

# FOREIGN AFFAIRS

MARCH/APRIL 2000



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Volume 79 • Number 2

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# The Degeneration of EMU

*Niall Ferguson and Laurence J. Kotlikoff*

## HERE TODAY, GONE TOMORROW

FROM CONCEPTION through gestation and birth, and now in its early infancy, the euro has consistently proved the skeptics wrong. Some Cassandras thought that Brussels-bashing nationalists would reject the single currency in referendums. Others doubted that Italy and other fiscally troubled applicants would fulfill the Maastricht Treaty's strict limits on budget deficits and national debt. Still others predicted that the fierce 1998 dispute over the presidency of the European Central Bank might abort the entire enterprise.

Yet economic and monetary union (EMU) has proceeded more or less according to plan. The French referendum's "petit oui" in 1992 may have required a little gentle massaging; the Maastricht fiscal criteria may have been honored partly in the breach; and of course the currency has, over the past year, depreciated markedly against the dollar. But the fixed exchange rates within the eurozone have held firm, despite warnings about speculative attacks during the transition. And with its depreciation spurring economic growth, the euro is likely to recover somewhat against the dollar this year.

Nevertheless, the skeptics may have the last laugh. For whether a euro equals a dollar tomorrow or the next day does not really matter.

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What matters is whether the entire monetary union will hold together in the years ahead. The euro's medium-term future will prove much shakier when Europe is hit by the fiscal crises looming for the majority of the eurozone's member countries.

THE NEW MATH

THE NOTION that such fiscal problems exist is not new. Nor is the proposition that they could jeopardize monetary cohesion. But fresh evidence, drawn from a recent, comprehensive calculation of "generational accounts," shows the full extent of the fiscal crisis facing the eurozone.

Generational accounting provides answers to the following three questions: How large a fiscal burden does current policy impose on future generations? Is current fiscal policy sustainable without major additional sacrifices on the part of current or future generations? What policies are required to achieve generational balance—i.e., to ensure that future generations will pay to the government the same share of their lifetime incomes in net taxes (taxes paid minus transfer payments received) as do today's generations?

This new method of accounting was developed not to augment the conventional measure of fiscal imbalance—the official government debt—but to replace it. For neither the size of the government debt nor its change over time (the budget deficit) are well-defined economic concepts. Rather, they reflect the arbitrary choice of fiscal vocabulary, specifically in labeling government receipts and payments.

Three things follow from this. First, the debt and deficit criteria laid out in the Maastricht Treaty bear no intrinsic relation to fiscal prudence. Second, one can satisfy the Maastricht criteria simply by using the appropriate accounting terminology—something that observers of Italian entry into EMU may already have guessed. Third, the sustainability of EMU fiscal policies must be measured more objectively.

The bottom line is that generational imbalances across the eurozone gravely threaten the single currency's medium-term viability. The choice for nearly all EMU members is between tax hikes on a scale unprecedented in peacetime or drastic government spending cuts. Given the political weakness of most national governments, it is hard to see either choice being made. But the only other conceivable possibility—a sharp

and unanticipated rise in inflation, which “solved” some fiscal crises in the past—also seems improbable, at least within EMU’s constraints.

ADD IT UP

GENERATIONAL ACCOUNTS represent the sum of all future net taxes (taxes paid minus transfer payments received) that citizens born in any given year will pay over their lifetimes, given current policy. The sum of the generational accounts of all living generations indicates what those now alive will pay toward the government’s bills. The government’s bills, in turn, are equal to the sum (in today’s prices) of all of the government’s future purchases of goods and services plus its official net debt—its financial liabilities minus its financial assets, including public-sector enterprises. Bills not paid by current generations must be paid by future generations. This reflects the zero-sum nature of the government’s intertemporal budget constraint: no matter what level of current deficit or debt a government reports, somebody, someday, will have to pay in net taxes what the government spends. Borrowing now to pay for government spending means paying more taxes later.

Generational imbalance results when the generational accounts of current newborns fall short of the growth-adjusted accounts of future newborns. The two accounts are directly comparable because they incorporate net taxes over entire lifetimes, allowing for population and economic growth at current official projections. If future generations face higher generational accounts than do current newborns, current policy is not only generationally unbalanced, it is also unsustainable. The government cannot continue to collect the same net taxes (adjusted for growth) from future generations as it would collect, under current policy, from current newborns without violating the intertemporal budget constraint.

