

A Shock-Smoothing Facility (SSF) for the IMF

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A. Introduction

Over the last few years, emerging markets and developing economies have enjoyed a remarkably benign global environment. Their economies have been supported by low interest rates in the United States, low risk premiums, strong growth in major export markets, and high prices for commodity exports. This supportive global environment, however, is unlikely to last. Although many countries have strengthened their economies through improved macroeconomic policies, many low- and middle-income countries are still fragile and could experience sharp economic slowdowns. Goldstein (2005) argues that developments in the global economy over the next few years (such as slower growth in China and the United States combined with higher long-term U.S. interest rates) will reduce growth in emerging markets and possibly cause another series of financial crises. Any such deterioration in emerging markets and developing economies could quickly undermine support for recent economic reforms—even if the reforms actually strengthened economic resiliency.

This vulnerability of emerging markets and developing countries to negative external shocks is not new.¹ Changes in the global environment, including higher global interest rates, slower growth in major export markets, and/or worsening terms-of-trade,

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¹ This paper defines an external shock as any event that is outside the control of a country's authorities but has a significant effect (either positive or negative) on a country's economy.

have often been the proximate causes of financial crises and severe recessions (such as of the Latin American debt crises in the 1980's). Granted, countries that experience financial crises and severe recessions also generally have fundamental economic weaknesses. But in some cases countries would be able to avoid these crises—especially if they are taking steps to reform and strengthen their economies—if they were not affected by negative external shocks. Any such deterioration in the global environment can derail progress on reforms and cause severe economic hardship. The International Monetary Fund (IMF) writes: “Exogenous shocks....can have a significant negative impact on developing countries’ growth, macroeconomic stability, debt sustainability, and poverty.”²

Even positive external shocks can create challenges for emerging markets and developing countries. For example, higher prices for a major commodity export can cause a surge in government revenues and relaxation of fiscal discipline—a discipline that is difficult to regain when commodity prices fall. Lower global interest rates can prompt increased external borrowing and a surge in capital inflows—trends that can increase vulnerability to “sudden stops”.³ Either of these positive external shocks can cause sharp exchange rate appreciations, undermining export competitiveness with long-term “Dutch Disease” effects. Many policies designed to help moderate these effects of positive external shocks (such as commodity stabilization funds) have proven ineffective and difficult to enforce (albeit with a few exceptions, such as in Chile and Norway).

Although developed countries are also vulnerable to external shocks, they have more effective tools to stabilize their economies and reduce volatility. More specifically, developed economies can more easily respond to negative external shocks with expansionary monetary and fiscal policies, and to positive external shocks with contractionary policies. Emerging markets and developing economies, however, are more constrained in their ability to use counter-cyclical monetary and fiscal policy, because the traditional effects of these policies are often overwhelmed by the offsetting effects on capital flows and investor confidence.⁴ For example, in response to negative external shocks many emerging economies are forced to raise (instead of lower) interest rates and/or

² International Monetary Fund (2003, 3).

³ Williamson (2005) discusses how excessive capital inflows and overborrowing have contributed to recent financial crises and the “boom-bust cycle” in emerging markets.

⁴ For example, see Gavin and Perotti (1997) or Riascos and Vegh (2003).

cut (instead of increase) government spending to maintain market confidence and stabilize capital flows—thereby aggravating the initial economic contraction. In an effort to reduce their vulnerability to external shocks and compensate for a lack of effective counter-cyclical policy tools, some emerging economies (especially in Asia) have recently accumulated huge stockpiles of reserves. Although these stockpiles may help provide some cushion against external shocks, they can be costly, tend to have only limited effectiveness, and have complicated the adjustment of large global economic imbalances.

Therefore, to provide emerging and developing economies with a new and more effective tool to reduce their vulnerability automatically to external shocks, the IMF should introduce a new “Shock-Smoothing Facility”. Given the IMF’s preference to name their facilities with three-letter abbreviations, the Shock-Smoothing Facility could be abbreviated as the “SSF”. By helping low- and middle-income countries adjust to both negative and positive external shocks, the SSF would reduce macroeconomic volatility and stabilize growth rates. It would also automatically stabilize government resource flows, providing additional resources to facilitate adjustment and avoid spending cuts when growth is slow, while simultaneously restraining new spending when growth is rapid. Although the SSF could never compensate for unsustainable macro policies, it could help reduce the occurrence of debt defaults and financial crises in some circumstances. Moreover, since the poor tend to have more limited resources and skills to help them adjust to shocks, the macroeconomic stability provided by the SSF could particularly benefit low-income individuals.⁵ The SSF would therefore support economic development and stability through a number of channels, while only requiring a small amount of IMF resources.

Section II of this paper describes the basic structure of the SSF, including the subsidized terms for low-income countries. Section III discusses the impact of the SSF on participating countries (including a simulated example for Mexico) and on the IMF. Section IV answers several important questions about the SSF—including why countries would rather use a SSF than existing IMF programs and why the benefits of a SSF are not available in private financial markets. The paper concludes with a few final thoughts.

⁵ For a discussion of how shocks disproportionately affect the poor, see International Monetary Fund (2003, Annex II).

B. The Structure of the SSF

Overview

The primary goal of the SSF would be to reduce the impact of exogenous shocks on developing countries and emerging markets, mainly by smoothing the effects of exogenous shocks on fiscal balances and debt ratios. The SSF would basically provide a type of insurance not available through traditional borrowing by shifting the risk of specific external shocks from the participating country to the IMF. Although the SSF can provide protection against some types of natural disasters, natural disaster relief would not be its primary aim.⁶ The loan amounts under the SSF would be very small—thereby requiring minimal IMF resources—but the primary “shock smoothing” of the facility would be accomplished through automatic adjustments in the repayment terms.

