A joint initiative of Ludwig-Maximilians-Universität and the Ifo Institute

CESifo Forum

Summer 2013

Volume 14, No. 2

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CESifo Forum ISSN 1615-245X (print version)
ISSN 2190-717X (electronic version)
A quarterly journal on European economic issues
Publisher and distributor: Ifo Institute, Poschingerstr. 5, D-81679 Munich, Germany
Telephone ++49 89 9224-0, Telefax ++49 89 9224-98 53 69, e-mail ifo@ifo.de
Annual subscription rate: €50.00
Single subscription rate: €15.00
Shipping not included
Editors: John Whalley (jwhalley@uwo.ca) and Chang Woon Nam (nam@ifo.de)
Indexed in EconLit
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The US Fiscal Cliff

The US Fiscal Cliff – When Economists Recklessly Endanger the Economy

Laurence Kotlikoff[1]

The economic story line throughout 2012 was the terrible, indiscriminate spending cuts and major tax hikes to be visited on the US economy by squabbling politicians. These spending cuts were going to 'kill the economy', and not *via* a relaxing overdose of morphine, but by pushing it over a towering cliff and letting it plunge miles to an excruciating death.

The principal storyteller was Federal Reserve Chairman, Ben Bernanke. On 29 February 2012, Chairman Bernanke testified to Congress that, "Under current law, on 1 January 2013, there's going to be a massive fiscal cliff of large spending cuts and tax increases", Chairman Bernanke told the House Financial Services Committee.

On 7 June 2012, Chairman Bernanke again testified that, "A severe tightening of fiscal policy at the beginning of next year that is built into current law – the so-called fiscal cliff – would, if allowed to occur, pose a significant threat to the recovery".

On 12 December 2012, Chairman Bernanke testified that, "We cannot offset the full impact of the fiscal cliff. It's just too big. I hope it won't happen, but if the fiscal cliff occurs, as I've said many times, I don't think the Fed has the tools to offset that event".

Coordinating coordination failure

The 'many times' that Chairman Bernanke spoke the words 'fiscal cliff' during the course of 2012, produced an enormous number of repetitions of the term – by the media, politicians, economists, financial analysts, policymakers, commentators, and everyday citizens. It was hard to turn on the radio and not hear about the economy's impending demise.

Given the vast literature on sunspots and coordination failures, the first question one should ask about the fiscal cliff episode is whether Chairman Bernanke engaged in reckless endangerment of the economy?

In this day and age, where every sentence is put through a political filter, let me quickly point out that I raise this question with no animus toward the Fed Chairman. On the contrary, I consider Ben Bernanke a friend, deeply respect his academic contributions, and greatly admire certain aspects of his job performance.

But we economists, including Chairman Bernanke, must admit that we have a very weak handle on what really drives the economy. We have outdated Keynesian models that rely on questionable assumptions about wage and price stickiness. We have highly unrealistic real business cycle models that sweep most economic questions under a productivity shock rug. We have a collection of stories about bubbles and overheated credit markets and irrational actors that we tell as the need for a good tale arises. And we have admittedly highly stylized models of multiple equilibria, but ones that convey a stern warning, to wit: *telling everyone the economy is collapsing can lead the economy to collapse.*

The economy, after all is driven, in the US case, by millions of small and large businesses that have no real idea what each of their fellow companies is planning to do when it comes to retaining workers and hiring new ones. But other firms' existing workers and new hires constitute the current and prospective customers for one's own firm, and the prospect of those customers losing their jobs and, thus, not showing up can promote defensive firing of one's own workers, which, of course, constitute other firms' customers. This individually rational, but col-

[1] Boston University.

lectively irrational action, then produces the heralded recession.

After the economy has gone down the tubes, those ringing the alarm based on whichever pet theory they worship will be conveniently positioned to say, "See, I told you so. My theory that connected spending cuts and tax hikes to the economy's tanking was right".

Chairman Bernanke's pronouncements of doom, as well as the concomitant piling on of far too many macro economists in and out of government, is reminiscent of the aftermath of Lehman's collapse in 2008, when Chairman Bernanke and then Treasury Secretary Hank Paulson helped spook the economy into hysteria over the next Great Depression. They certainly spooked President Bush, who told Congressional leaders, "This sucker could go down". And they spooked Senator McCain, who temporarily cancelled his Presidential campaign to save the economy. Both of these displays of fear and those of other politicians, media members, commentators, and economists transformed fear into the most important thing to fear.

The press had a field day, Google searches of 'Great Depression' skyrocketed, and employers decided the safe bet was to cut their possible losses by laying off hordes of employees. Over the next 19 months, 8.5 million US workers were shown the door. Had all these workers been terminated on 16 September, the day after Lehman went under, it would have been much clearer that the economy had coordinated on a bad equilibrium. (Full disclosure, coordination failure is my preferred theory of what drives most macroeconomic fluctuations.) Unfortunately, the unemployment occurred over time, permitting macroeconomists to either find data supportive of their favorite models or, at least, prevent coordination failure from being as obvious as I view it to be.

The hysterical economy

In the case of the fiscal cliff, the hysteria seemed particularly crazy, making the Chairman's endangerment of the economy that much more reckless. After all, at issue was the enactment of the Budget Control Act that had been passed 15 months before it was to be implemented, giving the economy considerable time to adjust. After all, the 'tax hikes' included in the fiscal cliff were reinstatements of tax provisions that had been in place during the 1990s, when the economy performed very well. After all, the 'tax hikes' were disproportionately focused on the rich who knew they were coming and were likely to maintain their spending. After all, the federal discretionary spending cuts entailed, for 2013, a reduction of only 0.6 percent of GDP. After all, federal discretionary spending had been cut by 1 percent of GDP between 2011 and 2012 without killing the economy. After all, the new law would be phased in over 10 years. After all, while official debt would, due to the fiscal cliff legislation, rise more gradually than would otherwise occur, unofficial debt would, as projected by the CBO, continue to grow at leaps and bounds. After all, the economy was no longer in recession, workers weren't demanding outsized wages, and companies weren't jacking up their prices, meaning there was reason to think that the economy could, as needed, shift from spending to saving and investing. After all, the economy had performed just fine in the 1950s when the saving rate reached 15 percent compared to the 2012 rate of just 1 percent, so there was clearly no basis for suggesting the spending every last dollar the economy produces is required to keep it producing. And the list goes on.

Along with the lack of a strong empirical basis for scaring the economy, neither Chairman Bernanke, nor Paul Krugman, nor other harbingers of economic doom provided a clear theory of why restoring taxes to prior levels or modestly cutting some types of spending would be so dangerous.

In any event, the fiscal cliff arrived after a last minute modification of the scheduled tax hikes and some spending provisions. These changes, at most, lowered the 'towering' cliff's height by roughly one third, but presumably leaving it high enough to seriously maim, if no longer completely destroy the economy. But, surprise, surprise, it did neither. First quarter 2013 US GDP growth was 2.4 percent and GDP growth is projected to be decent for the rest of 2013 and all of 2014.

Interestingly, the economy did very poorly in the 4th quarter of 2013, when it grew at only 0.4 percent, down from 3.1 percent in the 3rd quarter. This suggests that it was the fear of an impending recession, not the actual scheduled fiscal policy changes, which mattered. Once Congress passed its bill, on Christmas Eve, everyone was free to again coordi-

nate on good times, even although the actual bill did not greatly reduce the size of the cliff!

Indeed, if the public expected to face, in present value terms, the same taxes no matter when they were going to be raised, the Christmas Eve legislation arguably had no effect on the size of the fiscal cliff because the government's discretionary spending cuts it included were virtually all retained, and the changes in taxes didn't represent a change in anyone's, or many persons', lifetime resources relative to what they expected.

Stated differently, on Christmas Eve everyone declared there was no longer a fiscal cliff even though relatively little or nothing changed with respect to the policy that went into effect the next day. But since everyone was concerned not about the policy *per se,* but about whether everyone else was concerned, the collective decision to pretend the policy was no longer occurring was all it took to turn the economy around.

In short, we have a hysterical economy, and one that policymakers should think many times over about scaring. But the real damage associated with Chairman Bernanke's decision to proclaim throughout the land and to all the inhabitants there of that fiscal tightening was going to push the economy over the cliff has been to give politicians another free pass to avoid enacting responsible fiscal reforms.

Fiscal child abuse

The officially orchestrated hue and cry about the fiscal cliff provided a perfect sideshow to distract attention from the politicians' main objective – engaging in yet more fiscal child abuse. Like all budget 'fights' over the last 40 years in which contemporaneous 'adult' generations come up with excuses for far more spending and far less taxes than our children can afford, this pretend battle left the American dream where it found it – down the tubes.

This year's official deficit will, according to the CBO, total 642 billion US dollars, or 4 percent of GDP. That sounds like progress compared with, say, the 2009 deficit of 1.4 trillion US dollars that totaled 10 percent of GDP. But the official deficit measures only the increase in official debt. What it misses is the massive annual increases in our government's unofficial debts.

Take a look at the finances of the next American retiree you encounter. That person is collecting Social Security, Medicare, and Medicaid benefits that will average, this year, over 30,000 US dollars. That person and the 33 million retirees like him have been promised these benefits for the rest of their lives. This is a massive debt that's as real, indeed far more real, and far greater than the 11 trillion US dollars in Treasury bills and bonds held by the public.

Now look at the next baby boomer you see. There are 78 million of these folks. By the time they all demand their promised benefits, the average benefit level will be 40,000 US dollars, in today's dollars. Paying this obligation will cost *3 trillion US dollars per year* – another colossal debt that Uncle Sam has kept off his books.

Now take a peek at the US defense budget. Yes, it's being cut. But the US fully intends to spend more than the next 10 countries combined for the indefinite future. That's an obligation that's also hidden from view in an accounting system that does Charles Ponzi, Jed Shilling, and Bernie Madoff proud.

The US fiscal gap

The fiscal gap – the present value difference between *all* projected future spending (including official debt service of the outstanding debt) and *all* projected future taxes – leaves nothing off the books. In 2012, the US fiscal gap was 222 trillion US dollars. That's a big number compared to the 2012 stock of official debt held by the public, which totaled 11 trillion US dollars.

The US fiscal gap is not only massive. It's growing like crazy. In 2011 the US fiscal gap was 211 trillion US dollars. Hence, the one-year growth in the fiscal gap almost exceeded total official federal debt in the hands of the public!

The fiscal gap grew, in large part, because unlike Treasury bonds, future spending commitments, like Social Security benefit commitments to baby boomers, are, in effect, zero coupon bonds that don't pay interest. And the closer one gets to getting paid these

big payments, the larger is the present value of the obligation.

Scaled by GDP, the United States appears to have the largest fiscal gap of any developed country. That should give anyone buying US Treasury bond considerable bonds, but, as an American, let me say, “Be our guest”.

The US fiscal gap represents 12 percent of the present value of US GDP. Hence, eliminating it requires annual tax increases or spending cuts totaling 12 percent of annual GDP. For 2013, this means not running a deficit of 4 percent of GDP, but running a surplus of 8 percent of GDP!

Raising 12 percent of GDP *via* tax hikes requires an immediate and permanent 64 percent increase in all federal taxes, or an immediate and permanent 40 percent cut in all federal discretionary spending and transfer payments. Some combination of these awful medicines is also feasible. But no such medicine is evenly remotely being contemplated in the United States. Instead, all the focus is on the official deficit and whether it is too small. And all thanks goes here to Chairman Bernanke and those other economists who continue to discuss fiscal policy using indicators, like the size of the official deficit, that have absolutely no basis in economic theory.

Economics labeling problem

How is it that some obligations get recorded as official debt and others do not? Is there an economic rationale for the distinction? The answer is no. Nothing in neoclassical economics tell us whether to label a government receipt as ‘borrowing’ or ‘taxes’. And nothing tells us whether to label a government payment to the public as ‘repayment of principal plus interest’ or as a ‘transfer’ payment. This is not surprising. After all, our models don’t tell us whether the agents in the models should speak French rather than English when they discuss their economy.

I’ve been pounding away for decades on the theme that conventional fiscal measures and measures that depend on conventional fiscal measures, including the official debt, deficit, taxes, transfer payments, disposable income, private saving, personal saving, government saving, private wealth, and government wealth, are not economically well defined. Rather they are a reflection of economically arbitrary decisions about how we label government receipts and payments.

I first made this point, in 1984 in a Public Interest article, entitled ‘Deficit Delusion’. Discussions of the point appeared as a chapter in my 1987 book with Alan Auerbach, *Dynamic Fiscal Policy*, in an article for Science in 1988, and in my chapter in the 2002 Handbook of Public Economics, volume 4, entitled *Generational Policy*. The broadest treatment of the issue appears in a 2008 paper with Jerry Green, entitled, provocatively, ‘On the General Relativity of Fiscal Language’.

And I’ve written other articles, book, and op eds over the years that assert, in effect, that the fiscal half of national income accounting has no clothes, and that using conventional fiscal measures to assess the sustainability of fiscal policy or its generational implications is no different from driving in Los Angeles with a map of New York.

This is why I find it so galling and depressing that professional economists, including Chairman Bernanke and current and past heads of the Council of Economic Advisors and the National Economic Council, continue to discuss fiscal policy using measures that have nothing intrinsically to tell us about the stance of fiscal policy.

