Much ado about little: The fiscal impact of German economic unification

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After fifteen years, German unification remains a historic event, a diplomatic and political achievement, a notable benefit of the peaceful end of the Cold War, and the culmination of hopes for freedom and solidarity long-held and long-frustrated in both postwar Germanys. German *economic* unification, however, remains an event of only exaggerated importance beyond its impact on those citizens of the former GDR. Although often held up by the popular press and by foreigners as the leading source of poor German national economic performance since the immediate post-unification boom, unification's effect on the overall German economy was in fact surprisingly minor. While many leading economists inside and outside of Germany have made insightful and careful assessments of what went wrong in the integration of the *Neuen Bundeslaender* (new states) with the former West Germany, they often overlook or assume the broader macroeconomic impact of unification – which contributes to the popular misimpression, at least by omission.[1]

German economic unification should now be seen as a squandered opportunity rather than as a large ongoing burden for Germany. It is not an excuse for contemporary difficulties, nor even a major explanation for past underperformance. Unification is, however, the primary example of the way that corrupt linkages between insiders in the German economy – managers in less export-intensive and service industries, labor union officials, bankers in the unconsolidated *Sparkassen* and semi-public financial sector – conspire to maintain their privileges at the expense of those shoved to the outside. These institutionalized deals cause persistent unemployment and decrease returns to capital throughout the German economy.

The unsatisfying aftermath of unification is the embodiment of this system, rather than being atypical of German political economy or even all that extreme. And the direct costs of unification, like those of the overall system, are likely insufficient to compel a repudiation of these processes even over the next fifteen years, just as they were no constraint in the last fifteen since 3 October 1990 *(Tag der Deutschen Einheit)*. The costs remain primarily those lost opportunities of what German national income could have been and could be, and the lesser sustainability of the welfare state as a result.

Taking the disappointing lack of income and productivity convergence between eastern and western Germany as given, what impact has this outcome had on economic performance? Large annual income transfers from west to east have diminished the social dislocation, while simultaneously occasioning increased budget deficits and tax rates. Clearly, the first step to assessing the economic costs of German unification is to tote up the accumulated fiscal largesse and its implications. At first glance, that largesse appears very large indeed: an average of 5.0 percent of GDP (94.9 billion euros) annually being transferred from west to east from 1991 to 2003.[2]

Assessing the economic costs of unification by looking at fiscal transfers: 5.0 percent of GDP p.a.

Little spending was cut elsewhere in the German Federal and *Laender* budgets to pay for these transfers, so the direct costs are those incurred in running up public debt and raising taxes. Some tax revenues were collected from eastern businesses and wage earners, however, even if on balance more was transferred in than out of the eastern states. The average annual gross transfers *net* of tax revenues collected in the east was 66.3 billion euros, or 3.7 percent of GDP.[3]

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[1] For examples of the former, see the works of Hans-Werner Sinn, George Akerlof and Janet Yellen, Michael Burda, Jennifer Hunt, Holger Wolf, and Juergen von Hagen, among others.

[2] This assumes a euro-DM exchange rate equal to that at the time of EMU, 1 euro = 1.986 DM. To the degree that the exchange rate was temporarily overvalued, that would exaggerate the real costs in these calculations.

[3] This average is computed for 1991-1999 data. Cyclically adjusted tax revenues from the new states were slightly increasing after 1999 as the labor force participation slightly went up over time.

Not all transfers are wasteful, however, even those made to the former GDR. Those that went to useful infrastructure investment can have benefits on a par with private-sector investment. In some instances – such as the installation of modern sewage treatment, transportation networks, and telecommunications; the creation of schools meeting western standards and conveying technical knowledge; the provision of local administrative apparatus sufficient to implement commercial contracting and dispute settlement – public infrastructure investment was necessary before private investment or even commerce could take place in eastern Germany. This amounted to an average of 10.5 billion euros annually from 1991 to 1999, or 0.6 percent of GDP per year. Also, some transfers from west to east were made solely on the basis of demographic qualifications by new German citizens. That is, the normalization of old-age pensions, disability payments, and health care for those qualified according to the western German standards, but excluding active labor market programs and the like that reflected solely eastern German economic conditions. We estimate this amount to be at least 30 billion euros per year.[4]

After adjusting for infrastructure investment and demographic transfers, net fiscal transfers amount to 1.4 percent of GDP on average

So after taking out infrastructure investment, tax receipts from eastern Germany, and demographic transfers, the cumulative net amount of annual fiscal transfers that can be characterized as direct reunification transfers therefore is an average of 25.7 billion euros, or 1.4 percent of German GDP. Even these are not a pure loss, however, because they did lead to some consumption and savings within the German economy, and perhaps some growth (depending upon the multiplier effect). Following the lead of Ball and Mankiw, one can roughly estimate an upper bound on what this total expenditure cost the German economy by imagining what would have happened had all these transfers been debt financed, and then all that debt issued been replaced with some useful private capital. That is, what if the transfers to eastern Germany had instead been fully placed as productive private investment yielding market returns.[5] This is an extreme assumption, since Germans usually consume 50 to 55 percent of income, and there is no reason that consumption by westerners would be any more beneficial than consumption by easterners, and no reason to think that easterners would not have saved a similar proportion of the transferred income.

