



# IMF Working Paper

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## Pension Reform and the Fiscal Policy Stance

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### **Pension Reform and the Fiscal Policy Stance**

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#### **Abstract**

The views expressed in this Working Paper are those of the author(s) and do not necessarily represent those of the IMF or IMF policy. Working Papers describe research in progress by the author(s) and are published to elicit comments and to further debate.

The increased budget deficit caused by the privatization of a public pension plan does not imply a relaxation of the stance of fiscal policy. The reform's impact on the fiscal stance and national saving depends primarily on its effect on the sum of explicit and implicit public debt and on the post-reform payroll tax and private system contribution rates. However, the precise impact of reform also depends on such influences as the relationship between the rates of interest on implicit and explicit public debt. There may be circumstances in which pension privatization, if not offset by fiscal consolidation, will loosen the fiscal stance.

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## I. THE FISCAL IMPACT OF PENSION REFORM—A FISCALLY NEUTRAL CASE

The privatization of a public pension plan normally entails its replacement, in whole or in part by a privately managed defined contributions system. Individual retirement savings accounts partially or fully substitute for the payroll tax financing the public plan, while over time private sector annuities or other instruments financed by the funds accumulated in the individual accounts partially or fully replace the public pension.

*Without offsetting fiscal measures*, a reform that establishes individual accounts must increase the public sector deficit as conventionally measured, all other things being equal. The deficit increases because the public sector must continue meeting its obligations to current and some future retirees, while losing some or all of the revenue from the payroll taxes levied on current workers and their employers.<sup>2</sup> The obligations of the old public system gradually decline as the pensioners who retired under the old system age and die, but this transitional period can be long.

Economists normally regard changes in the size of the deficit, possibly adjusted for the influence of the cycle, as a basic indicator of the stance of fiscal policy. It is well known that changes in accounting and other budgetary procedures can shrink or inflate the deficit without affecting the fiscal stance. In such cases, reliance on the deficit as conventionally measured will be misleading. Consequently, budget analysts must often devote a great deal of time to adjusting the budget's presentation to make it comparable to past budgetary estimates.

This paper addresses the significance of the increase in the deficit that the introduction of individual accounts entails. In particular, the paper asks under what circumstances the increase implies any expansionary shift in the fiscal stance, and whether the magnitude of the increase gives a good idea of the extent of the shift. These questions have an obvious relevance in light of the fact that some 20 countries have introduced a system of individual accounts. If pension reform really entails fiscal stimulus, and the stance of fiscal policy was not too tight to begin with, it should be offset by a package of tax and expenditure measures that tightens the fiscal stance.

Apart from the impact of an individual accounts pension reform on the fiscal stance, however, there is also the important issue of its impact on saving. It would certainly be desirable if a pension reform intended to address the problem of population aging and the increasing dependency ratio that aging entails also boosted saving and capital formation. An increase in the ratio of capital to labor is essential to equip future generations of workers to

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<sup>2</sup> The extent of the privatization—whether it is partial or full—and the speed of its implementation determine how quickly and by how much the deficit increases, but they do not affect the direction (sign) of the impact. Note that if the individual retirement accounts are simply superimposed on the existing system, reform will not increase the size of the deficit.

support both themselves and a much larger generation of retired persons. This is as true of the more conventional reforms to public pension systems, which comprise such measures as increases in retirement ages and reductions in replacement ratios, as it is of the more radical approach of an individual accounts reform. The latter reduces public sector saving as conventionally measured, however. Current public revenue drops because payroll tax revenue is reduced, while current expenditure is little affected initially. What happens to private sector saving is not obvious.<sup>3</sup>

