

INTERNATIONAL MONETARY FUND

Precautionary Arrangements—Purposes and Performance

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Executive Summary

This paper compares experience under precautionary and non-precautionary programs over the period 1992-2005, with a view to answering two questions: Are there systematic differences between precautionary and non-precautionary programs in terms of policies, conditionality, or macroeconomic outcomes? And, if so, are these attributable to the nature of the arrangement or to the economic problems facing the member and the circumstances that led it to seek the Fund's support?

The paper finds that countries with weak initial macroeconomic performance tend to request drawing programs whereas those with stronger macroeconomic fundamentals, but facing economic uncertainties, favor precautionary programs. While significant differences exist in the behavior of key macroeconomic variables (output growth and inflation) at the outset of the programs, these differences tend to disappear over the following two to three years, and can be largely explained by the different initial conditions facing the member.

In terms of market response, controlling for initial conditions, spreads in members with precautionary programs are no different from the spreads prevailing when these members do not have a program, suggesting that these programs help mitigate the adverse effects of political uncertainty on spreads. By contrast, countries with non-precautionary programs experience significantly higher spreads during these periods. Markets thus appear to differentiate their response according to whether or not the country is facing a pressing balance of payments need (rather than stigmatizing the request for a Fund-supported program itself).

A possible concern is that precautionary programs may be less ambitious or subject to lower standards than non-precautionary programs. In the preliminary assessment presented in this paper, it does not appear that—controlling for the initial situation facing the country—policies under precautionary programs are any weaker or less ambitious than under non-precautionary programs. This conclusion is buttressed by comparing structural conditions for countries that had both drawing and precautionary programs.

The paper concludes that precautionary programs may provide a valuable service in lending credibility to the authorities' policies while sending a well-calibrated signal to markets that the country is not facing a pressing balance of payments problem and without compromising the standards required for Fund support.

I. INTRODUCTION

1. When a member seeks a Fund-supported program, but does not face a pressing balance of payments need, it may treat a Fund arrangement as precautionary—a pure “stand-by”—which provides the right, conditional on implementation of specific policies, to make drawings should the need arise.¹ Countries achieving broad macroeconomic stability and external viability have found precautionary arrangements to be useful—accounting for nearly half of new arrangements in recent years—but this still leaves open questions about precautionary programs, including their performance relative to non-precautionary (or “drawing”) programs.²

2. These issues have been raised in a number of previous Board discussions. While reiterating the value of precautionary arrangements for supporting sound policies, Directors have, on occasion, stressed that the standards and requirements for precautionary programs should not fall short of those for drawing programs.³ During their discussion of the Design of Fund-Supported Programs (SM/04/403), Directors remarked upon the apparent differences in macroeconomic outcomes—especially as regards output growth—under precautionary programs, and requested further analytical work and more in-depth study of such programs.⁴

3. Responding to this request, this paper compares experience under precautionary programs (51 arrangements with 22 members) and non-precautionary programs (110 arrangements with 52 members) over the period 1992-2005, with a view to answering two questions: Are there systematic differences between precautionary and non-precautionary programs in terms of program policies, conditionality, or macroeconomic outcomes? And, if so, are these attributable to the nature of the program or to economic problems facing the member and the circumstances that led it to seek the Fund’s support?

¹ Among the purposes of the Fund, as listed in Article I of the *Articles of Agreement*, is “to give confidence to members by making the general resources of the Fund temporarily available to them...” (emphasis added). As Sir Joseph Gold points out, a stand-by gives confidence by allowing a member “to ensure that it would be able to draw if, within a period of 6 or 12 months, the need presented itself.” (See *The Stand-by Arrangements of the International Monetary Fund*, 1970, pp. 23-24.)

² Throughout this paper, “precautionary program” is used in preference to the more cumbersome, but more correct, term “program supported by a Fund arrangement that the authorities treat as precautionary,” while “non-precautionary” or “drawing” program is used to refer to all other GRA-supported programs (stand by and extended arrangements).

³ Chairman’s Summing Up of the Independent Evaluation Office Report on the Role of the Fund in Argentina, 1991-2001 (Buff/04/141).

⁴ The Acting Chair’s Summing Up of the Design of Fund-Supported Programs (Buff/05/8).

4. The main findings may be summarized briefly:
- Countries with weak initial macroeconomic performance tend to request drawing programs whereas those with stronger macroeconomic fundamentals, but facing uncertainties, favor precautionary programs.
 - Significant differences exist at the outset between precautionary and non-precautionary programs in the behavior of output growth and inflation. These differences disappear two to three years later, and are mainly explained by the circumstances under which the member requested the program.
 - In terms of market response, controlling for initial conditions, spreads in members with precautionary programs are no different from the spreads prevailing when these members do not have a Fund-supported program, suggesting that precautionary programs help offset the adverse effects of heightened uncertainty on spreads. By contrast, members with non-precautionary programs experience significantly higher spreads—suggesting that markets differentiate their response according to whether or not the country is facing a pressing balance of payments need rather than stigmatize the request for a Fund-supported program itself.
 - Finally, while recognizing that comparisons of policy stances and conditionality are inherently difficult, controlling for the initial situation facing the country, policies and conditionalities under precautionary programs are not weaker or less ambitious than under non-precautionary programs.

Together these findings suggest that precautionary programs may provide a valuable service in lending credibility to the authorities' policies, while sending a well-calibrated signal to markets, without compromising the standards required for Fund-supported programs.

5. The remainder of this paper is organized as follows. Section II provides a few stylized facts concerning macroeconomic outcomes under precautionary and non-precautionary programs. Section III turns to the empirical analysis: establishing the conditions under which members request precautionary or non-precautionary programs, and then comparing macroeconomic performance and the market's response controlling for these initial conditions. Section IV examines whether systematic differences exist in terms of policies and conditionalities, again controlling for initial conditions. Section V concludes and offers issues for discussion.

II. CHARACTERISTICS OF PRECAUTIONARY PROGRAMS

A. Frequency and Access

6. Over the period 1992-2005, 52 precautionary arrangements and 110 drawing arrangements were approved by the Executive Board. In recent years, precautionary

arrangements have averaged five per year, with the number falling in 2005 (Table 1). In only six cases in the sample did the authorities later draw under an arrangement that was initially intended to be precautionary, four of which were capital account crises (Argentina 2000, Brazil 2001, Philippines 1998, and Uruguay 2002)—the other two being Peru (1996) and Uruguay (1997). Peru drew Fund resources to help finance a debt and debt-service reduction operation. In Uruguay's case, a purchase was made following turbulence in international markets in 1998. In four additional cases, the authorities did not initially indicate an intention to treat the arrangement as precautionary, but they did not draw even though the programs remained on track. These cases were included in our sample of precautionary programs.

7. Total access under precautionary arrangements—at around 47 percent of quota during 2000-05—has been about one-half the level of access (relative to quota) under drawing arrangements.⁵ Typically, the member's right to draw Fund resources cumulates in a “staircase” pattern as phased quarterly purchases build up so that the full amount of the access may be drawn at the end of the program period, if the program remains on track and there is a balance of payments need.⁶ For members with no outstanding Fund credit, the initial disbursement amounts to at least 25 percent of quota (i.e., at least the first credit-tranche).⁷ As a result, these arrangements have substantial front loading. Finally, precautionary arrangements tend to be slightly shorter in duration than non-precautionary arrangements—on average, 18 months rather than 22 months over the 2000-05 period—perhaps because, as elaborated below, these arrangements are typically requested by members that are not in crisis but that are trying to ride out periods of uncertainty.

⁵ Excluding Brazil (2001), the one case of exceptional access at the outset of a precautionary program and which later turned non-precautionary, average access under precautionary arrangements was 31 percent of quota.

⁶ For a discussion of disbursement patterns in precautionary arrangements, as well as possible alternatives, see SM/03/207.

⁷ This allows for upper credit-tranche conditionality in the arrangement, which applies once the country's outstanding Fund credit exceeds 25 percent of quota. Only Argentina (2000) and Paraguay (2003) have received more than 25 percent of quota at the approval of a precautionary arrangement.

Table 1. Characteristics of GRA Arrangements, 1992 - 2005

Period	Number of precautionary arrangements	Number of non-precautionary arrangements	Annual access levels (in percent of quota)		Average Duration (in years)	
			Precautionary	Nonprecautionary	Precautionary	Nonprecautionary
1992-95 1/	2.3	12.5	20.3	55.8	1.0	1.5
1996-99 1/	4.8	7.8	33.7	82.1	1.8	2.1
2000-05 1/	4.0	4.8	46.7	84.1	1.5	1.8
2000	6	6	39.0	77.2	1.7	1.7
2001	5	3	106.7 2/	35.6	1.3	1.2
2002	2	8	29.7	177.7	1.5	2.1
2003	4	7	54.4	81.6	1.3	1.7
2004	5	1	17.3	41.3	1.8	1.1
2005	2	4	33.5	90.9	1.4	2.8

Source: Fund Monitoring of Arrangements (MONA) Database; Fund Database on Access Levels

1/ Annual averages

2/ Excluding exceptional access of Brazil, the average access level for precautionary arrangements in 2001 was 30.8 percent.