The fiscal gap, on the other hand, as well as generational accounting, provide label-free measures of fiscal policy. Any internally consistent set of fiscal labels will produce the same measure of the fiscal gap, provided the fiscal gap is calculated over the infinite horizon, and the same implied future fiscal burdens on newborns and future generations from maintaining current policy for those now alive.

Beyond fiscal gap and generational accounting

This does not make fiscal gap accounting or generational accounting perfect measures of our fiscal future. Both work off the government’s intertemporal budget constraint, which must hold along any realized path of the economy. But in a world of uncertainty, which path the economy will take is both unknown and unknowable.

If the economy were characterized by a complete contingent claims market, the government's intertemporal budget would require that the value of state-contingent government purchases of goods and services would equal the value of state-contingent claims on resources from the private sector. In such a world, the state-specific prices at which to value contingent purchases and claims would be clear and one could ask whether, at prevailing state-contingent prices, a given state-contingent policy leaves a gap between the present value cost of the state-contingent policy and the present value of state-contingent claims available to pay for the policy; i.e. one would do fiscal gap and generational accounting with appropriate state-contingent discount rates.

Ignoring future uncertainty and discounting future government cash flows using a fixed, in my own case, 3 percent real, discount rate, is, therefore, questionable. It could, in fact, lead to an understatement of our fiscal gap. Alex Blocker, Steve Ross, and I made this point in a recent NBER working paper. The reason adjusting discount rates for risk could well raise the size of the fiscal gap is because future government's expenditures appear to be safer than future revenues.

Unfortunately, we don't live in a world of complete contingent markets and using arbitrage pricing theory or other asset-pricing modalities to approximate such markets remains a work in progress.

Another approach is to assessing fiscal policy that accommodates incomplete markets is to simulate large scale life-cycle models experiencing macroeconomic shocks to the economy. In a recent paper, Jasmina Hasanhodzic and I simulate a model with 80-periods (adults living from ages 20 to 100) that has aggregate shocks. The model overcomes the curse of dimensionality using a new algorithm by Judd, Maliar, and Maliar (2009 and 2011) that builds on Marcet (1988). The trick is to restrict the model's solution to its ergodic set.

Ours is the first large-scale life-cycle model to be solved with so many periods that doesn't rely on local approximations. So work with such models has just been born. But over time, economists will be able to produce more and more sophisticated versions of the model and use them to perform Monte Carlo simulations that show how fiscal policy affects the distributions of the economy's future paths and the distributions of current and future generations' levels of welfare. Ideally, such models would accommodate shocks that permit the economy to coordinate on bad as well as good times.

How would such models reveal policies that were unsustainable? They'd do so by not behaving. Specifically, they would refuse to converge to a solution. This is the message I and others have learned simulating dynamic life-cycle models without aggregate shocks. If you push their fiscal policies too hard, the convergence algorithms will no longer function. In work with Hans Fehr and Sabine Jokisch (Fehr, Jokisch and Kotlikoff 2008), we found that pushing the US fiscal policy even a tad farther than is now projected precludes finding a solution, at least with our conventional convergence algorithm.

The responsibility of economists

Macroeconomists, especially those in high office, need to be very careful not to drink their own Kool Aid. Every macroeconomist seems to know for sure what's the true model. But there is too little supporting evidence to justify such religious attachments to any given set of equations, let alone risk the economy's well being on one's enlightenment.

The one thing macroeconomists should keep front and center is what they don't know, and one of those things they don't know is the degree to which the economy can be talked into bad times. Chairman Bernanke did his level best. He spent all of 2012 playing dice with the economy's equilibrium (and he's been spending the last few years playing even higher stakes poker with the economy's money supply and future inflation rate). But Chairman Bernanke didn't have a major banking failure to support his declaration that the sky was failing in – and all because the government was going to take a mini step to resolving its 222 trillion US dollar fiscal gap. On the other hand, had Congress not acted on Christmas Eve to 'save the day', the Chairman might have succeeded in getting the economy to kill itself. We'll never know.

What the Chairman did was to convince the politicians, who needed no convincing, and the adult US public, which seems not to give a damn for its children, that, yet again, this was no time to engage in fiscal restraint, no matter how modest and insuffi-

cient relatively to the immense fiscal crisis facing the United States.

Truth be told, it is hard to estimate the size of the fiscal tsunami that is about to hit the United States and other rapidly aging developing countries that have spent decades letting their oldsters play take-as-you-go with their youngsters. But we economists, including those in power, should know it's a killer. We should also know that using absolutely meaningless deficit measures to pretend it's not there, or is smaller than it seems to be, or is off in the distant future and can be dealt with later constitutes one thing and one thing only – professional malpractice.

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Fiscal Policy in the United States: Still in Need of a Strategy

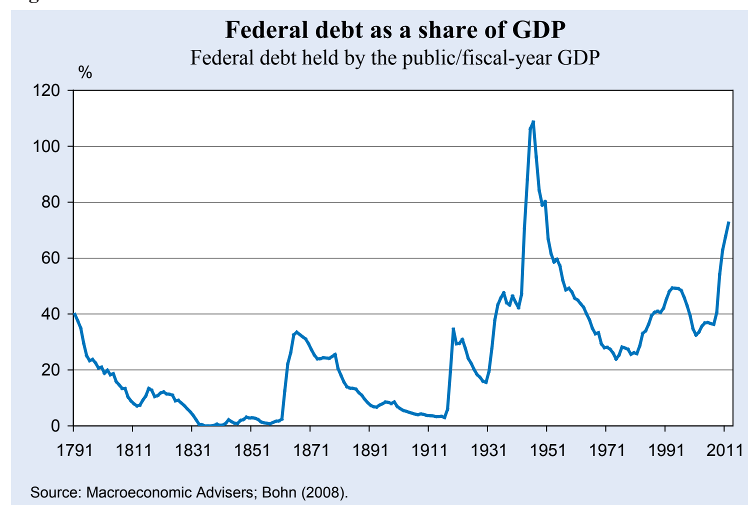
David J. Stockton[1]

Introduction

The fiscal position of the United States has begun to stabilize after substantial deterioration in recent years. Estimates of the federal deficit for fiscal year 2013 have been revised down appreciably, and the trajectory of projected deficits has been lowered some. But the recent improvement, while genuinely positive news, is coming only after cumulative deficits have driven federal debt relative to GDP to levels reached only once before in the history of country. Mounting debt has resulted from a confluence of factors, some that were easily forecastable and others that were largely unforeseen. The emerging demographic pressures on the federal budget arising from the aging of the US population have been well known and anticipated for years. Other factors could not have been anticipated, such as the expenditures associated with the military engagements that occurred in the wake of 11 September 2001. Taken together, these factors had already made the fiscal condition of the US economy more tenuous even before the financial crisis got under way. But of course, the crisis and its aftermath added significantly to deficits and debt, both through cyclical declines in revenues and increases in spending, and through the direct use of fiscal policy to provide stimulus to a slumping economy. The combination of these forces has resulted in a sharp jump in the ratio federal debt held by the public to nominal GDP – from 36 percent on the eve of the financial crisis in 2006 to about 73 percent last year (Figure 1). Some stabilization of this ratio is expected over the next several years. But without further actions, debt to GDP will be on an upward trajectory from its already elevated levels by the end of this decade.

As a consequence, adjustments in policies will be necessary to place deficits and debt on more sustainable paths. The good news is that those adjustments, if undertaken steadily over time, will not entail the type of extremely painful transitions now being experienced by a number of countries in Europe. The bad news is that our political system has not yet exhibited the will or sense of urgency to address the longer-term sources of pressure on the federal deficit. Putting in place now a plan to gradually rectify our longer-term fiscal imbalances would serve several mutually reinforcing objectives, which are: to raise the productive potential of the US economy; to avoid inflicting more painful adjustments on households and businesses in the

Figure 1



[1] Peterson Institute for International Economics. The views expressed in this paper are those of the author and do not necessarily reflect the views of the Peterson Institute for International Economics or other members of its staff.

future; and to limit the risk that, at some point, the fiscal position of the United States reaches a tipping point that could lead to greater economic and financial instabilities.

Over the last couple of years, actions have been taken to curtail federal spending and boost revenues. And, those actions have been larger than is commonly appreciated. But those actions do not yet amount to a strategy for dealing with fiscal sustainability in the United States. Indeed, one could argue that the approach that has been followed to date is clearly suboptimal; we have been imposing considerable restraint in the near term on an economy that continues to recover sluggishly, while we have failed to put in place policies that will achieve sustainability over the longer term.

In the second section, I discuss the actions that have been undertaken in the last several years to tackle our mounting fiscal difficulties and their consequences for recent macroeconomic developments. I lay out in the third section the longer-term outlook for US fiscal policy, including the key factors shaping that outlook. The macroeconomic consequences of alternative fiscal paths are discussed in the fourth section. Finally, in the fifth section, I discuss some of the principal risks surrounding action and inaction to address our fiscal challenges.

Recent actions to reduce the federal budget deficit

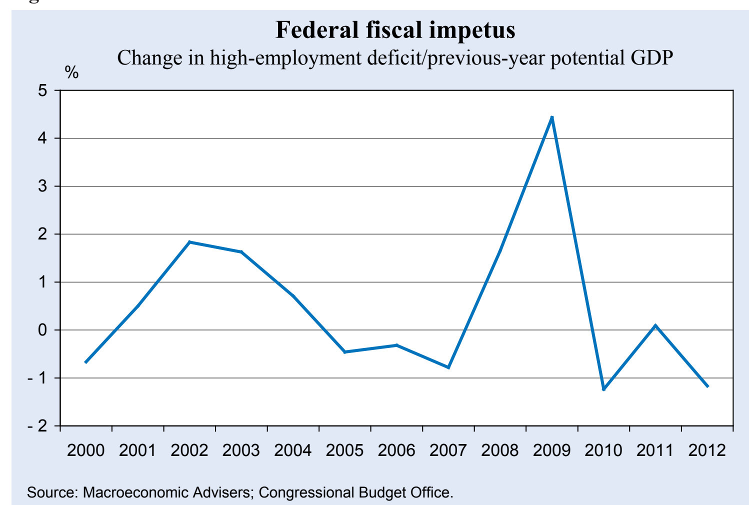
Because the political process in the United States has been so contentious and, at times, chaotic, it would be easy to lose sight of the fact that actions already have been taken in the past few years that have cumulated to a sizable amount of current and prospective deficit reduction. Indeed, a series of steps taken since early 2011 has reduced projected deficits over the next ten years by nearly a cumulative amount of 4 trillion US dollars, inclusive of interest savings. Nevertheless, these actions occurred not as the result of implementing a strategy of fiscal consolidation, but for the most part resulted from efforts to avoid politically induced 'crises'.

In the summer of 2011, faced with the prospect of default on federal financial obligations when borrowing ran up against the debt ceiling, the Administration and Congressional leadership negotiated the Budget Control Act of 2011, which lowered the ten-year deficit nearly 1.1 trillion US dollars; this came on top of 775 billion US dollars of spending cuts enacted earlier that year. To avoid going over the fiscal cliff at the turn of this year, the Administration and Congress reached agreement on and passed the American Taxpayer Relief Act of 2012, which increased marginal tax rates on the wealthiest households and lowered the deficit by about 850 billion US dollars. And most recently, a sequester was triggered on 1 March 2013 that forced across-the-board cuts that lowered cumulative ten-year deficits by 1.1 trillion US dollars.

As a consequence of these actions, fiscal policy has swung quite sharply over the past few years from providing considerable support to the economic recovery to now imposing sizable restraint on activity (Figure 2). According to the estimates of the high-employment deficit from the Congressional Budget Office (CBO 2013c),[2] federal discretionary policy actions were adding considerable impetus to activity in 2009.[3] However, policy actions have subsequently shifted toward restraint – increasingly so in 2012 and 2013. Recent actions, including the effect of the sequester are estimated to reduce growth by about 1-$^3/_4$ percentage points this

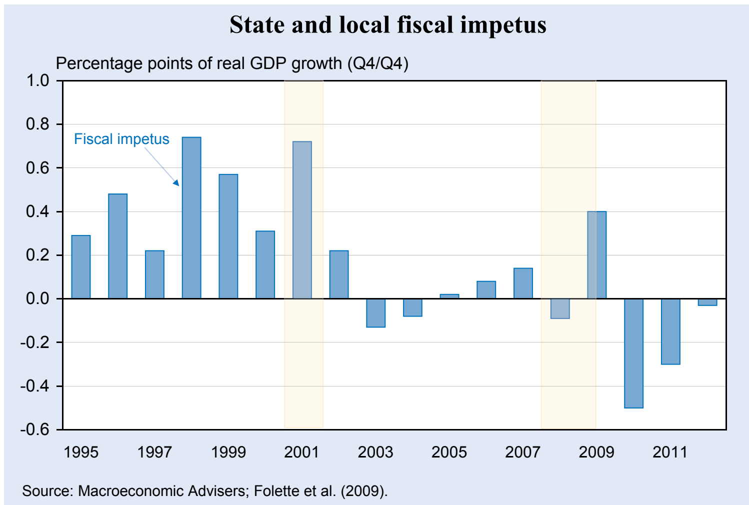
[2] The Congressional Budget Office provides economic analysis and budgetary cost estimates to the US Congress.
[3] The CBO's measure of the high-employment deficit (the deficit excluding the effects of the automatic stabilizers) is an imperfect measure of fiscal stimulus. For example, the 4 percent figure for 2009 overstates the size of the stimulus by including the spending associated with the financial rescue efforts, which probably did not directly boost aggregate demand.

