Is IMF Surveillance Even-handed?

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First version: 6 May 2007.
This version: 15 November 2007.
This paper is a draft version. Please do not cite.
The views are those of the authors.

Abstract

This paper examines the effect of IMF transparency on financial markets of developing and emerging economies. The analysis is divided in two steps: First, we assess whether the release of IMF information affects sovereign spreads and other asset prices, such as exchange rates and equity returns, controlling for a number of other relevant variables such as a country's power within the IMF or other international organisations. Second, we investigate to what extent countries change their policies and economic performance regarding the assessment contained in IMF information. Our results are first, that macroeconomic fundamentals exert a statistically significant and economically meaningful effect on spreads. Second, that there is a close relationship between the power countries hold within the IMF as well as within the UN Security Council and the market impact of IMF information.

Keywords: IMF, surveillance, transparency, political economy
JEL codes: F33, H40

1. Introduction

The International Monetary Fund (IMF) is currently undergoing two fundamental changes. One relates to the re-definition of the IMF's function in the global financial system, the other to a fundamental shift in the balance of political power within the IMF.

As to the first, the IMF's primary task from the 1960s to the 1990s as a global lender of last resort has been in sharp decline, partly due to less frequent incidence of balance-of-payments crises and partly due to improving financing conditions and market access for many emerging economies. Instead, the IMF's main responsibility has shifted towards surveillance at the country, regional and global level.

The second major change the IMF is currently undergoing concerns the balance of political power within the institution as a number of emerging markets push for greater influence, so as to reflect their growing global economic importance. The often controversial debate has focused on quota reform, on the institutional structure, such as the seats in the Executive Board and the nationality of the Managing Director, as well as the precise role of exchange rate policy in bilateral surveillance activities.

What do countries expect to gain from a bigger say at the IMF? And why are others, in particular many industrialised countries, so reluctant to give up political influence? A benign possibility is that countries wish to maintain or take on a greater share of responsibility in global economic and financial affairs. After all, the IMF is the foremost global financial institution with systemic importance, and a stable global financial system is in the interest of all. Another possibility is that countries wish to obtain greater power at the IMF in order to derive gains or to exert influence over others in their own interest. Such gains may imply a larger influence in other policy fora or they may entail

financial gains. As the first quote above underlines, IMF surveillance in particular for emerging market economies (EMEs) is highly relevant for financial markets. A more favourable assessment by the IMF in the context of its surveillance can thus have significant gains for countries in the form of more favourable financing conditions and higher foreign investment.

Do countries extract rents from holding political power at the IMF? Specifically, does IMF surveillance systematically favour countries with political power over those that lack such influence? This paper addresses this question by analysing the financial market reaction – that of sovereign spreads of countries, as well as exchange rate and equity market responses – to IMF surveillance. Since 2001, the release of Article IV consultations through a Public Information Notice (PIN) and the report about the IMF's assessment have been made compulsory, ensuring that information is released to the public also when the IMF finds that governments pursue unsustainable policies. This, in turn, allows investors to change their exposure to countries and re-price existing risk so that financing conditions reflect more directly the stance of government policies and the performance of an economy.

Surveillance has a dual function – it has an enforcement role and an insurance role. Through surveillance the IMF provides technical expertise to member governments. But unlike the conditionality of IMF lending, there is no direct way through which the IMF can enforce its surveillance advice and improve economic policy. Yet at the same time, as a lender of last resort, the IMF is expected to provide insurance to governments in case they face difficulties and need financial support. This leaves the IMF with a delicate balancing act between its insurance role and its enforcement role. And it exposes the IMF to the problem that its surveillance lacks a direct disciplining device,

thus inducing the possibility that governments alter their behaviour. One way to consider IMF surveillance is that it attempts to solve this issue by shifting the enforcement role to financial markets. A favourable financial market reaction to an IMF surveillance, or "bias", therefore implies that the IMF assessment is more positive than investors expected, or it may reflect the insurance function of the IMF in that investors are assured of a commitment by the IMF to support a country should it face difficulties in the future.

There are two potential reasons for a correlation between the "bias", i.e. the favourableness of an IMF surveillance assessment, and the political power a country holds at the IMF. A first one is that countries use their political weight to influence an IMF assessment in their favour. This can take place either directly if a country has an Executive Director at the IMF, or it occur indirectly by a country seeking support from and attempting influence other countries with a large influence at the IMF, such as the United States and European countries. This is clearly a strong claim that needs to be investigated thoroughly.

A second possibility for a correlation between the IMF's surveillance assessment and a country's political power may be an omitted variable. In particular, it may be that countries that are in need of IMF support also happen to have a relatively larger influence at the IMF, as countries may seek more influence if they are more open and integrated in the global economy and thus possibly more exposed to adverse shocks. In such a case, a positive bias in IMF surveillance may merely reflect the insurance function of the IMF: a more positive market reaction to IMF surveillance mirrors the commitment of the IMF to support those countries with financial difficulties, rather than the political influence of those countries exerted in the surveillance process.

The main focus of this paper is to distinguish and test for these two hypotheses. Two elements are central to our identification methodology. First, we use the release of the Public Information Notice (PIN) of the Article IV consultations about the IMF's assessment to identify and measure the bias of IMF surveillance. Although the information content of IMF surveillance goes beyond the release of PINs, the latter are arguably the most important and comprehensive pieces of information for financial markets about the IMF's assessment. We collected the day of PIN releases, which take place every one to two years, for all IMF members since 1997, so that we can cleanly identify their market impact on sovereign spreads and other asset prices of emerging markets economies (EMEs).

The second element of our approach is to test for the influence of political power on the bias implicit in IMF surveillance. Even though the release of Article IV consultations has been made compulsory since 2001, the outcome is subject to political influence through the drafting process of the content of the PINs and the ultimate vote of the Executive Directors. To test this second hypothesis, we argue that the political power that countries exert vis-à-vis the IMF (through their voting power and whether they hold an Executive Director seat), the UN (via a seat in the UN Security Council), and vis-à-vis the United States as the most influential IMF member (via the voting correlation with the USA at the UN) are determinants factors shaping the even-handless principle of IMF surveillance. In short, countries that hold more such power should not be treated differently by IMF surveillance than other countries. If such countries face more favourable financing conditions (and have a worse macroeconomic performance) in response to IMF surveillance, than this suggests a preferential treatment for these countries.

Two results stand out from the empirical analysis. First, PIN releases exert a significant effect on financing conditions of countries. Note that a PIN release should have an effect on financial markets only to the extent that it contains unexpected or new information, or in that it reduces uncertainty. The financial market reaction we find underlines that there is indeed an insurance role implicit in IMF surveillance as countries that face difficulties, as indicated by the fact that they have an IMF program or draw on over the limits, see their sovereign spreads fall on average by 10-20 basis points (b.p.) in response to a PIN release. But there appears to also be a bias as the sovereign spreads of an EME decline by 15-20 b.p. if it has an IMF Executive Director, or holds a seat in the UN Security Council, or if has a positive voting correlation with the USA in the UN. Hence the magnitude is economically sizeable, also considering that some countries may at times hold both of these two channels of power.

The findings are robust to various extensions and modifications. They hold across different country groupings and are present also in the reaction of other asset prices such as exchange rates and equity returns. The size of the effect has also become somewhat stronger since 2001 when the release of PINs was made mandatory. Moreover, further corroborating evidence is that sovereign spreads of countries with political power at the IMF and the UN are less volatile and less sensitive to changing macroeconomic fundamentals. This is suggestive that what drives sovereign spreads in countries holding such political power is more the "excessive" IMF insurance and support they have than their underlying macroeconomic policies and economic performance.

As a second main result, we find that economic policies and macroeconomic performance deteriorate gradually after PIN releases for countries with political power

at the IMF and UN relative to the control group, i.e. those of countries without such power. More precisely, for countries with such power the government fiscal balance deteriorates by about 0.5-1.0% of GDP and real growth drops by more than 1.0% after one to two years after a PIN release. Also unemployment and short-term external debt increase over time and relative to other countries. Overall, the findings indicate that for countries with political power at the IMF and UN relative to the control group, IMF surveillance amounts to an increase in sovereign spreads by 30-40 b.p. over a one- to two-year horizon due to the effect of the deterioration of macroeconomic fundamentals on financing conditions.

