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## **The Cyclical Characteristics of Universal Social Insurance**

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### **Abstract**

This paper examines how a universal social insurance program proposed for Mexico can respond to cyclical variations in revenue while remaining self-financing. More specifically, it discusses the issues involved in setting up a stabilization fund that can accumulate surpluses when revenue is cyclically high, which can be drawn down when revenue is cyclically low. Attention is also paid to the options available to create a fund with sufficient resources to respond to revenue shocks early in its life, before a significant revenue cushion can be built up. In this connection, it is argued that letting the fund borrow to do this would not compromise the financial independence of the program.

**JEL Codes:** E390, H53, H55, I380

**Keywords:** Social insurance, social welfare programs, stabilization

## **I. Introduction**

Antón, Hernández, and Levy (2012), henceforth AHL, have outlined a plan for major social insurance reform in Mexico. While the discussion of the plan's design and impact is extensive, little attention is paid to how plan finances develop over time. Of particular interest in this regard is how a plan that is intended to be self-financing should respond to cyclical variations in revenue. The current paper addresses this topic. The organization of the paper is as follows: Section II describes the AHL plan for social insurance reform. Section III outlines the nature of the cyclical issue to be addressed in the paper, discusses alternative approaches to managing cyclicalities, and simulates how a social insurance stabilization fund might work to manage cyclicalities. Section IV addresses a range of issues related to setting up such a fund. Section V looks at how a social insurance stabilization fund would have worked in practice in Mexico if it had been introduced in the early 2000s. Finally, Section VI provides a summary and conclusions.

## **II. Key Aspects of Proposed Social Insurance Reform**

Current social insurance arrangements are based on two programs, contributory social insurance (CSI) for formally employed salaried workers and non-contributory social insurance (NCSI) for other workers. CSI is administered by the Mexican Social Security Institute (IMSS), while NCSI is a budget program. CSI covers health care, retirement pensions, disability and death benefits, work-risk insurance, and housing and day care services on an entitlement basis. NCSI offers more limited social insurance benefits on a discretionary basis. In 2008, combined CSI and NCSI (or social insurance) spending amounted to 4.0 percent of GDP, with 2.2 percent of GDP of this being paid for by CSI wage-based contributions levied at a combined 32 percent on employees and employers; the remaining 1.8 percent of GDP was covered by a government social insurance subsidy (split a third for CSI and two-thirds for NCSI).

AHL identify a number of shortcomings with prevailing social insurance arrangements, including the different benefits received by salaried and non-salaried workers, the disincentive for workers to choose formal rather than informal employment, the arbitrary redistributive consequences of social insurance benefits and contributions, and the fiscal costs of a rising social insurance subsidy. In response to these problems, AHL propose replacing CSI and NCSI with universal social insurance (USI). The first pillar of USI would provide identical health,

retirement, and disability and death benefits for all workers. More specifically, uniform payments would be made to IMSS and state government health insurance programs, workers' individual retirement accounts (IRAs), and IMSS risk-pooling funds to provide disability and death benefits. At the payment levels proposed for 2008, first pillar USI expenditure would be 4.6 percent of GDP.<sup>1</sup>

First pillar USI expenditure would be financed by an earmarked share of value added tax (VAT) revenue labeled as “a contribution to USI.” It is assumed that the VAT rate would be 16 percent (it was increased from 15 to 16 percent in 2010), and the VAT base would be broadened by eliminating zero-rating, exemptions, and reduced border VAT rates. In addition, it is assumed that VAT compliance will improve significantly, although small businesses and the self-employed would remain largely outside the tax net. Overall, VAT revenue will increase from its 2008 level of 3.8 percent of GDP to 7.2 percent of GDP, which is an ambitious but realistic target given that VAT productivity—which is the revenue yield per percentage point of the VAT rate—will end up close to the average for Latin America. Since 4.6 percent of GDP is needed to cover first pillar USI spending on fixed payments to IMSS, state governments and IRAs, a VAT of 10.2 percent is earmarked as a contribution to USI, and a VAT of 5.8 percent is part of the general budget revenue.

Universal social insurance would also provide for second pillar complementary payments to IMSS for disability and death benefits and to IRAs, and payments to IMSS to cover work risks (which are not included under the first pillar). These second pillar payments would be covered by the wage-based contributions of salaried workers earning more than twice the minimum wage. The aim of the second pillar is to provide salaried workers with benefits equivalent to those under CSI. At an average contribution rate of 5.5 percent, these payments would amount to 0.4 percent of GDP, implying that total USI expenditure would be 5 percent of GDP, which is

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<sup>1</sup> These payment levels are sufficient to provide health care under IMSS, a retirement pension equal to the minimum wage (based on a contribution to IRAs equal to that made to CSI by a worker earning twice the minimum wage), and disability and death benefits that would be received by a worker earning twice the minimum wage. The spending breakdown is 3.2 percent of GDP to pay for health care, 1.1 percent of GDP to pay for retirement pensions, and 0.3 percent of GDP to pay for disability and death benefits.

1 percent of GDP higher than under CSI and NCSI.<sup>2</sup> However, the 1.8 percent of GDP social insurance subsidy would be eliminated because USI is fully financed by earmarked VAT and wage-based contributions.

That said, USI is not budget neutral in the sense that it has no impact on government revenue and expenditure, excluding social insurance. The broadening of the VAT base would harm many low-income consumers. It is also assumed that state taxes on salaried workers that are currently bundled with CSI contributions would be abolished and IMSS pension payments to its own retired workers would be shifted to the government. Compensating low-income consumers and states, as well as covering IMSS pensions, has a budgetary cost of about 0.7 percent of GDP.<sup>3</sup> However, taking into account other revenue and expenditure changes, the fiscal deficit increases by only 0.2 percent of GDP (Table 1).<sup>4</sup>

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<sup>2</sup> The second pillar contribution rate will vary across workers because the aim is for USI to replicate the retirement pension provisions under CSI, but first pillar payments to IRAs are the same for all workers.

<sup>3</sup> It should also be noted that USI would not cover housing and day care services. If paid from the budget, these benefits would have an additional cost of 0.5 percent of GDP, implying an increase in the budgetary costs of USI to 1.2 percent of GDP.

<sup>4</sup> The data in Table 1 are for the most part based on 2008 peso figures reported in AHL, while 2008 GDP is taken from the IMF World Economic Outlook database.

**Table 1. Fiscal Aggregates, 2008** (*percent of GDP*)

Excluding SI		SI		Including SI	
CSI+NCSI					
VAT	3.8	CSI contributions	2.2	VAT	3.8
Income tax	3.2	Total SI revenue	2.2	Income tax	3.2
Other revenue	15.2	CSI+NCSI expenditure	4.0	CSI contributions	2.2
Total budget revenue	22.2	SI balance (excl. SI subsidy)	-1.8	Other revenue	15.2
SI subsidy	1.8	SI subsidy	1.8	Total revenue	24.4
Other expenditure	22.1	SI balance (incl. SI subsidy)	0.0	CSI+NCSI expenditure	4.0
Total budget expenditure	23.9			Other expenditure	22.1
Fiscal balance	-1.7			Total expenditure	26.1
				Fiscal balance	-1.7
USI					
VAT	2.6	VAT	4.6	VAT	7.2
Income tax	3.1	Pillar 2 contributions	0.4	Income tax	3.1
Other revenue	15.2	Total USI revenue	5.0	Pillar 2 contributions	0.4
Total budget revenue	20.9	Pillar 1 expenditure	4.6	Other revenue	15.2
Compensation/IMSS payments	0.7	Pillar 2 expenditure	0.4	Total revenue	25.9
Other expenditure	22.1	Total USI expenditure	5.0	USI expenditure	5.0
Total budget expenditure	22.8	USI balance	0.0	Compensation/IMSS payments	0.7
Fiscal balance	-1.9			Other expenditure	22.1
				Total expenditure	27.8
				Fiscal balance	-1.9

Source: Antón, Hernández, and Levy (2012), IMF World Economic Outlook database, and author's calculations.

Universal social insurance would address problems associated with the combination of CSI and NCSI. It would be fiscally sustainable because it is fully financed by earmarked VAT and wage-based contributions. Salaried and non-salaried workers would be treated equally under the first pillar of USI; this is not the case with the second pillar, but this pillar is very small compared to the first pillar. Financing USI mainly through VAT, which is more difficult to avoid than wage-based CSI contributions, will have economic benefits as wages, employment, and



productivity adjust to a lower tax wedge. It also results in more uniform taxation of formal and informal employment, which should boost macroeconomic performance by reducing the incentive to work in the informal labor market (IMF, 2010a). Furthermore, USI implies systematic redistribution because first pillar payments are the same for all covered workers, while their financing is proportional with respect to consumption, and second pillar payments and contributions are proportional to the earnings of better-off workers. Finally, USI is transparent and easy to understand, with a clear tax-benefit link that should help it gain widespread acceptance. This, in turn, should contribute to an increase in VAT compliance, which is crucial to the financial integrity of USI.

### **III. Managing the Cyclicalities of USI Finances**

As noted already, one issue that is not addressed by AHL is the cyclicalities of USI finances. Universal social insurance is intended to be self-financing, with earmarked VAT covering first pillar payments and wage-based contributions covering second pillar payments. While this may be the case when USI is established, subsequently first pillar USI finances will be affected by output developments. This will not be the case for second pillar financing because complementary USI payments respond exactly to what is happening to the wage-based contributions as a result of changes in hours of work and employment, as well as possible shifts between formal and informal employment. However, the finances of the first pillar are affected because earmarked VAT revenue responds to changes in consumption, which should reflect cyclical developments, while USI payments are fixed (although, as discussed below, it is important to be clear about what is meant by “fixed” in this context). Hence, on a flow basis, USI finances would be in surplus during the positive stage of the cycle (i.e., good times, when output is above its potential or trend level) because VAT revenue would exceed USI payments, but would move into a deficit once the cycle moves to its negative stage (i.e., bad times, when output is below its potential or trend level) and VAT revenue falls below USI spending.