This calculation imposes the entire fiscal adjustment needed to satisfy the government’s budget constraint on those born in the future. It also delivers a clear message about the policy changes that governments need to achieve generational balance without foisting all the adjustment on to future generations—either through government spending cuts or tax increases, or a combination thereof. One can then calculate the precise size of the tax hike

or spending cut necessary to make the growth-adjusted generational accounts of future generations equal those of newborns.

A critical feature of generational accounting is that the size of the future fiscal burden does not depend on how the government describes its receipts and payments. The same, unfortunately, is not true of the reported size of the government's official debt. Suppose that the Italian government chose to label the roughly 300 trillion lire in social security contributions in 2000 as "loans" instead of "taxes." Also suppose that instead of calling the future benefits it promises to pay current workers in exchange for these contributions "transfer payments," it called them "return of principal plus interest" on these loans minus an "old-age tax." This alternative wording would leave the Italian government reporting a deficit larger by 300 trillion lire, putting the overall deficit far higher than the Maastricht threshold of three percent of GDP. A year from now, the government's total debt would therefore be larger—but so would the generational accounts of currently living generations, since their future "old-age tax" would now be included in their accounts. Since both would be larger by the same amount, the burden on future generations would not change. The economic position of each generation would also be unaffected by this alternative set of labels; each worker would hand the government the same amount of money this year and receive from the government the same amount of money in the future. The only difference would be the words that the government used to describe these flows.

The fact that a government uses a given vocabulary to describe what it is doing does not make those words sacrosanct. Since each set of words results in a different measure of the deficit, which is correct? In economic theory, there is no correct measure. The concept of a deficit has everything to do with semantics and nothing to do with economics. Generational accounting not only dispenses with this arbitrary terminology; it is also forward-looking and comprehensive.

So what does it mean for Europe? The table on page 114 gives results for 14 countries: Austria, Belgium, Finland, France, Germany, Ireland, Italy, the Netherlands, Portugal, and Spain (10 of the 11 members of EMU) as well as Denmark, Sweden, and the United Kingdom (EU members outside the eurozone) and Norway (which belongs to neither). It shows 4 mutually exclusive ways these countries could

## Comparing the Numbers: How to Achieve Generational Balance

Country	Percentage cut in government purchases	Percentage cut in government transfers	Percentage increase in all taxes	Percentage increase in income tax
Austria	76.4	20.5	18.4	55.6
Belgium	12.4	4.6	3.1	10.0
Finland	67.6	21.2	19.4	50.8
France	22.2	9.8	6.9	64.0
Germany	25.9	14.1	9.5	29.5
Ireland	-4.3	-4.4	-2.1	-4.8
Italy	49.1	13.3	10.5	28.2
Netherlands	28.7	22.3	8.9	15.6
Portugal	9.8	7.5	4.2	13.3
Spain	62.2	17.0	14.5	44.9
Denmark	29.0	4.5	4.0	6.7
Sweden	50.5	18.9	15.6	41.9
United Kingdom	9.7	9.5	2.7	9.5
Norway	9.9	8.1	6.3	9.7

SOURCES: ALAN J. AUERBACH, LAURENCE J. KOTLIKOFF, AND WILLI LEIBFRITZ, EDS., *Generational Accounting Around the World* (1999); BERND RAFFELHÜSCHEN, "AGING, FISCAL POLICY, AND SOCIAL INSURANCES: A EUROPEAN PERSPECTIVE," Mimeo., UNIVERSITY OF FREIBURG, GERMANY, AND UNIVERSITY OF BERGEN, NORWAY, 1998.

achieve generational balance: cutting government purchases, cutting government transfer payments, raising all taxes, or raising income taxes (corporate as well as personal). The figures in the table indicate the immediate and permanent percentage adjustment needed, with the magnitudes of these adjustments indirectly measuring a country's generational imbalance. Education is treated as a transfer payment rather than a government purchase, and calculations are for all levels of government—local, regional, state, and central.

According to the table, 9 of the 14 countries need to cut all government spending on goods and services by more than 20 percent if they want to rely solely on such cuts to achieve generational balance. This group includes the three most important EMU members: Germany, France, and

Italy, Austria, Finland, and Spain need to cut their noneducation purchases by more than half, as does Sweden; indeed, for Austria and Finland, the cut in spending needed is more than two-thirds.