B. Stylized Facts

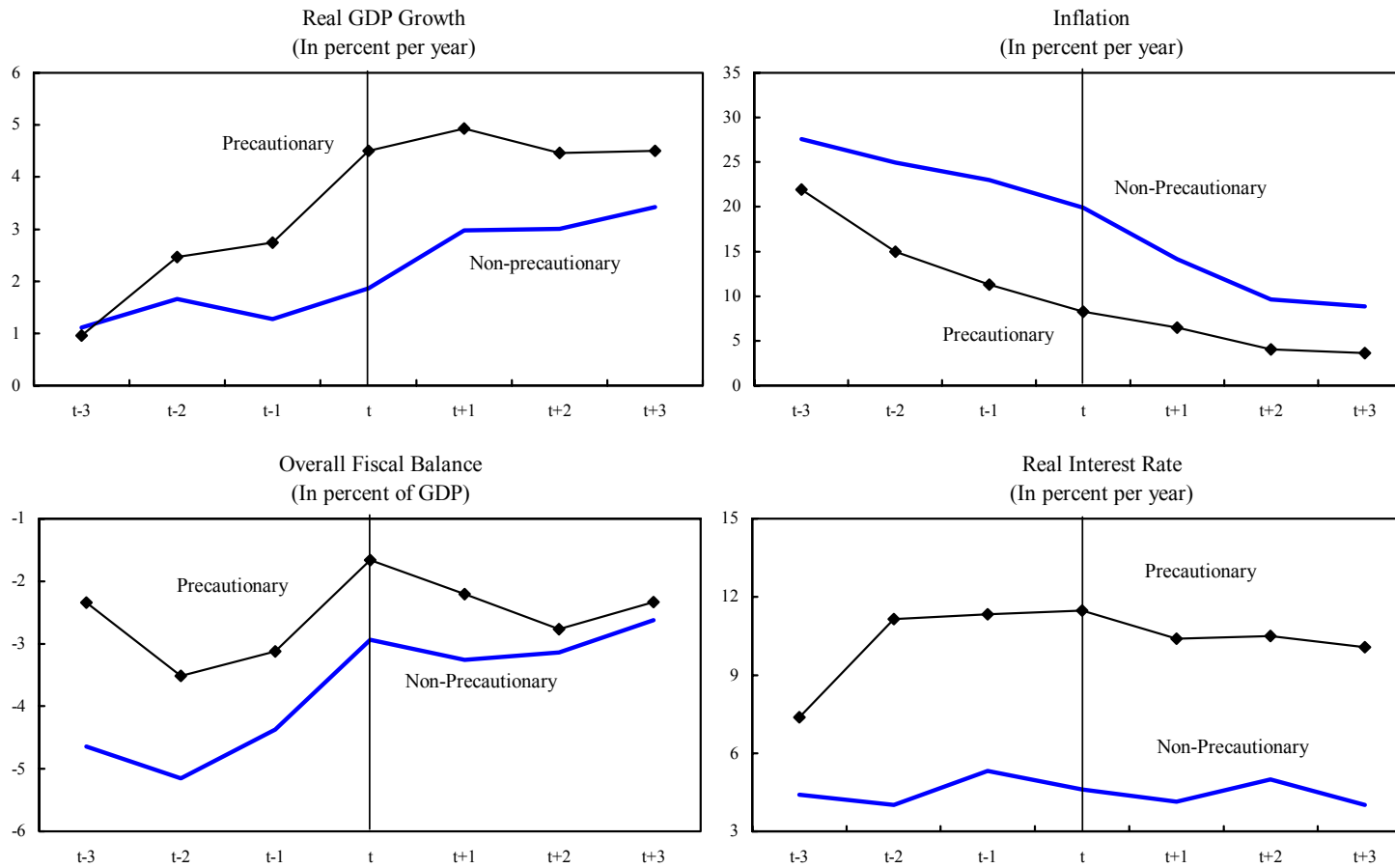
8. As a first step in comparing the performance of precautionary and non-precautionary programs, Figures 1-2 plot key macroeconomic variables, revealing some characteristic differences.⁸ For example, output growth was slow over the three years prior to the start of a non-precautionary program, averaging about 2 percent in the first program year, and rising to 3 percent per year thereafter (Figure 1). By contrast, the pace of output growth was increasing prior to the start of a precautionary program, averaging 4 percent in the first program year and roughly maintained thereafter. The initial inflation rate also tends to be more favorable for precautionary programs. Whereas inflation, though declining, was 20 percent in the first year of a non-precautionary program (falling to 8 percent three years later), it was 8 percent in the first year of a precautionary program (falling to 3½ percent three years later).

9. One element of this stronger initial macroeconomic performance for precautionary programs is a more benign external environment. When members request non-precautionary programs, private capital flows have declined from a peak of more than 3 percent of GDP three years prior to the program to less than ½ percent of GDP in the program year (Figure 2). The real exchange rate is also depreciating (relative to its long-run trend) and gross international reserves (as a proportion of short-term debt) are declining, suggesting a weakening balance of payments position. Members requesting precautionary programs have also experienced lower private capital inflows, but of a much smaller magnitude and starting from a much higher level. For these members, private capital flows decline slightly, from about 6 percent of GDP over the three years prior to the program to 5 percent of GDP in the first program year. The real exchange rate is modestly appreciated (relative to its long-term trend) and reserves are rapidly increasing in relation to short-term debt, suggesting a strengthening balance of payments.

10. These patterns of private capital flows are also reflected in the behavior of the current account. For drawing programs, the current account deficit narrows prior to the program and especially during the first year of the program, reflecting the slowdown in capital inflows and some policy tightening. (The overall fiscal balance improves by about 1 percent of GDP during the first program year.) Correspondingly, investment declines and saving improves modestly. For precautionary programs, the current account balance only improves during the first program year, mainly on account of an improvement in the fiscal balance, and by ½ percentage points of GDP less than for non-precautionary programs. The current account

⁸ Capital account crisis cases are excluded from these Figures because the magnitude and abruptness of capital outflows means that the behavior of these economies is different from the “classical” GRA-supported programs (SM/04/404), and including them in the sample of drawing programs would necessarily bias the comparison in favor of precautionary programs. They are also treated separately in the econometric analysis below.

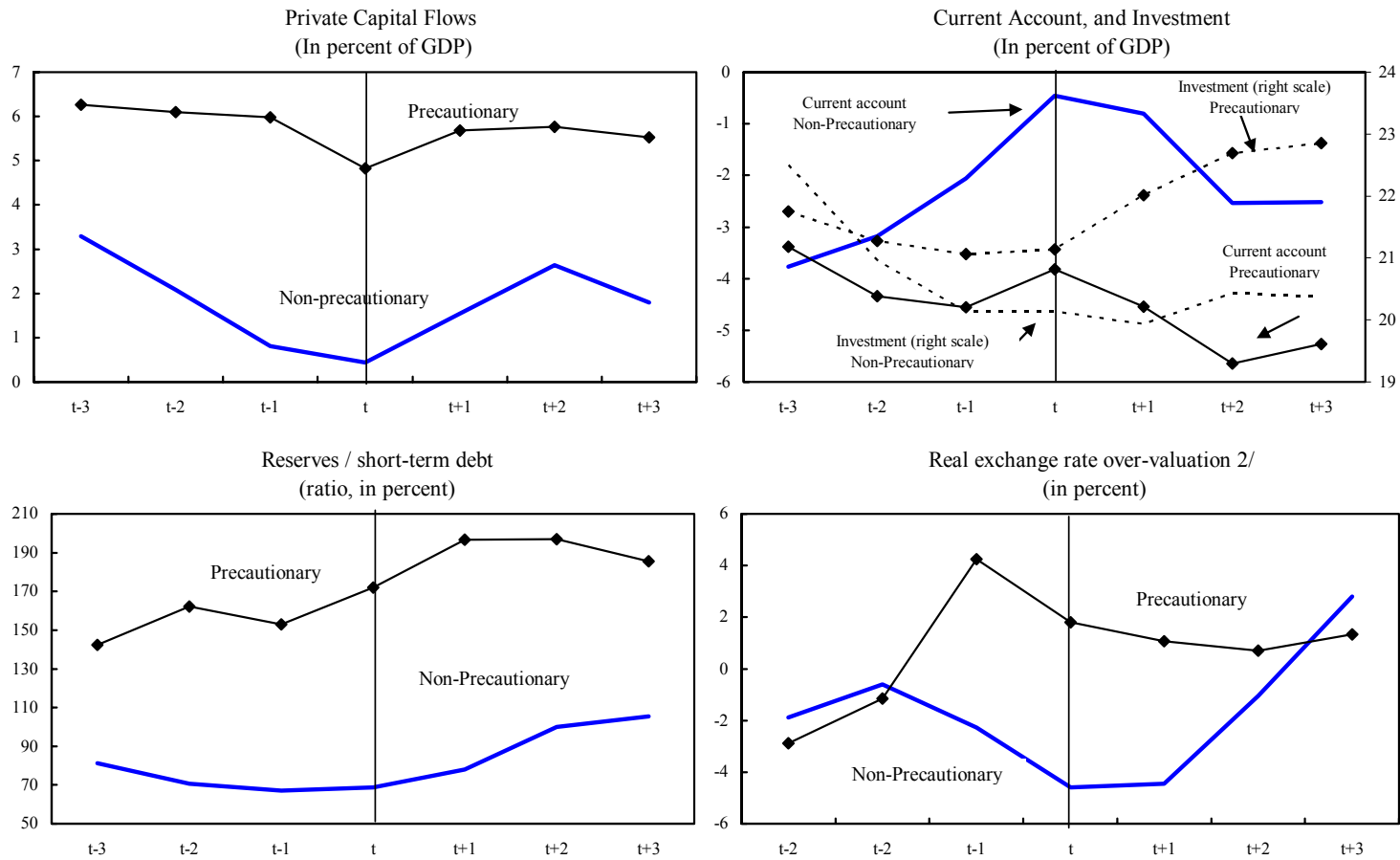
Figure 1. Comparisons between Non-precautionary and Precautionary Arrangements 1/



Sources: International Monetary Fund, World Economic Outlook; and IMF staff estimates.

1/ Precautionary and non-precautionary arrangements exclude capital account crises.