One way to manage the cyclicalities of USI finances is to adjust the earmarked VAT rate to ensure that USI finances stay balanced over the cycle; however, this is undesirable. From a microeconomic standpoint, the welfare costs of taxation are roughly proportional to the square of the tax rate, and so tax rate volatility reduces welfare. The aim should always be to keep tax rates constant for as long as possible. From a macroeconomic standpoint, adjusting the earmarked VAT rate to keep USI finances in continual balance would be pro-cyclical. This means that USI

would exacerbate short-term output volatility, which is widely acknowledged to be an impediment to longer-term growth. Another option is to not alter the earmarked VAT rate, but instead adjust the share of total VAT revenue earmarked as a contribution to USI, which is initially 64 percent. Though this would avoid tax rate volatility, adjusting the share of VAT revenue assigned to USI changes with USI's funding needs is not earmarking in the usually understood sense (earmarking is discussed in more detail below). In effect, it amounts to a system of transfers from USI to the government budget in good times and from the budget to USI in bad times because increasing or decreasing the share of VAT revenue earmarked to USI has the exact opposite effect on budget revenue. This means that cyclicalities are shifted from USI to the budget, in which case it becomes an issue of aggregate fiscal policy management. Such a possibility is considered immediately below. However, most attention is devoted to setting up a social insurance stabilization fund (SISF) managed in conjunction with USI and independently of the budget. An SISF would handle cyclicalities by accumulating USI surpluses in good times, and then uses those surpluses to cover USI deficits in bad times, thus preserving the self-financing character of USI.<sup>5</sup>

### **Aggregate Fiscal Policy Management**

The 2006 Budget and Fiscal Responsibility Law (FRL) constrains fiscal policy through a balanced budget rule (BBR) that requires the public sector to balance its cash budget. The public sector budget comprises the central government, social security, and major directly controlled public enterprises (most notably *Petróleos Mexicanos*, or PEMEX, the Mexican state-owned petroleum company). The fiscal balance in Table 1 corresponds to the augmented balance of the budgetary public sector, which is close to the public sector borrowing requirement (PSBR). However, the BBR applies to a less comprehensive traditional balance that excludes, among other things, local governments, net lending by development banks, investments by PEMEX and some other entities, certain accrual items (e.g., obligations under the PIDIREGAS scheme, which are essentially government payments arising from public-private partnerships), and the

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<sup>5</sup> Of course, problems would arise if USI is introduced when good times are already firmly established, in which case an SISF may not accumulate sufficient savings to cover USI deficits in bad times. Moreover, relying on accumulated savings is not an option if USI is introduced immediately before or during bad times. Options in these cases are considered later in the paper.

operations of stabilization funds. For BBR purposes, the International Monetary Fund (IMF) reports that the public sector budget recorded a surplus of 0.5 percent of GDP in 2008.<sup>6</sup>

The BBR is inherently pro-cyclical because in principle it requires that additional revenue receipts during good times give rise to offsetting spending increases, while revenue reductions during bad times are met with spending cuts.<sup>7</sup> However, in practice, this is not necessarily the case. For example, if the economy is especially weak, a temporary deficit may be allowed. There is, therefore, a tendency in Mexico, as in many other countries, for fiscal policy to be characterized by asymmetric cyclicality—it is pro-cyclical in good times when revenue and spending both increase, and counter-cyclical in bad times when revenue declines are combined with unchanged or increased spending—which leads to increases in fiscal deficits and public debt over time (i.e., it is a source of deficit bias). In fact, this asymmetric cyclicality pre-dates the BBR (see, for example, the discussion in Burnside and Meshcheryakova [2005]). It is interesting to note that, while fiscal policy as a whole is pro-cyclical, social insurance is inherently counter-cyclical. CSI wage-based contributions vary with the cycle, while the social insurance subsidy, which finances part of CSI and all of NCSI, leaves social insurance largely unaffected by cyclical developments while having a counter-cyclical influence on the budget. IMSS reserve funds can be used to manage the financial consequences of social insurance cyclicalities, although their main purposes are related to risk pooling and the pre-funding of liabilities arising from pre-reform, defined-benefit pensions.

The stabilization funds referred to above are supposed to provide a response to pro-cyclicalities, but the concern is the impact of oil price variability (including variability due to exchange rate movements) because this is the principal source of revenue volatility in Mexico. There are four such funds—an oil stabilization fund and separate stabilization funds for the federal government, state governments, and PEMEX—designed to support investment by these entities. Oil revenue in excess of that budgeted is deposited into the four stabilization funds, and transfers are made back to the budget from the funds when oil revenue is less than budgeted. In

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<sup>6</sup> This corresponds to an augmented balance of –1.4 percent of GDP, as opposed to the –1.7 percent of GDP shown in Table 1.

<sup>7</sup> Tax adjustments in response to cyclical developments are also possible and are in practice a source of pro-cyclicality. However, the harmful consequences of tax rate volatility should argue against them.

this way, oil revenue in the budget is stabilized.<sup>8</sup> However, there are fairly low statutory limits on the size of the stabilization funds. Once these are reached, surplus oil revenue is used primarily to increase off-budget investment by the federal government, state governments, and PEMEX, with a portion being allocated to backstopping pension liabilities. Despite an attempt to mitigate pro-cyclicality using the stabilization funds, they in fact impart pro-cyclicality to fiscal policy when oil prices are high (which is also a source of good times) once the statutory limits are reached.

There have been calls by the IMF and the Organisation for Economic Co-operation and Development (OECD) for Mexico to reformulate the BBR and adopt different oil fund arrangements. For example, IMF (2010b) discusses the combination of:

- (1) a structural budget rule that allows the fiscal position to respond to cyclical variations in output given stabilized oil revenue; and
- (2) a modification to the stabilization funds such that they continue to be used to stabilize oil revenue in the budget but that investment increases are approved as part of budget decision-making rather than being automatically triggered by a surplus in excess of that required for stabilization purposes.

This arrangement is tantamount to bringing the stabilization funds on budget and having a structural balance rule that allows the fiscal position to respond to both cyclical variations in output and oil price volatility. In this case it is reasonable to ask whether the stabilization funds serve any clear purpose. In countries with a tolerable debt burden and a responsible approach to managing fiscal policy, like Mexico, variations in debt can perform exactly the same stabilization function as the funds.

This discussion of the BBR and stabilization funds has a bearing on how to think about USI and the possible role of an SISF. Wage-based contributions to CSI are collected by IMSS, which is part of the public sector budget but its revenue and spending are not part of the federal government budget. Only the social insurance subsidy is recorded as a budget expenditure. Value added tax (VAT) is collected by the Ministry of Finance and is part of budget revenue; this will continue even if part of VAT revenue is earmarked for USI. One option for USI is to set it up as

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<sup>8</sup> Oil revenue in the budget is stabilized based on a long-term average price. Certain items of additional spending can be covered before deposits into the funds are required. Deposits into and withdrawals from the different funds are formula based.

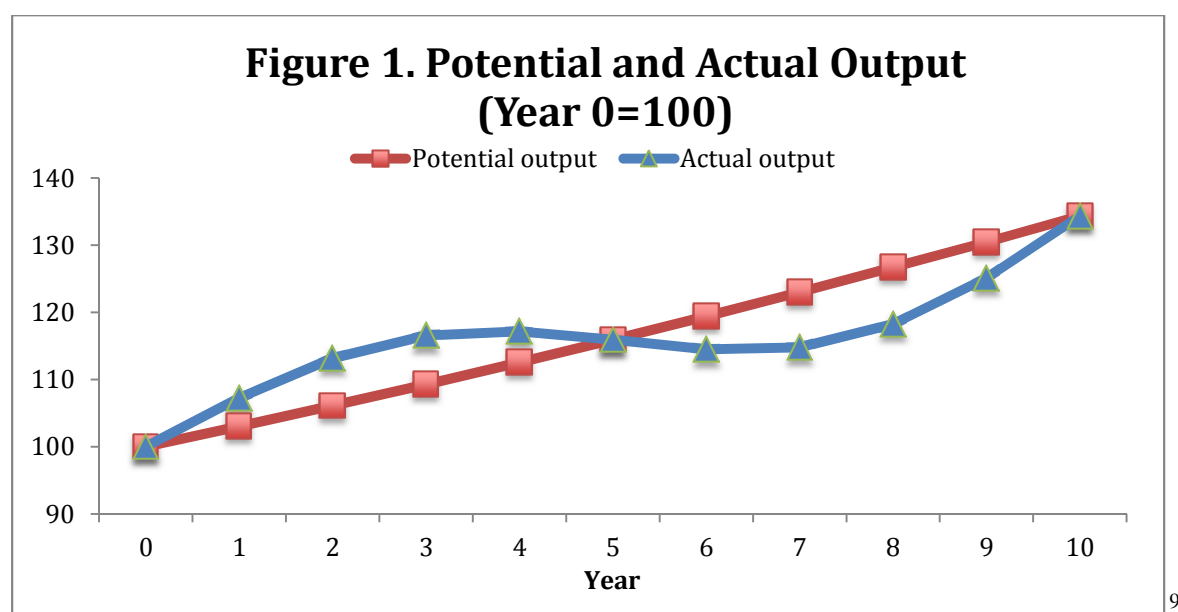
a budget account through which USI payments are financed by earmarked VAT and wage-based contributions. The pro-cyclicality concern in connection with first pillar of USI would be addressed by transferring excess earmarked VAT revenue from this account to the general budget in good times and then supplementing earmarked VAT revenue with a transfer to this account from the general budget in bad times. If these transfers are recorded as USI spending and revenue, respectively, USI is presented as being cyclically neutral, the transfers have a counter-cyclical influence on the budget, and it is then up to the government to use the rest of the budget to influence the overall cyclicality of fiscal policy. However, rather than setting up USI as a budget account, AHL envisage it being a separate government account that is not part of the budget. This is not an unusual arrangement, since earmarked financing and extra-budgetary accounts (or funds) tend to go hand-in-hand, for reasons that are discussed below. With an extra-budgetary account, pro-cyclicality can still be handled through transfers with the budget, just as with budget accounts, although the usual presumption is that extra-budgetary accounts should be insulated from the budget, for reasons that are also discussed below. This is where an SISF comes in.

### **A Social Insurance Stabilization Fund**

At this time, the focus is on how an SISF would handle cyclicality in earmarked VAT revenue given fixed first pillar USI spending. It is important to emphasize the fact that the issue being addressed is USI financing and, more specifically, how to ensure that USI spending can be paid for in the face of cyclical output developments while holding the earmarked VAT rate constant. Achieving this is the principal objective of an SISF. It is also desirable that USI does not contribute to pro-cyclicality, and it would be helpful if it turns out to be counter-cyclical, given that the cyclical characteristics of fiscal policy need to be improved. The fact that an SISF is counter-cyclical in character is therefore something to be welcomed, but this is a by-product of meeting a more pressing social insurance need. Moreover, the cyclical characteristics of fiscal policy will always be influenced mainly by the budget.