The SSF would be available to all countries that are members of the IMF and that are in “good standing” with the institution (with “good standing” including being current on any financial obligations to the IMF and continuing to participate in regular Article IV reviews). Other than these two basic eligibility criteria, the SSF would not involve additional conditionality (or at least include only very minor conditionality). Therefore, the SSF would be much simpler than most IMF programs. Disbursements under the SSF would be calculated according to a straightforward equation linking payments to the external shock of greatest concern to the country. Payments under the agreement would not require evaluating whether a series of conditions and requirements are met (which often leaves substantial room for interpretation and leads to difficult negotiations between the country and IMF). Also, the SSF would attempt to transition countries (especially emerging markets) toward using private-sector mechanisms to obtain protection against exogenous shocks. Countries opting to utilize the SSF would commit to develop and utilize these private-sector mechanisms.

The Structure of a SSF Agreement

The SSF would be structured similar to an IMF loan, except payment terms would be steeply linked to a key variable which proxies for the external shock of greatest concern

⁶ There are other resources available for this, such as the IMF’s Emergency Natural Disaster Assistance Fund.

to the country.⁷ The principal of the loan would be smaller than traditional IMF programs, while the repayments would vary each period based on the performance of the key “shock” variable, so that the actual repayments could be significantly greater or less than the expected repayments. In periods when the key variable indicates a significant negative shock, the IMF could even pay the country—instead of the country paying the IMF. For example, if a country is a major copper exporter, the payment terms for the SSF could be sharply linked to the price of copper. When copper prices are higher than expected, the country would owe substantially higher payments to the IMF than the expected payments. When copper prices are lower than expected, the country would owe substantially lower payments to the IMF, and after unusually precipitous declines in copper prices, the country could even receive payments from (instead of repaying) the IMF. If the country exports a diversified range of goods but is highly dependent on exports to a single market (such as the United States), then the payment terms could be sharply linked to growth in the export market. If the country is vulnerable to a range of exogenous factors that are hard to measure, payment terms could be linked to the country’s growth rate.⁸

The variable to which the SSF payments are linked should be exogenous to the country’s policy choices, so that the country has limited (and preferably no) ability to affect the corresponding repayment terms. For example, two exogenous variables that would be attractive terms for a SSF would be growth in a major economy or a globally-determined commodity price.⁹ If the country’s authorities could affect the variable (such as the country’s growth rate), then the SSF contract should include an external monitoring arrangement that validates the statistic. For example, an independent body could be required to verify and sign off on the given statistic. Also, any variable that is not exogenous to the country’s authorities should incorporate a structure such that the country

⁷ Countries concerned about more than one external shock could utilize more than one SSF (with each linked to a different variable of concern). The IMF could also consider constructing a hybrid SSF in which the payment scheme is based on multiple variables of concern. To simplify discussion, I focus on the most straightforward type of SSF in which payments are only linked to one variable.

⁸ A number of papers have recently supported the use of growth-linked bonds by emerging markets, such as Borensztein and Mauro (2004), Council of Economic Advisers (2004), and Williamson (2005 and 2006). These bonds would provide similar benefits as a SSF linked to a country’s rate of economic growth.

⁹ Granted, it is possible to construct extreme scenario such that the actions of an individual country could affect major commodity prices and/or growth in major economies—just as Russia’s 1998 crisis affected the U.S. economy. These types of scenarios are unlikely, however, since countries would generally not be willing to adopt such unorthodox and crippling economic policies simply to lower repayments to the IMF.

will not have the incentive to manipulate the data or adopt policies to change the variable in order to reduce payments to the IMF.¹⁰

The payment terms of a SSF loan would be calculated differently than for existing IMF loans. Instead of requiring smaller initial interest payments and then larger, back-loaded repayments of principal, SSF payments would be calculated using the same formula throughout the entire term of the agreement. Payments would be calculated at regular intervals corresponding to the release of the economic statistic linked to the relevant external shock. For example, if the key variable for a country's SSF was growth in the United States (which is released on a quarterly basis) then payment under the SSF would occur every quarter using the same formula.¹¹ If U.S. growth was constant each quarter and equal to the expected value (as of the date of the SSF agreement), then payments under the SSF would be similar each quarter throughout the program. If U.S. growth was greater or less than the expected value, however, the actual repayment under the SSF could be significantly greater or less each quarter. If the key variable on which the SSF is based is released at a high frequency, then repayment terms could be specified to occur on a convenient regular basis, such as at the end of each month using the average closing price over the previous month.

The payment terms of the SSF could be calculated in one of two ways. One alternative would be to simply charge the same expected interest rate to all countries (a rate determined by the IMF¹²). This method is attractive mainly because it would satisfy the requirement in the IMF's Articles of Agreement that the IMF charges the same rate to all countries for each type of facility. The disadvantage of this approach is that it would create problematic incentives for countries whose borrowing costs on international capital markets

¹⁰ For example, since countries (and especially government officials) prefer strong economic growth to maintain political support, countries that linked SSF payments to economic growth would not have the incentive to underreport growth or adopt policies to slow growth, simply to reduce payments to the IMF.