Figure 2. Comparisons between Non-precautionary and Precautionary Arrangements 1/



Sources: International Monetary Fund, World Economic Outlook; and IMF staff estimates.

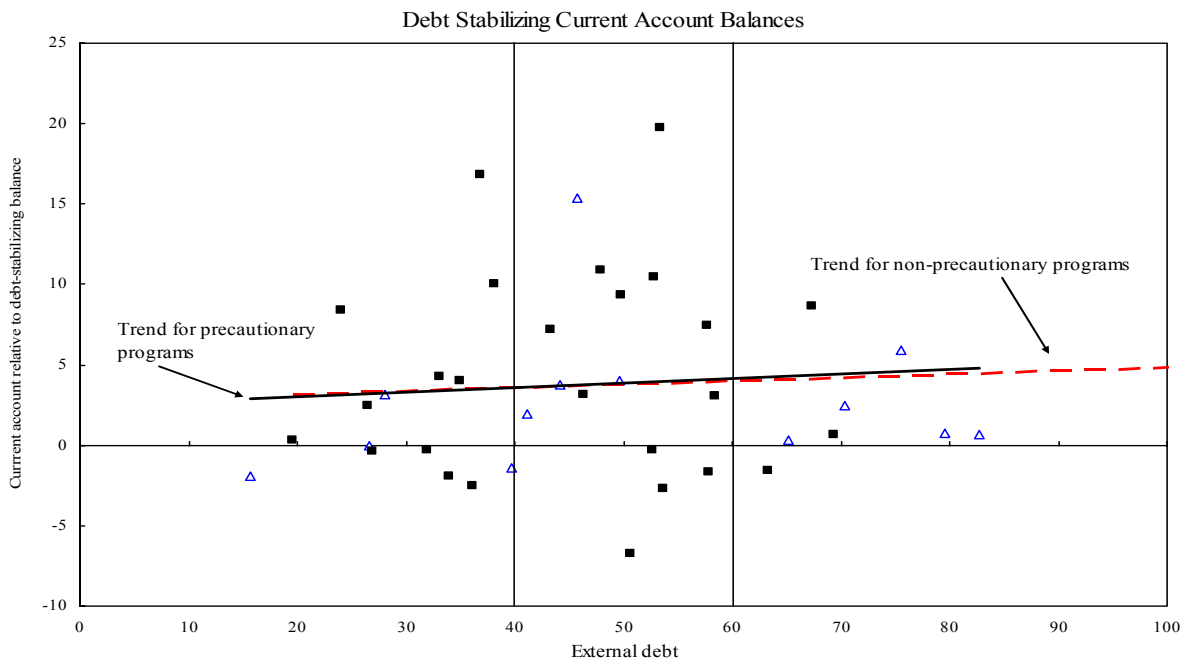
1/ Precautionary and non-precautionary arrangements exclude capital account crises.

2/ The real exchange rate over-valuation is defined as the percentage difference between the real exchange rate and a twenty year trend obtained using a HP filter.

deficit widens after the first program year as capital inflows resume. While the return of confidence and resumption of capital flows is a sign of program success, the widening current account deficit could be of concern—though, in fact, these deficits do not compromise external debt sustainability (Box 1).

Box 1. Debt Sustainability

As noted in the text, the current account deficit deteriorates during the program period, as confidence is restored and capital inflows resume. While the return of confidence is a measure of program success, this raises the question of whether debt sustainability is compromised. A useful way to assess whether the current account balance is appropriate is to compare it to the debt-stabilizing level at various debt ratios. This exercise was considered in *The Design of IMF-Supported Programs* (SM/04/404) which concluded that, for the period 1995-2000, while programmed improvements in the current account were broadly in line with debt sustainability considerations, in a number of cases the GRA borrowers had “over-adjusted,” i.e., that the current account balance was considerably higher than the debt-stabilizing balance at moderate debt levels. This analysis is replicated here for programs over the period 1990–2004. (The Figure plots the most recent observation for members still engaged in Fund-supported programs, and three years after the most recent program for those countries not currently engaged in a Fund-supported program. Precautionary programs are depicted with triangles.)



The Figure reveals that only about 20 percent of members with non-precautionary programs are under-adjusters, defined as having a wider current account deficit than the debt-stabilizing deficit, and external debt above 40 percent of GDP. In contrast, none of the thirteen members with precautionary programs were under-adjusters. As such, the deterioration in the current account of members with Fund-supported programs would not seem to compromise external debt sustainability.

The relationship between adjustment and the debt ratio is positive, and is almost identical for precautionary and non-precautionary programs. The line extends further for non-precautionary cases because the maximum debt ratio was higher for those members. A reduction in gross debt can be achieved by running down reserves, so the reserve position also needs to be taken into account. With the exception of a few cases, the ratio of reserves to short term debt is above unity. Moreover, of the members with a ratio below unity, all are running surpluses or have sizable net asset positions, with the exception of Turkey and Zimbabwe.

III. EMPIRICAL ANALYSIS

11. This initial snapshot raises two questions. First, can the different economic conditions—and the member’s circumstances prevailing at the start of a program more generally—account for the differential performance over the program period? Second, if the initial economic conditions are relatively benign, why do countries request precautionary programs at all? To address these questions, a “program choice” model (between a precautionary program, a drawing program, or no Fund support at all) is developed in Section A. This model is then used in Sections B and C respectively, to examine whether significant differences remain in macroeconomic performance and in the market’s response, controlling for the initial condition that led to the member’s request for a program.

A. Program Choice

12. The previous section suggests that macroeconomic performance and external developments play a role in the authorities’ decision on what type of Fund-supported program (if any) to request.⁹ Table 2 therefore reports key variables in the year prior to either a precautionary or a non-precautionary GRA-supported program (as well as for non-program periods) for a sample of middle-income countries, excluding those that are PRGF-eligible.

13. From Table 2, in the run-up to a member’s request for a precautionary program, output growth, inflation, the current account balance, and the external debt ratio are not statistically different from periods when no Fund-supported program is requested. Periods when countries request drawing programs, by contrast, are characterized by significantly lower growth, higher inflation, a more depreciated real exchange rate, higher external debt, lower foreign exchange reserve coverage, and a greater likelihood of having sovereign debt arrears relative to non-program periods. Macroeconomic performance when countries seek precautionary programs is thus little different than when no Fund support is requested, while it is significantly worse when drawing programs are requested.

⁹ The authorities’ decision is modeled here as a simultaneous choice between requesting a precautionary program, a drawing program, or none at all. Sequential decision trees are also possible; for instance, the authorities could first decide to request Fund support, and then decide whether or not to treat the program as precautionary. For logical consistency, however, such sequential modeling structures require Independence of Irrelevant Alternatives (IIA) so that the second stage choices are independent of the first stage (see Ben-Akiva and Lerman (1987) for a discussion). Since the IIA assumption does not hold empirically in this dataset, the simultaneous modeling structure was adopted.

Table 2. Initial Conditions
(Year Prior to Program or Non-Program Average) 1/

	Countries with at least one Fund-supported Program in the sample period			
	Periods with no Fund-supported program	Precautionary 1/	Nonprecautionary 1/	Difference between precautionary and non- precautionary programs 2/
In percent per year				
Output growth	2.7	3.5	2.0 ***	1.5
Inflation	23.2	9.6	42.0 ***	-32.4 ***
Overvaluation (in percent) 3/	0.6	0.4	-5.1 ***	5.5 ***
In percent of GDP				
Current account	-2.2	-3.7	-1.5	-2.2
Change in current account	-0.6	-0.5	0.2	-0.7
Private capital flows	2.3	5.1 ***	2.0	3.1 ***
Change in private capital flows	0.5	-0.7 *	0.6	-1.3
Government balance	-3.6	-2.5	-2.5 **	0.0
External debt	48.6	43.3	59.7 ***	-16.4 ***
Reserve coverage (in months of imports)	4.1	5.3 ***	3.4 ***	1.9 ***
Arrears (percent of time) 4/	17.1	2.7 *	31.4 ***	-28.7 ***
Latter half of executive term (percent of time) 5/	52.8	67.5 *	49.4	18.1 ***
Fund involvement (in percent of maximum) 6/	34.4	60.4 ***	50.5 ***	9.9
Index values based on perceptions 7/				
Bureaucracy	2.2	1.9 ***	2.0 ***	-0.1
Lack of internal conflict	8.7	8.6	9.0	-0.4
Lack of political risk	63.2	64.6	62.5	2.1
Law and order	3.4	3.2	3.6	-0.4

1/ Asterisks indicate whether differences relative to periods of no Fund-supported program are statistically significant at the (*) 90, (**) 95, or (***) 99 percent levels respectively.

2/ Asterisks indicate whether differences between precautionary and non-precautionary programs are statistically significant at the (*) 90, (**) 95, or (***) 99 percent levels respectively.

3/ Overvaluation is measured as the percentage deviation of the real exchange rate relative to its Hodrick-Prescott filtered trend.

4/ This indicates whether a country is in default to some bond holders or bank lenders (source: Standard and Poor's; see Appendix II)

5/ Calculated as a dummy variable if the forthcoming election of the executive is within two years, the mid-point of the executive term of office in the sample.

