The IMF: Lender of Last Resort or Scapegoat?

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Abstract

IMF arrangements provide countries with increased access to foreign exchange during balance of payments crises. Because ready access to foreign exchange may lower the incentives of governments to pursue policies which will avoid such crises, the Fund imposes conditions upon countries in return for the loan of foreign exchange. Hence, the conventional understanding is that governments entering arrangements need an IMF loan and have no choice but to accept IMF conditions. Yet, some governments enter into IMF arrangements even when they do not need foreign exchange. Why? I argue that by tying their hands with IMF conditionality, governments can increase their bargaining leverage with domestic opponents of economic reform. Governments use IMF conditions to push through their preferred policies, which otherwise would not be approved.

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1. Introduction

During the final months of 1998, President Cardoso of Brazil negotiated an IMF package for $41.5 billion. Ostensibly, the IMF loan was intended to shore up the Brazilian real in the wake of the financial crises in Thailand, Korea, Indonesia, and Russia.

Of course, as is standard with an IMF package, the Fund expected Brazil to meet certain conditions in return for the loan. The bulk of conditions involved a fiscal adjustment program, in particular, cutting overall federal expenditures by 20 percent, cutting federal infrastructure projects by 40 percent, and reforming the social security system (*Reuters*: 9 November 1998). Without these reforms, the government expected to be in deficit by the end of 1999. With these reforms, however, the government will "achieve primary surpluses equivalent to 1.8 percent of GDP in 1999, 2.0 percent in 2000, and 2.3 percent in 2001."[1]

These reforms involve a significant restructuring of government revenue and consumption, and many segments of society will lose out. Ideally, the changes will improve the Brazilian economy as a whole. According to the Brazilian Letter of Intent, the goal is to promote investor confidence and improve economic growth. There is no consensus, however, that the program will have its intended effect, or even that these means to stability are desirable.

What is clear is that many groups will be immediately hurt. Thus, the Cardoso administration has faced opposition. Indeed, Cardoso has been trying for years to get the approval for some of these measures, but has met with resistance from within his governing coalition. With the shadow of the East Asian and Russian crises looming, however, Cardoso has made advances. For example, as Cardoso's team negotiated the IMF arrangement in Washington, the President won approval in the

lower house of the Brazilian Congress for the overhaul of the pension system (*Reuters*: 9 November 1998; *Associated Press*: 5 November 1998). Although such legislation had been bogged down for nearly four years, Cardoso presented it as necessary to win IMF approval. Cardoso declared, "The whole world is watching us, watching to see if we'll be able to resolve the crisis" (*Associated Press*: 5 November 1998). Under such scrutiny, those resisting reform may acquiesce. It seems that during these critical times, Brazil dares not reject the IMF.

But how useful is the IMF loan? The conventional understanding of IMF arrangements is that governments have no choice but to accept IMF conditions in return for needed foreign exchange. Yet Brazil's finance minister, Pedro Malan, pointed out that at the time the deal was being negotiated the country's foreign reserves, at $43 billion, were much stronger than other countries that have required an IMF rescue (*Financial Times*: 19 November 1998). He claimed that the loan was precautionary and hoped that Brazil would not actually draw upon much of it.

Indeed, if a crisis such as transpired in East Asia and Russia had hit Brazil, neither Brazil's reserves nor the IMF loan would have been enough to save the real. Consider that on January 14th, Brazil lost $2 billion and on the 15th, $300 million. The following day Malan explained, "You saw what happened. There was no big run." Note that $2.3 billion in two days is "no big run." Imagine what a "big run" would do. Even at this "slow pace," $41.5 billion would last only about 18 days. And in fact Brazil only received a portion of the IMF money up front. The rest is to be drawn upon over the course of the arrangement, provided the country lives up to conditions. Thus, if there had been a run, the government could not have defended the currency with or without the IMF money. So Cardoso can not have signed the agreement for the loan.

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[1] See the Brazilian Letter of Intent associated with the IMF package available at the IMF website: www.imf.org.

Why else would the government turn to the IMF? Note that Cardoso wants to reduce public expenditures and has had trouble convincing his governing coalition. By introducing the IMF agreement, he tied his preferred policies to the Fund's conditions, a rejection of which will send a negative signal that Brazil cannot live up to the IMF's prescription. These reforms have been moving slowly through Congress for several years. Only now, when the reforms are being brought before Congress in the context of an IMF agreement – with "the whole world watching" – has the pace of reforms stepped up.

Hence the question, has the Cardoso administration entered into an IMF agreement because it needs foreign exchange or because it wants specific conditions imposed upon the country? Is the Fund playing the role of lender of last resort, or is it merely being used as a scapegoat for the government's policies?

The Brazilian case is an exciting example to follow as it unfolds. My question is more general: why do governments and the International Monetary Fund enter into agreements?

The answer proposed by some scholars is that governments sign IMF agreements because they want conditions imposed to push through unpopular economic policies (Spaventa 1983, Remmer 1986, Vaubel 1986, Putnam 1988, Stein 1992, Edwards and Santaella 1993, Bjork 1995, Dixit 1996). The logic behind this argument follows Schelling's conjecture that "the power to constrain an adversary may depend on the power to bind oneself" (1960:22). In this paper, I develop a formal approach to this question and test the implications statistically.

The paper proceeds as follows. After providing a brief background of IMF arrangements and the rationale for conditionality (section 2), I present some qualitative evidence that there is more to signing an agreement than simply the need for foreign exchange (section 3). In sections 4 and 5, I

present the formal logic behind the argument that governments enter agreements because they want IMF conditions to be imposed. Section 6 tests the implications of the formal work using a statistical model. Section 7 concludes.

2. Background

The founders of the International Monetary Fund believed that even if governments pursue sound economic policy, normal trading may lead to temporary shortfalls in balance of payments. Thus, one of the functions of the IMF is to provide its members "with opportunity to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity" (*Articles of Agreement*, cited in de Vries 1986:14). The Fund does this by requiring members to keep on deposit at the IMF a "quota" of national currency, the specific amount depending upon the size of the member's economy. The IMF's "financial structure is close to that of a credit union [with] access to a pool of resources, which it can onlend to member countries" (Fischer 1999). Such an option is designed to lower the risks of international trade and thus encourage countries not to engage in beggar-thy-neighbor trade policies and competitive devaluations of currency.

By providing countries with loans of foreign exchange during financial crises, the International Monetary Fund plays the role of an international lender of last resort (Fischer 1999). The existence of a lender of last resort introduces moral hazard, however (see Bird 1995 and Fischer 1999). Shortfalls in foreign reserves may arise from normal trading, but they may also arise from bad policy. And if a government knows it has access to an IMF loan, it will have weaker incentive to adjust its policies. The loan simply ends up subsidizing the balance of payments deficit, encouraging bad policies.

How does one distinguish between a balance of payments problem due to normal trading and a problem due to policy? The Fund sets the mark at 25 percent of a country's quota (Stiles 1990, 2). The Fund presumes that countries pursuing sound economic policies will need to draw on no more than 25 percent of their quota. Thus, a member can freely draw on other countries' currency up to an amount equivalent to 25 percent of its quota whenever it faces a balance of payments shortfall (Stiles 1990, 2). A government requiring more than this amount is assumed to have bad policies.

How does the Fund encourage such countries not to engage in beggar-thy-neighbor policies without encouraging moral hazard? To cope with such situations, the IMF founded the "Stand-By Arrangement" (SBA) in 1952. Under an SBA, a large amount of hard currency (greater than 25 percent of the member's quota) is set aside for the duration of the agreement. The government can draw on these funds at scheduled intervals and the arrangement is thought of as a "loan," even though the government is under no obligation to actually draw down any of the foreign exchange provided. The currency simply "stands-by" if needed.

To address the problem of moral hazard, the Fund attaches conditions to an SBA. Thus, governments do not have unlimited access to foreign exchange. If a government finds itself in a deep financial crisis, it must sacrifice the country's sovereignty and submit to the IMF's conditions in order to receive a loan. The government must change its "bad" policies to what the IMF views as "good" ones. Because balance of payments deficits are viewed as problems of excessive demand, conditions usually entail fiscal austerity (cutting government services and increasing taxes), tight monetary policy (raising interest rates and reducing credit creation), and currency devaluation (Taylor 1993, 41-2).[2] Governments entering into an IMF program are required to follow these

[2] Officials at the IMF have come to believe that some balance of payments crises are purely the result of random shocks and are not due to bad policy. Hence, the Fund has created facilities which provide

conditions and thus sacrifice some sovereignty in return for the IMF loan. The immediate impact of reducing demand through the Fund's measures is severe, particularly on labor and the poor, and the government is viewed by domestic constituencies as "selling out" (Remmer 1986:7). Hence, "Policy conditionality can be interpreted as a...penalty, as seen from the viewpoint of the borrower country's policy makers" (Fischer 1999). Governments, it is assumed do not want conditions to be imposed upon them.

The claims of many governments are consistent with this view. Consider the Philippine government, for example. The Philippines were under IMF arrangements from 1973 through 1981. In 1982, the chief propagandist newspaper for President Marcos's government issued the following opinion (cited in Bello et al. 1982):

> The International Monetary Fund and the World Bank have been the main stumbling blocks of our economy since 1946. ... The American (World Bank/IMF) formula of giving us $100 million in exchange for our right arm is no longer in our interest. The armchair economists of the World Bank and their Filipino counterparts will sink us if we don't look out. This colonization without an occupation force is not comfortable.

Every failure of the Philippine economy was blamed on the IMF. Nevertheless, the Philippine government entered into another spell of agreements in 1983 which lasted straight through the rest of the decade.

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unconditioned currency, such as the Compensatory Financing Facility and the Oil Facility. Arrangements under these facilities involve no policy prescriptions, so are not treated in this study as IMF "programs."