¹¹ For data that is subject to substantial revisions after the initial release (such as growth data), the SSF agreement could specify that repayment occurs based on a specific release that appropriately balances timeliness and accuracy. For example, if the SSF was linked to growth in the United States, the repayment terms could be linked to the "preliminary release" of U.S. quarterly GDP data. The preliminary release is reported about 2 months after the end of the quarter and is generally more accurate than the "advance release", which is reported about 1 month after the end of the quarter.

¹² Except for the PRGF, all IMF facilities are based on the IMF's market-related interest rate that is based on the SDR interest rate and is revised weekly to take account of changes in short-term interest rates in the major international money markets. Some IMF loans also include an interest rate premium or "surcharge", and PRGF lending is provided at concessional interest rates.

differ from the rate charged by the IMF. Countries with lower credit ratings (that have a higher cost of borrowing on international capital markets) would be more likely to use this facility and be tempted to substitute borrowing from the IMF for private sector borrowing—which is not the goal of the SSF. On the other hand, countries with higher credit ratings (that can borrow more cheaply on international capital markets) would have less incentive to use the SSF—despite the insurance properties—due to the higher expected interest cost.

In order to avoid these incentive problems, a second alternative for calculating the country's expected cost of borrowing would be to base the cost on the expected cost of borrowing a comparable sum on international bond markets (with a fixed interest rate and the same maturity as the length of the SSF). For example, the expected interest cost of a five-year SSF would equal the current market interest rate if the country issued a five-year, fixed-rate, sovereign bond on international financial markets. The SSF would therefore be based on market pricing for the specific country and would not involve standard IMF interest calculations or preferential IMF rates (except for low-income countries, as discussed below). Private financial markets would continue to be the country's primary source of financing, while providing information about the country's creditworthiness to be used to determine the terms of the SSF. Financial markets would continue to provide discipline and an incentive for countries to adopt policies to strengthen their economies and reduce sovereign risk spreads. The only disadvantage of this approach is that it would require an adjustment to the IMF's Articles of Agreement. The Articles of Agreement could be amended to allow market-determined interest rates for this facility, however, and therefore support the development of this precautionary facility with the appropriate incentive structure.

If this market-based pricing strategy was utilized, countries would have the incentive to use the SSF in order to obtain insurance against external shocks—even though the expected cost of borrowing was identical to the rate in international capital markets. The actual payment structures in the SSF and private capital markets, however, are fundamentally different for two reasons. First, the principal payments in a SSF would be evenly spaced (instead of back-loaded), so that the initial payments could be greater than on a sovereign bond which initially only requires interest payments. This would make the SSF

less attractive for countries with immediate liquidity concerns, but reinforces the goal of the SSF—that it is intended primarily as a shock-smoother facility and not as a loan facility. Second, the actual SSF payment each period would fluctuate based on recent movements in the underlying variable to which the SSF is linked. As a result, SSF payments would fluctuate significantly more than payments on standard, fixed-rate debt. Also, not only would the periodic SSF payments be significantly greater or less than that for traditional borrowing in sovereign debt markets, but over the full term of the loan, the aggregate SSF repayment could be substantially greater or less.

The length of a SSF agreement would depend on the characteristics of the exogenous variable to which the SSF is linked. The agreement should be medium term (roughly 3-8 years) with longer terms for SSFs based on variables that tend to have longer cycles. This time period must be longer than for most IMF facilities (such as the SBA or SRF) to ensure that the agreement covers a full period of negative as well as positive external shocks. This is essential to accomplish the primary goal of the SSF—automatically reducing economic volatility across full cycles—instead of just providing immediate relief after negative shocks. This longer time period should also ensure that the aggregate repayment to the IMF over the full SSF agreement is closer to the expected value, thereby reducing the probability that the IMF would receive substantially lower aggregate repayments (which could occur if the SSF only covered periods of negative shocks). The SSF should not exceed 10 years, however, since longer agreements have the disadvantage of delaying necessary adjustment after a permanent shock.

A final key piece of the SSF would be that countries utilizing this facility must work with the IMF to develop private market alternatives for the type of insurance provided under the SSF. For example, if the country has a SSF linked to copper prices, the country should work with the IMF to develop alternative mechanisms for protecting its economy against volatility in copper prices (such as developing longer-dated hedging instruments for copper or introducing sovereign bonds with payments indexed to copper prices). If the country has a SSF linked to its own growth rate, the country should work with the IMF to develop instruments such as growth-indexed bonds. These types of instruments have been widely supported in other papers (such as in Williamson, 2005 and 2006; Borensztein and Mauro, 2004; and Council of Economics Advisers, 2004), but have been slow to develop

due largely to several technical issues and the difficulties in jump-starting a financial market for a new instrument.

As part of the SSF, the IMF would provide technical assistance in assessing the most useful instruments to help protect the economy against external shocks and then in developing the appropriate mechanisms—thereby helping overcome some of these hurdles to introducing new financial instruments. More specifically, if a country chose to issue growth-indexed bonds in order to protect its economy against a range of shocks, the IMF could: (i) assist in writing the bond contract to avoid many problems with previous growth-indexed bond structures; (ii) help improve the reliability, accuracy and transparency of the country's growth statistics; (iii) develop mechanisms to verify growth statistics to improve investor confidence in the bonds; (iv) coordinate issuance of growth-indexed bonds across different countries in order to create a liquid market more quickly; and (iv) possibly purchase the new bonds for an initial period to help jump start the new market.¹³ Countries will only be able to renew a SSF if the type of insurance provided by the facility is not available on private markets and they have been working with the IMF to develop a market alternative to the SSF.