**The basic conclusion of this note is that the increased deficit that results from an individual accounts pension reform in the absence of offsetting fiscal measures is not a reliable indicator of the resulting change to the stance of fiscal policy.** Similarly, the decline in public sector saving does not necessarily entail an equivalent decline in total saving. The reform has no impact either on the stance of fiscal policy or on national saving in one special case. This “equivalency” or fiscally neutral case requires the following four conditions. First, the mandatory contribution rate of the privatized system must equal the combined payroll tax contribution rate of the public system. Second, the implicit public debt represented by the present value of the government’s *accruing* obligations to future retirees under the old public system must exactly equal the present value of the explicit debt that results when the government issues bonds to finance the additional borrowing requirement entailed by the loss of payroll tax revenue. Third, the terms of eligibility for and the value of the benefits already earned under the old system must not be altered. Finally, the government debt that finances the increased deficit must be a perfect substitute for private sector securities.

This result can be more easily understood by drawing an analogy between a public PAYG pension scheme and a forced loan scheme. The revenues from the payroll tax contribution that finance the benefits of the public pension plan can be thought of as compulsory loans from the current generation of workers to the government.<sup>4</sup> The “interest rate” on these loans is the implicit rate of return of contributions to the public system. When the government stops collecting payroll tax contributions, and issues debt instead, it is substituting explicit for implicit debt. If the implicit rate of return is equal to the rate of interest the government pays on its explicit (paper) debt, the government’s intertemporal budget constraint will be unaffected. Similarly, contributors to the social security system who move to the privatized system are in these circumstances neither better off nor worse off than they were before the reform.<sup>5</sup> Instead of earning an implicit rate of return on their contributions to the public plan

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<sup>3</sup> For a discussion of the effect of pension reform on national saving, see Barr (2000) Mackenzie, Gerson and Cuevas (1997), and Mitchell and Zeldes (1996).

<sup>4</sup> Kotlikoff (1986) has emphasized the arbitrariness of treating social security payroll tax contributions as taxes.

<sup>5</sup> Setting the contribution rate of the new system above that of the old will increase the national saving rate, provided that contributors do not fully offset the extra compulsory saving required of them by reducing their voluntary saving.

in the form of a future pension, they accumulate an explicit return of the same amount in a compulsory individual accounts plan.<sup>6</sup> (The individual accounts can hold either government debt or private securities or a mixture of both.) The current generation of pensioners would also be unaffected.

In macroeconomic terms, the government would run an increased deficit, but this will be exactly offset by the increase in private saving arising from the surplus of the private pension plan. The national saving rate would not change, and the privatization would have no macroeconomic consequences.<sup>7</sup>

Taking account of the administrative costs of the private financial institutions that will manage the individual accounts should not materially alter the fiscally neutral result. If the gross return to individual account holders remains equal to the implicit return of the old system, the net return is reduced by the ratio of administrative costs to total holdings in the accounts. For example, if the cost of administering an account is 0.5 percent of the account balance—more than the cost of the typical index fund in the United States, but less than the cost of administration of individual accounts in other countries—the net return to the account holder is reduced by 50 basis points. The entry of financial institutions into the business of administering the individual accounts does effectively increase consumption in the form of the provision of financial services. If contributions to individual accounts are the equivalent of 5 percent of GDP, this additional financial sector value-added would amount in the first year of the reform to 0.025 percent of GDP. The increase in consumption of private financial services would be partly offset over time by the economies in administrative expenditure that the government would realize with the winding down of the public pension system.

Given the special assumptions of the fiscally neutral case, an individual accounts reform undertaken to address the aging problem but unsupported by new incentives to increase private saving *must* be accompanied by measures to tighten the fiscal stance. In other words,

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<sup>6</sup> Most public pension systems significantly differentiate benefits according to the income and family status of retirees. As a result, the implicit rate of return of the system will differ from one retiree to another depending on their earnings and family history.

