

The Political Economy of IMF Surveillance

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Abstract

This work analyzes the interaction among the surveillance of International Monetary Fund and its governance framework to determine if the latter could represent a systematic obstacle for the effectiveness of the former. The model features three kinds of agents: the IMF, the country members and the private sector. It shows that surveillance effectiveness in creating incentives towards cooperative policies can be hampered by countries' political pressure to influence its assessment, eventually leading to surveillance's failure.

1 Introduction

This work analyzes the interaction among the surveillance of International Monetary Fund and its governance framework. In particular, it aims at verifying whether the uneven distribution of voting power within the Fund could represent a natural obstacle to the effectiveness of its surveillance over the 187 country members. Surveillance and governance are two very often debated issue within the IMF and the international financial community in general. This work suggests that they could be more correlated than it has been hitherto thought.

Previous work has mainly focused on the IMF's role as a lender, in particular on

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conditionality on one side and on governance on the other; surveillance has received much less attention and, quite surprisingly, there have been no attempts to study the interaction among governance and surveillance. That is where the novelty of this work lies.

Some anecdotal evidence I show here some citations taken from newspapers and official documents that are useful to give a sense of the debate this work tries to contribute to.

“For the large industrial countries, in no case would it be right to claim that the Fund had more than a marginal or occasional impact on national policy decision making [...] The general view in the public and private sectors in both Japan and the United States was that the issues on which the Fund was capable of pronouncing would receive such wide and intense discussion within the country that it would be surprising if the staff were able to add very much to what was already on the table, beyond an international voice however hard they tried”. (External Evaluation of IMF Surveillance, Report by a Group of Independent Experts, 1999, pp.48-49)

“Fund surveillance is seen as adding the greatest value in, and on, developing economies, next in emerging markets, followed by advanced economies. This is not surprising: advanced economies and, to some extent emerging markets, tend to be subject to more vivid economic debate and scrutiny, including by domestic institutions. In developing economies, the Fund is often one of the few if not the sole sources of independent and integrated macro-analysis and advice.” (Triennial Surveillance Review, IMF (2008))

“Some of the largest industrial countries see themselves as more sovereign than others, and their politicians brook no interference in their own domestic policies, while being fully prepared to use multilateral agencies to intervene in the domestic policies

of others. ” (Raghuram Rajan (2008))

‘We will conduct all our economic policies cooperatively and responsibly with regard to the impact on other countries and will refrain from competitive devaluation of our currencies and promote a stable and well-functioning international monetary system. We will support, now and in the future, to candid, even-handed, and independent IMF surveillance of our economies and financial sectors, of the impact of our policies on others, and of risks facing the global economy.’ (G20 Communiqué, April 2nd 2009)

“Rich countries have never been receptive to [IMF’s] criticism of their policies or responsive to its suggestions. The attitudes of both rich and poor are influenced by who runs the Fund and for whom it speaks.[..] Rich countries, which have the bulk of power within the institution, do not take it seriously. And the Fund, ever aware of who holds the purse strings, is excessively hesitant in talking to rich countries about faults in their policies.” (The Economist, April 11th 2009)

“The challenges the United States faces are familiar territory to the people at the IMF. If you hid the name of the country and just showed them the numbers, there is no doubt what old IMF hands would say: nationalize troubled banks and break them up as necessary.” (Simon Johnson, The Atlantic, May 2009)

Discussion As the above citations show, IMF’s surveillance has frequently been scrutinized, especially during the 2008-2009 financial crisis, when it spread the feeling that the designated institutions have not done enough to signal the imminent threats to global financial stability and to prevent the crisis eruption.

The debate on the inadequateness of surveillance revolves around two main issues: on one hand the surveillance tools the Fund is provided with may be not sufficient to identify all the risks and vulnerabilities that can threaten global stability; on the other

hand, Fund's advice is found to have scarce policy traction with national authorities. This weak capacity of influencing countries' policy choices is traditionally attributed to the fact that surveillance, unlike financial programs, it is said to have no "teeth", i.e. no direct consequences on members' utility functions, as the IMF is not entitled to apply sanctions to countries ignoring its recommendations. In other words, the lack of effectiveness may stem from the Fund not disposing of a "stick and carrot" mechanism *vis-à-vis* the country.¹

In this work, I focus on another aspect of surveillance which could hamper its effectiveness, and which has received less attention in the political debate: the link among surveillance and governance, i.e. the fact that the uneven distribution of power within the Fund allows certain countries to influence IMF's assessment of their own policies. In this sense, here I try to provide a political economy based explanation of surveillance's scarce efficacy.

Given this objective, this analysis will not question the mere capacity of surveillance of influence countries policy, assuming the validity of the typical argument that surveillance can indeed affect countries utility by signaling the quality of members' policies to the international financial community, through the so-called "stigma" effect. Nonetheless, the IMF itself could have no interest in stigmatizing a country, either because it could exacerbate the risk for stability, or - and that is what I will focus on - because of the status the country being surveilled and its power inside the Fund itself.

In other words, one could ask the question: if being surveilled bears a cost, why should a country allow that cost to be imposed by an institution when it has a great influence? The uneven voting power within the institution can indeed give rise to some imparity of treatment among surveilled countries in pure surveillance cases (i.e. when there is no financial assistance program in place), with detriment for global financial stability. A theoretical framework is developed to analyze what forces are put into play in the surveillance-type interactions between the Fund and its members and to check whether the current distribution of votes within the Board can hamper the effective-

¹See, for example, Mussa (1997), Lane (2005), Lombardi and Woods (2007).

ness of surveillance in pursuing its scope of safeguarding global financial stability.