Not all European countries suffer from generational imbalances. In Ireland, future generations face a smaller fiscal burden than do current ones, thereby allowing for growth. But Ireland is unique: it is the only country considered here whose government could spend more over time without unduly burdening coming generations. Four countries have only moderate generational imbalances in terms of spending adjustment: Belgium, Portugal, Norway, and the United Kingdom. But the last two of these are outside the eurozone.

Generational accounting produces a very different ranking of fiscal vulnerability from the conventional measures used in both the Maastricht Treaty and the 1997 Stability and Growth Pact, which judge fiscal stability by a nation's debt and deficit as ratios of GDP. The first column of the table shows that the EMU countries with the biggest fiscal problems are Austria, Finland, and Spain. But on the basis of Maastricht debt-GDP ratios, the three worst cases are Belgium, Italy, and the Netherlands.

Europe's generational imbalances are far from unique. For the sake of comparison, take the United States. Despite rosy projections of running "surpluses" well into the future, America in fact would have to cut government spending at all levels by 14 percent (or federal spending by 43 percent) to achieve generational balance. The figures for Japan and Brazil are 30 and 26 percent, respectively. Canada and New Zealand, by contrast, are in almost perfect generational balance. And before it recently introduced a pay-as-you-go social security system, Thailand could boast a figure of -48 percent, implying enormous latitude for government spending.

Fiscal policy and demographics explain these differences. For example, the United Kingdom has kept most transfer payments fixed over time in real (that is, inflation-adjusted) terms, thanks to a decision in the 1980s to break the link between state pensions and earnings inflation. Germany is still dealing with the colossal costs of reunification, while Ireland has a more youthful population than the European average.

One alternative to cutting government purchases is to cut transfer payments—e.g., by raising the age of retirement, as is being discussed

now in the United States. Here the cuts required are somewhat smaller but nevertheless daunting for the majority of EMU members: over a fifth for Austria, Finland, and Holland; more than ten percent for Germany, Italy, and Spain. Again, only Ireland does not need an immediate cut to achieve generational balance.

These dramatic cuts would be very unpopular—as would tax increases, the third possible policy option. If Germany relied exclusively on across-the-board tax hikes, tax rates at all levels of government (federal, regional, and local) and of all types (value added, payroll, corporate income, personal income, excise, sales, property, estate, and gift) would rise overnight by more than 9 percent. In Austria and Finland, taxes would have to rise more than 18 percent, and in Spain more than 14 percent. If countries relied solely on income tax hikes, then Austria, Finland, and France would have to raise their income tax rates by over 50 percent. The requisite income-tax hikes in Germany and Italy would be just under 30 percent, compared with 10 percent for Britain and 21 percent for the United States. In contrast, Ireland could cut its income tax rates by about 5 percent before it needed to worry about overburdening future generations.

This problem will not go away. On the contrary, the longer countries wait to act, the bigger the adjustments will need to be. Britain, for example, could achieve generational balance with an immediate income-tax hike of just under 10 percent. But if it waits 5 years, that number will rise to 11 percent. After a 15-year delay, it will be 15 percent, and after 25 years, more than 20 percent.

#### HEY, BIG SPENDERS

THESE SHOCKING FIGURES mean that the majority of EMU countries have severe generational imbalances, even if their reported deficits do lie under the Maastricht limit of three percent of annual GDP. Yet none of the four scenarios above is likely to be realized by any government other than that of Ireland, given the immense political opposition to such retrenchment. The tax hikes or spending cuts would be, in most cases, unprecedented in peacetime. But whereas the losers would be today's taxpayers, the winners would be future generations.

Not one of the key European governments has the political strength to effect such fiscal reform. In Germany, Gerhard Schröder's SPD-Green coalition is still struggling to restrain the growth of state pensions and social spending. In France, the left-wing coalition led by Lionel Jospin is even less likely to grasp fiscal nettles now that its talented finance minister, Dominique Strauss-Kahn, has resigned to fight fraud charges. In Italy, Massimo D'Alema's left-of-center coalition limps on in a newly repackaged government, crippled by the chronic divisions of the Italian party system. Total Italian tax revenues have already risen from 39 to 44 percent of GDP since 1990; it is hard to imagine any government surviving if it asked for more.

