A CRITICAL REVIEW OF SOCIAL INSURANCE ANALYSIS BY MULTILATERAL LENDING INSTITUTIONS

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Abstract:

This paper reviews the social insurance analysis of Multilateral Lending Institutions (MLI). It first describes a country's fiscal fundamentals. Consideration of how social insurance programs affect these fundamentals leads to the following conclusion: Social insurance programs cannot be meaningfully discussed in a vacuum, with little or no regard to the rest of the government's fiscal policies.

Unfortunately, MLIs analyze countries' social insurance policies in isolation. Consequently, MLIs fail to show the degree to which these programs are affecting fiscal fundamentals and are, as a result, ameliorating or exacerbating macro and microeconomic problems. The failure to discuss social insurance within a broader policy context means that the social insurance recommendations being provided may neither be affordable nor advisable.

Introduction

This paper criticizes conventional social insurance analysis by multilateral lending institutions (MLI). The critique is based on a significant sample of MLI social insurance studies in developing countries. There is much in these studies to praise, particularly given the data, time, and other limitations under which they were produced. But the purpose of this review is not to find merit, but rather to find fault – specifically, to identify shortcomings in MLI's social insurance analysis. Consequently, this review pleads guilty to being excessively critical.

The most striking feature of these studies is not what's in them, but rather what's left out. For the most part the studies analyze social insurance with little or no regard to the rest of the economy's fiscal programs. Consequently, they fail to show the degree to which social insurance programs are improving or exacerbating macro and microeconomic problems. The failure to discuss social insurance within a broader policy context means that the social insurance recommendations being provided may neither be affordable nor advisable.

There seem to be no basic principals guiding the setting of social insurance policy. Consequently, MLI's recommendations tend to be ad-hoc. In addition, they are often quite vague, expressed more in the form of wishes than precise instructions and concerned more with form than with substance. Furthermore, some of the economic analysis is either badly outdated or lacks a theoretical foundation.

The MLI social insurance studies fail to study empirically the nature and extent of risk pooling. Consequently, the MLIs have no empirical basis for determining which of the government's insurance functions should be expanded or contracted.

The studies often take average OECD behavior as a desirable goal in specifying policy changes, rather than as an example of how badly countries can end up. The absence of a set of appropriate principals for determining social insurance policy permits this developed world bias to be taken on faith.

These and other criticisms pertain to most, if not all, MLI social insurance studies. Rather than document these shortcomings on a case by case basis, this paper sets out a general framework for analyzing fiscal policy in general, and social insurance policy, in particular. It then uses this framework to point out, in general terms, a number of significant problems in the MLI approach.

Section I discusses the kinds of tools/modes of analysis needed to understand the fundamental aspects of an economy's fiscal policies and the role of social insurance in affecting these fundamentals. Part of this discussion concerns the sustainability of fiscal policies (including social insurance policies) and is centered around the government's intertemporal budget constraint. Part is based on understanding pre- and post-policy distributions of economic resources, and part is based on the determination of effective tax rates.

Section II focuses on the insurance aspect of social insurance. It examines those facets of social insurance which differentiate social insurance policies from other fiscal policies. The emphasis here is on 1) the pure insurance aspects of social insurance, 2) the economic arguments for government risk pooling, and 3) the need to design social insurance policies in light of existing formal and informal insurance arrangements.

Since MLIs appear to view the OECD as a proper role model when it comes to social insurance, Section III asks whether this is the case. It briefly examines how well social insurance is operating in one of the OECD countries, namely the United States, taking into account overall U.S. fiscal policy. The final section, IV, draws conclusions and makes recommendations.

I.   Fiscal Fundamentals and Social Insurance

There are four fundamental elements of fiscal policy. They involve the level and composition of government spending (purchases of goods and services), the distribution of fiscal burdens across and within generations, the structure of economic

incentives, and the government's pooling of economic risks. Social insurance policies typically incorporate each of these elements.

Consider, as an example, the provision to the public by the government of health care services. Assume these services are financed on a pay-as-you go basis by a proportional payroll tax levied on all earnings. Such a policy involves government spending, in this case, purchases of health care services from health care providers. It also involves intergenerational redistribution, in this case to generations who are retired at the time the program is initiated and away from generations coming behind them. The reason is that these start-up retired generations receive health care benefits for which they pay little or no payroll taxes. The policy also redistributes intragenerationally, namely from high to low earners within generations that are in their working years. Why? Because high earners make larger tax contributions, but receive the same medical services, assuming that the usage of medical services at a given age is independent of earnings. Furthermore, the policy reduces the incentive to work, because paying additional payroll taxes leads to no additional health care benefits. Finally, the health care pools health risks across the population. However, its method of risk pooling differs from that of a private health insurance market. For example, the health risks of smokers are pooled together with the health risks of non smokers.

Discerning the extent to which the four fiscal fundamentals are embodied in any given social insurance policy is generally not easy, and for good reason. Governments package their social insurance programs within particular institutional arrangements, not simply for administrative ease, but also to obfuscate the extent to which they spend, redistribute, distort incentives, and pool risks.

Take President Clinton's health care reform proposal. It goes to great length to hide the government's role in providing health care. The proposal calls for the establishment of quasi-governmental agencies, called health care alliances, to collect funds from the public to pay for health care. In setting up these institutions, the Clinton Administration seeks to convince the public that neither the level of government spending nor taxation will expand. Accordingly, the Administration has chosen its language carefully. For example, it uses the words "health insurance premia" rather than "taxes" to describe the proposed new payments by the public for health care services. But the Administration has no monopoly on the choice of language. The Congressional Budget Office has decided that the health care payments should be called "payroll contributions", and the Republican Party has choosen to translate this expression into the word "taxes."

Unfortunately, governments' choices of language as well as their institutional bundling of fiscal programs have been highly effective in leading the public, academics, as well as international lending institutions to compartmentalize their thinking about fiscal policy. Indeed, some MLIs, have organized their own research and analysis to comport with the institutional structure of the governments whose fiscal affairs they are evaluating. While there is significant interchange between these departments, there also appears to be "turf" considerations which preclude the kinds of comprehensive analyses of fiscal fundamentals that need to be done.

What Questions Need to be Asked About the Fiscal Fundamentals?

The following is a subset of the questions that need to be asked about any country's fiscal fundamentals. Their answers depend, either directly or indirectly, on the country's social insurance policies.

1) Is the trajectory of government spending affordable? Or does it imply that current or future generations will be forced to make unacceptably large net tax payments (taxes paid net of transfers payments received)?

2) Given the trajectory of government spending, are current generations projected to pay enough in net taxes to ensure that the net tax payments of future generations do not become unacceptably large?

3) Is the collective projected net tax payment of current generations equitably distributed across these generations?

4) Given the collective projected net tax payment of any particular generation, is that net tax payment equitably distributed among the generation's members?

5) How large are total effective marginal taxes on saving, labor supply, and working in the formal sector?

6) Given the country's revenue requirements, is there a more efficient tax structure than that currently in place?