The Fund has instituted three other types of arrangements, however, that do involve conditionality: the Extended Fund Facility (EFF), the Structural Adjustment Facility (SAF), and the Enhanced Structural Adjustment Facility (ESAF). Polak (1991:6) describes the differences between the arrangements as they relate to the conditions, timing, and size of the loan disbursements, but argues that the fundamental objectives of these programs do not differ. Thus, in this study I consider only whether a country is under or not under one of these conditioned arrangements without differentiating by type (following Santaella 1996 and Knight and Santaella 1997). Note that in the full sample of the data used here, which covers 135 countries from 1951 or date of independence to

Are all governments with IMF arrangements the helpless victims of economic crises with no choice but to submit to conditions? In the next section, I present evidence that challenges this view. Often, governments not only have a choice, but they choose an IMF arrangement because they want conditions to be imposed, not because they need a loan.

3. What drives participation?

Conventional wisdom holds that governments turn to the Fund for a straightforward reason: they need foreign exchange (Haggard and Kaufman 1992). They do not want to sacrifice their sovereignty and have conditions imposed, but they need the IMF loan. They accept conditions because they have no choice.

Two sets of observations challenge the conventional view. The first set of observations challenges the view that governments have no choice but to turn to the Fund. Many governments with "no choice" choose not to turn to the IMF. I call these cases "victims without a program." The second set of observations implies that governments do not sign agreements because they need foreign exchange, but because they want conditions imposed. These are observations of governments with IMF programs that have no foreign exchange crisis. I call these cases "non-victims with a program."

Victims without a program

As an example of the first type of observation take Nigeria, which faced its worst balance of payments crisis in 1982. The overall balance of payments deficit reached 7.28 percent of GDP and foreign reserves dropped to 1.2 times average monthly import requirements. By 1983, foreign reserves reached the lowest point in Nigerian history, averaging just 1.0 times monthly import

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1990, 598 of the 678 agreements are SBAs (88 percent). These data come from the *ACLP World Political/Economic Database*.

requirements.[3] Like many other countries in such dire straights, Nigeria had no choice but to turn to the IMF for a loan, accepting whatever conditions demanded. But it did not.

Why did the Nigerian government choose not to enter an IMF program? No government of Nigeria had ever submitted to the IMF, this "colonization without an occupation force." Nigerian President Shagari was reluctant to go down as the first government to accept IMF conditionality. Thus, at the beginning of the crisis, Shagari negotiated for IMF loans under special facilities not involving conditions (*Financial Times*: June 10, 1982:31). The economic crisis continued in 1983, however, and the government finally approached the IMF for a stand-by arrangement in May (*Financial Times*: May 18, 1983:44; *New York Times*: May 18, 1983:D22). Yet, elections were on the horizon and Shagari made it clear to the Fund that he would not submit to conditions until after the elections.

Would the government have entered an IMF arrangement in 1983 if it had not been an election year? This seems likely. The crisis had deepened to the point where the government was willing to pay the penalties of sacrificing sovereignty in return for a loan. Upon reelection, the Shagari administration's first priority was to conclude the IMF negotiations (*Financial Times*: August 16, 1983:14). Within one month, the government reached a preliminary agreement for a three year arrangement. Two stumbling blocks remained before this arrangement could be finalized. One was a reluctance on the government's part to devalue Nigeria's currency, the Naira. Some considered the Naira a symbol of its sovereignty and devaluation accordingly became the one condition the government would not accept. The other was the IMF's budget constraint. With more

[3] While the balance of payments indicates the flow of exchange, ultimately what matters to governments is whether they have foreign exchange on reserve. Thus, the foreign reserve position is a better measure of how much choice a government has than the balance of payments position. Thus, throughout the paper, the focus is on foreign reserves.

countries under IMF agreements in 1983 than ever before (44 of the 135 countries in my data), the Fund had exhausted its resources and needed to put new arrangements on hold until it had increased member contributions (*New York Times*: October 5, 1983:A27). While the IMF lobbied for increased funds in Washington, time ran out on the Shagari government. No agreement was signed, and on December 31, Shagari was deposed by the military.

The case of Nigeria illustrates three factors which may explain why some countries facing financial crises choose not to enter IMF arrangements. First of all, governments may decide against an IMF arrangement if no previous government has submitted to the IMF in the country's history. The penalties for sacrificing a country's sovereignty by submitting to IMF conditions are high when earlier governments have not done so. Secondly, governments may prefer to wait until after elections before incurring sovereignty costs. The third factor relates to the IMF's decision. The Fund may be constrained by its budget when attempting to sign an additional country.

There are many cases like Nigeria. According to the data available from the World Bank[4], there are 248 country-year observations of governments with foreign reserves less than two times monthly import requirements that do not turn to the IMF. These countries neither turn to the IMF the following year nor the year after that. In 159 of these observations, the country had never been under an IMF agreement in its history, so the penalties for sacrificing sovereignty may have been too great to sign with the IMF despite a need for a loan. For example, Senegal 1971 had foreign reserves averaging 0.9 times monthly imports but had never signed an IMF agreement. Similarly, Cameroon 1985 averaged international reserves of 0.7 times monthly imports but had never turned to the IMF. The Dominican Republic had only limited experience with IMF programs (a single agreement in

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[4] See *World Development Indicators 1997 CD-ROM*.

1964), when reserves averaged 1.3 times monthly imports in 1975. None of these governments turned to the Fund during these crises.

There are 48 observations of even more extreme situations, where annual reserves averaged less than half of monthly import requirements.[5] And sovereignty costs were high in most of these countries. While countries participating in IMF programs on average have been in programs for more than 8 years in the past, these countries spent an average of just over four years under previous arrangements, and most of them (29 of the 48 observations) had never participated in an IMF program.

The existence of "victims without a program" indicates that the mere need for an IMF loan is not sufficient for a country to turn to the IMF. But is it a necessary condition, or do some governments turn to the IMF for other reasons? Note that when the Nigerian government courted the IMF, it apparently wanted a loan but did not want conditions to be imposed. Shagari publicly announced that Nigeria would "not be dictated to" by the IMF (*Financial Times*: August 16, 1983:14). Privately, however, Shagari-administration officials admitted to the *Financial Times* that "the whole idea of bringing in the IMF is to get the alibis to persuade the politicians of what we need to do." (*Financial Times*: August 16, 1983:14). The Nigerian government needed a loan, but it also wanted conditions imposed. Thus, even the victims of economic crises may use the IMF to push through policies that they prefer.

[5] These 48 country-year observations are Benin 1980, 1982-1986; Cameroon 1975, 1978, 1981, 1982, 1984; Central African Republic 1970-1975; Chad 1970, 1973, 1975; Congo 1973, 1982-1983; Guyana 1983-1987; Mali 1973-1979; Mauritania 1970; Panama 1988; Poland 1976-1977; Senegal 1973-1976; Seychelles 1988; Sudan 1976, 1986-1987; and Tanzania 1983.

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As we have seen, there are many of examples of countries that need a loan but do not enter do participate in IMF arrangements. Ghana, for example, entered an IMF agreement in 1983 when ever. There exist 218 observatio
greater than three times monthly imports. In 40 of these observations, reserves were even stronger program. And in 21 observations, reserves were greater than nine times monthly imports. Turkey, consecutive participation in IMF programs, and it continued par
Portugal entered into a three year IMF program in 1983 with foreign reserves averaging 9.6 times

Why would a government with no need of an IMF loan agree to submit to IMF conditions? entered an arrangement on 12 December 1990, it did not need an IMF loan. Its balance of payments the rest of reserves were more than double this, averaging 7.7 times monthly imports for 1990. Debt in Uruguay toward financing debt reduction operations. Yet, the government drew less than ten percent of the

loan, so this contingency was never implemented. If the government did not need the foreign exchange, why did it turn to the IMF?

I argue that the Uruguayan government entered into an arrangement with the Fund not for an IMF loan, but for IMF conditions. With skyrocketing inflation, the newly elected President Lacalle sought to cut public spending, raise taxes and privatize state enterprises. He favored dismantling one of the oldest and most deeply entrenched welfare states in the world. These measures were so unpopular that Lacalle first lost the support of his coalition partners in government, then his own party, and eventually found himself unable to fill positions in his cabinet. Even with the support of the IMF, Lacalle was unable to achieve all of his goals. He lost a big battle over social security[7] and failed to privatize the national telephone company. Nevertheless, Lacalle successfully brought the budget deficit down from 3.02 percent of GDP in 1989, to a *surplus* of 0.37 percent of GDP in 1990 and a surplus of 0.91 percent of GDP in 1991. He succeeded in ending the state monopoly on insurance, pushed through port reform, re-privatized all four banks absorbed by the previous administration, and sold the last state-owned meat packing plant (*Financial Times*: May 25, 1994:6).

By bringing in the IMF, Lacalle tied his preferred policies to an IMF arrangement. A rejection of his own proposals became a public rejection of the IMF. An outright rejection of the IMF program would have sent a signal that Uruguay was unable to live up to IMF obligations. Such a negative signal to creditors and investors would have been extremely costly since debt was at an all time high and investment at an all time low. Uruguay's vulnerability to creditors and investors meant that

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[6] These 21 county-year observations are Burundi 1977; Myanmar 1974; Nepal 1977; Portugal 1978-1979, 1983, 1985; Turkey 1968-1969; Uruguay 1972-3, 1976-1981, 1986-1987, 1990; and Venezuela 1990.

[7] Social security reform was given up by the administration after four attempts to push it through Congress achieved only minor changes in the system (*Financial Times* May 25, 1994:6).

Congress could ill afford to send a negative signal. The benefit for Lacalle of bringing in the Fund conditions? Would not the opposition accuse Lacalle of "selling out"? Unlike Nigeria, which had spent more than eighty percent of the past thirty years under IMF conditions. With such a history, the Lacalle administration would not stand out as a particularly cow towing government. Furthermore, there were forty four other countries with IMF agreements in effect that year, and eleven out of the seventeen other Latin American countries. And Lacalle pursued an IMF agreement after elections at the beginning of

sovereignty penalties were not an issue.