To examine how an SISF would work, the cyclical behavior of USI is simulated using a simple model of deviations between actual and potential output. More specifically, it is assumed in this paper that potential output grows at 3 percent—IMF (2011) estimates Mexico’s potential growth rate at 3.00 to 3.25 percent based on a growth accounting approach—while the cyclical behavior of actual output is determined by a sine function centered on this trend, with a cycle

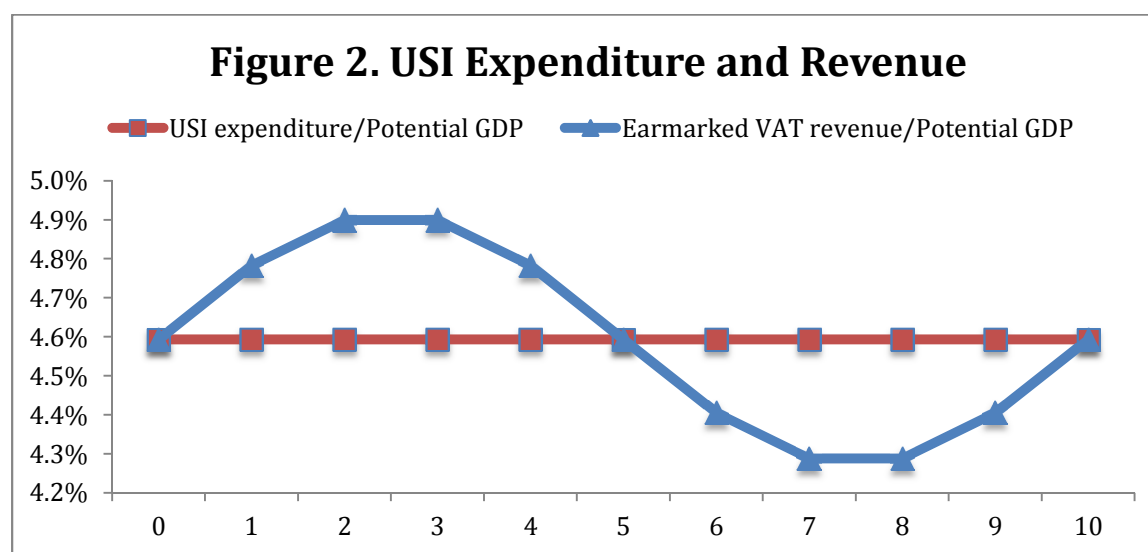
length of 10 years and a cyclical amplitude of 7 percent (i.e., actual output deviates from potential output by a maximum of 7 percent of potential output). It is difficult to define a “normal” cycle for a country like Mexico that is exposed to a combination of local, regional, emerging market, and global economic shocks. However, a 10-year cycle would fit with U.S. data, where the last three cycles lasted 9, 11, and 8 years. The output cycles in the United States and Mexico should be highly correlated, although it is difficult to pin down clear cyclical episodes for Mexico. However, output in Mexico is certainly more volatile than that in the United States, with positive and negative output gaps reaching 6 to 7 percent on a number of occasions. The cycle length and amplitude referred to above are depicted in Figure 1, which is intended to be no more than illustrative; however, the points made below about Figure 1 would not be materially affected if the cycle length or its amplitude were somewhat different.



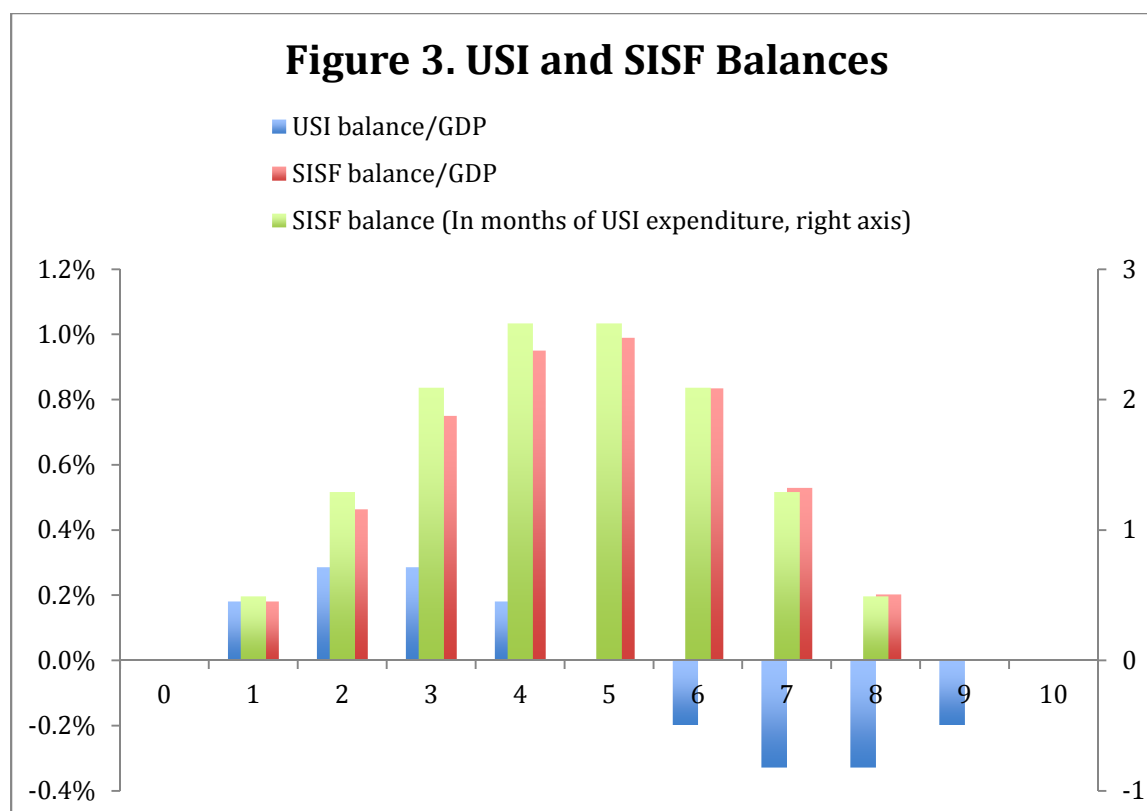
To use Figure 1 as a basis for examining SISF finances, it is assumed that USI is initially balanced, with USI first pillar expenditure equal to 4.6 percent of GDP financed by earmarked VAT of 10.2 percent, as would be the case if it had been introduced in 2008. Moreover, it is assumed that output is initially at potential, after which the cyclical behavior of output reflects good times to begin with, followed by bad times. The IMF (2011) estimates that output was

<sup>9</sup> Figures 1–12 are based on the author’s calculations.

indeed at potential in 2008, although it was falling rapidly as the global financial and economic crisis took hold. The implications for SISF finances of the output developments in Figure 1 depend on how USI finances change over time. For the moment, it is assumed that USI spending is fixed in the sense that it is a constant proportion of potential output, while earmarked VAT is assumed to increase with actual output, implying that the consumption base of the VAT is a fixed proportion of output. Assuming also that the SISF earns interest on its balances equal to the potential growth rate—3 percent—the paths of USI expenditure and earmarked VAT, both as a share of potential GDP, are shown in Figure 2. The impact on USI and SISF balances, in this case in percent of actual GDP, is shown in Figure 3. The USI balance as a share of GDP clearly tracks the difference between actual and potential output, or the output gap, while the SISF balance (its accumulated assets) as a share of GDP builds up when the output gap is positive and is run down when it is negative.<sup>10</sup>



<sup>10</sup> It may seem odd that the SISF balance is zero in year 9. This is because it is measured at the end of the year. USI is in deficit in year 9, and the balance remaining in the SISF at the end of year 8 covers this deficit. Hence the SISF balance is zero in year 9.

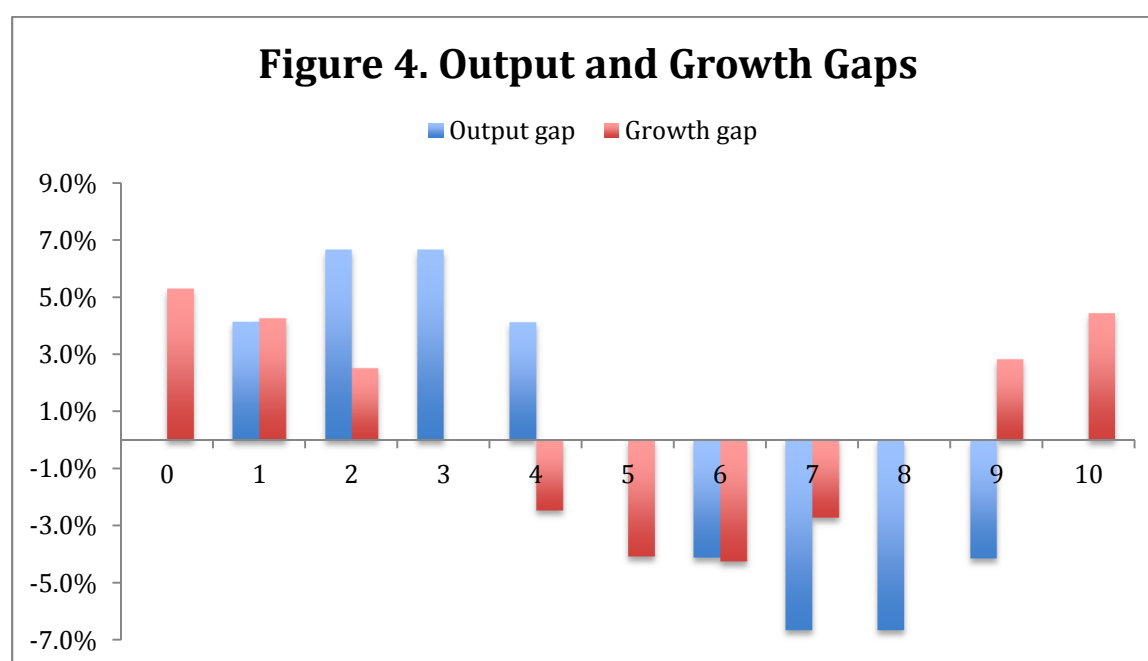


At its maximum, in year 5, the size of the SISF is 1 percent of GDP, which is equivalent to 2.6 months of USI expenditure (see Figure 3). Neither of these numbers is particularly meaningful in their own right, especially when thinking in terms of normal cyclical variations in output. However, unexpected things can happen, and it is interesting to ask how a SISF can respond to an abnormal shock. Consider the following possibility. If the economy was to suffer a more pronounced downturn than shown in Figure 1, such that output was 2 percent lower at the trough of the cycle, an SISF amounting to 1 percent of GDP would be able to cover the shortfall in earmarked VAT revenue for about three years. This may seem quite reassuring, since it implies that there is also scope to handle a shorter, sharper shock, but this is only true if the shock occurs at a time when the SISF is well funded.

Comparing Figures 3 and 4, it is clear that this is the case in the middle years of the cycle when the economy is moving from a positive to negative output gap, which is also a time when the growth gap—that is the difference between the actual and potential growth rates—is negative. Indeed, as the output gap turns negative, the growth rate is also negative (i.e., the economy is in recession). It is certainly the case that, when the economy is weak, the risk of a sharper than



anticipated downturn or recession may be especially high, and a buffer provided by the SISF would be especially valuable. But a shock can occur at any time, and an SISF ought to have the capacity to respond to both normal cyclical developments and unexpected shocks that could occur at any time. This means that an SISF probably has to be larger and build up faster than shown in Figure 3. The issues that arise in achieving this are taken up below. It should also be remembered that using SISF funds accumulated for cyclical purposes to respond to non-cyclical shocks will require that the SISF is replenished in a timely manner if it is to maintain its capacity to respond to cyclical developments.