Figure 2



Source: Macroeconomic Advisers; Congressional Budget Office.

Figure 3



Source: Macroeconomic Advisers; Folette et al. (2009).

being squeezed hard by a decline in property tax revenues, slumping sales tax receipts, and declining incomes. As state and local governments have dealt with their budgetary problems and as the overall economic recovery has improved their fiscal condition, these governments have exerted a diminishing drag on activity. In 2012, fiscal actions of state and local governments were about a neutral influence on growth, and they are likely to be a roughly neutral influence this year as well.

year relative to what would have occurred otherwise. In the absence of this fiscal restraint, the United States would have likely experienced a more robust upturn in activity, with growth in real GDP likely running close to 4 percent this year.

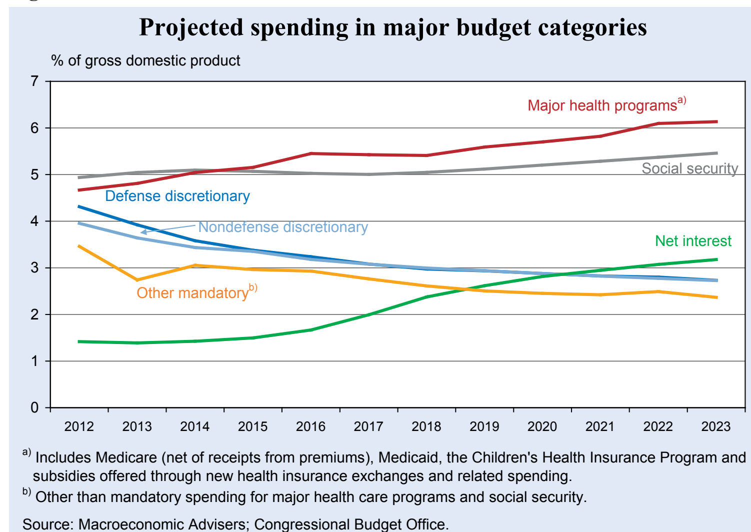
The policies of the federal government are not the complete fiscal story. Actions taken by state and local governments in response the economic fallout from the financial crisis have also shaped macroeconomic developments in the United States in the past several years. In general, state and local governments have limited ability to pursue counter-cyclical policies because of balanced-budget rules and other restrictions. However, during this cycle, a sizable slug of federal fiscal stimulus came in the form of grants to state and local governments. And these governments appear to have used those funds to maintain or increase spending, and thereby provide support to aggregate demand (Figure 3). Federal grants allowed state and local governments to implement stimulative policies in 2009 (Follette, Kusko and Lutz 2009). However, by 2010, these governments were taking actions that, on net, exerted a drag on aggregate activity.[4] The impetus to growth from federal grants was waning, and their budgets were

The longer-term outlook for US fiscal policy

Under the assumption that the fiscal actions taken in the past few years will remain in place, the Congressional Budget Office projects that deficits will decline over the next few years (CBO 2013d). After peaking at nearly 76 percent in 2014, federal debt to GDP is expected to recede to between 75 and 71 percent for the remainder of the decade. But by early next decade, the debt ratio resumes a steady upward climb. In brief, the deficit-reduction measures undertaken to date will result in only a pause in an otherwise upward trend.

As can be seen (Figure 4), the principal drivers of the adverse trends are the major entitlement programs of the United States – Medicare, Medicaid, and Social

Figure 4



a) Includes Medicare (net of receipts from premiums), Medicaid, the Children's Health Insurance Program and subsidies offered through new health insurance exchanges and related spending.
b) Other than mandatory spending for major health care programs and social security.
Source: Macroeconomic Advisers; Congressional Budget Office.

[4] Because the Follette *et al.* (2009) measure includes the effects of actions by state and local governments that were facilitated by increased federal grants, one cannot simply add this measure to measures of federal fiscal stimulus like the one shown in Figure 2.

Security. By contrast, with the notable exception of interest payments on the debt, the other major areas of federal spending are projected to shrink in relation to the size of the economy. Defense outlays fall from about 4-$^{1}/_{2}$ percent of GDP to just 2-$^{3}/_{4}$ percent in 2023 – nearly 2 percentage points below their average over the past 40 years. Likewise, nondefense discretionary outlays – a broad category that encompasses spending on education, infrastructure, R&D, and many other basic functions of government – are projected to fall from about 4 percent of GDP to 2-$^{3}/_{4}$ percent in 2023, also well below their 40-year average of about 4 percent.

Two questions are raised by these projections of discretionary spending: are these reductions feasible, and are they advisable? As for feasibility, the issue will be whether the magnitude of recent cuts will eventually result in declines in services that the public finds unacceptable. Already some greater flexibility to reapportion the cuts implemented under the sequester has been provided in response to public pressure. Although the most likely outcome is that restraint of the magnitude embedded in the sequester will be maintained, that expectation is far from a certainty.

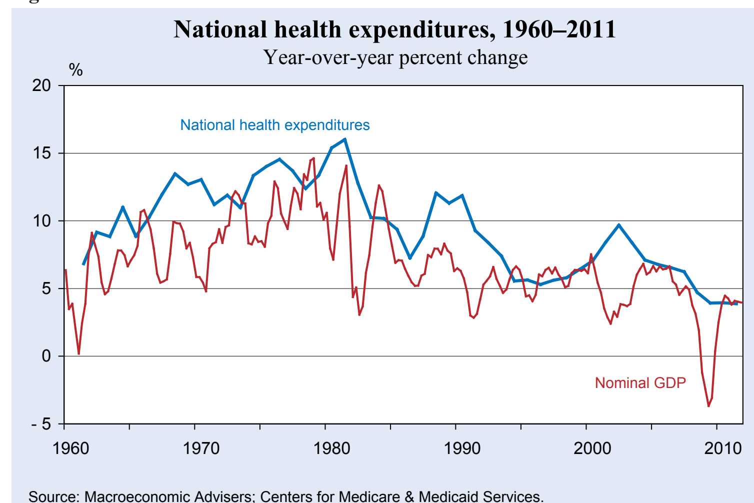
As for advisability, these reductions, at least in their current form, risk cutting some spending that is likely to have high social returns, the implementation of which could ultimately lower the economy's long-term potential output. Spending on infrastructure, education, and scientific research are prominent examples. Moreover, the cuts to defense spending in their current form could hurt military readiness and the ability of the United States to respond to unforeseen challenges.

The longer-term pressures on the federal budget are driven principally by the major retirement and health programs. Social Security outlays are expected to rise from about 5 percent of GDP this year to about 5-$^{1}/_{2}$ percent in ten year's time. The increases associated with Social Security primarily reflect the aging of the baby-boom generation and the resulting demographic bulge in retirements that is just now getting under way.

The projected increases are more dramatic for the federal health care programs, which increase as a share of the economy from a bit below 5 percent in 2013 to about 6-$^{1}/_{4}$ percent in 2023. Once again, demographics are at work. Over the next 10 years, the proportion of the population of the United States that is over 65 years of age will increase by a third. The aging of the population will inevitably generate greater demands for health care, especially through the Medicare program. But the growth in health expenditures is driven by more than demographics. Indeed, the United States faces a broader health expenditure problem, of which federal programs are only one element. Over long periods of time, health expenditures in the United States have grown more rapidly than the overall economy. The interaction of technological advances in medical care, a health delivery system that relies heavily on a fee-for-service model and insurance that largely disconnects medical decision makers from the marginal costs associated with the services being demanded are important factors in the rising cost curve of medical spending. Much has been made of late in the United States of a recent slowing in health expenditures to about the rate of growth of nominal incomes (Figure 5). However, we have experienced other periods when the growth of national health expenditures and nominal GDP converged for a time. Both experience and prudence suggests that it would be wise to gather further evidence before assuming the recent better behavior of health spending will persist.

Just as retirement-related programs are among the main long-term drivers of federal fiscal challenges,

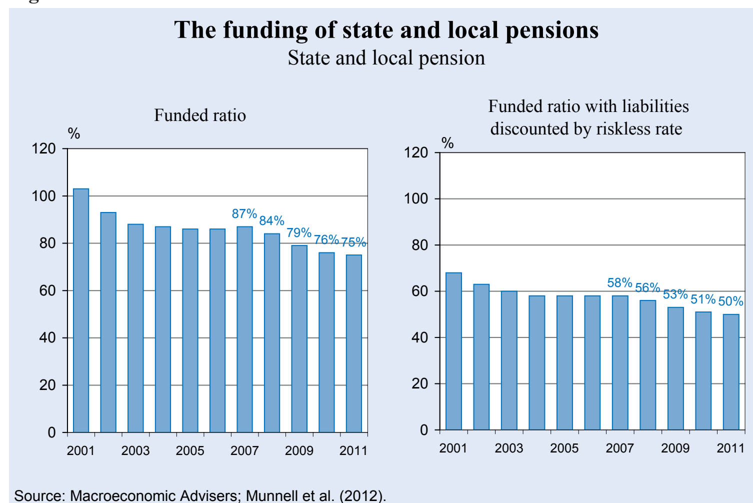
Figure 5



much the same is the case for the long-term budgetary pressures on state and local governments. These governments have made pension promises to their workers that are only partially funded, and the funding position of these pensions has deteriorated in recent years. Estimates of the funding ratios of the pension plans of state and local governments have been made by the Center for Retirement Research (CRR) (Munnell, Aubry, Hurwitz, Medenica and Quinby 2012). These calculations (Figure 6) reveal that in 2011 (the most recently available data) only about 75 percent of the outstanding liabilities were currently funded. That figure is down from about 87 percent in 2007, just as the crisis commenced. And the problem is arguably larger than these conventional calculations suggest. Because the retirement benefits of these workers are protected in most cases by state law, there is relatively little uncertainty surrounding these liabilities. As such, standard finance theory would suggest that these liabilities should be discounted using a risk-free rate, rather than a discount factor that uses the average returns on pension assets – the conventional approach. When the CRR repeats its calculations using a risk free discount factor, the aggregate funding ratio is only about 50 percent of future liabilities of state and local pensions.

In some cases, state and local governments are negotiating 'voluntary' adjustments in these pension programs with workers and retirees. But these actions alone do not seem likely resolve the looming problems. Deep cuts in other areas of state and local spending or sizable increases in taxes or both may ultimately be required to fund the pension promises that already have been made.

Figure 6



The macroeconomic consequences of alternative fiscal paths

The baseline forecast presented by the CBO in February remains a useful point of departure for considering the implications of alternative approaches to dealing with the longer-term fiscal imbalances in the United States (CBO 2013a). And, there is some favorable news in that baseline (the dashed line in Figure 7(1)). The fiscal actions taken to date, combined with a forecast that the US economy will continue to gradually recover, result in a stabilization of federal debt to GNP through late in this decade.[5] However, as noted above, this stabilization represents just a temporary pause in a more persistent uptrend that is driven by the influences of the major entitlement programs discussed in the previous section.

Any serious backsliding from the deficit reduction actions of the past few years could quickly place the fiscal condition of the United States in a more precarious position. For example, if actions were taken that cumulated to a 2 trillion US dollar increase in deficits over the next ten years, debt to GNP would breach the 80 percent level by the end of the decade and be headed quickly to 90 percent.

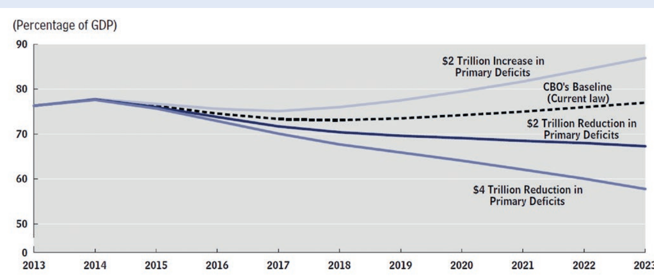
If, on the other hand, the Administration and Congress could agree to further actions to reduce the size of the deficit over the next decade, the nation's fiscal position could be returned long-term sustainability. The CBO (2013b) estimates that an additional 2 trillion US dollars in deficit reducing actions would place the debt-to-GNP ratio on a gradually declining path to below 70 percent by the end of this decade. An even more aggressive attack on deficits that resulted in 4 trillion US dollars of additional reductions over the next ten years would place the debt-to-GNP ratio on a more appreciable downtrend – dropping to below 60 percent by early next decade.

[5] Gross national product (GNP) is a measure of the income earned by domestic factors of production wherever they are located, while gross domestic product (GDP) is a measure of output produced domestically. For assessing the ability of an economy to service its debt, a measure representing the income produced by domestic factors of production (GNP) is arguably a more relevant measure than domestic product (GDP).

Figure 7

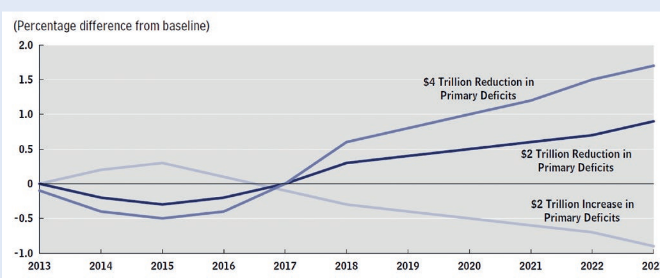
Macroeconomic effects of budgetary paths

(1) Debt held by the public under current law and the illustrative paths, including economic effects, fiscal years 2013 to 2023



Note: The primary deficit equals revenues minus noninterest spending.

