	-0.0350**	0.00501	-0.0300*	-0.0436***	0.000200	-0.0434***
	(0.0165)	(0.00366)	(0.0165)	(0.0152)	(0.00327)	(0.0151)
Nat. Rent	0.108**	0.0325***	0.140***	0.110**	0.0344***	0.144***
	(0.0485)	(0.0108)	(0.0485)	(0.0485)	(0.0105)	(0.0483)
Arab. Land	-0.0582	1.48e-05	-0.0582	-0.0538	0.00599	-0.0478
	(0.0609)	(0.0135)	(0.0608)	(0.0610)	(0.0132)	(0.0607)
Loan	-0.330	-0.166***	-0.496*	0.0325	0.0357***	0.0681***
	(0.275)	(0.0611)	(0.275)	(0.0225)	(0.00486)	(0.0224)
Constant	1.959	3.297***	5.256**	0.263	2.394***	2.657
	(2.285)	(0.507)	(2.284)	(1.846)	(0.398)	(1.839)
Observations	868	868	868	868	868	868
R-squared	0.059	0.113	0.095	0.060	0.162	0.102
Number of codes	81	81	81	81	81	81

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4: Effect of IMF Loans on Growth Components - Autocracy

	EFF			**PRGF**		
	Cyclical	Trend	Growth	Cyclical	Trend	Growth
Inv.	0.179***	0.0480***	0.227***	0.163***	0.0460***	0.209***
	(0.0258)	(0.00577)	(0.0259)	(0.0257)	(0.00555)	(0.0257)
School	-0.0261*	-0.000531	-0.0266*	-0.0420***	-0.00172	-0.0437***
	(0.0156)	(0.00348)	(0.0156)	(0.0153)	(0.00329)	(0.0153)
Nat. Rent	0.137***	0.0295***	0.167***	0.108**	0.0332***	0.141***
	(0.0486)	(0.0109)	(0.0487)	(0.0485)	(0.0105)	(0.0484)
Arab. Land	-0.105*	0.00487	-0.100	-0.0609	0.00984	-0.0510
	(0.0615)	(0.0137)	(0.0616)	(0.0611)	(0.0132)	(0.0610)
Loan	0.654***	-0.0480	0.606***	-0.0304	-0.0658***	-0.0962**
	(0.175)	(0.0392)	(0.176)	(0.0478)	(0.0103)	(0.0477)
Autocracy	-1.444	3.791***	2.347	0.289	0.346	0.635
	(5.163)	(1.153)	(5.172)	(1.748)	(0.377)	(1.746)
Loan*Autocracy	0.702	-0.621***	0.0806	0.312**	-0.0949***	0.217
	(0.978)	(0.218)	(0.980)	(0.157)	(0.0338)	(0.156)
Constant	-3.642*	2.752***	-0.890	0.295	2.878***	3.173*
	(2.085)	(0.466)	(2.089)	(1.876)	(0.404)	(1.874)
Observations	868	868	868	868	868	868
R-squared	0.078	0.121	0.109	0.065	0.169	0.101
Number of codes	81	81	81	81	81	81
	SBA			**ECF**		
	Cyclical	Trend	Growth	Cyclical	Trend	Growth
Inv.	0.155***	0.0474***	0.202***	0.161***	0.0463***	0.208***
	(0.0264)	(0.00585)	(0.0263)	(0.0257)	(0.00554)	(0.0256)
School	-0.0346**	0.00515	-0.0294*	-0.0422***	-1.67e-05	-0.0422***
	(0.0165)	(0.00366)	(0.0165)	(0.0152)	(0.00327)	(0.0151)
Nat. Rent	0.110**	0.0330***	0.143***	0.108**	0.0350***	0.143***
	(0.0486)	(0.0108)	(0.0486)	(0.0485)	(0.0104)	(0.0483)
Arab. Land	-0.0574	0.000220	-0.0572	-0.0586	0.00712	-0.0515
	(0.0609)	(0.0135)	(0.0608)	(0.0609)	(0.0131)	(0.0607)
Loan	-0.308	-0.157**	-0.464*	0.0323	0.0345***	0.0669***
	(0.277)	(0.0615)	(0.277)	(0.0243)	(0.00524)	(0.0242)
Autocracy	0.722	1.241	1.963	1.755	-0.246	1.509
	(10.53)	(2.336)	(10.52)	(1.551)	(0.334)	(1.547)
Loan*Autocracy	0.200	-0.105	0.0955	-0.165**	0.0432**	-0.122
	(1.669)	(0.370)	(1.667)	(0.0782)	(0.0169)	(0.0780)
Constant	1.663	3.185***	4.848**	0.110	2.416***	2.526
	(2.311)	(0.513)	(2.308)	(1.847)	(0.398)	(1.842)
Observations	868	868	868	868	868	868
R-squared	0.062	0.117	0.099	0.067	0.170	0.106
Number of codes	81	81	81	81	81	81