6/ Fund involvement is a calculation of the number of years of Fund engagement since 1980 with declining weights over time (see Appendix II)

7/ (source:ICRG; see Appendix II)

14. If macroeconomic conditions are little different when members request precautionary programs than when no Fund support is requested, then why do members request precautionary programs? One possibility is that such programs foster internal discipline and lend credibility to the authorities' policies especially when there may be political uncertainty. While political circumstances are difficult to capture quantitatively, the proximity of the next election for the executive branch provides a simple metric. Members seeking precautionary programs are in the second half of the executive's term two-thirds of the time—a proportion that is statistically significantly higher than members seeking non-precautionary programs or not seeking the Fund's support at all (which are both at around 50 percent). Members seeking Fund support—precautionary or not—score lower on the perceived quality of the bureaucracy, and members that have had previous Fund-supported programs are more likely to request another.¹⁰

15. The overall impression that members seek precautionary programs when they have strong economic fundamentals (except for the size of the current account deficit), but perceived underlying uncertainties (such as election-related pressures), is supported by a multinomial choice model. Table 3 reports the coefficient estimates pertaining to the choice of a precautionary or non-precautionary program (in both cases, relative to not seeking the Fund's support at all).¹¹ Members requesting precautionary programs have lower inflation, and higher foreign exchange reserve coverage but also greater perceived “internal political

¹⁰ The index values of perceptions are based on assessments of political risk made by a statistical model of risk developed by the PRS group (ICRG indicators, see Appendix II).

¹¹ For variables that are defined in percentage terms (percent per year or percent of GDP), the coefficients represent the effects of a 1 percentage change in the explanatory variable on the percentage change in the probability of choosing that particular option. For example, a current account deficit that is 1 percent of GDP higher than the mean value would lead to a 34 percent (not percentage point) increase in the probability of choosing a precautionary program (rather than no program). For variables that are scalars, the coefficient estimate is an elasticity so that a 20 percent decline in the index of internal conflict (which corresponds to one standard deviation) would lead to an 84 percent increase in the probability of choosing a precautionary program.

Table 3. Program Choice Model Estimates

Year prior to program	Precautionary estimates 1/	Nonprecautionary estimates 1/
Arrears 2/	-0.38 **	0.04
Output growth (in percent per year)	5.83	-3.94
Inflation (in percent per year)	-5.15 *	0.82
Current account (in percent of GDP)	-34.07 ***	-0.20
Change in current account (in percent of GDP)	30.88	6.34 *
Fiscal balance (in percent of GDP)	7.72	-6.81
External debt (in percent of GDP)	0.40	1.81 ***
Reserve coverage (in months of imports)	3.41 ***	-2.18 ***
Past Fund involvement 3/	2.42 ***	1.28 ***
Bureaucracy	-2.14 ***	-0.76 **
Lack of internal conflict	-4.18 ***	-0.67
Latter half of executive term 4/	0.74 **	0.08
No. observations		467
Log Likelihood		-225.10
Percent of correct predictions		77.70

Asterisks denote statistical significance at the (*) 90, (**) 95, or (***) 99 percent levels.

1/ Alternative is no Fund-supported program.

2/ The arrears dummy, taken from Standard and Poor's (see Appendix II) indicates whether a country is in default to some bond holders or bank lenders in a particular year.

3/ Fund involvement is measured as a declining weighted sum of the number of years the member has had a Fund-supported program since 1980.

4/ Calculated as a dummy variable if the forthcoming election of the executive is within two years, the mid-point of the executive term of office in the sample.

conflict" and are in the latter half of their executive term.¹² Output growth is positive for precautionary programs, while it is negative for drawing programs—though neither growth rates differ statistically significantly from periods without Fund-supported programs. Surprisingly, the level of the current account balance enters negatively—so that members with larger deficits are more likely to request precautionary programs—but the change in that balance enters positively (and statistically significantly so for non-precautionary programs).

¹² These estimates are based on the first program year. A similar choice model was also estimated for the whole program period for use in the analysis below of macroeconomic performance over the whole program period. A version of the model based on monthly data was estimated for the sovereign spreads analysis below.

The larger current account deficit for precautionary compared to non-precautionary programs mirrors the relatively higher level of private capital inflows in the former (a difference of 3 percent of GDP, on average), while the change variable captures the more pronounced decline in these inflows for non-precautionary cases (see Figure 2). Members are likely to request non-precautionary programs when the external debt ratio is high and the ratio of reserves to imports is low.¹³

B. Macroeconomic Performance

16. The program choice model developed above helps identify the circumstances under which members seek precautionary or non-precautionary programs. In turn, these results can be used to control for the initial economic and political conditions that resulted in the member's request when assessing macroeconomic performance under the program.¹⁴

17. During the approval year of a precautionary program, output growth was on average 3.9 percent, whereas under a non-precautionary program, it averaged 2.6 percent—a difference of 1.3 percent per year, which is statistically significant (Table 4, column 1).¹⁵ Controlling for macroeconomic variables (real exchange rate relative to long-run trend, inflation, and the fiscal balance, all of which enter with a one-period lag) and the program choice inverse Mills ratios (capturing initial conditions that led to the choice of a precautionary or a non-precautionary program over no program), the difference almost halves (3.7 percent versus 3 percent per year, Table 4, column 2), though it remains statistically significant. Thus, systematic differences in the initial growth performance between precautionary and non-precautionary programs are partially explained by the initial conditions that led the authorities to choose that type of program in the first place.

¹³ Robustness tests were carried out by including the level and change in private capital flows, measures of equity market volatility derived from market prices of call options on equity futures, and a market pressure index based on a weighted average of exchange rate and reserve changes. None of these variables were statistically significant, nor did their inclusion affect the statistical significance of other variables.

¹⁴ This follows the procedure suggested by Heckman (1979) to deal with selection bias, but applied to multiple choice models of McFadden (1984). All second-stage regressions include country and time dummies (not reported) to account for global factors (such as movements in U.S. interest rates and global movements in spreads, as embodied in indices such as the EMBIG of JPMorgan) and country-specific characteristics.

¹⁵ The estimates reported in Table 4-5 cover the sample period 1992-2004, and exclude transition economies prior to 1995. The low pseudo-R²'s indicate that much of the cross-country variation in growth is not being explained.

18. During the course of the program period, macroeconomic performance in non-precautionary programs improves, fully catching up with that of precautionary programs, so that over the whole program period (about 2 years on average, see Table 1) there are no growth differences (Table 4, column 3). This convergence also holds over the longer term, i.e., over the three-year period following the start of the program (Table 4, column 4).

19. The results for inflation performance are broadly similar (Table 5). Inflation averaged 7.3 percent during the first year of precautionary programs but it was 11.3 percent for non-precautionary programs—a difference that is statistically significant (Table 5, column 1). Again, controlling for macroeconomic variables lagged one period and the inverse Mills ratios, the difference between precautionary and non-precautionary programs narrows considerably (0.4 percent versus 1.2 percent in Table 5, column 2), and is not statistically different from zero.¹⁶ Inflation rates continue to converge over time, with the difference becoming negligible (Table 5, columns 3 and 4).

20. Finally, the current account balance (not shown) improves by about 1 percent of GDP under both precautionary and non-precautionary arrangements during the first program year, albeit starting from a larger deficit under precautionary programs. Over the program period, the current account balance worsens by almost 2 percent of GDP; neither change is statistically significantly different between both program types. As noted above, the widening current account deficits do not jeopardize debt sustainability since the current account balance is stronger than the debt stabilizing balance for most countries with external debt ratios above 40 percent of GDP (see Box 1).

C. Market Response

21. Beyond helping to improve macroeconomic performance, an important contribution of a Fund-supported program may be the signal it sends to markets. On the one hand, the announcement of a Fund-supported program may signal that the member is facing economic difficulties of which, or to whose extent, markets were previously unaware—leading to a widening of sovereign bond spreads. On the other hand, Fund support also signals that the authorities are dealing with their economic problems, which could reduce spreads particularly if the market had already foreseen the economic challenges. The latter possibility suggests that members that face less severe economic difficulties (and therefore do not expect to draw Fund resources), may want to signal as much to the markets by having a precautionary program. But do markets differentiate according to whether the member expects to draw Fund resources? Or are all requests for Fund support stigmatized by markets through wider spreads?

¹⁶ The functional form of the relationship is based on an inverted money demand function in first differences. See “Macroeconomic and Structural Policies in Fund-Supported Programs—Review of Experience” (SM/04/406).

Table 4. Output Growth under Precautionary and Non-Precautionary Arrangements

	First Program Year		Overall Program Period	Three Years After Program Start
	(1)	(2)	(3)	(4)
Program types				
Countries with no Fund-supported program	0.050 *** 2/	0.036 ***	0.023 **	0.056 *** 2/
Periods with no Fund-supported program 1/	0.036 ***	0.033 ***	0.021 **	0.047 ***
Precautionary	0.039 *** 3/	0.037 *** 3/	0.017 *	0.049 ***
Nonprecautionary	0.026 *** 3/	0.030 *** 3/	0.021 **	0.047 ***
Capital account crisis	-0.013	-0.025 *	-0.019	0.070 ***
Transition economies before 1995	-0.016	0.012	-0.012	0.032 **
Macro variables (lagged one period)				
Overvaluation (in percent)		-0.052 ***	-0.067 ***	-0.059 ***
Inflation (in percent per year)		-0.033 ***	-0.030 ***	-0.007
Fiscal balance (in percent of GDP)		-0.068 *	-0.042	0.062
Change in fiscal balance (in percent of GDP)		0.081 ***	0.093 ***	0.048 **
Pre-determined conditions				
US GDP growth (in percent per year)		0.340 ***	0.410 ***	0.200 ***
Inverse Mills ratio for nonprecautionary		-0.001 **	-0.001	
Inverse Mills ratio for precautionary		0.000	-0.001 ***	
Long-run relationship				
Log of GDP per capita		-0.003 **	-0.004 ***	-0.004 **
Law and Order		0.009 ***	0.008 ***	0.009 ***
pseudo R-squared	0.10	0.21	0.20	0.14
Number of observations	462	462	566	504
Number of countries	48	48	48	48

Source: WEO

Asterisks denote statistical significance at the (*) 90, (**) 95, or (***) 99 percent levels.