In the event that the total transfers would have been productively invested, though, as in the thought experiment, then the loss to the German economy would have been the income stream (i.e., growth effects) of that increase in the capital stock. This is an *overestimate* as it is does not allow for depreciation of the new capital, and/or for some decrease in the marginal productivity of capital, as there was a (meaningful) expansion of the capital stock.[6] Over fifteen years of reunification, therefore, the capital stock could have been at most 21 percent of GDP higher (15 x 1.4 percent). Output would have risen by that amount times the marginal product of capital – in Germany, the capital share is about 30 percent, and the capital-income ratio is about 3, which implies a marginal product of capital of 10 percent. Thus, had all discretionary, assumed unproductive, net transfers to eastern Germany been replaced with productive private investment, output would have been 2.1 percent higher. While nothing to dismiss, this would have made up less than two year's gap of the amount that German real GDP growth trailed the OECD annual average over the last 15 years. One could try to reclassify some of the assumptions made here to bulk up the amount of "wasted" transfers, and thus increase the amount presumed to be lost, but a fair analysis would first take into account declining marginal product of capital, and the likelihood of some of the money kept in western Germany going to other than investment, which would work in the other direction.

Additionally, one could take into account the interest rate costs of the additional debt issued to pay for

[4] This estimate assumes a similar demographic structure in eastern and western Germany. This likely understates the demographic driven transfers given that the eastern population was probably more expensive on this score. One could characterize this as a 'cost of unification,' given that this does add to the overall German social security rolls and the former GDR citizens had not paid in commensurate with their (future) benefits. In that case, one would also have to subtract the benefits to the overall German economy from the addition to the German workforce of contributing younger citizens. In any event, such a calculation would be contrary to the spirit of the universal pension, disability, and health benefits of the German *Sozialmarktwirtschaft*, whose generosity and sustainability should be evaluated on their own terms. And the reality that none of the current recipients paid in commensurate with their current benefits.

[5] See Laurence Ball and N. Gregory Mankiw, "What do budget deficits do?," Annual Jackson Hole Conference 1995, Federal Reserve Bank of Kansas City.

[6] In reality, this exercise also assumes away one of the major negative aspects of German unification: that the imposition of high wages and other inefficient institutions on the new *Länder* overcame the natural expectation that returns on capital should be *higher* in a transition economy like eastern Germany than in already developed (with a high capital to output ratio) western Germany. Had the returns in eastern Germany been allowed to rise unimpeded, presumably larger investment flows would have gone there from Germany and the entire western world, and fiscal transfers on this scale would not have been needed. For purposes of this argument assessing the costs of unification, though, the point is that simply leaving more capital in western Germany rather than making transfers to the east would not automatically yield constant rather than diminishing, let alone high, returns.

these transfers. Here, the actual increase in German government debt issued, as opposed to the tax-financed share of the transfers, is what is relevant. So we must total the net transfers, subtract the amount paid for by the Solidarity Tax, but add to the total debt inherited liabilities from the eastern governments at unification. That calculation yields a total increase in debt on the order of 430 billion euros, 1991 to 2003, and the average real borrowing rate on German government obligations was approximately 4 percent, yielding a total interest payments outlay of 105 billion euros over the period, or 6 percent of GDP.[7]

To the degree that this additional debt issuance led to an increase in the average rate of interest which markets charged the German government on its new issues, the additional outlays due to that increment on all German debt issued since unification for reasons other than these solidarity transfers should also be included as a cost. Real interest rates in Germany, however, dropped in 1992-93 versus the height immediately post-reunification, and only went above 5 percent again in winter 1994-95, staying below 4 percent for most of the time since 1991. Let us assume that the response of interest rates to anticipated sustained increases in the deficit, all else being equal, are similar in Germany to those in the United States, since a consensus has recently emerged on the point estimate of this number: a 40 basis point increase in long-term interest rates for every sustained 1 percent increase in the government unified deficit.[8] Then for 1.4 percent of GDP annually transferred on net, interest rates on long German government bonds should have risen 60 basis points or less. Summing up outstanding German public debt not attributable to reunification, one gets a cumulative additional interest payment of 64 billion euros since 1991, for the 0.6 percent interest "penalty" due to reunification related debt. Thus, the total direct interest rate cost of German unification was under 170 billion euros, or about one-tenth of a year's GDP over the fifteen years since *Die Wende,* or 0.6 percent of GDP a year.