The SSF for Low-Income Countries

Low-income countries would have the option of using a special version of the SSF that provides more attractive terms through lower, subsidized interest payments. This low-income version of the SSF would be available to all countries eligible for the Poverty Reduction and Growth Facility (PRGF).¹⁴ The SSF repayment terms would be calculated such that the expected average cost of borrowing over the term of the agreement equals the concessional PRGF rate, and this subsidized rate would be financed in the same way as PRGF lending. Borrowing from the SSF should replace—instead of augment—borrowing under the PRGF, so that subsidizing SSF loans would not put any additional strain on IMF resources. Since the concessional PRGF rate is currently an annual interest rate of 0.5%,

¹³ See Council of Economic Advisers (2004) for more detailed suggestions of how the IMF could facilitate the development of instruments such as growth-indexed bonds.

¹⁴ As of March 2005, this includes 78 low-income countries with gross national income of \$895 or less in 2003.

low-income countries could therefore borrow from the SSF much more cheaply than on private financial markets.

Low-income countries would receive a subsidized lending rate under the SSF for three reasons. First, low-income economies are the most vulnerable to external shocks and the least able to manage the impact of these shocks on their economies. As a result, low-income countries would benefit the most from the SSF. Second, high debt levels, liquidity constraints and pressing expenditure needs of most low-income countries make it politically difficult for these countries to pay any extra premium to insure against external shocks. The SSF would need to have very attractive and inexpensive terms for low-income countries to utilize and benefit from the facility. Finally, if the terms of the SSF were less attractive than for the PRGF, low-income economies would likely opt to use the cheaper PRGF and not benefit from the insurance properties of the SSF.

Although borrowing from a SSF would be available at the same rates for low-income countries as borrowing from a PRGF, there are several important differences between these two IMF facilities. The main advantage of the SSF versus the PRGF is that it would automatically help the economy adjust to external shocks. The SSF would also have substantially less conditionality than the PRGF—facilitating its more rapid utilization and making it politically more attractive for borrowing countries. The main disadvantage of the SSF versus the PRGF is that expected payments would be more evenly spread over the full term of the facility, instead of being back-loaded. As a result, the PRGF would still be the primary form of borrowing for most low-income countries (which tend to have immediate borrowing needs), but shifting a small portion of PRGF payments to the SSF would complement the PRGF by smoothing payment streams and automatically stabilizing the economy after exogenous shocks.

C. Impact of the SSF on Borrowing Countries and the IMF

Impact of the SSF on Individual Countries

Although the specific impact of each SSF would vary across countries and the performance of the variables to which the SSF is linked, a well-structured program could provide substantial benefits to participating countries. A participating country would

automatically reduce debt payments during negative external shocks—or even automatically receive payments from the IMF in extreme cases—exactly when the country’s financial resources were strained. The country would increase debt payments during positive external shocks—exactly when the country had a greater ability to pay. This improved smoothing of the country’s fiscal position would provide additional resources and alleviate the need to cut spending on social programs during negative external shocks, while also mitigating the pressure to abandon hard-won fiscal discipline during positive external shocks. By automatically acting as a shock smoother, the SSF would help compensate for low- and middle-income countries’ limited ability to use counter-cyclical fiscal and monetary policies (as discussed above). The SSF would therefore stabilize economic growth and reduce economic volatility.

Since the SSF should be negotiated and in place for a country in advance of any shocks, the automatic adjustment mechanism built into the agreement would ensure that the country immediately benefits after external shocks. This would avoid delays in receiving relief while the government decides whether to request IMF assistance and then negotiates program details—a process that can be lengthy and politically difficult. This could also help avoid situations when an exogenous shock causes an unexpected fiscal shortfall, and the government responds with measures that resolve the immediate problem but cause long-term challenges (such as increasing issuance of short-term, dollar-denominated, floating rate debt).

Estimating the potential welfare gains of a SSF is beyond the scope of this short paper, but Prasad et al. (2003) attempt to estimate the potential welfare gains from improved international risk sharing for different types of countries.¹⁵ Although they do not analyze the specific proposal for a SSF, they show that developing economies would have large reductions in consumption volatility and substantial improvements in welfare from improved risk sharing through international financial integration. Emerging markets would also have significant reductions in consumption volatility and welfare gains—albeit not as large as for low-income economies. Advanced countries would only have small benefits, since their high degree of international financial integration already permits them to have

¹⁵ See Appendix II. Also Prasad et al. (2003) focus on “Less-Financially Integrated” countries instead of low-income economies and “More-Financially Integrated” countries instead of emerging markets. The groupings are similar, although not identical, to the more common terms used in this paper.

substantial international risk sharing to reduce consumption volatility. These estimates suggest that a SSF which facilitates risk sharing between countries and the IMF could yield substantial benefits for emerging markets, and especially for low-income countries.

A simple, back-of-the envelope example also shows the potential benefits of a SSF to participating countries.¹⁶ For example, assume that after the financial market turmoil and series of crises in emerging markets in 1997 and 1998, Mexico chose to start a SSF. The SSF could have been linked to GDP growth in the United States, since fluctuations in U.S. GDP growth have a significant impact on Mexico's exports, revenues and GDP growth. Linking a SSF to U.S. GDP growth is also attractive because U.S. GDP growth is basically exogenous to actions by the Mexican government. Assume Mexico chose a SSF that lasted for 6 years (starting in 1999 and ending in 2004), so that the program would be likely to include periods in which U.S. growth was above and below trend. Also assume that the initial loan from the IMF was \$1.5 billion (about 1% of Mexico's gross external debt stock). The interest cost for the loan could be based on market-based pricing and calculated as the interest rate on the current EMBI spread for Mexico, which averaged 6.94% in 1998. SSF payments are calculated based on the assumption that U.S. real GDP growth is expected to average 3.0% per year over the 6 years of the SSF. Finally, the "shock-smoother" terms of the agreement are specified to provide moderate insurance against changes in U.S. GDP growth.¹⁷ More specifically, for every 1.0% that U.S. GDP growth is greater (less) than the expected value, Mexico's payment to the IMF would increase (decrease) by \$500 million.