The findings have a number of policy implications. They underline that IMF surveillance is indeed relevant as it exerts a significant effect on financial markets as well as on economic policies by member governments. As such, IMF surveillance fulfils an important insurance role as it helps improve financing conditions for countries that face financial and economic difficulties. However, the results also imply that IMF surveillance is biased relatively to the political influence of countries. The empirical results indicate that the magnitude of this bias is economically meaningful, especially for member governments that hold political power at the IMF or UN. It underlines the potential need for a further set of reforms, in particular for measures that de-politicise the IMF and insulate it from political influence, thus allowing it to carry out its role as an objective broker more effectively.

This paper is organised as follows. Section 1 provides a selective overview of related literature on the IMF. Section 2 discusses moral hazard and political economy determinants of IMF surveillance. Section 3 describes the data underlying the empirical analysis. The methodology and the empirical results are provided in sections 4 and 5.

These sections also include a number of extensions to check for the robustness of the findings. A summary and discussion of policy implications follows in section 6.

2 Empirical findings on IMF communication

Major studies focusing on transparency and the IMF have been mainly published by the IMF itself. Glennerster and Shin (2003) study the impact of change in level of transparency on the level of emerging markets borrowing costs and the level of information in these markets. Using quarterly data for 23 emerging countries in quarterly frequency over 1999/2002, they found that the level of sovereign spreads fall following adoption enhancing transparency in the Fund. Their results are robust to several specification, time and country fixed effects and to the treatment of potential endogeneity.

Cady (2004) defines transparency as subscription to the IMF's Special Data Dissemination Standard (SDDS). He looks at the effect on 303 new issues of sovereign foreign currency-denominated bonds for seven emerging markets over 1990/2002. He found that subscription to SDDS lower the spreads by 75 b.p..

Healy and Palepu (2001) argue, however, that the results of the literature need to be interpreted with care since there are endogeneity problems that may affect the results. Glennerster and Shim (2004) argue that since the publication of countries reports was to some extent dictated by internal rules of the Fund, the correlation between macroeconomic conditions and timing of publication was expected to be less strong than in the case where the country decided the publication date on its own.

While there is a growing interest around IMF communication, none of the studies are dealing with the potential impact of political considerations. Yet, these considerations have been found to play a significant role in lending decision. Three main issues have been addressed in the related literature which are directly associated to our work. First, researchers have focused on the so-called *catalytic effect*. These studies emphasized that there are other sources of financial resources potentially available to a country, both public and private, and these may be affected by the operations of Fund programs. Ergin (1999) and Rowlands (2001) did find evidence of an increase in lending from other public sources following IMF loans, which is consistent with the Fund's lead role in coordinating multilateral assistance. Edwards (2003b) found little evidence of a catalytic effect, although he does report a decrease in capital flows for program countries that had compliance problems in the past. The initiation of a Fund program may affect private capital markets through an impact on existing debt. Marchesi and Thomas (1999) modelled the presence of an IMF program as a signalling device of a country's willingness and ability to undertake substantive reform. In these circumstances, private creditors are more willing to reschedule the country's external debt. Marchesi (2003) empirically tested this prediction and reported evidence in support of it. Easton and Rockerbie (1999) found that participation in an IMF program lowers the expected probability of a loan default and the average spread over LIBOR.

Second, the Fund has been criticized in recent years for indirectly encouraging risky behavior by either borrowers or private creditors. Moral hazard poses a problem if the potential availability of Fund support encourages risky loans. While the dangers of moral hazard have been frequently raised by the critics of the IMF, there is a lack of evidence on its actual magnitude and relevance. This is partly due to the problem of

contrasting a countervailing situation (see Dreher, 2004, for a survey). A number of papers have utilized the spreads on the bonds of emerging markets to determine whether the bond markets reacted to events such as IMF lending during a crisis. Zhang (1999) reported that he found no evidence of moral hazard in the wake of the Mexican crisis, and Kamin (2002) also did not find evidence of a change in the access of emerging markets to credit after the Mexican crisis. On the other hand, Sarno and Taylor (1999) found that moral hazard affected the flows of capital to East Asia. Dell'Aricca, Gödde and Zettelmeyer (2002) presented evidence in the case of the Russian crisis consistent with the existence of moral hazard, but cautioned that their findings could also be due to a change in the market's perception of risk in emerging markets. Lane and Phillips (2000) reported a mixed record of market responses to news of Fund initiatives. Evrensel and Kutan (2003) conducted an empirical analysis of creditor behavior in several countries, and found results consistent with moral hazard in the case of the Korean asset markets.

Third, another stand of the literature, more closely associated to our study, intended to find evidence that the Fund is favouring some borrowing countries for political and geopolitical reasons. In studying the determinants of IMF loans, researchers have focused on particular factors that might be of interests for leading IMF members. For example, Thacker (1999) found that political realignment of the borrowing country on the US position is positively related to the probability of receiving a loan. Oatley and Yackee (2000) found that the more US banks are exposed in the borrowing country, the larger the loan. Oatley (2002) found that commercial bank debt of G7 countries into the borrowing country influences the amount of the loan. Others have focused on country specificities such as political stability (Edwards and Santaella, 1993), political freedom

(Rowlands, 1995) and democracy indicators (Thacker, 1999; Vreeland, 1999; Dreher and Vaubel, 2004). They found that the more borrowing countries are close to cultural and political standards developed in developed countries, the higher the probability to receive IMF funds. Finally, Barro and Lee (2006), Harrigan et al (2006) and Reynaud and Vauday (2006) argued that they might also be some geopolitical determinants affecting IMF loan decisions. While Barro and Lee focused on the nationality of IMF economists as explaining IMF support, Harrigan et al. and Reynaud and Vauday argued that that IMF loans could be used by creditors to control or to appropriate strategic resources from debtors.

Overall, an important number of studies found evidence that the Fund is (i) favouring particular countries according to political and geopolitical factors, (ii) catalyzing other source of funding and (iii) indirectly encouraging risky behaviour by either borrowers or private creditors. While all these results are associated to the function of financial support of the Fund, this paper intend to study the influence on price of county's financial assets, such as the sovereign spread, associated to IMF communication on Article IV.

3 What about moral hazard?

One concern with providing official financing to help anticipate a possible crisis or resolve it is the negative externalities it may provoke arising from moral hazard. In economic theory, moral hazard refers to the risk that one party to a contract can behave to the detriment of the other party once a contract has been concluded. In the insurance literature, moral hazard is defined as a situation where the provision of insurance increases the probability of the event being insured against, due to diminished incentives

for the insured party to take preventive actions. A necessary condition for moral hazard is asymmetric information or some other reason which prevents the insurer from responding fully to the behaviour that leads to an increase in the event's probability.

In the context of international lending by the IMF or other international financial institutions, moral hazard is usually divided in two types: debtor and creditor moral hazard. The IMF could induce debtor moral hazard when governments pursue excessively risky policies because they expect that the IMF will bail them out should a crisis occur. Similarly, it could encourage creditor moral hazard if private creditors underprice lending risks to the recipient countries in the expectation of an IMF bailout.

However, the analogy is not exact. Countries do not receive compensation in the event of a crisis but a loan that must be repaid with interest, while private creditors do not purchase insurance from the IMF at all. Mussa (2002) proposes a more accurate definition of moral hazard in the context of IMF lending:

"…the problem of moral hazard does not arise because someone ex post escapes losses; it arises because someone ex ante undertakes economically inappropriate risks in the expectation that if the outcome is adverse he will somehow be shielded, as a consequence of international financial support, from some of the losses he would otherwise have taken" (Mussa 2002).