<sup>7</sup> Murphy and Welch (1998) have summarized this point as follows: “Our basic view is that many of the touted gains from privatization [of social security] are more apparent than real, and that any real gains have more to do with the details of what is done to the system [...] than with privatization per se.” Orszag and Stiglitz (2001) demonstrate that the fact that the return to investments in stocks and bonds exceeds the implicit rate of return of the public pension system does not imply that a privatized system will have a higher rate of return. Heller (1998) notes that: “.....the fact that social insurance schemes are financed by mandatory contributions and directly channeled to the private sector should not make any difference for assessing the macroeconomic implications of the stance of fiscal policy. The only difference would be in terms of the formal classification of the scheme within the private rather than the public sector.”

fiscal policy must offset the transitional deficit in part or in whole. Otherwise, no increase in the national saving rate will occur. The greater the desired increase in the saving rate, the greater must be the accompanying fiscal consolidation.

As discussed below, relaxing the assumptions of the fiscally neutral case can imply that fiscal tightening may be necessary simply to prevent a *decrease* in saving. For example, the appropriate amount of fiscal consolidation will be larger the greater is the expected return to contributions to the new system—since this would lower private saving—and the more the government's borrowing cost is affected by the increase in the deficit. In certain circumstances, the needed amount of consolidation could be lessened. This could be the case if the increase in the conventionally measured deficit—and more intensive public debate about pension financing—generates greater private saving, by stimulating public awareness about both the need to save for retirement and for the large future tax obligations that will be required to finance the implicit debt of the public pension scheme. The relative significance of each of these and other effects must be gauged on a case-by-case basis. A case-by-case approach will also be necessary given the need to take account of the special features of each country's pension reform—since its parameters will vary from country to country—and its economy.

The particular character of an individual accounts pension reform means that no simple general formula can be used to adjust the conventionally calculated deficit for the impact of reform. An approximation of the initial fiscal stimulus entailed by the reform in the first few post-reform years may, however, be derived *ex post* by subtracting the increase in private sector saving in the form of contributions to individual accounts that has taken place since the last pre-reform year from the unadjusted public sector deficit in a post-reform year (that is, reducing the absolute value of the deficit), and then comparing the result with the unadjusted deficit in the last pre-reform year. Making the counterfactual assumption that the balance of both the social security system and the rest of the public sector would not have changed in the absence of reform, the resulting adjusted deficit will be unchanged given the assumptions of the special case.<sup>8</sup>

## II. QUALIFICATIONS

The fiscally neutral case, although it is a useful benchmark, is not likely to apply to any given country. Certain features of an individual accounts reform could either increase or decrease the national saving rate, and thus warrant additional fiscal policy measures:

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<sup>8</sup> Of course, assessing the impact would not be as straightforward as suggested, given that one would be carrying out this analysis only several years after the shift in the pension regime, and with the need to adjust for any change in the economy's cyclical position that may also have affected the fiscal situation. The need to carry out such an assessment would be greatest at the time of the pension reform, when a government would wish to have some sense of whether there was a need for a compensatory change in the fiscal stance.



**A private sector financial rate of return higher than the implicit return of the old public pension system:** If the rate of return of the privatized system is higher than that of the public system, so that expected retirement benefits are higher with than without the reform, contributors would need to rely less on their own voluntary saving to finance their retirement. Consequently, private saving excluding saving in the form of contributions to individual accounts might decline. A similar effect would arise if participants viewed the privatized system as more secure than the public one, in the sense that they attached a higher probability to actually receiving their full pensions on retirement.<sup>9</sup> Additional fiscal consolidation could thus be necessary in these two cases. When the cost to the government of borrowing exceeds the implicit rate of return of the old public system, the conversion of implicit debt to explicit debt would effectively increase the burden of debt service, and, other things being equal, create a need to undertake a fiscal consolidation to limit the growth in the stock of public debt.<sup>10 11</sup>

**Change in the supply of explicit debt that affects the interest rate:** The issue of the debt that finances the additional deficit caused by the fall in payroll tax revenue is accompanied by an equivalent increase in the demand for financial assets. This matched increase in supply and demand takes place because the contributions going to the individual retirement accounts are assumed to be invested in financial assets like stocks and bonds. *If stocks and bonds are perfect substitutes*, the extra supply of government debt can be sold at the same rate of interest or expected rate of return.