Lacalle did not need foreign exchange, but he did face opposition to his economic reforms. Bringing in the IMF, in the context of high debt, low investment, and low sovereignty costs, was an

4. Government preferences over loans and conditions

The two sets of observations presented in the previous sect – the "victims without a -victims with programs" challenge the assumption that governments seek IMF agreements simply because they need foreign exchange. In this section, I lay out the the story by assuming that governments seek agreements because they want conditions imposed.

Argentina, Bolivia, Brazil, Chile, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico and Venezuela all had IMF arrangements in 1990.

One can think of an IMF arrangement as composed of two parts: a loan of foreign exchange (L) and the conditions attached to the loan (C). The utility that a government derives from entering into an IMF program is therefore a function of L and C: $U = \quad L, C)$

exchange, but do not want to take on conditions. Hence, the government's utility is increasing in L and decreasing in C

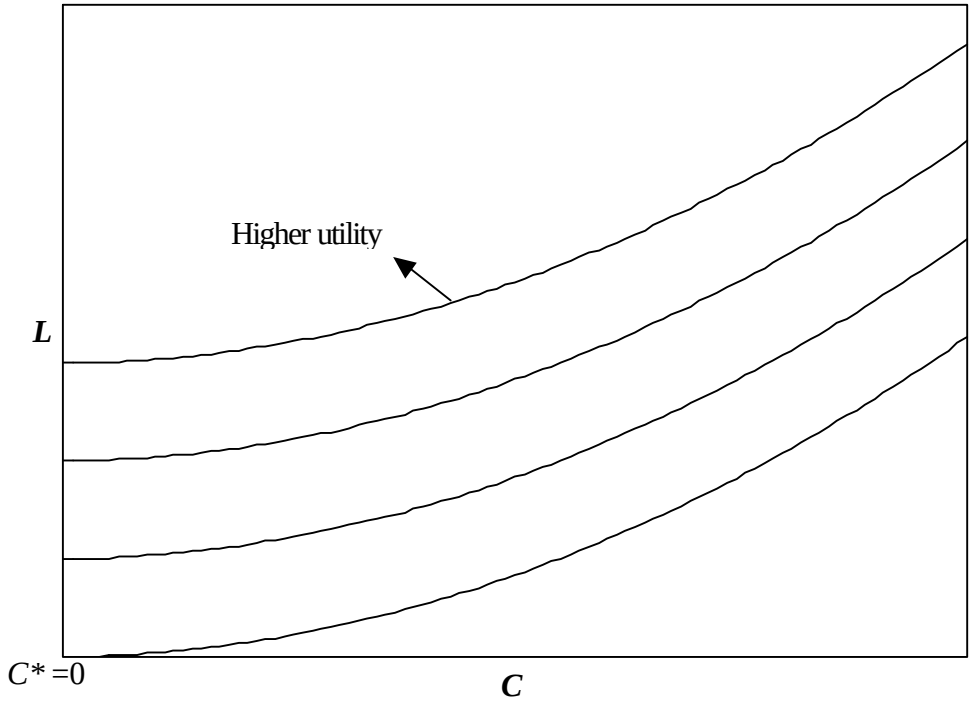
$U_L > 0$

$U_C < 0.$

In order to make these relationships clear, consider the following map of indifference curves for the government:[9]

[9] For simplicity, I assume that the government derives quadratic utility in Figure 1 as well as in Figures 2 and 3 below.

Figure 1: Conventional understanding of IMF conditions



The government prefers an agreement with a high loan and very weak conditions attached. It is willing to accept more conditions only if it can get a larger loan. The curves in Figure 1 represent iso-values of utility for the government. The government is indifferent between a small loan with low conditions and a large loan with high conditions. The government's utility is increasing as it moves upward and to the left in Figure 1.

Under what conditions will countries enter into IMF agreements according to this framework? Assume the utility that the government derives from *L* depends on how badly the government needs the loan, or in other terms, how low are its foreign reserves. The government gets more utility from the IMF loan when its reserves are low because it is desperate for foreign exchange. Therefore, one should expect that countries entering into IMF agreements have low reserves.

The problem with this framework is that many countries which enter into IMF programs do not need foreign exchange. They have strong foreign reserves, and thus, should not be willing to take on IMF conditions. Yet they do. This framework cannot explain the "non-victims with a program."

Hence, a change to this framework is introduced. Suppose a government wants some degree of conditionality to be imposed by the IMF in order to gain domestic bargaining leverage. The government does not want the IMF to impose conditions that are too strict, but there exists some ideal level of conditions that the government prefers. Let the government's ideal level of conditions be denoted by C^*. The utility the government derives from an IMF program depends on *L* and *C*, as above, but now U_C is positive up to C^*, and negative beyond this point:

$$U = U(L, C),$$

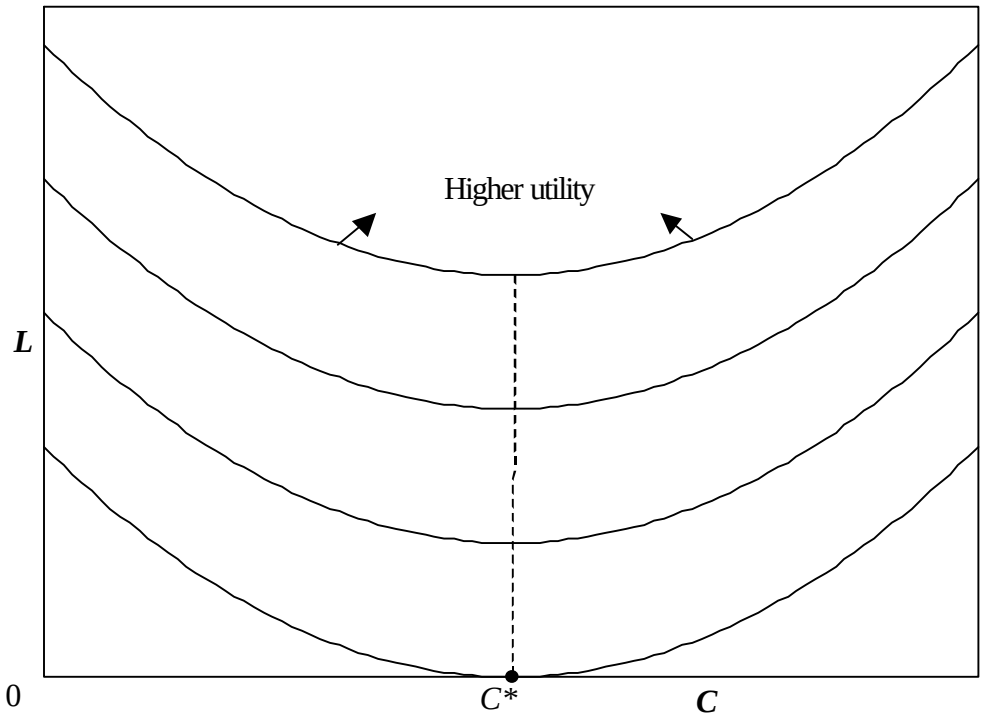
$$U_L > 0,$$

$$U_C \begin{cases} \geq 0 & \text{if } C \leq C^* \\ < 0 & \text{if } C > C^*. \end{cases}$$

As in the first framework, governments prefer to enter into agreements when foreign reserves are low, and they prefer a larger loan to a smaller one. In this framework, however, governments also prefer a certain level of conditions to be imposed. Their ideal arrangement is one that provides a large loan and imposes conditions equal to C^*.

Figure 2 serves to illustrate how the introduction of an ideal level of conditions changes the shape of the government's indifference curves:

Figure 2: Governments may prefer to have some level of conditions imposed upon them



As in Figure 1, the curves represent iso-utility values. Here, however, the government is happiest when C is set to C^*. Thus, in Figure 2, the government's utility increases as it moves upward and toward C^*. According to this framework, a government with low reserves will still seek an IMF loan, but a government desiring an IMF arrangement need not face a reserves crisis. The government may seek an agreement simply because it offers conditions close to the government's ideal point, C^*.

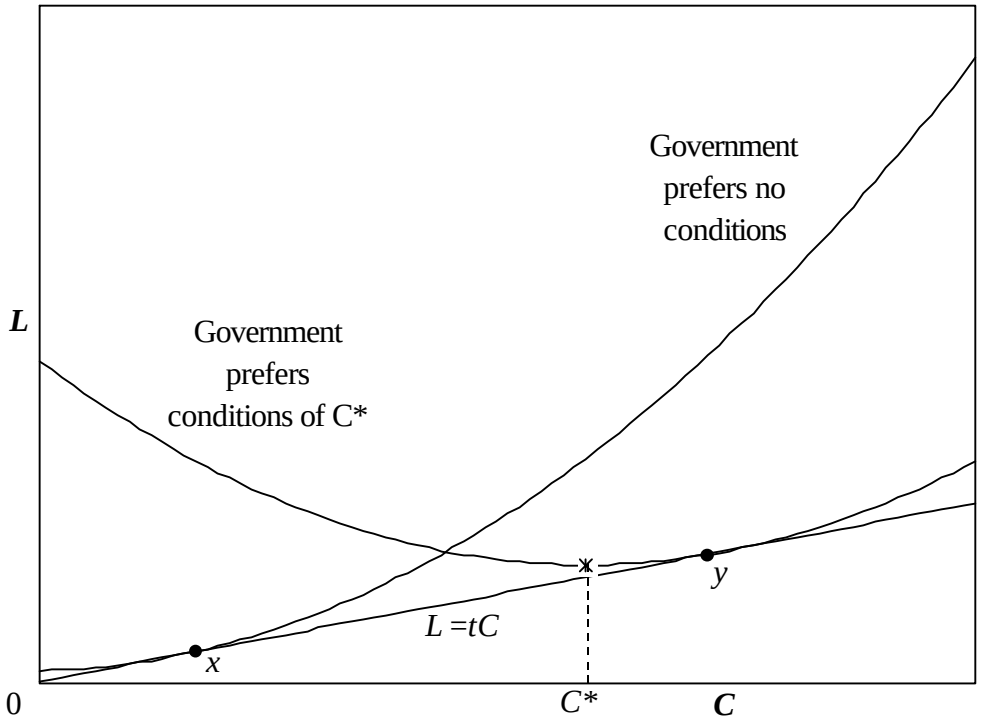
Note that if one allows different governments to have different values for C^*, the new framework is just a generalization of the previous one. The previous framework simply represents a government with an ideal level of conditions equal to 0: $C^* = 0$.