Implicit in this definition are two conditions for moral hazard: first, the insurer cannot ex ante fully observe the endogenous response of the insured party. Second, as a result, the insurer suffers some detriment—that is, some form of expected loss (with a corresponding economic transfer to the insured party). This definition forms the basis of the "Mussa theorem" (Mussa, 2004); namely, if the Fund does not make expected losses on the financial support it provides (its rate of charge adequately covers default risk and loans take place under adequate safeguards) and the debtor government is fully benevolent (maximizes the member's welfare), then the prospect of Fund financial support cannot lead to moral hazard in the strict sense of the term. Intuitively, if the

Fund does not make expected losses, then there is no expected transfer (either to the borrowing member or to private creditors); without an expected transfer, there is no subsidy, and therefore incentives are not distorted and there can be no moral hazard.

The question arising is the why some members may choose excessively risky policies and still be supported by the Fund. First, and in violation with Mussa's Theorem, because governments may be maximizing their own welfare and not the one of their electors. Second, if governments maximizing the electors' welfare, they do so without taking into account the very role of the IMF: to provide a collective good, i.e. financial stability. In other words, if governments ignore spillover effects, like contagion effects, they may engage in excessively risky policies and thus enhance moral hazard.

Against this background, Fund surveillance is intended to ensure that members maintain sound policies ex ante. Indeed, surveillance by the Board is a form of peer pressure from other members on the authorities to follow appropriate policies. The outcome of the surveillance process may be the provision of financial and technical assistance. This in turn is supposed to enhance market and political discipline. Such peer pressure is important because, as discussed above, one reason why members may choose excessively risky policies is if they ignore contagion and spillover effects; the Fund is currently engaged in efforts to strengthen the effectiveness of surveillance.

The basic hypothesis made by scholars, including Mussa, is that surveillance, i.e. peer pressure, may reduce moral hazard. But the implicit assumption is that surveillance treats member equally. Indeed, as we argue that the probability of being bailed out differs across countries, the probability of being put under pressure trough surveillance should also differ across countries and thus question the capacity of surveillance to

affect moral hazard. In this respect, the new decision on surveillance set the following "rules of the game" (IMF, 2007):

i. Surveillance is a collaborative process, based on dialogue and persuasion.
ii. Dialogue requires candour: the IMF must be prepared to deliver clear and sometimes difficult policy messages to members, and to inform candidly the international community represented by the IMF's membership.
iii. Surveillance must be even-handed, whether countries are large or small, advanced or not, while also paying due regard to countries' specific circumstances. The latter involves, in particular, taking account of the effects of recommended policy changes on the member government's objectives besides external stability.
iv. Bilateral surveillance should be embedded in a multilateral perspective, meaning country assessments should bear in mind spillover effects from the global environment to a country and from a country's policies to the stability of the international monetary system.
v. Surveillance should take a medium-term view.

Point (iii) set implicitly the basic role of surveillance in a moral hazard perspective. Indeed, as exposed in the Mussa Theorem, surveillance is supposed to act against the ex ante mismanagement of the governments. In other words, surveillance is acting in as to limit the diminished incentives for the insured party to take preventive actions. Therefore, for surveillance to act efficiently against moral hazard, it must be unbiased as regard countries' characteristics.

The latter hypothesis seems however somewhat too strong to hold. Indeed, even though the release of Article IV consultations is compulsory since 2001, the outcome is

subject to political influence through the vote of the Executive board that is retranscribed into the drafting of the content of the PINs. Decisions (surveillance as well as lending) at the IMF are taken by the Executive Board and there is a consensus in the related literature (Popke, 1994; Stiglitz, 2002; Mussa, 2002; Boughton, 2004; Bini Smaghi, 2004) that this body is subject to political pressure. The consensus reached in this literature is that since creditors hold votes above the majority threshold, they tend to divert the Fund from the principles that normally govern its provision of financial support. Therefore, if the process of lending may be under political pressure, why and how should the process surveillance be not subject to such influences?

4 The data

Until the mid-1990s, the Fund published hardly any of the reports prepared for the Executive Board. From 1994 onwards, the Fund started authorizing the publication of an increasing number of in-house documents, beginning with background papers to surveillance reports and gradually extending this policy to country policy intention documents and staff reports. In 1996, publication of a 2-4 pages of Articles IV discussions, called Public Information Notices (PINs), was established. In March 1999, a pilot program of voluntary disclosure of Article IV staff reports was introduced and a dramatic acceleration occurred in early 2001 when this pilot was made permanent.

The current transparency policy consists of a framework supporting the publication of the vast majority of Fund documents, subject in the case of country papers to the member's consent. Four publication regimes are in place, depending on the type of document. Regarding the publication of PINS, the regime involved voluntary but

presumed publication. This implies that if the member country does not consent to publication of the PIN, a brief factual statement shall be released noting that the Board discussion took place.

PINs are to be published on a regular basis of yearly frequency for all IMF members. They contain a description of recent economic developments, a short-term macroeconomic projection and policy suggestions. PINs are written mainly to inform others IMF members of developments and advise the member country involved. But also aim at providing incentive to the latter to implement good policies, through higher transparency. Glennerster and Shin (2003) reported that major market participants indicated recently that Article IV reports "were one of the first places they turned to in assessing country risk" adding that the non publication of an IMF document will be seen as a "negative signal".

We collected therefore data on all published PINs (938), Staff Reports (212) and Board Meeting (1282) over the period 1996-2007 covering all IMF members. Before the decision to render compulsory the divulgation of PINS in 2001, the rate of publications was around 42% and increased after 2001 to 75%. Developing countries increased their publication rate from 87 to 98% and emerging markets from 45 to 69%. The low level of publication was mainly due to developing countries that were publishing only 27% of their Article IV before 2001. Their publication rate is nowadays around 76%, behind the one of emerging markets. Over the period, around 15% of the communications of Article IV were joined with communication on the Use of Funds Resources, Ex-post Assessment and Post-Program Monitoring.

To test our first hypothesis, i.e. that the publication of PINs has an impact on the cost of funding of countries, we used the JP Morgan's Emerging Market Bond Index (EMBI) which collected daily values of country-specific portfolios of dollar-denominated sovereign or quasi-sovereign debt instruments. We calculated the natural logarithm of the spread as well as the daily volatility as the absolute value of the percentage change in the spread from one day to the next. Moreover, we collected macroeconomic aggregates that have been found to be determinants of country's sovereign spreads (see Glennerster and Shin, 2003; Cady, 2004; Remolona et alii, 2007). These are the real economic growth, the unemployment rate, the inflation rate, the government balance, the foreign exchange reserves of the central bank, the short-term external debt and the PPP exchange rate. All these variables are taken from the International Financial Statistics of the IMF, available in quarterly frequency.

We also collected data on country's exposure at the IMF and their political power at the IMF as well as in the United Nations Organization. Regarding the Fund's exposure, one needs to control for the fact that some countries are following a lending program and are therefore more exposed to the release of PINs. In fact, an important number of the countries under programs are releasing at the same time their Letter of Intend with their Article IV consultation. Moreover, as it has been shown in the literature on IMF lending, larger loans are limited according to the size of the borrowing country and thus are subject to more scrutiny from the Fund. We therefore control for larger loans with a dummy variable taking the value of 1 when the loan surpasses 140% of country's quota.[1] We also control for the relative importance of the country within the IMF, using the log

[1] The limit is fixed as 100% of country's quota for SBA and 140% for PRGF. We use the upper limit of 140% to discriminate between large and small loans.

of the country's quota, since quota directly translates into voting rights because the number of votes a country has in the Fund is based primarily on the size of its quota. In addition, a member's quota fixes how much that country may be called upon to lend to other members through the Fund and it also determines how much a member can borrow from the Fund.