(2) Effects of illustrative paths on real GNP, relative to projections under current law, calender years 2013 to 2023



Notes: The primary deficit equals revenues minus noninterest spending. Figures reflect the percentage difference in the annual levels between a path's effects and the outcomes under CBO's baseline, which incorporates the assumption that current laws generally remain unchanged.

Source: Macroeconomic Advisers; Congressional Budget Office.

The macroeconomic consequences of these alternatives are large (Figure 7(2)). Deficit-increasing actions might result in a short-term boost to output relative to baseline, but at a cost of a permanently lower level of output in the future; 2 trillion US dollars of deficit-increasing actions lowers estimated output by nearly 1 percentage point relative to baseline in ten years. Conversely, taking immediate actions to bring down the deficit will result in some weakening of the economy in the near term, but with the benefit of lifting the level of output permanently over the longer haul. Deficit-reducing actions amounting to 2 trillion US dollars over the next ten years would boost the level of real output by about 1 percentage point by the end of that horizon; obviously, 4 trillion US dollars of deficit reduction would lift the level of output commensurately more. Of course, the timing of the tradeoff between lower output from fiscal restraint in the near term and higher output in the longer term is one that policymakers can take action to influence – an issue to which I will return shortly.

The macroeconomic mechanisms by which lower deficits and debt eventually lead to a higher level of real output are familiar ones. Increased national saving is accompanied by a lower trajectory of real interest rates. This, in turn, boosts capital spending, productivity and, with it, the level of income. Obviously, higher deficits and debt crowd out investment, lower productivity, and reduce incomes in the long run.

The risks ahead

Failure to address the longer-term fiscal imbalances in a timely manner poses financial and economic risks to the United States. Current policies are unsustainable in the long run, and thus adjustments will be required at some point. But the circumstances that prompt those adjustments could matter a great deal in determining their economic consequences.

The alternative scenarios discussed in the previous section illustrate the consequences of adjustments made in advance of a crisis. In these scenarios, the risks are easily identifiable; less fiscal adjustment results in a lower capital stock, lower productivity, and lower incomes in the long run. Moreover, macro simulations such as these likely understate the costs of failing to make timely fiscal adjustments. If delay eventually forces larger adjustments in entitlement programs and taxation into a shorter time frame in the future, this will almost certainly cause more disruption to households and businesses. And, as we are witnessing in Europe now, waiting for a crisis to force adjustment is likely the most painful approach to addressing issues of fiscal sustainability.

Perhaps the risk of greatest consequence posed by the still precarious fiscal position of the United States is that a tipping point could eventually be reached. At some point, investors in US federal debt may come to doubt that actions will be taken to put the government on a sustainable fiscal path, at which time they could begin to demand increased risk

premia in compensation for holding Treasury securities. The higher resulting yields and accompanying increase in debt-service costs would then make the fiscal situation even more tenuous, and an unfavorable dynamic could be set in motion that precipitates a full-blown debt crisis. A recent paper by Greenlaw *et al.* (2013) estimates some simple equations that make sovereign debt yields a function of the stock of government debt and the level of current account deficits (relative to the size of the economy). They find effects that are significant, positive, nonlinear, and amplified by the interaction of debt with high current account deficits. Their work indicates that the CBO estimates shown in Figure 7(1) could be far too benign if unfavorable dynamics led rising sovereign yields to feed back into rising debt-servicing costs and deficits.

One does not need to fully embrace the modeling approach or precise estimates provided by Greenlaw *et al.* (2013) to acknowledge that the mechanisms they outline suggest that the risks for instability increase the longer fiscal imbalances are left unattended. Moreover, as is so readily apparent in some countries of Europe today, the economic pain associated with addressing fiscal problems is much greater once those instabilities have manifested themselves. The United States does not yet appear to be at that tipping point, but economists should be very humble about assuming that we will be able to anticipate with much prescience when that point will arrive.

Some concluding thoughts

Viewed from a macroeconomic perspective, the United States is pursuing a suboptimal approach to the mix and cyclical timing of its macroeconomic policies. We are experiencing the pain of implementing restrictive fiscal policies in the context of an economy struggling to gain some forward momentum, while failing to reap the potential benefits of putting in place a credible long-term strategy to re-establish fiscal sustainability. As a consequence, the economic expansion in the United States has been dependent upon highly accommodative monetary policies. Those policies appear to have provided much needed support to aggregate demand. But both the benefits and costs of unconventional monetary policy are more uncertain than those of conventional monetary policy and are arguably more uncertain than the effects of fiscal policy.

An alternative approach is possible. Policy makers should work with a sense of urgency to put in place a credible strategy to address our longer-term fiscal imbalances. That sense of urgency is not driven by the view that we face an imminent threat to financial and economic stability from our fiscal imbalances; while imminent instability cannot be ruled out, I judge it to be a reasonably low probability event over the next several years. Rather a sense of urgency should be generated by the potential dividends such a strategy could pay and pay now. Implementing a credible strategy that relied on increasing restraint as the economy gains a firmer footing would likely result in an immediate easing of interest rates and of broader financial conditions. That easing of financial conditions could reinforce the accommodative thrust of monetary policy and perhaps even hasten its eventual re-normalization. Moreover, much as well-anchored inflation expectations have allowed the Federal Reserve to use monetary policy to aggressively counter the weakness in the economy, a credible long-term plan to address our budget imbalances would likely provide flexibility to dial back on some of the near-term restraint that is being imposed by fiscal policy at present. If that were possible, the probability of a more vigorous expansion in the United States would be improved.

The key elements of a longer-term strategy for fiscal balance are reasonably clear. Major federal entitlement programs must be reformed to curb their ever-increasing draw on national resources. At the same time, the aging of the population suggests that spending will need to be above historical norms, at least for a time, and thus increased revenues should be part of the fiscal solution. The current course of fiscal restraint is relying too heavily on cuts to discretionary spending, at least some of which have negative consequences for the economy's long-term growth potential and for national security. Considerable benefits would flow from adopting a coherent fiscal strategy for the United States.

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Jumping the Fiscal Cliff: The Political Economy of Fiscal Policy-Making under President Obama

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Julia Howald[1]

On New Year's Eve 2012, US Congress and the President narrowly avoided the fiscal cliff. A similar compromise, however, could not be struck in March 2013, and Washington plunged head long into painful budget cuts, the so-called sequester. The sequester is just the latest episode in the squabble between Democrats and Republicans on how to best reduce government debt and help to get the economy back onto a sound footing. While the sequester and previous budget measures have shown initial results – the Congressional Budget Office (CBO) expects the deficit for the fiscal year 2013 to fall to 4 percent – it not only dampens short-term economic growth prospects, but also severely prevents the government from making much needed investments in the country's deficient infrastructure and education system. No doubt, budget cuts were necessary as the debt-to-GDP ratio is not sustainable. But indiscriminative across-the-board cuts such as those under the sequester could prove a problem for the country's long-term competitiveness. How did we get here? Why has it been so difficult for Congress and the President to agree on a more sustainable fiscal policy path? The answer lies not only in deeply diverging ideologies, but also in a dysfunctional political system.

Phase 1: stabilizing the economy 2008–2010

At the beginning of the financial and economic crisis, Republicans and Democrats agreed that swift and meaningful actions were necessary to stabilize the economy. The situation could not have been more dramatic. During the last two quarters of 2008, US economic growth declined by 3.7 percent and 8.9 percent respectively – the US economy had not experienced a hit of such severity since 1982. In 2009, the US economy shrunk by another 3.1 percent (Bureau of Economic Analysis 2013). The reasons for the contraction were first and foremost a large decline in private consumption – private consumption accounts for approximately 70 percent of US gross domestic product (GDP) – and fixed capital formation (caused, in particular, by the collapse of residential construction) – see Kirkegaard *et al.* (2011). Unemployment skyrocketed. In 2009 the rate climbed to 9.3 percent, averaging 9.6 percent in 2010 and 8.9 percent in 2011 (Bureau of Labor Statistics 2013).

To stabilize the financial sector and to rejuvenate economic growth, the US government passed several rescue and stimulus measures. Under the 700 billion US dollar Troubled Asset Relief Program (TARP, enacted on 3 October 2008), the Treasury invested in dozens of struggling banks and other financial institutions such as the insurance company AIG, as well as in the automobile industry (General Motors, Chrysler). In February 2009, Congress passed the American Recovery and Reinvestment Act (ARRA). The 787 billion US dollar stimulus package (later increased to 840 billion US dollars to be consistent with the President's 2012 budget) included federal tax incentives, an expansion of unemployment benefits and other social welfare provisions, as well as domestic spending in education, health care and infrastructure (Francoz 2010). The main focus, amounting to 290.7 billion US dollars, was on tax benefits, including individual tax credits, the Making Work Pay Program, as well as tax incentives for business and energy. Contracts, grants and loans for education, transportation, infrastructure, energy/environment, housing, health/family, research and development, public safety, and job training/unemployment amounted to 254.5 billion US dollars and entitlements (such as unemployment insurance and Medicaid/Medicare) to 250.8 billion US dollars (see

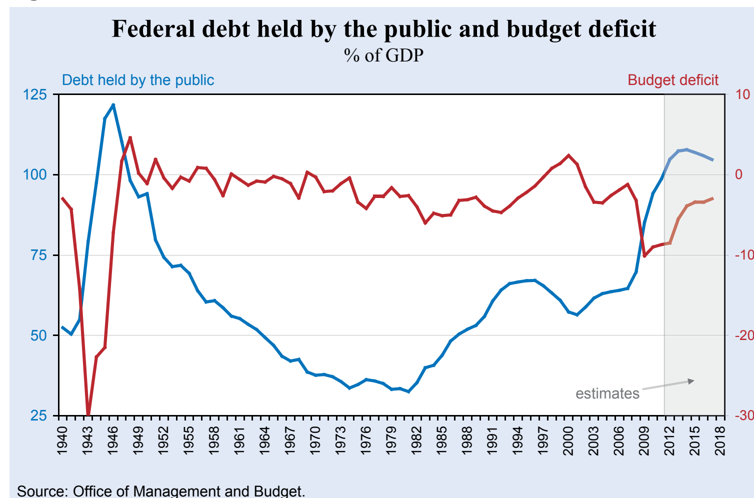
[1] Stiftung Wissenschaft und Politik – German Institute for International and Security Affairs, Berlin.

Recovery.gov 2012). The vote on ARRA already showed, however, that fiscal policy-making would not be easy for President Obama. Of the 264 affirmative votes in the House, all came from Democrats – 176 House Republicans voted against the bill (plus 7 Democrats). The Senate vote looked similar: 56 Democrats and 2 Republicans voted for the bill, but most Republicans (38) voted against it (Govtrack.us 2009).

Figure 1

Federal debt held by the public and budget deficit

% of GDP



Source: Office of Management and Budget.

Given high unemployment and the persistent problems in the housing sector, Congress passed a second stimulus bill in mid-December 2010, shortly after the midterm elections: the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010. Its passage, however, was neither smooth nor easy. As the Democrats had lost the majority in the House to the Republicans in the midterm elections, they were keen to pass the legislation before the new government took over in January 2013. To secure the necessary votes, Democrats agreed to a compromise: in return for an extension of unemployment aid and tax cuts for the lower and middle income class, they agreed to extend President Bush's 2001 and 2003 tax cuts for higher income households. The 858 billion US dollar package thus included a reauthorization of federal unemployment benefits for another 13 months amounting to 56 billion US dollars and 802 billion US dollars of tax cuts (The White House 2010). The passage of the bill was thus more bipartisan than the vote on ARRA: in the House, 139 Democrats and 138 Republicans supported the legislation; in the Senate, 43 Democrats and 37 Republicans voted for the bill (Govtrack.us 2010). This is not too surprising as both parties got what they wanted without having to make excessively large concessions. Moreover, the looming debt problem was not addressed.

The tide was already turning at that point, however, and fiscal sustainability gained in prominence. When the fiscal year ended in September 2010, the budget deficit stood at 8.9 percent of GDP; for FY 2011, the CBO estimated a budget deficit of 8.5 percent (see Congressional Budget Office 2011b). The CBO also forecasted that federal debt held by the public could reach almost 101 percent of GDP by 2021 and 187 percent by 2030 (Congressional Budget Office 2011a), up from about 63 percent at the end of fiscal year 2010 (Office of Management and Budget 2013a). The public grew increasingly discontent with the situation. While in March 2009 52 percent of US citizens believed that Obama was handling the budget well, this percentage shrank to 36 percent in November 2010, according to a survey conducted by CNN/Opinion Research Corporation.[2] While in 2009 the budget deficit ranked only ninth among the 20 top priorities (53 percent of the population believed that it was a top priority), it ranked seventh (60 percent) in 2010 poll and sixth (64 percent) in 2011 according to polls conducted by Pew (2009, 2010 and 2011).