The size of the SISF is of course sensitive to the assumptions that are made about the key determinants of USI finances. One assumption that does not matter is the choice of potential growth rate, since everything is benchmarked to potential GDP. Actual GDP growth does matter, and different assumptions about the output cycle can change this. However, a 1 percentage point increase in cyclical amplitude to 8 percent only increases the maximum SISF to 1.1 percent from 1.0 percent of GDP. A 1 percentage point increase in the interest earned by the SISF to 4 percent also has a small effect, increasing the maximum SISF to 1.2 percent of GDP. Other assumptions are more important. VAT revenue is assumed to be unit elastic with respect to actual GDP. Raising the elasticity to 1.01 increases the SISF to 1.7 percent of GDP in year 5, when the SISF

reaches its maximum in Figure 3, and it continues to increase thereafter, reaching 2.6 percent of GDP in year 10.<sup>11</sup> Reducing USI expenditure growth by 1 percentage point, to 2 percent, produces a similar increase in the SISF, to 1.6 percent in year 5 and 2.4 percent in year 10. In the case of VAT, the usual assumptions are that the elasticity of consumption with respect to GDP is less than unity, which is a property of the aggregate consumption function, while the elasticity of VAT revenue with respect to consumption is greater than unity because spending on food and other necessities, which are typically more lightly taxed than other goods, tends to decline as a share of consumption as the latter increases.

Since USI is financed by a broad-based, uniform VAT, the elasticity of VAT revenue with respect to consumption in Mexico should be close to unity. This would suggest that the elasticity of VAT revenue with respect to GDP is less than unity, but as in other Latin American countries, there remains substantial scope to increase VAT collections through administrative improvements in Mexico. All things considered, assuming unit elasticity of VAT revenue with respect to GDP seems justifiable for Mexico, although it should be remembered that the size of the SISF is quite sensitive to this assumption. What should be assumed about USI expenditure growth is taken up below.

#### **IV. Issues in Setting Up an SISF**

An SISF that operates as just described would clearly address concerns about the cyclicalities of USI. However, before setting up an SISF, a number of issues need to be considered, including the rationale for an SISF; USI expenditure growth and the SISF buffer; financial management and SISF borrowing; fiscal policy and output stabilization; and governance and transparency.

##### **The Rationale for an SISF**

Earmarked financing and extra-budgetary accounts are a response to many things, but two are especially relevant in thinking about USI.<sup>12</sup>

- First, as regards earmarking, public support for some government programs derives from the presence of a direct link between taxes and benefits, and this feature of USI

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<sup>11</sup> This may seem like a large increase, but even a small increase in the VAT revenue elasticity has a sizable impact on the USI balance given that this is the small difference between two large numbers, and then the cumulative effect of such differences is reflected in the SISF balance.

<sup>12</sup> Allen and Radev (2006) discuss the rationale for extra-budgetary funds, including those financed by earmarked taxes.

has already been mentioned as one of its strengths. This reflects the benefit principle of taxation, which is seen to be particularly relevant in the case of social insurance. In the absence of such a link, as with social security operated as a pure tax-transfer program, there is a concern that weak budget and financial management, compounded by political interference in spending decisions, will place benefits at risk, which is likely to undermine public faith in the program.

- Second, as regards extra-budgetary accounts, a mismatch of time horizons may mean that funds accumulated in a budget account for one purpose are appropriated to pay for something that is politically more expedient. This clearly provides a strong rationale for an extra-budgetary oil fund if its aim is to save part of oil wealth so that it can be transferred to future generations. However, it also provides justification for stabilization funds, including an SISF, where the risk is that excess revenue accumulated during good times will be diverted to other uses and not be available to provide a buffer during bad times.

These arguments provide a compelling case for an extra-budgetary SISF financed by earmarked VAT revenue, since the rationale for each element is persuasive. Moreover, the combination of the two suggests that accumulated SISF funds belong to contributors. It is currently understood that salaried workers own their CSI contributions (including those made by employers on their behalf), since they either go directly into their IRAs or are managed by IMSS in their interests. Universal social insurance extends such ownership to all workers, and this is unaffected by the fact that the first pillar of USI is paid for from earmarked VAT rather than wage-based contributions. The difference between the two is where and when revenue is collected (the “store” when goods and services are purchased rather than the workplace when wages are paid) and not who ultimately pays for USI. Workers pay for USI and recognition that they own the contributions they make, whether they are directed to their IRAs, IMSS, or the SISF, will provide additional assurance that USI payments and their funding are protected from the vagaries of budget decision-making and from political interference.

A number of countries have some sort of social insurance or social security fund. These can be accounts where the government simply records the receipt of social insurance taxes and payment of social insurance benefits, but they are often extra-budgetary accounts and social insurance taxes are earmarked precisely for the reasons discussed above. Of course, while pay-

as-you go financing requires that social insurance taxes and benefits are equal, this would be difficult to achieve by design because neither contributions nor benefits can be forecast exactly, and tax smoothing considerations suggest that this is not something that should be planned for. Thus contributions will exceed benefits in some years and benefits will exceed contributions in other years. As discussed above, this is a desirable response to cyclicalities and will keep social insurance tax rates constant over time. However, many social insurance funds are set up with another purpose—to pre-fund rising future benefit spending. This may be because social insurance benefit entitlements are building up over time, an aging population is pushing up pay-as-you-go social insurance tax rates, or in many cases, both of these things are occurring at the same time. But the principal benefit of pre-funding still derives from tax smoothing, which requires that social insurance surpluses are saved and invested, rather than being transferred to the government and spent.

Table 2 provides information about public pension reserve funds in OECD countries. These funds all have pre-funding as their main objective, but they differ significantly in their sources of finance, benefits that are paid, and—most notably—their size. Indeed, the smallest is Mexico’s IMSS reserve, which it has been noted maintains risk-pooling funds to cover disability and death benefits, pre-funds pension liabilities, and provides a buffer that can accommodate at least some revenue cyclicalities. Because public pension liabilities are so large in many OECD countries, reserve funds are also large despite pensions in many countries being underfunded. Thus the Social Security Trust Fund in the United States will be exhausted by 2033, making adjustments to social security tax rates or benefits unavoidable. While USI is in essence a pay-as-you-go scheme, pensions are fully funded through IRAs, and so USI does not have any retirement pension liabilities to pre-fund. However, few countries have a separate social insurance fund with just a stabilization function, although the National Insurance Fund in the United Kingdom holds reserves equal to an average of two months social insurance spending as a general-purpose buffer.<sup>13</sup>

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<sup>13</sup> There is some pressure in the UK to dissolve the fund, to merge national insurance contributions and income tax because the contributory (or benefit) principle underlying national insurance is not taken seriously, and to pay pensions from general revenue because these are widely viewed to be a claim on the budget.

**Table 2. Public Pension Reserve Funds, 2010** (*percent of GDP*)

<b>Country</b>	<b>Fund</b>	<b>Size</b>
Australia	Future Fund	5.5
Belgium	Zilverfonds	5.0
Canada	Canadian Pension Plan	8.6
Chile	Pension Reserve Fund	1.9
France	Pension Reserve Fund	1.9
Ireland	National Pensions Reserve Fund	15.9
Japan	Government Pension Investment Fund	25.9 (2009)
Korea	National Pension Fund	27.6
Mexico	IMSS Reserve	0.3
New Zealand	New Zealand Superannuation Fund	7.9
Norway	Government Pension Fund	5.6
Poland	Demographic Reserve Fund	0.7
Portugal	Social Security Financial Stabilization Fund	5.6
Spain	Social Security Reserve Fund	6.1
Sweden	National Pension Funds	27.2
United States	Social Security Trust Fund	17.9

Source: OECD (2012).

This discussion suggests that an SISF that reaches a maximum of 1 percent of GDP is quite small by the standards of pension reserve funds in other countries, but this would seem appropriate because managing cyclicalities is a fairly modest objective. Nevertheless, the previous section raised the possibility that the SISF could provide a larger buffer so that it can handle both normal cyclical developments and unexpected shocks. One way to build up a larger SISF buffer than implied by the previous discussion, and to do so quite quickly, is to lower the rate of USI expenditure growth, at least initially.

### **USI Expenditure Growth and the SISF Buffer**

In the previous section, it was assumed that USI expenditure is fixed in the sense that it is a constant proportion of potential output. This means that spending is growing at 3 percent in real terms. AHL do not address the issue of how USI spending should change over time. They only refer to the fact that socially desirable increases in USI payments would have to be financed by higher earmarked VAT revenue. However, putting aside cyclicalities for the moment, USI and SISF finances obviously depend on what happens to USI spending as earmarked VAT revenue

increases over time in line with rising incomes and consumption. Suffice it to say, there are many possible scenarios for the path of USI expenditure. For example, one possibility is that USI payments are increased more when output developments are favorable because this is a time when increases are both expected and affordable. However, this would clearly be pro-cyclical. It would be better from a cyclical perspective to increase USI payments by more when output developments are less favorable, but it is one thing to say that USI should not be a source of pro-cyclical when output developments are already unfavorable and quite another to say that it should be part of an active counter-cyclical response to such developments. As argued below, this would be both undesirable and ineffective. However, as just noted, one factor that could influence USI expenditure growth is a desire to build up a larger SISF buffer.

When USI expenditure increases with potential output, the SISF builds up a maximum buffer of 1 percent of GDP to handle normal cyclical developments. Now assume that an additional 1 percent of GDP is needed as a discretionary buffer to respond to unanticipated shocks. Figure 5 compares paths for USI expenditure as a share of GDP if USI expenditure grows at 0–3 percent (with 0 percent growth meaning that USI expenditure is constant in real terms and 3 percent growth meaning that USI expenditure grows at the same rate as potential output). It is clear that holding USI expenditure at least 1 percentage point below the potential growth rate would lead to an SISF that retains a buffer even when cyclical developments are at their most unfavorable. The issue then is how large a buffer is produced with different USI expenditure growth rates, and how fast the buffer is built up in each case.

Table 3 shows the implications of different USI expenditure growth rates for the discretionary component of an SISF. If USI expenditure growth is 3 percent, the entire SISF is needed for stabilization purposes and there is no discretionary component. Clearly, the lower the growth rate of USI expenditure, the faster the discretionary SISF builds up. To build up a buffer of 1 percent of GDP in the discretionary SISF would take 3 to 4 years at 0 percent growth, 4 to 5 years at 1 percent growth, and 6 years at 2 percent growth. While a reasonable buffer needs to be in place as early as possible, it may be difficult to hold real USI expenditure growth at 0 or 1 percent for 3 to 4 years. However, steadily ratcheting up USI expenditure growth in each of years 1 to 4 puts a 1 percent of GDP discretionary buffer in place in 4 to 5 years, which is the time when the cycle begins to turn down and, as noted above, the risks of an output shock may be larger. Once the 1 percent of GDP target for the discretionary SISF has been achieved, the

aim should be to maintain it at around this level. However, this does not happen automatically if USI expenditure growth is held at 3 percent because limited increases in years 1 through 3 mean that the 3 percent increases apply to a reduced base. In fact, the discretionary SISF more than doubles in size over years 6 through 10 and continues growing in the years beyond. The only way to maintain the discretionary SISF at close to 1 percent of GDP is to increase USI expenditure by an unusually large amount once the 1 percent of GDP buffer has been reached. Increases of 6 percent in years 5 and 6—double the potential growth rate—achieve the sort of outcome that is required.

