European Union's influence in the International Monetary Fund: Would unity provide strength?

Mirela S. Miescu
Queen Mary University of London

September 2014

Abstract[1]

In this paper we empirically evaluate the influence of the European Union in the International Monetary Fund with the intent to verify whether a unified European representation would increase its relevance in such international institution. Using an original panel data of all IMF arrangements provided during the period 1993 - 2008 we find that both intensity and heterogeneity of European interests (financial and political) are significant determinants of the number of conditions that IMF imposed to the borrowing countries. The results suggest that European Union is a powerful actor within the Fund but its strength is diminished by the heterogeneity of its members` interests. Therefore a better coordination and a more unified representation should be considered in order to have a more efficient and powerful union.

[1] The author would like to thank Silvia Marchesi and Haroon Mumtaz for valuable suggestions and comments.

1.Introduction

Although the European Union (EU) is the major contributor to the budget of the International Monetary Fund (IMF), very little empirical research has so far evaluated the relevance and influence of the EU on the lending and development programs of this institution. Even if the EU's influence is improving with an increasing co-operation on an informal basis (Bini Smaghi 2004), it is generally believed that the EU could (and should) play a more prominent role. The main reason for this relatively poor influence has been attributed to the fragmented representation of EU member states in this institution where the EU does not speak with a unique voice (i.e. each member state possesses a given number of votes which depend on its quota allocation and which must be cast as a bloc). Moreover, as pointed out by Ahearne and Eichengreen (2007), Europe in itself is a source of complexities (e.g. United Kingdom is a member of the EU but not of the Euro area; Germany, France and United Kingdom have their own Executive Director at the IMF while all the other EU countries are part of constituencies; Switzerland is a member of the G10 but not a member of the EU) and heterogeneous interests, which further decreases the cohesion and the influence of the EU.

A long empirical literature (see Steinwand and Stone 2007 for a survey) has scrutinized the workings of the IMF. One of the key empirical concerns of the previous studies is the variation in IMF lending policy (i.e. puzzling variation in the loan amount and conditionality). An important result of past works is that the variation in the IMF's lending policy depends on the political and financial interests of the US or the G5 countries (i.e. France, Germany, Japan, UK and US). Instead, very little empirical research has been evaluating the influence of the EU on the Fund's decision making. When European countries have been considered they were taken independently and not as members of the EU and this limited empirical literature has mainly focused on the voting power of a unified EU representation at the IMF. Therefore this research project aims to fill (part of) this gap in order to understand what a united EU may achieve in the IMF.

The objective of this analysis is to empirically evaluate the effectiveness of the EU within the IMF, aiming to verify whether a unified European representation would increase its influence and strength in such international institution. The IMF provides ideal institutional settings to address these research questions because of the weighted voting system they apply and the fragmented EU representation. This research agenda is all the more relevant in an increasingly globalized world that is also witnessing the rapid emergence of international actors like Brazil, China, India and Russia (i.e. the BRIC). In this setting, understanding what

the EU can achieve in international (economic) negotiations is crucial, especially in times of recession when coordinated and concerted policy actions are more effective.

In order to test our hypotheses we will focus on the lending policy of the IMF. Using an original dataset of all IMF loans provided during the period 1993 - 2008 we found that both intensity and heterogeneity of European interests (financial and political) were significant determinants of the number of conditions that IMF imposed to the borrowing countries.

This work is structured as follows. We will start with an overview of the previous literature concerning the puzzling variation in the IMF lending policy. We will then introduce our data, model and results.

2.Literature review

In the last two decades there has been experienced a profound acceleration of international transactions. The collapse of the Berlin Wall and the increased salience of global capital flows pushed the IMF to undertake much wider and weighty interventions in global domestic politics. Nowadays the Fund is one of the most important international organisations in the international system and it exerts greater influence than practically any other international organisations in history. Consequently, the IMF was object of many empirical analyses which tried to shed some light over the puzzling characteristics of the Fund`s activity (see Steinwand and Stone 2007 for a survey).

One of the key empirical puzzles concerning the IMF is the variation in IMF lending (i.e. countries receiving loans much larger or smaller than their quota and relative economic/political importance). IMF lending programs consist of a given amount of financing and a set of economic policy adjustments (i.e. "conditionality") that the borrower must implement. The Fund's programs over the last decades show substantial variations in these dimensions which are particularly puzzling given the Fund's limits on the amount that a country can borrow. Formally, access to non-concessional credit is limited to 100% of quota annually and 300% of quota cumulatively, apart from "exceptional circumstances". Regarding the conditionality, the Fund has been criticized of applying "one-size fits all" policy recommendations underestimating the relevance of the single borrower domestic context. Conditionality has also been targeted as promoting powerful shareholders economic and political interests (Copelovitch 2005, Stone 2008).

The empirical studies aiming to explain the puzzling variation in the IMF's lending policy can be divided into three main groups, depending on the determinants they analyze:

IMF program participation.

The studies dealing with determinants of IMF program participation typically employ binary choice models (logit or probit) and define the dependent variable as a binary variable that takes the value of 1 if a country participates in an IMF program or if it signs a new IMF arrangement in a given year. Moser and Sturm (2001) conclude that the most robust determinants of IMF participation are : past IMF participation (-[2]), international reserves(-), GDP growth (-), currency crisis(+), debt to GDP (+)and election period(+). (e.g. Vreeland 2002 and Stone 2008);

IMF loan size.

These studies use as dependent variable the amount of the IMF loan in absolute size, or scaled by the country's GDP or quota. The most robust determinants of the IMF loan size as shown in the past studies are: past IMF participation (+), GDP growth(-), debt(+), currency crisis (+), elections (+), political instability (+) democracy (e.g. Copelovich 2010);

IMF program conditionality.

In the official website (www.imf.org) the conditionality is defined as a set of adjustments that the borrower country agrees to adjust in order to overcome the difficulties that led it to seek financial assistance from the international community and to ensure the borrower is able to repay its loan , thus resources can be subsequently provided to others members in need. The loan conditions can take different forms:

- **Prior actions (PA)** are policy commitments that the borrower agrees to implement before the approval of the loan or the completion of a review.
- **Quantitative performance criteria (QPC)** are measurable conditions that have to be met to complete a review and they normally refer to macroeconomic variables under the control of domestic authorities.
- **Indicative targets-** are often used to supplement the QPC and turned into QPC later on with the proper amendments
- **Structural benchmarks (SB)** are mostly non quantifiable measures that are crucial to attain the program`s goals.

As pointed by Stone (2008), conditionality is not stipulated in the Fund`s Articles of Agreement and it was introduced at US`s demand and since the late 1970`s when only 26% of IMF`s loans included significant conditionality, the amount increased to 66% by the end of !980`s. The empirical studies on conditionality became feasible only in recent years with the

[2] The sign in bracket indicates the sign of the significant coefficient

publication of letters of intent on the IMF web page and the opening of the IMF archives. Most of these studies employ as dependent variable the number of conditions required to the borrower country in order to achieve the IMF credit (Dreher 2004, Dreher and Jensen 2007, Gould 2006), the breadth and scope of conditionality (Stone 2008) or the inclusion of bank-friendly conditions (Gould 2003). These studies find that significant variables in explaining the variability in conditionality are: reserves (-), GDP per capita (-), short term debt (-), US influence (-).

Other studies concerning the IMF evaluate the effects of its programs. It seems that program participation reduces economic growth and leads to more inequality, but on the other side IMF intervention seems effective in stabilizing budget deficits and other important macroeconomic variables. These studies consider as dependent variable the growth of GDP, income share of labour, education spending , real interest rate, etc. (Barro and Lee 2005, Easterley 2005, Dreher 2006).

One important direction of the previous studies is to test if the variation in the IMF's lending policy depends on the political and financial interests of the US or the G5 countries (i.e. France, Germany, Japan, UK and US). For example, Copelovich (2010) finds strong evidence that the financial interests of the G5 countries have a significant and positive effect on the IMF's loan size, while the heterogeneity of interests has a negative influence over the amount of credit disbursement.