Phase 2: from fiscal expansion to fiscal contraction

While both Democrats and Republicans agreed on the severity of the problem, they greatly differed in their views on how to best balance the budget and reduce debt. In early December 2010, the bipartisan National Commission on Fiscal Responsibility and Reform (often called Simpson-Bowles according to the names of co-chairs Alan Simpson and Erskine Bowles) released its report 'The Moment of Truth', but failed to reach the 14 votes necessary to move its deficit-reduction proposal to Congress, with a final tally of 11 members voting in support of and 7 against the proposal. The plan was ambitious: it proposed nearly 4 trillion US dollars in deficit reduction by 2020, recommended reduced tax rates, broad

[2] CNN Opinion Research Poll, 15 November 2010, http://i2.cdn.turner.com/cnn/2010/images/11/15/rel16a.pdf.

spending cuts and tax expenditure changes, as well as health care and entitlement reforms. According to the proposal, the deficit would have been cut to 2.3 percent of GDP by 2015, while the debt would have been stabilized by 2014, reducing it to 60 percent of GDP by 2023 and 40 percent of GDP by 2035.

However, the inability of the Simpson-Bowles Commission to come to an agreement was only the prelude to a year of Democrats and Republicans fighting tooth and nail for their deficit and debt reduction visions, cumulating in a near government shutdown in April and government default in August 2011. In mid-January 2011, Treasury Secretary Timothy Geithner warned Congress in a letter that a delay in raising the 14.29 trillion dollar US statutory debt limit could make markets price in the risks of a default and undermine economic recovery.

The Republicans used the debt limit as leverage to push the Obama administration into accepting severe spending cuts for the 2011 FY budget as well as a bargaining chip for the 2012 FY budget. The fight over the 2011 budget was reminiscent of the 1995 government shutdown under the Clinton administration, when Republicans and Democrats could not agree on budget cuts. The fiscal year had started on 1 October 2010. As Congress had failed to pass some of the spending bills comprising the annual federal budget, the government had to operate under 'continuing resolutions'. According to the Constitution, Article I, Section 9, "[n]o money shall be drawn from the Treasury, but in consequence of appropriations made by law", meaning that if the government fails to pass a budget, it also cannot spend. On 8 April 2011, Congress passed a last-minute budget deal, thus narrowly avoiding a government shutdown by extending federal government funding. Democrats and Republicans found a compromise: discretionary spending for the rest of FY 2011 was to be nearly 39 billion US dollars less than had been budgeted for the previous year, and 79 billion US dollars less than Obama had wanted for 2011 (see also Bendavid and Hook 2011).

The next showdown came in July/August 2011 when time ran short to find a compromise on raising the debt limit. The US government had hit the debt ceiling on 17 May, triggering a series of measures to stave off a default. According to the Treasury, the ultimate deadline for technically defaulting on its debt was early 2 August 2011. Only in the eleventh hour did Congress vote for the Budget Control Act of 2011: the law immediately raised the debt ceiling by 400 billion US dollars. In addition, the debt ceiling was to be increased further in two steps: by 500 billion US dollars in September 2011 and by 1.2 trillion US dollars in January 2012. The law initiated these two increases to automatically take effect unless Congress would prevent them through a disapproval process. The House, in fact, passed a 'resolution of disapproval' on 18 January 2012, to prevent the 1.2 trillion US dollar increase in the debt ceiling, but the resolution died in the Senate (Govtrack.us 2012). Overall, the Budget Control Act of 2011 thus raised the debt limit from 14.3 trillion to 16.4 trillion US dollars.

The Act also called for spending cuts amounting to 917 billion US dollars over the next ten years. Furthermore, a bipartisan 12-person House and Senate special committee, the Joint Select Committee on Deficit Reduction, was created to identify further spending cuts to reduce the federal deficit by at least 1.5 trillion US dollars over the years 2012-2021. The so called 'Super Committee' was to complete its work and present a proposal cutting the deficit by at least 1.2 trillion US dollars by Thanksgiving 2011, and Congress was then to hold an up or down vote on the committee's recommendations by 23 December. The legislation was to be fast tracked through Congress with protections against filibustering and amendments. Hoping to incentivize an agreement, the compromise included a considerable threat: if an agreement was not signed into law by 15 January 2012, automatic cuts were to be triggered starting in 2013 (after the presidential election), equally divided between defense and non-defense spending (Social Security, Medicaid, Military Retirement and some other social programs were exempted from these cuts) – see Heniff *et. al.* (2011). Nonetheless, the Super Committee failed, and the Thanksgiving deadline passed without results. The committee was terminated on 31 January 2012, as mandated by the Budget Control Act.

The only way for Congress to avoid the automatic spending cuts to take effect in 2013 was to pass a bill some time in 2012 that would replace the sequester with otherwise specified cuts. In May 2012, US Congressman Paul Ryan (Mitt Romney's running mate in the 2012 presidential elections) introduced the Sequester Replacement and Reconciliation Act of 2012 in the House to do just that. The bill passed

the House, but not the Senate. With the presidential elections scheduled for November 2012 and a divided government in place, all attempts to reach a bipartisan agreement failed. Only at the very last minute – on the morning of 1 January 2013 – was Congress able to reach a compromise that at least kept sequestration from taking effect right away. The American Taxpayer Relief Act of 2012 (ATRA) postponed sequestration by two months, thereby allowing for more time to find an alternative solution. ATRA was mainly negotiated by Vice President Joe Biden and the Republican Party whip in the Senate, Mitch McConnell. The compromise also raised taxes for top earners – a significant concession by the Republicans – while at the same time keeping the temporary income tax cuts that had been enacted by George W. Bush in 2001 and 2003 in place for the bulk of the population; these tax cuts otherwise would have expired at the end of 2012.

In more detail, ATRA increased the income tax rare for individuals earning over 400,000 US dollars annually and couples earning over 450,000 US dollars annually from 35 to 39.6 percent. Rates on capital gains and dividends rose from 15 to 20 percent. Certain tax deductions for individuals earning more than 250,000 US dollars and couples earning over 300,000 US dollars were scrapped. In addition, the estate tax for estates worth over 5 million US dollars rose from 35 to 40 percent. For all individuals and couples earning less than 400,000 US dollars and 450,000 US dollars respectively, the temporary Bush tax reductions were made permanent. Tax breaks for students and low-income families, which President Obama had enacted in 2009, were prolonged by five years. Certain benefits for the long-term unemployed were extended by one year, while business tax breaks aimed at promoting investment were also extended. Furthermore, ATRA permanently fixed the alternative minimum tax (AMT) exemption and established an automatic adjustment of the tax to inflation.

Taken together, these measures reduce the deficit by 737 billion US dollars over a period of ten years. If ATRA had not been enacted, on the other hand, sequestration and the expiration of the Bush-era tax cuts would have reduced the budget deficit by 560 billion US dollars in FY 2013 alone (in comparison to the previous year) – see Howald *et al.* (2013). At the same time, however, spending cuts and rising taxes would have caused a new recession, as the Congressional Budget Office warned in November 2012 (Sloan 2012).

While ATRA did not include a provision on the debt limit – public debt had reached the 16.4 trillion mark at the end of 2012 – the House passed a bill on 23 January that suspended the debt ceiling until 19 May. The Senate followed suit on 31 January, and on 4 February President Obama signed the No Budget, No Pay Act of 2013 (Govtrack.us 2013a). The title of the law stems from an unusual provision that is part of the bill, which was included on behalf of the Republican Party: should Congress fail to agree on a budget resolution for FY 2014 by 15 April, the salary rates of all members of Congress would be frozen (Govtrack.us 2013b). The Republican Party had initially demanded that raising the debt limit should be matched by spending cuts of the same size. Unlike in 2011, however, they finally decided against such a confrontative strategy, seeing the primary need to pass a budget for the running FY 2012 (Sherman 2013).

That Congress was able to pass ATRA and agree on a suspension of the debt limit gave fresh hope to the possibility of achieving a long-term solution regarding sequestration and the debt limit. A large number of Republican Congressmen and Senators actually broke the Taxpayer Protection Pledge in which they promised to never vote in favor of raising taxes; but hopes were soon to be disappointed.

Phase 3: fiscal impasse

On 1 March 2013, the automatic spending cuts of the sequester took effect. These cuts amount to 85 billion US dollars in fiscal year 2013 alone and 1.2 trillion US dollars in total over the next ten years. As the Budget Control Act of 2011 dictates, half of those cuts apply to the defense budget. The other programs affected are the Federal Bureau of Investigations (FBI), the Securities and Exchange Commission (SEC), the Federal Emergency Management Agency (FEMA), airport security, the Food and Drug Administration (FDA), and special education, just to mention a few (Matthews 2013).

The government only barely avoided another fiscal disaster. When the sequester took effect, the US government operated under the Continuing Appropriations Resolution, 2013, which it had

passed in September 2012 to ensure government funding for the next six months (Govtrack.us 2013c). A new continuing resolution was thus urgently needed. On 4 March, Republican Representative Hal Rogers introduced the Consolidated and Further Continuing Appropriations Act, 2013 (H.R. 933) in the House, which according to the CBO, would result in 984 billion US dollars in new budget authority (Govtrack.us 2013d). It passed the House two days later. On 20 March the Senate passed the continuing resolution H.R. 933, but included some changes to Hal Roger's proposal, so that the bill had to be referred to the House once more. The House voted in favor a day later, and President Obama finally signed the bill into law on 26 March – the day before the federal government would have run out of funding. The bill now enables funding until the end of fiscal year 2013, which ends in September, and made some smaller changes to the automatic spending cuts introduced on 1 March (Govtrack.us 2013c).

By that time, Congress was also far behind in its schedule to draw up a budget for FY 2014. On 15 March, both parties officially introduced budget proposals: Rep. Representative Paul Ryan, who is the current chairman of the House Budget Committee, presented his bill in the Republican-controlled House, whereas Democratic Senator Patty Murray introduced her proposal in the Democrat-controlled Senate. Paul Ryan's proposal includes cuts to Medicaid and food stamps and would repeal Obama's health care reform ('Obamacare'). Ryan's bill passed the House on 21 March, but is highly unlikely to ever pass in the Senate. Patty Murray's bill passed in the Senate on 23 March; it is the first budget proposal in four years to reach a majority in the Senate. Nevertheless, the bill is just as unlikely to ever be signed into law. No Republican Senator voted for it (Govtrack.us 2013e and 2013f). The plans reveal the stark differences between the Democrats and the Republicans: the former want to reduce the deficit by 1.9 trillion US dollars over a ten-year-period through an even mix of tax increases for the rich and spending cuts. Still opposing any tax increases, the GOP, on the other hand, wants to reduce the deficit by 4.6 trillion US dollars over the same period (Nather 2013).

On 10 April, President Obama finally presented his budget proposal for fiscal year 2014, two months after the legal deadline. The proposal plans for 1.8 trillion US dollars of deficit reduction over the next ten years – a number slightly below Patty Murray's and significantly below Paul Ryan's target. Spending cuts together with tax increases would thus reduce the deficit to 2.8 percent of GDP by 2016 and 1.7 percent by 2023. The implementation of the 'Buffet Rule' would require households with incomes above 1 million US dollars per year to pay income taxes of at least 30 percent (Office of Management and Budget 2013b).

At present, it cannot be expected that the President's proposal will pass the Republican-controlled House of Representatives. Of the three budget proposals on the table – Paul Ryan's, Patty Murray's, and President Obama's – not one seems to have realistic chances of ever being implemented. Moreover, the problem of the debt ceiling is again pressing as the suspension under the No Budget, No Pay Act ended on 19 May. The Bipartisan Policy Center estimates that the government will find ways to pay its bills until October or November, with the Treasury deploying 'extraordinary measures' (Akabas and Collins 2013). To avoid risking the creditworthiness of the country and driving away investors in case the debt ceiling was reached, the House on 9 May passed the Full Faith and Credit Act. The bill, as the full title describes, would "require that the Government prioritize all obligations on the debt held by the public in the event that the debt limit is reached" (Govtrack.us 2013g). Given that it would prioritize bond holders' interests, Democratic opponents of the bill labeled it 'Pay China First Act', and President Obama announced that he would veto the bill if it was ever passed by the Senate.

Congress has thus neither been able to find a solution to the debt limit problem to date, nor have Democrats and Republicans come anywhere near to agreeing on a budget for fiscal year 2014. On a positive note, the Congressional Budget Office estimated the budget deficit for the fiscal year 2013 at 4 percent (or 642 billion US dollars) of GDP. Earlier this year it had still expected a deficit of 5.3 percent of GDP. The reasons for this downward correction are an improving economy, the tax increases that were introduced by the ATRA, the spending cuts enacted on 1 March, and above all an increase in dividend payments to the US Treasury by the mortgage agencies Fannie Mae and Freddie Mac (Congressional Budget Office 2013a and 2013b; The Economist 2013). While the budget cuts will slow real GDP growth down to 1.4 percent this year, CBO expects growth to recover

to 3.4 percent in 2014 (Congressional Budget Office (2013c). However, this positive outlook should not obscure the fact that the budget cuts severely impede the government to make the necessary investments into the country's education system as well as transportation and energy infrastructure, which show severe deficits.

Conclusion: diverging ideologies and party polarization

US fiscal policy is symbolic of the reform deadlock in Congress; the 112th Congress was the least productive on record both in terms of the number of laws passed and the number of formal negotiations held (Dinan 2013). While Obama was able to push through several large bills (health care and financial regulatory reform) during the first two years of his first term – Democrats held the majority in both chambers of Congress –, no meaningful legislation was passed in 2011/2012; and the start of his second term does not look too hopeful.