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

Table 5: Effect of IMF Loans on Growth Components - Anocracy

	EFF			**PRGF**		
	Cyclical	Trend	Growth	Cyclical	Trend	Growth
Inv.	0.180***	0.0496***	0.230***	0.167***	0.0456***	0.213***
	(0.0257)	(0.00576)	(0.0257)	(0.0256)	(0.00555)	(0.0256)
School	-0.0289*	0.000853	-0.0280*	-0.0411***	-0.00212	-0.0432***
	(0.0156)	(0.00350)	(0.0156)	(0.0152)	(0.00329)	(0.0152)
Nat. Rent	0.122**	0.0321***	0.154***	0.100**	0.0332***	0.134***
	(0.0486)	(0.0109)	(0.0487)	(0.0483)	(0.0105)	(0.0483)
Arab. Land	-0.105*	0.00696	-0.0980	-0.0739	0.0121	-0.0618
	(0.0616)	(0.0138)	(0.0617)	(0.0609)	(0.0132)	(0.0609)
Loan	0.674***	-0.0938**	0.580***	0.183**	-0.112***	0.0714
	(0.183)	(0.0412)	(0.184)	(0.0809)	(0.0175)	(0.0810)
Anocracy	-1.602	-1.017**	-2.619	-0.390	-0.0601	-0.450
	(1.820)	(0.409)	(1.825)	(0.714)	(0.155)	(0.714)
Loan*Anocracy	-0.0102	0.237***	0.227	-0.268***	0.0543***	-0.213**
	(0.385)	(0.0865)	(0.386)	(0.0904)	(0.0196)	(0.0905)
Constant	-3.046	2.798***	-0.248	-0.0574	3.020***	2.963
	(2.077)	(0.467)	(2.082)	(1.875)	(0.406)	(1.877)
Observations	868	868	868	868	868	868
R-squared	0.084	0.116	0.114	0.077	0.171	0.110
Number of codes	81	81	81	81	81	81
	SBA			**ECF**		
	Cyclical	Trend	Growth	Cyclical	Trend	Growth
Inv.	0.162***	0.0458***	0.207***	0.164***	0.0459***	0.210***
	(0.0262)	(0.00584)	(0.0262)	(0.0256)	(0.00554)	(0.0256)
School	-0.0373**	0.00542	-0.0319*	-0.0442***	0.000243	-0.0439***
	(0.0163)	(0.00365)	(0.0164)	(0.0151)	(0.00326)	(0.0151)
Nat. Rent	0.104**	0.0313***	0.135***	0.0989**	0.0358***	0.135***
	(0.0483)	(0.0108)	(0.0484)	(0.0484)	(0.0105)	(0.0483)
Arab. Land	-0.0589	0.000182	-0.0588	-0.0604	0.00753	-0.0528
	(0.0603)	(0.0135)	(0.0604)	(0.0607)	(0.0131)	(0.0606)
Loan	-0.649**	-0.0994	-0.748**	-0.0462	0.0561***	0.00990
	(0.290)	(0.0648)	(0.291)	(0.0427)	(0.00924)	(0.0427)
Anocracy	-11.90***	2.323***	-9.573***	-1.716***	0.234*	-1.482**
	(3.502)	(0.781)	(3.509)	(0.601)	(0.130)	(0.599)
Loan*Anocracy	1.633***	-0.365***	1.269**	0.0918*	-0.0254**	0.0664
	(0.549)	(0.123)	(0.550)	(0.0474)	(0.0102)	(0.0473)
Constant	4.317*	2.876***	7.193***	0.887	2.286***	3.173*
	(2.354)	(0.525)	(2.359)	(1.846)	(0.399)	(1.843)
Observations	868	868	868	868	868	868
R-squared	0.079	0.123	0.110	0.072	0.171	0.110
Number of codes	81	81	81	81	81	81

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

Table 6: Effect of IMF Loans on Growth Components - Democracy

	EFF			**PRGF**		
	Cyclical	Trend	Growth	Cyclical	Trend	Growth
Inv.	0.180***	0.0497***	0.230***	0.164***	0.0464***	0.210***
	(0.0257)	(0.00578)	(0.0258)	(0.0256)	(0.00556)	(0.0256)
School	-0.0287*	0.000888	-0.0278*	-0.0434***	-0.00161	-0.0450***
	(0.0157)	(0.00352)	(0.0157)	(0.0152)	(0.00330)	(0.0152)
Nat. Rent	0.123**	0.0332***	0.156***	0.100**	0.0335***	0.134***
	(0.0488)	(0.0110)	(0.0489)	(0.0486)	(0.0105)	(0.0485)
Arab. Land	-0.103*	0.00539	-0.0978	-0.0673	0.0102	-0.0571
	(0.0615)	(0.0138)	(0.0617)	(0.0611)	(0.0132)	(0.0610)
Loan	0.795**	0.0731	0.868**	-0.0827*	-0.0625***	-0.145***
	(0.356)	(0.0800)	(0.357)	(0.0493)	(0.0107)	(0.0492)
Democracy	2.146	0.530	2.676	0.548	-0.0537	0.494
	(1.759)	(0.395)	(1.764)	(0.747)	(0.162)	(0.747)
Loan*Democracy	-0.148	-0.158*	-0.306	0.233**	-0.0319	0.201*
	(0.372)	(0.0835)	(0.373)	(0.105)	(0.0228)	(0.105)
Constant	-5.090*	2.210***	-2.880	-0.252	2.967***	2.715
	(2.707)	(0.608)	(2.715)	(1.899)	(0.412)	(1.898)
Observations	868	868	868	868	868	868
R-squared	0.082	0.113	0.111	0.071	0.164	0.107
Number of codes	81	81	81	81	81	81
	SBA			**ECF**		
	Cyclical	Trend	Growth	Cyclical	Trend	Growth
Inv.	0.159***	0.0460***	0.205***	0.161***	0.0466***	0.207***
	(0.0262)	(0.00583)	(0.0262)	(0.0257)	(0.00555)	(0.0256)
School	-0.0377**	0.00553	-0.0321*	-0.0454***	0.000428	-0.0449***
	(0.0164)	(0.00365)	(0.0164)	(0.0151)	(0.00327)	(0.0151)
Nat. Rent	0.105**	0.0314***	0.137***	0.0988**	0.0357***	0.135***
	(0.0485)	(0.0108)	(0.0486)	(0.0486)	(0.0105)	(0.0485)
Arab. Land	-0.0592	0.000164	-0.0590	-0.0561	0.00650	-0.0496
	(0.0604)	(0.0134)	(0.0606)	(0.0608)	(0.0132)	(0.0607)
Loan	0.821	-0.447***	0.374	0.0425*	0.0330***	0.0755***
	(0.512)	(0.114)	(0.513)	(0.0248)	(0.00537)	(0.0248)
Democracy	10.71***	-2.350***	8.363**	1.623**	-0.217	1.406**
	(3.405)	(0.758)	(3.413)	(0.654)	(0.141)	(0.652)
Loan*Democracy	-1.486***	0.356***	-1.130**	-0.0539	0.0145	-0.0393
	(0.540)	(0.120)	(0.541)	(0.0563)	(0.0122)	(0.0561)
Constant	-6.192*	5.137***	-1.056	-0.688	2.508***	1.820
	(3.525)	(0.784)	(3.533)	(1.885)	(0.408)	(1.880)
Observations	868	868	868	868	868	868
R-squared	0.075	0.124	0.106	0.068	0.166	0.107
Number of codes	81	81	81	81	81	81