Finally, the core of this paper is centred on the ability of member countries to influence the outcome of the Article IV consultation. Indeed, the fact that a country has its own seat at the IMF Executive Board should significantly play on its ability to convince or at least to orient the judgment on its economic situation. We therefore account for the fact that the country has a seat at the Executive Board. Of course, the country under consultation does not vote during the consultation. Moreover, Dreher *et alii* (2006) found that temporary Security Council membership increases the probability of receiving IMF programs by about 20 percent and UNSC membership reduces the number of conditions included in IMF programs by about 20 percent. Indeed, as exposed by the US Department of State (1985): "Examining UN votes makes it possible to make judgments about whose values and views are harmonious with our own, whose values are consistently opposed to ours, and whose practices fall in between". Kuziemko and Werker (2006) empirically found that a country's U.S. aid increases by 59 percent and its U.N. aid by 8 percent when it rotates onto the United Nation Security council. Moreover, there is also evidence that the IMF has been used to influence countries for voting inline with major G7 countries in the UN General Assembly. Thacker (1999) shows that conclusion of IMF programs depends on countries' voting behaviour in the Assembly. Oatley and Yackee (2004) show for the period 1985-1998

that the IMF offers larger loans to closer US allies, as measured by UN voting patterns. Barro and Lee (2005) also found evidence that IMF loans disbursed over the period 1975-2000 were higher for those countries voting in line with France, Germany and the UK. Finally, Dreher and Jensen (2007) find for a sample of 206 letters of intent over the period 1997-2003 that the number of conditions on an IMF loan depends on a borrowing country's voting pattern in the UN General Assembly.

We therefore include this variable in our model. Table 1 below list the countries to be included in our benchmark model. The list of countries is limited to the countries participating in the JP Morgan's Emerging Market Bond Index.

Table 1: Benchmark country sample

Asia	L. America/Carib.	Emerging Europe	Africa/Middle East
China	Argentina	Bulgaria	Cote dIvoire
Indonesia	Brazil	Croatia	Egypt
Korea	Chile	Hungary	Lebanon
Malaysia	Colombia	Poland	Morocco
Pakistan	Dominican Rep.	Russia	Nigeria
Philippines	Ecuador	Serbia	Qatar
Thailand	El Salvador	Turkey	South Africa
Vietnam	Mexico	Ukraine	Tunisia
	Panama		
	Peru		
	Uruguay		
	Venezuela		

Table 2 below presents summary statistics of our variables of interest.

Table 2: Summary statistics

	Mean	Std. Dev.	Min	Max
EMBI sovereign spreads:				
EMBI country	611	876	2	7220
EMBI world	589	278	2	1610
IMF exposure:				
Quota used > 140%	0.354	0.478	0	1
IMF program	0.526	0.499	0	1
IMF quota (log)	6.831	0.940	4.984	8.759
IMF & UN political power:				
IMF Executive Director	0.328	0.470	0	1
UN Security Council seat	0.104	0.306	0	1
UN voting correl. w. USA	0.027	0.167	-0.447	0.318
Macroeconomic fundamentals:				
Real growth	3.861	4.017	-11.032	18.287
Unemployment rate	10.398	5.356	1.843	30.409
Inflation rate	8.778	13.273	-1.400	96.100
Government balance	-3.137	4.522	-23.986	9.277
Reserves	16.711	10.931	1.544	65.646
Short-term external debt	13.086	23.018	0	191.38
PPP exchange rate	211.49	540.49	0.124	3596.4

In table 3, we report the Spearman correlation analysis of our variables of interest. Table 3.1 presents the correlations between variables proxying IMF exposure and IMF and UN political powers. This analysis confirms for example that countries seating at the IMF Executive Board are the largest members and that most of the Executive Directors are from developing countries since the level of the correlation between getting an IMF Executive Director and using the Fund's resources is small. More interestingly, this analysis confirm the analysis of Thacker (1999) that political realignment of the borrowing country on the US position, proxyied by the correlation of the borrowing country's vote at the UN with the US, is positively related to the probability of receiving IMF loan and the probability that this loan is large. Moreover, getting an UN Security Council seat does not apparently in itself improve the probability to get a loan, it improves however the chance that the loan is large. The correlations exposed in table

3.2 are in line with standard international macroeconomic models. The first column indicates that unemployment, inflation and exchange rate are negatively correlated to real GDP growth, while government balance, reserves and short-term debt are positively correlated to real GDP growth.

Table 3: Correlations

Table 3.1: IMF exposure and IMF & UN political power

	Quota used >140%	IMF program	IMF quota	IMF Executive Director	UN Security Council	UN voting correl. w. USA
Quota used > 140%	1					
IMF program	0.702	1				
IMF quota	0.127	-0.121	1			
IMF Executive Director	0.190	0.053	0.552	1		
UN Security Council seat	0.061	-0.018	0.347	0.312	1	
UN voting correl. w. USA	0.201	0.379	-0.336	0.014	-0.039	1

Table 3.2: Macroeconomic fundamentals

	Real growth	Unemployment rate	Inflation rate	Government balance	Reserves	Short-term external debt	PPP exchange rate
Real growth	1						
Unemployment rate	-0.101	1					
Inflation rate	-0.099	-0.037	1				
Government balance	0.286	-0.024	-0.228	1			
Reserves	0.061	-0.347	-0.262	-0.177	1		
Short-term external debt	0.265	-0.194	-0.004	-0.041	0.250	1	
PPP exchange rate	-0.033	-0.034	-0.075	-0.190	0.221	0.006	1

5 How objective is IMF surveillance?

In this section, we analyse the contemporaneous effect of PIN releases on sovereign spreads, and the determinants of this effect. We distinguish this effect of IMF

surveillance on the pricing of risk from its effect on macroeconomic policies of member governments, to which we will turn in the next section.

5.1 Benchmark results

Many factors influence sovereign spreads of countries. IMF surveillance and the insurance implied in it is only one of them, and it should be primarily the quality of policies and the performance of the economy that affects them. As discussed in section 2, the effect of macroeconomic fundamentals on sovereign spreads has been addressed widely in the literature, including in the literature on IMF lending and moral hazard. Our main interest is the effect of IMF surveillance on spreads. Using the daily releases of PINs on spreads to identify IMF surveillance, we first estimate

$$s_{i,t} = \alpha_i + \beta PIN_{i,t} + \gamma X_{i,t} + \lambda M_{i,t} + \omega Z_t + \varepsilon_{i,t} \quad (1)$$

with $s_{i,t}$ as the daily change of EMBI spreads measured in basis points; $PIN_{i,t}$ as a dummy variable taking the value of one if a PIN has been released for a specific country i on a particular day t, $X_{i,t}$ as the vector of political economy variables measuring a country's IMF exposure and its political influence at the IMF and at the UN, $M_{i,t}$ a vector of macroeconomic fundamentals, and Z_t as fundamentals common to all countries.[2] The model includes country fixed effects and uses a robust estimator to correct for heteroskedasticity and skewness in the daily data.

[2] It is common in the literature to test for the effect of external fundamentals, such as US interest rates, business cycle conditions or other factors specific to advanced economies. Our preferred measure of external or common fundamentals is the spread of the EMBI world index, excluding a country's spread itself, as common fundamental, because it constitutes a much broader and more encompassing measure of various external factors that influence countries' spreads.

In principle, a PIN may be important for financial markets and thus influence sovereign spreads to the extent that market participants either (a) receive relevant *new* information from the IMF's analysis and recommendations revealed through the PIN, or (b) update their understanding of the likelihood of future IMF support for the particular country. However, the efficient market hypothesis implies that PIN releases should not have *systematic* effects on countries' sovereign spreads, i.e. the information they contain should not be systematically better or worse than what markets know about existing economic fundamentals.