7) How are different economic risks being diversified? Is the government doing what it can to improve the diversification of risk?

The Sustainability of Fiscal Policy

The first two of these questions relate to the sustainability of fiscal policy. Fiscal policy may be unsustainable either because the government's projected spending trajectory is too high to be covered by current and future generations collectively or because current generations aren't paying a large enough share of the net taxes needed to cover that spending.

The government's intertemporal budget (GIB) constrains the set of sustainable fiscal policies. As we'll see shortly, it also clarifies how social insurance policies influence fiscal sustainability. The constraint considers the value in the present of all the government's future expenditures. It also considers all the government's future tax proceeds that will be available to pay for these expenditures.

In words, the GIB says that the present value of the government's projected tax receipts (PVTAX) must cover the present value of its spending (PVSPEND) plus the present value of its transfer payments (PVTRAN) plus the current value of the government's net debt (liabilities minus assets) (DEBT); *i.e.*,

(1) $PVTAX = PVSPEND + PVTRAN + DEBT$

There are a number of points to make about the GIB. First, the value of the government's debt also equals the present value of its future interest and principal payments. Some of these interest and principal payments may be very far off in the future. Indeed, some may be infinitely far off. So the constraint doesn't imply that the debt needs to be retired by some future date after which interest and principal payments will be zero. Rather, it simply requires that, through time, the government meet its obligations to pay interest and principal on any debt that is outstanding.

Second, demographic projections enter into the calculation of PVTAX and PVTRAN. This is because the amounts of taxes and transfers to be paid and received by the public in the future depend on projected changes in the future size and age-composition of the population. PVSPEND may also depend on demographics to the

extent that the level of government spending depends on the size and age-composition of the population.

Third, technological change, productivity growth, and projected increases in labor force participation are some of the factors that need to be considered in projecting future taxes and transfers and, possibly, government spending. These factors will also affect estimates of PVTAX, PVSPEND, and PVTRAN.

Fourth, the GIB provides a comprehensive picture of the government's long-term finances. It includes the spending, taxes, transfers, other receipts and net debts of all levels and forms of government, including public enterprises. Taxes, by the way, should be understood to be inclusive of taxes on money balances associated with the government's printing of money.

Fifth, the GIB places the government's explicit liabilities (DEBT) on an equal footing with its implicit liabilities arising from its commitment to make promised transfer payments (PVTRAN). The fact that the GIB treats implicit and explicit obligations symmetrically should not be surprising given that the government's classification of its obligations as official or unofficial is inherently arbitrary (see Kotlikoff 1993).

Using the IBC to Assess Fiscal Sustainability

The GIB can be used to assess the sustainability of current policy. To do so, one needs to estimate each of the elements in the constraint under the assumption that current policy is maintained in future years. If the estimated value of the right-hand-side of the constraint exceeds that of the left-hand-side, current policy is unsustainable; *i.e.*, taxes need to be raised, spending needs to be cut, or transfer payments need to be reduced in order to achieve intertemporal budget balance.

If policy is unsustainable, the GIB can be used to compute the sizes of alternative adjustments that would be needed to attain budget balance. For example, one can calculate the percentage increase in PVTAX needed to satisfy the GIB, holding PVSPEND and PVTRAN constant. This would indicate the percentage increase in all taxes, which, if implemented immediately and maintained forever, would suffice to meet the government's projected future expenditure obligations[2]. As another example, one can calculate the percentage increase in a subset of taxes starting at a particular date in the future that would be needed to achieve the same increase in PVTAX. Calculations of this type can help policy makers distinguish feasible from infeasible fiscal adjustments. For example, one might learn that simply raising income rates to deal with the fiscal imbalance would require income tax rates that are prohibitively high and that fiscal balance necessitates also cutting spending or transfer payments.

Generational Accounting

One application of the GIB being used by the U.S., Italian, Norwegian, and Japanese governments is called generational accounting[3]. To understand generational accounting, rewrite the GIB as

(2) $PVTAXf - PVTRANf = PVSPEND + DEBT - (PVTAXc - PVTRANc)$,

where the superscripts f and c refer to future and current generations, respectively. In going from (1) to (2) we simply use the fact that PVTAX is the sum of PVTAXc and

PVTAXf, while PVTRAN is the sum of PVTRANc and PVTRANf. The left-hand side of (2) indicates that the present value of net tax payments of future generations must cover the government's bills that aren't paid by current generations; i.e., it says that paying for the government's bills is, generationally speaking, a zero sum game. Generational accounting assesses the degree of fiscal imbalance by comparing the collective net tax burden facing future generations with that facing current generations, again assuming their net tax payments are those implied by current policy.

In actual implementations of generational accounting (e.g., Budget of the United States Government Fiscal Year 1995) the fiscal burdens of future generations and that of the youngest current generation, namely newborns, are compared in terms of lifetime net tax rates. The lifetime net tax rate of future generations is calculated as the ratio of the present value of net taxes facing future generations (PVTAXf-PVTRANc) divided by the present value of the labor income future generations are projected to earn. The lifetime net tax rate of newborn generations is analogously defined as the present value of their net taxes divided by the present value of their projected lifetime labor income. Why compare future generations with newborns? The answer is that, as in the case of future generations, newborns have not yet paid any taxes or received any transfers; i.e., all their net taxes lie ahead of them. So there is no need to factor-in net taxes paid in the past[4].

Comparing the treatment of newborn and future generations in terms of the fraction of their lifetime labor incomes paid to the government, rather than the absolute amount, implicitly adopts the following norm of generational equity: Future generations should be expected to pay more in absolute terms than current generations if economic growth leaves them with higher lifetime incomes, but they should not be expected to pay a larger share of their lifetime incomes. From this perspective, a finding that future generations face higher lifetime net tax rates than current newborns implies both that the current stance of fiscal policy is generationally inequitable and that it is unsustainable.

Even if a particular path of fiscal policy is generationally equitable and sustainable in that future generations will face the same lifetime net tax rate as current generations, it may not be desirable. For example, the value of marginal government spending may be viewed as worth less than the marginal net taxes required to finance that spending. In this case the government has the option to simultaneously cut its spending and its net taxation of current or future generations. There are, however, limits to how much cuts in spending can be used to reduce the net tax rates of any particular generation. Once PVSPEND is reduced to zero, further reductions in the net taxes of one generation require increases in the net taxes of other generations assuming the government doesn't renege on its debt.

To summarize, generational accounting provides a framework for assessing the sustainability of fiscal policy, the degree to which fiscal policy is generationally equitable, and the constraints under which existing fiscal policy can be changed. Given these advantages, is generational accounting feasible in the case of most, if not all, countries who are being assisted by MLIs? The answer is definitely yes. Although the MLIs would have to assist LDCs to collect additional data to construct their generational accounts, such collection seems straightforward. Many developing countries have, by the way, large planning agencies and economic ministries that could assist in the requisite data collection.