To the best of my knowledge, this work represents a first attempt in such direction and its contribution is twofold: first, it provides a simple framework to analyze surveillance-type interactions; second, it can feed the debate on surveillance by stressing its linkages with the governance of the IMF.

The paper is organized as follows: in Section 2 the issues of surveillance and governance are briefly introduced; Section 3 provides a survey of the literature on IMF's lending and governance; Section 4 introduces the model; the last Section concludes and provides a brief overview of a possible agenda for future research.

2 Surveillance and governance

Surveillance One of the International Monetary Fund's major responsibilities is to oversee the international monetary system and monitor the economic and financial policies of its members. This activity is known as surveillance and is ultimately aimed at promoting order and stability in countries' monetary and financial relations with each other, as a precondition for sound economic development and growth. The legal basis for IMF surveillance is provided by the Article IV of IMF's Articles of Agreement, according to which each member commits to: "i) endeavor to direct its economic and financial policies toward the objective of fostering orderly economic growth with reasonable price stability; ii) seek to promote stability by fostering orderly underlying economic and financial conditions and a monetary system that does not tend to produce erratic disruptions; iii) avoid manipulating exchange rates or the international monetary system in order to prevent effective balance of payments adjustment or to gain an unfair competitive advantage over other members".

Surveillance is conducted both at multilateral and bilateral level, but in what follows I will focus on the latter. Bilateral surveillance hinges on the so-called Article IV consultations: on a regular basis - usually once a year - an IMF delegation visits member countries to gather information and exchange views with government representatives,

central bank officials and other stakeholders, to help evaluate the country's economic policies and direction. Upon its return to headquarters, the mission submits a report to the IMF's Executive Board for discussion. The Board's views are subsequently transmitted to the country's authorities and summarized in Public Information Notices while the report (known as Article IV report) is published with the consent of the country member (with deletions subject to a narrow set of criteria). In this way, the views of the global community and the lessons of international experience are brought to bear on national policies.

The surveillance mechanism essentially relies on the peer pressure exercised by country members at the Executive Board when Article IV reports are discussed by countries' representatives. In addition, in the last decade or so, surveillance has acquired a new role of informing the public, since the great majority of reports are published.

In the model featured here, surveillance is depicted as a coordination mechanism among countries. The Fund is assumed to be in a privileged position with respect to the market to assess the quality of countries' policies in terms of the negative international spill-overs they imply. Through surveillance reports, the Fund can signal its assessment of the policy and influence countries' policy choice by affecting the behavior of the private sector.

Governance As put in the IMF Independent Evaluation Office's own words, governance is "the institutional structure and the formal and informal relationships that govern the organization's decision-making processes and activities"².

Improving the Fund's governance is widely recognized as a critical element in enhancing its relevance, legitimacy, and effectiveness: "good governance can contribute to the IMF's legitimacy by ensuring appropriate representation for the membership and by facilitating transparency that allows scrutiny by relevant stakeholders. It allows the Fund to fulfill its mandates effectively and efficiently, it renders the Fund and its main organs accountable to the membership, and provides voice to relevant stakeholders".

²IEO (2008)

For the scope of this work, I refer to a narrow concept of governance, which is the distribution of voting power among IMF members, although the issue of governance also includes functioning of the governing bodies of the institution and their mutual relationships.

The voting power distribution within the Executive Board of the Fund is a complex balance between two main trade-offs: guaranteeing a voice to each of 187 countries while ensuring the operational efficacy of the body; safeguarding the Fund's resources while pursuing evenhandedness and parity of treatment among members. In its more than six decades-long history, the Fund has debated these issues until the latest reform on quotas and voting rights dated April 2008.³ Without dwelling in unnecessary technicalities, the current procedure for calculating voting rights provides that:

- votes are proportional to quotas, plus a constant component (so called basic votes);
- quotas are calculated on the basis of four economic dimensions: GDP (calculated both at market rates and Purchasing Power Parity), openness (sum of current payments and current receipts in goods, services, income, and transfers), variability (of current receipts and net capital flows) and reserves.

The resulting distribution has changed slightly along time and implies a control on more than 50% of voting rights by the first ten countries (figure 1b).

³At the time of writing another round of quota reform is being undertaken by the Fund on the political impulse by the Group of 20. The reform, which is scheduled to be delivered within January 2011, has as main objective to increase the weigh of dynamic emerging market and development countries and to protect the voice of the poor.