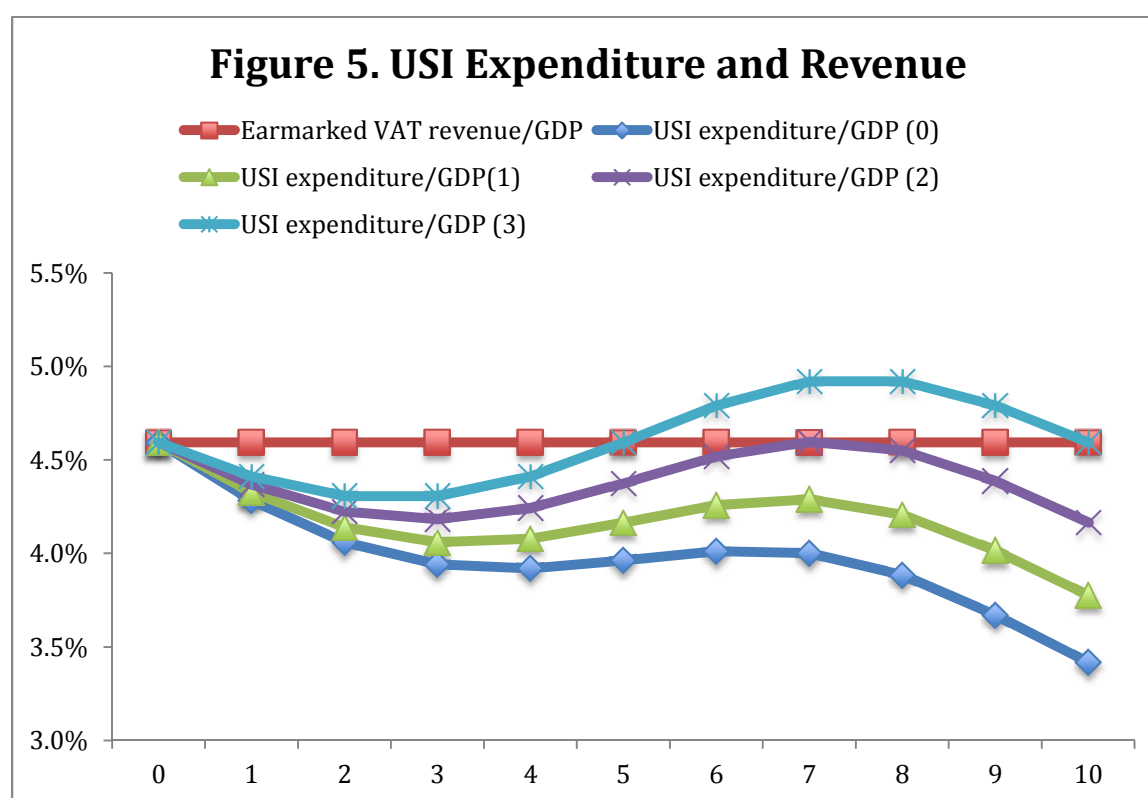
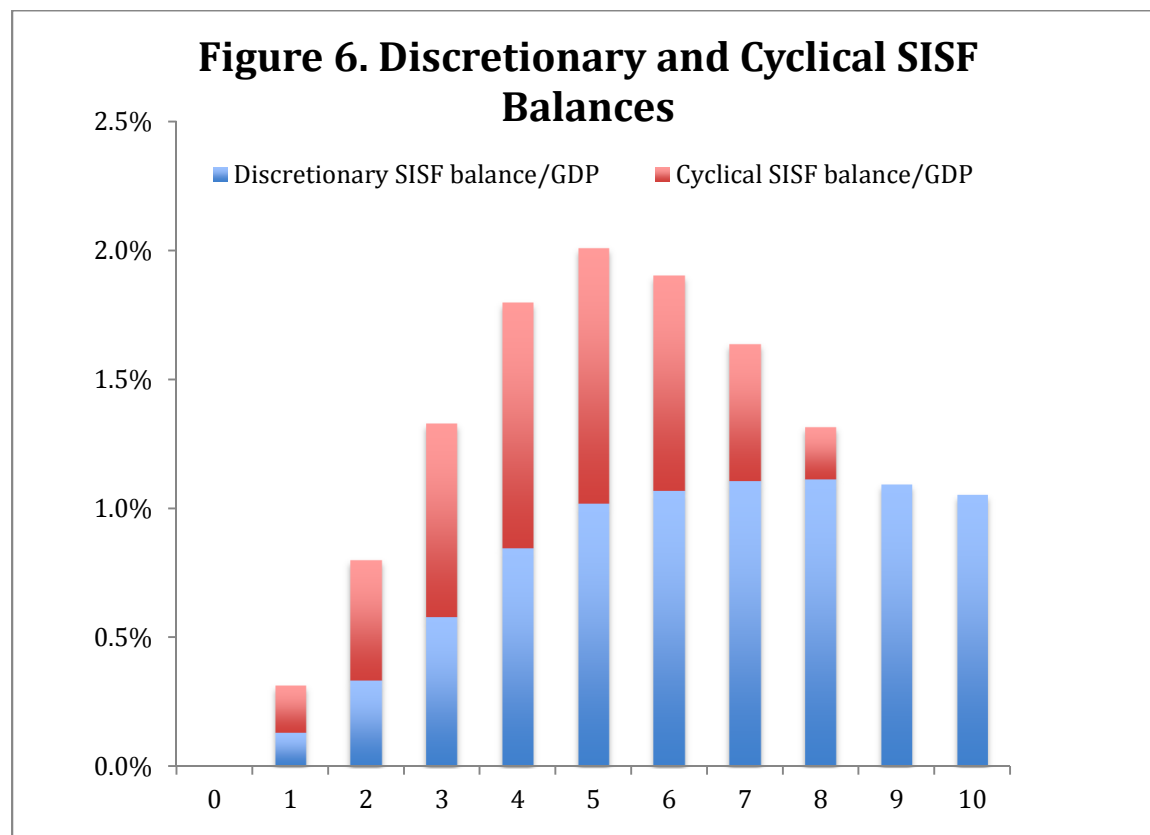


Figure 6 combines the discretionary and cyclical SISF balances. As just discussed, to be prepared to respond to unanticipated output shocks, the aim is to build up a permanent buffer of about 1 percent of GDP and then maintain it at that level until it is needed. As discussed earlier, to respond to anticipated output cyclicity the aim is to maintain a buffer that at its maximum reaches 1 percent GDP. This buffer will be built up over the positive stage of the cycle and run down over the negative stage. The overall SISF builds up to 2 percent of GDP, and once

established it will vary between 1 and 2 percent of GDP over a normal cycle. It could fall to well below 1 percent of GDP if there is a large output shock, which raises an issue as to what would happen if an extreme or prolonged shock exhausts the SISF; this is discussed in the next section.

**Table 3. Discretionary SISF Balance** (*percent of GDP*)

Year	1	2	3	4	5	6	7	8	9	10
Real USI growth										
0% (years 1–10)	0.1	0.4	0.7	1.3	1.9	2.8	3.8	4.8	5.8	6.8
1% (years 1–10)	0.1	0.3	0.5	0.8	1.3	1.9	2.6	3.3	4.0	4.6
2% (years 1–10)	0.0	0.1	0.3	0.4	0.7	1.0	1.3	1.7	2.0	2.4
0% (1), 1% (2), 2% (3), 3% (4–10)	0.1	0.3	0.6	0.9	1.1	1.5	1.8	2.1	2.3	2.5
0% (1), 1% (2), 2% (3), 3% (4), 6% (5–6), 3% (7–10)	0.1	0.3	0.6	0.9	1.0	1.1	1.1	1.1	1.1	1.1





One issue that arises in connection with an SISF that has both cyclical and discretionary components is whether these components are separate. Can the cyclical component only be used to respond to cyclical developments? Is the discretionary component reserved for responding to unexpected shocks? Or, are they combined and used to respond to either cyclical developments or unexpected shocks? While an argument could be made in principle for the first option, it is somewhat impractical given the difficulties in distinguishing between cyclical and non-cyclical output developments, and it is especially hard to do this quickly so that SISF resources can be deployed in a timely fashion. Moreover, detailed guidelines would have to be put in place to ensure the proper use of an SISF and to handle inevitable mistakes. It is better to have an SISF that can respond to either cyclical developments or unexpected shocks, supported by an approach to handle a shortfall in funding in the event of a particularly sharp or prolonged downturn.

### **Financial Management and SISF Borrowing**

It has been noted that a SISF could be an off-budget account, with cyclical and shocks being handled using transfers to the budget in good times and from the budget in bad times, but this has to be predicated on guaranteed support for USI and assurances that a reasonable level of benefits can be funded. The political economy factors that justify an SISF suggest that neither can be taken for granted. Transfers to and from the budget could also convey an impression that SISF depends on the budget, which could undermine the advantages of earmarking and extra-budgetary accounts. However, this need not rule out all financial transactions between the SISF and the budget. The SISF is going to build up assets and has to invest these, but the SISF is not an investment fund and it is not hedging any liabilities; it is simply transferring money from good to bad times (and possibly very bad times if there is a large shock).

This being the case, there is no reason for the SISF to actively manage a diversified asset portfolio. It should invest mainly in cash or cash-equivalents, including short-term government securities. Having the SISF buy and sell government bonds to manage cyclical and shocks may be seen to be economically equivalent to using transfers to and from the budget for the same purpose. There is, however, a significant difference in that budget transfers convey the impression that USI is financially dependent on the budget. The discretionary investment of USI money with the government for liquidity management purposes is a legitimate financial strategy

that would not normally suggest a dependency relationship. If the SISF builds up funds above what is needed to handle cyclical shocks—because either earmarked VAT revenue is higher than expected or USI spending lower—excess funds can be retained in the SISF for a while, but there should be rules that require their eventual return to contributors in the form of higher USI benefits.<sup>14</sup> This is consistent with the view that contributors to USI own SISF funds. That said, the acid test of financial independence from the budget should occur if an SISF faces a funding shortfall.