Even in those countries in which collecting data as basic as the age composition of the population is impossible, generational accounting still provides the proper framework for organizing the discussion of alternative fiscal options. Take, as an example, a

country that is thinking about selling off its public enterprises and using the proceeds to make transfer payments to the public. Consideration of Equation (2) shows that this policy may end up expropriating future generations to the benefit of current ones. To see this note that the sale of the enterprises would simply convert real assets into financial assets, leaving DEBT in Equation (2) unchanged[5]. But the increase in transfer payments raises PVTRANc. Assuming PVTAXc and PVSPEND remain unchanged, this policy will raise the net tax payment of future generations (PVTAXf-PVTRANf). Effectively, the government is dissipating an asset that would otherwise be available to help defray the fiscal burden on future generations. Unfortunately, in the privatization fad now underway in both the developing and developed worlds, a number of countries appear to be engaged in precisely this policy.

Social Insurance and the GIB

How are social insurance programs recorded in the GIB? The answer depends, in part, on the nature of the program and, in part, on the government's fiscal classifications. Social security pension, survivor, and disability benefits are typically classified as transfer payments and hence could be included in PVTRAN. The same is true for family assistance allowances, unemployment benefits, welfare benefits, and veterans benefits.

Government-provided medical benefits might be classified as part of government spending and included in PVSPEND or as a transfer payment and included in PVTRAN. The U.S. government, for example, classifies its provision of health care to the elderly through its Medicare program as transfer payments even though Medicare directly pays health care providers for Medicare-qualified services they provide the elderly. Note that the choice of classifying government-provided medical benefits as spending and including the present value of this spending in PVSPEND versus classifying them as transfer payments and including their present value in PVTRAN makes no difference to the determination of whether the GIB is in balance. The choice would, however, make a potentially huge difference to one's appraisal of the finances of social insurance programs taken by themselves.

The taxes that governments choose to record as social insurance taxes would, of course, be included in PVTAX, but the distinction between taxes for social insurance programs and taxes for other programs is quite arbitrary. For example, consider a tax on labor income which taxes all labor income below, say, $20,000, at a 10 percent rate and all labor income earned in excess of $20,000 at a 20 percent rate. Now we might call this simply a "progressive labor income tax." Alternatively, we might call it a 10 percent "social security payroll tax" plus a "progressive labor income tax" which only taxes, at a 20 percent rate, income above $20,000. Note that the difference in classification makes no difference to the value of PVTAX or to the determination of whether the GIB is in balance. The reason is that the value of PVTAX depends on the total taxes collected, not on their composition (titles). The classification will, however, make all the difference in the world to the assessment of whether the social security system is "in trouble."

Does It Make Sense to Assess the Sustainability of Social Insurance Programs By Themselves?

The above examples of the arbitrary nature of classifying health care expenditures and tax payments, and countless others like them, teach us that it makes no sense to

consider the financing of particular social insurance programs by themselves. Indeed, in looking at the financing of particular social insurance or other government programs separately, there is nothing to keep one from crediting the same revenue as a source to pay for more than one program; *i.e.*, to double count or double classify the revenue.

Such double counting, by the way, is precisely what the U.S. government is now doing with respect to so-called "social security payroll taxes." On the one hand, the U.S. government is using the projected present value of these taxes to claim that the U.S. Social Security System is basically in long-term fiscal balance. On the other hand, the U.S. government is including the current excess of these revenues over social security outlays (the social security surplus) as part of its total receipts in calculating the "unified budget deficit." In so doing, the U.S. government is, in effect, claiming that it can use the social security surplus to finance its non social security expenditures[6].

Now, one might respond that checking whether the GIB is satisfied can be done without double counting while still separating those components that are classified as involving social insurance programs from those that are not. For example, the present value of those taxes classified as social insurance taxes can be compared with the present value of those transfer payments classified as social insurance transfer payments. The difference between these two numbers can then be added to the remaining components of the GIB to see if they produce overall budget balance. Certainly, there is nothing wrong with such a systematic step-by-step approach to examining the sustainability of fiscal policy as long as one 1) realizes that the division/classification of components of the GIB as "social insurance" and "non social insurance" is inherently arbitrary and 2) determines whether the separate components collectively satisfy the GIB.

Unfortunately, MLIs are generally oblivious to the fact that classifications of what are and are not social insurance taxes and transfer payments are matters of language, not economics. Worse yet, MLI social insurance analysis stops at the point of asking whether those taxes classified as social insurance taxes match (generally on a cash-flow basis) those transfer payments classified as social insurance transfers. In other words, MLIs never check whether the GIB is satisfied; they never ask whether the present value shortfall of classified social insurance taxes from classified social insurance transfers can be met by the present value of other taxes after subtracting other claims on those taxes, namely the present value of government spending, the value of government net debt, and the present value of transfer payments not classified as social insurance transfer payments.

Social Insurance and the Intergenerational Distribution of Resources

Another very serious problem with MLI social insurance analysis is that it generally focuses on the difference between the flows of aggregate social insurance taxes and transfer payments, not on who pays or receives them. In so doing, MLIs ignore perhaps the most important economic question associated with social insurance programs, namely to what extent are they contributing to the overall redistribution from future to current generations.

Such intergenerational redistribution has, by the way, grave consequences for a nation's rate of saving, investment, and growth[7]. The more of the government's bills that current generations leave future generations to pay, the more current generations will consume, and the less the nation will save[8]. If domestic investment is primarily

financed by domestic saving, the reduction in domestic saving will reduce domestic capital accumulation and growth in labor productivity. A slower rate of growth in labor productivity further harms future generations because they arrive in an economy with lower real wages than would otherwise be the case.

To understand why MLIs' typical mode of analysis misses intergenerational redistribution, take the case of a country, say and LDC, that has no other fiscal policy besides a pay-as-you-go social security system (or, to be more accurate, beyond a policy that is classified as a pay-as-you-go social security system); *i.e.*, assume PVSPEND and DEBT are both zero and PVTAX and PVTRAN equal simply the present value of social security payroll taxes and transfer payments, respectively. Let's suppose the country has stable demographics. Let's further suppose the country has relatively low levels of social security benefits, but is embarked on a policy to raise benefit levels to very high levels over time. Since the social security system operates on a pay-as-you-go basis, and since demographics aren't changing, raising benefit levels through time means raising the payroll tax rate.

Now, assuming that the requisite payroll tax increases are feasible, we have a scenario which MLI would apparently view as benign, namely one in which social security would not be running cash flow deficits. But this appraisal ignores the potentially huge fiscal burden the policy places on future generations. As Equation (2) helps us see, the policy involves a decrease in the net taxes of current generations and an increase in the net taxes of future generations. Specifically, PVTRANc rises by more than PVTAXc because current generations include current and near term retirees who will receive larger social security transfers without having to pay additional payroll taxes. In addition, PVTAXf rises by more than PVTRANf because future generations pay the higher payroll taxes relatively late in life[9]. So the net taxes facing future generations can rise dramatically, despite the fact that social security never runs a cash flow deficit.