What explains the current paralysis in Washington? The US political system is based on the principle of checks and balances. The founding fathers of the United States were careful to prevent the concentration of power within one of the branches of government. As a result, a divided government – currently, the President is a Democrat while the Republicans hold the majority in the House and the Democrats in the Senate – is not uncommon in the United States. This in itself is not a problem as long as the parliamentarians are willing to compromise. In the past, Representatives and Senators have tended to vote according to the interests of their districts/states rather than along party lines. Party discipline has been comparatively weak – an important prerequisite for bipartisan decision-making and finding compromises. This has changed, however, and votes have become increasingly partisan. In addition, the ideological distance between the two parties in Congress has grown steadily in recent decades. The polarization today has reached a level that is comparable only to the period after the end of the American Civil War. As during that period, there are hardly any ideological intersections between the two parties today. Contributing to the polarization was the increasing popularity of the conservative Tea Party, which gained in power in particular in the 2010 midterm elections, while the Democrats seemed to have moved further to the political left. Furthermore, the passage of the health care reform, the Patent Protection and Affordable Care Act ('Obamacare'), and the financial overhaul bill (Wall Street Reform and Consumer Protection Act) left the Republicans highly frustrated. Republican Senate Minority Leader Mitch McConnell's statement: "the single most important thing we want to achieve is for President Obama to be a one-term president" is paradigmatic for the position most Republicans held, consequently blocking any kind of legislation proposed by the Democrats.

A lack of personal contact between the parliamentarians has contributed to the deepening of the political divide. The fluctuation in Congress has increased considerably, which, in turn, means that many parliamentarians are spending a growing amount of time in their districts, as the struggle for re-election requires not only a high presence in the home, but also a growing fundraising effort to finance the ever increasing campaign costs.

Last but not least, deeply diverging beliefs and ideologies must be made responsible for Washington's inability to govern on fiscal issues: arguing that higher taxes and deficits strangled private business, Republicans believe too much public spending destroys jobs and hinders economic growth, which is why they reject measures of this kind. In their 'Pledge to America' agenda, Republicans called for an end to what they labeled the 'Keynesian experiment'. They want government spending to be reduced to pre-crisis levels and view tax cuts (including tax cuts for wealthy Americans) as the appropriate means to increase domestic demand and stimulate the economy. The conservative wing of the Republicans, the Tea Party, goes one step further. In their 'Contract from America', they argue for making a balanced budget a constitutional requirement. Tax increases should only be passed by a two-thirds majority in Congress. The Democrats, on the other hand, assign the state a greater role in regulating and stimulating the economy. They believe that a safety net consisting of basic entitlement programs such as Medicare, Medicaid and Social Security is necessary to ensure a certain level of equality and fairness in society. They also campaign for higher taxes for the rich and a greater redistribution of wealth to prevent economic inequality from growing too much. In his Inaugural Address of 2013, Obama strongly defended these welfare programs, saying "they free us to

take the risks that make this country so great" (The White House 2013).

The tax compromise achieved on New Year had raised some hopes that Democrats and Republicans might start to work together more productively on fiscal matters. Instead, however, it might actually have added to the polarization of the two political parties. With ATRA, the Republican Speaker of the House, John Boehner, had brought a bill to the floor that the majority of his party opposed. Before pushing for further compromises with the Democrats, Boehner had to prove that the concessions he negotiated paid off – at least if he wanted to keep his position as Speaker. For those Republicans who had voted for ATRA and were still in office after the new government took over in early 2013, their room to maneuver was exhausted, having broken the tax pledge and fearing for their reputation.

It currently does not seem very likely that any major reforms (including a much-needed reform of the tax code) can be achieved before the midterm elections in 2014.

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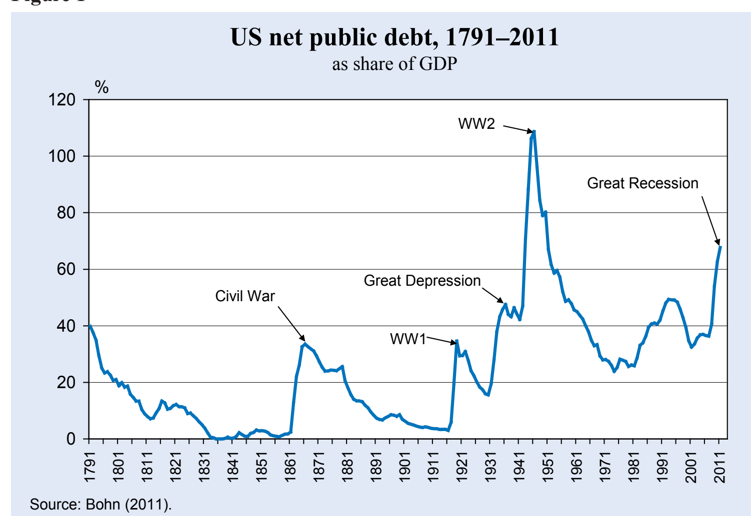
The US Fiscal Crisis: The Debt Sustainability Delusion and the True Costs of Fiscal Austerity

Enrique G. Mendoza[1]

Figure 1



Source: Bohn (2011).

With all the attention that the eurozone sovereign debt crisis attracts it is at times difficult to keep in mind that in the United States, even if default risk is not an issue at present, the fiscal situation is dire. In fact, the United States faces a fiscal crisis of historic proportions. Unfortunately, the heated debates on the sustainability of the public debt over the long run, associated with discussions on the large recent public deficits and the growth of entitlement programs, and on recurrent mini-crises linked to events like the 'fiscal cliff', the debt ceiling increases, and the spending 'sequester', often miss the point. In this note, I document the historic dimensions of the US fiscal crisis, and argue that debates on the sustainability of the long-run public debt-GDP ratio are misguided, and far less important than the costs that will be incurred as a result of the need to align the debt that is already outstanding today with the government's ability to pay.

US public debt and deficits since the birth of the Republic

The historic dimension of the ongoing US fiscal crisis is evident in Bohn's (2011) estimates of the federal net public debt and primary fiscal balance dating back to 1791, a year after the Funding or 'Debt Assumption' Act of 1790, the effective starting point of US federal debt. Looking at the debt as share of GDP in Figure 1, and defining a fiscal or public debt crisis as a year-on-year increase in the debt ratio larger than two-standard deviations (above 8.15 percentage points in Bohn's debt data), five events are identified: the two world wars (World War I with an increase of 28.7 percentage points over 1918–1919, and World War II with 59.3 percentage points over 1943–1945), the Civil War (19.7 percentage points over 1862–1863), the Great Depression (18.5 percentage points over 1932–1933), and yes, the Great Recession (22.3 percentage points over 2009–2010). The Great Recession ranks as the third largest, with increases in public debt larger than in the Civil War and the Great Depression.[2] Thus, the United States is up against its third most serious debt crisis since the creation of the Republic, with a surge in debt larger than those caused by a large-scale armed conflict or the unprecedented economic debacle that the Great Depression remains today. The gravity of the US fiscal outlook is accentuated further if we compare the evolution of primary bal-

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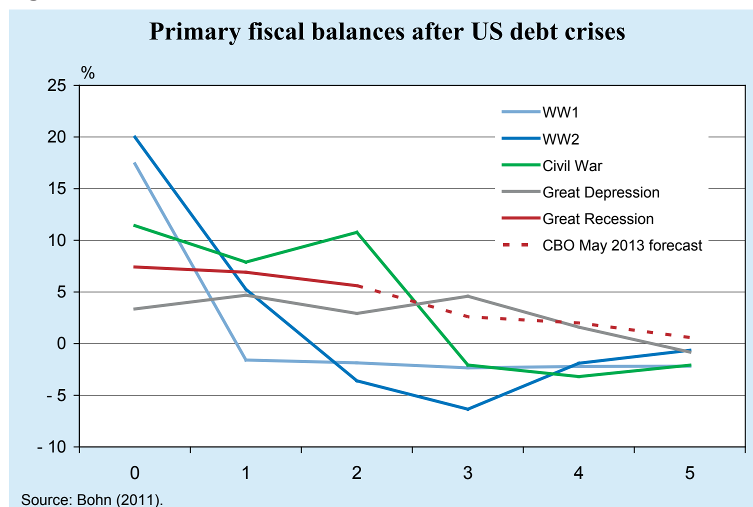
[2] Public debt in the hot-zone countries of the European debt crisis has increased as much or more than in the United States in the Great Recession. Weighted by GDP, the combined increase in the debt ratio in Greece, Ireland, Italy, Portugal and Spain reached 30 percentage points between 2007 and 2011, with increases ranging from 17 percentage points in Italy to 83 percentage points in Ireland.

ances after the peaks of all five US debt crises (see Figure 2). All events started with large deficits, yet strikingly in all events but the current one, the primary balance turned into a surplus relatively soon. In fact, in all three world-related debt crises a large primary deficit turned into a small surplus within three years. By contrast, according to the latest baseline projections from the Congressional Budget Office (*Updated Budget Projections: Fiscal Years 2013 to 2023,* CBO, May 2013), the US primary balance will not register a surplus at any time during the next 10 years. The primary deficit will shrink to 0.6 percent of GDP in 2015 and hover around 0.4 percent through 2023. In addition, relative to the Great Depression, the first three deficits of the Great Recession were about twice as large, and by five years after the peak of the Great Depression debt crisis the country had a primary surplus of 0.8 percent of GDP. In summary, the increase in debt has been of historic proportions and without prospects for a correction of the primary balance anywhere near those observed in *all* previous historic US debt crises.

Figure 2



Source: Bohn (2011).

The delusion of sustainable public debt ratios

The concept of a sustainable public debt ratio is simple: a sustainable public debt ratio for the purpose of Macroeconomic surveillance (with apologies to Macro Theorists who dislike using the term sustainable in other than the game-theoretic sense) is one that is consistent with fiscal solvency, or more precisely, consistent with the intertemporal government budget constraint. This means that the outstanding public debt ratio *today* needs to match the expected present discounted value of future primary balances. Formally, define the government budget constraint in shares of GDP each period as:

$$(1)\quad d_t - \frac{\gamma_{t+1}}{R_{t+1}} d_{t+1} = pb_t$$

Here, d_t is the debt-output ratio, pb_t is the primary balance-output ratio, γ_{t+1} is the rate of output growth, and R_{t+1} is the real interest rate on public debt issued at t and maturing at t+1. Then, defining $\phi_{t+1} = \gamma_{t+1}/R_{t+1}$ and if the no-Ponzi-game condition holds, recursive substitution using (2) yields the intertemporal government budget constraint, or solvency condition of the government:[3]

$$(2)\quad \frac{d_0}{y_0} = \frac{pb_0}{y_0} + \sum_{t=1}^{\infty}\left[\prod_{i=1}^{t}\phi_i\right]\frac{pb_t}{y_t}$$

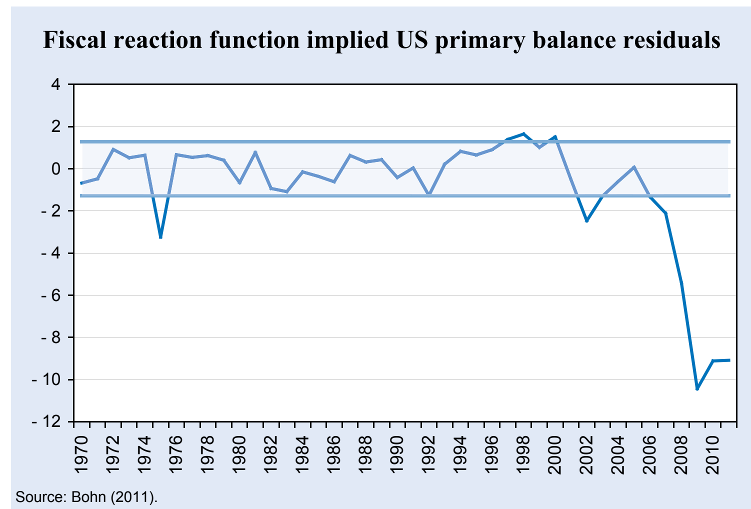
Despite the simplicity of this fiscal solvency notion, many pages of journals, textbooks and policy publications have gone into studying and proposing various techniques for assessing it empirically, many of which have been debunked by the seminal work of Henning Bohn. After several articles digging deeper into the issue, he showed that all what is needed to satisfy condition (2) is that the public debt be a stationary time series at ANY finite order of differencing (see Bohn 2007). The mathematics of this have to do with the simple fact that exponential growth (at which the discounting of future debt in the No-Ponzi game condition evolves) always dominates polynomial growth (at which that future debt ends up growing when debt is difference-stationary of a finite order). But the interesting insights are two: first, the debt can be sustainable even if it converges to a very high share of GDP, in fact it can be sustainable

[3] This formulation assumes that all public debt is one-period debt, which is unrealistic. As of May of 2012 the average maturity of US treasuries was 5.3 years. Following Hatchondo and Martinez (2009), we can approximate multiple maturities by introducing a consol with payouts falling at a constant rate δ. This *lowers* the discount factor of primary balances to $\phi_{t+1} = (\gamma_{t+1}/R_{t+1})/[1+(\gamma_{t+1}/R_{t+1})(1-\delta)]$, which for the same interest and growth rates implies that *larger* primary balance streams are needed to generate a given present value as the average maturity of debt rises. For instance, if pb is constant and γ_{t+1}/R_{t+1} is constant at 1.02, the present value of the primary balances with one-period debt equals $51pb$, whereas at an average maturity of 5.3 years it falls to $2.2pb$. Thus, the one-period-debt assumption is by far the most optimistic scenario.

even if it explodes, just not ‘too fast’. Second, as an implication of the first, establishing debt sustainability in observed data (i.e. in the past) is not a productive endeavor.