Table 4: Explaining daily changes in sovereign spreads: macroeconomic fundamentals, IMF exposure and IMF & UN political power

	(1)		(2)		(3)	
PIN release	-4.819	*2.985*	-4.932	*3.003*	-1.231	*1.688*
IMF exposure:						
Quota used > 140%	-0.074	*0.538*	-0.159	*0.562*	-0.146	*0.905*
IMF program	-1.315	*0.931*	-0.478	*0.749*	-0.446	*0.699*
IMF quota	1.632	*2.511*	1.076	*2.185*	1.084	*4.661*
IMF & UN political power:						
IMF Executive Director	-0.728	*0.685*	-0.589	*0.663*	-0.987	*0.977*
UN Security Council seat	-2.735	*1.847*	-2.657	*1.792*	-1.192	*1.180*
UN voting correl. w. USA	--		--		--	
Macroeconomic fundamentals:						
Real growth	-0.145 *	*0.078*			-0.056	*0.163*
Unemployment rate	0.403	*0.357*			0.128	*0.197*
Inflation rate	-0.024	*0.056*			0.047	*0.066*
Government balance	-0.159	*0.127*			-0.058	*0.144*
Reserves	-0.038	*0.053*			-0.002	*0.018*
Short-term external debt					-0.001	*0.001*
PPP exchange rate					-0.001	*0.002*
Common fundamentals:						
EMBI world return	0.767 ***	*0.059*	0.768 ***	*0.060*	0.563 ***	*0.053*
Countries	36		36		23	
Observations	34477		34477		20744	
Country fixed effects	Yes		Yes		Yes	
R-squared	0.048		0.050		0.050	

****, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

Hence unsystematic information contained in PINs should imply H_0: $\beta=0$ and $\gamma=0$ in model (1). It is reassuring that this is indeed what we find in table 4 for EMEs and developing countries: neither PIN releases nor the variables for IMF exposure or political power are systematically related to the movement of sovereign spreads.[3] Macroeconomic fundamentals have the correct sign but of course are moving much too slowly as to have a statistically significant effect on daily changes in spreads.

However, is IMF surveillance necessarily objective, in the sense that the information contained in the PIN releases is truly unsystematic? Or is the content of PINs, and thus

[3] Note that we cannot obtain a point estimate for the voting correlation variable as it is time-invariant and thus picked up by the inclusion of the country fixed effects.

their impact on financial markets, related to the exposure or the power a country exerts within the IMF and within UN? To test this hypothesis, we extent model (1) to allow for interactions between the PIN release and the political power of the country $X_{i,t}$ as well as interactions between the PIN release and fundamentals $M_{i,t}$

$$\begin{aligned} s_{i,t} &= \alpha_i + \beta\, PIN_{i,t} + \gamma\, X_{i,t} + \lambda\, M_{i,t} + \omega\, Z_t \\ &\quad + \delta_X \left(PIN_{i,t} \cdot X_{i,t}\right) + \delta_M \left(PIN_{i,t} \cdot M_{i,t}\right) + \varepsilon_{i,t} \end{aligned} \tag{2}$$

so that our main hypothesis of interest is H_0: $\delta_X=0$. δ_X for the political economy variables is our measure of what we mean by "uneven-handed IMF surveillance" as a negative and significant δ_X implies that a country's sovereign spreads fall systematically if it holds political power at the IMF or UN.

Table 5: Effect of PIN releases on daily changes in sovereign spreads: the role of IMF exposure and IMF & UN political power

	(1)		(2)		(3) EMEs only		(4) post-2000	
Interaction of PIN release with								
IMF exposure:								
Quota used > 140%	-13.749 **	*6.611*	-12.877 **	*6.093*	-15.011 **	*6.681*	-18.586 **	*8.967*
IMF program	2.210	*4.886*	1.668	*3.807*	4.079	*4.574*	3.211	*4.788*
IMF quota	2.273	*2.966*	2.444	*2.616*	2.336	*3.328*	4.317	*3.382*
IMF & UN political power:								
IMF Executive Director	-16.146 **	*6.411*	-16.500 **	*7.244*	-16.733 **	*7.208*	-23.272 **	*10.828*
UN Security Council seat	-19.236 *	*11.374*	-18.323 *	*9.760*	-17.874 *	*9.395*	-27.178 *	*15.714*
UN voting correl. w. USA	-12.580	*21.546*	-7.009	*15.784*	-8.091	*18.840*	-22.306	*23.870*
Macroeconomic fundamentals:								
Real growth	-1.330	*1.842*						
Unemployment rate	-0.561	*0.350*						
Inflation rate	0.152	*0.200*						
Government balance	-0.029	*0.577*						
Reserves	-0.008	*0.159*						
Countries	36		36		31		31	
Observations	34477		34477		30254		22985	
Country fixed effects	Yes		Yes		Yes		Yes	
R-squared	0.048		0.048		0.051		0.032	

Notes: The table shows the coefficients δ_X and δ_M for the effect of PIN releases interacted with/conditioned on the variable for IMF exposure and political influence $X_{i,t}$ and macroeconomic fundamentals $M_{i,t}$ from equation (2)
****, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

Table 5 shows the results for δ_X and δ_M. Overall, there is compelling evidence that there is investor moral hazard in IMF surveillance through the release of PINs. As models (1) and (2) of table 3.5 reveal, the point estimates indicate that sovereign spreads of countries which have an IMF Executive Director fall on average by 16 b.p. in response to a PIN release for this country. A similar effect is found for countries that hold a temporary UN Security Council seat. The point estimate for voting correlation in the UN with the USA is also negative, but not statistically significant in this benchmark specification.

The finding suggests that countries that have political power at the IMF and the UN experience a *systematically* favourable response of their financing conditions to IMF surveillance. One interpretation is that the IMF true economic assessment revealed through the PINs for countries with political power is systematically more favourable than for other countries. However, this possibility would require that financial markets

are inefficient and make systematic mistakes in their own assessment of countries economic fundamentals and probability of default. An alternative interpretation is that financial markets understand PINs as containing a biased, positive IMF assessment or a relatively stronger IMF commitment to support countries with political power in case of a crisis and default. In other words, PINs contain a systematic bias in favour of countries with political power, lowering the risk premia investors require for holding their sovereign bonds. This bias constitutes a bias as it induces that financing conditions do not fully price economic fundamentals and the true probability of default.

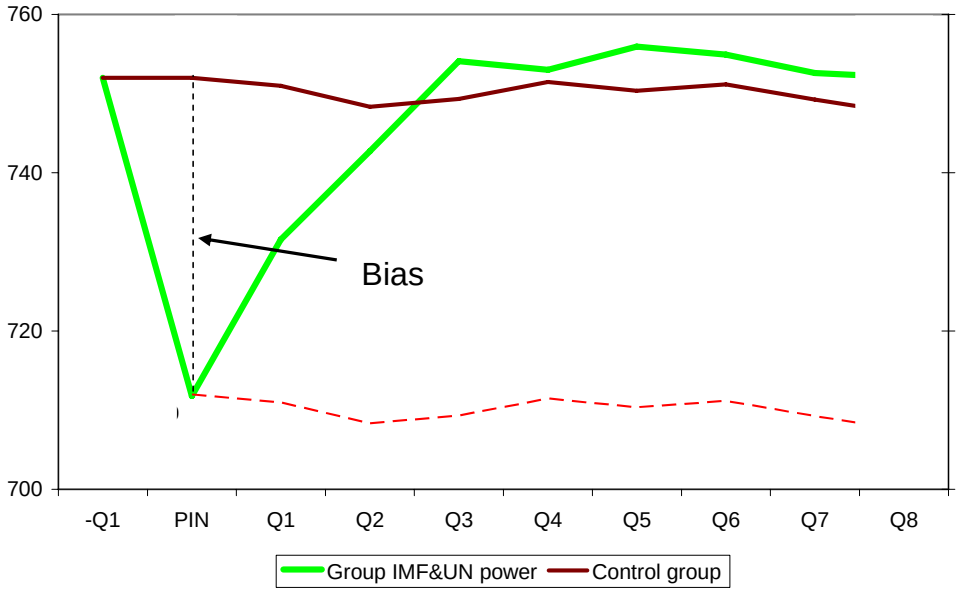
This argument is of course a strong one, and we need to ensure that the empirical finding is not an artefact of other, omitted factors from the model. A prime candidate is the insurance element implicit in IMF surveillance that we have discussed above. Just as for IMF lending, an important function of IMF surveillance is, under certain conditions, to provide an implicit insurance or support for countries in financial difficulties. Hence the very purpose of a PIN release may be precisely for the IMF to signal to financial markets that it stands ready to support a country that is facing such difficulties. This guarantee or insurance should induce a drop in sovereign spreads and an improvement of financing conditions.

It cannot be ruled out that countries with political power at the IMF and the UN are more likely to face (legitimate) payments difficulties. Hence the drop in sovereign spreads for these countries with political power would not reflect moral hazard, but merely indicate that insurance element implicit in IMF surveillance.