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

5.3. The Effect of IMF Loans on Macroeconomic Outcomes

We extend our analysis by examining the association between different macroeconomic outcomes and different types of IMF loans. These macroeconomic outcomes include both stabilization variables (fiscal balance, reserves, current account, debt services, inflation and exchange rate) and structural ones (investment and savings). We control also for the lagged economic growth. In this section, we limit our analysis to the two extremes, namely autocracies and democracies, since, from an institutional perspective, they are more interesting.

While schooling is positively associated with the SBA loan, the relationship between investment and this loan is insignificant. As per stabilization-related variables, inflation declines, reserves increase and the exchange rate depreciates. Hence, our results confirm the stabilization effect of the SBA loan. Our interaction variables (whether between SBA and democracy or SBA and autocracy) do not show a stable relationship since some of them are either positive, negative or insignificant (see Table 7).

Moving to the PRGF, our results point out three main issues. First, while structural variables are not affected by these loans, some of the stabilization-related ones are. Indeed, the schooling coefficient is insignificant, the investment one is negative and the debt service one is positive (see Table 8). When democracy is interacted with the PRGF loan, some macroeconomic outcomes improve such as current account that improves and inflation that declines. However, the interaction terms between autocracy and the PRGF are all insignificant.

Third, Table 9 shows the results of the EFF. Interestingly, since the objective of the latter is to provide assistance to countries experiencing balance of payments problems, international reserves are positively associated to these loans and exchange rate tend to depreciate. This is intuitive since most of the countries that obtain such loans tend to experience significant devaluations before or during the loan negotiations (as one of the prior actions needed to obtain the loan). Similarly, structural variables (schooling and investment) are not positively affected by the EFF. When the regime type is taken into consideration, and similar to the case of PRGF, while current account improves and inflation declines in democratic regimes, international reserves decrease and the exchange rate increases in autocratic ones. Finally, the results of the ECF are generally similar to the ECF ones with investment and schooling not being affected by the loan, current account balance improves in democratic regimes (see Table 10).

Table 7: Effect of SBA on Macroeconomic Outcomes

General Outcomes

	Current Acc.	Inv.	School.	Fiscal. Balance	Reserves	Ex. Rate	Inflation	Debt Ser.
Growth(-1)	-0.206***	0.251***	0.0772	0.0638*	-0.000321	0.0243***	-1.953***	-0.168
	(0.0437)	(0.0397)	(0.0821)	(0.0375)	(0.000512)	(0.00802)	(0.707)	(0.112)
SBA	0.0415	0.181	4.430***	-0.543***	0.0328***	0.235***	-7.607*	0.947
	(0.248)	(0.227)	(0.414)	(0.188)	(0.00297)	(0.0460)	(4.039)	(0.574)
Constant	-3.134**	20.38***	53.95***	0.974	-0.0683***	1.202***	68.96***	15.88***
	(1.492)	(1.384)	(2.511)	(1.189)	(0.0178)	(0.273)	(23.99)	(3.452)
Observations	404	399	299	219	415	417	387	293
R-squared	0.066	0.109	0.333	0.074	0.275	0.083	0.031	0.023
Number of code2	71	70	65	44	73	75	69	54

