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# Workshop

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## **Sustainable Ageing Societies: Indicators for Effective Policy-Making**

### **Thematic session 2**

Sustainability of social security schemes  
and pension systems

Madrid, Spain, 14-16 April 2004

### **Fiscal Relativity -- The Need to Use Label-Free Measures of Fiscal Sustainability**

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April, 2004

### **Fiscal Relativity – In Search of Meaningful Long-term Fiscal Indicators**

Like the U.S. and Japan, the EU is getting older. By the middle of this century, the EU will have enough elderly to fill up most of its major cities and enough people over 85 to fill up its largest cities. Imagine walking around London, Paris, Madrid, Rome, or Berlin and seeing no one younger than 85!

This projected aging is due, of course, to the EU's remarkable and apparently permanent baby bust and its ongoing increase in longevity. In some EU states fertility rates are so low that deaths will soon outnumber births. The list here includes Germany, Spain, and Italy. The projected depopulations of these nations over this century are quite startling and would be even more remarkable were immigration to be reduced – a policy that could shortly be adopted.

The dramatic aging of EU societies portends enormous fiscal stresses as the costs of paying pension and health care benefits promised to the elderly require ever higher payments from workers. These projected payments are so high that collecting them may not, in fact, be feasible, either economically or politically. Indeed, it's no exaggeration to say that the costs associated with the coming generational storm will bankrupt most EU-member states unless major and painful adjustments are made now.

Bankruptcy is a strong word, but entirely appropriate in this context. When countries go bankrupt, they stop paying what they owe. This may or may not entail formal default on official liabilities since printing money to pay a nation's bills achieves implicit default not just with respect to official nominal liabilities, but also with respect to all government expenditure obligations whose nominal values are not indexed to the price level.

Although national bankruptcies don't occur every day, they are hardly rare. Argentina is the latest example of national default. Russia is the most prominent and most recent prior example. Before Russia there was Bulgaria and other countries in Eastern Europe. In the 1970s, Israel and Bolivia, took their turn at printing money to pay their bills. Going back further in time, there are the notable hyperinflations of Germany and Austria. Indeed, governments have engaged in official and unofficial default since at least the time of Rome's Emperor Diocletian who ran what may well have been the mother of all hyperinflations.

Accurately assessing the true size of long-term fiscal imbalances of a nation provides an early warning system of explicit or implicit default. It also indicates the magnitude of the adjustments needed to preclude default. Unfortunately, the main indicator of fiscal imbalance used throughout the EU and by the European Commission itself is the annual

deficit – the difference between annual expenditures (government purchases and transfer payments) and taxes and non-tax receipts. The use of the deficit is not simply a matter of habit. It was enshrined in the European Monetary Union’s Maastricht Treaty’s fiscal responsibility act. This act limits entry to the Union to countries whose deficits are less than 3 percent of GDP and imposes hypothetical penalties on EMU-member nations that violate this limit. I say hypothetical because the Treaty permits exemptions from the deficit limit that, to date, appear more the rule than the exception.

Unfortunately, none of the signatories to the Maastricht Treaty bothered to ask what the deficit actually measures. Instead, the signatories took it for granted that the deficit was a well-defined economic concept and a true indicator of the sustainability of country’s fiscal finances. Nothing could be further from the truth. In fact the deficit and its associated cumulate – the debt – are, economically speaking, content free. The reason is that there is nothing in economic theory that tells us whether the receipt by an EU-member government of any given Euro should be called (labeled) a “tax” or “borrowing.” Nor is there anything in the theory that can tell us whether the payment by an EU-member government of any given Euro to any given economic actor should be called (labeled) a “transfer payment” or “debt repayment.” Thus, when the EU proclaimed that the difference between expenditures and taxes in a given year – the deficit – should be limited to 3 percent of GDP, the EU failed to ask itself whether there was any economic basis for distinguishing “expenditures” from “debt repayment” or “taxes” from “borrowing.”