Suppose there are two countries seeking IMF agreements. The government of one country prefers $C = 0$ and the government of the other prefers $C = C^*$. Let the IMF offer them a menu of arrangements from which they can choose:

$L = t\,C$,

where L represents the size of the loan and C represents the conditions associated with the loan. The parameter t characterizes the technocratic position of the Fund. It determines how much more foreign exchange will be loaned as a government is willing to take on more conditions. Figure 3 represents an illustration consistent with these assumptions to demonstrate the types of arrangements that the two types of governments considered will choose:

Figure 3: Governments that prefer more conditions receive higher loans



The government which prefers no conditions ($C = 0$) will choose an arrangement at point *x*, with low conditions and a small loan. The government which prefers a higher level of conditions ($C = C^*$) will choose an arrangement at point *y* with more conditions and get a larger loan.

Note that the government which prefers $C = 0$ will only turn to the IMF if it needs a loan. Thus, this type of government will certainly have low reserves. The government which prefers $C = C^*$ may or may not have low reserves. It may seek an IMF arrangement simply because it wants conditions despite having high reserves. The counterintuitive prediction which follows is that governments with stronger reserves may get larger loans from the IMF.

In fact, this is exactly what is observed. I run a simple OLS regression to explain the size of an IMF loan on country-year observations for cases where a country signed an IMF agreement.[10] I expect that countries with stronger foreign reserves positions get larger loans than countries with weaker reserves positions. Note that the negotiation posture of the Fund may vary between countries and over time. Thus, I also include in the regression the value of the country's balance of payments deficit in constant 1987 US dollars. The second variable is included because the mandate of the IMF is to promote stable international trade. I assume that the Fund will provide larger loans to countries whose deficits are more destabilizing. In other words, countries with larger balance of payments deficits in absolute terms should get more money. This is intended to control for different postures the IMF may take with different countries. To control for possible time effects, I run the regression for fixed panel effects by year. Table 1 presents the results:

[10] From my whole sample (n=4,126), data on foreign reserves and balance of payments is available for 334 out of the total of 678 separate agreements. The economic data from *World Development Indicators*. The IMF data comes from the *ACLP World Political/Economic Database*.

Table 1: Size of IMF loan according to foreign reserve position

	Coefficient	Observed Means
RESERVES	24.59	2.22
(standard error)	(9.76)	
BOP	-0.28	-361.40
(standard error)	(0.02)	
E(LOAN)	207.80	
(standard deviation)	(539.35)	
Observations	327	
Likelihood ratio test	0.003	
F-test	0.005	
Adj. R-squared	0.47	

Variables

RESERVES: Average annual foreign reserves per monthly imports (lagged one year)

BOP: Overall balance of payments in millions of 1987 US$ (lagged one year)

LOAN: Millions of SDR approved for an IMF arrangement

The counterintuitive prediction is supported by the data. RESERVES (the average annual foreign reserves in terms of monthly imports) has a significant positive effect on the size of the loan. On average, for every additional unit foreign reserves (in terms of average monthly imports), a government will get an IMF loan larger by SDR 24.59 million. The more intuitive prediction, that countries with larger absolute deficits in the balance of payments get larger loans, is also supported by the data.[11]

Thus, statistical evidence supports the hypothesis that governments enter agreements because they want conditions to be imposed upon them. But how exactly does entering into an IMF program increase a government's bargaining leverage with those opposed to economic reform?

While many have argued that governments enter into an IMF arrangement in order to pursue their own preferred policies (Spaventa 1983, Vaubel 1986, Putnam 1988, Kiondo 1992, Stein 1992,

[11] Statistical tests (both F-test and likelihood ratio tests) indicate that the sample is heterogeneous and exhibits fixed, year effects.

Edwards and Santaella 1993, Bjork 1995, Dixit 1996), it is not clear that such a move can always be effective. Remmer (1986:7) argues that entering into an IMF program "encourages opponents of stabilization to accuse political authorities of 'selling out' at the same time that it allows authorities to attempt to shift blame for austerity to the Fund." Bringing in the Fund increases a government's bargaining leverage, but the government must be willing to accept the penalties for sacrificing sovereignty. Entering into an arrangement so that conditions can be imposed is thus a double-edged sword. If the sword cuts both ways, when is it worthwhile for a government to pursue such a strategy? In the following section, I present a game which lays out the logic of bringing in the Fund and illustrates under what conditions it can be beneficial to the government.

5. The logic of using IMF conditionality

The game-theoretic model below stems from the work on two-level games (Putnam 1988, Mo 1995, Iida 1993 and 1996, Milner and Rosendorff 1997, Pahre 1997). Previous two-level games have been used to test Schelling's assertion that "a government may, by tying its hands domestically, gain bargaining leverage abroad" (Pahre and Papayoanou 1997:9). As such, they focus on the domestic sources of foreign policy. Very little, however, has been done on what Gourevitch (1986) calls "the second image reversed," that is, the international sources of domestic politics. The model presented here tests this reverse setup, where a government may, by tying its hands internationally, gain domestic bargaining leverage.

A government wishes to lower the budget deficit, but needs the approval of a domestic constituency which prefers to maintain public spending at the status quo level. This constituency can be thought of as any actor whose approval is needed for a new government budget. In a democracy, it may be parliament or congress, as in the cases of Brazil and Uruguay. In a one-party state, it may

be the party leadership, as Kiondo (1992) and Stein (1992:81) argue about Tanzania. In a military dictatorship, the party advocating lower spending may be a finance minister, while the constituency which resists is the military. Pauly (1997:163-164) tells the story of a finance minister of a developing country who "specifically requested the managing director of the IMF to include in the routine surveillance report on his country a reference to the need to cut military expenditures. . . . [T]he ruse apparently achieved its objective of adding weight to the views of the minister."

The intuition behind the game is the following: The government may enter into an IMF arrangement to tie the budget proposal to the conditions imposed by the IMF. This move raises the costs for the domestic constituency of rejecting the proposed budget because a rejection of the government is also a rejection of the IMF agreement. A rejection of the IMF will send a negative signal to creditors and investors which is costly to both the government and the domestic constituency.

By bringing in the IMF, however, the government runs certain risks. First of all, it must be willing to pay the penalties of sacrificing sovereignty since the opposition will accuse it of selling out. Secondly, it does not know the negotiation posture of the IMF. The Fund may require cutting the deficit so much that the domestic constituency prefers to pay the costs of rejecting the IMF to accepting the IMF's austerity. The Fund may impose spending cuts that even go beyond what the government wants. Nevertheless, given low enough sovereignty penalties and high enough rejection costs, the government will gamble on negotiations with the IMF to push through a new budget that otherwise would have been rejected.

The game involves three actors: the government (*G*), its constituency (*C*), and the IMF (*F*). *G* can approach *F* to negotiate an agreement. An agreement consists of setting a new government

budget deficit. For convenience, let *d* denote the value of deficit, where *d* is normalized to range over the interval from 0 to 1 ($d \in [0,1]$). The status quo value of deficit is 1. If *G* and *F* agree to a package, *G* submits the proposed agreement value of deficit, denoted by $d = a$, to *C* for its approval. If *C* approves, *d* is set to *a*. If not, *d* remains at 1.

The three actors derive quadratic utility from *d*. Let d_i denote the ideal deficit of actor $i \in \{\mathrm{C}, \mathrm{G}, \mathrm{F}\}$ such that $\mathrm{U}_i(d_i) = 0$:

$\mathrm{U}_i(d_i) = -(d - d_i)^2$.