Table 1 calculates the resulting payments that Mexico would have made to the IMF from 1999 through 2004 under this SSF. In each year, Mexico would have paid the IMF one-sixth of the principal (\$250mn per year) plus the market-determined interest rate (6.94%) multiplied by the remaining outstanding principal. If U.S. GDP growth equaled its expected value, the total payment would be the sum of this interest and principal, as reported in line (3). When U.S. GDP growth did not equal the expected value, however, there would have been a negative or positive adjustment to this base payment, with the automatic "shock-smoother" adjustment reported in line (4) and the total payment under the

¹⁶ This simple example ignores discounting and focuses on yearly (instead of quarterly) statistics.

¹⁷ For severe shocks, Mexico would instead use an existing IMF facility, such as the SRF or SBA.

SSF reported in line (5). As a result, when U.S. GDP growth was higher than expected, Mexico would have paid an additional amount to the IMF (which would not be subtracted from the outstanding principle). For example, in 2004 when U.S. GDP growth was 4.2%, Mexico would have paid the IMF an additional \$600mn due to the “shock-smoother” adjustment¹⁸—in addition to the \$267mn of interest and principle. When U.S. GDP growth was lower than expected, Mexico would have paid significantly less to the IMF, and when U.S. growth slowed sharply, Mexico would not have paid the IMF anything and instead would have received net payments. For example, in 2001 when U.S. GDP growth slowed sharply to 0.8%, Mexico would have received a net payment of \$781 million from the IMF.

Table 1
An Example: An SSF agreement for Mexico with the SSF linked to U.S. growth

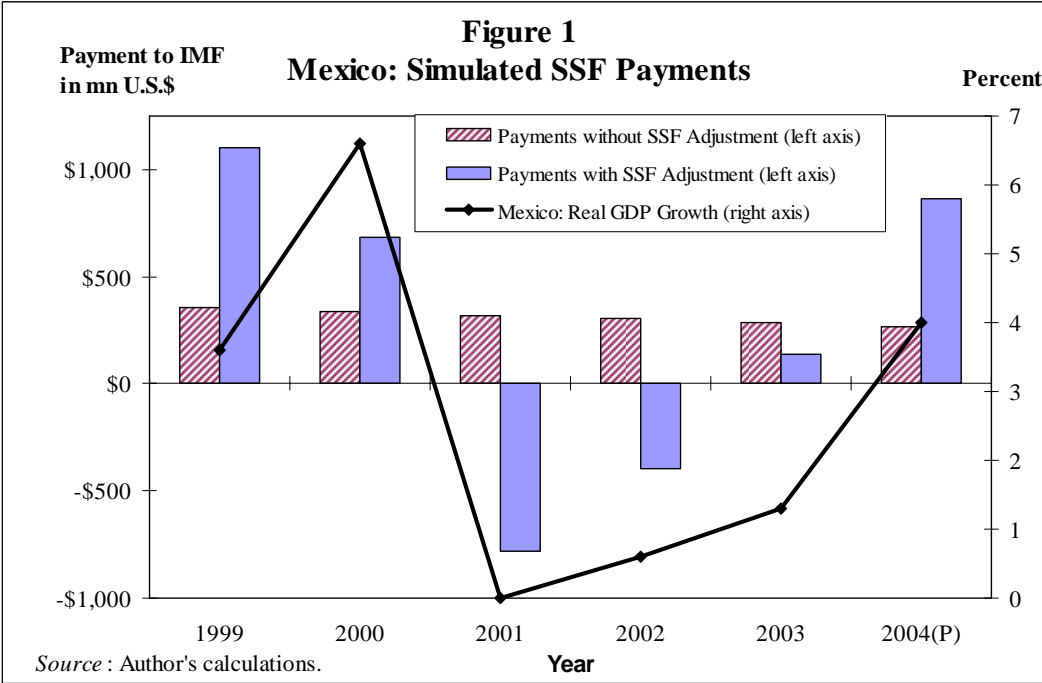
| | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| (1) Principal payment (\$mn) | 250 | 250 | 250 | 250 | 250 | 250 |
| (2) Interest payment (\$mn) ¹ | 104 | 87 | 69 | 52 | 35 | 17 |
| (3) Total Unadjusted Payment (\$mn) ² | 354 | 337 | 319 | 302 | 285 | 267 |
| (4) Adjustment from “Shock Smoother” (\$mn) ³ | 750 | 350 | -1100 | -700 | -150 | 600 |
| (5) SSF Payment after Shock Adjustment (\$mn) | 1104 | 687 | -781 | -398 | 135 | 867 |
| (6) US GDP Growth (%) ⁴ | 4.5 | 3.7 | 0.8 | 1.6 | 2.7 | 4.2 |
| (7) Mexico GDP Growth (%) ⁵ | 3.6 | 6.6 | 0.0 | 0.6 | 1.3 | 4.0 |

Source: Author’s calculations.