An example may help make this concrete. This year the U.S. federal deficit is projected to total roughly \$500 billion. But were we to label this year’s receipts of social security contributions as government “borrowing” rather than as “taxes” and label the future payments associated with these contributions as “return of principal plus interest less an old-age tax” rather than as “transfer payments,” the U.S. deficit would almost triple.<sup>1</sup> This alternative labeling is no less economic than the official one. And since each of us is free to choose his or her own language, there is no economic reason to prefer a measure one of these deficit numbers over the other. Each is equally valid in terms of nomenclature, and each is equally meaningless in terms of economics.

As demonstrated in Kotlikoff (2002)<sup>2</sup>, the inclusion of real world factors, such as uncertainty, lack of full information, time inconsistency, liquidity constraints, and distortions does not change the fact that the deficit is a product of language, not a feature of policy. Indeed, the variables in the equations of any neoclassical economic model can be labeled in an infinite number of ways, with each labeling generating its own current, historic, and projected future path of deficits.

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<sup>1</sup> Note that the “old-age tax” would equal the difference between the actual payment and what would constitute interest on the “loan” given prevailing interest rates.

<sup>2</sup> Kotlikoff, Laurence, 2002. *Generational Policy*. The Cairoli Lectures, Cambridge, MA: MIT Press.

The restriction that the model be neoclassical refers to the requirement that the model's agents are rational, so that mere changes in words/language would make no difference to their economic choices or to the economic institutions they construct.

Yes, the assumption of rationality is extremely strong. But without this assumption, economic science becomes vacuous; irrational agents can be assumed to be crazy enough to deliver whatever economic behavior the model's architect desires. This is why most economists are loath to abandon rationality. Even today's behavioral economists posit rational split personalities fighting it out over current and future consumption decisions. And these economists would be chagrined to specify economic models whose predictions differed on the basis of language, such as whether the agents were assumed to speak French rather than English.

Because the labeling of government receipts and payments is entirely arbitrary, EU countries are free to choose labels that generate whatever time path of deficits or surpluses they wish to report, regardless of the true nature of their underlying fiscal policy. Thus, they can announce huge surpluses precisely when they are engaging in the most fiscally irresponsible policies, and they can announce huge deficits when their policies are fiscally most conservative.

The public got some insight into this license to define the deficit in the run-up to the introduction of the Euro in which several key countries appeared to be making cosmetic, rather than real adjustments, to meet Maastricht's deficit limit. But those manipulations were generally viewed as isolated abuses of a fundamentally sound fiscal metric. Unfortunately, nothing could be further from the truth. Those manipulations (e.g., France selling the assets and retaining the long-term liabilities of state enterprises) were, in essence, simply changes in the labeling of receipts and payments. And the fact that a change in words, not actions, could, from one second to the next, generate a different picture of a nation's fiscal finances should have made clear that there is, indeed, no unique way to label receipts and payments and therefore, no unique measure of the deficit.

Use of "the" deficit not only tells us nothing about the stance of current policy. It also tells us nothing about policy changes. The reason is that no one can say whether changes in the deficit are arising from true changes in fiscal policy or simply a change in labeling conventions. Thus, the famous/infamous Bush tax cuts, which have increased the official U.S. federal deficit, can be viewed as a pure change in labels under which the government called more current receipts from the private sector "borrowing" rather than "taxes," and will call more future receipts "taxes."

### ***Fiscal Relativity***

I refer to this problem as *fiscal relativity*, since the perception, actually misperception, of a country's fiscal position depends on the beholder's reference point, by which I mean language. Since each and every Euro a member country takes in or hands out can be

labeled however one wants and since one can freely change labels over time, there is literally an unlimited number of equally valid and equally useless time series of deficits waiting to be defined. The fact that the government declares its deficit figures to be “official” doesn’t provide this emperor with any clothes or particular economic significance.