MLI's preoccupation with cash-flow deficits (the growth of DEBT) presumably reflects, at least in part, their concern about the well being of future generations. But, as Equation (2) makes clear, these generations can be fiscally expropriated just as well by being forced to pay large implicit liabilities (PVTRANc-PVTAXc) as they can by being forced to pay large explicit liabilities (DEBT). Furthermore, the distinction between explicit and implicit debts is fundamentally one of language, not economics. Hence, in assessing the fiscal health of a social insurance program on the basis of its cash flow deficit, MLIs are, in fact, using a measure that has no intrinsic relationship to the concern being addressed.

To make this last point clear, consider again our hypothetical LDC with its growing pay-as-you-go social security system. Although MLIs would view this system as fiscally healthy, because its current and projected cash flow deficits are zero, this same policy could, through a simple change in language, be characterized as one producing massive deficits, which MLIs would view with great alarm. This would result from simply reclassifying workers' social security contributions as "loans" to the government, rather than as "payroll taxes." In exchange for these loans workers would be promised "return of principal plus interest" in their retirement years, where the interest rate would be set equal to the economy's growth rate. The stream of income from this return of principal plus interest would be identical to the benefit payments the workers would otherwise have received, *i.e.*, the benefit payments would simply be relabeled as "return of principal plus interest"[10]. The bottom line is that all cash-flows to individuals and the government would remain unchanged, but simply be called different things. But

this innocuous change in language would produce a projection of rising deficits through time and, presumably, lead MLIs to try to force a halt to the country's expansion of social security benefits.

By the way, Chile's privatization in the early 1980s of its social security system constituted, in large part, simply a decision to change along much the same lines as those just described. Specifically, Chile decided to make explicit its implicit liabilities to pay existing workers social security benefits in their retirement years. For these workers, the Chilean government replaced its implicit liabilities with explicit liabilities, called "recognition bonds." In terms of Equation (2) Chile's issuance of recognition bonds involved increasing DEBT by roughly the same amount as PVTRANc-PVTAXc was reduced, *i.e.*, it amounted to reclassifying a component of the present value of future net transfers to existing generations as explicit government debt. A second way in which Chile changed words was to transform workers' "payroll tax contributions" into "loans" to the government. Specifically, the reform redirected workers payroll contributions to private pension funds, but these private pension funds, in turn, used these funds to purchase government bonds. This additional government borrowing was used, over time, to meet social security benefit payments to initial retirees as well as to new retirees who had opted to remain in the old social security system.

Ignoring the onetime increase in the stock of official government debt associated with the creation of recognition bonds, the official flow deficit of the Chilean government increased in the early years of the reform by roughly 4 percent of GDP. Chile was running a primary surplus at this time of about 5.5 percent of GDP, so the primary surplus was reduced to about 1.5 percent of GDP. Apparently, the fact that the budget remained in primary surplus permitted MLIs to support the reform.

MLIs' preoccupation with fiscal language, as opposed to fiscal fundamentals, has serious implications. First, it provides governments wishing to expropriate future generations with wide latitude to do so provided they simply choose their language carefully. For example, a government that "borrows" to make transfer payments to the elderly and taxes, say workers' wages, to pay interest on the associated debt could simply make these transfers under the rubric of "pay-as-you-go social security." In this case, the gain to workers of not having to pay explicit taxes to cover interest on official government debt is precisely offset by their loss associated with receiving a lower than market rate of return on their social security contributions.

Second, MLIs' focus on words rather than fundamentals can lead it to oppose fiscal policies that would improve the intergenerational resource distribution. Consider an LDC with overly generous pay-as-you-go social security benefits. Suppose this LDC wishes to follow Chile's lead in privatizing its social security system, but also wants to use the cover of that privatization to, in effect, renege on some of its implicit commitments, if not to existing retirees, at least to near term retirees[11]. Although this reform would improve the net tax position of future generations, MLIs might well oppose it simply because the privatization would make explicit a set of liabilities that had heretofore been implicit.

Take the cases of Argentina and Bolivia, who are now seeking to privatize their social security systems and are also major recipients of loans from MLIs, the IMF, and other international lending institutions. If MLIs fail to appreciate that Chilean-type social security privatizations entail, for the most part, simply a swap of official for unofficial, but no less real, government liabilities, they may use their leverage to block these privatizations. This would be unfortunate because the privatization of social

security affords these countries the opportunities to improve the intergenerational and intergenerational distribution of resources, and, as discussed below, improve economic incentives and risk diversification.

Social Insurance and the Intragenerational Distribution of Resources

In many countries, social insurance policies appear to play an important role in redistributing resources across members of particular generations. The word "appear" applies here because of the basic point raised above that what is and is not classified as a social insurance policy is inherently arbitrary. Take the U.S. Old Age and Survivors Insurance System. OASI. OASI contains a so-called payroll tax which is assessed as a proportion of earnings up to a maximum amount. It also contains so-called retirement, dependent, and survivors benefits which are provided on a progressive basis based on contributors' past earnings. Now an analyst who wishes to understand OASI's treatment of different members of particular generations might be tempted to compare the present value of OASI payroll taxes net of OASI benefit payments. But in so doing, the analyst would be ignoring the fact that OASI benefits are taxed under the U.S. federal income tax on a progressive basis. Furthermore, the proceeds of this income taxation are provided to the OASI Trust Fund to help defray the costs of OASI benefits.

Now, how should an analyst trying to assess, say the progressivity of OASI across rich and poor members of a generation, deal with this federal income taxation of OASI benefits? Should she include or exclude these taxes in her analysis? The answer is that there is no answer. Either choice will produce an assessment of the progressivity of different, but equally arbitrarily selected components of the government's overall fiscal policy. Furthermore, even tax provisions, such as excise taxes, which are not currently classified as OASI taxes, could be so classified by the analyst, since there is no economic basis for not doing so. Inclusion of such taxes in the analysis of OASI's progressivity would, of course, generate yet another intrinsically uninformative set of results.

In short, just as there is no alternative to a comprehensive analysis of the sustainability of fiscal policy and of its generational implications, there is no alternative to a comprehensive analysis of the government's intragenerational distribution policy', one that includes all taxes, transfers, and, where appropriate, government spending[12]. Absent a comprehensive understanding of intragenerational distribution policy, policy makers are likely to try to introduce distributional considerations into each component of their countries' fiscal policies. Take U.S. policy. Although the federal and many state income taxes are progressive, U.S. policy makers have structured sales and excise taxes to limit the impact on the poor. They've also elected to calculate social security benefits on a progressive basis, to use a progressive earnings test to limit the receipt of social security benefits, and to subject, on a progressive basis, social security benefits received to federal income taxation. In addition, federal, state, and local governments provide a host of welfare benefits, including AFDC, food stamps, Medicaid, and general relief on a progressive basis. More recently, the federal government has increased the progressivity of its provision of Medicare benefits by eliminating the earnings ceiling on Medicare payroll tax contributions.

In setting these and a host of other policies, including rates of estate taxation, limitations on IRA contributions, and the taxation of unemployment benefits, policy makers have systematically failed to consider how adding each progressivity element would affect the overall intragenerational distribution of welfare. Indeed, they've generally analyzed the progressivity of each fiscal program by itself. Fortunately, recent

advances in comprehensive intragenerational distribution analysis (e.g., Fullerton and Rogers, 1993) are starting to put an end to this fiscal myopia. Such comprehensive intragenerational distributional analyses can and should be done for other countries as well.