- (1) Based on total outstanding principal in current year. Principal and interest payments made at end of year.
- (2) Payment to the IMF if U.S. GDP growth equals its expected value.
- (3) Calculated as the difference in U.S. GDP growth (line 6) from its expected value of 3.0%. The difference is then multiplied by the “shock smoother” term of \$500 mn.
- (4) *Source:* Bureau of Economic Analysis. GDP Growth is real GDP growth based on chained dollars.
- (5) *Source:* International Monetary Fund (2004). GDP growth is real GDP growth based on national accounts in constant prices.

¹⁸ Calculated as $(4.2\% - 3.0\%) \times \$500\text{mn} = \600mn .

Figure 1 graphs several statistics from Table 1 to more clearly show the shock-smoother benefits of the SSF. The striped bars on the graph are the payments that Mexico would have made to the IMF if U.S. growth equaled its expected value (line 3 from Table 1). The solid bars are the actual SSF payments that Mexico would have made after the adjustment for variations in U.S. GDP growth (line 5 from Table 1). The line shows GDP growth in Mexico over this period. Although the correlation is not perfect, the graph clearly shows how the SSF could have helped provide a “shock-smoother” to Mexico over this six-year period. To put these numbers in context, the \$1.1 billion that Mexico would have “saved” in 2001 due to the shock-smoother adjustment of the SSF would have been equivalent to almost 15% of Mexico’s total interest payments on short- and long-term debt in that year. The savings from the SSF could have been used to compensate manufacturing workers in Mexico who were affected by the slowdown in the U.S. economy.¹⁹ If Mexico had wanted the SSF to provide more or less automatic insurance against changes in U.S. GDP growth, it could have adjusted the initial amount of the loan and/or the “shock-smoother” term linking variations in U.S. GDP growth to Mexico’s payments to the IMF.



¹⁹ Manufacturing valued-added contracted by 3.7% in Mexico in 2001, after averaging growth of 6.2% from 1998 through 2000. Based on author’s calculations using data from World Bank (2005), *World Development Indicators CD-ROM*.

Impact of the SSF on the IMF

The SSF would benefit the IMF, as well as borrowing countries. The IMF's reputation has been tarnished due to its perceived mishandling of several recent financial crises—such as the Argentine crisis in 2001 and Asian crisis in 1997/98. Many countries do not currently have borrowing programs with the IMF since they do not want to accept IMF conditionality and/or to have the political stigma associated with a program. When a country verging on a financial crisis delays seeking IMF support for these reasons, its economic and financial situation can deteriorate, aggravating any crisis and complicating recovery. This reticence to engage with the IMF or rely on the IMF in response to future shocks has led to distortions in some countries' policies—such as an inefficient stockpiling of reserves.

The SSF, however, would provide a mechanism by which the IMF could engage positively with emerging markets and developing countries, improving relationships with countries by demonstrating the benefits from utilizing IMF programs. Receiving payments under a SSF would be much less confrontational than receiving payments under traditional IMF programs, since payments would be determined based on a simple equation instead of requiring difficult negotiations on whether a range of hard-to-quantify conditions and requirements were met. The SSF would help protect countries from exogenous shocks while allowing governments to avoid the difficult negotiations and political implications of obtaining a full-fledged IMF agreement. A SSF could simultaneously reduce the chance that a country would need to start a new borrowing program with the IMF in the event of a negative external shock. Also, for countries with large debt burdens that do not want to increase borrowing, the SSF would provide an opportunity to engage with the IMF and improve their debt structure without necessarily increasing debt levels (assuming that the country balanced any borrowing through a SSF by retiring an equivalent amount of non-SSF debt).

One potential concern for the IMF is that the SSF would shift the risk of specific external shocks from countries to the IMF, thereby creating uncertainty and volatility in the IMF's repayment streams. The IMF, however, is better positioned to handle this risk than an individual country, and by reducing the risk of financial crises and contagion, would be

performing a public good and satisfying its mandate to help reduce global financial instability. Moreover, the IMF could also take a number of steps to reduce its exposure and the corresponding volatility in payment streams. For example, the IMF should attempt to establish a number of SSFs that are linked to different variables with different countries, so that the IMF's diversified portfolio of SSFs would reduce aggregate payment volatility. Taking an extreme example, the IMF could agree to a SSF with an oil exporter (under which SSF payments to the IMF increased when oil prices increased), while simultaneously agreeing to a SSF with an oil importer (under which SSF payments decreased when oil prices increased). Then the IMF could smooth shocks for both countries, while simultaneously neutralizing its risk from oil price movements.²⁰ Granted, in certain states of the global economy, the IMF would be unlikely to be fully hedged and would experience greater or lower repayments than expected. Over time, however, if the SSF programs are well designed and cover the full cycle for the relevant variables, then the periods of overpayment should balance periods of underpayment.

Moreover, the chance of default risk would be lower under a SSF than under traditional IMF programs. During a negative external shock—when countries are least able and willing to repay the IMF—the country's payments to the IMF would automatically fall. In extreme cases, repayments would not only fall to zero, but the country would receive funds from the IMF. Therefore, during negative shocks countries would have no incentive to default on the SSF and would instead have a strong incentive to remain in good standing with the IMF in order to receive any payments. Although some countries might be tempted to default to the IMF during positive external shocks when SSF payments to the IMF are higher, it is unlikely that a government would choose to suffer the consequences from a default (such as higher bond spreads and reduced access to private capital markets) when times are good.