We address this possibility in two ways. First, we point to Table A.3 which shows that the correlation between IMF exposure, i.e. difficulties countries are facing implicit in that they have an IMF program or use more than 140% of the allotted quota, and the proxies for political power are mostly small. Second, and more importantly, we explicitly control for the insurance motive implicit in IMF surveillance by including the variables of IMF exposure in our model of equation (2). Table 3.5 indeed shows that sovereign spreads of countries which exceed 140% of their quota tend to react favourably to PIN release by dropping 12-13 b.p. Thus the results for the political power variables are robust to controlling for the insurance element in IMF surveillance.

Overall, this evidence suggests that IMF surveillance to some extent indeed plays its intended role of providing insurance for member governments that are facing payment difficulties. This is an indication that IMF surveillance constitutes an effective tool that is capable of carrying an insurance function. However, the empirical results also show that IMF surveillance is not entirely objective and that it includes a bias in favour of countries that hold political power at the IMF and at the UN. This bias is economically meaningful and suggests that IMF surveillance induces (investor) moral hazard. To support this evidence, we plotted the reaction of spreads to PIN releases differentiating between countries holding political power and the control group. Chart 1 below confirm that these countries holding political power receive systematically a more positive assessment as their spreads fall with the PINs are release while there is no reaction for countries that do not hold such political power.

Chart 1: Reaction of sovereign spreads to PIN release ---
PIN reaction of group with IMF & UN power vs. control group



5.2 Extensions and robustness

We conduct a number of further extensions to test the robustness of the benchmark results. First, we investigate the stability of the results for alternative country groupings and time periods. Models (3) and (4) in Table 5 show that restricting the country sample to EMEs (i.e. excluding developing countries) does not alter the results. However, what is interesting is that the bias has become stronger after 2000, when the release of PINs had been made compulsory. This is suggestive that PINs may now be taken even more seriously by financial markets as countries that fear an unfavourable IMF assessment can no longer block the release of a PIN.

A second test is whether sovereign spreads are more or less sensitive to macroeconomic fundamentals depending on country characteristics, in particular countries' political influence. This test relates back to the literature on IMF lending and moral hazard, see

e.g. Dell'Ariccia, Schnabel and Zettelmeyer (2002). The argument is that sovereign spreads for countries with investor moral hazard should be less sensitive to macroeconomic fundamentals because what matters also for the pricing of risk is to what extent financial markets expect the IMF to bail out a country in financial distress. Earlier work, as surveyed in section 2, indeed found some evidence for such a link in IMF lending in the 1990s.

We conduct this test in two different ways. A first way is to explicitly include interaction terms between the political power of a country $X_{i,t}$ and fundamentals $M_{i,t}$

$$S_{i,t} = \alpha_i + \gamma X_{i,t} + \lambda M_{i,t} + \delta_{XM} (X_{i,t} \cdot M_{i,t}) + \omega Z_t + \varepsilon_{i,t} \quad (3)$$

We use quarterly frequency and levels of spreads $S_{i,t}$ as the dependent variable in this specification because we are interested in the effect of macroeconomic variables, which change only at a quarterly frequency. Our hypothesis of interest is H_0: $\delta_{XM}=0$.

Table 6 shows the coefficients λ, γ and ω, and reveals that macroeconomic fundamentals indeed exert a statistically significant and economically meaningful effect on the level of spreads. All variables have the expected sign, with more growth, a better government fiscal balance and higher reserves all lowering spreads; and higher unemployment, more inflation and an increase in short-term external debt raising spreads.

Table 6: Explaining sovereign spreads: macroeconomic fundamentals, IMF exposure and IMF & UN political power

	(1)		(2)		(3)		(4)	
IMF exposure:								
Quota used > 140%					180.38 ***	*68.793*	157.09 *	*84.948*
IMF program					42.218	*99.437*	-5.164	*107.10*
IMF quota					602.75 ***	*163.08*	118.00	*168.25*
IMF & UN political power:								
IMF Executive Director					-34.287	*68.994*	-69.833	*61.707*
UN Security Council seat					-189.24 **	*73.235*	-165.44 *	*87.331*
UN voting correl. w. USA					--		--	
Macroeconomic fundamentals:								
Real growth	-5.899	*5.326*	-7.780	*5.902*	-9.976 *	*5.763*	-12.192 *	*7.001*
Unemployment rate	68.020 ***	*10.346*	65.537 ***	*10.440*	41.986 ***	*12.048*	66.048 ***	*12.058*
Inflation rate	0.545 *	*0.288*	0.510 **	*0.216*	0.658 **	*0.297*	0.581 ***	*0.222*
Government balance	-45.835 ***	*6.434*	-15.179 ***	*5.482*	-45.655 ***	*7.074*	-9.776 *	*6.004*
Reserves	-10.339 ***	*3.599*	-15.122 ***	*3.234*	-11.796 ***	*4.393*	-12.458 ***	*3.902*
Short-term external debt			1.761 *	*1.088*			1.783	*1.474*
PPP exchange rate			-0.199	*0.264*			-0.182	*0.276*
Common fundamentals:								
EMBI world			0.396 ***	*0.065*			0.429 ***	*0.073*
Countries	36		23		36		23	
Observations	1044		703		1044		633	
Country fixed effects	Yes		Yes		Yes		Yes	
R-squared	0.147		0.268		0.138		0.257	

Notes: The table shows the coefficients γ for IMF exposure and political influence, λ for macroeconomic fundamentals and ω for common fundamentals from equation (3):
****, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

Table 7: Sensitivity of sovereign spreads to macroeconomic fundamentals: the role of IMF exposure and IMF & UN political power

	(1)		(2)		(3)	
Macroeconomic fundamentals:						
Real growth	-5.899	*5.326*	-13.587 **	*5.983*	-7.780	*5.902*
Unemployment rate	68.020 ***	*10.346*	70.905 ***	*10.682*	65.537 ***	*10.440*
Inflation rate	0.545 *	*0.288*	0.209	*0.215*	0.510 **	*0.216*
Government balance	-45.835 ***	*6.434*	-20.440 ***	*5.561*	-15.179 ***	*5.482*
Reserves	-10.339 ***	*3.599*	-19.550 ***	*3.219*	-15.122 ***	*3.234*
Short-term external debt			0.707	*1.104*	1.761 *	*1.088*
PPP exchange rate					-0.199	*0.264*
EMBI world					0.396 ***	*0.065*
Countries	36		23		23	
Observations	1044		703		703	
Country fixed effects	Yes		Yes		Yes	
R-squared	0.147		0.226		0.268	

Notes: The table shows the coefficients δ_{XM} for the interaction between of the variable for IMF exposure and political influence $X_{i,t}$ and macroeconomic fundamentals $M_{i,t}$ from equation (3). Bold numbers imply that macroeconomic fundamentals are more sensitive to given political economy variables.
****, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

Table 7 provides the point estimates for δ_{XM}. The main finding is that political power and also IMF exposure in several cases alter the sensitivity of countries' sovereign spreads to macroeconomic variables. And they do so mostly in the expected direction: for instance, a country with a UN Security Council seat has a *lower* sensitivity of spreads to changes in GDP growth, unemployment and the fiscal balance.[4]

The second test we conduct is to ask whether the overall volatility of sovereign spreads is lower for countries that hold political power at the IMF or UN. The argument is similar to the one for the previous test: more political power should insulate the financing conditions of countries from fundamentals and general market conditions. We test this hypothesis by estimating:

$$\Omega_{i,t}^{S} = \alpha_i + \gamma X_{i,t} + \lambda M_{i,t} + \omega Z_t + \varepsilon_{i,t} \qquad (4)$$

[4] Note that the different sign of the coefficient e.g. for unemployment is due to the fact that higher unemployment implies higher spreads as can be seen from Table 3.3.

with Ω as the volatility of sovereign spreads in each quarter, measured as the standard deviation of daily changes in sovereign spreads during each quarter. Table 8 shows that there is indeed some evidence in support of the hypothesis, as in particular countries with an IMF ED overall face less volatile sovereign spreads.