Having available a clear set of intra- as well as intergenerational accounts is essential for engaging in a disciplined discussion of altering the government's distribution policy. Such a set of accounts reminds reformers of the zero-sum nature of most reforms, namely that there are losers as well as winners. Intra- and intergenerational accounting forces reformers to stipulate in precise terms how much they intend to harm certain groups in order to help others. Unfortunately, MLIs' concerns about income distribution are typically expressed in terms of vague statements such as "Urgent steps need to be taken to assist the poor." Such statements are generally made with no indication of the current distribution of resources, nor of how large the assistance should be, nor of which generations and which members within those generations should pay for the assistance.

Social Insurance and the Structure of Incentives

The point made repeatedly above that there is no economic basis upon which one can distinguish social insurance from non social insurance taxes and transfers applies with equal force when one is considering how so-called social insurance programs affect economic incentives, including incentives to work, either in the formal or informal sectors, and to save. But even assuming one could distinguish work and saving disincentives arising from those arising from non social insurance programs, why would one want to? As is well know, the size of economic distortions rises with the square of the total effective marginal tax applied to the activity in question. Hence, knowing that social insurance programs are producing, say a 20 percent effective marginal tax on labor supply, is by itself insufficient to determine the size of the distortions arising from the existence of these programs. The size of these programs' distortion will be one thing if the 20 percent tax is added on top of, say, a 10 percent effective marginal tax on labor supply arising from non social insurance policies; it is quite another thing if the 20 percent tax is added on top of, say, a 40 percent non social insurance effective marginal tax[13].

Unfortunately, MLI analysis often fails to specify even the effective marginal taxes arising from those policies that it demarcates as social insurance policies, let alone calculate total effective marginal taxes arising from all fiscal policies. Absent much sense of the size of existing distortions, MLIs finds themselves completely free to advocate imposing additional distortions. Again, having a set of baseline estimates of total effective marginal taxes on particular activities would provide a basis for analyzing the costs and benefits of reforms that change these disincentives.

II. **The Insurance Aspects of Social Insurance**

The previous section argued the futility of drawing fine lines between social insurance and non social insurance programs. It pointed out that so-called social insurance programs are fundamentally indistinguishable from so-called non social insurance programs in determining fiscal fundamentals. The attempt to draw these lines leads to bad policy and bad policy analysis. But the practice of classifying certain programs as social insurance is beneficial in one respect. It reminds us that

governments potentially have special roles to play in the area of insurance, i.e., in the pooling of risks.

As is well known, asymmetries in information, giving rise to adverse selection, imperfect monitoring, giving rise to moral hazard, and administration costs, giving rise to insurance loads, can result in partial or complete failures of private insurance markets. In such cases, governmental policies that directly or indirectly pool risks may, for the following reasons, be more efficient than either formal or informal private insurance arrangements. First, governments may be able to use compulsion to overcome adverse selection. Second, governments may have access to information, such as income tax records, that permit better monitoring of insurance arrangements and thereby reduce moral hazard. Third, governments may be able to economize on administrative costs, because they can piggy-back on their tax administrations in collecting insurance premia and distributing insurance benefits.

Paternalism is another rationale for government provision of insurance. If households are too myopic to consider bad future states of nature or if they under assess particular risks, government insurance may be required to keep these households from foolishly under insuring. A different reason for government insurance provision, which, by the way, effectively forces the public to purchase insurance, involves altruism. If society feels altruistic toward those who have bad luck and stands ready to make transfers (provide charity) to such unfortunates, a moral hazard problem will arise in which each member of society will privately under insure knowing he or she can rely on charity in the event of misfortune. This problem will be compounded if observing the true state of nature is difficult and if certain ex-ante unidentifiable members of society have a predilection to overstate their misfortune. As Kotlikoff (1989) points out, in this context a government program of forced insurance purchase may improve welfare particularly if the government is able, through its income tax and other records, to better assess each member of society's actual economic circumstances.

A final rationale for government risk pooling involves groups that have no ex-ante possibility of forming implicit or explicit insurance contracts. Examples of such groups include current and future generations, current residents and future immigrants, generations born in the short term and those born in the long term, and today's adults and today's children. None of these pairs of groups can write an enforceable contract today to share risks in the future. Now altruism between these pairs would lead them to share risks even in the absence of any ex-ante agreement to do so. But absent such altruism, the only way for the pairs to pool risks is through government policies.

Whether or not there are good grounds for government provision of insurance, governments of developed, as well as many developing, countries are certainly actively engaged in such provision. Take the U.S. government. It insures its citizens against unemployment through unemployment insurance, against disability through Social Security disability benefits, against excessive medical expenses through Medicare and Medicaid, against impoverishment through various welfare programs, against the early death of an income-generating spouse through Social Security survivor benefits, against one's own late death through Social Security retirement annuities, against loss of spousal support because of divorce by providing Social Security dependent and survivor benefits to divorced spouses, against fluctuating earnings through progressive federal and state income taxes, against natural disasters through federal disaster relief, and against economic downturns affecting current generations through its intergenerational redistribution policies.

Assessing the Need for Government Risk Pooling

Determining the extent of private risk pooling and, thus, the need for government risk pooling may be easier than is may commonly believed. The first step involves determining the principal risks facing households and considering the extent to which these risks are insured under formal private insurance contracts. For example, household surveys could be used to determine the amount of income that would be lost in the event of the death of the principal earner as well as the amount of life insurance held on the principal earner's life[14]. If the amount of life insurance on the earner's life is inadequate to maintain the living standard of potential survivors, investigators should explore whether the household has implicit forms of insurance on the earner's life. Implicit insurance refers here to informal agreements between relatives, friends, neighbors, members of the village, etc. to provide assistance in time of need.

As Kotlikoff and Spivak (1981) illustrate, even if the number of participants in informal arrangements is small, participants may still be able to pool risks among themselves to a significant extent. Moreover, implicit arrangements, particularly those among family members, are likely to be less susceptible to information and monitoring problems than are formal insurance arrangements. The reason is that participants in informal insurance markets typically have better information about one another and are better able to monitor each other's risky actions.

How does one determine if implicit arrangements exist? One way is simply to ask households how they would fare under particular contingencies; *i.e.*, Who would help them? How much would they receive? How certain are they of the help? How long would the help last? By how much would their living standard change? Another way to assess implicit insurance arrangements is to interview households that actually experienced particular adverse shocks, such as the death or disability of the principal earner. Such households could be asked to compare their living standard before and after the adverse shock and to describe the formal and informal sources of support they received. Alternatively, if one has panel data on consumption, one can take Cochran's (1991) approach and assess whether households experiencing particular shocks also experience declines in their living standards.