1/ For countries with at least one Fund-supported program in the sample period (1990-2004).

2/ The difference between growth in countries with no Fund-supported program during the sample period and growth in other countries during periods without a Fund-supported program is significant at the 90% level of significance

3/ The difference between the precautionary and non-precautionary coefficients is significant at the 90% level of significance.

Table 5. Inflation under Precautionary and Non-Precautionary Arrangements

	First Program Year		Overall Program Period		Three Years After Program Start	
	(1)	(2)	(3)	(4)	(5)	(6)
Program types						
Countries with no Fund-supported program	0.064 *** 2/	-0.004 2/	-0.010 2/		-0.006 * 2/	
Periods with no Fund-supported program 1/	0.082 ***	0.010 *	0.007		0.013 ***	
Precautionary	0.073 *** 3/	0.004	0.004		0.002	
Nonprecautionary	0.113 *** 3/	0.012	0.006		-0.001	
Capital account crisis	0.111 ***	0.027 **	0.022 **		0.018 *	
Transition economies before 1995	0.147 ***	0.058 ***	0.055 ***		0.049 ***	
Macro variables (lagged one period)						
Broad Money growth (in percent per year)		0.490 ***	0.482 ***		0.445 ***	
Real GDP growth (in percent per year)		-0.095	-0.091 *		-0.047	
Change in budget balance (in percent of GDP)		-0.200 ***	-0.134 ***		-0.229 ***	
Change in exchange rate (in percent per year)		0.152 ***	0.152 ***		0.128 ***	
Pre-determined conditions						
Inverse Mills ratio for nonprecautionary		0.001	0.000			
Inverse Mills ratio for precautionary		-0.001	0.000			
pseudo R-squared	0.11	0.72	0.71		0.67	
Number of observations	463	463	568		619	
Number of countries	48	48	48		54	

Source: WEO

Asterisks denote statistical significance at the (*) 90, (**) 95, or (***) 99 percent levels.

1/ For countries with at least one Fund-supported program in the sample period (1990-2004).

2/ The difference between inflation in countries with no Fund-supported program during the sample period and inflation in other countries during periods without a Fund-supported program is significant at the 90% level of significance

3/ The difference between the precautionary and non-precautionary coefficients is significant at the 90% level of significance.

22. Table 6 reports average monthly sovereign bond spreads during the first year of a Fund-supported program.¹⁷ The average spread when there was a precautionary program is no different than the average spread for periods for those same members without Fund-supported programs. However, average spreads for precautionary programs were statistically significantly lower than those for non-precautionary programs. Members with no Fund-supported program at all during the sample period had even lower spreads.

23. Taking account of various explanatory variables—interest rate and export volatility, overvaluation, market pressure, and arrears—and the inverse Mills ratios that capture the circumstances that led the authorities to request the Fund-supported program, improves the fit considerably to 70 percent (from 30 percent).¹⁸ More importantly, it shows that, controlling for initial conditions, spreads for members with precautionary programs remain more than 100 basis points lower than for members with non-precautionary programs—a statistically significant difference—both for the first program year and for the overall program period. In other words, even after taking account of the actual macroeconomic situation facing the member, a differentiated signal is sent to and received by the markets when the member does not expect to draw on Fund resources.¹⁹ It also suggests that precautionary programs help mitigate the adverse impact on spreads of increased uncertainty.²⁰

¹⁷ This paper examines the effect on secondary market spreads; other papers—such as Mody and Saravia (2003) and Eichengreen, Mody, and Kletzer (2005)—have looked at the effect on spreads of new bonds issued during Fund-supported programs. They find that spreads during these periods are lower than at other periods. Since the timing of bond issuance is endogenous, the decline in spreads could reflect authorities choosing to issue bonds at the most opportune time.

¹⁸ These explanatory variables do not capture all of the economic and other factors that determine spreads. Drawing programs, particularly capital account crises, are associated with higher spreads relative to non-program periods or members with no Fund-supported program in the sample. This may suggest omitted variables, non-linear relationship, or, possibly, stigma.

¹⁹ Robustness checks also considered a dummy variable capturing the announcement date of subscription to the Special Data Dissemination Standard and measures of equity market volatility derived from market prices of call options on equity futures. Inclusion of such variables did not affect the results presented here,

²⁰ Excluding precautionary arrangements that immediately followed a drawing arrangement yields similar results. Moreover, spreads were higher in countries that had a similar degree of political uncertainty as that prevailing in precautionary programs but without a Fund-supported program.

Table 6. Determinants of Sovereign Bond Spread 1/

	First Program Year		Overall Program Period	
	(1)	(2)	(3)	(4)
Precautionary	18.9 2/	31.2 2/	89.6 *** 2/	24.6 2/
Nonprecautionary	148.6 *** 2/	136.5 *** 2/	168.8 *** 2/	125.6 *** 2/
Countries with no Fund-supported program	-187.2 ***	-156.2 ***	-245.5 ***	-195.2 ***
Exceptional access	662.9 ***	647.3 ***	441.3 ***	428.3 ***
Interest rate volatility	...	-0.04 ***	...	-0.02
Export volatility	...	779.5	...	1138.4 *
Overvaluation	...	652.4 **	...	-19.7
Market pressure 3/	...	-984.7 ***	...	-1227.2 ***
Arrears 4/	...	2776.0 ***	...	1727.6 ***
Inverse Mills ratio for nonprecautionary	...	19.9 ***	...	1.3
Inverse Mills ratio for precautionary	...	-0.5 ***	...	0.3 **
Constant 1/	364.1 ***	461.7 ***	429.8 ***	406.7 ***
pseudo R-squared	0.33	0.69	0.15	0.57
Number of observations	712	712	1337	1337

Sources: JPMorgan, WEO, and Standard and Poor's, Fund Database on Access levels

Asterisks denote significance at the (*) 90, (**) 95, or (***) 99 percent levels.

1/ The omitted category is the non-program periods for countries with at least one Fund-supported program in the sample period (1994-2004).

2/ The difference between the precautionary and non-precautionary coefficients is significant at the 90% level of significance.

3/ "Market pressure" denotes a weighted average of real exchange rate and reserve changes, a la Reinhart and Kaminsky (1998).

4/ The arrears dummy, taken from Standard and Poor's (see Appendix II) indicates whether a country is in default to some bond holders or bank lenders in a particular year.

IV. POLICY TARGETS AND CONDITIONALITY

24. One possible concern with precautionary programs is that they may be less ambitious or subject to lower standards, perhaps because of perceptions that Fund resources are less visibly at stake (even though it faces reputation risks) or that the Fund would be less able to exert “leverage” on national authorities. But any assessment of the adequacy of program policies and conditionality must also take account of differences in initial economic conditions. This section attempts such an assessment, examining whether, after controlling for the economic problems facing the member, important differences exist between precautionary and non-precautionary programs in terms of macroeconomic targets (Section A) or structural conditions (Section B).

A. Macroeconomic Policy Targets

25. As stressed by the IEO Review of Fiscal Adjustment, fiscal adjustment targeted under Fund-supported programs should be geared to the problems facing the member. Thus the programmed fiscal adjustment should depend upon a variety of factors, including the initial fiscal deficit, the targeted improvement in the current account balance, and the level of public debt.²¹ Table 7 presents the results of a regression of the programmed fiscal adjustment (i.e. the target for the fiscal balance relative to the previous year) on these controls and on dummy variables for precautionary programs, transition economies (prior to 1995) and capital account crises. A larger initial fiscal deficit or targeted improvement in the current account balance is associated with a more ambitious fiscal adjustment, while the lagged expenditure ratio, the lagged public debt, and the terms of trade are not statistically significant.²² Controlling for these factors, no statistically significant difference exists between the fiscal adjustment targeted under precautionary and non-precautionary programs.

²¹ In the IEO’s report on *Fiscal Adjustment in IMF-Supported Programs*, the lagged fiscal and current account balances, the lagged expenditure ratio, and the projected current account improvement were all statistically significant determinants of programmed fiscal adjustment. In “Macroeconomic and Structural Policies in Fund-Supported Programs—Review of Experience” (SM/04/406), the lagged expenditure ratio and targeted current account improvement were found to be (weakly) significant.

²² Public debt becomes a statistically significant determinant when the lagged fiscal deficit is excluded from the regression, suggesting that most programs tailored fiscal adjustment to the available financing rather than to public debt dynamics, perhaps because the lack of available financing was the more binding constraint.

Table 7. Fiscal Policy Targets

<i>Dependent variable:</i>	Programmed fiscal adjustment
Precautionary	-0.24
Transitional economies before 1995	-2.48
Capital account crisis	-3.37
Lagged fiscal balance	-0.57 ***
Lagged public debt ratio	0.01
Lagged expenditure ratio	-0.01
Change in terms of trade	-0.01
Programmed CA adjustment	0.15 *
Constant	0.40
Pseudo R-squared	0.40
Number of observations	116

Sources: Fund Monitoring of Arrangements (MONA) Database and WEO.

Asterisks denote significance at the (*) 90, (**) 95, or (***) 99 percent levels.

26. Fund-supported programs also target the inflation rate. Indeed, in a regression of the targeted change in inflation, the negative coefficient on the lagged inflation rate is statistically significant, implying that higher initial inflation is associated with targeted inflation that more than halves inflation (Table 8, column 1). But even controlling for initial inflation, a statistically significant difference exists between drawing programs and precautionary programs, with the latter targeting a larger reduction of inflation (about 5 percentage points per year). Controlling for the initial inflation rate and projected disinflation, the monetary stance—as measured by the programmed change in velocity²³—is not statistically significantly different between precautionary and non-precautionary programs.