Instead, very little empirical research has been evaluating the influence of the EU on the Fund's decision making. When European countries have been considered (e.g. Copelovich 2010, Stone 2004), they were taken independently and not as members of the EU. Furthermore, this limited empirical literature has mainly focused on the voting power of a unified EU representation at the IMF in different scenarios (e.g. a single EU constituenc or two EU constituencies, one for Euro area and one for non-euro area -see Brandner and Greech 2009, Bini Smaghi 2004, Leech and Leech 2005).

The questions addressed by this work aim to fill (part of) this gap in order to understand what a united EU may achieve in the Fund.

Following Copelovitch (2010) we propose a similar model for a group of four European countries, namely France, Germany, Italy and United Kingdom in order to test the relevance of the European interests (financial and political) in the Fund. To be more specific we will check whether European interests are significant determinants of the IMF`s programs conditionality. Therefore we want to see not only if EU has a strong voice within the Fund but also the strength of this voice which is captured by the heterogeneity of the interests. It is

worth noticing that the selection of the European group takes into account two of the main asymmetries encountered within EU: France, Germany and United Kingdom have their own Executive Director in the IMF while Italy is part of a constituency; on the other side France, Germany and Italy are members of the European Monetary Union while United Kingdom is not. For robustness of the results, we will introduce also United States in the model, to avoid biasness from omitted variables and also to check if EU is an effective counterpart to the main shareholder of the Fund. Therefore, we set our hypotheses as follows:

Hypothesis 1. The Fund will set the conditions considering the macroeconomic context of the borrower country, such as GDP, Foreign Direct Investments, External Debt and the amount of the IMF loan. All else equal we expect that higher loans will come together with a higher number of conditions. As it was mentioned previously, the conditionality among other things, it is a way to insure the borrower will pay back the loan.

Hypothesis2. All else equal, we expect higher European interests (financial and political) to be associated with less conditions while higher heterogeneity of the interests will be related to a larger number of conditions. This is the core hypothesis of the whole work as we want to show that the intensity of European interests leads to an increase in the relevance of EU, while the heterogeneity of interests has a negative impact on the EU `s power within IMF especially because of the European fragmented representation. Therefore, indirectly we test the necessity of unifying European representation at the Fund which is the main assumption of the current analysis.

Hypothesis 3. EU is a potential counterpart to the US`s hegemony within the Fund. Consequently we expect that European interests to be significant even after the introduction of USA`s financial and political interests.

3.Data

Description

In order to test the validity of our argument we use an original panel data of all countries of the world from 1993 to 2008, constructed employing four different sources.

In this analysis we adopt a conditionality approach, thus our main dependant variable will be the total number of conditions attached to the Fund`s arrangements, but in order to have a more complete and precise picture we will also distinguish between different types of conditions, i.e. prior actions, performance criteria or structural benchmark. The profile of conditions was extracted from the Monitoring of Fund arrangements (MONA) database

which is an IMF-maintained database introduced on www.imf.org in January 2009. MONA database covers most of the arrangements approved since 2002 while Archive MONA data covers all the arrangements from 1993 to 2003. The observations are unique yearly data and the unique identifier for each loan is the initial year of the program.

The control variables representing macroeconomic indicators have been taken from the World Development Indicators in the World Bank's official database.

Following the previous literature, to capture the European financial interests we use the exposure of the banking sector which provides a strong measure of a country's overall financial importance to the high-income countries, and implicitly to the European countries considered in this chapter. Data on bank exposure was taken from the Bank for International Settlements` consolidated banking statistics, which provide annual data on the total foreign claims by commercial banks in twenty-three countries (including US, France, Germany, UK and Italy).Regarding European political interests, past studies have found robust evidence that countries close to the US receive more favourable treatment from the IMF(Stone 2004, Vreeland 2005). These studies utilize measures of United Nations General Assembly voting affinity as a proxy for a country's geopolitical importance to the United States. Following this work, we will utilize UN voting affinity data available through "Voeten, Eric, 2004 Documenting General Assembly Votes in the UN" which provides percentage of votes within a year in line with high-income countries (including US, France, Germany, Italy, UK) in the UN General Assembly.

Variables.

As mentioned before, this analysis follows Copelovich (2010) who proposed a model for explaining the variation in the IMF`s lending policy as a function of the G5 countries financial and political interests. Consequently, we will take into account Copelovich`s work also for the selection of the variables. The variables used in this chapter can be divided into three categories: dependent variables, strategic variables and control variables.

Dependent variables.

We recall that our main dependant variable is the total number of conditions but in order to increase the precision of our analysis we propose alternative regressions on the different types of conditions.

Strategic variables.

Our strategic variables capture the political and financial European interests which are crucial for testing our main hypothesis, i.e. the EU`s influence within the Fund. As a proxy for

European financial interests we follow the existing literature in utilizing commercial bank exposure data. Banks and other institutional investors benefit most directly from IMF lending, since Fund credit is frequently transferred immediately from the borrower to private creditors in the form of debt service payments. Additionally, banking sector occupies a central role in the economic system, therefore the banking exposure provide a robust measure of a country's financial importance to the EU countries.

We recall that data on bank exposure has been taken from the BIS. Utilizing the BIS data, we calculated two variables. The first, EUIntensity, measures the aggregate commercial banking lending by all banks located in one of the European countries analysed, i.e. France, Germany, Italy and UK to an IMF borrower country. This variable serves as a proxy for the collective intensity of European governments` domestic financial interests in a particular IMF lending case. Otherwise stated, this variable measures the importance assigned by the Fund`s largest European shareholders to the prospective borrowing country. The variable is expressed in billions of dollars. All else equal, we expect that lager values of EUIntensity to be associated with fewer IMF conditions. The second variable measures the heterogeneity of the EU`s financial interests .Using the individual BIS data for each of the four European countries analysed, we calculated the coefficient of variation of bank exposure (EUHeterogeneity). The coefficient of variation is the ratio of the standard deviation to the mean and measures the heterogeneity of EU bank exposure to a particular IMF borrower. Higher values indicate a more unequal distribution of bank exposure between the European countries. This variable serves as a proxy to the expected degree of conflict among the European countries over the appropriate size of the IMF loan. All else equal, we expect that higher values of the EUHeterogeneity will be associated with a higher number of conditions. We also use the variable USAbankexp which measures the exposure of the US banks towards a given borrower. This variable is used to test the significance of EU interests when US interests are included in the model. This variable is also expressed in billions of dollars. All else equal, we expect that larger values of USAbankexp to be associated with a smaller number of conditions.

We also include several variables as proxies for a borrowing country's geopolitical importance to the Fund's largest European shareholders. Past studies have found robust evidence that countries with political ties to the US receive more favourable treatment from the IMF. These studies utilize the voting affinity in the United Nations General Assembly (i.e. the similarity in voting between the borrower country and the US in a given year) as a proxy for the policy ties and a country's geopolitical importance to the US. Following these

studies, we include five variables. These variable are inlinefra (voting in line with France), inlinedeu (voting in line with Germany), inlineita (voting in line with Italy), inlinegbr (voting in line with UK) and as for the financial interests we include also inlineusa (voting in line with USA). All else equal we expect that all these political variables to be associated with fewer IMF conditions.

Control variables.

In addition to testing our argument that EU interests are significant determinants of IMF`s conditionality, we also included four control variables. We started with a larger number of control variables but because of the relatively small sample, in the final regressions we maintained only the most significant ones in order to increase the number of our observations. Therefore, the macro-variables included in our analysis (taken from the World Bank Indicators) are the GDP, Foreign Direct Investments, Public and publicly guaranteed debt and the amount of the IMF loan. The first three are macroeconomic factors identified in the past studies as criteria utilized by the IMF`s staff in outlining the arrangements. We introduced also the IMF loan amount as we expect that higher loans will come together with a larger number of conditions, knowing that among other things, the conditionality is meant to insure loans will be repaid back .