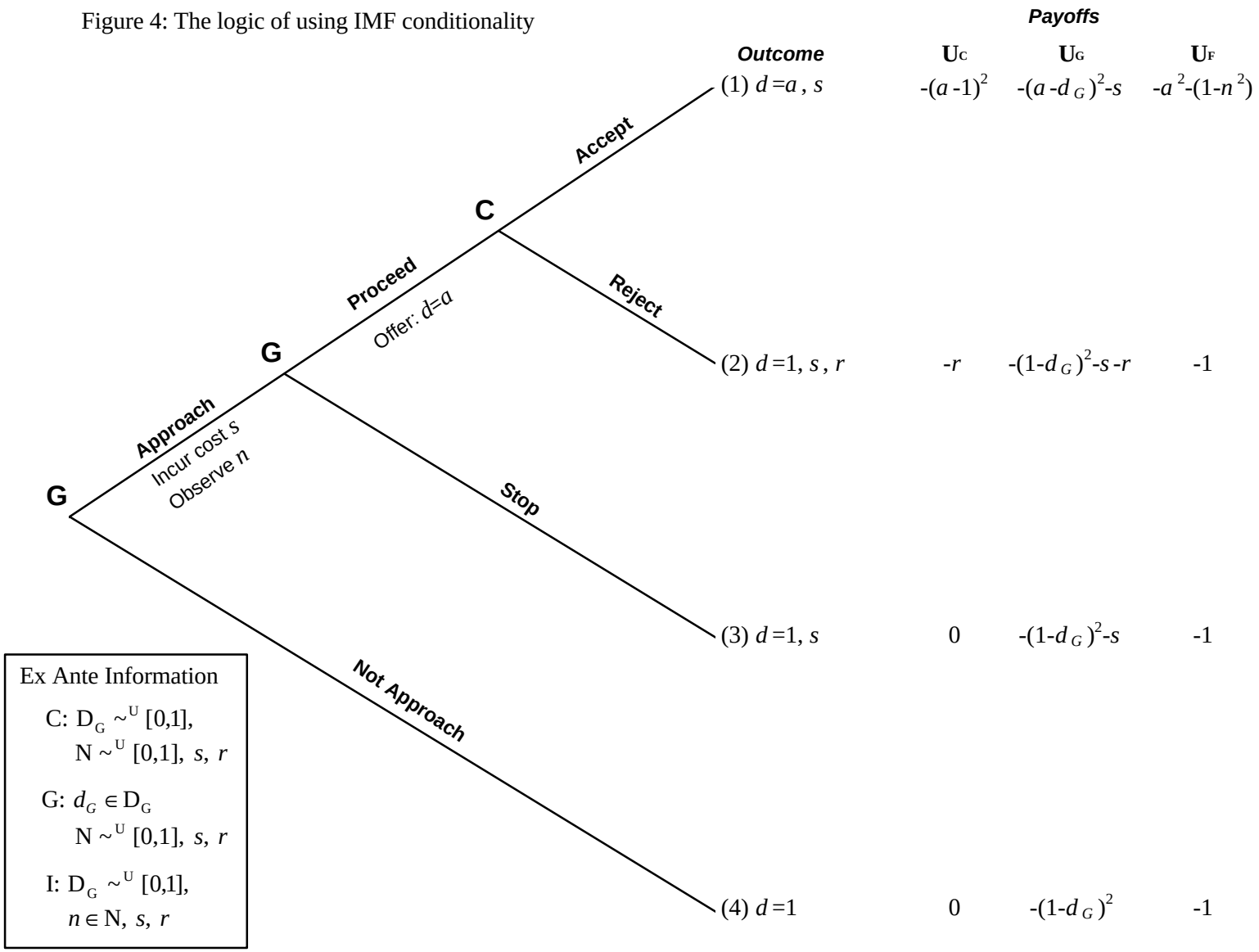
To simplify, let the ideal point of *C* be 1 ($d_C = 1$) and the ideal point of *F* be 0 ($d_F = 0$). Let the ideal point of *G*, d_G, be a random variable uniformly distributed over the interval from 0 to 1 ($d_G \in [0,1]$). The values of d_C and d_F, and the probability distribution of d_G are commonly known to *C*, *G*, and *F* at the beginning of the game.

F is constrained by its negotiation posture, $1 - n^2$, such that *n* is the maximum deficit that *F* will accept in an agreement. If *G* is unable or unwilling to set $a \leq n$, there can be no IMF arrangement. While *n* is treated as exogenous, the negotiation posture can be thought of as a function of the resources available to the IMF. When resources are tight, the Fund is more demanding and insists on a lower deficit. Otherwise, the IMF is willing to agree to higher levels of deficit. Given that the IMF's mandate is to maintain international trade stability, the Fund may also be more willing to provide arrangements to countries with large balance of payments deficits. If a country is small and its balance of payments deficit has little impact on international trade, the IMF will take a tough posture. With larger countries that have balance of payments deficits with strong impacts, the IMF will make concessions.

Since information about the resources of the IMF is generally kept secret, only *F* knows the value of *n* at the beginning of the game, although the probability distribution of *n* is common knowledge. Let *n* be uniformly distributed over the interval [0,1]. Without the constraint $1-n^2$, *F* is willing to sign any agreement, since any reduction in deficit makes *F* better off. Constrained by $1-n^2$, *F* is only made better off by an agreement which reduces the deficit to at least *n*. Otherwise, *F* refuses to enter into the agreement.

Figure 4 presents an extensive form model of *G*'s and *C*'s decisions and lists the payoffs to all three actors from each of four possible outcomes labeled 1 through 4:

Figure 4: The logic of using IMF conditionality



The game is played as follows:

G observes $d_G \in [0,1]$, which becomes *G*'s private information, and chooses to "Approach" or "Not Approach" *F* to negotiate an IMF agreement. If *G* chooses not to approach, it accepts the status quo deficit, $d = 1$, and the game ends. If *G* chooses to approach, *F* reveals the value of $n \in [0,1]$ to *G*, but *G* must pay a sovereignty penalty, $s \in [0,1]$, for involving the international organization in domestic politics. The value of *s* is known to all actors.

G can choose to "Proceed" with negotiations or "Stop" after observing *n*. If *G* decides to stop, the deficit remains at the status quo and the game ends. If *G* proceeds, *F* and *G* put together an IMF package which stipulates an agreement value of deficit, $d = a$. *F* agrees to any value of *a* that *G* proposes, provided $a \leq n$. If the negotiation posture of *F* is weak (*n*-high), there is a wide range of acceptable values of *a*. If *F* is tough (*n*-low), this range is smaller. *G* publicly announces the IMF package, with $d = a$, to *C*.

C may "Accept" or "Reject" the agreement. Rejecting an IMF agreement which has been publicly supported by *G* and *F* sends a strong negative signal to investors and creditors. Observing that the country lacks the political will to undergo economic reform, creditors refuse to reschedule debt and investors pull out. Because the entire country is hurt by this, both *G* and *C* suffer a penalty when an agreement is rejected. Thus, if *C* chooses to reject, deficit remains at the status quo and both *C* and *G* bear cost $r \in [0,1]$. The value of *r* is known to all actors.

To Accept or Reject

To construct the equilibria, one uses backwards induction. Consider the decision of *C*. When would *C* rather accept the lower deficit associated with an agreement than reject an agreement and pay cost *r*? Note that *C*'s utility from accepting the agreement (Outcome 1) is $U_C(\text{Accept}) = -(a-1)^2$,

while *C*'s payoff from rejecting (Outcome 2) is $U_C(\text{Reject}) = -(1-1)^2 - r = -r$. *C* will accept any agreement such that $-(a-1)^2 \geq -r$ (assuming *C* accepts when indifferent). Let *m* denote the minimum agreement value of deficit *C* will accept:

$m = 1 - \sqrt{r}$.

For any agreement value of deficit less than *m*, *C* would be better off rejecting the agreement and suffer the penalty *r* rather than accepting. Thus, in order for an agreement to be accepted, the deficit must be set no lower than *m*. Note that the greater the costs of rejecting an agreement, the lower the minimum deficit *C* will accept. If the costs of rejecting are 0 ($r = 0$), then *C* will accept only an agreement which maintains the deficit at the status quo: $m = 1$. At the highest possible cost of rejecting ($r = 1$), *C* will accept any agreement: $m = 0$.

The Decision of *G* to Stop or Proceed

Moving backwards to *G*'s decision to stop negotiations or proceed, note that because *G* also faces the cost *r* if *C* rejects, *G* prefers Outcome 3 to Outcome 2. Provided *r* is greater than 0, *G* would rather stop negotiations than propose an agreement that *C* will reject. *G* knows the minimum value of deficit that *C* will accept, *m*. Thus *G* will only proceed with negotiations if it can offer $a \geq m$. Recall, however, that the IMF agreement value of deficit must also satisfy *F*'s constraint: $a \leq n$. Therefore, *G* will proceed with negotiations only if the maximum deficit acceptable to *F* is greater than or equal to the minimum deficit acceptable to C: $n \geq m$. If this condition does not hold, there can be no agreement and *G* will stop negotiations. Figure 5 illustrates this point:

Figure 5:

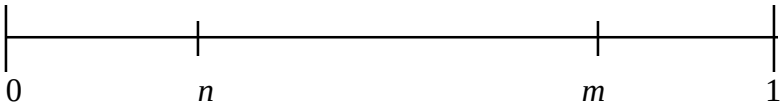


Figure 5a

Figure 5b

In Figure 5a, the maximum deficit that *F* will accept (*n*) is smaller than the minimum deficit that *C* will approve (*m)*. Any deficit that *G* can get *F* to agree to will be rejected by *C*. Hence, if *G* observes $m > n$, *G* will stop negotiations and take Outcome (3): the deficit will remain at the status quo even though *G* incurred cost *s*. Note, however, that *m* may be smaller than *n*, as in Figure 5b. Any deficit in the shaded region in Figure 5b will be accepted by both *C* and *F*. Call this set of points from *m* to *n* the "acceptable set."

If d_G lies in the first region, between 0 and *m*, then the best value of deficit within the "acceptable set" that *G* can hope for is *m*. Here *G* is austere and would like to cut the budget as much as possible. Thus, *G* will negotiate for an agreement with the minimum deficit possible: $a = m$. Note that this goes beyond what *F* demands. If d_G lies in the second region, within the "acceptable set," *G* can negotiate for $a = d_G$ and set the agreement deficit level to its ideal point. *G* goes beyond what *F* demands but stops short of the minimum deficit *C* would accept. If d_G lies in the third region, between *n* and $(n+1)/2$, *G* can do no better than propose an agreement with $a = n$. *F* insists upon a lower deficit than *G*'s ideal point. Here *G* is the victim of IMF policy. If d_G lies in the fourth region, between

$(n+1)/2$ and 1, then *F*'s negotiation posture is too tough to make an agreement worthwhile. *G* prefers the status quo $(d=1)$ to an agreement with $a=n$. Hence, *G* chooses to stop negotiations.