²³ Although monetary authorities typically use a short-term interest rate as their policy instrument, a lack of consistent and comparable data across countries requires the use of the programmed increase in velocity (relative to trend). An increase in velocity indicates a tighter monetary stance, see “Macroeconomic and Structural Policies in Fund-Supported Programs—Review of Experience” (SM/04/406). As explained there, the coefficient on lagged inflation and lagged output gap should be positive (higher initial inflation leads to greater tightening but tempered by a larger output gap), while conditional on the lagged inflation rate, the programmed change in inflation is a measure of inflationary expectations so that an expected fall in inflation should raise money demand, lowering velocity correspondingly.

Table 8. Inflation and Monetary Policy Targets

<i>Dependent variable:</i>	Programmed change in inflation 1/	Programmed change in velocity 2/
Precautionary	-0.05 **	0.00
Capital account crisis	0.03	-0.13
Programmed change in inflation	...	0.92 ***
Lagged output gap	0.00	0.01 **
Change in exchange rate (t-1)	0.01	...
Inflation (t-1)	-0.60 ***	1.04 ***
Constant	0.07 ***	-0.06
Pseudo R-squared	0.46	0.17
Number of observations	116	126

Source: Fund Monitoring of Arrangements (MONA) Database and WEO

Asterisks denote significance at the (*) 90, (**) 95, or (***) 99 percent levels.

1/ Calculated as projected inflation minus lagged actual inflation

2/ Calculated as projected change in velocity minus trend change in velocity.

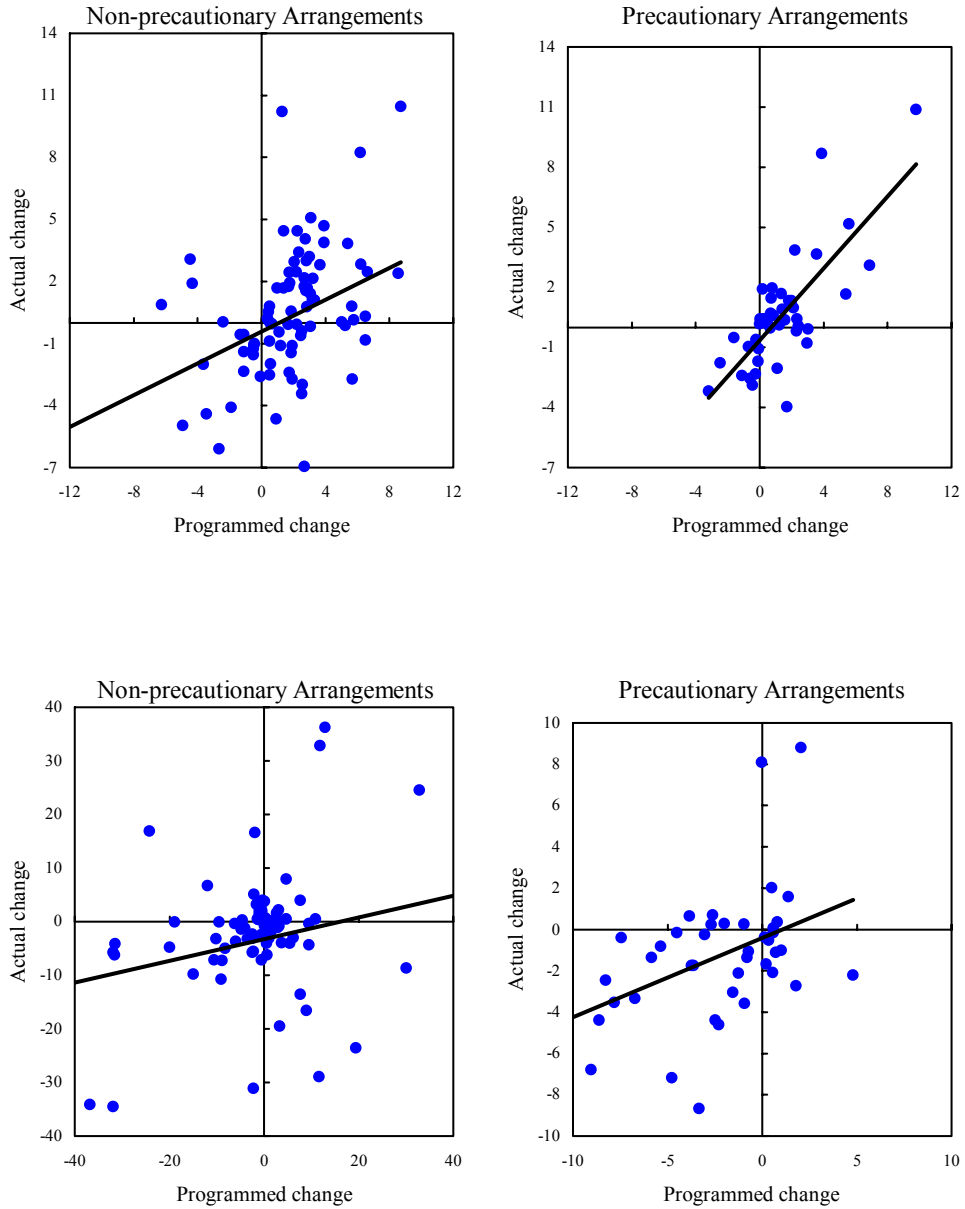
27. Turning from targets to outcomes, both the actual change in the fiscal balance (Figure 3, top panel) and the actual change in inflation (Figure 3, bottom panel) are positively (and statistically significantly) related to the programmed changes. Since for neither variable does the slope or intercept differ (statistically significantly) between precautionary and non-precautionary programs, slippages relative to program targets do not differ across types of programs.

28. In sum, fiscal adjustment and disinflation targeted under Fund-supported programs appear to be related to the economic problems facing the member. Controlling for these, precautionary programs are no less ambitious—and for the inflation target, slightly more ambitious—than non-precautionary programs; nor are there important differences in the number of performance criteria, typically used to monitor fiscal and monetary policies (Box 2).

B. Structural Conditionality

29. As stressed in the Conditionality Guidelines, structural conditionality in Fund-supported programs should be limited to, but fully cover, measures critical to program success. A full assessment of the adequacy and appropriateness of structural conditionality would therefore require a detailed analysis of program goals, the policies and measures critical to achieving them, and their coverage by conditionality. In the absence of such a comprehensive assessment, this analysis is based on some simple statistics on the number of structural conditions.

Figure 3. Fiscal and Inflation Outcomes 1/



Sources: International Monetary Fund; MONA database, and IMF staff estimates.

1/ For both the fiscal balance and for inflation, the slope and intercept of the relationship between programmed changes and outcomes do not differ (statistically significantly) across precautionary and non-precautionary arrangements.

Box 2. Quantitative Performance Criteria

In the absence of a full assessment of the adequacy of conditionality, the table below reports some statistics comparing the number of quantitative performance criteria and implementation indices across precautionary and non-precautionary programs over the period 1995-2005.

The mean and median number of quantitative performance criteria in precautionary programs, at between 7 and 7½ per program year over the full sample period are comparable to the number for non-precautionary programs at between 8 and 8 ½ per program year. Moreover, the implementation rate is also very similar across both.

While the differences in means and medians between the two program types are not statistically significant in the full sample, for members that had both types of programs, the number of quantitative conditions is significantly higher in non-precautionary than in precautionary programs. This result, however, stems from the larger number of quantitative conditions in the non-precautionary programs of two transition economies (Bulgaria and Romania) and in Brazil's capital account crisis program in 1999. Excluding these three cases, there is no statistically significant difference in the number of quantitative performance criteria.

Quantitative Performance Criteria in Precautionary and Non-Precautionary Programs 1/

	Performance Criteria		Countries with both types of programs 2/	Implementation Index
	Mean	Median		
Precautionary programs				
1995-00	8.40	8.00		1.83
2001-05	6.40	7.00		1.81
1995-05	7.53	7.00	6.90	1.82
Nonprecautionary programs				
1995-00	8.70	8.00		1.74
2001-05	7.20	7.00		1.82
1995-05	8.26	8.00	8.83 *	1.76

1/ The asterisk indicates a significant difference between precautionary and non-precautionary programs at the 95% level of significance

2/ In this sub-sample there are 30 observations. If the Bulgaria (1997), Romania (1997), and Brazil (1999) non-precautionary programs are excluded from the list since these are outliers with 14 conditions each, the difference is insignificant.

30. By this metric, precautionary programs incorporate statistically significantly fewer structural reforms than non-precautionary programs. The average number of structural prior actions, performance criteria or benchmarks were less than half the corresponding number in drawing programs and implementation rates were broadly similar (Table 9).²⁴

Table 9. Structural Conditionality in Precautionary and Non-Precautionary Programs 1/

	Total Number of conditions		Prior Actions	PCs and SBs	Members with 2 types of programs	Implementation Index
	Mean	Median	Mean		Total number of conditions	
Precautionary programs						
1995-00	7.90	8.00	0.90	7.00		1.23
2001-05	13.30	13.30	2.60	10.70		1.47
1995-05	10.40	9.70	1.80	8.70	9.60	1.34
Nonprecautionary programs						
1995-00	20.40	* 14.00	* 7.40	* 12.00		1.37
2001-05	25.70	* 22.40	* 7.30	* 18.30		1.35
1995-05	22.80	* 16.30	* 7.30	* 14.90	12.70	1.37

Source: Fund Monitoring of Arrangements (MONA) Database

1/ The asterisk indicates a significant difference between precautionary and non-precautionary programs at the 95% level of significance

31. Is the lower number of structural conditions in precautionary programs indicative of less demanding standards? Or, consistent with the macroeconomic policy targets, is the fewer number of structural conditions a reflection on less demanding economic challenges? In particular, structural reforms must be chosen on the basis of being critical to the program's goals. The need for structural reforms by members that request precautionary and non-precautionary programs is compared (Table 10) employing a commonly used institutional index—the Index of Economic Freedom developed by the Heritage Foundation and the Wall Street Journal. For the index, and each of its sub-components, countries are ranked on a scale of 1 to 5, with 1 being the “least restrictive” and 5 being the “most restrictive” or with “most

²⁴ The implementation index, introduced as part of the 2000 Conditionality Review, assigns a score of 0 for a measure that is not undertaken, 1 if partially completed or delayed, and 2 if fully implemented on time. The score is the unweighted average across programs of the average implementation score.

distortions.”²⁵ According to this index, members that request precautionary programs have less distorted economies—with the difference being statistically significant—which could explain why their programs have fewer structural measures. Furthermore, comparing the same member when it had a precautionary program to when it had a non-precautionary program shows no statistically significant difference in the number of structural measures.²⁶ This result suggests that the economy’s structural problems, rather than the form of Fund arrangement, determines the number of structural conditions (Table 9).