Democracy

	Current Acc.	Inv.	School.	Fiscal. Balance	Reserves	Ex. Rate	Inflation	Debt Ser.
Growth(-1)	-0.210***	0.253***	0.0543	0.0679*	-0.000293	0.0252***	-1.928***	-0.162
	(0.0438)	(0.0394)	(0.0809)	(0.0375)	(0.000509)	(0.00803)	(0.704)	(0.112)
SBA	-0.594	0.964**	4.186***	-0.833**	0.0419***	0.332***	-17.56**	1.654*
	(0.447)	(0.388)	(0.758)	(0.419)	(0.00508)	(0.0808)	(7.042)	(0.892)
Democracy	-6.113	8.489***	6.629	-3.780	0.0996**	1.086	-114.7**	6.966
	(3.743)	(3.154)	(5.793)	(3.609)	(0.0413)	(0.664)	(56.24)	(8.018)
Demo*SBA	0.855*	-1.092**	0.111	0.305	-0.0127**	-0.133	13.75*	-1.119
	(0.501)	(0.434)	(0.795)	(0.443)	(0.00569)	(0.0904)	(7.795)	(1.053)
Constant	1.364	14.39***	49.59***	4.263	-0.139***	0.426	152.5***	11.59*
	(3.127)	(2.617)	(5.139)	(3.246)	(0.0342)	(0.549)	(47.70)	(6.264)
Observations	404	399	299	219	415	417	387	293
R-squared	0.074	0.129	0.371	0.087	0.287	0.090	0.044	0.029
Number of codes	71	70	65	44	73	75	69	54

Autocracy

	Current Acc.	Inv.	School.	Fiscal. Balance	Reserves	Ex. Rate	Inflation	Debt Ser.
Growth(-1)	-0.205***	0.239***	0.0717	0.0629	-0.000354	0.0199**	-1.578**	-0.188*
	(0.0442)	(0.0396)	(0.0842)	(0.0394)	(0.000517)	(0.00787)	(0.689)	(0.114)
SBA	0.0494	0.0799	4.444***	-0.545***	0.0325***	0.210***	-6.811*	0.840
	(0.252)	(0.227)	(0.427)	(0.195)	(0.00301)	(0.0453)	(3.961)	(0.587)
Autocracy	1.798	-24.18***	4.974	3.008	-0.0711	-5.979***	207.0	-17.10
	(9.488)	(7.999)	(13.40)	(8.218)	(0.106)	(1.590)	(141.4)	(18.01)
Auto*SBA	-0.262	4.115***	-0.322	-0.260	0.0121	1.179***	-61.33***	3.166
	(1.594)	(1.393)	(2.296)	(1.218)	(0.0185)	(0.277)	(23.66)	(3.028)
Constant	-3.190**	21.09***	53.81***	0.970	-0.0663***	1.340***	67.33***	16.52***
	(1.523)	(1.391)	(2.592)	(1.234)	(0.0181)	(0.270)	(23.60)	(3.547)
Observations	404	399	299	219	415	417	387	293
R-squared	0.066	0.133	0.335	0.076	0.276	0.136	0.100	0.028
Number of codes	71	70	65	44	73	75	69	54

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 8: Effect of PRGF on Macroeconomic Outcomes

General Outcomes

	Current Acc.	Inv.	School.	Fiscal. Balance	Reserves	Ex. Rate	Inflation	Debt Ser.
Growth(-1)	-0.0758	0.0988	0.223***	0.00885	0.000586	0.00283	-0.00311	-0.352*
	(0.102)	(0.0912)	(0.0856)	(0.123)	(0.000631)	(0.00303)	(0.0882)	(0.197)
PRGF	0.937	-2.641***	-0.536	-4.554***	-0.0512***	0.0569**	-0.549	3.568**
	(0.720)	(0.741)	(0.752)	(1.057)	(0.00587)	(0.0260)	(0.753)	(1.437)
Constant	-10.30***	31.38***	47.81***	18.83***	0.298***	4.528***	9.286***	-0.949
	(2.936)	(3.028)	(2.895)	(4.635)	(0.0235)	(0.104)	(3.003)	(5.755)
Observations	323	337	254	127	312	373	356	344
R-squared	0.009	0.048	0.036	0.154	0.229	0.017	0.002	0.033
Number of code2	50	49	49	22	47	55	54	53

Democracy

	Current Acc.	Inv.	School.	Fiscal. Balance	Reserves	Ex. Rate	Inflation	Debt Ser.
Growth(-1)	-0.0985	0.0993	0.204**	0.0269	0.000380	0.00272	0.00724	-0.236
	(0.103)	(0.0917)	(0.0861)	(0.125)	(0.000630)	(0.00306)	(0.0888)	(0.192)
PRGF	0.396	-2.309***	-0.706	-3.960***	-0.0507***	0.0509*	-0.0483	3.553**
	(0.774)	(0.800)	(0.840)	(1.139)	(0.00590)	(0.0278)	(0.802)	(1.488)
Democracy	-8.859*	6.544	-0.753	10.86	-0.0156	-0.112	9.423*	-2.765
	(4.888)	(5.692)	(4.902)	(6.929)	(0.0549)	(0.185)	(5.347)	(9.726)
Demo*PRGF	2.199**	-1.337	0.718	-2.065	0.00919	0.0257	-2.174*	-1.975
	(1.116)	(1.362)	(1.167)	(1.400)	(0.0121)	(0.0423)	(1.213)	(2.220)
Constant	-7.763**	29.62***	47.60***	15.34***	0.289***	4.558***	6.726**	3.270
	(3.342)	(3.337)	(3.394)	(5.136)	(0.0249)	(0.117)	(3.371)	(6.309)
Observations	323	337	254	127	312	373	356	344
R-squared	0.023	0.053	0.052	0.174	0.249	0.018	0.012	0.105
Number of code2	50	49	49	22	47	55	54	53