The table below provides a complete list of our final variables with label description and some descriptive statistics.

.

TABLE 1

Variable	Variable label	Obs	Mean	Std. Dev.	Min	Max
tc	Total conditions	389	28.43959	26.87964	2	188
pc	Performance ctiteria	246	9.012195	8.740934	1	52
pa	Prior actions	227	12.3304	14.5991	1	127
sb	Structural benchmark	361	16.44598	12.40757	2	74
fdi	Foreign Direct Investment ($bil)	2667	-.0701197	13.64849	-192.876	162.062
gdp	GDP($bil)	3048	267.3784	971.811	.1378503	13166.9
IMF	IMF loan amount ($bil)	2135	.1125883	.8485462	0	17.67442
PPGdebt	Public and	2115	10.19046	20.32059	.005527	121.574

	publicly guaranteed debt ($bil)					
EUIntensity	Intensity of EU bank exposure ($bil)	2961	9.077293	78.4041	-.004	2638.024
EUHeteroge~y	Heterogeneity of EU bank exposure (%)	2746	8.462251	115.9082	-28.17163	4339.42
USAbankexp	USA bank exposure ($bil)	2200	4.873537	17.2756	0	334.123
inlineita	Voting in line with Italy (%)	3019	58.04388	22.5733	0	100
inlinefra	Voting in line with France (%)	3002	50.42369	20.25835	0	94.1176
inlinedeu	Voting in line with Germany (%)	3019	57.02937	22.66517	0	100
inlinegbr	Voting in line with UK(%)	3019	49.07531	20.4461	0	90.3226
inlineusa	Voting in line with USA (%)	2997	19.26507	12.61773	0	90.411

4.Model specification

The conditionality regressions involve discrete counts of the number of conditions attached to the IMF arrangements, therefore linear regression models are not appropriate in this case. In order to test our argument we will use a regression model for longitudinal count data.

Following Cameron and Trivedi (1998) and Long and Freese (2006) this paragraph will introduce the regression analysis of event counts. We will start with the Poisson Regression Model and then we will relax the equidispersion assumption and we will present the Negative Binomial Model.

An event count is defined as the realization of a nonnegative integer-valued random variable.

The benchmark for understanding the regression models for count data is the Poisson distribution.

Let y be a random variable indicating the number of time an event occurred, if y follows a Poisson distribution then:

$\Pr(y|\mu) = \frac{e^{-\mu}\mu^{y}}{y!}$ For y = 0,1,2.....

where μ is the single parameter of the distribution. One of the most important characteristics of the Poisson distributions is the *equidispertion*, i.e. μ is the mean of the distribution and μ is also the variance .In real data, many of the count variables exhibit a variance higher/lower than the mean, which is called *overdispersion/underdispersion* .

Regression specification.

The standard model for count data analysis is the **Poisson Regression Model**, derived from the Poisson distribution by allowing the parameter μ to depend on regressors. A typical application to longitudinal data assumes that y_{it} given x_{it} is Poisson distributed with mean of:

$$E(y_{it}|x_{it}) = \exp(x`_{it}\beta)$$

where y_{it} is our dependent variable and x_{it} is the vector of our independent covariates.

As we can see the Poisson Regression Model is a non-linear model. The most often used approaches for modelling non-linear models are likelihood based, generalised linear models and moment based. The statistical inference for these models is based on the asymptotic theory.

The likelihood-based models and the associated Maximum Likelihood Estimator (MLE) require full specification of the distribution and is performed under the restrictive assumption of the correctly specified distribution but in change MLE has the advantage of reaching the Cramer-Rao Bound of maximum efficiency.

If some aspects of the distribution are specified while others are not, or we allow for potentially misspecification we are in the case of a nonlinear generalization of the linear regression model where consistency requires correct specification of the conditional mean and efficiency requires correct specification of both the conditional mean and the conditional variance. If the specified density is in the linear exponential family, estimators for generalised linear model and the MLE coincide.

The most general framework is the moment-based approach which allows the estimation to be based on any specified moment conditions. This methodology leads to the Generalised Method of Moment estimator (GMM).

Example Poisson MLE.

MLE is considered the standard estimator for a Poisson Model, the reason why in the next paragraph we will briefly provide an example of the Poisson MLE.

As already mentioned, the starting point is to assume that y_{it} is independently Poisson distributed and the conditional mean is given by:

$$\mathrm{E}\,(y_{it}|x_{it}) = \exp(x`_{it}\beta)$$

The equidispersion property of the Poisson distribution implies the equality of the conditional mean and the conditional variance , thus:

$$\mathrm{V}\,(y_{it}|x_{it}) = \exp(x`_{it}\beta)$$

Given independent observations, the log-likelihood function is:

$$\mathrm{L}(\beta) = \sum_{i=1}^{n} \quad \sum_{t=1}^{T} \{ y_{it} x_{it}\, \beta - \exp(x`_{it}\beta) - \ln y_{it}! \}$$

The Poisson MLE estimator $\hat{\beta}$ is the solution to the first order condition of the log-likelihood function. Thus:

$$\hat{\beta} = \sum_{i=1}^{n} \quad \sum_{t=1}^{T} (y_{it} - \exp(x`_{it}\beta)) x`_{it} = 0$$

There is no analytical solution for $\hat{\beta}$ and usually iterative methods such as Newton-Rapson are employed to compute $\hat{\beta}$.

Negative Binomial Model.

The Poisson Regression Model accounts for the observed heterogeneity but it often fails to fit due to the overdispersion which is very frequent in the count data. The Negative Binomial Regression Model addresses this failure by adding a parameter α that captures the unobserved heterogeneity among observations. Therefore :

$$\begin{aligned} \mathrm{E}\,(y_{it}|x_{it}) &= \exp(x`_{it}\beta + \varepsilon_{it}) \\ &= \exp(x`_{it}\beta)\exp(\varepsilon_{it}) \\ &= \exp(x`_{it}\beta)\delta_{it} \end{aligned}$$

Where the error term ε_{it} is assumed to be uncorrelated with the regressors and $\delta = \exp(\varepsilon)$.

To identify the model it is necessary to assume that E(δ) = 1 which corresponds to E(ε)=0 in the linear regression model. With this assumption it follows that both Poisson and Negative Binomial models have the same mean structure.

The conditional distribution of y_{it} given x_{it} and δ_{it} is still Poisson but since δ_{it} is unknown it is impossible to compute the conditional probability Pr(y|x) . This is solved by assuming that δ is drawn from a gamma distribution so we can compute Pr(y|x) as a weighted combination of Pr(y|x, δ). This leads to the negative binomial distribution:

$$\Pr(y|x)= \frac{\Gamma(y+\alpha^{-1})}{y!\Gamma(\alpha^{-1})} \left(\frac{\alpha^{-1}}{\alpha^{-1}+\mu}\right)^{\alpha^{-1}} \left(\frac{\mu}{\alpha^{-1}+\mu}\right)^{y}$$

Where Γ is the gamma function.

The parameter α in this case determines the degree of dispersion in the prediction and in the special case when α = 0 the Negative Binomial Model reduces to the Poisson Model, which is also the key to testing for overdispersion. The null hypothesis H_0: α = 0 against the alternative α>0 can be tested in order to test for the overdispersion and finally to choose between Poisson or Negative Binomial Regression Model.

Interpretation of coefficients.