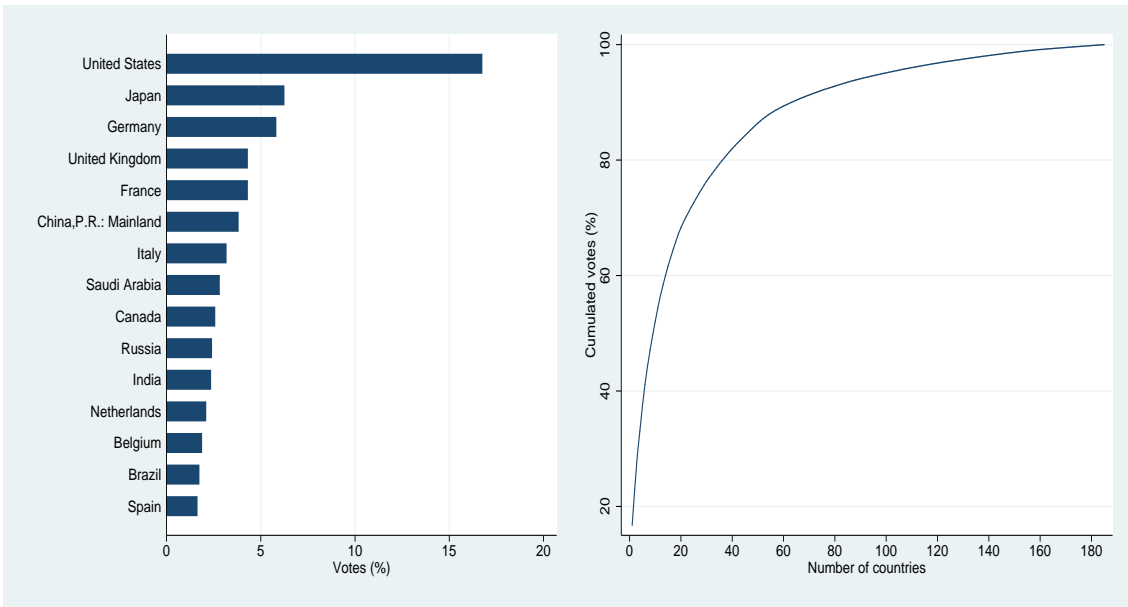


Figure 1: (a) Voting rights of the first 15 countries; (b) Cumulated votes

In the model presented here, Fund’s governance framework is taken as given and is captured by a parameter β_i which synthesizes a country’s weight in the Executive Board.

3 The Literature

The International Monetary Fund is a premier international financial institution with global membership. In pursuing its mandate of “*promoting international monetary cooperation [..], facilitating the expansion and balanced growth of international trade[..], giving confidence to members [..]*”⁴ it interacts with members, essentially through surveillance and lending. The nature of this interaction is then two-fold: it is an economic as well a political interaction.

There is an extensive literature, though relatively recent, which explicitly focuses on

⁴Articles of Agreement, art. I

the political aspects of Fund's functioning and operations. There can be identified two broad categories of contributions: the first examines the political economy features of IMF lending through financial assistance programs; the second relates to the IMF's governance, representation and decision-making framework.⁵

IMF's lending Most of the contributions deal with political economy issues raised by financial assistance programs; a minor number of works model the interaction between lending and surveillance.

Bird and Rowlands (2003) offer a systematic analysis of how politics encroach into various stages of the life-cycle of a financial program. Following their approach, the first aspect to evaluate in a political economy perspective is the government's decision to turn to the Fund for financial assistance. It entails the trade-off between the financial support received and the loss of independence in policy-making due to the conditionality attached to the program. The evaluation of this trade-off can be affected by political and electoral cycle arguments (Dreher and Vaubel, 2001), by the political orientation of the government in charge (Stone, 2002; Bird and Rowlands, 2001) and by "tipping the balance" or "scapegoat" arguments⁶ (Vreeland, 1999; Killick, 1998). Similarly, the outcome of negotiations between the Fund and the recipient member, namely the probability of receiving the loan and the extent of conditionality attached to it, can be affected by political factors. On the one side, the outcome depends on how the IMF is supposed to make its decisions (as will be explained in the next section),

⁵Another possible way to get oriented in the rich literature on the IMF is the taxonomy proposed by Jeanne *et al.* (2008). They distinguish four types of theoretical model that try to explain IMF's role: (a) IMF is modeled as a risk sharing arrangement among countries which provides loans to members affected by adverse shocks (Chami *et al.* (2004)); (b) the IMF solves a pure coordination problem in international lending when the probability of a crisis depends on the available liquidity and on the country's policy effort (Corsetti *et al.* (2006)); (c) the IMF serves to correct information and incentive problems in international capital markets, acting as a commitment device (Marchesi and Thomas (1999)); (d) the IMF's role is mitigate domestic policy failures caused by special interest groups opposing reformer governments.

⁶According to the tip the balance argument, unified governments could use IMF programs to overcome the time inconsistency problem and reinforce their commitment to policy reform, while fragmented governments would seek to involve IMF in order to strengthen the hand of one coalition in favor of economic reform. The scapegoat argument, on the other hand, refers to the desire of domestic policy-makers of using IMF's endorsement to defend their action against criticism from inside or outside the country.

on the other side, it is influenced by country's relative bargaining power. For example, some works (Thacker, 1999; Barro and Lee, 2005; Stone, 2002) have found that ideological proximity to the United States exerts a positive effect on the probability of receiving a loan. Faini and Grilli (2004) test the correlation between the trade and financial exposures of the major shareholders of the IMF and the World Bank and the loan patterns; they find that for the United States both trade and financial exposure have a positive impact on IFI disbursement, Europe has a smaller role predominantly linked with commercial interests, while Japan's role is exclusively dominated by financial considerations and confined to Asia.

Finally, politics are found to play a significant role in determining the implementation and the effectiveness of IMF's programs. Program implementation crucially depends on the political willingness of the country to carry on the policy effort. Williamson (1994) finds the coherence of government's economic team, the solidity of the political base and the quality of the leadership to explain the country's reform effort. Such idea has been more formally tested by Ivanova *et al.* (2003), who conclude that "*the prospects of Fund-supported reform programs depend primarily on domestic political economy conditions. Ethnic and linguistic divisions, strong special interests, and lack of political cohesion contribute to program failures. Fund's effort or the structure of conditionality do not materially influence program prospects*". Further evidence suggesting that political economy variables are significant in determining the implementation of IMF programs is provided in Thomas (2002). He confirms the positive effect of political stability and a good bureaucracy, but also suggests that autocratic regimes have a better record of implementation (while Ivanova *et al.* (2003) find no significant connection among democracy and implementation⁷).