Over half of the transfers from western to eastern Germany, however, were funded through the raising of taxes. The solidarity surcharge on income taxes was the major source, but other taxes also were increased. Though tax-financed transfers do not incur interest rate costs, they do lead directly to dead-weight losses from distortions as tax rates rise. There is a wide range of estimates by public finance economists of these costs, starting with Arnold Harberger's classic estimate of only 5 percent, with some recent general equilibrium models suggesting losses of up to 50 percent. Most empirical estimates would put the highest distortions to labor taxes on the order of 25 percent of any increase in marginal tax rates; distortions from increases in corporate tax rates would cost less than 10 percent of the increase. The effective marginal tax rate on labor in Germany has risen from an already high 0.57 in 1991 to 0.70 in 2001, but one cannot ascribe all of that to reunification (especially since that yields an increase in revenue that exceeds the amount spent or transferred east annually). If we were to arbitrarily attribute half the increase in marginal labor tax rates to unification, that would be a deadweight loss of 0.06 percent of labor income, with a labor share of 70 percent, for 0.042 percent of GDP (and the marginal tax rate only increased to 0.7 percent in 2001, so the amount was actually less for most of the reunification period). The corporate tax rate was being cut significantly over this period in Germany, so computing the distortions from unification increases is impossible.

Higher interest rates and distortions due to higher taxes are also minimal

Some economists would further suggest that increasing taxes, particularly on labor income, will lead to a withholding of effort, perhaps showing up as additional voluntary unemployment. The empirical support for such contentions is mixed, however, and in Germany is likely to be swamped by the impact of variations in the reservation wage due to high and long-duration unemployment benefits, as well as the already prohibitively high marginal rate of taxation on low wage employment.[9] Perhaps more plausibly, increased taxes might lead to diminished savings – as discussed in research by von Hagen; however, empirically there is no sign that either eastern or western Germans saved at dimin-

[7] As with the preceding cumulative assessment of the transfers, this is a retrospective adding up of the past interest paid amounts, not a net present value calculation of what an ongoing flow of debt growing at past or diminishing rates would cost. This is for two reasons: first, the issue of concern is what the costs actually have been, and whether those are sufficient to explain poor post-unification national German economic performance; second, there is no good reason to assume that such transfers (excluding the universal social security commitments as discussed) will continue or smoothly decrease rather than ending abruptly in the near future.

[8] Estimates from US data in line with this were independently made by Thomas Laubach, Eric Engen and Glenn Hubbard, William Gale and Peter Orszag, and the US Congressional Budget Office. This probably overstates the response of interest rates in Germany, given less forward looking financial markets and far less external indebtedness than in the U.S. (though this remains to be established empirically).

[9] This is why the Red-Green government's Agenda 2010 quite logically focused its efforts on reforming these two aspects of the labor market in 2003-04.

ished rates following unification and the imposition of these tax increases.[10]

Thus, the direct fiscal costs to the German economy of 15 years of transfers to the new states totaled no more than 11 percent of one year's GDP cumulatively, or 0.74 percent of GDP annually. To put this number in perspective, compare it to other large-scale arguably wasteful multi-year expenditures in advanced democracies. The United States spends 1.5 to 2.0 percent more of GDP annually on defense than Germany, with an additional 0.4 percent a year currently going to the war in Iraq, almost all of which constitutes, in economic terms, either building expensive items useless in the civilian economy and then blowing them up, or transfers to low-skilled workers akin to the special job creation programs in eastern Germany; all of this is debt financed and so more expensive than a combination of tax distortions and interest rate increases as Germany financed unification. Closer to home, the Netherlands and Denmark are known for their highly generous long-term disability payments to people meeting very loose criteria, at least until recently. In Denmark, for example, if one took one-third of expenditures on disability cash benefits and occupational injury benefits, which understates the unnecessary generosity, that would total 1.1 percent of GDP annually. And both of these countries, each with their own substantial economically unproductive public spending, averaged higher growth rates, higher productivity growth, and greater job creation than Germany throughout the period since 1993.

In sum, the fiscal costs of the west-east transfers over 15 years came to 0.74 percent of GDP p. a.

There are other stories one can tell about the economic costs of German reunification, including the popular one that overspending led to interest rate increases leading to the ERM crises and overvalued German exchange rates, leading to a loss of competitiveness. Of course, this only applied to a short period of time, and had no lasting effects on Germany's exporters. IMF, European Commission, and Deutsche Bundesbank studies of the German real interest rate over the 1990s bear out this dismissal. So no matter how one examines it, the real cost of German reunification is to the unemployed of eastern Germany, and not so much to the German economy as a whole.

[10] Of course, if there was such a savings response to the increase in taxes, Ricardian equivalence would not hold, and claims that the run-up in debt post-unification was exerting a drag on current German consumer confidence by causing worries about future tax obligations would be invalid.