The appropriate response to a temporary funding shortfall could be to slow USI spending growth, while a shortfall that is judged to be more permanent might call for a revenue increase via a higher earmarked VAT rate once social, economic, and political obstacles to holding down USI payments present themselves. However, there are circumstances where borrowing might be considered. One such circumstance could present itself when USI is introduced. It has so far been assumed that USI is introduced in a year when output is at potential and a cyclical upswing is about to commence. But if USI had been introduced in 2008, which is a base that defines the starting point of the illustrative scenario discussed above, its finances would have been in trouble from the outset as the economy suffered a sharp recession and a large negative output gap immediately opened up. And, more generally, policymakers are most unlikely to have the luxury of introducing USI as a cyclical upturn is going to commence. Even if USI is launched when the output gap is positive, the SISF may not be able to build up the sort of buffer it could if it was in place for the entire positive stage of a cycle.

A clear advantage of having the SISF borrow to build up a buffer is that this would avoid the need to manipulate USI expenditure growth to achieve a front-loaded SISF trajectory. It is then possible to have a more stable pattern of increases than that described above because debt repayments are made steadily over a long period of time.<sup>15</sup> Since an uneven pattern of USI expenditure increases could convey a worrying impression about the consistency of USI policy, borrowing may actually make USI look more secure. Moreover, if an SISF is to borrow, there is no reason why it should not benefit from the government's preferred credit rating, either through direct loans from the government, on-lending of funds borrowed by the government on behalf of

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<sup>14</sup> Increasing payments to IRAs would seem to be the right use of excess funds, since spending on health care and disability and death benefits do not lend themselves to being increased on a periodic basis.

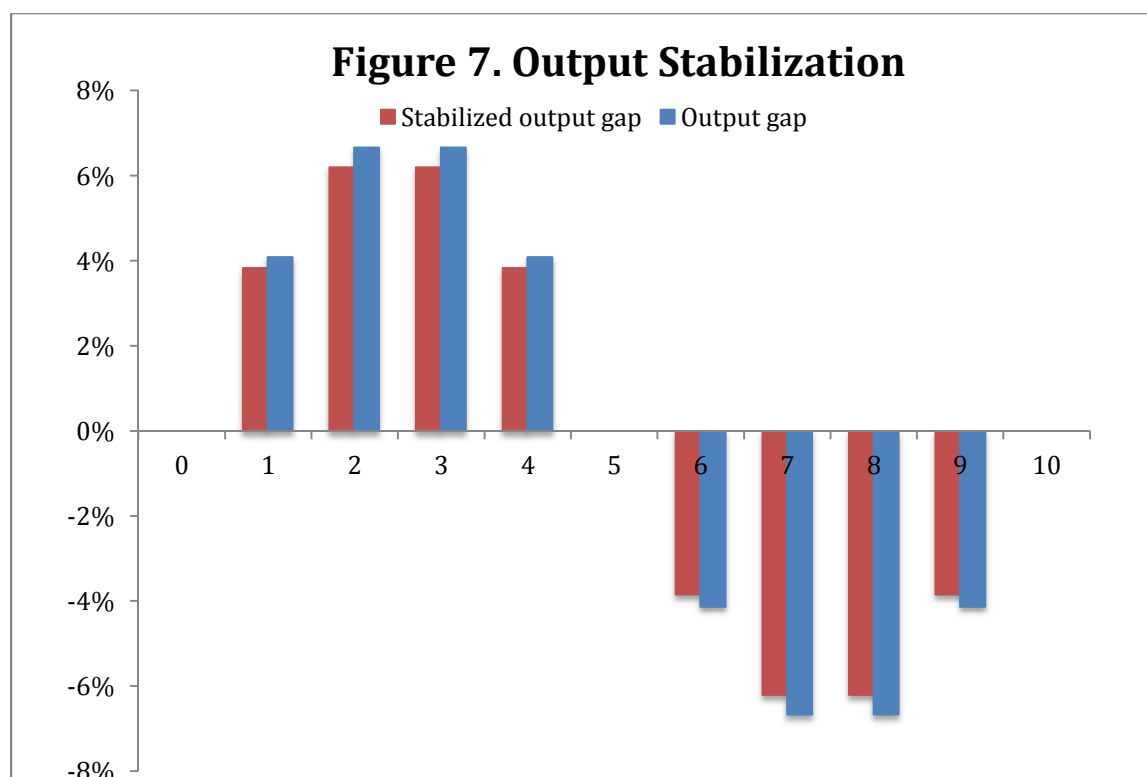
<sup>15</sup> This is illustrated in the next section.

the SISF, or a government guarantee of SISF borrowing. Again, since such borrowing is a response to a legitimate financial management need, this should not suggest that USI is financially dependent on the budget. But it is important that borrowing is only permitted to pre-fund an SISF. Borrowing on an as-needed basis to cover gaps in USI finances is much more likely to create a disturbing impression of financial dependence

### **Output Stabilization and Fiscal Policy**

The relationship between fiscal policy and the economy has two elements: how fiscal policy responds to the economy and how the economy responds to fiscal policy. So far, this paper has focused on how fiscal policy and USI respond to the economy and what is needed to avoid pro-cyclical responses to output developments. While the BBR may suggest that the government in Mexico is unconcerned about cyclicity, the stabilization fund arrangements suggest otherwise. Indeed, it would seem that the government is prepared to go to considerable lengths to insulate the budget from oil price developments and to protect public investment from the consequences of such developments. The government should probably do more to insulate the budget from output developments and, to this end, a structural balance rule—where fiscal policy adjusts to the economic cycle and oil prices, much along the lines of the approach taken in Chile—would probably serve Mexico better than the current BBR, but that is a topic for another paper. Such an approach is perfectly consistent with having an SISF and retaining oil stabilization funds in their present form or some modified form that addresses their current shortcomings.

The cyclicity concern in the case of USI is that balancing USI finances when USI spending is fixed would require changes in the rate of earmarked VAT. As already noted, this is undesirable because volatile tax rates have a welfare cost. However, the harm done in terms of increased output volatility, and by implication the reduction in volatility due to tax smoothing via an SISF, is small because USI is itself small. A VAT that raises 4.6 percent of GDP cannot have a significant stabilizing effect on output even if the multiplier is quite large. Figure 7, which assumes a short-term multiplier of 1.5, illustrates the point. So while it remains the case that USI should not contribute to the overall pro-cyclicity of fiscal policy, using an SISF to impart counter-cyclicity cannot achieve much by way of output stabilization. The budget has to do the heavy lifting in this regard, and in this connection there is no reason why the government should alter budget policy in response to USI surpluses and deficits, or to SISF purchases and sales of government bonds.



It should also be noted that, like many other countries with an aversion to big government financed by high and steeply progressive taxes, Mexico cannot rely on automatic fiscal stabilizers, especially when there is a need to respond in a timely fashion to sharper economic fluctuations. Automatic stabilizers are especially weak in Mexico because, while USI covers many of the usual social insurance contingencies, unemployment compensation, which is a significant automatic stabilizer in many OECD countries, is not included. At the same time, discretionary stabilization is difficult in principle and practice. Changing the rate of VAT has been used as a stabilization measure in some countries, but it is not a viable option for Mexico. Changing the earmarked VAT rate for stabilization purposes would undermine the case for earmarking, and changing the general VAT rate for stabilization purposes will not be very effective because VAT revenue going to the budget is small.

Against this background, consideration could be given to including unemployment compensation as part of USI and making the necessary adjustments to USI financing this entails. This would make USI spending counter-cyclical, which strengthens the case for an SISF, increases automatic fiscal stabilizers, and should make fiscal stabilization more effective because

unemployment compensation is paid to those who need it to support consumption (although the aggregate impact is determined by the generosity of unemployment benefits). It would also allow various restrictions on employment termination to be relaxed, although this would have to be part of a wider set of reforms designed to increase labor market flexibility (which would address, among other things, the role of trade unions and excessive non-wage labor costs).

### **Governance and Transparency**

By imparting flexibility and stability to USI, an SISF plays an important economic function. However, earmarking and extra-budgetary accounts can create problems, especially when they are put in place to support activities that would not survive budget scrutiny or to take activities off budget with a view to lowering the reported size of government and/or the budget deficit. However, the SISF has a well-defined and quite modest function, and even at its peak should not be large. This limits the likelihood that the government is accused of having set up an SISF for nefarious reasons. It is also important to note that the SISF is not a sovereign wealth fund, the standard definition of which does not include social insurance funds, and so many of the issues that arise in connection with managing sovereign assets do not apply to the SISF.<sup>16</sup> Of course, an appropriate governance structure has to be put in place, especially since assets have to be invested, but this is fairly straightforward to deal with when revenue and expenditure is determined legislatively, and investment options are limited. The key thing is that the managers of USI and the SISF are properly accountable to relevant ministries (in Mexico this presumably would be the Ministry of Labor and Social Security and the Ministry of Finance).

Moreover, although the SISF is off-budget, it is nonetheless important to report its financial position as part of the budget documentation. Reporting SISF finances separately and as part of a consolidated fiscal balance is a good transparency practice that would facilitate government budget and financial management, the former by allowing USI spending to be subjected to budget scrutiny and the latter by presenting a comprehensive measure of the government's financial position.<sup>17</sup> That said, the stance of fiscal policy is largely determined by

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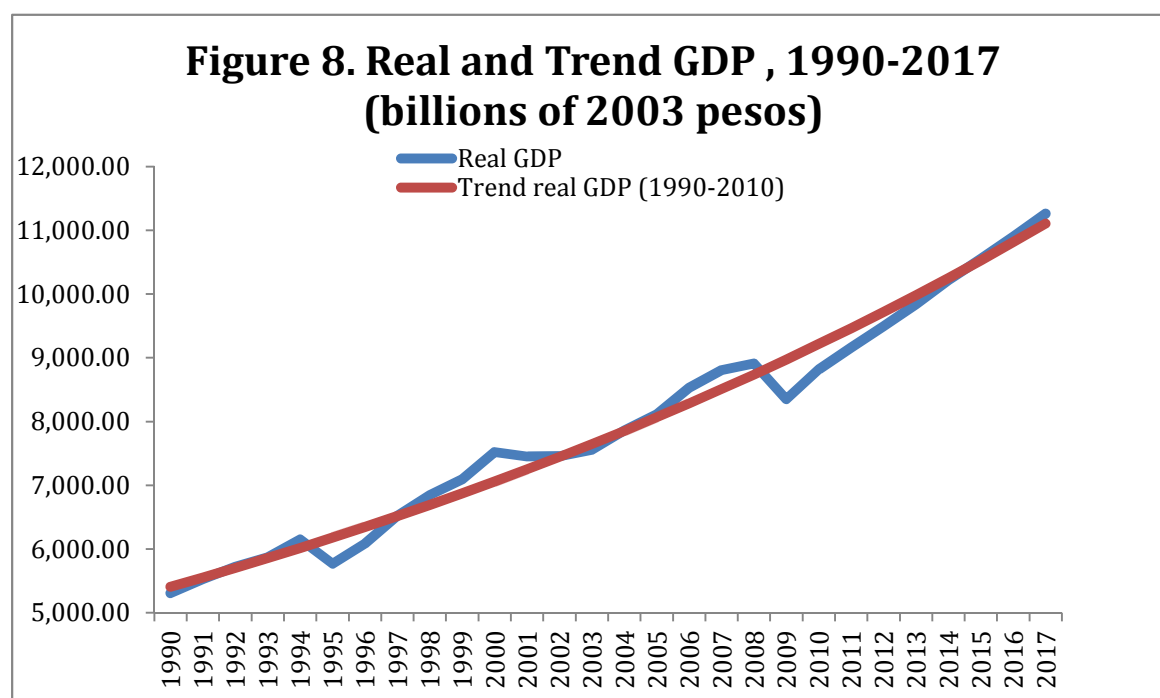
<sup>16</sup> Sovereign wealth funds can be set up as pension reserve funds, as in Norway.