To summarize, if $m>n$ or $d_G>(n+1)/2$, there can be no agreement. If $m\le n$ and $d_G\le(n+1)/2$, then there can be an agreement. The agreement value of deficit will be *m* if $d_G<m$, or it will be d_G or *n*, whichever is smaller:[12]

$$a=\begin{cases}\{\max\ m,\ \min\ \{d_G,n\}\} & \text{if } m\ge n \text{ and } d_G\le\dfrac{n+1}{2}\\ \{\varnothing\} & \text{otherwise}\end{cases}$$

The intuition

Finally, consider the first node of the game tree in Figure 4. At the beginning of the game, *G* does not know the value of *n* (the negotiation posture of *F*) and must decide whether or not to approach *F* based on its knowledge of d_G (*G*'s ideal point), *s* (sovereignty costs), *r* (rejection costs), *m* (the minimum acceptable deficit to *C*), and the probability distribution of *n* ($N \sim^{U} [0,1]$). Thus, *G* compares its expected utility of approaching to the utility of not approaching and chooses the better option.

The expected utility of approaching negotiations depends on which of four exogenous situations *G* may observe:

[12] Governments often claim that IMF austerity goes beyond their preferences. Note that this is the case when $a=n<d_G$. However, many scholars argue that governments merely make this claim in order to shirk the blame for their preferred policies. Since outsiders only observe *a*, it is unknown if *a* is set to the government's ideal point (d_G), or the maximum deficit the IMF will accept (*n*). To the degree that there is uncertainty, governments may get away with blaming the IMF.

Situation I: $d_G < m$

Situation II: (a) $d_G > m,\ d_G \leq 0.5$

(b) $d_G > m > 2d_G - 1,\ d_G > 0.5$

Situation III: $m < 2d_G - 1 < d_G,\ d_G > 0.5$

Given the situation, *G* determines the expected value of approaching IMF negotiations. The expected utility for not approaching is always: $\mathrm{U_G}(\text{Not Approach}) = -(1-d_G)^2$. If *G*'s expected utility of approaching negotiations is greater than the utility from not approaching, *G* approaches, gambling on the value of *n*. Otherwise, *G* does not approach.

For each situation, there exists some value for d_G below which it is worthwhile for *G* to approach negotiations and above which it is not. These values are complicated to compute and are thus left to the Appendix. The essential features, however, are intuitive and lead to conclusions that one can test statistically:

(1) As d_G decreases, *G* is more likely to benefit from approaching negotiations with *F*. In other words, the lower the ideal deficit of a government, the more likely the government will turn to the IMF. While one cannot directly observe the preferences of a government, one can expect that since there is more room to maneuver in countries with higher deficits, as deficit goes up, governments will be more likely to turn to the IMF to have fiscal discipline imposed.

(2) As *s* decreases, *G* is also more likely to benefit from approaching negotiations with *F*. A government is more likely to enter into an IMF agreement when the penalty associated with sacrificing sovereignty is low.

What determines the sovereignty penalty? Recall from the cases of Nigeria and Uruguay that the penalties from sacrificing sovereignty are related to a country's history of IMF agreements. If a country has never in its history participated in an IMF agreement, the penalties for being the first government to do so are high. As a country signs more and more agreements, the penalties for a particular government signing decrease, since the government can argue that like so many times in the past, the country has no choice. A government can also point to other countries around the world and argue that, like them, it too must submit to the IMF. Hence, the number of other countries around the world participating in IMF programs may also lower sovereignty penalties. Finally, the penalties for sacrificing sovereignty are most severe right before an election. Thus, one should expect governments to wait to sign IMF agreements until after elections.

(3) As *r* increases, *C* becomes more willing to accept an agreement (*m* goes down). Consequently, *G* becomes more likely to approach *F*. Governments are more likely to enter into IMF agreements if rejection costs are high. The rejection cost depends on how much the country will be hurt by the negative signal sent to creditors and investors for failing to live up to IMF conditions. If a country has high debt, a negative signal may preclude a needed debt rescheduling. If investment is low, a negative signal may completely destroy the fragile confidence of investors. Thus, countries with high debt and low investment will be more sensitive to rejection costs, and governments can hold this over opposition forces to push through their preferred policies.

(4) A final implication of the game involves the negotiation posture of *F*. The higher the value of *n*, the more likely *G* will proceed with negotiations. In the model, the value of *n* is an exogenous parameter, but as stated above, *n* might depend on the budget constraint of *F*, or on the absolute size of the balance of payments deficit of a given country. The IMF is likely to pursue a tougher negotiation posture when it is close to its budget constraint and to be more flexible when it has more resources available. The Fund is also likely to be tough in negotiations with small countries whose balance of payments deficits carry little weight in the world economy. It is likely to grant more concessions to countries with larger, more destabilizing balance of payments deficits. Thus, from the IMF point of view, agreements are more desirable with countries with large balance of payments deficits and when its budget constraint is not binding.

The implications of the game are consistent with the evidence presented above. Nigeria did not enter into an IMF agreement because sovereignty penalties were high: it had never had an agreement in its history and elections were right around the corner. Senegal 1971, Cameroon 1985, and the Dominican Republic 1975 all had low foreign reserves, but did not enter into IMF arrangements. Perhaps this is because sovereignty penalties were too high since none of these countries had much experience of previous IMF agreements. Furthermore, these countries had little to gain by having conditions imposed upon them since their budget deficits were small. Indeed, Cameroon and the Dominican Republic actually had budget surpluses. Ghana, on the other hand, entered an IMF program in 1983 with no need of a loan of foreign exchange. But the budget deficit had risen since Ghana's last IMF agreement had ended, and investment was at an all time low while debt service was at an all time high. With eight years of previous programs and 51 other countries under IMF agreements that year

(the highest ever), sovereignty penalties were low. Similarly, Uruguay did not need an IMF loan in 1990, but had a high deficit, high debt, and low investment. It also had an extensive history of previous IMF arrangements. The Lacalle Government had much to gain and little to lose by bringing in the IMF to increase its bargaining leverage with opposition. Thus, there is qualitative evidence which supports the implications of the formal model. The next section turns to testing whether this evidence holds up systematically.

6. Statistical findings

I have argued that governments turn to the Fund when their foreign reserve position is weak and they need an IMF loan. They also enter into arrangements, however, when they want conditions to be imposed upon them. Such a strategy may work for a government when the deficit is high, when sovereignty penalties are low (when a country has a long history of IMF arrangements, many other countries are participating in IMF programs, and elections are far off on the horizon), and rejection costs are high, (debt is high and investment is low). The Fund is more likely to conclude agreements with countries that have large, destabilizing balance of payments deficits, and more likely to enter into an arrangement with a country when its budget constraint is less binding. In this section, I propose to test these assertions to see if there exists systematic evidence to support them. The statistical model I use is a dynamic version of bivariate probit with partial observability.[13]

The model is "bivariate" because an IMF arrangement is a joint decision between a government and the Fund. The bivariate aspect of the statistical model allows one to identify the effects of variables which matter to each actor, the government and the IMF, separately.

For the government, the following has been argued: governments seek agreements when their *foreign reserves* are low, when *budget deficits* are high, when *debt* is high, when *investment* is low,

[13] For details on this statistical model, see Przeworski and Vreeland 1998a.

when they have an extensive *history of IMF programs*, when many *other countries* are under IMF programs, and after *elections*. The IMF will seek agreements with countries with large *balance of payments* deficits in absolute terms, and when their *budget constraint* is less binding.

The statistical model is “dynamic” because participation in IMF programs involves not only the decision to enter an agreement but also the decision to remain under IMF arrangements. The formal work in the previous sections simplify the decision-making setting by considering only the decision to enter into an arrangement. In fact, such an approach would be more appropriate if IMF programs were temporary, as they are designed to be. While arrangements usually last about a year, however, such time limits on participation are arbitrary. The vast experience of countries has been to sign consecutive agreements. For example, South Korea spent thirteen years under consecutive agreements from 1965 to 1977, Zaire fourteen years straight (1976-1989), Liberia fifteen (1963-1977), Peru participated in consecutive agreements from 1954 to 1971 (eighteen years), and Panama from 1968 to 1987 (twenty years of consecutive agreements). And after a "brief" stint of only seven years (1961 to 1967), Haiti entered into agreements again from 1970 to 1989, for a total of twenty-seven out of twenty-nine years. During the period between 1952 and 1990, an average completed spell lasted 4.35 years (4.46 years including those in vigor in 1990). Consecutive agreements are thus the rule, not the exception. Therefore, the statistical test identifies the factors that matter not only for the decisions to enter IMF programs but also for the decisions to continue participation.

Table 2 presents four sets of results: (1) the effects of the variables influencing the government’s decision to enter an IMF program, (2) the effects of the variables influencing the government’s decision to remain, (3) the effect variables influencing the IMF’s decision to enter into an agreement, and (4) the effect variables influencing the IMF’s decision to keep a country under an agreement.

Table 2: Results of Dynamic Bivariate Statistical Test

	Determinants of entering		*Determinants of remaining*	
	Government			
Variable	**Coefficient**	**S.E.**	**Coefficient**	**S.E.**
CONSTANT	-2.27	0.61	-0.01	0.59
RESERVES	-0.83	0.42	-0.26	0.48
DEFICIT	-0.95	0.28	-0.29	0.33
DEBT SERVICE	1.38	0.52	0.65	0.68
INVESTMENT	-6.06	1.79	-0.17	1.92
YEARS UNDER	0.36	0.21	-0.36	0.27
NUMBER UNDER	0.44	0.18	0.38	0.19
LAGGED ELECTION	0.87	0.29	-0.01	0.35
	IMF			
Variable	**Coefficient**	**S.E.**	**Coefficient**	**S.E.**
CONSTANT	2.14	1.24	2.84	2.02
BOP	-0.91	0.37	-0.41	0.23
NUMBER UNDER	-0.73	0.27	-0.39	0.43
REGIME	0.43	0.26	0.33	0.27

Frequencies of actual & predicted outcomes

	Predicted		
Actual	0	1	TOTAL
0	484	75	559
1	66	399	465
TOTAL	550	474	1024

Number of observations	1024
Log likelihood function	-355.77
Restricted log likelihood	-705.46
Chi-squared	699.39
Degrees of freedom	23
Significance level	0.0000

Variables

CONSTANT:	To enter, 1; to remain, dummy variable lagged participation status
RESERVES:	Average annual foreign reserves in terms of monthly import requirements
DEFICIT:	Measured as surplus of government budget as a proportion of GDP
DEBT SERVICE:	Debt service as a proportion of GDP
INVESTMENT:	Real gross domestic investment (private and public) as a proportion of GDP
LAGGED ELECTION:	Dummy variable coded 1 for a lagged legislative election and 0 otherwise
YEARS UNDER:	Sum of past years under agreements for a country
NUMBER UNDER:	Number of other countries currently under IMF agreements
BOP:	Overall balance of trade in constant 1987 US$
REGIME:	Dummy variable coded 1 for dictatorships and 0 for democracies

All variables are lagged one year.