*When financial assets are imperfect substitutes*, the potential impact of reform on interest rates will depend on how open the economy's capital markets are. *The more open the economy*, the less the likely impact on interest rates of an increase in public debt, since no significant change in interest rates will be necessary for foreign investors to take it up. The

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<sup>9</sup> Conceivably, a public system could be seen as more secure than a private one. In this case, reform could increase saving. If a conventional pension reform is undertaken to place an unsustainable system on a sustainable path, and involves an increase in contribution rates (with no increase in benefits) or a cut in benefits, then there could be a negative wealth effect that would increase saving. There would be no negative wealth effect, however, if the system's unsustainability had been fully discounted.

<sup>10</sup> The explicit debt resulting from the reform can have two components: the "recognition bonds" that represent the acquired rights earned by current contributors in the past; and the debt that is issued on an ongoing basis to replace lost payroll tax revenue. As discussed above, the payroll tax contributions can be considered as implicit debt because (unlike conventional taxes) they give rise to an obligation to repay (in the form of future benefits). In effect, the contributions would have earned interest at the implicit rate of return of the public system.

<sup>11</sup> Thus, the gains to the private sector (specifically, to individual account holders) of higher returns to their contributions are offset by the extra taxes needed to pay for the higher interest rate being paid on the debt issued to finance the decline in payroll tax revenues.

conversion of implicit to explicit debt could lead to an increase in interest rates if it prompts financial markets to reassess the level of sovereign risk. Sovereign risk could rise if financial markets believed that the conversion of implicit to explicit debt would increase a government's effective debt burden. The perceived burden of public sector debt might well increase in these circumstances, given that the terms of explicit debt, unlike implicit debt cannot be altered unilaterally without risking default.

For *economies that do not have access to international capital markets*, however, sales of additional debt in the market could lead to an increase in interest rates that would create a need for fiscal consolidation.<sup>12</sup> In other words, the demand for the government's explicit debt will not necessarily increase by as much as the supply, possibly necessitating a decline in the price of bonds to clear the market.

**Fiscal illusion:** If financial markets had not fully accounted for the value of the implicit debt of the pension system, making this debt explicit could have a recognition effect that could unsettle them, but at the same time make fiscal consolidation more palatable politically.<sup>13</sup> Complicating the assessment of the fiscal impact of converting implicit to explicit debt is the lack of agreement on the way the conversion should be done. Depending on the formula the government adopts to calculate the acquired rights of current contributors, the conversion may either increase or decrease the stock of the sum of explicit and implicit debt. For example, if the present value of past contributions were calculated using market interest rates rather than the (presumably lower) implicit rate of return on the PAYG system, the stock of explicit debt would exceed the stock of implicit debt.

The government's obligation to recognize the acquired rights of participants in the public pension system can also take the form of a guarantee on the minimum value of the pension a participant will receive under the new system. This approach does not create explicit debt in the form of a bond, although an appraisal of the public sector's financial position needs to take account of the contingent liability that the commitment entails.

**Lack of equivalence of implicit debt default risk with explicit (hard) debt default risk:** The consequences of changing the terms of or repudiating explicit debt are probably more serious than the consequences of changing the terms of implicit debt, as already noted. If this is the case, a conversion of implicit to explicit debt will increase a country's effective debt burden.

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<sup>12</sup> Similarly, if the pension fund is allowed to invest abroad, while the country has only limited access to international capital markets, interest rate increases might be necessary to stem capital flight.

<sup>13</sup> As the issue of unfunded pension liabilities attracts greater attention around the world, the risk of financial markets being caught off guard by the transition from implicit to explicit debt will likely decline.