A significant increase in economic growth could ease the fiscal positions of many European states. But this is unlikely to happen in the core European countries, given their relatively rigid labor markets. True, growth in the 11 EMU countries is generally forecast to be 3 percent in 2000. But with 10-year bond yields around 5.7 percent and inflation below 1.4 percent, real interest rates are very high by historical standards, compounding debt problems and stifling economic recovery.

What course can Europe take in the face of such tight fiscal restraints? Tinkering with the budget limits in the Maastricht Treaty and the Stability and Growth Pact may be possible for some countries, though not necessarily for those states whose generational accounts are most out of kilter. And the possibilities for creative accounting using traditional measures of debts and deficits have not yet been fully exhausted. Because the Maastricht criteria are based on measures of debt that are economically arbitrary, there is every reason to expect enforcement to be lax. Indeed, it already has been. As the German Bundesbank and others have pointed out, as many as 8 of the 11 EMU members had debts above the maximum 60 percent threshold (of debt as a percentage of annual GDP) when they qualified for entry in 1998.

A further possibility is that the countries with the most severe generational imbalances may exert pressure on the ECB to loosen monetary policy. For most of the twentieth century, after all, printing money was often the line of least resistance for governments having fiscal difficulties.

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No key European government has the political strength to effect major reform.

As is well known, issuing money operates as a fiscal tool in three ways. First, it permits a government to swap a depreciated currency for actual goods and services. The private sector pays for this transfer to the government (or seigniorage) while inflation eats away at the money's real value. Second, raising prices by cranking up the printing presses reduces the real value of unadjusted government wage payments, transfer payments, and official debt repayments. Third, rising inflation permits a government to push taxpayers into higher marginal tax brackets if the tax system's degree of progressivity is not inflation-indexed. Historically, this is how many states have coped with severe fiscal imbalances: the defeated powers after World War I, for example, or Russia and Ukraine after the collapse of the Soviet economy.

Here lies the crucial point for Europe's single currency. Those countries under the most severe fiscal pressure will obviously wish to print money sooner and faster than those better situated. Yet the Maastricht Treaty effectively rules out printing money; Article 104 of the treaty (now Article 101 of the treaty establishing the European Community) and Article 21 of the Statute of the European System of Central Banks enshrine a strict "no bail-out" rule. Member states that hope to inflate away their debts will simply be turned away.

Much more likely is a series of collisions between national governments struggling to bring their finances under control and the ECB, which is constitutionally bound to maintain price stability as its primary objective and appears unconcerned by sluggish growth in large parts of the eurozone. The ECB is also likely to ignore the unpleasant monetary arithmetic implied by the budget problems of the member states and instead retort with some unpleasant fiscal arithmetic of its own by keeping its monetary policy strictly anti-inflationary.

If all countries were in the same predicament, they might resolve this conflict politically. But because there is such variation in the eurozone's generational imbalances, and indeed in their rates of growth and inflation, some countries will get into difficulties sooner than others. The political conflicts are easy enough to imagine. If European governments find it hard to agree about the edibility of British beef, it is not easy to imagine them acting in unison over generational imbalances in public finance. Even the recent proposal to introduce an EU-wide withholding tax on the interest from private

savings foundered in the face of U.K. opposition. As was depressingly apparent at their Helsinki summit in December 1999, European leaders would rather dream the old Gaullist dream of military independence from America than face hard fiscal facts. If they do not set their generational accounts in order, there will be no European defense budgets in the future, much less a European army.

DREAMS DEFERRED

HISTORY SHOWS that monetary unions can be undone by fiscal imbalances. The difficulty lies in deciding which previous monetary unions most closely resemble EMU, since none does exactly. Some economic historians have sought to draw comparisons with the pre-1914 gold standard. But others see EMU as more like a national monetary union because there is a common central bank and no prescribed right to secede.

In truth, neither of these parallels is very illuminating. The gold standard was an informal system, without a single central bank, that states could always exit—like the European Exchange Rate Mechanism before the euro. On the other hand, comparing EMU with the United States, Italy, or Germany is unconvincing. In each case, political union came before monetary union. Nor is it helpful to compare currency unions between giants and dwarves (such as that among France, Andorra, and Monaco). Rather, the best analogies are with monetary unions among multiple states with only loose confederal ties and negligible fiscal centralization.