All the variables included in this specification have the expected effects on the decision of the government to enter into arrangements.[14] RESERVES measures the average annual foreign reserves of a country in terms of monthly import requirements. This variable has a significant negative effect on the probability that the government will enter into an IMF agreement. Governments are more likely to participate in IMF arrangements when foreign reserves are low. Hence, governments seek IMF programs when they need an IMF loan.

DEFICIT measures the annual government budget surplus as a proportion of GDP. It has a significant negative effect on a government's decision to enter. When DEFICIT is high, the government is more likely to turn to the Fund. Governments which spend more than they take in enter into IMF arrangements and have fiscal discipline imposed upon them. Hence, governments also seek IMF programs when they want IMF conditions.

Other economic conditions also have significant effects on the government's decision. DEBT SERVICE measures annual debt service as a proportion of GDP. When DEBT SERVICE is high, a government is more likely to enter an IMF arrangement. INVESTMENT measures real gross domestic investment as a proportion of GDP. Governments typically turn to the IMF when INVESTMENT is low. Hence, governments turn to the IMF when they are sensitive to the decision of creditors and investors. Following the game in section 5, this is because rejection costs are high and a government can more effectively use the IMF to push through economic reform when a country is vulnerable to creditors and investors.

[14] The variables RESERVES, DEFICIT, DEBT, and BOP all come from the World Bank World Development Indicators 1997 CD-ROM. INVESTMENT comes from the Penn World Tables 5.6. The political variables, LAGGED ELECTION and REGIME, come from the *ACLP World Political/Economic Database*. For the REGIME coding rules to distinguish between dictatorship and democracy, see Alvarez et al. 1996. The IMF variables (YEARS UNDER and NUMBER UNDER) also comes from the *ACLP World Political/Economic Database*.

Sovereignty penalties also influence the decision of a government. YEARS UNDER is a measure of the number of past years a country has spent under IMF agreements. When this number is high, the government is likely to turn to the IMF. NUMBER UNDER also has a borderline significant positive effect on the government's decision. NUMBER UNDER measures the number of other countries around the world currently participating in an IMF agreement. When many countries are participating, a government is more likely to enter into an IMF program. The last variable which affects the government's decision to enter agreements is LAGGED ELECTION, which is a dummy variable coded one if the previous year had a legislative election. Governments are more likely to enter agreements early on in their electoral terms, after elections.

The effect of the above variables on the government's decision to remain under agreements is surprising. None of the economic variables matter. The only variable which has a significant effect on the government's decision to continue participation in an IMF agreement is NUMBER UNDER. It has a positive effect. Thus, when many other countries have IMF arrangements, a government is more likely to continue its own participation in an IMF program.

The variables influencing the decision of the IMF to enter into arrangement have the expected effects. BOP measures the overall balance of trade in constant 1987 US dollars. The IMF is more likely to enter into arrangements with countries with low balance of payments. Thus, the Fund wants to sign agreements with countries with large, destabilizing balance of payments deficits.

NUMBER UNDER, the number of countries around the world participating in IMF programs, also matters to the IMF, but in the opposite way that it does to the government. When NUMBER UNDER is high, the IMF is less likely to sign an additional country. I take this to be the effect of the IMF's budget constraint. As more and more countries participate in programs, the IMF has fewer resources left for more

agreements. Increasing NUMBER UNDER brings the IMF closer to its budget constraint. Hence, NUMBER UNDER has a negative effect on the IMF's decision. If one could include an actual measure of the IMF budget constraint, one might get a better picture, but because the IMF keeps such information secret, I use NUMBER UNDER as a rough proxy.

I augment this specification with one additional variable for the IMF: REGIME. REGIME is a dummy variable coded 1 for dictatorships and 0 for democracies. The variable has a significant positive effect on the decision of the IMF to enter an arrangement with a country. Thus, the IMF is more likely to sign with dictatorships. More work needs to be done to explain this result. My intuition is the following. In the two-level game presented in section 5, the IMF essentially acts as a dummy willing to accept any agreement subject to a constraint. In fact, the Fund may attempt to push the government to accept the most austere arrangement possible. The IMF does not know what is possible, however, because it does not know what the government's constituency (*C*, following the notation in section 5) will accept. In a truly two-level game, the government has private information about the negotiation posture of the IMF and the preferences of its constituency, and uses this information to negotiate for the best arrangement it can from both sides, the IMF and the constituency. Note that such a game with the IMF is more effective in democracy, where constituencies may have more weight since outright oppression is not an option. As Schelling (1960:28) argues, "the possibility of commitment...is by no means equally available; the ability of a democratic government to get itself tied by public opinion may be different from the ability of a totalitarian government to incur such a commitment." Accordingly, dictatorships will be less able to play this game and easier for the IMF to negotiate with.

Turning to the decision of the Fund to continue programs with countries, the only variable that matters is BOP. This is not surprising. Once negotiations have been concluded, a loan has been earmarked for

a country and negotiation costs have been met. Thus, NUMBER UNDER and REGIME are not significant for the continuation of a program. Once a country is participating in a program, what matters to the IMF is whether or not a destabilizing balance of payments deficit persists. The Fund is more likely to continue with countries that have large balance of payments deficits in absolute terms.

7. Conclusion

The evidence presented here shows that governments sign IMF agreements not merely for the loans they provide. Governments also want conditions imposed by the Fund to gain bargaining leverage over domestic constituencies which oppose policies they prefer. Both case study and statistical evidence support this story.

Because the Fund plays the role not only of lender of last resort but also of scapegoat, conditionality may not have the intended effect of curbing moral hazard. Once an arrangement is in effect, conditions may encourage a government to change its economic policies to those favored by the IMF, but conditionality may not actually deter governments from seeking an arrangement or even from following bad policy in the first place. Indeed, governments can most effectively use the IMF when the stakes are high: when debt is high and investment is low. The main deterrent to bringing in the IMF are domestically imposed sovereignty penalties, which appear to diminish as countries spend more and more time under IMF conditions and increasing numbers of other countries are under IMF programs. Thus, governments will be free to use the IMF against resistance to push through their preferred policies.

And there is no consensus that the effects of policies encouraged by the IMF are beneficial. Governments may believe that IMF reforms will improve economic growth. Economists, following Barro (1990) argue that there is an optimal size of the public sector for economic growth. The economic advisors of these governments may therefore believe that the public sector is larger than

optimal, and thus they seek to lower the deficit. But do they go too far in their spending cuts? And does the type of spending cut matter? Tanzi (1989) and Tanzi and Davoodi (1998) argue that governments under IMF programs typically lower budget deficits by cutting public investment. This is detrimental to long-run growth. If reducing the size of the public sector encourages private investment, it seems to be at the expense of public investment. Thus, at best there seems to be a trade-off between attracting private investment and cutting public investment.

Governments may believe that the trade off is worth it. Conway (1994) shows that while economic growth under IMF programs is hurt in the short-run, it improves in the long run. Przeworski and Vreeland (1998b), however, show that growth is hurt in both the short and the long runs. Maybe governments hope to improve growth but are mislead. On the other hand, economic growth may not be the goal of governments. Pastor (1987) shows that IMF programs had no significant effect on growth in Latin America in the 1970s and 1980s, but the labor share of income was significantly reduced. Perhaps governments seek IMF agreements to restructure public spending for distributive reasons.

Governments use IMF agreements to push through policies that otherwise would be defeated. Conditions allow governments to tie their hands and tip the political scales in favor of economic reform. But conditionality does not necessarily curb moral hazard and the policies it imposes do not necessarily improve economic performance. This is not to say that without IMF programs governments will not or should not undertake reform. However, as Remmer (1986:7) argues, “The politics of stabilization are likely to be rather different where an outside villain [the IMF] cannot be identified so readily.”

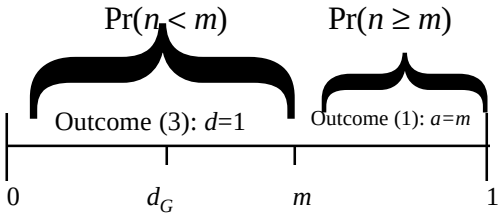
Appendix: The decision of *G* under uncertainty

G must decide whether or not to approach *F* (and pay cost *s*) without observing value of *n*. The expected utility of approaching negotiations depends on which of four situations *G* observes. Given the situation, *G* determines the expected value of approaching IMF negotiations. If *G*'s expected utility of approaching negotiations is less than the utility from not approaching, $U_G(\text{Not Approach}) = -(1-d_G)^2$, *G* does not attempt to bring *F* into negotiations. Otherwise, *G* approaches. For each situation, there exists some value for d_G below which it is worthwhile for *G* to approach negotiations and above which it is not.