Autocracy

	Current Acc.	Inv.	School.	Fiscal. Balance	Reserves	Ex. Rate	Inflation	Debt Ser.
Growth(-1)	-0.0756	0.0957	0.223**	0.00901	0.000527	0.00291	-0.00171	-0.353*
	(0.102)	(0.0915)	(0.0861)	(0.124)	(0.000627)	(0.00304)	(0.0886)	(0.197)
PRGF	0.937	-2.714***	-0.536	-4.554***	-0.0531***	0.0580**	-0.513	3.567**
	(0.723)	(0.749)	(0.765)	(1.062)	(0.00589)	(0.0261)	(0.762)	(1.441)
Autocracy	2.764	-4.551	-0.444		-0.0874*	0.0933	2.150	-6.683
	(12.88)	(6.509)	(6.424)		(0.0453)	(0.274)	(6.581)	(26.57)
Auto*PRGF	-0.394	0.709	0.248	-0.0347	0.0115	-0.00563	-0.330	1.519
	(2.345)	(1.405)	(1.613)	(0.818)	(0.00977)	(0.0557)	(1.421)	(4.840)
Constant	-10.35***	31.77***	47.79***	18.83***	0.308***	4.519***	9.101***	-0.958
	(2.953)	(3.080)	(2.953)	(4.658)	(0.0237)	(0.105)	(3.056)	(5.787)
Observations	323	337	254	127	312	373	356	344
R-squared	0.009	0.050	0.036	0.154	0.245	0.018	0.002	0.033
Number of code2	50	49	49	22	47	55	54	53

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 9: Effect of EFF on Macroeconomic Outcomes

General

	Current Acc.	Inv.	School.	Fiscal. Balance	Reserves	Ex. Rate	Inflation	Debt Ser.
Growth(-1)	-0.0685	0.213***	-0.0730	0.299***	-0.000136	0.0100	-0.575***	-0.231
	(0.0848)	(0.0573)	(0.136)	(0.0974)	(0.000818)	(0.00618)	(0.206)	(0.261)
EFF	-1.420***	-1.400***	1.365	0.308	0.0209***	0.456***	0.257	0.826
	(0.517)	(0.360)	(0.984)	(0.712)	(0.00512)	(0.0365)	(1.094)	(1.505)
Constant	5.521	30.67***	72.62***	-5.047	-0.0264	-0.0518	7.490	20.06**
	(3.390)	(2.345)	(6.416)	(4.618)	(0.0333)	(0.228)	(7.102)	(9.723)
Observations	178	189	139	98	189	182	176	149
R-squared	0.053	0.180	0.022	0.113	0.102	0.521	0.056	0.010
Number of codes	35	39	35	21	38	36	37	28

Democracy

	Current Acc.	Inv.	School.	Fiscal. Balance	Reserves	Ex. Rate	Inflation	Debt Ser.
Growth(-1)	-0.106	0.215***	-0.0451	0.296***	-5.95e-05	0.00971	-0.470**	-0.191
	(0.0829)	(0.0580)	(0.136)	(0.0989)	(0.000828)	(0.00624)	(0.202)	(0.265)
EFF	-2.276***	-1.511***	0.682	0.192	0.0208***	0.436***	1.812	1.177
	(0.604)	(0.420)	(1.117)	(0.776)	(0.00630)	(0.0426)	(1.210)	(1.817)
Democracy	-11.95**	-2.502	-4.782	-2.393	-0.0104	-0.474	27.16**	2.854
	(5.641)	(4.078)	(11.97)	(6.535)	(0.0609)	(0.400)	(11.57)	(17.67)
Demo*EFF	2.019***	0.185	1.421	0.317	-0.000477	0.0520	-4.620***	-0.914
	(0.772)	(0.571)	(1.788)	(0.973)	(0.00818)	(0.0556)	(1.634)	(2.384)
Constant	10.15**	32.17***	73.89***	-4.096	-0.0176	0.160	-0.731	19.51
	(4.168)	(2.898)	(7.145)	(5.298)	(0.0437)	(0.284)	(8.249)	(12.35)
Observations	178	189	139	98	189	182	176	149
R-squared	0.123	0.190	0.056	0.115	0.109	0.529	0.131	0.020
Number of codes	35	39	35	21	38	36	37	28

Autocracy

	Current Acc.	Inv.	School.	Fiscal. Balance	Reserves	Ex. Rate	Inflation	Debt Ser.
Growth(-1)	-0.0701	0.199***	-0.140	0.298***	0.000394	0.00800	-0.617***	-0.285
	(0.0867)	(0.0583)	(0.117)	(0.0979)	(0.000798)	(0.00619)	(0.206)	(0.265)
EFF	-1.322**	-1.675***	-6.097***	0.300	0.0340***	0.441***	-0.975	0.526
	(0.641)	(0.429)	(1.465)	(0.715)	(0.00604)	(0.0436)	(1.311)	(1.863)
Autocracy	-79.69	-130.3	-289.0		4.366***	-30.57**	-274.5	-777.0
	(170.7)	(121.1)	(434.6)		(1.622)	(12.11)	(442.9)	(488.5)
Auto*EFF	13.37	21.27	42.52	0.244	-0.709***	5.061**	43.87	128.8
	(28.15)	(19.97)	(72.51)	(0.496)	(0.267)	(1.998)	(73.01)	(80.53)
Constant	5.563	33.98***	126.2***	-5.025	-0.164***	0.375	17.43*	31.01**
	(5.099)	(3.458)	(10.57)	(4.642)	(0.0483)	(0.344)	(9.681)	(15.27)
Observations	178	189	139	98	189	182	176	149
R-squared	0.057	0.189	0.296	0.116	0.184	0.543	0.077	0.034
Number of codes	35	39	35	21	38	36	37	28