Over time, if the SSF became very popular and the IMF was not able to create a well diversified portfolio of SSFs to provide an internal hedge against specific external shocks, then the IMF might want to consider hedging significant exposure to specific variables in private financial markets. The IMF could even consider packaging these agreements into a diversified instrument that could be sold as a type of bond on financial

²⁰ This ignores default risk, which is discussed in more detail below.

markets (with payments backed by payments to the SSF). Any of these proposals, however, would require a significant change in the IMF's current activities and would require an amendment to the IMF's Articles of Agreement.

D. Questions about the SSF

The IMF already has a facility to help countries adjust to shocks—the Compensatory Financing Facility (or CFF)—which has not been utilized since 1999. The IMF has even discussed ending the CFF. Why would countries be more likely to use a SSF than the CFF?

The SSF would have a number of advantages to individual countries compared to the CFF. First, the SSF would provide insurance against a wider variety of external shocks, while the CFF is limited to a much narrower set of shocks.²¹ Second, the SSF would provide concessional lending to low-income countries, while the CFF is not concessional and therefore less attractive to developing economies. Third, the SSF has minimal requirements for a country to utilize the facility, while CFF has additional requirements that limit the number of countries that can use the facility.²² Fourth, a SSF could help countries adjust to moderate shocks that harm their economies but do not cause enough damage or risk to start a CFF. Fifth, the SSF would provide automatic adjustment and therefore a more rapid response to shocks, since unlike the CFF it will not need to be negotiated after the shock has occurred. Finally, the SSF would help economies adjust to both positive and negative shocks, while the CFF is only limited to negative shocks.

The IMF has just announced that it will introduce a new facility to help low-income countries adjust to external shocks. Will the SSF still be useful for low-income countries?

In the same weekend that this paper was being presented at the IIE Conference on IMF Reform, the G-7 announced its support for a new IMF “shocks” facility for low-income countries. Details of a new facility have not yet been announced, but initial

²¹ The CFF currently only covers two shocks, “temporary export shortfalls” and “cereal import excesses”, and even these specific shocks must meet certain hurdles (calculated according to a formula) to qualify as a “shock”. The CFF was extended to include compensation for increased fuel import costs from 1990-1991, but this has expired.

²² For example, the CFF can only be used in parallel with a Fund-supported adjustment program when preexisting balance of payments weaknesses exist.

discussion suggests that this new facility will share many of the disadvantages of prior shocks facilities (such as the CFF) and not include many of the benefits of the SSF. For example, the new facility would only provide loans to countries after severe negative shocks—and therefore not provide the important smoothing effects during more moderate shocks and positive shocks. The facility would not be in place in advance to automatically help countries when the shocks hit, but would instead require additional time to negotiate and implement the new program before any assistance was delivered. Finally, it is unclear what requirements and conditionality would be required in order to utilize the facility—and there would likely be stricter requirements to qualify, so that the new facility would not be as widely used as the SSF.

If countries know that they can borrow from the IMF during a negative shock (through facilities such as the Compensatory Financing Facility, the Stand-By Arrangement, the Extended Fund Facility, or the Supplemental Reserve Facility), why would they agree to a SSF that would force them to make higher payments to the IMF during positive external shocks?

Even if countries did not wish to use a SSF to help smooth fiscal positions, debt ratios, and economic growth, across positive as well as negative shocks, the SSF would still offer a number of benefits compared to traditional IMF programs. First, the SSF would require substantially less conditionality and commitments by the country—making it politically easier for a government to start than other IMF programs. Second (and closely related), avoiding difficult negotiations will ensure that SSF assistance arrives more rapidly after negative shocks than under other programs. Third, a SSF will not increase debt ratios or debt repayments after severe negative shocks (especially in situations where the IMF pays the country instead of the country paying the IMF). In contrast, under traditional IMF programs the country would need to increase borrowing after negative shocks, thereby worsening debt ratios and increasing future repayment commitments. Fourth and finally, a SSF could also help countries adjust to moderate shocks that harm their economies but that do not cause enough damage or risk to justify starting an IMF program.

Some of the insurance provided by a SSF could be purchased by countries in private financial markets (such as through hedging, futures contracts, or issuing bonds indexed to key variables). Why should the IMF provide a service available in private markets?

Although some of the simpler types of insurance provided by a SSF (such as for commodity price movements) could be purchased in private financial markets, most of this insurance is currently only available for short periods of time and/or is very expensive. Even markets to hedge against commodity price movements are fairly illiquid for time periods greater than two years. Other types of insurance provided by the SSF—such as for economic growth at home or in a major export market—are not available and their development has been hindered by a number of market imperfections. For example, substantial coordination hurdles complicate the ability to create new financial instruments with a critical mass to ensure liquidity and avoid high premiums.²³ Moreover, local financial markets are undeveloped in many developing economies, raising the cost of private sector financing. Aggravating this concern, capital markets tend to be pro-cyclical, so that if a country has not pre-funded the insurance, it can be prohibitively expensive to obtain after a negative shock. Nonetheless, much of the insurance provided by a SSF (especially for emerging markets) should eventually be available in financial markets. Therefore an important goal of the SSF would be to work with participating countries to develop these private sector mechanisms.

Does the IMF have any interest in a SSF?

This paper's proposal for a SSF is a new idea and has not yet been discussed with representatives of the IMF. The SSF would, however, directly respond to a request by the International Monetary and Financial Committee of the Board of Governors of the IMF for "...other IMF instruments to assist low-income countries, including to help members deal with shocks."²⁴ The SSF would also respond to the suggestion from G-8 finance ministers that: "the IFIs have a role in helping address the impact of higher oil prices on adversely affected developing countries and encourage the IMF to include oil prices in the

²³ For an excellent discussion of the challenges to successfully introducing new financial instruments, see Athanasoulis, Shiller and van Wincoop (1999).