A third, more formal method of assessing risk sharing is to study comovements in the consumption of households who are alleged to be sharing risks. As Abel and Kotlikoff (1988), Townsend (1989), Altig and Miller (1990), Mace (1991), Altonji, Hayashi, and Kotlikoff (1992), Hayashi, Altonji, and Kotlikoff (1994), and others have pointed out, the consumption of households that pool risks should move together. The reason is that risk-sharing households make ex-ante agreements to share good and bad times in the future by basing their consumption on the realized value of their collective income. This proposition about risk sharing is quite general. It can be used to test risk sharing within the extended family, among households within the same village, among households in different villages, among households in different countries, among households sharing a common religion, among households of a common ethnic background, etc. In addition, as Ligon (1994) has shown, the tests may be modified to permit imperfect insurance arising in settings with asymmetric information.

Although these formal tests of risk sharing have only recently been developed, they have already been applied to two developing countries, India and Pakistan[15]. MLIs could certainly commission the surveys needed to study risk sharing, both formally and informally, in other developing countries. In the absence of such studies, MLIs have little basis for recommending either that existing social insurance institutions expand

their provision of insurance or that new social insurance institutions be established to provide additional types of insurance.

Such surveys could also be used to test for altruistic linkages among parties that, ex-ante, have no means of negotiating risk-sharing arrangements. As shown in Altonji, Hayashi, and Kotlikoff (1992), household data on consumption and income can be used to test for altruistic linkages among parents and children or, for that matter, among any other group of individuals. As mentioned above, a finding of strong altruistic linkages among individuals that can't contract ex-ante to share risks vitiates the need for the government to provide this risk sharing.

International Diversification

A particularly important area for MLI research is in the area of international risk diversification. Even without a formal analysis, it seems clear that many, if not most, developing economies could dramatically reduce the riskiness of their per capita incomes by making better use of international capital markets. For example, countries facing considerable variability in their terms of trade might be able to sell a portion of their exports forward in futures markets. Alternatively, they could diversify the composition of their exports. A third option is to sell off some of their domestic export industries and, for that matter, non export industries and use the proceeds to purchase financial assets abroad.

Take, as an example, Bolivia, which currently plans to sell a controlling interest in six of ii major state-owned enterprises. The likely purchasers here are foreign companies, and the sale proceeds are likely to range between \$1 billion and \$2 billion. Some, if not all, of the sale proceeds are to be used to help establish a fully funded Bolivian social security system in which each Bolivian would have an account.

The precise nature of the social security system is still to be determined. One option under consideration is the Chilean model in which each Bolivian would have his or her portion of the sale proceeds deposited in one of several pension funds. These pension funds would compete with each other, subject to substantial government regulation. One of these regulations would severely limit the share of the pension funds' portfolios that could be invested abroad.

A second, and much more sensible, option is to establish a single Bolivian pension fund whose managers would be instructed simply to hold the world portfolio. Under this option, each adult Bolivian would automatically find himself or herself with an internationally diversified portfolio of retirement assets. In addition, since there would be no competition between pension funds, involving costly advertising, and no churning of pension fund portfolios, Bolivia's funded social security system would avoid the extraordinarily high administrative expenses incurred by the Chilean system[16].

One question about this second option is whether it will alter Bolivia's current account. The answer, at least in the short run, is no. The sale of a portion of its enterprises to foreign interests will produce a capital inflow that will be exactly matched by the capital outflow associated with investing the sale proceeds abroad. Over time, this second option would likely greatly stimulate foreign portfolio and direct investment in Bolivia because it would provide a very strong signal to the international community that Bolivia is a highly open economy. Furthermore, Bolivia's investment abroad would represent an asset that could, potentially, be attached in the case a future Bolivian government considered expropriating foreigners' investments in Bolivia. This

effective collateral would provide foreign investors more protection in investing in Bolivia.

Potential Ramifications of Reducing Risks

Even were MLIs to have at their disposal the appropriate evidence on uninsured risks, they would have to think very carefully about the saving and demographic ramifications of policies it recommends to mitigate these risks. Take, as an example, Bolivia's proposed fully funded pension system. One of the decisions facing the Bolivian government is how to make benefit payments. Should the pension system make lump sum distributions to Bolivians when they reach the system's retirement age? Or should it make regular payments to each Bolivian until she or he dies, i.e., should it provide annuities?

Since annuities hedge the risk of the date of death, one might immediately conclude that annuity payments are preferable to lump sum distributions[17]. But the provision of annuity payments rather than lump sum distributions may mean higher levels of consumption and smaller bequests of retirees, leading to a dramatic decline in national saving[18].

The Bolivian government's provision of annuity insurance would also eliminate the potential need for children to provide this insurance on an informal basis to their parents[19]. As a consequence, Bolivian adults may rethink their decisions concerning the number of children they wish to sire. Of course, children, when they reach adulthood, can pool a variety of risks with their parents in addition to their parents' longevity risk. But the more insurance of this and other forms provided by the government or by formal insurance markets, the smaller may be parents' motivation for having children.

The fact that government insurance provision may affect national saving, fertility, and other economic and demographic variables does not, in itself, mean that such provision is unwarranted. Rather it means that additional policies may need to be recommended at the same time that government insurance is expanded in order to offset unintended consequences.

III. Are OECD Countries Setting Good Examples With Respect to Social Insurance Policy? The Case of the United States

As mentioned above, many MLI studies appear to view OECD social insurance policies as providing good examples for developing countries to follow. It may be instructive, then, to briefly review the fiscal and saving problems confronting one of these countries, the United States, since these problems primarily reflect changes in policies that are generally labelled as social insurance policies.

Social Insurance and the Sustainability of U.S. Fiscal Policy

As documented in the *Budget of the United States Government Fiscal Year 1995*, U.S. fiscal policy is on a trajectory, which, if maintained, threatens to bankrupt the next generation of Americans. To be precise, the net tax burden, measured in present value, facing future generations of Americans under current policy represents 82 percent of the present value of their projected labor income! This figure may be compared with the 36 percent lifetime net tax rate facing today's newborns under

current policy and the 24 percent lifetime net tax rate faced by generations born at the turn of the century.

Clearly, levying a net tax rate of 82 percent on future generations is infeasible. Hence, the striking imbalance between the 82 percent lifetime net tax rate of future generations and the 36 percent rate of current newborns is really telling us that current generations collectively will have to pay much higher net taxes than current law indicates. The question, indeed, is not whether current generations will have to pay more, but rather which generations among those now alive will be forced to do so. The longer fiscal adjustment is delayed, the more the adjustment will fall on today's and tomorrow's children, and the less it will fall on today's adults, particularly today's elderly. In terms of lifetime net tax rates, the less current adults pay, the higher will be the lifetime net tax rates that America's current and future children ultimately end up paying.

How did the U.S. reach the point that stabilizing the lifetime net tax of American children ad infinitum at rates of perhaps 50 to 60 percent may well be the the best that can be expected? Notwithstanding all the attention given to official U.S. budget deficits in recent years, the answer is not the accumulation of federal debt. True, the U.S. has run large official deficits for over a decade. And true, these deficits have raised the current value of official debt which enters into the calculation of the current imbalance in generational policy. But official federal debt is now a significantly smaller share of U.S. GDP than it was in the aftermath of World War II.