Situation I

In Situation I, d_G is less than or equal to *m*. Thus, *G* will proceed with negotiations only if $n \geq m$. *G*'s expected utility from approaching negotiations can be calculated according to the following diagram of Situation I:

Situation I: $d_G < m$



If *n* lies between 0 and *m*, no agreement is possible because the maximum deficit *F* will accept is less than the minimum deficit *C* will accept. Because *n* is assumed to be uniformly distributed over [0,1], the probability that $n < m$ is *m*: $\Pr(n < m) = m$. When this happens, *G* will opt for Outcome (3) and obtain utility $U_G = -(1-d_G)^2 - s$. If *n* lies between *m* and 1, *F* and *C* are both willing to accept a deficit equal to *m*. Since there is no other value of deficit acceptable to *C* that is closer to *G*'s ideal point

of d_G, *G* will negotiate for an IMF package with $d = m$, and *C* will accept it. The outcome of the game will be (1), and *G* will receive $U_G = -(m - d_G)^2 - s$. The probability that this will transpire is $\Pr(n \geq m) = 1 - m$.

Thus *G*'s expected utility from approaching negotiations in Situation I is:

$$E^I(U_G) = \Pr(n < m)\left[-(1 - d_G)^2 - s\right] + \Pr(n \geq m)\left[-(m - d_G)^2 - s\right]$$

$$= -m(1 - d_G)^2 - ms - (1 - m)(m - d_G)^2 - (1 - m)s$$

G approaches negotiations only if $E^I(U_G) \geq U_G(\text{Not Approach})$, which holds when:

$$d_G \leq \frac{1}{2} + \frac{m}{2} - \frac{s}{2(1-m)^2}$$

In this situation, for every positive value of *s*, there is some value of *m* above which it is not worth the risk of approaching negotiations because the probability that the maximum value of *a* acceptable to *F* will also be acceptable to *C* is too low to warrant losing even a small value of *s*.

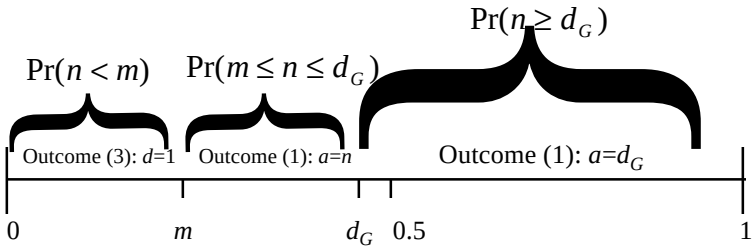
Note, however, that if there are no sovereignty costs at all ($s = 0$), then for any d_G, *G* will approach *F*. This is because $d_G \leq 0.5 \leq (1/2) + (m/2)$. Intuitively, this is because without sovereignty costs, *G* loses nothing by observing *n*, and there is some possibility that *n* will be high enough to get *C* to agree to an agreement. If, on the other hand, sovereignty costs are at their maximum (*s*=1), then *G* will never approach negotiations, unless $d_G = 0$ and $m = 0$ (which occurs only when $r = 1$).

Situation II

In Situation II (a), d_G is again less than or equal to 0.5, so *G* will proceed with negotiations provided $n \geq m$. Unlike in Situation I, however, d_G is greater than *m*. *G* wants a lower deficit than *C*, but the costs of rejecting an agreement (*r*) are high enough that the minimum deficit *C* will accept is actually less than the ideal deficit of G: $m < d_G$. Thus, the agreement value of deficit (*a*) will not be set

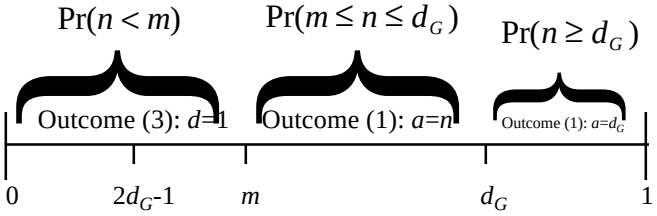
to *m*, rather it will be set to either *n* or d_G. *G*'s expected utility from approaching negotiations in Situation II (a) is illustrated below:

Situation II (a): $d_G > m,\ d_G \leq 0.5$



In Situation II (b), d_G is still greater than *m* but d_G is less than 0.5. Thus, there are values of *n* for which *G* would not want to proceed with negotiations even if *C* were willing (if $n < 2d_G - 1$). In Situation II (b), however, *m* is greater than $2d_G - 1$. Hence, *G* will not proceed with negotiations even when *n* is greater than $2d_G - 1$, that is, unless *n* is also greater than *m*. Below, *G*'s expected utility from approaching negotiations in Situation II (b) is illustrated to have the same relevant regions as Situation II (a):

Situation II (b): $d_G > m > 2d_G - 1,\ d_G > 0.5$



For both (a) and (b), since *n* is distributed uniformly over its domain, the probability that *n* is less than *m* is simply *m*. When this occurs, there can be no agreement and deficit remains at the status quo ($d = 1$). The probability that *n* lies between *m* and d_G is $(d_G - m)$. An *n* in this range results in an

agreement with $a = n$. The probability that *n* is greater than d_G is $1 - d_G$. An *n* of this magnitude will allow *G* to set the agreement value of deficit to its ideal point: $a = d_G$.

G's expected value of approaching negotiations in Situation II is therefore:

$$\mathrm{E}^{\mathrm{II}}(\mathrm{U}_{\mathrm{G}}) = \Pr(n < m)\left[-(1-d_G)^2 - s\right] + \Pr(m \le n \le m)\left[-(n-d_G)^2 - s\right] + \Pr(n \ge m)\left[-(d_G - d_G)^2 - s\right]$$

$$= m\left[-(1-d_G)^2 - s\right] + \int_m^{d_G}\left[-(n-d_G)^2 - s\right]dn + (1-d_G)(-s)$$

Again, as above, *G* will approach negotiations under Situation II if and only if $\mathrm{E}^{\mathrm{II}}(\mathrm{U}_{\mathrm{G}}) \ge \mathrm{U}_{\mathrm{G}}(\text{Not Approach})$. The mathematical expression describing the condition for this to hold true is extremely complicated. It is more useful to note some specific points of reference. For example, suppose Situation II (a) is the case. If *G* is very conservative and has an ideal point just above 0, say $d_G = e$ (where e is infinitesimally greater than 0), and rejection costs are high enough that $m = 0$. Then *G* will approach negotiations provided that $s < 0.999$.

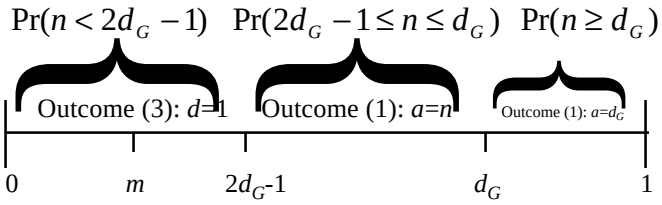
If *G* is not as conservative, say $d_G = 0.499$, and $m = 0$, then sovereignty costs must be lower, $s < 0.208$, in order for *G* to approach negotiations. And if rejection costs are lower, such that $m = 0.498$, then sovereignty costs must be lower still, $s < 0.125$, for *G* to approach.

Suppose Situation II (b) is the case, and $d_G = 0.75 + e$ with rejection costs that are low enough to make $m = 0.75$. Then sovereignty costs must be extremely low, $s < 0.016$, in order for *G* to approach negotiations. As one moves toward a less conservative *G* and a less accepting *C*, sovereignty costs must be practically equal to zero in order for *G* to gamble on approaching negotiations. For example, if $d_G = 0.95 + e$ and $m = 0.95$, then there must be $s < 0.0001$ for *G* to approach. Furthermore, if sovereignty costs are as high as possible, $s = 1$, even if *C* will accept any value for deficit ($m = 0$), there are no values of $d_G > 0.5$ which will satisfy this condition.

Situation III

In Situation III, d_G is situated as it is in Situation II (b): d_G is greater than *m* and greater than 0.5. However, unlike Situation II (b), *m* is less than $2d_G - 1$. This implies that rejection costs are high enough that *C* will accept some levels of deficit that *G* will reject. If *n* is too low, *G* will prefer to stay with the status quo ($d = 1$) than to sign an agreement with $a = n$. *G*'s expected utility in this situation can be illustrated as:

Situation III: $m < 2d_G - 1 < d_G,\ d_G > 0.5$



If *n* is less than $2d_G - 1$, *G* prefers to stop negotiations and keep $d = 1$. The probability of this is equal to $2d_G - 1$. If *n* is between $2d_G - 1$ and d_G, *G* will enter into an agreement with $a = n$. The probability of this is $d_G - (2d_G - 1)$. Finally, if *n* is greater than d_G, *G* will negotiate for an agreement with $a = d_G$. The probability of this is $1 - d_G$. One can therefore calculate *G*'s expected value for approaching negotiations in Situation III as:

$$E^{III}(U_G) = \Pr(n < 2d_G - 1)\left[-(1-d_G)^2 - s\right] + \Pr(2d_G - 1 \le n \le d_G)\left[-(n-d_G)^2 - s\right] + \Pr(n \ge d_G)\left[-(d_G - d_G)^2 - s\right]$$

$$= (2d_G - 1)\left[-(1-d_G)^2 - s\right] + \int_{2d_G-1}^{d_G}\left[-(n-d_G)^2 - s\right]dn + (1-d_G)(-s)$$

G will approach negotiations only if $E^{III}(U_G) \ge U_G(\text{Not Approach})$. This holds if:

$$d_G \le 1 - \left(\frac{3}{5}\right)^{\frac{1}{3}} s^{\frac{1}{3}}.$$

Note that in Situation III, $d_G > 0.5$. Thus, in order for *G* to approach negotiations it must be true that $s < 0.21$. In Situation III, therefore, *G* will approach negotiations if *s* is between 0 and 0.21, but not otherwise.

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