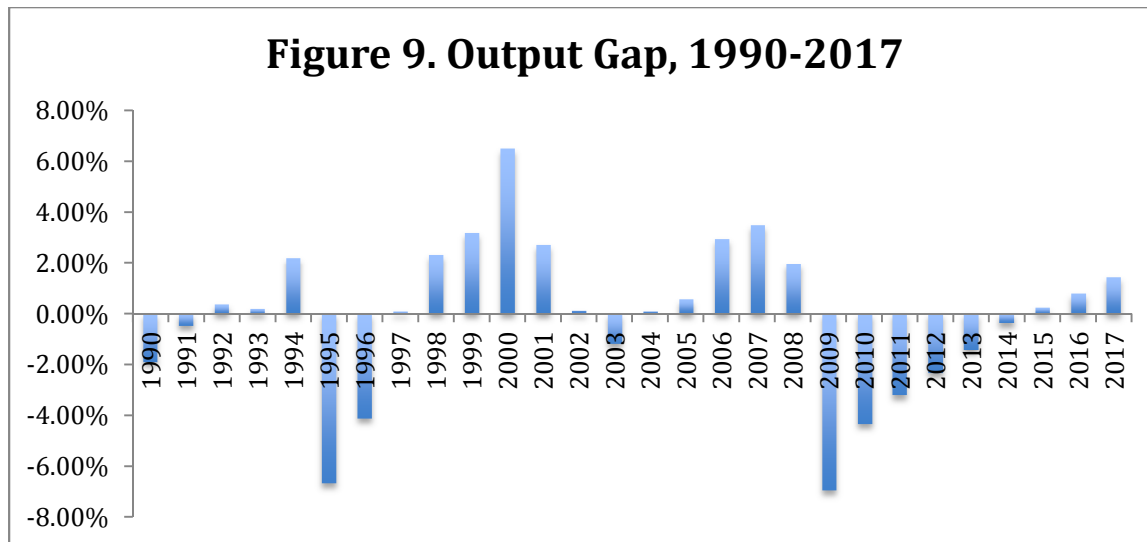
<sup>17</sup> This is consistent with the current requirement that the augmented balance be calculated and reported along with the traditional balance used for the BBR. In this connection, the SISF should be treated like the other stabilization funds and not included in measuring the traditional balance used for BBR purposes.

budget plans while the quality of overall fiscal management is reflected in budget and broader financial performance, which has been emphasized throughout this paper.

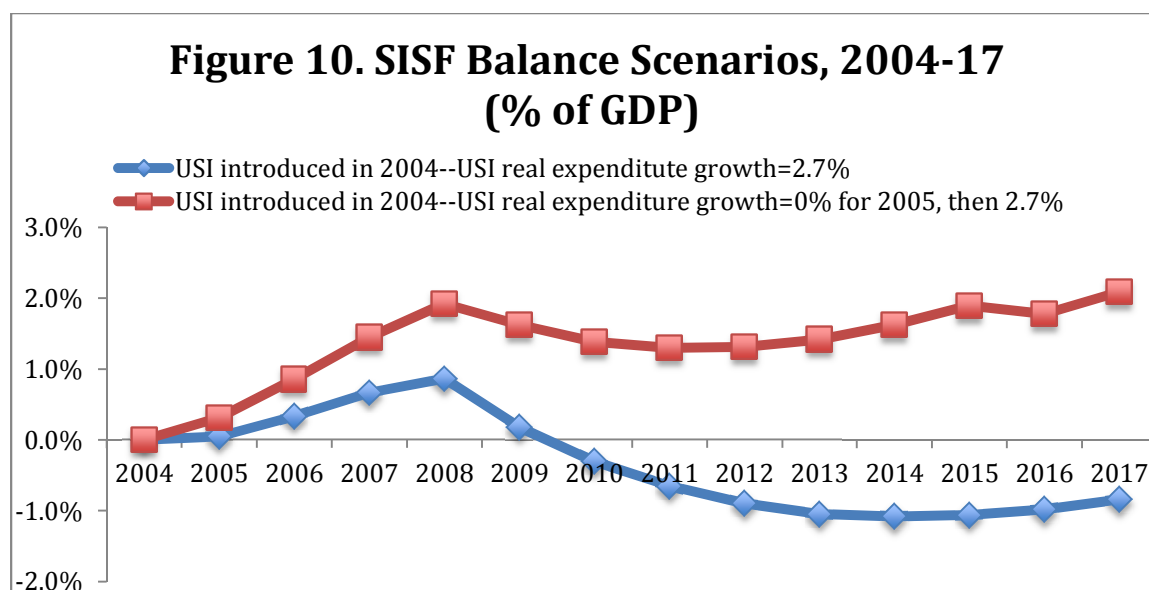
## V. An SISF in Practice

What has been discussed so far is intended to be illustrative and a stylized version of an output cycle has been used for this purpose. But it is interesting to ask how an SISF would work given actual output developments. One way to do this is to assume that USI was introduced at some time in the past and then trace the subsequent impact of an SISF. To do this, it is necessary to form a view on how the output gap changes over time. Rather than attempting the difficult task of trying to estimate how productive capacity has developed, trend output growth has been estimated by fitting a simple logarithmic trend to real GDP data. For the purposes of the following exercise, which is less to do with developing a precise understanding of output developments and more about illustrating how output developments affect USI and SISF finances, this approach is quite adequate. Based on data for 1990–2010, trend growth is estimated to be 2.7 percent, which is similar to estimates by IMF (2011). Figures 8 and 9 show real GDP and the output gap for 1990–2017, with GDP figures for 2011–17 taken from the IMF World Economic Outlook database. Output has a clear cyclical pattern that accords with consensus views about economic developments in Mexico.





Figures 10 through 12 present some alternative SISF scenarios assuming that USI was introduced with earmarked VAT revenue and USI expenditure set equal to 4.6 percent of GDP on the specific introduction date and output developments are as depicted in Figures 8 and 9. In Figure 10, it is assumed that USI is introduced in 2004, when the economy was just commencing a cyclical upturn. With real USI expenditure growing at the same rate as trend GDP—2.7 percent—the SISF builds up to about 1 percent of GDP by 2008, runs out of money soon after the global economic and financial crisis hits, and does not recover for many years. However, holding real USI expenditure constant in 2005 and then letting it increase at 2.7 percent allows the SISF to build up to about 2 percent of GDP by 2008; it then remains well funded despite the crisis in 2009. This suggests that, if introduced against a favorable cyclical background, it should be fairly easy to build up an SISF of 2 percent of GDP or even larger.



Things are quite different if USI is introduced against a less favorable cyclical background. Figure 11 assumes that USI is introduced in 2007, well into the positive stage of the cycle.<sup>18</sup> With real USI expenditure growing at 2.7 percent, the SISF moves immediately into negative territory, which is the inevitable consequence of introducing USI not only well into the positive stage of the cycle, but also just before the output gap turns negative. In effect, the starting level of USI expenditure is too high, and the only way to replicate the better outcome in Figure 10 is to hold the starting level of USI expenditure below earmarked VAT revenue. Figure 11 shows the impact of holding the starting level of USI expenditure 6 percent below earmarked VAT revenue and then letting USI real expenditure grow at 2.7 percent. The SISF quickly reaches 1 percent of GDP, which is large enough to ensure that the SISF remains positive despite the crisis. It then builds up slowly and only reaches close to 2 percent of GDP in 2017. Raising USI expenditure growth temporarily prior to 2017 would prevent the SISF exceeding 2 percent of GDP, but at the cost of instability in the USI expenditure growth rate that should ideally be avoided. There is also an issue as the feasibility of having such a low starting level of USI spending, although this will depend on what it implies for USI benefits.

<sup>18</sup> USI could also have been introduced earlier. If it had been introduced during the late 1990s/early 2000s, when the economy was strong, an SISF would have moved quickly into and remained in surplus because the 2002–05 slowdown, including the 2003 recession, was quite mild.