The real reason U.S. fiscal policy is in such dire straights can be traced to the expansion of its so-called pay-as-you-go social insurance policies. For well over four decades, the federal government has expanded social insurance transfer payments to the elderly and paid for them by levying higher and higher payroll taxes on young workers. At the end of the World War II, the social security payroll tax rate was less than 1 percent. Today it exceeds 15 percent. And given current projections of government health care spending, it could well reach 30 percent by the time today's infants enter the work force. Although current and future children can expect to receive some social insurance benefits, primarily at the end of their lives, in exchange for paying payroll taxes during their working years, these benefits have a much lower present value than do the taxes. As a result, the net taxes facing children rise whenever pay-as-you-go social security benefits are expanded.

Note that the systematic expropriation of younger American generations through the postwar expansion of social insurance programs occurred in a manner that would hardly have caught the attention of MLIs attention had they been asked to approve this course of U.S. fiscal policy. MLI social insurance analysis would have observed that U.S. social security taxes were sufficient to cover social security benefits and, therefore, posed no fiscal danger. And MLI budget analysis would have pointed out that the nation's social insurance programs weren't contributing to the budget deficit and were not, therefore, influencing the sustainability of fiscal policy.

Postwar U.S. Saving and Social Insurance Policies

In using social insurance programs to transfer ever larger sums from the young, who are in their saving years, to the old, who are in their dissaving years, the U.S. government has reduced U.S. national saving to historically unprecedented low levels. Since 1980, the U.S. has saved, on average, just 4 percent of its net national product per year. Since 1990, it has saved less than 3 percent of net product per year. These figures

may be compared with the 9 percent saving rate registered in the 50s and 60s and the 8 percent rate observed in the '70s.

U.S. consumer expenditure surveys and related data show that it is the U.S. elderly, the recipients of enormous social insurance transfers, whose increased consumption accounts for most of the decline in national saving[20]. Twenty years ago, 70 year-olds consumed, on average, less than two-thirds the amount of 30-year-olds. Today, they consume about 15 percent more[21].

U.S. social insurance policies have not only permitted America's elderly to consume more because of what economists call income effects –the windfalls these generations have received at the cost of higher net taxes to young and future generations–, but also because these policies have dramatically annuitized America's elderly – transformed their old age resources from net wealth to annuity payments. As described above, even if America's elderly had, in recent decades, simply received in old age their own past social security contributions with interest, the fact that the payments would have been made in the form of annuity payments, rather than as single lump sum payments, is critical. It means that the elderly received insurance against living longer than expected and were able, as a result, to consume at a higher rate without worrying about running out of income if they lived too long.

As Auerbach, Kotlikoff, and Weil (1993) and Auerbach, et al. (1994) document, postwar U.S. social insurance programs, coupled with the postwar expansion of private pensions, has increased the share of the elderly's resources that are annuitized by a factor of two for males and five for older females. Absent this increased annuitization, current U.S. bequests would be an estimated two-fifths larger than their actual value.

In combination, the windfall transfers to, and increased annuitization of, the elderly, both of which resulted primarily from the expansion of U.S. social insurance programs, appear to have reduced U.S. national saving by more than half. The decline in U.S. saving has reduced U.S. domestic investment, which has meant slower growth in capital per worker and, consequently, slower growth in labor productivity and real wages. Indeed, last year, U.S. net domestic investment totaled only 3.9 percent of net output, compared with 8 percent in the 50s, 60s, and 70s. Moreover, since 1970 U.S. real wages per hour, including fringe benefits, have grown at only 0.7 percent per year, much less that the 3.1 percent annual growth rate recorded between 1950 and 1970.

Social Insurance and U.S. Effective Marginal Labor Income Tax Rates

In addition to dramatically reducing U.S. saving and investment and threatening to virtually bankrupt the next generation, postwar U.S. social insurance policies have contributed to the very high levels of effective marginal labor income taxation facing most Americans. Here are some examples:

The U.S. social security payroll tax now exceeds 15 percent. Since most workers don't understand the complex linkage between their payroll tax contributions and their future social security benefits, most may simply add the full 15 percent payroll tax to other marginal taxes on labor earnings in determining their total effective marginal labor income tax.

The social security earnings test confronts elderly recipients of social security benefits with a 50 cent loss of social security benefits on each dollar earned above a specific amount. Although there is a complex "recomputation" formula which compensates older workers facing the social security earnings test by

providing higher benefits in future years, most elderly social security recipients appear to have no knowledge of this formula[22].

Low income workers who qualify for Medicaid lose Medicaid eligibility for themselves and their families if they earn even trivial sums above the Medicaid earnings limit.

Welfare recipients typically stand to lose most of each dollar earned in reduced cash benefits, food stamps, and housing benefits.

The earned income tax credit subsidizes the labor earnings of workers with very low earnings. But once these workers beginning earning amounts above a specified, but still modest level, they lose 18 cents of their earned income tax credit on each dollar earned. This 18 cent tax per dollar earned affects much of the lower third of the earnings distribution.

These and other implicit taxes on labor earnings arising from U.S. so-called social insurance programs, when combined with the marginal taxes of so-called non social insurance fiscal programs, leave virtually all Americans in very high marginal tax brackets. Here are some examples that ignore Medicaid's and social security's earnings tests:

Americans with very low earnings face a roughly 60 percent effective marginal labor income tax rate once one combines the earnings testing of their non social security welfare benefits, the earned income tax credit (which represents a marginal subsidy for very low earners), and the social security payroll tax.

Americans with low earnings of, say $20,000 per year, lose, on each dollar earned, 18 cents of their family's earned income tax credit, about 15 cents in payroll taxes, 15 cents in federal income taxes, and, if they live in a state with an income tax, roughly 5 cents in state income taxes. Their total effective marginal tax rate thus ends up exceeding 50 percent.

Americans with moderate earnings of, say, $50,000 per year, lose, on each dollar earned, about 15 cents in payroll taxes, 28 cents in federal income taxes, and, if they live in a state with an income tax, roughly 5 cents in state income taxes. Their marginal tax rate is, thus, almost 50 percent[23].

Americans with high earnings, above, say $200,000, lose, on each dollar earned, about 3 cents in payroll taxes, 36 cents in federal income taxes, and, if they live in a state with an income tax, roughly 5 cents in state income taxes. Their combined marginal tax rate is also close to 50 percent[24].

As if these marginal tax rates weren't high enough, the current proposed expansion of U.S. social insurance, in the form of universal health insurance, promises to raise them even further. If the Clinton administration's health reform proposal is adopted, most American workers will face an extra marginal tax ranging from 7 to 11 percentage points. Under Representative Cooper's plan, the principal alternative to the Clinton proposal, the marginal tax increase on most moderate and high earners will be much lower, but that for low earners will be much higher. The reason is that the Cooper plan provides a large subsidy to low earners to help them meet their required health insurance payment/tax, but reduces this subsidy by 48 cents per dollar after a certain level of earnings. Consequently, the Cooper plan would leave an American earning $20,000 facing a combined effective marginal tax rate on labor earnings of over 100 percent.