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 10: Effect of EFF on Macroeconomic Outcomes

				General				
	Current Acc.	Inv.	School.	Fiscal. Balance	Reserves	Ex. Rate	Inflation	Debt Ser.
Growth(-1)	-0.0448	0.0496	-0.0585	0.0483	0.000198	-0.00486*	-0.0575	-0.119*
	(0.133)	(0.0801)	(0.0990)	(0.0474)	(0.000525)	(0.00281)	(0.0678)	(0.0687)
ECF	5.134***	-1.428	2.174	-1.029	0.00182	0.157***	0.965	0.637
	(1.717)	(1.098)	(1.322)	(0.671)	(0.00832)	(0.0411)	(0.819)	(0.889)
Constant	-32.18***	28.93***	41.15***	2.582	0.181***	4.603***	1.889	4.018
	(7.294)	(5.101)	(5.888)	(3.046)	(0.0347)	(0.178)	(3.569)	(3.801)
Observations	157	156	111	81	131	184	168	162
R-squared	0.066	0.015	0.037	0.043	0.002	0.099	0.015	0.025
Number of codes	27	26	24	17	22	30	29	27
				Democracy				
	Current Acc.	Inv.	School.	Fiscal. Balance	Reserves	Ex. Rate	Inflation	Debt Ser.
Growth(-1)	-0.0431	0.0210	-0.0600	0.0606	-0.000110	-0.00541*	-0.0565	-0.122*
	(0.128)	(0.0795)	(0.0968)	(0.0494)	(0.000508)	(0.00278)	(0.0683)	(0.0691)
ECF	0.136	0.0398	-0.790	-1.549*	0.0182	0.0960*	0.918	1.602
	(2.476)	(1.400)	(2.235)	(0.862)	(0.0152)	(0.0551)	(1.119)	(1.338)
Democracy	-30.26**	12.77**	-15.43	-5.911	0.147**	-0.290	-0.460	6.256
	(11.71)	(6.323)	(11.62)	(5.849)	(0.0718)	(0.250)	(5.079)	(6.335)
Demo*ECF	8.312***	-2.324*	4.305	1.193	-0.0247	0.0899	0.0324	-1.375
	(2.782)	(1.402)	(2.636)	(1.282)	(0.0165)	(0.0556)	(1.101)	(1.504)
Constant	-12.16	21.12***	52.88***	5.426	0.0828	4.826***	2.286	-0.590
	(11.04)	(6.409)	(10.27)	(4.097)	(0.0660)	(0.248)	(5.139)	(5.961)
Observations	157	156	111	81	131	184	168	162
R-squared	0.144	0.065	0.103	0.063	0.109	0.140	0.015	0.033
Number of codes	27	26	24	17	22	30	29	27

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

6. Conclusion

The IMF lending is supposed to be mainly based on technical economic considerations. However, this does not seem to be the case and controversial anecdotal evidence along with some studies found that politics largely play a role in the IMF's lending decisions. A universal consensus is not achieved yet with regards to the determinants and outcomes of IMF lending. To that effect, the main objective in this paper is to empirically analyze the economic and political determinants of IMF lending in low- and middle-income countries. Compared to the existing literature, our main contribution is twofold. First, using the IMF Monitoring of Fund Agreements (MONA) database, we merge domestic political and institutional factors with international political economy factors to analyze IMF lending determinants. Second, we use the predicted values of determinants of IMF lending as instruments to explain the consequences of this lending on economic outcomes. Our main findings show that economic and political proximity to the IMF major shareholders matter for the likelihood of obtaining an IMF non-concessional loan. Furthermore, most of the loans seem to exert either an insignificant or a negative effect on the trend component of GDP, pointing out

to what extent such loans can stabilize the economies in the short term without improving the long run steady state. Yet, democratic regimes compared to autocratic ones improves the effects of these loans on economic growth and other outcomes (such as the current account and inflation). By contrast, structural variables (for instance investment and schooling) do not seem to be significantly affected by such loans.

At the policy level, the current context of the COVID-19 crisis reinitiates the debate on the role of the IMF given the fact that developing countries, including MENA countries, are more vulnerable to the crisis. As such, this global crisis requires pragmatic solutions with international coordination where the IMF is supposed to play a pivotal role along with domestic stakeholders. Hence, an appropriate evaluation of the determinants of IMF lending and its consequences is timely and important from a policy perspective to investigate how politics and economics affect their outcomes.

Moreover, our results highlight the importance of democratic accountability. Indeed, the latter is perceived as a justification for the uses of power (or the use of loans) which leads to the good governance of the loan, enables the concept of checks and balance and allows the public control over the use of public resources (which is the case of the loan). Obviously, this improves the effect of the loans on macroeconomic outcomes.