An important issue with the Negative Binomial Model and Poisson Model is the interpretation of the coefficients. If in the classical linear regression model this aspect is straightforward, i.e. a one unit increase in the regressor i leads to a change in the dependant variable of $\boldsymbol{\beta_i}$, in the Negative Binomial and Poisson Models the interpretation of coefficients requires additional consideration. If we want to interpret $\boldsymbol{\beta_i}$, in a Negative Binomial Regression Model, we could say that with a one unit increase in the regressor X_i , the difference of the logs of the expected value of the dependant variable is estimated to change by $\boldsymbol{\beta_i}$, but this leads to a very difficult way of understanding the results. In order to have a more simple interpretation of our coefficients, in our regressions we used the Incidence Rate Ratio Interpretation (IRR) by taking the log of the ratio obtained from the difference in the logs of the expected dependant variable. Consequently, focusing on the coefficient $\boldsymbol{\beta_i}$, we can say that all else equal, with a one unit increase in the regressor X_i the dependant variable is expected to change by a factor of $\boldsymbol{\beta_i}$(IRR).

Our model specification.

Given the theoretical framework, we can now introduce the final equation of our model. After computing the likelihood test of α = 0, since there was significant evidence of

overdispersion the Negative Binomial Regression Model was preferred to the Poisson Regression Model. Therefore, the final equation of our model is:

$$\boldsymbol{TC_{it}} = \exp(\boldsymbol{\beta_0 + \beta_1 EUIntensity_{it} + \beta_2 EUHeterogeneity_{it} + \beta_3 USAbankexp_{it} + \beta_4 EUpol_{it} + \beta_5 inlineUSA_{it} + \beta_6 control_{it} + \varepsilon_{it}})$$

Where $\mathbf{TC_{it}}$, our preferred dependent variable, is the total number of conditions attached to the IMF arrangement of the borrower country i at time t.

$\mathbf{EUIntensity_{it}}$ represents the intensity of financial interests of the European group towards the borrower country i at time t and it was calculated as the sum of the single banking exposure coefficient for each of the four analysed countries.

$\mathbf{EUHeterogeneity_{it}}$ is a proxy for the heterogeneity of the European financial interests towards country i at time t and it was calculated as a coefficient of variation of the banking exposure for the representative European countries.

$\mathbf{USAbankexp_{it}}$ is the banking exposure USA has towards borrower country i at time t.

$\mathbf{EUpol_{it}}$ is the vector of political interests of the single European country and it contains four variables, one for each European country considered. Following previous studies, the political variables are indexes of voting affinity in the United Nations General Assembly**.** Respectively, $\boldsymbol{inlineUSA_{it}}$ represents the voting affinity with USA of country i at time t and $\mathbf{control_{it}}$ is the vector of the control variables (i.e. fdi, gdp, IMF loan amount and PPG debt).

Consequently, the total number of conditions for country i at time t is determined by the intensity of the banking exposure of EU towards country i at time t, by the heterogeneity of the EU interests towards country i at time t, by the USA bank-exposure towards country i at time t, by the political interests of EU and USA towards country i at time t and by the control variables considered for the country i at time t.

5.Results

As we already mentioned, the main purpose of this empirical analysis is to determine the impact of the European interests over the IMF`s conditionality taking into account both the intensity and heterogeneity of the financial interests of the first four European shareholders

within the IMF, i.e. Germany, France, UK and Italy as well as their individual political interests.

The first step in our analysis is to check the appropriateness of the Poisson Regression Model which often fails to fit because of the overdisperssion, a very frequent feature of the count data. The distribution of the four dependent variables strongly skewed to the right (histograms reported in Appendix) and some descriptive statistics (very large variance compared to the mean) provided the first sign of overdisperssion. Moreover, computing a likelihood-ratio test we obtained the following results:

Likelihood-ratio test	LR chi2(1)	=	3079.06
(Assumption: pois nested in nb)	Prob > chi2	=	0.0000

This is the output of a likelihood-test of the null hypothsis H_0: α=0 against the alternative hypothesis of α>0. The rejection of H_0 favors the Negative Binomial Regression Model, because Poisson is the special case of the Negative Binomial with α=0.This is a non-standard test because the null hypothesis is on the boundary of the parameter space, as the Negative Binomial model requires $\alpha \geq 0$. In this special case the Likelihood ratio statistic has a distribution with a probability mass of ½ at zero and a half $\chi^2(1)$ distribution above zero. This distribution is known as chibar-0-1 distribution and is used to calculate the p-value which in our case strongly rejects the null hypotesis, and therefore we can conclude that Negative Binomial Model is more appropriate for our data than the Poisson Model.

Following Copelovitch (2010) our model is estimated without fixed effects and we implemented this strategy for two reasons. First, the Hausman specification test for fixed effects was not statistically significant, with a χ^2 of 9.24 and a P> χ^2 = 0.1606, therefore the unobserved panel heterogeneity does not seem to represent a major issue for our dataset. Second, the fixed effect estimator eliminates the effect of regressors that vary primarily across countries and creates problems of multicolinearity .Additionally, following Cameron and Trivedi (2009) we preferred a pooled estimator (population-averaged) to the random effects because it yields asymptotically equivalent results (if the errors are assumed to be equicorrelated) but it has better options for computing the robust standard errors. Consequently, our final estimator will be a Negative-Binomial Population Averaged estimator with robust standard errors.

The table below provides the results of the regressions with the main dependant variable, total number of conditions. For each specification, both the coefficients and the Incidence rate of occurrence ratio (IRR) are reported.

TABLE 2

		1		2		3		4
VARIABLES	IRR(tc)	tc	IRR(tc)	tc	IRR(tc)	tc	IRR(tc)	tc
EUIntensity			0.99446	-0.00556***	0.9939201	-0.00610***	0.994741	-0.00527***
				(-0.00188)		(-0.00144)		(-0.00137)
EUHeterogeneity			1.00019	0.000191**	1.00197	0.000197*	0.999968	-0.0000319
				(-0.0000784)		(-0.000108)		(-0.000106)
inlinefra					0.9748502	-0.0547***	0.964617	-0.036
						(-0.0211)		(-0.0248)
inlinegbr					1.073122	0.0706***	1.068717	0.0665***
						(-0.0181)		(-0.0214)
inlinedeu					0.946812	-0.0255	0.990936	-0.00911
						(-0.0299)		(-0.0289)
inlineita					1.016523	0.0164	1.008561	0.00852
						(-0.0328)		(-0.0309)
USAbankexp							0.9998	-0.0002
								(-0.0262)
inlineusa							0.957032	-0.0439***
								(-0.00695)
fdi	0.942826	-0.0589**	0.9427	-0.0590**	0.9256626	-0.0772***	0.912673	-0.0914**
		(-0.0265)		(-0.0266)		(-0.0265)		(-0.0417)
gdp	1.002565	).00256**	1.00273	0.00273***	1.002954	0.00295***	1.003039	0.00303***
		(-0.00091)		(-0.000941)		(-0.000884)		(-0.00108)
IMF	1.090775	0.0869***	1.09464	0.0904***	1.072646	0.0701**	1.079242	0.0763**
		(-0.0252)		(-0.0257)		(-0.0295)		(-0.03)
PPGdebt	0.982683	-0.0175**	0.982	-0.0182**	0.9825082	-0.0176***	0.981801	-0.0184*
		(-0.00768)		(-0.00818)		(-0.0065)		(-0.0107)
Constant		3.319***		3.332***		3.081***		2.706***
		(-0.0531)		(-0.0557)		(-0.207)		(-0.279)
Observations		315		300		293		218
Number of id		85		84		81		65
Robust standard errors in parentheses								
*** p<0.01, ** p<0.05, * p<0.1								

We started with a simple regression which contains only the control variables to then include step by step first the financial interests of the EU, then the European political interests and in the end we add also the US financial and political interests. It is interesting to investigate whether the European interests are still significant when US`s interests are included, considering that US is the major shareholder within the Fund and its "hegemony" in this institution was subject of many criticism in the last decades.