What Does the U.S. Experience Teach Us About Social Insurance Policy?

One could extend the above list of complains about the operation of social insurance in the United States to include, among others, saving disincentives, disincentives from working in the formal sector, capricious intragenerational redistribution, the discriminatory taxation of primary earners (primarily males) versus secondary earners (primarily females), the breakup of low income families through welfare regulations, and the subsidization of births by unwed mothers. But the above discussion should suffice to make the case that U.S. social insurance programs, for all the good they have done, and they certainly have done considerable good, have contributed to a host of U.S. economic and social problems that developing countries might better do without.

IV. Conclusions

The fact that social insurance policies are fundamentally indistinguishable from other fiscal policies leads inexorably to the conclusion that their impact on the economy cannot be understood in isolation. The damage done to a nation's saving and investment from the expansion of a "pay-as-you-go" social security system may be tolerable if it occurs in the presence of otherwise intergenerationally prudent fiscal policy, but intolerable if the rest of fiscal policy is placing huge burdens on young and future generations. Raising family assistance allowances to redistribute income between the rich and poor may be a great idea in the absence of a steeply progressive income tax, but a terrible idea in its presence. The distortion of work incentives of the elderly arising from social security earnings tests is one thing if there are no other distortions; it is another thing entirely if the elderly are already facing sky-high payroll taxes, payment of which leads to no additional benefits.

This argument leads naturally to the conclusion that MLIs should do inter- and intragenerational accounting on a comprehensive and ongoing basis and that these analyses should be complemented with a comprehensive and ongoing statement of the total effective marginal taxes facing different households for engaging in different economic activities. Any reform proposal should be scrutinized, in the first instance, in terms of how it affects the sustainability of fiscal policy, the inter- and intragenerational distribution of resources, and the constellation of incentives. If the proposal's objective is to improve risk sharing, the need for increased risk pooling should also be documented.

Complying with these recommendations will require the pooling together of data and human resources across different departments of MLIs. It will also require, in many cases, significant data collection in member countries. In the short run, MLIs should target a small number of countries for the production of these fiscal indicators. They should also organize a special inter-MLI teams to prepare these analyses on a uniform basis for the targeted countries. Uniformity in the method of producing these fiscal indicators is important. It will provide MLIs with a means of comparing the fiscal solvency, inter- and intragenerational equity, and distortions of alternative countries' fiscal affairs.

Notes:

1 In the case the government is receiving, or is expecting to receive, aid from international organizations and foreign countries, the present value of this aid needs to be added to the left-hand-side of (1).

2 This is a partial equilibrium statement. It ignores the impact that higher tax rates might have on the country's growth performance and, as a result, its future tax bases.

3 See Kotlikoff (1992), Auerbach, Gokhale, and Kotlikoff (1994), Office of Management and Budget (1994), Franco et al. (1991), and Auerbach et al. (1993).

4 In U.S. applications of generational accounting, lifetime net tax rates for generations born in past years back through 1900 have also been computed. These net tax rates combine information on actual taxes paid and transfer payments received in past years as well as projections of future tax payments and transfer receipts.

5 This abstracts from the question of whether the public enterprises are being properly managed by the government; i.e., whether their values in the hands of the government are the same as in private hands.

6 The concern with double counting the Social Security surplus appears to underly the U.S. Congress's resolution in 1990 to exclude the Social Security surplus from the federal deficit. Congress' resolve was, however, short lived. By the time of the 1992 election, both Republican and Democratic incumbents were routinely including the Social Security surplus in discussing the size of "the" deficit, because a smaller deficit was politically more palatable.

7 Auerbach and Kotlikoff (1987) provide a detailed analysis of the growth effects of intergenerational redistribution.

8 This assumes that older generations are not, at the margin, altruistic toward future generations. If they were, they would arrange to transfer their net tax break to young and future generations in the form of bequests and intervivos gifts. There is strong evidence against such intergenerational altruism in the case of the U.S. (see, for example, Altonji, Hayashi, and Kotlikoff 1992 and Abel and Kotlikoff 1994), but the degree of intergenerational altruism in LDCs remains unclear.

9 This statement incorporates the assumption underlying the GIB that the economy's growth rate is less than the marginal product of its capital, which is the discount rate used to form the present values of taxes and transfer.

10 The interest rate paid on the loans could, alternatively, be set equal to the market rate of interest. In this case the government would need to tax away the difference between the value of the loans accumulated at the market interest rate and their value accumulated at eht economy's growth rate. This additional tax could be labeled an "old age tax" and be levied at the time the workers received repayment of their loans. The net stream of income from the return of principal plus interest less the old age tax would be indentical to the beneficiat payments the workers would otherwise have received.

11 Diamond and Valdes-Prieto (1994) provide an excellent review and critique of the Chilean reform.

12 Obviously, direct government spending on behalf of individuals, such as the government's provision of medical care, should be included in a proper intra- or intergenerational distributional analysis. In the case of spending on public goods, it is, of course, difficult to ascertain the value of these goods to particular individuals. But a proper distributional analysis should at least consider whether the government's provision of public goods could alter distributional conclusions reached ignoring such goods.

13 If the non social insurance effective marginal tax on labor supply is 10 percent, adding a 20 percent social insurance tax will increase total labor supply distortion by a factor of roughly 9. If the non social insurance effective marginal tax can labor suply is 40 percent, adding a 20 percent social insurance tax will increase total labor supply distortion by a factor of roughly 2.

14 Auerbach and Kotlikoff (1987) and Auerbach and Kotlikoff (1991) are examples of studies of the adequacy of life insurance.

15 Townsend (1989) and Ligon (1994) examine risk sharing among villages in India and Gillani (1993) considers risk sharing within and across villages in Pakistan.

16 Diamond and Valdes-Prieto (1994) document the size of these administrative expenses.

17 In considering the merits of annuities over lump sum distributions one would first want to first understand the extent of family and other implicit insurance arrangements against life span uncertainty.

18 For a theoretical and simulation analysis of the impact of annuitization on national saving see Kotlikoff, Shoven, and Spivak (1990).

19 Again, whether or not this insurance is being provided could and should be examined empirically.

20 See Gokhale, Kotlikoff, and Sabelhaus (forthcoming 1994).

21 This increase in the relative and absolute consumption of American elderly and the associated decline in the U.S. saving rate add to the strong evidence, presented in Abel and Kotlikoff (1988) and Altonji, Hayashi, and Kotlikoff (1992), that older American generations are altruistically linked to younger ones and can, therefore, be counted upon to insulate them against government programs having unfavorable intergenerational effects.

22 If older workers really understood benefit recomputation, they would not, to the extent they now do, arrange their working hours so as to earn amounts that lie just bellow the social security earnings ceiling.

23 Indeed, it can easily exceed 50 percent were one to take account of the phase-out of income tax deductions and exemptions that raise effective marginal federal income tax rates above their statutory values.

24 Ibid.

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