The Austro-Hungarian monetary union after 1867 is a useful example. The historian Marc Flandreau has pointed out that post-1867 Austria-Hungary combined the free circulation of goods and capital and a unified central bank on one hand with fiscal autonomy for each constituent state and its multiple nationalities on the other. (Unlike in the EU, however, there was a common army and foreign policy.) Both Austria and Hungary regularly ran quite large deficits until 1914, but these were absorbed with little difficulty by bond markets. Yet the dramatic increase in expenditure and borrowing in World War I caused inflation to accelerate and led ultimately to the breakup of the monetary union in 1917–18.

Another illuminating precedent is the Latin Monetary Union (1865–1927) between France, Belgium, Switzerland, Italy (including the

Vatican), and later Greece. True, there was no Latin Central Bank, but the LMU did have a conscious political motivation, as the economist Luca Einaudi has argued. (A driving force was Félix Parieu of France, who dreamt of an eventual “European Union” with a “European Commission” and a “European Parliament.”) But the costs to the other members of Italian fiscal laxity were high. The papal government financed its deficits by churning out silver coinage to reap high seigniorage profits. In short, it debased the coinage and allowed private agents to export it to the rest of the union—a flagrant breach of the rules. At the same time, the Italian government introduced largely unconvertible paper currency to finance its growing deficits, breaking the spirit if not the letter of the convention. The war of 1870 removed the political rationale of French continental hegemony; the only reason the LMU survived after 1878 was to avoid the cost of dissolution. Like the Scandinavian Monetary Union founded in 1873 by Sweden and Denmark, the LMU was belatedly pronounced dead in the 1920s.

History therefore suggests that asymmetric fiscal problems—often generated by war—quickly cause monetary unions between fiscally independent states to dissolve. The fiscal problems caused by bloated social security and pension systems could have a similar centrifugal effect on EMU, with welfare substituting for war as the fatal solvent.

#### EXIT STRATEGIES

THE PROBLEM is not simply that European states will continue to run deficits as conventionally measured. Past experience (for example, the German monetary union of Bismarck’s day) suggests that monetary unions can coexist with federal fiscal systems where member states issue substantial volumes of bonds. Diverging levels of borrowing in the eurozone today may result in differing bond yields down the road—and the existence of yield spreads is not incompatible with monetary union. Markets cannot be forbidden to attach different default risks to different member states within a monetary union, just as companies issuing euro-denominated corporate bonds offer investors varying returns. Furthermore, high levels of state borrowing do not necessarily lead to inflation. Much depends on the international bond market’s demand for high-grade

sovereign debt; with more and more people living for two decades or more after retirement, that demand is likely to grow.

But generational imbalance does not simply imply that European states will run deficits. This method already assumes that they will. Rather, it points to an inevitable need to raise taxes, reduce expenditures, or print money to meet a rising burden of debt interest. But what happens when states like Austria, Finland, or Spain reach a political impasse on fiscal reform? Bond markets can absorb only so much debt before demand starts to wane. Legally, withdrawal from EMU is impossible. But history shows there is always an exit. If a country's only viable option is to print money and inflate away some of its liabilities, and if the European Central Bank abides by its "no bail-out" rule, then secession will almost certainly be considered. The question is what the costs would be.

First, higher interest rates would result in the short term, and much would depend on their impact on the government's debt-service bill. In this context, the different term structures of the various national debts are important: a country with a lot of short-term debt would gain much less from inflation. Once again, there are wide disparities among eurozone members. More than half of Spain's domestic debt is short-term, compared with 0.4 percent of Austria's.

Second, the exchange rate of the seceding currency would almost certainly weaken. This could help boost the economy by making exports cheaper. But legal tangles would also arise as creditors and debtors (foreign and domestic) fought over whether the pre-secession debts should be valued in euros or in the national currency. This could severely destabilize the seceding country's financial system, as well as those of other countries. Again, the implications would be greater for countries with more debt held abroad.

The political will to implement spending cuts and tax increases may be strengthened by these considerations. Still, history offers few examples of successful adjustments on the scale necessary in certain European countries today. What it does offer are several examples of monetary unions disintegrating when fiscal strains became incompatible with the unpleasant arithmetic of a single currency. In this respect, conventional measures of fiscal balance like debt and deficit ratios to GDP understate the magnitude of the eurozone's problems. Generational accounting suggests that EMU could degenerate—not overnight, but within the next decade. 🌐