The first specification is a baseline model including only the economic variables. We can notice that all coefficients are statistically significant indicating as expected that economic

criteria play a key role in the Fund`s lending decisions. FDI coefficient is negative and significant at 95% level, showing that countries with higher foreign direct investments receive loans with a smaller number of conditions because greater FDI means attractiveness to the foreign investors and consequently higher economic potential. All else equal, a 1 billion increase in the fdi leads to an almost 6% decrease in the number of the total conditions. GDP and IMF coefficients are both positive and significant at 95% and respectively 99% level. As mentioned previously, we expected that higher loans will come with higher conditionality, thus a 1 billion increase in the loan amount determines a 9% increase in the number of total conditions. The GDP coefficient could be explained with the fact that countries with higher GDP will need bigger loans and therefore indirectly will have to face a larger number of conditions. An interesting result is provided by the Public and Publicly Guaranteed debt coefficient which is negative and significant at 95% level. Therefore countries with higher sovereign debt will have fewer conditions. As pointed out by Kang (2007) "*borrowing countries with large sovereign debt are equipped with bargaining leverage worth using in IMF conditionality, and they wilfully do so*".

In Model 2 we included our strategic variables, Intensity and Heterogeneity of European financial interests. As we can see, the control variables are almost unchanged while both EUIntensity and EUHeterogeneity have the expected sign and are significant at 99% and respectively 95% confidence level. Therefore, 1 billion increase in the European banking exposure leads to a decrease in the number of conditions of almost 1% while a one unit increase in the heterogeneity of interests among the European group leads to an increase in the conditionality of 0.02%. This result confirm our hypotheses that IMF`s lending decisions are influenced by the largest European shareholder's financial interests, but this impact is diminished by the heterogeneity of the interests. The key point is that EU is an important and influent actor within IMF but its power is decreased by the conflict among members and the heterogeneity of their interests fully manifested since Europe does not speak with one voice.

In the third specification, we introduced the European political interests. While all the previous variables are nearly unchanged, French political interests have a negative and significant (99% level) effect on the conditionality. This is not happening for the UK`s political interests which are positive and significant at 99% confidence level. Accordingly, a 1% increase in voting in line with France in the United Nations General Assembly determines an almost 3% decrease in the number of conditions and a 7% increase if we consider the UK voting index. We could say that among the analysed countries UK is the less efficient. The results related to France can be explained with the various French presidencies in the range of

time analysed in this work, thus, we expect that this increases French influence within IMF. On the other side, the puzzling result related to UK is in line with Dreher and Jensen (2007),but given the high correlation among the voting variables these results must be interpreted with caution. The final specification includes the USA political and financial interests. Control variables are still almost unchanged and as expected, voting in line with USA is negative and significant at 99% confidence level . A 1% increase in USA voting index determines a 5% decrease in the number of conditions. It is worth noticing that EUIntensity is still significant at 99% confidence level even after the introduction of American interests confirming our hypothesis that EU could be an efficient counterpart to the USA hegemony. European heterogeneity of interests and French political interests are no longer significant.

In Table 3 we show the disaggregated results by type of condition with all voting and financial variables included, with the cost of losing a significant number of observations.

TABLE 3

		1		2		3
VARIABLES	IRR(pa)	pa	IRR(sb)	sb	IRR(pc)	pc
EUIntensity	0.9692609	-0.0312	0.997655	-0.00235*	1.030809	0.0303
		(-0.0274)		(-0.00135)		(-0.0329)
EUHeterogeneity	0.9995767	-0.000423***	0.999996	-0.00000421	1.000222	0.000222**
		(-0.000124)		(-0.0000789)		(-0.0000942)
inlinegbr	1.076245	0.0735**	1.015938	0.0158	1.055049	0.0536
		(-0.0363)		(-0.0162)		(-0.0377)
inlinedeu	1.002816	0.00281	1.006458	0.00644	0.9381222	-0.0639*
		(-0.0374)		(-0.0238)		(-0.0336)
inlinefra	0.9500012	-0.0513	0.998615	-0.00139	0.9793198	-0.0209
		(-0.0403)		(-0.0196)		(-0.0433)
inlineita	0.9801156	-0.0201	1.001139	0.00114	1.047024	0.046
		(-0.0378)		(-0.0271)		(-0.0409)
USAbankexp	1.014059	0.014	1.038169	0.0375**	0.8929117	-0.113
		(-0.0428)		(-0.0172)		(-0.12)
inlineusa	1.010873	0.0108	0.969343	-0.0311***	0.9810732	-0.0191
		(-0.0139)		(-0.00687)		(-0.0122)
fdi	0.925359	-0.0776	0.90605	-0.0987***	0.928629	-0.074
		(-0.0627)		(-0.0217)		(-0.0478)
gdp	1.003836	0.00383	1.002728	0.00272***	1.001902	0.0019
		(-0.00277)		(-0.000527)		(-0.00132)
IMF	1.063508	0.0616*	1.05295	0.0516*	0.9671582	-0.0334
		(-0.034)		(-0.0267)		(-0.0354)
PPGdebt	0.9762759	-0.024	0.981345	-0.0188***	1.0045594	0.00458
		(-0.0235)		(-0.00535)		(-0.0106)
Constant		2.264***		2.193***		1.799***
		(-0.435)		(-0.193)		-0.361
Observations		130		199		133
Number of id		57		64		54
Robust standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

The resutls show that prior actions and performance criteria are not much influenced by European and USA political and financial interests except for the positive effect of voting inline with UK for prior actions and the negative effect on performance criteria of voting in line with Germany . It is interesting to notice that the heterogeneity of European interests is negative and significant at 99% level for prior actions while it turns to be positive and significant for the performance criteria.We recall that the prior actions are conditions required before the loan disbursement.Therefore even if there is not a comon interest towards a borrower country, it could be the case that the whole group wants the loan disbursment and consequently less prior conditions. Even if there is heterogeneity in the banking exposure of the European countries, their economies and banking systems are highly connected considering that three of the countries analyzed share the same currency. It is to be noticed that the performance criteria are influenced by the German political interests, thus voting in line with Germany reduces the number of performance criteria by almost 6.5%. For what concerns the structural benchmark conditions, the results are more similar to the total conditions regression.The control variables coefficients are analogous to the Table 2 results. EUIntensity is negative and significant at 90% confidence level, voting in line with USA is negative and significant at 99% level, USA banking exposure is positive and significant at 95% confidence level . Thus, a 1 billion increase in the US banking exposure leads to a nearly 4% increase in the number of structural benchmark conditions. While closer geopolitical allies to USA receive less conditions, when it comes to financial exposition, USA require more structural benchmark. One palusible explanation it could that structural benchmarks are the less binding conditions containing indicative targets to be achived,thus a more stringent conditionality of this type could help to improve the economic conditions of the borrower country and consequently protect USA banking exposition.

Summing up, the empirical analysis enhances our hypothesis that EU is an important actor at international level, but its influence is diminished by the conflict among its members which has a significant and positive impact on the number of conditions in most of the empirical specifications presented above. In addition, we observe that European financial interests are significant also when including the financial and political interests of the largest shareholder of the Fund, i.e. US, and this leads us to asses that EU is an effective and powerful counterpart to the US`s hegemony within IMF and has the potential to increase its power inside IMF if it succeeds in acting as an effective union and overcomes the negative impact of the heterogeneity of interests between its members.

Among the EU countries, France is the most influent country but as already mentioned this can be the consequence of the many French presidencies to the IMF in the range of time considered in our analysis. Also Germany is an effective actor when we consider performance criteria conditions while UK political interests are significant in almost all specifications but with the opposite sign suggesting that among the countries analysed UK is the less effective one . An explanation might be that among the analysed European countries UK is the only one outside the European Monetary Union. Nevertheless we remind that the high correlation between the voting variables requires caution in interpreting these results. As expected the macroeconomic variables and USA interests were found to be robust determinants of the Fund`s conditionality.

In the next paragraph, in order to enforce our results we will introduce a sensitivity analysis.