This kind of considerations led the Fund to pay growing attention to the so-called "ownership" of a program, i.e. the genuine commitment of the member to carry on the policy reform which is seen to be in the country's best interest⁸. Indeed, the coexis-

⁷For an opposite view, with respect to World Bank programs, see Dollar and Svensson (2000)

⁸For a detailed explanation of the concept and its implications, see Khan and Sharma (2001).

tence of conditionality and ownership within the IMF raises a fundamental *conundrum*: why is conditionality necessary if it is in the country's best interest to undertake the program in question? Drazen (2002) tries to re-conciliate these two aspects in a political economy model which illustrates the effects of conditional and unconditional assistance with and without political constraints in the receiving country; it is shown that conditionality can play a role even when the IMF and authorities agree on the goals of the program. A different approach is proposed by Marchesi and Sabani (2008) who treat conditionality and ownership as two different incentive contracts in presence of informational asymmetries; in particular, they find that when agency problems are especially severe, and/or IMF information is very valuable, a centralized control is indeed optimal (conventional conditionality), to the contrary, when local knowledge is more important than the agency bias we expect delegation (ownership) to be the optimal incentive scheme.

As it regards IMF's surveillance activity, to the best of our knowledge, any work treats pure surveillance cases, i.e. modeling surveillance independently from financial assistance. For example, Ramcharan (2003) shows that the dual role of the Fund as a purveyor of both credit and policy reform can help explain the failure of conditionality and surveillance; the idea is that under credible threat of aid suspension, malevolent governments can feign reform until their debt level becomes sufficiently large that the cost of a default makes it convenient for the Fund to roll over country debt. Marchesi and Sabani (2007) investigate the dual role played by the IMF, as creditor and monitor and show that they might be conflictive, as the Fund's desire to preserve its reputation as a good monitor may imply too much leniency in lending decisions.

IMF's governance A second strand of the political economy literature on the IMF addresses the following questions: who is in charge at the IMF? Whose interests are represented within the institution? These questions have often been approached by depicting the Fund within an agency framework, although with significant differences. For example, Dixit (2000) designs IMF assistance as an incentive scheme where

the IMF is the principal and the borrowing country the agent; the sovereign countries “own” the IMF, but delegate to it the power to impose conditions when providing financial assistance to members. Also Fratianni and Pattison (2004) analyze principal-agent relationship at the IMF and suggest that the critical shareholders (i.e. a small group of industrial nations identified in the ones forming the Group of Seven) are in charge on those issues they care most about, leaving discretion to staff and management on peripheral issues. Similarly, Copelovitch (2006) identifies two key political factors influencing the decision of IMF: the domestic interest of United States and the rent-seeking behavior of IMF bureaucrats; he presents a collective principal model of IMF lending in which the Fund’s five largest shareholders (namely the G-5 countries) exercise *de facto* control over lending decisions and argues that the staff’s autonomy (and therefore its ability to engage in rent-seeking) is conditional on both the intensity and the heterogeneity of G-5 interests. Finally, Irwin *et al.* (2008) criticize the framework governing the Fund’s lending operations, assessing the impact of increasing heterogeneity of the Fund’s membership on the political equilibrium of Fund size and hence on its effectiveness as credit union. They find that a more heterogeneous membership makes the Fund increasing unlikely to provide financing on a scale sufficient to meet the demand of higher-risk members, leading them to rely more heavily on self-insurance (*via* reserve accumulation).

The ideas presented here lie halfway between the two approaches reviewed above. It takes as given the governance structure of the Fund in order to analyze its influence in pure surveillance country-Fund interactions and to establish whether the former can systematically hamper the success of the latter.

4 The model

The role of the International Monetary Fund is, among other things, to facilitate coordination among countries through surveillance. In particular, the Fund has an informative advantage with respect to the private sector in assessing the distance of the

policy chosen by a country from the one which would maximize the aggregate utility function (multilateral equilibrium). The punishment for a country deviating from the multilateral equilibrium is triggered by the Fund via a so-called *stigma* effect; the Fund signals the “quality” of the policy to the private sector preventing it from investing in the deviating country. In general, this represents a trade off for the country which must weigh the gains from deviation against the loss of capitals, and should induce a country to choose a better policy. Nonetheless such incentive is weakened when an imperfect quality of surveillance and/or the uneven voting power distribution within the Fund are taken into account. In the first case, a poor quality of the assessment reduces the incentive for a country to choose a better policy; in the second case, more powerful countries can introduce a bias in the Fund’s signal in order to mitigate the reaction of international investors and weaken the punishment triggered by a “bad” policy. Both situations represent a failure of IMF surveillance and, in the latter case, the failure is caused precisely by the institution’s governance structure. In particular, for high level of political bias it could be socially preferable to rely on the imperfect information released by the markets, rather than on the Fund’s assessment.

The model features three types of agents, making sequential decisions: the Fund, n country members and private sector (or market or international investors) . They interact in a four stage model, as follows:

- Stage 1: a country decides on a policy which has negative spillovers on the other countries;
- Stage 2: the Fund (or the private sector) assesses the distance between the policy chosen by the country and the social optimum.
- Stage 3: the Fund (or the private sector) signals to the market its assessment on the policy by issuing a report;
- Stage 4: the private sector makes its investment decisions on the basis of IMF’s (or its own) report.