It will be difficult to gauge the impact of this effect on either the stance of fiscal policy or debt dynamics, since it will be difficult to assess the degree of “hardness” of implicit debt. If the conditions of the fiscally neutral case were otherwise satisfied, and if the financial position of the public pension system had been sustainable, it might be safe to conclude that there would be no impact on the fiscal stance. On the other hand, the risk of default on the outstanding stock of debt, however large or small it was before the reform, could be larger, since the government would no longer have the option of changing the terms of the public pension system to alleviate a fiscal crisis. Consequently, conversion would normally increase real interest rates. Other things being equal, the fiscal stance would become more expansionary. Similarly, the reforming country’s debt dynamics would become less favorable. The significance of this effect would have to be assessed on a country-by-country basis. How great an issue it would be in practice would depend on the size of the pension system (roughly, the ratio of payroll taxes to GDP), and the political influence of contributors to the public pension system, among other influences.

In analyzing the hardness of implicit debt, it is important to distinguish between the conversion of acquired rights into recognition bonds or a promise to pay pensions, and the conversion of implicit to explicit debt that results when bonds are issued to make up for the drop in payroll tax revenue. The promise to pay workers the pension rights they have *already earned* may be considered more binding than the promise to pay future pensions *as they are earned*. For example, it may be easier to modify those provisions of a public pension system that apply to young workers than those applying to workers nearing retirement. Modifying the terms of the debt that is issued to replace the revenue generated by the payroll tax may entail a much higher loss for the credibility of the government, however.

**Impact of greater compliance:** If the public system suffers from widespread evasion, the switch from a defined benefit to a privately managed defined contribution scheme may increase contributors’ compliance. To the extent that the resulting increase in contributions is not offset by lower voluntary saving, a higher compliance rate will increase national saving. In practice, the difficulty of observing the savings behavior of contributors will make gauging the size of this effect problematic. However, full compliance may be discouraged by the presence of a minimum pension guarantee. This safety net feature may discourage the full participation of low-paid workers in the private system, since they may not believe that they will be able to accumulate enough funds in their accounts to obtain pensions that exceed the minimum.

**Efficiency gains:** The reduction or elimination in the distortions created by the payroll tax may boost labor supply and output and thereby increase saving, investment and growth. Feldstein (1996) argues that in the United States, the low implicit rate of return on social security contributions means that a significant part of these contributions (more than three quarters by his calculations) is really a tax, which discourages labor supply and distorts the

tradeoff between money wages and fringe benefits and amenities.<sup>14</sup> To the extent that a switch to a private, defined contribution system reduces the tax component of pension contributions, the distortionary impact of payroll taxes will be reduced. If the economy's potential output is increased, and actual output increases along with it, both public and private saving should also increase. A given deficit target can be achieved with a smaller package of discretionary measures (i.e. the size of necessary expenditure cuts and tax measures is reduced).

The possibility that these influences may on balance reduce saving means that even if the privatization was intended, say, only to further capital market development, there may still be a need for fiscal consolidation, to finance a part of the transition costs. By contrast, if the goal of the privatization is to increase significantly the national saving rate, this can *only* be achieved through some fiscal consolidation, with measures affecting either the non-pension public sector, or the existing pension system.<sup>15</sup> In view of the often excessively generous provisions of public pension schemes (concerning retirement ages and replacement rates), the latter approach is normally to be advised as a first alternative. Of course, a fiscal consolidation, with or without pension reform, could be expected to lead to an increase in national saving (in the absence of full Ricardian equivalence). The particular advantage of linking fiscal consolidation with pension privatization may be that by increasing the fiscal deficit as conventionally measured, privatization may make it easier to persuade the public of the need for expenditure economies or tax increases. The need for fiscal consolidation also raises the issue of who bears the brunt of these measures.<sup>16</sup>

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<sup>14</sup> Feldstein (1996) calculates that in 1995, the deadweight loss arising from the social security tax in the United States was equal to about 1 percent of GDP. Although this figure sounds high, it is worth remembering that it reflects not the elasticity of labor supply with respect to tax rates, which is typically considered to be small, but rather the elasticity of taxable income to tax rates, which depends not just on the elasticity of labor supply but also on the elasticity of non wage income.