6.Sensitivity analysis

In this paragraph, following Copelovitch (2010) and Dreher (2007) we will address the endogeneity issue arising from the fact that the time at which the independent variables are measured involves problems of interpretation due to the duration of the loan negotiations. To mitigate this problem we will replicate the previous regressions by lagging the explanatory variables by one period. Nevertheless we need to consider that as Knight and Santaella (1997) asses "*Programs approved by the end of the second quarter of a calendar year will normally have been designed on the basis of information about the macroeconomic picture for the preceding calendar year, while arrangements approved in the second half of the calendar year will generally be based on information that extends through the first half of the same year."* In our dataset from the 411 arrangements considered, 176 were approved before June. Moreover 116 arrangements out of the 176 had the Initial year of program after the approval year (most of them 1 year after the approval data).We recall that we used as unique yearly identifier for each loan the Initial year of the program and not the approval year (even if in 75% of the cases they match).

In Table 4 we reproduce the regressions for the Total number of conditions with regressors lagged by one period

TABLE 4

		1		2		3
VARIABLES	IRR(tc)	tc	IRR(tc)	tc	IRR(tc)	tc
EUIntensity1			0.99977	-0.000230**	0.999896	-0.000104
				(-0.000109)		(-0.0000993)
EUHeterogeneity1			1.000164	0.000164**	1.000047	0.000047
				(-0.0000805)		(-0.000143)
inlinefra1					0.991225	-0.00881
						(-0.0193)
inlinegbr1					1.054032	0.0526***
						(-0.0191)
inlinedeu1					1.03884	0.0381
						(-0.0358)
inlineita1					0.951023	-0.0502
						(-0.0393)
USAbankexp1					0.968762	-0.0317
						(-0.0238)
inlineusa1					0.96096	-0.0398***
						(-0.00895)
fdi1	0.957858	-0.0431**	0.957706	-0.0432**	0.965256	-0.0354
		(-0.0188)		(-0.0195)		(-0.0265)
gdp1	1.001625	0.00162**	1.001697	0.00170**	1.001175	0.00117
		(-0.000725)		(-0.000798)		(-0.00081)
IMF	1.101458	0.0966***	1.102434	0.0975***	1.091096	0.0872***
		(-0.0253)		(-0.0251)		(-0.0318)
PPGdebt1	0.991254	-0.00878	0.990363	-0.00968	0.999059	-0.000942
		(-0.00712)		(-0.00785)		(-0.00888)
Constant		3.333***		3.344***		2.694***
		(-0.0532)		(-0.0568)		(-0.209)
Observations		309		296		211
Number of id		85		84		67
Robust standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

As we can see from the first two specifications results are almost unchanged with coefficients slightly smaller , while in the final regressions none of the European variables are significant (except for voting in line with UK) while voting inline with USA is still significant at 99% level and with the expected sign.

More interesting results we obtain in the disaggregated regressions by type of condition presented in Table 5.

TABLE 5

		1		2		3
VARIABLES	IRR(pa)	pa	IRR(sb)	sb	IRR(pc)	pc
EUIntensity1	0.9519882	-0.0492*	1.00029	0.0000288	0.991991	-0.00804***
		(-0.0252)		(-0.0000924)		(-0.00157)
EUHeterogeneity1	0.9992583	-0.000742***	1.000022	0.0000215	1.000248	0.000248*
		(-0.000146)		(-0.000141)		(-0.000129)
inlinefra1	1.022138	0.0219	1.009263	0.00922	1.041002	0.0402
		(-0.0323)		(-0.0165)		(-0.0436)
inlinegbr1	1.025055	0.0247	1.002588	0.00259	1.02517	0.0249
		(-0.0372)		(-0.0183)		(-0.0401)
inlinedeu1	1.030617	0.0302	1.065953	0.0639**	1.019837	0.0196
		(-0.0481)		(-0.0324)		(-0.0441)
inlineita1	0.9345294	-0.0677	0.9508082	-0.0504	0.950326	-0.051
		(-0.0422)		(-0.0376)		(-0.0444)
USAbankexp1	0.9908913	-0.00915	1.005197	0.00518	0.952554	-0.0486
		(-0.0335)		(-0.0246)		(-0.0881)
inlineusa1	1.004717	0.00471	0.9669326	-0.0336***	0.9539	-0.0472***
		(-0.0167)		(-0.00799)		(-0.0134)
fdi1	0.9778946	-0.0224	0.9625647	-0.0382	0.836598	-0.178*
		(-0.0382)		(-0.0303)		(-0.0966)
gdp1	1.003552	0.00355**	1.001006	0.00101**	1.001596	0.00159
		(-0.00145)		(-0.000487)		(-0.000997)
IMF	1.064447	0.0625**	1.03915	0.0384	1.077102	0.0743
		(-0.0256)		(-0.029)		(-0.0567)
PPGdebt1	0.9848924	-0.0152	0.9982859	-0.00172	1.006887	0.00686
		(-0.0143)		(-0.00546)		(-0.00974)
Constant		2.268***		2.096***		1.644***
		-0.32		-0.151		-0.3
Observations		129		193		128
Number of id		56		66		53
Robust standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1						

For the prior actions, where the lagged explanatory variables are more meaningful as they are conditions to be met *before* the approval of the loan, we can observe that the EUIntensity is significant at 90% level and negative and with a quite large coefficient. Accordingly, a 1 billion increase in the European banking exposure leads to a decrease in the number of the prior actions by 5% and we still have the negative impact of the heterogeneity as in the original regression without lagged variables. As we previously explained, even if we experience high heterogeneity of the banking exposure, the whole group wants less prior actions in order to make the disbursement more feasible for the borrower country while for performance criteria results are in line with our hypothesis. Thus, EUIntensity is significant at 99% level and negative while heterogeneity is positive and significant at 90% level.

Additionally, countries geopolitically closed to USA receive significantly less structural benchmark and performance criteria conditions, with a coefficient of voting inline with USA negative and significant at 99% level. We also notice that the lagged value of the control variables do not have much explanatory power and one reason could be that most of arrangements analysed were approved in the second half of the year . Moreover, the majority of the one approved in the first half had the Initial year program one year after the approval, consequently taking the control variables with no lags should be the correct value for most of the observations. This reasoning cannot be directly applied to our strategic variables, i.e European and American financial and political interests, as we know that the loan approval process involves several negotiations steps and is not immediate. Therefore it could be the case that the lagged strategic variables are more accurate compared to the lagged control variables.

Summing up, the sensitivity analysis delivered quite similar results for the total number of conditions regressions enforcing the robustness of our previous results. On the other side, when we considered the split regressions we obtained that European interest are significant for the two types of binding conditions, i.e. Prior Actions and Performance Criteria strengthening our main assumption that EU is a powerful actor within IMF and should unify its representation in this institution in order to fully exploit its potential.

7.Conclusions

Would unity provide strength? In this work we tried to give an explanation to the fact that although EU has the potential of being a leading actor in the international system, it "punches below its weight". One of the main causes of this fact is the heterogeneity of interests between EU`s members, enhanced by the fragmented representation of Europe in the international forums. Through an empirical analysis we sought to sustain our central hypothesis that EU must unify its foreign representation in order to improve its strength and to counterbalance US`s hegemony.

Starting from the model proposed by Copelovich(2010) to test the impact of the intensity and heterogeneity of G5`s financial and political interests over the IMF lending policy, our final objective was to demonstrate the validity and necessity of Bini Smaghi`s idea to create a single EU seat in the IMF. In order to develop our quantitative analysis, we constructed an original dataset employing five sources. To synthesise European interests we focused on the first four European economies, Germany, France, UK and Italy and we then introduced also

the major shareholder in the Fund, the United States. To express European interests we followed the previous literature using the voting affinity in the UNGA for the political interests and the bank exposure for the financial interest. From the bank exposure of the single European country analysed (Germany, France, United Kingdom and Italy), we constructed two variables that measure the intensity and the heterogeneity of European financial interests. The main hypothesis of our analysis is that the European's government's preferences are important determinants of IMF conditionality policy, but the heterogeneity of the interests has a negative impact on the European strength reflected in a larger number of conditions .