I assume that countries can implement some beggar-thy-neighbor policies, (i.e. a policy with negative spill-overs on the foreign countries), such as competitive currency devaluations or the institution of a non cooperative fiscal jurisdiction.⁹ Therefore the policy z_i ($z_i \in (0, \bar{z}_i]$), which is the country's choice variable, has a positive effect on the country implementing it (country i), but a negative one on the other countries (countries indexed by $-i$).¹⁰ For simplicity, I assume that the cost of the policy is linear in the choice variable z .¹¹

Country welfare is also affected by capital inflows from the private sector; for simplicity, I assume that these capital inflows enter country utility linearly. They depend positively on m ($m \in [0, \bar{m}]$), which is the assessment of the country's policy z_i . The higher the policy, the higher negative externalities exerted on other countries, the lower the quality of the policy signaled to investors. The assessment m can be made by both the IMF and the private sector. Given its role as an international institution which has access to a wider set of information, I assume that the Fund has an informative advantage in assessing countries' policies with respect to private markets. By assumption, private investors are not sophisticated enough to be aware of the bias that can distort Fund's assessment, and therefore they always choose to rely on the IMF's assessment when it is available.¹²

⁹See Etro (2002) for more discussion on this kind of policies and the related literature.

¹⁰Here I am implicitly assuming that all countries are "large" in the sense that they impose spill-overs on others. An interesting refinement of the model would be to account for spillovers that are proportional to country size or relevance. Intuitively, this would further strengthen the results of the model, in the sense that bigger countries that are able to influence surveillance process in their favor are those whose policies imply more pronounced spillovers.

¹¹This baseline model for capturing international spill-overs is taken from in Etro (2002).

¹²A possible extension of the model could be to consider investors with different level of sophistication. It could yield the result that sophisticated investors who are aware of the bias of the Fund's assessment, would prefer to rely on the market's assessment rather than on the Fund's one. Hence the effectiveness of surveillance would also depend on the share of sophisticated investors in the economy. It could also be considered that by its activity of technical assistance and multilateral surveillance (i.e. the issuance of the World Economic Outlook and the Global Financial Stability report), the IMF can indeed increase the awareness of the markets and the sophistication of the investors. The analysis of the interesting trade-off that would then arise is left for future research.

For $i = 1, 2, \dots, n$ the (separable) utility function of the i -th country is

$$U_i(z_i, z_{-i}) = g_i(z_i, z_{-i}) - z_i + k_i[m(z_i)] \quad (1)$$

with $\frac{\partial g_i}{\partial z_i} > 0$ and $\frac{\partial^2 g_i}{\partial z_i \partial z_i} < 0$; $\frac{\partial g_i}{\partial z_j} < 0$ and $\frac{\partial^2 g_i}{\partial z_j \partial z_j} > 0$; $\frac{\partial k_i}{\partial m} > 0$ and $\frac{\partial m}{\partial z_i} < 0$.

In general, a country has to weigh the benefits of an higher policy against a loss of capital inflows, which represents a sort of punishment triggered by the policy's assessment (made by either the Fund or the private sector). Within this framework, the maximization of the utility function of each country taking the others as given, yields the individually optimal policies z_i^* , corresponding to a Nash equilibrium strategy. The first order condition is:

$$\frac{\partial g_i(z_i, z_{-i})}{\partial z_i} + \frac{\partial k_i(m)}{\partial m} \frac{\partial m}{\partial z_i} = 1 \quad (2)$$

with $\frac{\partial m}{\partial z_i}$ depending on whether the policy's assessment is made by the IMF or the private sector.¹³

In order to reach the multilateral equilibrium, the sum of the utility functions of each country should be maximized:

$$\sum_{i=1}^n g_i(z_i, z_{-i}) - \sum_{i=1}^n z_i + \sum_{i=1}^n k_i[m(z_i)] \quad (3)$$

from which I get the following first order condition and the multilaterally optimal policy for country i , z_i^o .

$$\sum_{i=1}^n \frac{\partial g_i(z_i, z_{-i})}{\partial z_i} + \sum_{i=1, i \neq j}^n \frac{\partial g_j(z_j, z_{-j})}{\partial z_i} + \sum_{i=1}^n \frac{\partial k_i(m)}{\partial m} \frac{\partial m}{\partial z_i} = n \quad (4)$$

¹³Since here I just want to compare the FOCs stemming from the maximization of individual versus aggregate utility, I do not specify how k_i depends on z_i , i.e. if the assessment is made by the Fund or by the market. As long as the comparison is made taking into account the same $\frac{\partial m}{\partial z_i}$ the result $z_i^o < z_i^*$ still holds.

To check whether the policy chosen under the multilateral equilibrium is higher or lower than the individually chosen one, let's sum 2 over i ; it yields

$$\sum_{i=1}^n \frac{\partial g_i(z_i, z_{-i})}{\partial z_i} + \sum_{i=1}^n \frac{\partial k_i(m)}{\partial m} \frac{\partial m}{\partial z_i} = n \quad (5)$$

the comparison between the above equation and the multilateral maximization under 4 shows that the LHS of 5 is larger than the LHS of 4 (since $\frac{\partial g_i(z_i, z_{-i})}{\partial z_i} < 0$). Given the signs of the first and second derivatives of the function $g(z_i, z_{-i})$, it follows that $z_i^o < z_i^*$. In fact, as the policy implies a negative externality, its individually chosen provision exceeds the multilateral optimum, which is the one stemming from coordination among countries.

After the country's decision, either the IMF or the private sector observes the policy chosen and assesses its relative distance from the multilateral policy, $\theta(z_i) \in [0, 1]$, where the "right" value of θ is given by θ^o and

$$\theta^o(z_i) = \frac{z_i^* - z_i}{z_i^* - z_i^o} \quad (6)$$

which implies that when $z_i = z_i^*$, θ^o is equal to zero, while when $z_i = z_i^o$, it is equal to 1.