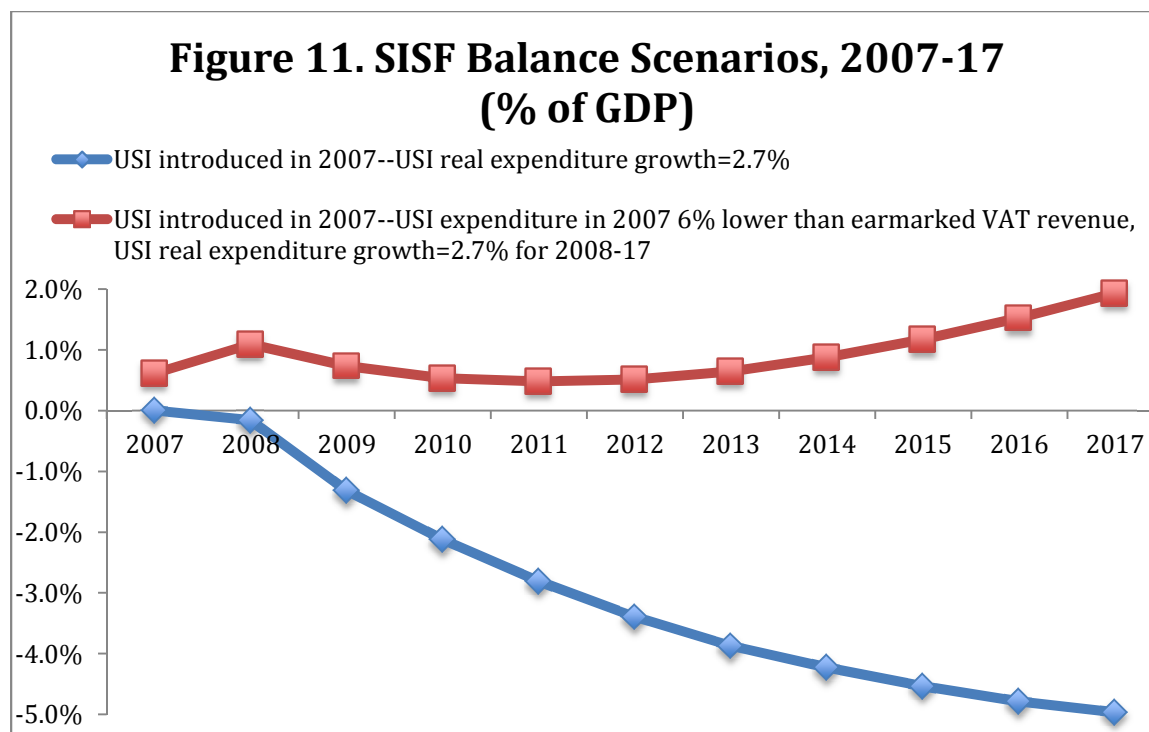
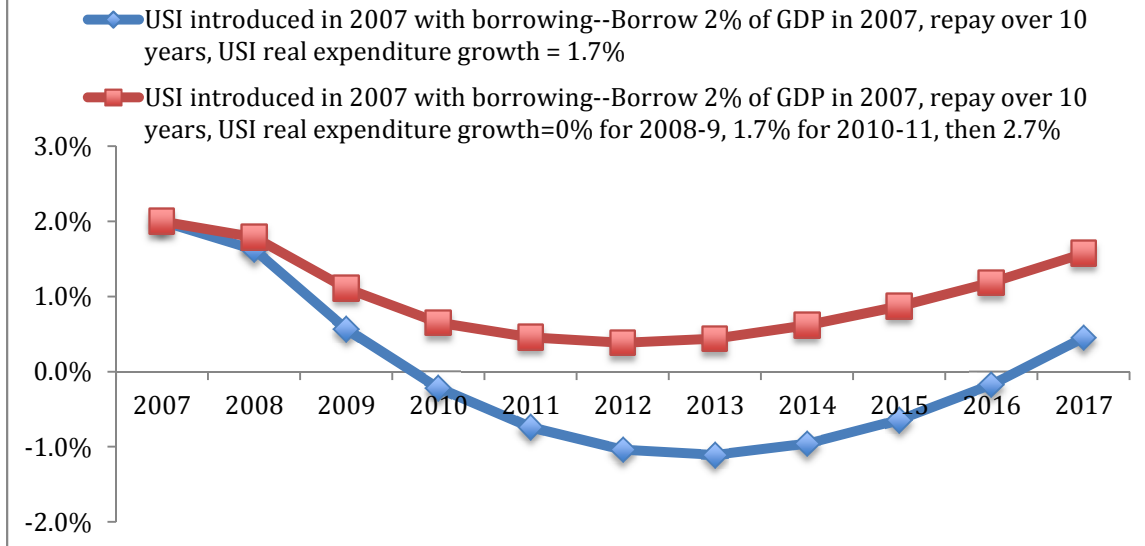


Figure 12 looks at what happens if the SISF is allowed to borrow to build up its initial buffer. The first scenario assumes that there is up-front borrowing equal to 2 percent of GDP and this is repaid by holding real USI expenditure growth at 1.7 percent, which is 1 percentage point below trend. The SISF is quickly depleted by the combined impact of the crisis and debt service costs, and does not recover for many years. USI expenditure growth has to be slower at the outset to accommodate these pressures. If real USI expenditure is initially held constant, it subsequently grows by 1.7 percent and then by 2.7 percent, the SISF remains positive and is building up back up to 2 percent of GDP by 2017. Compared to the second scenario in Figure 11, the SISF is fully funded from the outset and USI expenditure is higher both initially and in subsequent years despite USI expenditure growth being restricted for a few years. However, some expenditure growth instability remains, although less than in the second scenario in Figure 11.

**Figure 12. SISF Balance Scenarios with Borrowing, 2007-2017 (% of GDP)**



These scenarios have to be regarded with a great deal of caution. One obvious shortcoming is that tailoring USI expenditure growth to what is being sought in terms of the way the SISF balance should change over time presumes that unpredictable output developments, and especially those due to the global financial and economic crisis, are known in advance. This is obviously unrealistic. Unknown reality will determine how USI finances will ultimately evolve, and whether the SISF becomes too large or too small. Also, many more scenarios could have been produced, including some with what may appear to have better optics than those above, although these will almost certainly require excessive manipulation of the USI real expenditure growth rate to control the trajectory of the SISF. Some such manipulation may be unavoidable, but it should be kept to a minimum. It should also be recalled that USI finances are very sensitive to how VAT revenue develops over time. If VAT turns out to be even modestly elastic with respect to GDP, this can provide a significant financial cushion for USI; by the same token, if it is only mildly inelastic, this can open up a sizable hole in USI finances. The aim here has been to point to the main determinants of the USI and SISF balances, and to suggest options in setting up an SISF. If an SISF is established, its finances will have to be carefully simulated, but only after some major design and implementation questions concerning the size of the SISF, the timing of

its introduction, and the possibility of borrowing. These questions will be returned to in the concluding section.

It is also important to note that while the focus has been on USI expenditure growth, this is not what will be targeted in practice. USI expenditure policy is reflected in how benefits under different USI programs change. Clearly, it is to be expected that spending will increase with cost escalation due to general inflation or relative cost increases, which may be expected for health care due to aging or technological advances. In addition, rising incomes may call for more generous USI benefits to preserve the relative living standards of pensioners and other beneficiaries. The government will present USI policy in these terms, but at the same time it cannot guarantee what USI will deliver in terms of benefits independently of its finances. The aim should be to offer a clearly specified package of benefits contingent on the financing outlook, to maintain buffers in the SISF that will allow this even though financing may be volatile, and to be prepared to adjust if the structural financing outlook changes, either through benefit or tax adjustments.

## **VI. Summary and Conclusions**

There is a strong political economy case for setting up USI as an extra-budgetary account with USI benefits financed by earmarked VAT revenue. Universal social insurance would be financially independent, which provides some assurance that USI payments will be maintained at an adequate level and that their long-term financing is secure. This, in turn, would increase public confidence in and support for USI. Providing equivalent benefits for salaried and non-salaried workers and relying on revenue from VAT rather than wage-based contributions would reduce informality and increase equity. However, if USI has to balance its revenue and expenditure each year, it would be pro-cyclical in the sense that, given fixed benefit payments, the rate of earmarked VAT would have to be reduced in good times and increased in bad times, which increases the welfare costs of taxation and adds to economic volatility. Transfers of USI surpluses to the budget in good times, offset by transfers from the budget to USI in bad times, would make USI cyclically neutral, while counter-cyclicalities would be imparted to the budget, but transfers to and from the budget might create a dependency on the budget that could undermine confidence in and support for USI.

Setting up an SISF is a response to pro-cyclicalities. An SISF can in principle handle “normal” cyclicalities, where anticipated output developments are characterized by reasonably

symmetric positive and negative stages of an economic cycle. If earmarked VAT revenue varies with actual output while USI expenditure is fixed relative to potential output, surpluses will be built up in good times that provide a cushion that can be used in bad times. Simulation of USI finances suggests that an SISF set up as a cyclical upturn is about to commence would build up to maximum size equivalent to 1 percent of GDP, or 2.6 months of USI expenditure. An SISF of 1 percent of GDP provides some scope to respond to unanticipated shocks, although the capacity to do so is limited if these occur at the beginning, middle, or end of the cycle, when the SISF is smaller. Moreover, cyclical SISF funds used for discretionary purposes would have to be replenished.

There should instead be an early and sizable discretionary addition to the SISF. One way to provide for this is to hold the growth rate of USI expenditure below that of potential output. Again, a simulation reveals that to quickly build up a combined cyclical and discretionary SISF of 2 percent of GDP requires that USI expenditure growth be initially held down in real terms. It can then be increased, although some manipulation of the USI expenditure growth rate is required to ensure that the SISF does not become too large. In fact, any time profile for the SISF balance can be produced by manipulating the USI expenditure growth rate, but the aim should be to keep this as stable as possible, which will provide appropriate assurance about the stability of underlying USI policy. One option to better manage the size of the SISF is to let it initially borrow to build up its discretionary reserves and then to hold down the USI expenditure growth rate for just long enough to pay back this borrowing. While it is natural that the SISF borrows from the government, if this is seen as a temporary financial management transaction, it should not cast doubt on the financial independence of the SISF. This describes the basic rationale for and workings of an SISF, but the design questions raised above remain.

- *How large an SISF buffer is required?* Looking at how an SISF would perform if it had been introduced in the past suggests that an SISF needs to be no larger than 2 percent of GDP at its maximum. This is large enough to have handled the recession starting in 2009 with a margin to spare. Moreover, this is a fairly modest size compared to similar funds in other countries, although many of these have objectives that extend beyond stabilization and which can justify significantly larger funds. There is also an issue as to how fast an SISF should be built up, with there being an

argument that it should quickly develop sufficient ability to respond to adverse output developments.

- *At what stage of the output cycle should USI be introduced?* This question is closely related to the previous one. From the standpoint of building up an adequate SISF, launching USI as cyclical upturn is about to start has merit, but there are always risks that an upturn can get derailed in its early stages and SISF finances will come under pressure. If the cyclical position is less favorable, then the SISF will be more difficult to establish without holding down initial USI spending at a very low level, or excessively manipulating the USI expenditure growth rate.
- *Should the SISF be allowed to borrow?* The advantage of allowing the SISF to borrow is that it is immediately in a position to respond to adverse output developments. However, it is important that the SISF can only borrow to build up its initial capital, and in particular that it cannot borrow to shore up its finances if they come under stress during normal operations. This could cast doubt on the financial integrity of USI, and such problems would be compounded if the SISF were borrowing from the government, since this would almost certainly undermine the financial independence of USI. Expenditure and revenue adjustments are appropriate if structural deficits or surpluses emerge, with guidelines about what should trigger such interventions.
- *What happens if VAT revenue is less than expected?* Relying on earmarked VAT to finance the first pillar of USI is a defining feature of the social insurance reform being proposed. Clearly a large, permanent shortfall in VAT revenue reflecting an over-optimistic assessment of the impact of broadening of the VAT base and improving collection efficiency would compromise the AHL approach to social insurance reform. However, the scope to improve the revenue productivity of the VAT has been carefully assessed from the standpoints of what other countries in Latin America have achieved and what is feasible in Mexico. As long as there is no weakening of resolve to eliminate concessional rates and exemptions, and to improve compliance, USI finances should not be threatened by a failure to collect sufficient VAT revenue. Certainly the idea that some other source of revenue could be relied on to finance USI

cannot be countenanced; this would necessitate a total rethinking of the approach to social insurance reform.

Finally, a key message of the paper bears repeating. Universal social insurance has been proposed to address specific economic and social objectives. Making fiscal policy more counter-cyclical is not one of these objectives, although pro-cyclicality can have damaging economic and social consequences. However, it is the role of the government budget to ensure that fiscal policy is characterized by an appropriate degree of cyclicality. This is not the role of USI, although other arguments point to the need for an SISF that operates in a counter-cyclical manner. Universal social insurance can provide a modest contribution to counter-cyclical fiscal policy, but this is a welcome by-product of setting up an SISF.

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