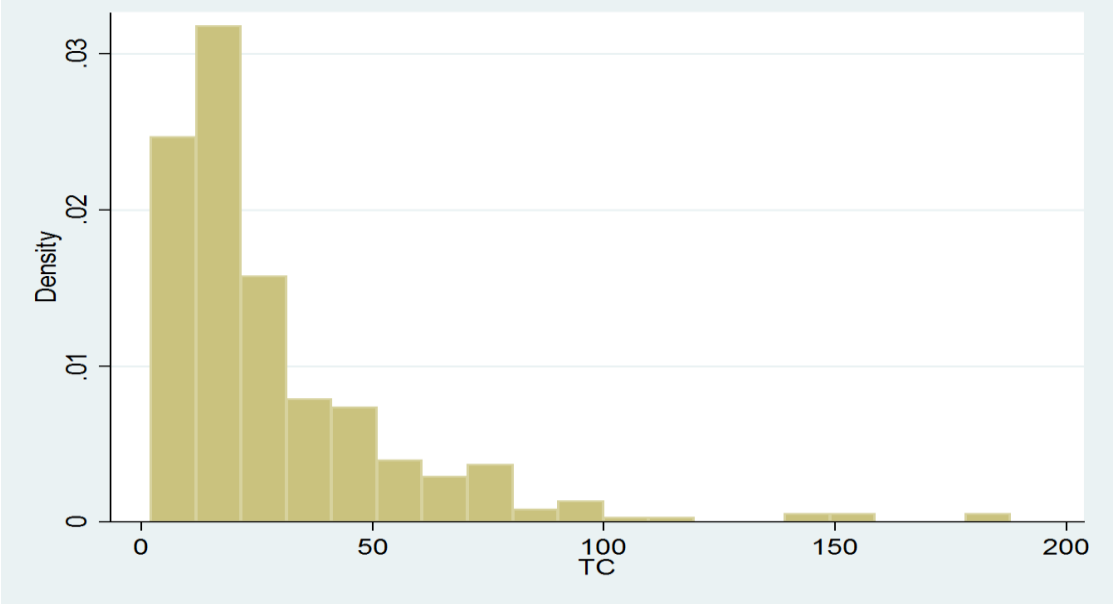
In the statistical analysis we found clear evidence that both intensity and heterogeneity of EU domestic financial interests are key determinants of IMF conditionality policy, confirming our hypothesis that EU is a relevant actor in the Fund but its strength is diminished by the heterogeneity of the interests . As we expected, also US geopolitical interests systematically affect IMF policymaking.

The argument and evidence presented in this work confirm two important hypotheses. First we demonstrate that IMF`s decision making over Fund`s conditionality is strongly influenced by the preferences of its major European shareholders, as well as by the US`s interests. Second, the strength of the EU is diminished by the heterogeneity of its members` interests leading us to asses that a better coordination and a more unified representation is necessary in order to have a more efficient and powerful union.

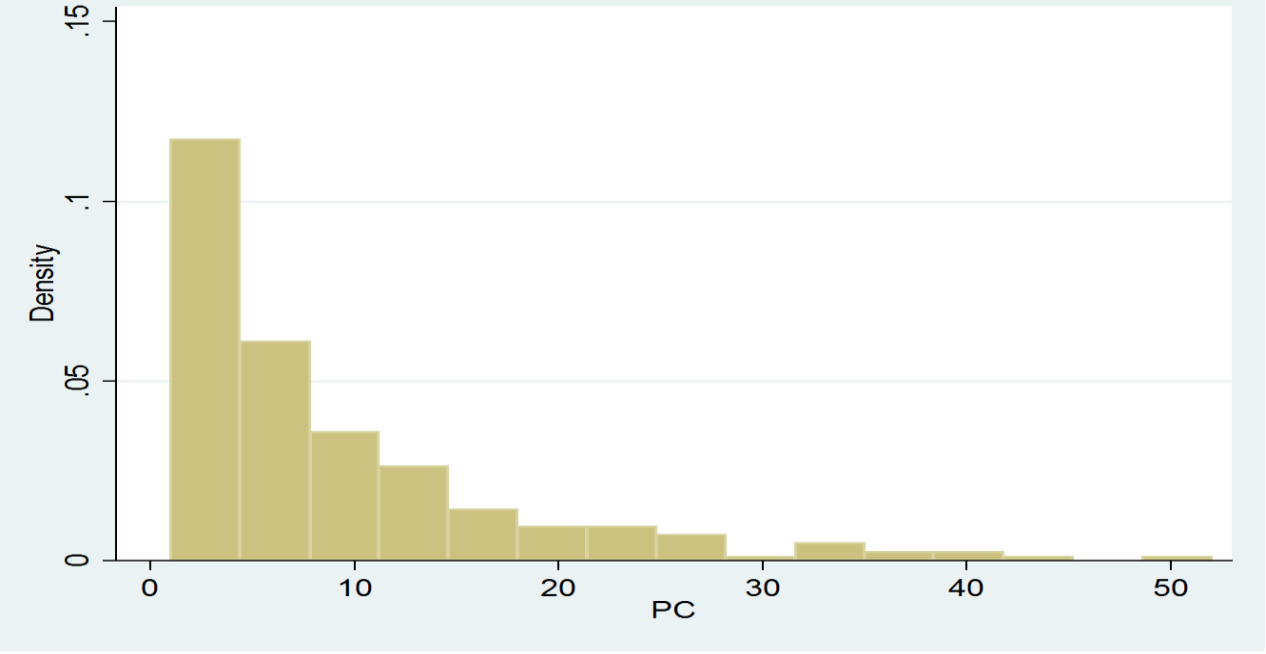
We conclude our work by suggesting some improvements that can be made to our analysis. First of all, we could update our dataset in order to increase our sample. Additionally, a distinction between concessional and non-concessional loans would provide more precise results. This approach could also be adapted and applied to test European influence within World Bank in order to have a more complete picture of the European relevance at international level. Finally. from a methodological point of view we could consider a Bayesian approach in estimating the Negative Binomial Regression Model.