I assume that the private sector can correctly assess such distance with a certain probability p ($0 < p < 1$)

$$Pr(\theta^{PS} = \theta^o) = p \quad (7)$$

while the Fund with another probability e ($0 < e < 1$)

$$Pr(\theta^{IMF} = \theta^o) = e \quad (8)$$

With the complementary probabilities ($1-p$ and $1-e$), the assessments are uninformative, i.e. they are constant and do not depend on the chosen policy ($\theta^{IMF} = \theta^{PS} = \bar{\theta}$). The informative advantage of the Fund is justified on the basis of its position as a global

institution that through surveillance has the opportunity to closely monitor member's policy over the time and it translates into the following assumption:¹⁴

$$p < e \tag{9}$$

In this setting, e can be regarded as the quality of surveillance assessment: it may be that the IMF staff did not do a proper job in assessing a country's policies due to time or resource constraints or to lack of proper surveillance tools. For example, it is often argued that the Fund lacks of expertise in assessing the financial sector policies and that its analysis do not always take in due account the macro-financial interlinkages;¹⁵ moreover, given its large membership and the frequency of the Art.IV missions (once every 12 or 24 months for each of the 187 countries), surveillance is a labor-intensive task which can be affected by the institution's resources constraint.

Once the policy is evaluated, the assessment is made public through a report, on the basis of which investors make their investment decisions. The private sector's report fully reflects the evaluation ($m = \theta^{PS}(z_i)$), while this is not always true for the IMF's surveillance report (the so-called Art.IV report). In fact, a crucial part of this model is the bias β_i that countries can introduce to influence the report issued by the Fund. The parameter β_i is country specific and, in first approximation, can be associated to the country's voting power in the IMF Executive Board, therefore $\sum_{i=1}^n \beta_i = 1$ and $\beta_i > 0 \forall i$.¹⁶

Indeed, a country has convenience in distorting a poor assessment towards a good re-

¹⁴The same assumption on the IMF's informative advantage is made also by Marchesi and Sabani (2007). A possible justification for assuming the IMF's informative advantage is also provided in IMF (2008), according to which almost 80 percent of market participants expressed a clearly positive view of the value added of IMF surveillance, especially in the areas of monetary and fiscal policy.

¹⁵For a survey on the various steps and initiatives through which the Fund has increasingly deepened its involvement in financial sector surveillance, see Gola and Spadafora (2009).

¹⁶When cases with $\beta_i = 0 \forall i$, are considered, the underlying assumption is that countries are not able to exert their relative power in influencing surveillance outcome, even though it does not mean that their voting power is nil. An alternative way to interpret β_i could be through power indexes that summarize the formal power a member represents, also depending on the majority rule adopted. On this issue, see Leech (2002) and Aleskerov *et al.* (2008).

port, while there is no reason for anyone to misconstrue reports in cases where the assessment is positive.¹⁷ In particular, a country can break the link among the assessment and the signal, rendering the report only partially dependent from the assessment, and hence from the chosen policy. When the political bias β is introduced, the Fund's report becomes:

$$m = (1 - \beta_i)\theta^{IMF}(z_i) + \beta_i\theta^{max} \quad (10)$$

where $\theta^{max} = 1$ and $0 < \beta_i < 1$ for each i . Once an investor observes the report, he decides how much to invest: the investment positively depends on the report:

$$k_i = k(m), \quad k' > 0 \quad (11)$$

In what follows I will distinguish several cases, starting from the case with no Fund at all and with a “perfect” Fund, subsequently adding distortions.

4.1 A world without the IMF

In this case private sector can only rely on its own assessment of the country's policy to make investment decisions, and, as noted, such assessment is correct with probability p . With the complementary probability the assessment is $\bar{\theta}$. In addition, the assessment is fully reflected in the report, i.e. $m = \theta^{PS} = p\theta^o + (1-p)\bar{\theta}$. It follows that $k = k[\theta^{PS}(z_i)]$ and that $\frac{\partial m}{\partial z_i} = p\frac{\partial \theta^o}{\partial z_i} = -p\frac{1}{z_i^* - z_i^o}$.

Given all this, the utility function for a country in the world without the Fund is:

$$U_i = g_i(z_i, z_{-i}) - z_i + pk_i(\theta^o) + (1-p)k_i(\bar{\theta}) \quad (12)$$

The associated FOC is

$$\frac{\partial g_i(z_i, z_{-i})}{\partial z_i} = 1 + p\frac{1}{z_i^* - z_i^o} \quad (13)$$

¹⁷Here I do not consider the case of countries competing for capitals, which would make convenient for a country also to negatively distort a signal coming from its competitors.

The resulting policy in this case is higher than the one implied by the aggregate utility maximization under (4).

4.2 The IMF without distortions

Let's now make the simple case of a world with the Fund and without any distortion (i.e. $e = 1$ and $\beta_i = 0 \forall i$).

It follows that $m = \theta^{IMF}(z_i) = \theta^o(z_i)$, and $k = k[\theta^o(z_i)]$ and that $\frac{\partial m}{\partial z_i} = \frac{\partial \theta^o}{\partial z_i} = -\frac{1}{z_i^* - z_i^o}$.

The FOC for the individual policy choice is:

$$\frac{\partial g_i(z_i, z_{-i})}{\partial z_i} = 1 + \frac{1}{z_i^* - z_i^o} \quad (14)$$

Given that $\frac{\partial^2 g_i}{\partial z_i \partial z_i} < 0$, the resulting z_i is lower than the one resulting from 13, but is still larger than the one resulting from the multilateral equilibrium under 4. It means that the Fund improves coordination among countries yielding a better result than the “no Fund” case but it still doesn't reach the equilibrium resulting from the maximization of the aggregate utility function.