The reason the stock of government debt and its changes over time is not a well-defined economic measure is that it doesn’t provide the answer to an economic question. An example of an economic measure that does fit this criterion is Gross Domestic Product, which answers the question: “What is the value of all final goods and services produced by an economy in a given year?”

Compare that question with the question: “What are a country’s official liabilities?” Although the word “liabilities” has economic content, the word “official” does not. It’s a legal or accounting categorization, not an economic one. And from an economics perspective, there is nothing sacrosanct about this categorization, i.e., each of us is free to make up our own definition of “official liabilities.”

In addition to realizing that the size of total “official” net liabilities is entirely arbitrary, we need to realize that any allocation of official debts and assets to particular programs is entirely arbitrary. Thus, in the U.S. context we see an endless debate about whether the Social Security Trust Fund should or should not be included in assessing Social Security’s long-term underfunding. The answer is that there is no answer. Either practice is equally valid and equally meaningless. If some Americans want to claim that Social Security is in great shape, but that the rest of the nation’s finances are in terrible shape and if other Americans want to say that Social Security is in terrible share and the rest of the nation’s finances are in ok shape, no one can stop them. But no one should mistake these assertions for anything but mindless babble.

### ***Generational Accounting***

In contrast to “official” debt, *generational accounting* poses and answers an economic question, namely “What is the net tax burden facing future generations assuming current generations pay no more in net taxes than current policy suggests.” Net tax refers to the actuarial present value of all future taxes minus all future transfer payments.

This question can be understood by referring to the following formulation of the government’s intertemporal budget constraint:

$$A = C + D - B,$$

where A refers to the present actuarial value of net tax payment of future generations, B refers to the present actuarial value of net tax payments of current generations, C refers to the present value of government purchases, and D refers to official net liabilities.

Given any labeling convention,  $C + D$  can be viewed as the government's bills and  $B$  can be viewed as the amount of those bills to be paid by current generations. The value of the difference  $D - B$  is invariant to labeling conventions, but the absolute sizes of  $D$  and  $B$  are not. Since  $C$  is a well defined measure and  $D - B$ , which represents the sum of explicit plus implicit debt, is also well defined, their sum,  $A$ , is itself well-defined. So different choices of labels will increase or decrease  $D$  and  $B$  by the same amount, but leave  $A$  unchanged. Stated differently, one can use any labeling convention one wants and one will still arrive at the same measure of the collective fiscal burden facing future generations. Consequently, generational accounting makes full use of "official" government statistics in determining the size of  $A$ .

Once one has calculated the size of  $A$ , one can a) determine the lifetime net tax burden facing individual future generations assuming each pays the same lifetime net taxes on a growth-adjusted basis and b) compare the so-derived growth-adjusted lifetime net tax burden of future generations with that of current newborns. This comparison is label-free because the lifetime net tax burden of newborns is the same regardless of the choice of labels.

If one finds that the growth-adjusted lifetime net tax burden facing future generations is larger than that facing newborns, generational policy is referred to as imbalanced. If the burden facing future generations is larger than those generations can handle, fiscal policy is deemed to both generationally imbalanced and economically unsustainable.

### ***The Fiscal Gap***

The *fiscal gap* is a closely related measure of long-term fiscal imbalances. The equation used to determine the fiscal gap,  $G$ , is given by

$$G = C + D - B - A^*,$$

Where  $A^*$  references the net tax burden that would face future were there no generational imbalance, i.e., were future generations to face the same lifetime net tax bill as current newborns after adjusting for growth.

Like the imbalance in generational policy, the fiscal gap is a label-free and well defined measure of a nation's long-term fiscal problem.

### ***Conclusion***

Economic projections and measurement have now reached the point where countries can easily do generational accounting and fiscal gap analysis. And many countries around the world are doing precisely that. Nonetheless, the deficit still dominates policy discussions and is, therefore, still focusing far too much fiscal policy attention on numbers with no meaning.