<sup>15</sup> Fiscal consolidation may not be necessary if the contribution rate of the new system is set well above that of the old one, and if participation in the new system exceeds that of the old. In such a case, however, voluntary private saving may decline to compensate partially or fully for the decline in disposable income that results from the reform. The size of the decline will depend on the extent to which the compulsory saving scheme is viewed as a good substitute for private sector saving, and on whether capital markets are developed enough to allow individuals to borrow to maintain a desired level of consumption. The need for fiscal consolidation—even if it is given some other name—is clearly recognized by advocates of privatization in the United States such as Feldstein and Kotlikoff. They have also stressed the beneficial effects of reform on the labor market.

<sup>16</sup> If the privatized system includes a government guarantee of a minimum pension, it will be necessary to make allowance in the fiscal program for the expected cost of this guarantee.

### III. THE CASE OF BOLIVIA<sup>17</sup>

Bolivia's reform of its public pension system, in late 1996, aimed both at broadening the system's narrow coverage and at making a fundamental improvement to the system's finances. An increase in retirement ages to levels that would better reflect current life expectancies and work-lives was the key measure in achieving the latter objective. The reform replaced the existing defined-benefits system—comprising a basic, public pension scheme, and various complementary private schemes—with a privately managed, defined-contributions plan. The government assumed the pension liabilities of the complementary schemes, even though these were nominally private sector schemes, because a number were either running cash-flow deficits or were in actuarial disequilibrium.

The contribution rates under the old and new systems were not equal. Under the old system, the basic scheme collected contributions equal to 8.5 percent of wages, while the complementary plans collected contributions at different rates that averaged 6.3 percent of wages for a total of 14.8 percent. Under the new system, 10 percent of a worker's wages is deposited in individual accounts. The cost of the pension reform in 1998, defined as the increment in the sum of the government's lost recurrent pension-related revenues and increased expenditure between 1996, the last year of the old system, and 1998, was about 2.5 percent of GDP (see Table).<sup>18</sup>

**Table: Budgetary Cost of the Pension Reform, 1998  
(in percent of GDP)**

Additional early retirement pensions	0.4
Loss of private sector contributions	0.9
Government contributions to new plan	0.3
Loss of contributions to old complementary plans	0.9
Total cost	2.5

To understand the effect on aggregate saving of the increased public sector deficit following the pension reform, it is necessary to distinguish between those fiscal costs that are not automatically offset by an increase in private saving and those costs that are automatically offset, at least in part. The first type of cost was represented by increases in pension benefits arising from decisions, induced by the reform, of plan contributors to take early retirement. The cost of these pensions amounted to 0.4 percent of GDP in 1998. The second type of costs

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<sup>17</sup> This section draws on IMF (1997).

<sup>18</sup> The pension related deficit went from 1.2 percent of GDP in 1996 to a projected 4.0 percent of GDP in 1998. The latter includes retroactive benefits of about 0.3 percent of GDP.

contained three elements: (i) the loss of private contributions to the old public system (0.9 percent of GDP), (ii) the payment of the government's employer contribution to the new system (0.3 percent of GDP), and (iii) the loss of contributions to the old complementary plans (estimated at 0.9 percent of GDP)

The first two of these elements had directly observable impacts in the public sector accounts; the impact of the third is implicit in the assumption by the government of the pension obligations of the complementary schemes. Since these schemes were roughly in cash-flow balance in the aggregate in 1994 and 1995, the cost of honoring the pension obligations of the complementary funds (0.9 percent of GDP in 1998) can be taken as an approximation to the loss of their revenues, bringing the total loss of contribution revenues to 1.8 percent of GDP.