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Annex 1

Table 1: The evolution of IMF lending facilities

Broad Category	Lending Facility	Definition/Main Objective
Non-concessional	Stand-By Arrangement (SBA)	It was designed in 1952 and it aims at responding to countries' external financing needs and supporting their adjustment policies with short-term financing. It is used to solve short term balance of payments problems. It usually lasts up to one or two years.
	Extended Fund Facility (EFF)	Recognizing that some balance of payments problems would require longer programs, the Fund introduced the EFF in 1974. It is used to provide assistance to countries experiencing medium term balance of payments problems because of structural weaknesses that require time to be addressed. It provides support for comprehensive programs including the policies needed to correct structural imbalances over an extended period. It usually lasts up to three years.
Low-Income Countries/ Concessional	Enhanced Structural Adjustment Facility (ESAF) and Structural Adjustment Facility (SAF)	SBA and EFF are not supposed to cover low-income countries. To that effect, the Fund established the SAF in 1986 and the ESAF in 1987 in order to provide low-interest loans to poor countries. Hence, ESAF and SAF are considered as concessional loans whereas EFF and SBA are considered as non-concessional. The interest rate for SAF and ESAF is 0.5 percent with a five-year grace period followed by repayments to be paid over a period of five to ten years.
	Poverty Reduction and Growth Facility (PRGF)	Following the East Asian crisis, in November 1999, the IMF terminated its Enhanced Structural Adjustment Facility (ESAF) and replaced it with the PRGF as a new lending facility for low-income countries.
	Extended Credit Facility (ECF)	It is the corresponding EFF for low income countries. It replaced the PRGF as the main tool for addressing balance of payments problems.
	Exogenous Shocks Facility (ESF)	It was established in 2008. It provided concessional financing to Poverty Reduction and Growth Trust (PRGT)-eligible countries facing balance of payments needs caused by sudden and exogenous shocks. It was replaced later by the SCF that became effective in January 2010.
	Standby Credit Facility (SCF)	It was created to provide support to low income countries with short-term balance of payments needs, similar to SBAs, with the possibility of using it on a precautionary basis.
Precautionary	Flexible Credit Line (FCL)	It was established in 2009 and it is designed for crisis-prevention and crisis-mitigation lending for countries with strong policy frameworks and track records in economic performance. It gives the country the flexibility to draw on the credit line at any time within a prespecified period, or to treat it as a precautionary

Broad Category	Lending Facility	Definition/Main Objective
		instrument. To date, five countries have used the FCL, namely Chile, Colombia, Mexico, Peru and Poland.
	Precautionary and Liquidity Line (PLL)	It was introduced in 2011. It provides financing to meet actual or potential balance of payments needs of countries with sound policies and that may have some remaining vulnerabilities. It combines a qualification process (similar to that for the FCL but with a lower bar) with ex-post conditionality. To date, only two countries have used the PLL, namely Macedonia and Morocco.
Rapid	Rapid Financing Instrument (RFI)	It was introduced in 2011 and it provides rapid and low-access financial assistance to member countries facing an urgent balance of payments need, without the need to have a full-fledged program in place. It is available to all member countries, but its similar concessional version is the RCF.
Rapid and Low-income Countries/ Concessional	Rapid Credit Facility (RCF)	It provides low-access, rapid, and concessional financial assistance to low-income countries facing an urgent balance of payments need, without ex post conditionality. It can provide support in a wide variety of circumstances, including shocks, natural disasters, and emergencies resulting from fragility.
Non-Financial	Policy Coordination Instrument (PCI)	It is a non-financial tool that is available to all IMF members that do not need Fund financial resources at the time of approval. It is designed for countries seeking to demonstrate commitment to a reform agenda or to unlock financing from other official creditors or private investors.
Non-Financial and Low-Income Countries	Policy Support Instrument (PSI)	It is a non-financial instrument that provides policy support and signals for mature stabilizers whenever countries have attained external and domestic macroeconomic stability such that they no longer needed continuous Fund financial assistance. The PSI is available to all PRGT-eligible countries that have no current or prospective balance of payments need requiring any significant macroeconomic policy adjustment, but that may still benefit from structural reforms. The PSI can expedite access to the SCF if needed.

Source: Compiled by the authors from the IMF website (factsheets on different loans); Bird and Rowlands, 2017; Bal Gunduz et al., 2013; Barro and Lee (2005)