²⁴ Communiqué of the International Monetary and Financial Committee of the Board of Governors of the International Monetary Fund on April 16, 2005.

development of facilities to respond to shocks.”²⁵ The new “shocks” facility for low-income countries is intended to meet these requests from the Board of Governors of the IMF and G-8 finance ministers, but the preliminary discussion suggests the new facility would not be as effective as the SSF (as discussed near the start of this section). Members of the United Nations Conference on Trade and Development (UNCTAD) have also expressed interest in a facility similar to the SSF and recommended that “UNCTAD and the Fund work toward designing a system of compensatory finance that has the following characteristics: (i) automatic payouts linked to specific triggers; (ii) ease of access in terms of technical requirements; (iii) absence of conditionality; and (iv) the inclusion of a pass-through mechanism to producers and consumers.”²⁶ This proposal, however, includes creating a trust fund financed by OPEC—which would be much more difficult to initiate.

E. Final Thoughts

The benign global environment that has existed over the past few years will not last. Emerging markets and developing countries will become increasingly vulnerable as global growth slows, U.S. interest rates increase, and risk premiums increase. These vulnerabilities could be magnified if there is an adjustment in global imbalances—which would inevitably include a reduction in the U.S. trade deficit and a corresponding reduction in U.S. imports from around the world. Although many (albeit not all) countries have taken advantage of the supportive global environment of the last few years to strengthen their macroeconomic policy framework and reduce their debt burdens, many countries are still at risk. Countries have not taken sufficient steps to protect themselves against future changes in the global environment. It is not difficult to craft a scenario in which a number of emerging markets and developing countries experience sharp slowdowns in growth and possibly even financial crises in the next five years, causing them to borrow from the IMF.

Acting now by developing a SSF for the IMF could help protect countries against this deterioration in the global environment. Encouraging countries to utilize a SSF could help stabilize fiscal frameworks, debt ratios, and economic growth. The structure of the

²⁵ Communiqué by G8 Finance Ministers in London on June 10-11, 2005.

²⁶ Report of the Meeting of Eminent Persons on Commodity Issues for the United Nations Council on Trade and Development (UNCTAD). From UNCTAD TD/B/50/11, September 30, 2003 and reported in IMF (2003).

SSF would be much simpler than for most IMF programs, and by having payments made based on a straightforward equation instead of on an evaluation of how a country met a range of difficult-to-qualify conditions and requirements, the SSF could also avoid difficult future negotiations between countries and the IMF. The SSF would require minimal IMF resources while providing a mechanism by which the IMF can positively engage with countries that have become disillusioned with the institution. The SSF would also allow for substantial flexibility across countries—providing the amount and type of insurance that would most benefit each country—thereby avoiding criticisms that the IMF only has a “one-size-fits-all” approach to country assistance. Perhaps most important, by automatically providing resources to help countries adjust to negative shocks and helping reduce economic volatility, a SSF would improve standards of living—especially for low-income individuals that are least able to protect themselves against volatility and events outside of their control.

References

Athanasoulis, Stefano, Robert Shiller, and Eric van Wincoop. 1999. Macro Markets and Financial Security. *Federal Reserve Bank of New York Economic Policy Review*, 5, no. 1 (April): 21-39.

Borensztein, Eduardo and Paolo Mauro. 2004. The Case for GDP-indexed Bonds. *Economic Policy*, 19(April): 165-216.

Council of Economic Advisers. 2004. Growth-Indexed Bonds: A Primer. (July 8). Available at: <http://web.mit.edu/kjforbes/www/Shorter%20Articles/Growth-Indexed%20Bonds-A%20Primer.pdf> (accessed on October 10, 2005).

Goldstein, Morris. 2005. *What Might the Next Emerging-Market Financial Crisis Look Like?* Institute of International Economics Working Paper 05-07. Washington: Institute of International Economics.

Gavin, Michael, and Roberto Perotti. 1997. Fiscal Policy in Latin America. *NBER Macroeconomics Annual*, eds. Ben S. Bernanke and Julio J. Rotemberg. Cambridge: MIT Press.

International Monetary Fund. 2004. Mexico: 2004 Article IV Consultation. IMF Country Report 04/419. Washington: International Monetary Fund.

International Monetary Fund. 2003. Fund Assistance for Countries Facing Exogenous Shocks (August 8). Available at: <http://www.imf.org/external/np/pdr/sustain/2003/080803.pdf> (accessed on October 10, 2005).

Prasad, Eswar, Kenneth Rogoff, Shang-Jin Wei, and M. Aryan Kose. 2003. *Effects of Financial Globalization on Some Developing Countries: Some Empirical Evidence*. Washington: International Monetary Fund.

Riascos, Alvaro and Carlos Vegh. 2003. Procyclical Government Spending in Developing Countries: The Role of Capital Market Imperfections. Available at: <http://www.imf.org/External/Pubs/FT/staffp/2003/00-00/rv.pdf> (accessed on October 10, 2005).

Williamson, John. 2005. *Curbing the Boom-Bust Cycle: Stabilizing Capital Flows to Emerging Markets*. Washington: Institute for International Economics.

Williamson, John. 2006. Revamping the International Monetary System. *IMF Reform*, eds. Edwin Truman. Washington: Institute of International Economics, forthcoming.