Figure 3

Fiscal reaction function implied US primary balance residuals



Source: Bohn (2011).

To illustrate further these points, and apply them to the current US experience, consider a sufficient condition for debt sustainability that also follows from Bohn’s work: the existence of a fiscal reaction function in which the response coefficient of the primary balance to public debt *(ρ)*, after controlling for other determinants of the primary balance such as the cyclical positions of GDP and government purchases, is statistically significantly positive (of any size, as long as is positive):

(3) $$pb_t = m + \rho d_{t-1} + \beta_y y_t^{gap} + \beta_g g_t^{gap} + \varepsilon_t$$

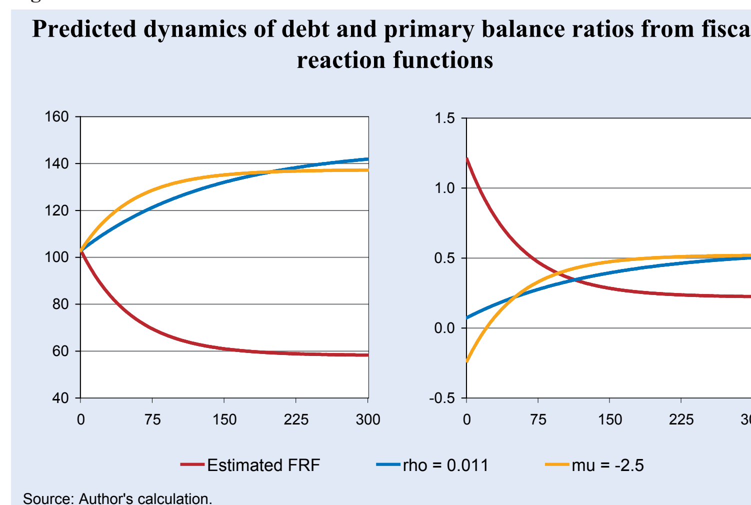
Mendoza and Ostry (2008) produced estimates of fiscal reaction functions in a cross-country panel that included industrial and developing countries, and identified a set of countries for which they hold empirically. Interestingly, in their sub-panel of industrial countries, the response coefficient is within the range of Bohn’s estimates based on US data. Their estimates were: m = – 1.058, ρ = 0.022, β_y = 0.31 and β_g = – 0.21, all statistically significant.

This estimated reaction function can be used to study the predicted dynamics of US public debt. In particular, it is possible to establish two results: first, the primary deficits from 2008 to 2011 represent a structural break in the reaction function, because they are much larger than what the reaction function predicts. This is shown in Figure 3, which plots the residuals from the estimated reaction function along with standard error bands.

The second result we can establish with the fiscal reaction function is that small adjustments in ρ and/or m keep the current large debt ratio consistent with fiscal solvency, and can justify primary balances closer to the observed ones, but the sustainable debt ratio converges to a much higher long-run average. This is illustrated in Figure 4, which shows debt and primary balance dynamics for three reaction functions: (a) the Mendoza-Ostry estimated reaction function, (b) an alternative with ρ cut by a half (to 0.011) and (c) a third option in which m falls to – 2.5. In all three scenarios the dynamics start from the 103 percent US gross public debt ratio observed in 2011. Scenario (a) predicts primary surpluses right from the start, peaking at about 1.2 percent of GDP, which are obviously much higher than the actual and CBO projected deficits (in line with the large residuals in Figure 3). In this scenario, debt falls gradually and returns to the 58 percent observed average debt ratio for 1960–2007, but it takes it about 100 years!

Figure 4

Predicted dynamics of debt and primary balance ratios from fiscal reaction functions



Source: Author's calculation.

Scenarios (b) and (c) produce sharply lower initial primary surpluses, and even small deficits, but the debt ratio converges to a new long-run average of about 140 percent. This 140 percent debt ratio is just as sustainable as the 58 percent, because the present value of primary balances in all three scenarios equals the 103 percent debt ratio of 2011, and thus all three are consistent with condition (2) for the same initial debt ratio.

The results reviewed above make it evident that discussions about the long-run debt ratio and its sustainability are a delusion, because multiple long-run average debt ratios corresponding to very different patterns of future primary balances, which reflect structural changes in fiscal reaction functions, are equally sustainable. Moreover, this delusion also extends to the heated debate over fiscal stimulus v. fiscal austerity. The delusion here is in the belief that there is an alternative to the latter. There is not, because again, if fiscal solvency is to be maintained (i.e. if default is not an option), the 22.3 percentage points increase in the debt ratio that has already taken place between 2009 and 2011 requires a matching increase in the expected present discounted value of future primary fiscal balances. Thus, we can discuss the time profile that primary balances ought to follow to produce this increase, which means, for example, that if we want to have larger deficits in early years, we must be willing to accept more-than-proportionally higher primary surpluses in future years (due to discounting), and a higher long-run average debt ratio, but austerity defined by the amount by which the expected present value of the primary balance needs to rise is unavoidable. Even if we allow for debt restructuring, unless we contemplate a write-off equivalent to the full 22.3 percentage points of the Great Recession debt shock, some degree of fiscal austerity will still be required to produce the higher primary surpluses to match the debt shock net of restructuring.

Given the solvency condition (2), it should be acknowledged that the above discussion already takes into account how improved (diminished) growth prospects make the required fiscal austerity more (less) difficult to attain. Higher growth rates, perhaps over the long run or during the early transition out of the debt crisis, would increase the present value of the primary balance as a share of GDP, and thus reduce the burden placed on revenue increases and/or cuts in outlays in producing the required increase in the right-hand-side of the solvency condition. The same applies to the equilibrium dynamics of the financing costs of the government and the maturity profile of the debt. To the extent that the effective real interest rate paid on the debt aggregated across maturities is expected to fall (rise), the burden placed on the primary fiscal balance falls (rises). But taking the contributions of these two factors (growth and real interest rates) as given, the fact remains that some of the burden of the required adjustment falls on higher primary balances, and thus on fiscal austerity.

It is also important to note that, even after considering Herndon, Ash and Pollin's (2013) corrections on the work of Reinhart and Rogoff (2010), the evidence still indicates that growth falls at higher debt ratios. Herndon *et al.* (2013) show that growth *falls* by 110 basis points, from 4.2 percent to 3.1 percent, when the debt ratio passes 0.3, and is 200 (100) basis points smaller at debt ratios of 0.9 or above than at debt ratios below 0.3 (0.9).[4] Hence, we should not expect growth to come to the rescue. On the contrary, the lower growth predicted by the empirical evidence if the US opts for much higher long-run debt ratios indicates that the burden on fiscal austerity alone will have to be larger.

The true costs of fiscal austerity

The bottom line of the above arguments is that debating long-run debt sustainability or the choice between fiscal stimulus v. austerity are both delusions: regardless of where the debt ratio ends up in the long run, the 22.3 percentage points increase of the public debt ratio already accumulated during the Great Recession requires an increase of equal magnitude in the expected present discounted value of the primary balance-GDP ratio. This required adjustment, particularly the pros and cons of different approaches to go about it, *is* the relevant issue for discussion. In this regard, the United States confronts important tradeoffs in terms of both tax and spending adjustments. On the side of the latter, there

[4] The financial media debate on this topic has also been largely a delusion. Even in the corrected scenario, it would be wrong to conclude that high debt is not a malaise and fiscal stimulus can go forward without concern. A cut of 100 basis points in growth carries a huge welfare cost, equivalent to as much as 20 percent of US annual private consumption! This is Lucas's (1987) computation with log utility and a coefficient of relative risk aversion equal to 1. Moreover, as argued in this note, fiscal austerity cannot be avoided if the debt already produced by the fiscal crisis is to be made consistent with solvency. It is not a matter of taste, it is a matter of balancing the checkbook.

are well-known structural problems driving the secular growth of entitlement programs, particularly Medicare and Social Security, and a sustained improvement in the fiscal outlook requires meaningful changes to these programs. On the side of revenues, the debate merits careful consideration of efficiency, distribution and welfare implications of alternative strategies, particularly taking into consideration that the United States is fully integrated into world financial and goods markets.

In order to assess the welfare implications of policy responses to the fiscal crisis it is necessary to use a fully specified model of their economic effects. The fiscal reaction function alone is grossly insufficient, because it is a reduced-form representation of all the determinants of the dynamics of the primary balance and debt from which normative implications cannot be derived, and from which the effects of policy tools and of the equilibrium responses of agents to the use of those tools cannot be disentangled. In designing the models, however, it is important to make explicit the treatment and assumptions about key fiscal variables and their effects on economic distortions and outcomes. It is also very important to include the intertemporal government budget constraint and the 22.3 percent increase in the present value of primary balances required to maintain the government solvent.

Macroeconomic models of various levels of complexity can be used to assess the effects of policy responses to fiscal crises. One important benchmark to consider is the canonical Neoclassical framework, in which taxes distort aggregate economic decisions and thus the efficiency of equilibrium allocations and prices, while abstracting from other frictions that can make matters even more difficult for re-attaining fiscal solvency (such as nominal rigidities, financial frictions in private markets, or the possibility of sovereign default and freeze-ups in public debt markets). Moreover, the Neoclassical framework is also useful because it is the benchmark around which classic theoretical and quantitative results of Ramsey optimal taxation have been developed.

Mendoza, Tesar and Zhang (2013) provide a quantitative Neoclassical framework that is aimed at studying the implications of tax policy strategies to tackle a fiscal crisis. Their study focuses on the European Union. They construct a two-country variant of the Neoclassical balanced-growth model with distortionary taxation and endogenous capital utilization, and calibrate it so that one country represents the hot-zone countries of the eurozone debt crisis (the GIIPS – Greece, Ireland, Italy, Portugal and Spain) and the other represents ten other eurozone countries in more stable situation (the EU10, of which France, Germany and the Netherlands are the largest ones). Their analysis includes country-specific estimates of the effective tax rates on labor, capital and consumption, and of the GDP-ratios of government purchases and total non-interest outlays.[5] They also take into account key features of eurozone tax systems, such as the effectively-residence-based nature of the income tax system, the harmonization of VATs and a depreciation allowance on non-residential fixed capital. Then they give as input to the model the observed debt increases of the GIIPS and EU10 regions between 2007 and 2011 (30 and 18 percentage points respectively) and ask two questions: first, what kind of increases in tax rates would be required to restore fiscal solvency? Second, since in their model unilateral tax changes trigger cross-country externalities and incentives for strategic interaction, what would be the outcome of cooperative and non-cooperative tax adjustments?

The same two questions could be asked of the United States, taking into account the observed increase in US public debt (22.3 percentage points), the US tax structure (which features higher capital taxes and lower labor and consumption taxes than in the eurozone), and the fact that the United States is also integrated into world markets of goods and financial assets. The first question (what tax rates are needed to restore fiscal solvency?) is critical because it relates to an issue of feasibility: since fiscal revenues exhibit Laffer curves, the relevant ones being for the *present value* of tax revenues that goes into primary balances in the solvency condition (2), it is not clear whether it is feasible for the economy to generate the required extra revenue (i.e. whether the revenue needs exceed the maximum supported by the Laffer curves).[6] The second question relates to potentially

[5] Mendoza et al. (2013) show that macro indicators of fiscal policies are similar across the GIIPS and EU10. In 2008, the GDP-weighted GIIPS (EU10) effective tax rates on capital, labor and consumption were 21 (20), 33 (36) and 14 (18) percent respectively, and the ratios of government purchases and total government outlays were 20 (21) and 46 (48) percent respectively. Tax rates were computed as proposed by Mendoza, Razin and Tesar (1994).

[6] Trabandt and Uhlig (2011) also construct Laffer curves for industrial countries using a closed-economy model and focusing on steady-state comparisons.

important international spillovers. To the extent that fiscally-weaker economies require larger tax hikes than others they are open to trade with and that require smaller or no adjustments, they become relatively tax-disadvantaged or inefficient. As a result, physical capital ends up flowing away from the former and into the latter, resulting in a decline in factor incomes, consumption and output in the former and increases in the latter. Thus, in the Mendoza-Tesar-Zhang setup, the true costs of fiscal austerity are captured by the resulting social welfare implications of these movements.