Since contribution rates under the new system are lower than the combined contribution rates of the old system, one could not assume that this loss would be fully compensated by increased private pension fund saving. Instead, private saving could be expected to rise by about 1.4 percent of GDP on account of the contributions to private pension funds made by workers and private employers migrating from the old system. The increase is more than the loss of private contributions to the old public system because the rate of the new system is higher than the old. In addition, the government's contribution as employer to the new system, projected at 0.3 percent of GDP, raised private pension funds saving to 1.7 percent of GDP.<sup>19</sup>

In sum, the recurrent costs directly associated with the privatization of the pension system were 2.5 percent of GDP in 1998, but the pension reform itself induced an automatic increase in private saving of about 1.7 percent of GDP.<sup>20</sup> This estimate assumes that the wealth effect and the recognition effects noted above would not, in and of themselves, affect private sector saving.<sup>21</sup> The basic reason that the private saving increase does not fully offset the budgetary impact is that the contribution rate of the new system is less than the combined rate of the old public system and the complementary system.

The net expansionary effect of the reform, estimated at about 0.8 percent of GDP in 1998 (1.1 percent including non-recurrent costs), would have caused a decline in aggregate saving in the absence of a significant fiscal adjustment. The authorities' fiscal plan for 1998

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<sup>19</sup> The government's full employer contribution to the new system—rather than its increase—is counted as a cost of the reform because its employer contribution to the old system is not included in the 0.9 percent of GDP of contribution revenues foregone.

<sup>20</sup> In addition to these costs, one-time expense of 0.3 percent of GDP was incurred, arising from a court-decreed increase in benefits retroactive to 1995 but paid in 1998.

<sup>21</sup> If participants in the complementary schemes had thought their pensions would never be paid, a positive wealth effect could result, which would lead to a decline in their saving.

included measures worth 2 percent of GDP, more than offsetting the net dissaving caused by the reform.

This calculation is an estimate of the short-run effect of pension reform on the fiscal stance. As such, it is able to disregard the impact of the pensions paid by the new system, as well as the effect of the expected increase in the coverage of the new system.<sup>22</sup> The number of pensions the new system pays will increase gradually. As their value grows, the value of the pensions paid by the old system declines, which helps to reduce the unadjusted public sector deficit. A measure of the adjusted deficit should net off the pensions paid by the new system against its contributions, since the increase in contributions alone will overstate the impact of reform on private sector saving.

Bolivia's reform sought a significant increase in the new system's coverage of the formal labor force, which would lead to a large increase in contributions. A part of this increase may result from the affiliation of workers who had not previously been contributing to the old system. As noted, what part of the increase in their contributions would be offset by a decline in other private saving is uncertain. In making the calculation of the adjusted deficit, the conservative assumption should be made that all of it was offset. A conservative estimate of the fiscal impact of pension reform would then exclude this part of the increase in contributions from the figure used to adjust the deficit.

#### IV. CONCLUSION

This paper has examined the impact on national saving and the fiscal accounts of the replacement of a public, pay-as-you-go pension system with a private, defined contribution system. Although the introduction of such a system will typically lead to an increase in the public sector borrowing requirement as social security contributions enter into the private system while the government remains responsible for making payments to current retirees (and, depending on the details of the reform, to current contributors who have earned pension rights under the previous system), this increase in the deficit should not necessarily be assumed to indicate a loosening of fiscal policy and a decline in national saving. Instead, the impact of the reform on national saving will depend to a great extent on its specific details and on the reaction of current workers to the new rules, which may be difficult to predict. What is clear, however, is that the simple conversion of a public pay-as-you-go system to a private defined contribution one is not a guaranteed path to higher national saving. In most cases, higher savings can only be assured by making the pension system less generous, either through higher contributions or lower benefits, whether in the context of a privatization or of a simple reform of the public system. Thus, the decision about whether to privatize or

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<sup>22</sup> The estimate does not adjust for the impact of the cycle. Unless the pension system was quite large in relation to GDP, the size of the adjustment made to the deficit to derive the fiscal impact of pension reform would not itself be particularly sensitive to cyclical variations in GDP.

overhaul a public pension system may ultimately have more to do with political and philosophical considerations than with economic ones.



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