Table 8: Explaining *volatility* in sovereign spreads: macroeconomic fundamentals, IMF exposure and IMF & UN political power

	(1)		(2)	
IMF exposure:				
Quota used > 140%	5.361 ***	*1.933*	6.004 **	*2.388*
IMF program	7.710 *	*3.948*	-0.535	*2.440*
IMF quota	2.754	*9.319*	-34.454 ***	*8.127*
IMF & UN political power:				
IMF Executive Director	-3.455 *	*1.879*	-8.078 ***	*2.472*
UN Security Council seat	6.921	*8.177*	-8.943 *	*4.926*
UN voting correl. w. US.	--		--	
Macroeconomic fundamentals:				
Real growth	-0.138	*0.294*	-0.026	*0.434*
Unemployment rate	-1.717	*1.459*	2.422 ***	*0.545*
Inflation rate	0.901 ***	*0.125*	0.536 ***	*0.118*
Government balance	-0.907 **	*0.357*	-0.891 **	*0.380*
Reserves	-0.383 **	*0.189*	-0.598 ***	*0.152*
Short-term external debt			0.103 **	*0.043*
PPP exchange rate			-0.017 **	*0.007*
Common fundamentals:				
EMBI world			0.010 ***	*0.004*
Countries	34		21	
Observations	1022		602	
Country fixed effects	Yes		Yes	
R-squared	0.182		0.429	

Notes: The table shows the coefficients from equation (5).
****, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

As a third and final robustness test, we extend the benchmark model (2) to other asset prices. We stress that it is less clear whether to expect an effect of PIN releases on other asset prices, such as exchange rates and equity markets. However, the advantage is that such asset price data is available for a much larger number of countries than sovereign

spreads. Tables 9 and 10 show the empirical results for model (2) for exchange rates and equity returns, respectively. They broadly confirm that political power induces a more favourable reaction of asset prices – an appreciation of the exchange rate vis-à-vis the UD dollar (indicated as a negative sign in Table 10) and higher equity returns.

Table 9: Effect of PIN releases on daily changes in *exchange rates*: the role of IMF exposure and IMF & UN political power

	(1)		(2)	
Interaction of PIN release with				
IMF exposure:				
Quota used > 140%	0.138	*0.086*	0.212	*0.135*
IMF program	-0.194 *	*0.113*	-0.190 *	*0.101*
IMF quota	0.116	*0.110*	0.027	*0.019*
IMF & UN political power:				
IMF Executive Director	-0.043	*0.191*	-0.193 *	*0.107*
UN Security Council seat	-0.405 ***	*0.105*	-0.163	*0.125*
UN voting correl. w. USA	-0.164	*0.359*	-0.090	*0.318*
Countries	34		137	
Observations	20383		108928	
Country fixed effects	Yes		Yes	
R-squared	0.018		0.007	

Notes: The dependent variable is the daily log exchange rate change. The table shows the coefficients δ_X and δ_M for the effect of PIN releases interacted with/conditioned on the variable for IMF exposure and political influence $X_{i,t}$ and macroeconomic fundamentals $M_{i,t}$ from equation (2).
****, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

Table 10: Effect of PIN releases on daily *equity returns*: the role of IMF exposure and IMF & UN political power

	(1)		(2)	
Interaction of PIN release with				
IMF exposure:				
Quota used > 140%	-0.953 *	*0.565*	-0.737 *	*0.387*
IMF program	-0.179	*0.486*	0.326	*0.300*
IMF quota	0.059	*0.219*	-0.024	*0.073*
IMF & UN political power:				
IMF Executive Director	0.676 *	*0.359*	0.247	*0.211*
UN Security Council seat	-0.649	*0.563*	-0.380	*0.356*
UN voting correl. w. USA	0.534	*1.046*	-0.025	*0.567*
Countries	31		71	
Observations	22395		66879	
Country fixed effects	Yes		Yes	
R-squared	0.036		0.050	

Notes: The dependent variable is the daily equity return. The table shows the coefficients δ_X and δ_M for the effect of PIN releases interacted with/conditioned on the variable for IMF exposure and political influence $X_{i,t}$ and macroeconomic fundamentals $M_{i,t}$ from equation (2).
****, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.*

In summary, we emphasise that these various pieces of evidence presented in this section, in particular on the sensitivity of financing conditions to macroeconomic fundamentals and political economy factors, are by no means a proof for the presence of moral hazard. But they are fully consistent and further support the evidence for the presence of investor moral hazard outlined in section 4.1.

6 IMF surveillance and *ex-post* macroeconomic performance

We now turn to the effect that IMF surveillance has on economic policies and the macroeconomic performance of member governments. As we have stressed throughout the paper, the fact that a country may change its policy stance and e.g. pursue more expansionary fiscal and monetary policies in response to IMF surveillance is by no means a proof of moral hazard. It may equally well mean that the IMF surveillance is

effective in fulfilling its insurance function and function of (potential) lender of last resort, thus allowing countries with financing difficulties to overcome these problems. Hence the presence of a bias requires that governments pursue different economic policies not due to an IMF insurance motive based on legitimate financing needs, but due to other factors that would not legitimately warrant the provision of implicit IMF insurance. Our empirical strategy is to test whether the PIN release alters the performance of an economy in the subsequent quarters and whether this effect is systematically related to the political power that countries have at the IMF or UN. In other words, if such bias is present in IMF surveillance, then one would expect that a more "positive" surveillance assessment – as measured by the reaction of financial markets – reduces the pressure on governments to implement reforms for those policy-makers that hold political power.

To test this hypothesis, we estimate the effect of PIN releases on *future* sovereign spreads and on *future* macroeconomic fundamentals, controlling for country-specific and common fundamentals:

$$s_{i,t+k} = \alpha_i^1 + \beta^1 PIN_{i,t+k} + \gamma^1 X_{i,t+k} + \lambda^1 m_{i,t+k} + \omega^1 z_{t+k} + \delta_X^1 \left(PIN_{i,t} \cdot X_{i,t}\right) + \varepsilon_{i,t+k}^1 \quad (6)$$

$$m_{i,t+k} = \alpha_i^2 + \beta^1 PIN_{i,t+k} + \gamma^2 X_{i,t+k} + \lambda^2 m_{i,t+k-1} + \omega^2 z_{t+k} + \delta_X^2 \left(PIN_{i,t} \cdot X_{i,t}\right) + \varepsilon_{i,t+k}^2 \quad (7)$$

δ^1 is the effect of IMF surveillance on the future economic performance of a country that is due to e.g. the political power a country holds. Expressed in terms of the effect of surveillance on sovereign spreads, our measure of the bias is $[\delta^1 + (\delta^2 * \lambda^1)]$.

More precisely, there are two effects: the first is the *direct effect* that the PIN release exerts on sovereign spreads, namely δ^1. The second is the *indirect effect* that the PIN release has on sovereign spreads via its impact on macroeconomic fundamentals $m_{i,t+k}$, which is $(\delta^2 * \lambda^1)$. Together they make up the total effect of the PIN on future sovereign spreads, which is $[\delta^1 + (\delta^2 * \lambda^1)]$. While the interpretation of the indirect effect is straightforward, it is less clear what the direct effect δ^1 may reflect. One interpretation of δ^1 is that it captures the effect of the PIN release on future spreads through fundamentals which are not included in the vector $M_{i,t}$. But it may also capture other factors, such as changing political conditions in a country.

As to the empirical implementation, equations (6) and (7) are estimated jointly using a seemingly unrelated regression (SURE) estimator. This joint estimation improves the efficiency of the point estimates as it takes into account the correlation of the residuals in both equations.