Table 10. Index of Economic Freedom in Countries with Fund-Supported Programs

Name of index	Non-Precautionary Average	Precautionary Average	
Overall Economic Freedom	3.27	2.86	***
Trade Policy	3.62	2.97	***
Fiscal Burden of Government	3.73	3.29	***
Monetary Policy	3.71	3.63	
Capital Flows and Foreign Investment	2.52	2.14	**
Wages and Prices	2.67	2.31	***
Government Intervention in the Economy	3.12	2.46	***
Property Rights	3.13	2.89	
Regulation	3.56	3.11	***
Informal Market Activity	3.81	3.34	***

Sources: *2005 Index of Economic Freedom* and the Fund Monitoring of Arrangements (MONA) Database.

Note: Asterisks indicate significant differences between the two coefficients at the (*) 90, (**) 95, and (***) 99 percent, respectively.

32. Structural conditionality can be examined in terms of economic objectives. A classification of structural conditions into categories based on three objectives (demand management, vulnerabilities, and economic flexibility) was conducted in the context of the 2005 Review of the Conditionality Guidelines.²⁷ Does this focus depend on the type

²⁵ For details on the construction of the index, see *2005 Index of Economic Freedom*, published by the Heritage Foundation.

²⁶ Comparable indexes of structural change, such as the CPIA index calculated by the World Bank, would likely yield similar results because of the high correlation between indexes.”

²⁷ “Demand management” reforms are those that enhance stabilization and strengthen the functioning of fiscal, monetary, and exchange rate policies; “Vulnerabilities” are measures intended to tackle unsustainable debt dynamics and financial sector weakness; “Economic
(continued...)

arrangement? Classifying conditions into these three categories does not reveal any statistically significant differences for the whole sample period (Table 11). More recently (2001-05), however, the focus of non-precautionary programs has been on enhancing economic flexibility and efficiency, while precautionary programs have stressed the need to buttress demand management and reduce vulnerabilities, especially in the financial sector.

Table 11. Area of Conditionality for Structural Conditions 1/

	Focus of condition (in percent of all conditions)		
	Demand Mangement	Vulnerabilites	Flexibility
Precautionary programs			
1995-00	24.9	16.9	58.3
2001-05	38.8	39.0	22.1
1995-05	29.5	24.3	46.2
Nonprecautionary programs			
1995-00	28.9	26.4 *	44.7 *
2001-05	27.3 *	29.1 *	43.7 *
1995-05	30.0	30.4	39.6

1/ The asterisk indicates a significant difference between precautionary and non-precautionary programs at the 95 percent level of confidence.

V. CONCLUSIONS AND ISSUES FOR DISCUSSION

A. Summary

33. In many GRA-supported programs, the authorities indicate that they do not expect to make drawings by treating the program as precautionary. This preference raises questions about the reasons for, and objectives of, such programs and whether systematic differences exist between drawing and precautionary programs in terms of macroeconomic outcomes or conditionality.

34. This paper indicates that national authorities request precautionary programs under rather different circumstances than drawing programs, with macroeconomic conditions and performance normally stronger in precautionary programs compared to non-precautionary

efficiency” measures include pricing and trade reforms and measures to remove impediments to investment and growth (see SM/05/82 for more details on this classification).

programs. Precautionary arrangements are however typically requested by authorities facing political or other uncertainties.

35. Macroeconomic outcomes—output growth and inflation—are statistically significantly different between precautionary and non-precautionary arrangements, especially in the first program year, but these are largely explained by the different initial conditions that led the authorities to choose one type of program over the other. During the course of the program, growth performance in non-precautionary programs improves, fully catching up with that of precautionary programs over the whole program period. Inflation rates in both types of programs also converge over time, with the difference becoming negligible by the end of the program. As confidence is restored and capital inflows resume, the current account deficit widens in both types of programs. However, this deterioration does not jeopardize debt sustainability since the current account balance is stronger than the debt stabilizing balance for most countries with external debt ratios above 40 percent of GDP.

36. In terms of sovereign bond spreads, precautionary programs are not associated with higher spreads relative to non-program periods but have significantly lower spreads than drawing programs. This suggests that markets recognize the calibrated signal sent by precautionary programs. It also suggests that precautionary programs help mitigate the adverse impact on spreads of increased uncertainty.

37. Finally, the preliminary assessment of the ambition of program policies and associated conditionality contained in this paper finds no evidence of “weaker” policy standards or conditionality in precautionary programs. Program targets for macroeconomic policies appear to be geared toward the macroeconomic problems faced by the member, not to whether the program is precautionary or not. While non-precautionary programs incorporate a larger number of structural conditions than precautionary programs, members that choose non-precautionary programs have a greater initial need for structural reforms, based on the Index of Economic Freedom. Indeed, comparing precautionary and non-precautionary programs for the same member does not yield differences in the number of conditions that are statistically significant, again suggesting that it is not the type of arrangement that matters for conditionality.

38. In sum, precautionary programs provide a valuable service in lending credibility to the authorities’ policies while sending a well-calibrated signal to markets that the country does not face a pressing balance of payments need and without compromising the standards the Fund requires to support the authorities’ program.

B. Issues for Discussion

39. In their interventions, Directors may wish to touch upon the following questions:

- Do Directors consider precautionary arrangements a useful tool for demonstrating the authorities’ commitment to sound policies while signaling that they do not expect to need to draw Fund resources?

- Do Directors agree that standards and conditionality required for Fund support should not differ between precautionary and non-precautionary arrangements? Are they persuaded that the observed differences reflect the economic problems facing the member and thus reflect appropriate differences in program goals?
- Given the benefits of precautionary programs in insulating economies from the likely adverse effects of political uncertainty, do Directors agree that caution is required before recommending that a member exits entirely from Fund-supported programs?