4.3 Imperfect surveillance

Here I consider the case with imperfect surveillance ($e < 1$), keeping β_i equal to zero for each i . The distance between the chosen policy and the first best is correctly observed by the Fund with probability e ; with the complementary probability $(1 - e)$ the Fund makes an assessment $\bar{\theta}$ which does not depend on the policy.

The utility becomes

$$U_i = g_i(z_i, z_{-i}) - z_i + ek_i(\theta^o) + (1 - e)k_i(\bar{\theta}) \quad (15)$$

The associated FOC is

$$\frac{\partial g_i(z_i, z_{-i})}{\partial z_i} = 1 + e \frac{1}{z_i^* - z_i^o} \quad (16)$$

The policy resulting from 16 is higher than the one resulting from 14, since $e < 1$ and $\frac{\partial^2 g_i}{\partial z_i \partial z_i} < 0$. In other words, an imperfection in the Fund's surveillance leads to a policy outcome further away from the multilateral equilibrium. Nonetheless the resulting policy is smaller than the one stemming from 13, given that $p < e$; therefore even with some distortions, the presence of the Fund helps reaching an equilibrium closer to the first best.

4.4 Imperfect surveillance and political economy bias

Now I introduce both the imperfect quality of surveillance ($e < 1$) and the political economy-based bias $\beta_i > 0$, which allows more powerful countries to break the link among the assessment made by the Fund and the content of its surveillance report.

In this case, given that $m = (1 - \beta_i)\theta^o(z_i) + \beta_i$, the FOC is

$$\frac{\partial g_i(z_i, z_{-i})}{\partial z_i} = 1 + e(1 - \beta) \frac{1}{z_i^* - z_i^o} \quad (17)$$

The associated z_i is even larger than the one obtained in 16 and in particular, it is increasing in β_i .

The assessment of the Fund is more precise of the private sector's one, but it can be politically skewed. A trade off arises between the informative advantage of the Fund and its being subject to political bias. It is indeed possible to find a threshold for the political bias β_i such that it would be better for the private sector to rely on its own assessment rather than on the Fund's one. In particular, this happens whenever $p < e(1 - \beta_i)$, i.e. for $\beta_i > 1 - \frac{p}{e}$. As expected, the threshold is decreasing in the precision of the private sector's assessment and increasing in the Fund's one. In other words, the more likely the IMF correctly assesses the policy, the higher has to be the political bias to make it useless; conversely, the more likely the private sector correctly assesses the policy, the less has to be the bias to render it preferred over the Fund's one.

5 Conclusions and the way forward

This simple model has proposed a way to interpret the functioning of IMF surveillance, taking into account the possible bias that can play a role in the Fund's action. While the main novelty of the work lies in the attempt to depict IMF surveillance in a theoretical model considering its interaction with the governance, its main result is to show that there could be cases in which the political bias induced by the uneven voting power within the Fund represents an obstacle to the effectiveness of the surveillance. In particular, the model shows that surveillance is more likely to fail in its objective of inducing a country to choose good policy the bigger is the power of the country in exam. According to this view, the Fund can exert more discipline on smaller and less powerful countries than in bigger ones, as also noticed in the anecdotal evidence presented at the beginning of the paper. At the same time, bigger countries are precisely those whose policies generate more international spillovers and affect more the global stability. This represents a further threat to the effectiveness of the role of the Fund. The analysis presented here points to two clear policy suggestions: first, further deepen the effort on quota reform to make the political bias less pronounced (i.e. lower β) and, second, work to strengthen the surveillance tools (i.e. increase e). On the first issue, the Fund, with the Group of 20 political endorsement, is undertaking a quota reform that is scheduled to be completed by January 2011; while this reform is unlikely to introduce relevant changes to the overall vote distribution within the institution, it could represent a step in the right direction of a more balanced representation.¹⁸ On the second issue, work is ongoing within the IMF to improve surveillance, with a special focus on multilateral aspects and the financial sector. In particular, to promote better cross-country understanding, the IMF is planning to introduce some innovations in the field of bilateral surveillance, such as thematic multi-country Art. IV reports for

¹⁸In principle a reform of the distribution of voting powers is not the only reform that could be effective in addressing the problem raised by this analysis. For example, one could also think of other ways to enhance parity of treatment among the members, such a more diverse staff composition, a more open dialogue within the Board when discussing Art.IV report and the introduction of double majorities featuring the one-country-one-vote principle.

specific groups of countries (like, for example, mineral or oil exporters, aid-dependent countries, and countries with large reserves cushions) and clustered work on countries facing similar issues. Finally, to improve the traction of bilateral surveillance, the Fund has proposed to produce more timely and topical reports, prepare occasional “staff country notes” when there are significant developments, and increase outreach and engagement with stakeholders.

Overall, the policy suggestions stemming from the work are not new; indeed, the main contribution of this analysis rests in its attempt to link the effectiveness of IMF surveillance to the governance structure of the institution, feeding the debate on both issues with a common perspective. Moreover, it provides a simple analytical basis to further explore issues related with Fund’s surveillance, which has been neglected in the previous literature.

With regards to the agenda for future research, two avenues can be pursued. The first one is to develop a proper political economy model that takes into account voting and governance rule in the IMF, with the scope of further elaborating on the bias β_i and eventually making it endogenous. On the other hand, the model could be simulated to perform welfare analysis showing for which values (of distribution of probabilities) of the political bias the Fund improves welfare, also depending on the number and relative weigh of the countries considered in the exercise. Just as an example, two extreme situations of completely equal representation ($\beta_i = \frac{1}{n} \forall i$) and completely unequal one ($\beta_i \rightarrow 1$ for one i) could be compared to establish which one is better in terms of global welfare. Also, it could be explored the hypothesis of few powerful counterbalancing blocks (say United State, European Union, China and Japan) and check how this set up would affect global welfare.