Table 11 provides the estimates of δ^1 from equation (6); Table 12 shows δ^2 from equation (7) and Table 13 the magnitude of the total bias $[\delta^1 + (\delta^2 * \lambda^1)]$ from the SURE estimation. Turning to Table 11 first, there appears to be a significant and economically meaningful effect of PIN releases on future sovereign spreads. And this effect plays differently whether the country as an IMF ED or UN seat. Indeed, as anticipated, countries with political power tend to pursue more expansionary fiscal and monetary

policies in response to IMF surveillance whereas it is not the case for country without political power. More precisely, after three quarters, government may start to use the benefit of the bias in PIN publication to implement more expansionary policies as their political power may reduce the pressure to implement reforms as exposed in table 12. Overall, table 13 shows the the magnitude of the total bias $[\delta^1 + (\delta^2 * \lambda^1)]$, which accounts on average over the four quarters after the PIN release to 25 b.p. Moreover, we are able to disentangle the *direct effect* that the PIN release exerts on sovereign spreads, namely δ^1, that accounts for 43% of the total ex-post bias on average over the following four quarters after the release of the PIN.

Table 11: Effect of IMF exposure and political power on sovereign spreads over time

	PIN release		Q1		Q2		Q3		Q4		Q5		Q6		Q7		Q8	
Group IMF / UN power	-18.22	*	6.052		6.649		16.758	***	15.078	***	13.515	***	18.855	***	15.053	**	17.838	***
	9.170		*14.350*		*11.140*		*5.708*		*4.079*		*4.355*		*6.405*		*6.888*		*5.430*	
Group "no power"	1.836		-2.696	*	-2.255		-3.964		-2.306		-3.786		-4.275		-3.401		-0.648	
	1.436		*1.437*		*2.101*		*2.503*		*1.745*		*2.786*		*2.817*		*2.289*		*2.837*	
IMF exposure:																		
Quota used > 140%	-13.749	**	1.739		6.407		7.480		10.607	***	14.288	***	13.145	**	13.779	**	15.653	**
	6.611		*9.562*		*9.525*		*6.756*		*4.024*		*4.655*		*6.097*		*6.295*		*6.097*	
IMF program	2.210		-0.874		-2.713		-1.937		-4.801		-6.791		-4.582		-4.528		-5.929	
	4.886		*5.014*		*6.803*		*5.926*		*3.590*		*4.330*		*5.708*		*5.648*		*5.708*	
IMF quota	2.273		-0.214		-1.801		-1.189		-0.708		-1.047		-1.883		-2.177		-1.986	
	2.966		*3.351*		*4.392*		*3.626*		*2.910*		*3.802*		*4.583*		*3.740*		*4.583*	
IMF & UN political power:																		
IMF Executive Director	-16.146	**	8.165		5.251		11.004		12.334	**	15.622	**	17.788	**	19.151	**	19.453	**
	6.411		*11.650*		*7.877*		*7.043*		*4.797*		*6.629*		*9.011*		*8.444*		*9.011*	
UN Security Council seat	-19.236	*	-7.683		6.120		6.842		7.173		7.733		10.909	**	11.049	**	10.340	
	11.370		*12.150*		*10.670*		*14.300*		*7.413*		*8.899*		*5.171*		*5.231*		*7.132*	
UN voting correl. w. USA	-12.580		-0.492		-6.114		1.259		4.447		7.575	*	11.217	**	12.909	***	12.436	**
	21.540		*23.370*		*25.720*		*13.400*		*3.751*		*3.951*		*4.711*		*4.541*		*5.741*	

Notes: The table shows the estimates of coefficient δ^1 of equation (5). The dependent variable is the quarterly change in sovereign spreads from the day after a PIN release to up to 8 quarters into the future due to various IMF and UN exposure and power measures. "Group IMF / UN power" includes all those countries that either had an IMF Executive Director, a UN Security Council seat or had a positive voting correlation with the United States. "Group 'no power'" includes all those countries which had none of these three criteria in place at the time of a PIN release.

Table 12: Effect of IMF exposure and political power on macroeconomic performance

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Real growth	-0.175	-0.372	-0.07	-0.977	-1.383 *	-1.663 **	-1.471 **	-1.377 *
	0.173	*0.234*	*0.378*	*0.637*	*0.737*	*0.641*	*0.696*	*0.813*
Unemployment rate	0.057	0.027	0.078	0.187 *	0.185 *	0.109	0.017	0.02
	0.075	*0.09*	*0.087*	*0.108*	*0.117*	*0.166*	*0.197*	*0.211*
Inflation rate	0.476	0.403	-0.473	-0.498	-0.219	0.388	-0.242	0.263
	0.672	*1.036*	*1.01*	*0.89*	*1.002*	*1.033*	*1.089*	*1.169*
Government balance	-0.189	-0.22	-0.293 *	-0.415 **	-0.716 ***	-0.586 **	-0.608 **	-0.866 ***
	0.112	*0.154*	*0.168*	*0.186*	*0.244*	*0.236*	*0.255*	*0.31*
Reserves	-0.191	0.185	-0.051	-0.206	-0.172	0.483	-0.332	-0.752
	0.117	*0.387*	*0.337*	*0.43*	*0.445*	*0.539*	*0.681*	*0.705*

Notes: The table shows the estimates of coefficient δ^2 of equation (6). The dependent variable is the quarterly change in macroeconomic fundamentals from the day after a PIN release to up to 8 quarters into the future for the "Group IMF / UN power", i.e. for those countries that either had an IMF Executive Director, a UN Security Council seat or had a positive voting correlation with the United States.

Table 10: Quantifying the ex-post bias in terms of sovereign spreads

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Direct	6.05	6.65	16.76	15.08	13.52	18.86	15.05	17.84
Indirect	9.18	9.90	16.93	21.71	23.78	21.52	23.09	22.56
Total	15.23	16.55	33.68	36.79	37.29	40.37	38.14	40.40

Notes: The table shows the total country moral hazard effect, which is $[\delta^3 + (\delta^2 * \lambda^1)]$, based on a 3SLS estimation of equations (5) and (6) for the "Group IMF / UN power", i.e. for those countries that either had an IMF Executive Director, a UN Security Council seat or had a positive voting correlation with the United States. The first element is the direct effect that the PIN release exerts on sovereign spreads in the future, namely δ^3. The second element is the indirect effect that the PIN release has on sovereign spreads via its impact on macroeconomic fundamentals $m_{i,t+k}$, which is measured as $(\delta^2 * \lambda^1)$. Together they make up the total effect of the PIN on future sovereign spreads, or the total country moral hazard.

7 Conclusion

In this paper, we intended to provide evidence that the surveillance role of the IMF is subject to political influence. While the provision of financial support is biased towards politically and geopolitically important countries and aligned to the major shareholders, we provide evidence that this is also the case for surveillance. Moreover, the behaviour of governments following the Article IV consultation – and the subsequent official publication of the PIN and Article IV report – appears to be different in that they follow rather expansionary policies.

More precisely, our empirical analysis revealed two main results. First, the release of PIN exerts a significant effect on financing conditions of emerging markets. The financial market reaction we find underlines that there is indeed an insurance role implicit in IMF surveillance as countries that face difficulties, as indicated by the fact that they have an IMF program or draw on more than 140% of their quota, see their sovereign spreads fall on average by 10-20 basis points (b.p.) immediately in response to a PIN release. But there appears to also be a political bias as the sovereign spreads of an EME decline by 15-20 b.p. if it has an IMF Executive Director, or holds a seat in the UN Security Council, or if it has a positive voting correlation with the USA in the UN. Hence the magnitude of this bias is economically sizeable. The findings are robust to various extensions and modifications.

As the second main result, we find that economic policies and the macroeconomic performance deteriorate gradually after PIN releases for countries with political power at the IMF and UN relative to the control group, i.e. those of countries without such power. Overall, the findings indicate that the bias induced by the fact that the IMF is favouring those countries with political power amounts to an increase of sovereign spreads by 30-40 b.p. over a one- to two-year horizon due to the effect of the deterioration of macroeconomic fundamentals on financing conditions.

Overall, the findings underline that IMF surveillance is indeed relevant as it exerts a significant effect on financial markets as well as on economic policies by member governments. As such, IMF surveillance fulfils an important insurance role as it helps improve financing conditions for countries that face financial and economic difficulties. However, the results also imply that IMF surveillance is not even-handed as we have shown that countries are treated differently depending on their political influence at the IMF and in the UN.