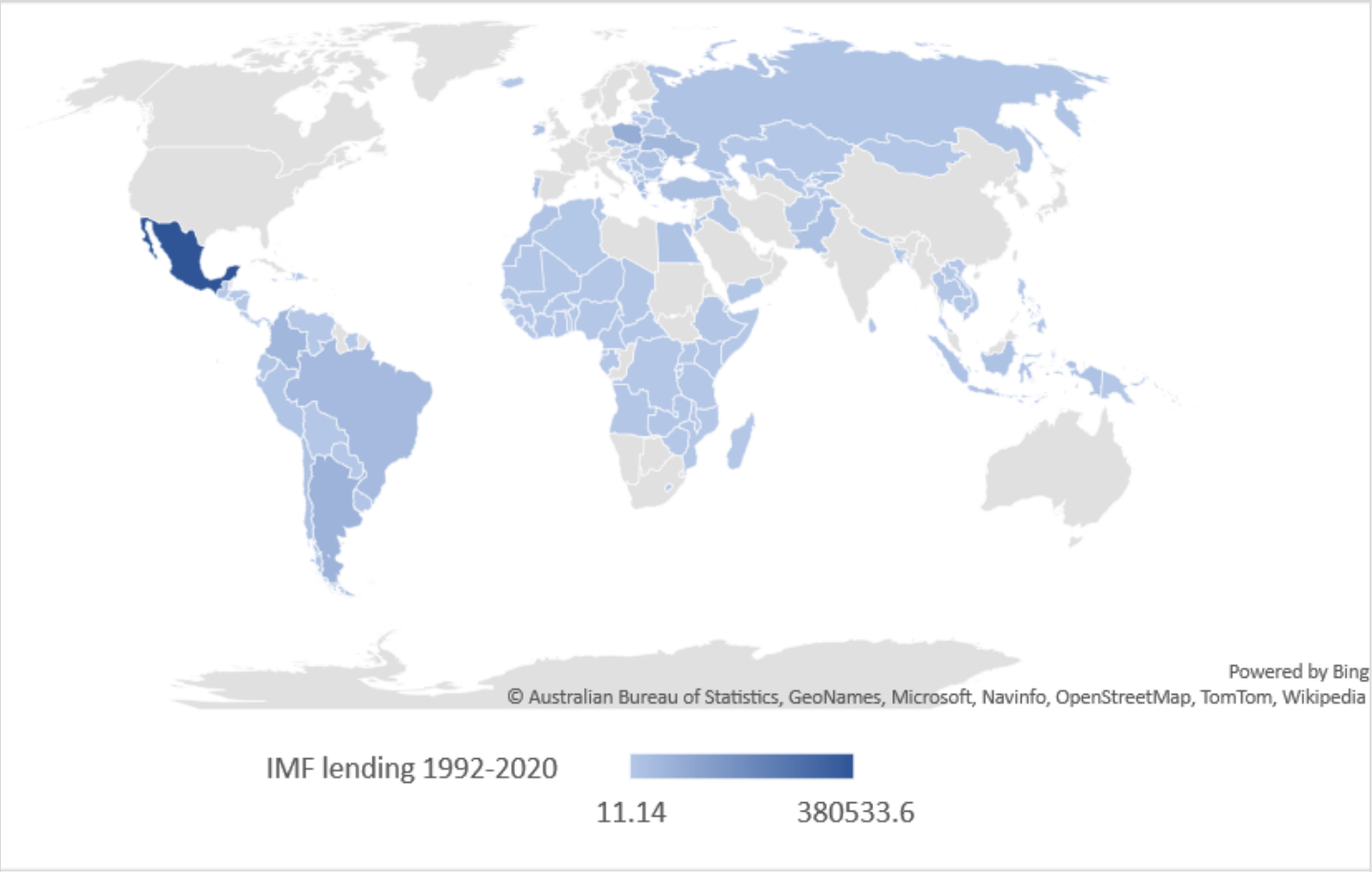
Annex 2 - List of Countries[9]

Afghanistan	Djibouti	Lao PDR	Samoa
Albania	Dominica	Latvia	São Tomé and Principe
Algeria	Dominican Republic	Lebanon	Senegal
American Samoa	Ecuador	Lesotho	Serbia
Angola	Egypt, Arab Rep.	Liberia	Seychelles
Antigua and Barbuda	El Salvador	Libya	Sierra Leone
Argentina	Equatorial Guinea	Lithuania	Slovak Republic
Armenia	Eritrea	Madagascar	Solomon Islands
Azerbaijan	Estonia	Malawi	Somalia
Bangladesh	Eswatini	Malaysia	South Africa
Barbados	Ethiopia	Maldives	South Sudan
Belarus	Fiji	Mali	Sri Lanka
Belize	Gabon	Marshall Islands	St. Kitts and Nevis
Benin	Gambia, The	Mauritania	St. Lucia
Bhutan	Georgia	Mexico	St. Vincent and the Grenadines
Bolivia	Ghana	Micronesia, Fed. Sts.	Sudan
Bosnia and Herzegovina	Greece	Moldova	Suriname
Botswana	Grenada	Mongolia	Syrian Arab Republic
Brazil	Guatemala	Montenegro	Tajikistan
Bulgaria	Guinea	Morocco	Tanzania
Burkina Faso	Guinea-Bissau	Mozambique	Thailand
Burundi	Guyana	Myanmar	Timor-Leste
Cabo Verde	Haiti	Namibia	Togo
Cambodia	Honduras	Nepal	Tonga
Cameroon	Hungary	Nicaragua	Tunisia
Central African Republic	Iceland	Niger	Turkey
Chad	India	Nigeria	Turkmenistan
Chile	Indonesia	North Macedonia	Tuvalu
China	Iran, Islamic Rep.	Pakistan	Uganda
Colombia	Iraq	Panama	Ukraine
Comoros	Ireland	Papua New Guinea	Uruguay
Congo, Dem. Rep.	Jamaica	Paraguay	Uzbekistan
Congo, Rep.	Jordan	Peru	Vanuatu
Costa Rica	Kazakhstan	Philippines	Venezuela, RB
Côte d'Ivoire	Kenya	Poland	Vietnam
Croatia	Kiribati	Portugal	West Bank and Gaza
Cuba	Korea, Dem. People's Rep.	Romania	Yemen, Rep.
Cyprus	Kosovo	Russian Federation	Zambia
Czech Republic	Kyrgyz Republic	Rwanda	Zimbabwe

[9] This group of countries include all low- and middle-income countries according to the World Bank classification and all countries which were enrolled in any IMF agreement over the period 1993 till 2019.

Annex 3

Figure 1: IMF Lending Intensity, 1992-2020



Source: Constructed by the authors based on data from the IMF Monitoring of Fund Arrangements (MONA) Database

Notes:

i. The intensity of IMF lending represents the total amount of IMF lending a country has received over 1992-2020 (in million SDR).

ii. The darker the shade of blue the higher is the amount of total IMF lending for the country over 1992-2020.