Apendix

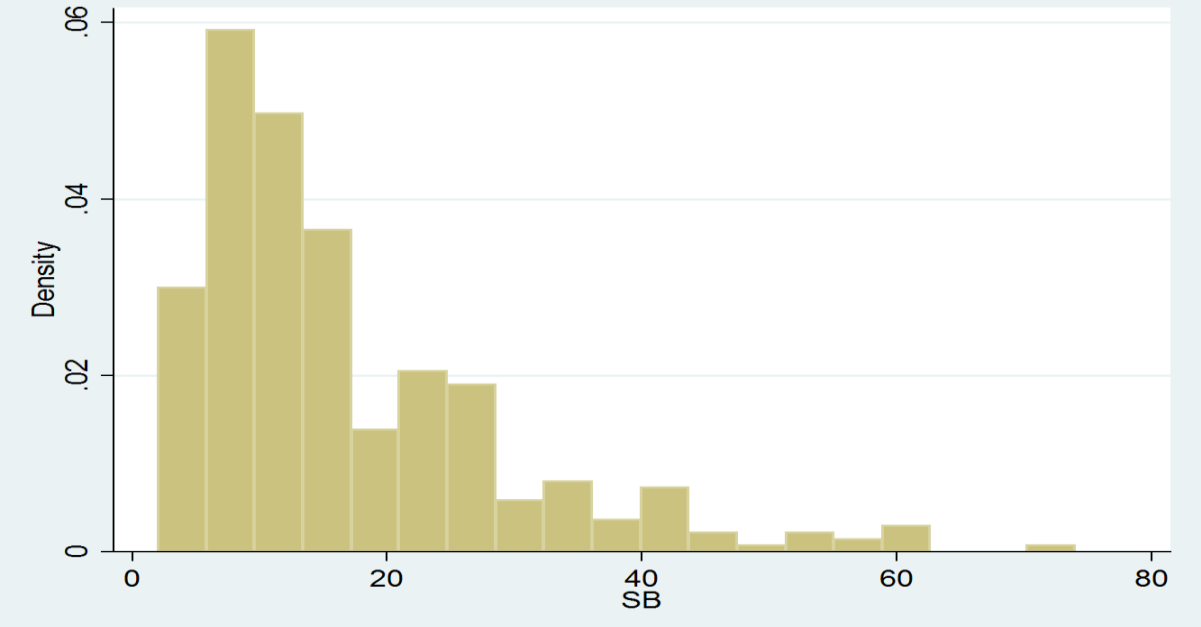
HYSTOGRAM TOTAL CONDITIONS



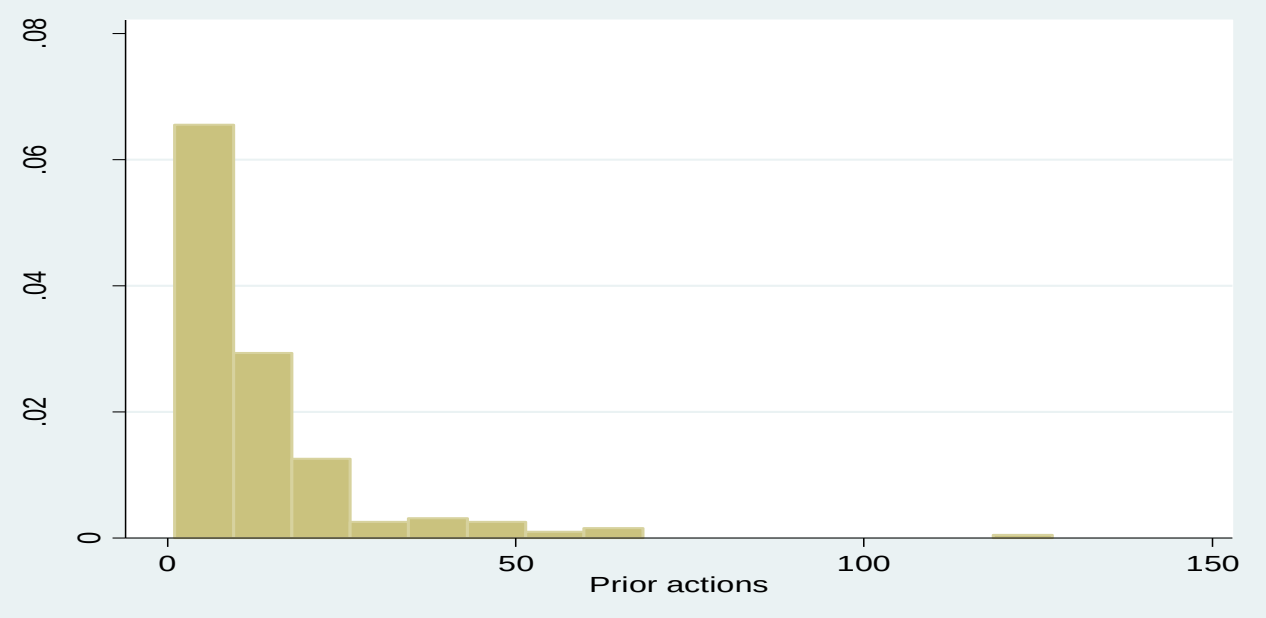
HYSTOGRAM PERFORMANCE CRITERIA



HYTOGRAM STRUCTURAL BENCHMARK



HYSTOGRAM PRIOR ACTIONS



References

1. Ahearne, Alan, and Barry Eichengreen. "External monetary and financial policy: a review and a proposal." *Fragmented Power: Europe and the Global Economy* (2007): 135-162.
2. Smaghi, Lorenzo Bini. "A single EU seat in the IMF?." *JCMS: Journal of Common Market Studies* 42.2 (2004): 229-248
3. Brandner, Peter, Harald Grech, and Iain Paterson. *Unifying EU representation at the IMF executive board: A voting and veto power analysis*. No. 245. Reihe Ökonomie/Economics Series, Institut für Höhere Studien (IHS), 2009.
4. Cameron, Adrian Colin, and Pravin K. Trivedi. *Microeconometrics using stata*. Vol. 5. College Station, TX: Stata Press, 2009.
5. Cameron, A. Colin, and Pravin K. Trivedi. *Regression analysis of count data*. No. 53. Cambridge university press, 2013.
6. Copelovitch, Mark S. *The International Monetary Fund in the global economy*. Cambridge: Cambridge University Press, 2010.
7. Copelovitch, Mark. "Master or Servant: Agency Slack and the Politics of IMF Lending." *IPES Meeting, Princeton NJ, November*. 2006.
8. Dreher, Axel. "IMF conditionality: theory and evidence." *Public Choice* 141.1-2 (2009): 233-267.
9. Dreher, Axel, and Nathan M. Jensen. "Independent actor or agent? An empirical analysis of the impact of US interests on International Monetary Fund conditions." *Journal of Law and Economics* 50.1 (2007): 105-124.
10. Dreher, Axel, Silvia Marchesi, and James Raymond Vreeland. "The political economy of IMF forecasts." *Public Choice* 137.1-2 (2008): 145-171.
11. Dreher, Axel, Jan-Egbert Sturm, and James Raymond Vreeland. "Global horse trading: IMF loans for votes in the United Nations Security Council." *European Economic Review* 53.7 (2009): 742-757.
12. Gould, Erica R. "Money talks: Supplementary financiers and international monetary fund conditionality." *International Organization* 57.03 (2003): 551-586.

13. Kang, Seonjou. “Agree to reform? The political economy of conditionality variation in International Monetary Fund lending, 1983-1997.”*European Journal of Political Research 46: (2007) 685-720.*
14. Kenen B. Peter “ The Bretton Woods system” from The New Palgrave Dictionary of Economics, Second Edition, 2008
15. Keohane, Robert O. *International institutions: two approaches*. VS Verlag für Sozialwissenschaften, 1989.
16. Leech, Dennis, and Robert Leech. "Voting power implications of a unified European representation at the IMF." (2005)
17. Leech, Dennis. "Voting power in the governance of the International Monetary Fund." *Annals of Operations Research* 109.1-4 (2002): 375-397.
18. Long, J. Scott, and Jeremy Freese. *Regression models for categorical dependent variables using Stata*. Stata press, 2006.
19. Moser, Christoph, and Jan-Egbert Sturm. "Explaining IMF lending decisions after the Cold War." *The Review of International Organizations* 6.3-4 (2011): 307-340.
20. Peet, Richard, ed. *Unholy trinity: the IMF, World Bank and WTO*. Zed Books, 2003.
21. Steinwand, Martin C., and Randall W. Stone. "The International Monetary Fund: A review of the recent evidence." *The Review of International Organizations* 3.2 (2008): 123-149.
22. Stone, Randall W. "Controlling institutions." *International Organizations and the Global Economy* (2011).
23. Stone, Randall W. "The scope of IMF conditionality." *International Organization* 62.04 (2008): 589-620.
24. Woods, Ngaire. "The United States and the international financial institutions: Power and influence within the World Bank and the IMF." *Foot, McFarlane and Mastanduno (Eds.), US Hegemony and International Organizations, Oxford* (2003): 92-114.
25. Woodward, David. "IMF voting reform: need, opportunity and options." *Washington DC: Group of, February* (24).

Web references

www.imf.org

www.worldbank.org

www.bis.org

http://houseoffreedom.com/
http://europa.eu/about-eu

http://home.gwu.edu/~voeten/UNVoting.htm