Table A1. Sample

Country	Start date	Expiration date 1/	Arrangement type	Country	Start date	Expiration date 1/	Arrangement type
Non-precautionary arrangements							
Algeria	5/27/94	5/22/95	SBA	<i>continued...</i>			
Algeria	5/22/95	5/21/98	EFF	Lithuania	10/24/94	10/23/97	EFF
Argentina	3/31/92	3/30/96	EFF	Macedonia, FYR	5/5/95	6/4/96	SBA
Argentina	4/12/96	1/11/98	SBA	Macedonia, FYR	11/29/00	11/22/01	EFF
Argentina	1/24/03	8/31/03	SBA	Macedonia, FYR	4/30/03	8/15/04	SBA
Argentina	9/20/03	1/5/06	SBA	Macedonia, FYR	8/31/05	8/30/08	SBA
Azerbaijan	12/20/96	3/19/00	EFF	Mexico	2/1/95	2/15/97	SBA
Barbados	2/7/92	5/31/93	SBA	Mexico	7/7/99	11/30/00	SBA
Bolivia	4/2/03	3/31/06	SBA	Moldova	5/20/96	5/19/00	EFF
Bosnia and Herzegovina	5/29/98	5/29/01	SBA	Morocco	1/31/92	3/31/93	SBA
Bosnia and Herzegovina	8/2/02	2/29/04	SBA	Pakistan	9/16/93	2/22/94	SBA
Brazil	1/29/92	8/31/93	SBA	Pakistan	2/22/94	12/13/95	EFF
Brazil	12/2/98	9/14/01	SBA	Pakistan	12/13/95	9/30/97	SBA
Brazil	9/6/02	3/31/05	SBA	Pakistan	10/20/97	10/19/00	EFF
Bulgaria	4/17/92	4/16/93	SBA	Pakistan	11/29/00	9/30/01	SBA
Bulgaria	4/11/94	3/31/95	SBA	Panama	2/24/92	9/23/94	SBA
Bulgaria	7/19/96	4/11/97	SBA	Panama	11/29/95	3/31/97	SBA
Bulgaria	4/11/97	6/10/98	SBA	Panama	12/10/97	6/20/00	EFF
Bulgaria	9/25/98	9/24/01	EFF	Papua New Guinea	7/14/95	12/15/97	SBA
Bulgaria	2/27/02	2/26/04	SBA	Papua New Guinea	3/29/00	9/28/01	SBA
Croatia	10/14/94	4/13/96	SBA	Peru	3/18/93	3/17/96	EFF
Croatia	3/12/97	3/11/00	EFF	Philippines	6/24/94	3/31/98	EFF
Czech Republic	3/17/93	3/16/94	SBA	Poland	3/8/93	4/8/94	SBA
Czechoslovakia	4/3/92	12/31/92	SBA	Poland	8/5/94	3/4/96	SBA
Dominica	8/28/02	1/2/04	SBA	Romania	5/29/92	3/28/93	SBA
Dominican Republic	7/9/93	3/28/94	SBA	Romania	5/11/94	4/22/97	SBA
Dominican Republic	8/29/03	1/31/05	SBA	Romania	4/22/97	5/21/98	SBA
Dominican Republic	1/31/05	5/31/07	SBA	Romania	8/5/99	2/28/01	SBA
Ecuador	5/11/94	12/11/95	SBA	Romania	10/31/01	10/15/03	SBA
Ecuador	4/19/00	12/31/01	SBA	Russian Federation	4/11/95	3/26/96	SBA
Ecuador	3/21/03	4/20/04	SBA	Russian Federation	3/26/96	3/26/99	EFF
El Salvador	1/6/92	3/5/93	SBA	Russian Federation	7/28/99	12/27/00	SBA
Estonia	9/16/92	9/15/93	SBA	Serbia & Montenegro	6/11/01	3/31/02	SBA
Estonia	10/27/93	3/26/95	SBA	Serbia & Montenegro	5/14/02	2/28/06	EFF
Gabon	3/30/94	3/29/95	SBA	Slovak Republic	7/22/94	3/21/96	SBA
Gabon	11/8/95	3/7/99	EFF	Sri Lanka	4/20/01	9/19/02	SBA
Gabon	10/23/00	4/22/02	SBA	Sri Lanka	4/18/03	4/17/06	EFF
Gabon	5/28/04	7/31/05	SBA	Thailand	8/20/97	6/19/00	SBA
Hungary	9/15/93	12/14/94	SBA	Turkey	7/8/94	3/7/96	SBA
Indonesia	11/5/97	8/25/98	SBA	Turkey	12/22/99	2/4/02	SBA
Indonesia	8/25/98	2/4/00	EFF	Turkey	2/4/02	2/3/05	SBA
Indonesia	2/4/00	12/31/03	EFF	Turkey	5/11/05	5/10/08	SBA
Jamaica	12/11/92	3/16/96	EFF	Ukraine	4/7/95	4/6/96	SBA
Jordan	2/26/92	2/25/94	SBA	Ukraine	5/10/96	2/23/97	SBA
Jordan	5/25/94	2/9/96	EFF	Ukraine	8/25/97	8/24/98	SBA
Jordan	2/9/96	2/8/99	EFF	Ukraine	9/4/98	8/15/02	EFF
Jordan	4/15/99	5/31/02	EFF	Uruguay	7/1/92	6/30/93	SBA
Jordan	7/3/02	8/15/04	SBA	Uruguay	4/1/02	3/31/05	SBA
Kazakhstan	7/17/96	7/16/99	EFF	Uruguay	6/8/05	6/7/08	SBA
Korea	12/4/97	12/3/00	SBA	Venezuela, Rep. Bolivariana	7/12/96	7/11/97	SBA
Kyrgyz Republic	5/12/93	4/11/94	SBA	Yemen, Republic of	10/29/97	10/28/01	EFF
Latvia	9/14/92	9/13/93	SBA	Zimbabwe	1/24/92	9/11/92	EFF
Latvia	12/15/93	3/14/95	SBA	Zimbabwe	9/11/92	9/10/95	EFF
Lithuania	10/21/92	9/20/93	SBA	Zimbabwe	6/1/98	6/30/99	SBA
Lithuania	10/22/93	10/24/94	SBA	Zimbabwe	8/2/99	10/1/00	SBA

Source: IMF MONA database.

1/ Some of these expiration dates were extended, and some refer to programs that stopped early.

Table A1. Sample (concluded)

Country	Start date	Expiration date 1/	Arrangement type	Country	Start date	Expiration date 1/	Arrangement type
Precautionary arrangements							
Argentina	2/4/98	3/10/00	EFF	<i>continued...</i>			
Argentina	3/10/00	1/23/03	SBA	Hungary	3/15/96	2/14/98	SBA
Brazil	9/14/01	9/5/02	SBA	Iraq	12/23/05	3/23/07	SBA
Bulgaria	8/6/04	9/5/06	SBA	Kazakhstan 2/	12/13/99	3/19/02	EFF
Cape Verde	2/20/98	3/15/00	SBA	Latvia	4/21/95	5/20/96	SBA
Colombia 2/	12/20/99	12/19/02	EFF	Latvia	5/24/96	8/23/97	SBA
Colombia	1/15/03	5/2/05	SBA	Latvia	10/10/97	4/9/99	SBA
Colombia	5/2/05	11/2/06	SBA	Latvia	12/10/99	4/9/01	SBA
Costa Rica	4/19/93	2/18/94	SBA	Latvia	4/20/01	12/19/02	SBA
Costa Rica 2/	11/29/95	2/28/97	SBA	Lithuania	3/8/00	6/7/01	SBA
Croatia	3/19/01	5/18/02	SBA	Lithuania	8/30/01	3/29/03	SBA
Croatia	2/3/03	4/2/04	SBA	Nigeria	8/4/00	10/31/01	SBA
Croatia	8/4/04	11/15/06	SBA	Panama	6/30/00	3/29/02	SBA
Egypt	9/20/93	9/19/96	EFF	Paraguay	12/15/03	11/30/05	SBA
Egypt	10/11/96	9/30/98	SBA	Peru	7/1/96	3/31/99	EFF
El Salvador	1/6/92	3/5/93	SBA	Peru	6/24/99	2/8/01	EFF
El Salvador 2/	5/10/93	12/31/94	SBA	Peru	3/12/01	2/1/02	SBA
El Salvador	7/21/95	9/20/96	SBA	Peru	2/1/02	2/29/04	SBA
El Salvador	2/28/97	5/30/98	SBA	Peru	6/9/04	8/16/06	SBA
El Salvador	9/23/98	2/22/00	SBA	Philippines	4/1/98	12/31/00	SBA
Estonia	4/11/95	7/10/96	SBA	Romania	7/7/04	7/6/06	SBA
Estonia	7/29/96	8/28/97	SBA	Ukraine	3/29/04	3/28/05	SBA
Estonia	12/17/97	3/16/99	SBA	Uruguay	3/1/96	3/31/97	SBA
Estonia	3/1/00	8/31/01	SBA	Uruguay	6/20/97	3/19/99	SBA
Guatemala	12/18/92	3/17/94	SBA	Uruguay	3/29/99	3/28/00	SBA
Guatemala	4/1/02	3/31/03	SBA	Uruguay	5/31/00	3/31/02	SBA
Guatemala	6/18/03	3/15/04	SBA				

Source: IMF MONA database.

1/ Some of these expiration dates were extended, and some refer to programs that stopped early.

2/ These programs are treated as precautionary because they did not draw Fund resources, although they did not indicate as much at the outset of the arrangement.

DATA DEFINITIONS

Most variables have standard definitions. Variable changes are defined either as logarithmic changes in the underlying variables (**real exchange rate, CPI, terms of trade, US output**) or as nominal changes divided by GDP in US dollars (**budget balance, current account, private capital flows**).

The **external debt** variable is defined as total external debt divided by GDP, the **reserve coverage** variable is the ratio of gross reserves to annual imports, the **output per capita** variable is output in US dollars valued at the PPP exchange rate and divided by the population. The **overvaluation** variable is defined as the logarithmic difference between the real exchange rate measured using the CPI and a 25 year HP filter trend line. The **real interest rate** is measured as the 3-month t-bill rate minus the inflation rate.

The dummy variable indicating whether a country is still in **default** to some bond holders or bank lenders is included to capture the likelihood of default. The data is obtained from survey data collected by Standard and Poor's and tracks the default frequency of rated and unrated sovereign issuers. A default is defined as either an instance where debt service is not paid as scheduled or an exchange offer with terms less favorable than the original. The data covers foreign currency bonds and bank loans and thus excludes debt to official creditors.

To capture specific institutional features, political economy variables are also used as explanatory variables. The quality of the bureaucracy, internal conflict, law and order, and political risk are taken from the ICRG database and are based on perceptions of these characteristics. The **quality of the bureaucracy** is defined as the strength and expertise to govern without drastic changes in policy or interruptions in government services. **Internal conflict** is an assessment of political violence in a country and its actual or potential impact on governance. The rating is based on the presence of civil war, political violence, and civil disorder. **Law and order** is an assessment of the strength and impartiality of the legal system and of the popular observance of the law. **Political risk** is an all encompassing measure based on the above factors and socioeconomic conditions, investment profile, corruption, military in politics, religion in policies, ethnic tensions, and democratic accountability.

The variables executive variation and constraints on the executive come from the POLITY database. **Executive variation** is calculated as a dummy variable if the forthcoming election of the executive is within 2 years, the mid-point of the executive term of office in the sample. The variable **constraints on the executive** measures the extent of institutionalized constraints on the decision-making powers of chief executives. In Western democracies these are usually legislatures. Other kinds of accountability

groups are the ruling party in a one-party state, councils of nobles in monarchies, the military in coup-prone polities, and in many states a strong, independent judiciary. In cases where there are no regular limitations on the executive's actions, the measure has its lowest value; in cases where accountability groups have effective authority equal to or greater than the executive in most areas of activity, the measure has its highest value.

The **freedom variable** comes from the Heritage foundation and is a weighted sum of trade policy, fiscal burden of government, government intervention, monetary policy, capital flows, banking and finance, wages and prices, property rights, regulation, and informal market activity.

Fund involvement is measured as a declining weight calculation of the number of years each country has had a Fund-supported program since 1980 so that the value in 2004 for a country that had one previous program in 1990-91 would be $\frac{1}{14} + \frac{1}{15}$. If on the other hand, the previous program was in 2002-03, the value would be $1 + \frac{1}{2}$.

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