References

- Aleskerov, F., Kalyagin, V. and Pogorelsky, K.**, 2008. “Actual voting power of the IMF members based on their political-economic integration”. *Mathematical and Computer Modelling*, volume 48: 1554–1569.
- Barro, R. and Lee, J.-W.**, 2005. “IMF programmes: Who is chosen and what are the effects?” *Journal of Monetary Economics*, volume 52(7): 1245–1269.
- Bird, G. and Rowlands, D.**, 2001. “IMF programmes: Is there a conditionality laffer curve?” *World Economics*, volume 2(2): 29–49.
- Bird, G. and Rowlands, D.**, 2003. “Political economy influences within the life-cycle of IMF programmes”. *The World Economy*, volume 26(9): 1255–1278.
- Chami, R., Sharma, S. and Shim, I.**, 2004. “A model of the IMF as a coinsurance arrangement”. *IMF Working Paper 04/219*.
- Copelovitch, M.**, 2006. “Master or servant? Agency slack and the politics of IMF lending”. Unpublished.
- Corsetti, G., Guimareas, B. and Roubini, N.**, 2006. “International lending of last resort and moral hazard: a model of IMF catalytic finance”. *Journal of Monetary Economics*, volume 53: 441–471.
- Dixit, A.**, 2000. “IMF programs as incentive mechanisms”. Unpublished.
- Dollar, D. and Svensson, J.**, 2000. “What explains the success or failure of bank-supported adjustment programmes”. *Economic Journal*, volume 110: 894–917.
- Drazen, A.**, 2002. “Conditionality and ownership in IMF lending: a political economy approach”. *IMF Staff Papers*, volume 49(Special Issue).

- Dreher, A. and Vaubel, R.**, 2001. “Does the IMF cause moral hazard and political business cycles? evidence from panel data”. University of Mannheim Institut für Volkswirtschaftslehre und Statistik Working Paper No. 598-01.
- Etro, F.**, 2002. “International policy coordination with economic union”. *Rivista Internazionale delle Scienze Sociali*, volume 2(110): 187–211.
- Faini, R. and Grilli, E.**, 2004. “Who runs the IMF?” *CEPR Discussion Paper Series no. 4666*.
- Fратиани, M. and Pattison, J.**, 2004. “Who is running the IMF: critical shareholders or the staff?” Unpublished.
- Gola, C. and Spadafora, F.**, 2009. “Financial sector surveillance and the IMF”. *IMF Working Paper 09/247*.
- IEO**, 2008. *Governance of the IMF: An Evaluation*. IEO Evaluation Report.
- IMF**, 2008. “Triennial Surveillance Review - Overview Paper”.
- Irwin, G., Penalver, A., Salmon, C. and Taylor, A.**, 2008. “Dealing with country diversity: challenges for the IMF credit union model”. *Bank of England Working Paper no. 349*.
- Ivanova, A., Mayer, W., Mourmouras, A. and Anayiotos, G.**, 2003. “What determines the success or failure of fund-supported programmes?” *IMF Working Paper 03/8*.
- Jeanne, O., Ostry, J. D. and Zettelmeyer, J.**, 2008. “A theory of international crisis lending and IMF conditionality”. *IMF Working Paper 08/236*.
- Khan, M. and Sharma, S.**, 2001. “IMF conditionality and country ownership of programs”. *IMF Working Paper 01/142*.
- Killick, T.**, 1998. *Aid and the Political Economy of Policy Change*. London Routledge.

- Lane, T.**, 2005. “Tensions in the role of the IMF and directions for reform”. *World Economics*, volume 6(2): 47–66.
- Leech, D.**, 2002. “Voting power in the governance of the international monetary fund”. *Annals of Operations research*, volume 109: 375–397.
- Lombardi, D.** and **Woods, N.**, 2007. “The political economy of IMF surveillance”. *Centre for International Governance Innovation Working Paper no. 17*.
- Marchesi, S.** and **Sabani, L.**, 2007. “IMF concern for reputation and conditional lending failure: theory and empirics”. *Journal of Development Economics*, volume 84: 640–666.
- Marchesi, S.** and **Sabani, L.**, 2008. “Agency and communication problems in IMF conditional lending”. Unpublished.
- Marchesi, S.** and **Thomas, J. P.**, 1999. “IMF conditionality as a screening device”. *Economic Journal*, volume 109(March): C111–C125.
- Mussa, M.**, 1997. “IMF surveillance”. *American Economic Review*, volume 87(2): 28–31.
- Rajan, R.**, 2008. “The future of the IMF and the world bank”. *American Economic Review, Papers and Proceedings*, volume 98: 110–115.
- Ramcharan, R.**, 2003. “Reputation, debt and policy conditionality”. *IMF Working Paper no. 03/192*.
- Stone, R.**, 2002. *Lending Credibility: The International Monetary Fund and the Post Communist Transition*. Princeton University Press.
- Thacker, S.**, 1999. “The high politics of IMF lending”. *World Politics*, volume 52: 38–75.

Thomas, A., 2002. “Do prior actions achieve their objectives? an evaluation based on active programmes over the 1992–98 period”. *IMF Working Paper*.

Vreeland, J., 1999. “The IMF: Lender of last resort or scapegoat”. Yale University.

Williamson, J., 1994. *The Political Economy of Policy Reform*. Washington DC, Institute for International Economics.