The findings of the European-aimed calculations of Mendoza *et al.* (2013) suggest lessons for the US scenario that hint at the fact that indeed fiscal austerity carries hefty costs and entails large tax adjustments if government outlays remain unchanged. It is not even clear that some tax alternatives are feasible. For instance, Mendoza *et al.* find that the present value Laffer curve for total tax revenue (net of constant outlays) of the GIIPS produced by unilateral moves in their capital taxes peaks below the required revenue increase of 30 percentage points. In fact, at the peak the Laffer curve supports an increase of only 12 percentage points in the present value of the primary balance, and this by increasing the capital tax from 21 to 35 percent, with a large welfare cost equivalent to a 6-percent decline in the trend level of consumption per capita. Raising revenue *via* capital taxation is very difficult because of the international externalities of tax policy, which in this case disfavor the GIIPS as they are the region becoming tax-inefficient. If the same scenario is modeled with the GIIPS in autarky, the same capital tax hike to a 35 percent tax rate yields enough revenue to cover the 30 percentage points needed to offset the debt shock. Prospects are less pessimistic for labor tax hikes, because these can raise the required extra revenue by raising the tax from 33 to 38 percent and at a smaller welfare cost, but from a distributional perspective it means imposing the burden of adjustment on labor.

The findings of Mendoza *et al.* (2013) also show that non-cooperative strategic interaction in capital tax movements, or unilateral changes, would leave the GIIPS with strong incentives to default or break away from the EU, because GIIPS can generate the required revenue increase at lower capital tax rates, lower implied distortions, and thus lower welfare costs under autarky than under open capital and current accounts, and obviously defaulting would reduce the need to produce larger primary surpluses. Non-cooperative tax competition triggers a 'race to the bottom' in capital taxation, and thus places even more of the burden of adjustment on labor or consumption taxes. Coordination of tax moves or an initial redistribution of the debt burdens, both of which can attain fairly similar welfare outcomes, are superior policies but require international negotiation.

The United States has the advantage that it relies much less on consumption taxation than Europe. Hence, in responding to its debt shock with taxes, consumption taxation would rank first, but this can be somewhat misleading because in Neoclassical models the consumption tax tends to be less distorting than income taxes, and this may not be the case in models with other features (e.g. with heterogeneous agents the regressiveness of consumption taxes, and labor taxes also, would be an issue). Nevertheless, even in the Neoclassical model the distortions induced by the consumption tax would increase and this entails a welfare cost. Moreover, there is no guarantee that the political outcome would go this way, and if it goes for capital or labor taxes instead, the distortions and implied welfare costs will be larger, particularly since the high degree of openness of the US economy would expose the United States to adverse international externalities due to an inefficient tax structure.

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"Can You Fall Off a Cliff and Hit a Ceiling?": On Shooting Yourself in Your Own Analogy

Mathew Forstater[1]

'Sequester'; 'fiscal cliff'; 'debt ceiling' – economists, politicians and journalists in the United States are on a constant quest to find new terms to describe old ideas. Whether under the guise of the Washington Consensus, structural adjustment, or austerity, the goals are the same: smaller government, tax cuts, fewer social programs, privatization. A haircut is one thing; the United States seems intent on playing the role of neoliberal skinhead. In such crisis-ridden times, it is necessary to reconsider our most fundamental, closely-held views, and to assess the impact on ongoing socioeconomic well-being. In this case, there are perhaps no perceptions with greater implications than those regarding federal government budgets and the public debt.

There are three paradigms for understanding government budgets and the national debt: Hawk, Dove, and Owl (functional finance). We will now review each of these in turn, beginning with the deficit hawks. Hawks view government budget deficits and the national debt as almost always and everywhere a negative for the economy and society. Often associated with a 'sound money' position, some hawks support a balanced budget amendment to the US Constitution requiring the federal government to run a balanced budget except in times of national emergency.

There are five basic hawk arguments as to the negative impacts of deficits and the debt. Not all hawks subscribe to all five, but virtually all hawks take one or more of these positions. Many of the hawk arguments follow from the basic neoclassical economic vision explicit or implicit in the hawk conception of how the macroeconomy operates. This vision can be described by two main features. First, the market economy has a built-in tendency toward full employment of resources, including labor. Second, savings determines investment through variations in the rate of interest, as in a loanable funds model.

1. *Deficits cause inflation*. The economy tends to full employment, so excess aggregate demand caused by deficit spending is inflationary. Actually, the idea that deficits can be too large if they increase aggregate demand beyond the full employment level of output is shared by many hawks, doves and adherents of functional finance. The differences then regard whether involuntary unemployment is viewed as a short-term, disequilibrium macro-phenomenon or a normal, permanent feature of the system, consistent with macro equilibrium. But if the economy is at or near full employment, deficit expansion can result in what Keynes called 'true inflation' (some cost-push or supply-side instances of rising prices may be more about relative price changes). Interestingly, some hawks would require the money supply to increase for there to be inflation (if they take a traditional monetarist view).
2. *Deficits cause high interest rates.* There are several versions of this argument, some concerning only long-term interest rates (more later on the empirical evidence). But basically, for the hawks, government spending financed by borrowing increases competition in the loanable funds market, bidding up interest rates.
3. *Deficits crowd out private spending.* This also has several versions, partial versus full crowding out, for example. There are also those who view crowding out as resulting only from government borrowing *versus* those who hold the position that even government spending financed by tax revenues crowds out private expenditure. In any case, if all resources are fully employed, government can employ a resource only if it takes

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it away from the private sector. Viewed slightly differently, government borrowing to finance deficit spending reduces the loanable funds available to finance private spending, whether investment or consumer durables.

4. *The national debt is a burden on future generations.* Because they have to pay it.
5. *Deficits and the national debt are generally immoral.* The analogy is often made here between government deficits and debt and firm or household deficits and debt. "If I ran my company with spending in excess of revenue year after year, I'd be out of business!" "I can't continually spend in excess of my income and expect to stay afloat, why should the government?"

The point has been made that some of the hawk positions are applicable to an economy on a gold standard or other fixed exchange rate regime, such as a currency board, monetary union, or peg to another nation's currency (or a weighted basket of currencies). This will be discussed in more detail below.

Deficit doves view deficits (and an increased national debt) as reasonable, under certain circumstances, depending on the economic context. Doves have concentrated much attention on issues of defining and measuring deficits and the national debt. The following ten points summarize various dove arguments, including dove responses to and criticisms of the hawks. Just as most of the hawk positions follow from the fundamental neoclassical vision characterizing their analytical framework, dove arguments tend to follow from a basic Keynesian view of how the macroeconomy operates. Specifically, doves view unemployment and excess capacity as normal features of a modern capitalist economy, and they tend to reject a loanable funds view of savings and investment, instead seeing investment as determining savings through changes in income.

1. *Are deficits being measured in constant or current dollars?* Doves argue that it is wrong to compare deficits between years in current dollars, because the value of the dollar has changed. One way of correcting for this is to look at deficit/GDP ratios (and debt/GDP ratios). These ratios are also important for doves because they argue that a larger GDP means we can afford a bigger deficit or debt. A related issue is the changing *real* value of the national debt due to inflation or deflation. When Reagan claimed that a pile of dollar bills of an amount equal to the size of the federal deficit or the national debt would reach almost to the moon (later repeated by Clinton), I proposed making dollar bills thinner. A similar, often repeated hawk image is that the same number of bills laid end to end would go around the earth three times, prompting my proposal that we make dollar bills shorter so they would only circle the globe twice.
2. *The federal government does not keep a capital account.* So when there is a large capital expenditure it looks like much has been paid out in the current period and the budget does not reflect the services that will last for multiple years into the future. Firms and state and local governments keep a capital account, but all federal expenditures go on the current account.
3. *The government owns assets. The Government may have a debt, but it also owns assets* such as land, buildings, stocks, gold, water sewage treatment plants, hospitals, and schools. Next to the pile of dollars representing the deficit or debt we could make a pile representing government assets that might go past the moon. Hypothetically, these assets could be sold, but what economic reasoning would justify such an action?
4. *State and local budgets often not considered.* The media and politicians often do not make clear whether they are talking about the consolidated (federal, state and local) government budget balance or only the federal deficit. Historically, federal deficits have sometimes been offset by surpluses at the state and local levels, although in recent years that has not been the case. Federal transfers to state and local governments are also common. Doves take this confusion between the consolidated and federal budget as yet another example of the imprecision in defining and measuring deficits and the debt.
5. *Government agencies own government debt.* For example, state and local governments may invest in government bonds, as do some federal government agencies, in which case it is argued that we really do 'owe it to ourselves'. At the start of 2010, over 40 percent of the US national debt was held by government agencies. Interest payments, therefore, constitute intergovernmental transfers. And, of course, all US citizens are citizens of the nation, a state, and a locality.

6. *We should examine the 'full employment deficit'.* Doves argue that much of the deficit is due to unemployment. When there is unemployment, income is lower, so tax revenues are lower, and government spending on various forms of assistance for the unemployed is higher, so unemployment increases the size of the deficit. Job creation causes incomes and therefore tax revenues to rise, and lowers government spending to support the unemployed, resulting in a decline in the size of the deficit. The 'true' deficit would be the real value of the full employment deficit on the current account, net of government debt purchases and state and local transfers. Estimates of its size have often virtually wiped the deficit clean.
7. *Balance the budget over the business cycle, rather than in one year.* Doves argue that one calendar year is an economically arbitrary amount of time. Instead, it makes more sense to run deficits during recessions and surpluses during booms, so that the budget is balanced over the cycle and debt is not growing. It is true that in recent years the nation has run deficits during both phases of the cycle, but that does not alter the fact that there is little economic meaning to a twelve month period and a constitutional amendment to balance the federal budget in each calendar year would make sensible fiscal policy impossible, except in a national emergency. A double-digit unemployment rate, by the way, constitutes a real national emergency.
8. *Debt is not a burden on future because we are also creating assets for the future.* Doves encourage consideration of two scenarios: one in which our children inherit a strong economy with high employment, an up-to-date infrastructure, good schools and hospitals, as well as a larger national debt; and another in which the debt is smaller, but the economy is weak, unemployment is high, and the infrastructure is crumbling. Which would our children and grandchildren prefer? Doves also argue that the debt will be paid to those in the future as well, so the whole idea of the national debt as a burden on the future is the result of more misunderstanding and confusion.
9. *Doves argue that if deficits and high interest rates are correlated, the causality goes the opposite way – from high interest rates to big deficits.* When interest rates are high, interest payments are high, pushing deficits higher. In any case, doves point out that short-term rates such as the federal funds rate and the discount rate are directly controlled by the central bank, and these rates serve as benchmark rates for other important rates such as the prime rate. The argument that deficits cause high interest rates is also not supported by the empirical record.
10. *To the extent that the analogy with households and firms is applicable, doves think it supports their view.* Well-managed, responsible debt is not a bad thing for households and firms – same with government. Why do households go into debt? Think of the homes we would live in and the cars we would drive if we had to pay cash, or how old we would be before we could purchase a home or a car. For firms, debt is often a sign of strength; firms borrow to invest in producing goods and services for sale to earn revenue and profits. But doves generally do not think the analogy is a good one, as it is rooted in a failure to understand the logical fallacy of composition.

The owls argue that both the hawks and the doves are wrong, but in different ways and for different reasons. Managing the government budget according to the principles of functional finance requires a 'modern' (chartalist or state) money system, i.e. a non-convertible, floating currency. Functional finance therefore does not apply to a monetary system with any type of fixed exchange rate – no gold standard, pegged currencies, currency boards, or currency unions, to give a few examples. Economies operating with a fiat currency system, however, can and should manage their budget according to the principles of functional finance. The owl perspective can be summarized by the following 10 points.

1. *The federal government is the monopoly issuer of the currency.* Since the US dollar is a sovereign, non-convertible, floating currency, why would the federal government need to tax or borrow from the public in order to spend? The federal government, as the money monopolist and issuer of the (intrinsically valueless) currency, doesn't need the public's money; what the government needs is for the public to need its monopoly money.
2. *In a modern money system, the purpose of taxation is to create a demand for – and give a value to – unbacked (i.e. intrinsically valueless) currency.* If the federal government does not need the public's money in order to spend, why does it tax? By imposing a tax obligation and announcing

it will accept only dollars in payment of taxes, the federal government creates a demand for its otherwise intrinsically worthless currency and gives it value. It is obvious that, as monopoly issuer of the currency, the federal government could not collect any dollars from the public in payment of taxes unless it had first spent (or lent or given) dollars in the first place.

3. *The purpose of US government bond sales is not to finance spending, but to drain excess reserves created by deficit spending in order to maintain positive short term (overnight, interbank) interest rates.* Government spending, lending, and giving of money add to the reserves in the aggregate banking system; government taxing, borrowing, and taking of money drain reserves from the system. When the federal government runs a budget deficit, the amount of reserves added by government spending are greater than the amount drained by taxation, and so the net effect of a budget deficit on aggregate bank reserves is positive. These excess reserves will cause the federal funds rate to fall toward zero. If the authorities desire a positive overnight (interbank) lending rate, bonds are sold to drain the excess reserves from the system. Notice that budget deficits put downward pressure on interest rates, the exact reverse of what most hawks claim.
4. *In the functional finance view, the relation of G and T does not matter – all that matters are the effects of any policy.* Policies should be judged on their ability to achieve the goals for which they are designed and not on any notion of whether they are 'sound' or otherwise comply with the dogmas of traditional economics. There is nothing inherently 'good' or 'bad' about any particular relation between government expenditure and tax receipts. It depends on the economic circumstances and on the results a particular budget stance will promote under those circumstances. As Abba Lerner wrote in his 1951 book, *Economics of Employment*, if the amount of taxing or spending required to achieve macroeconomic goals such as full employment "should conflict with the principles of 'sound finance' or of balancing the budget or of limiting the national debt, so much the worse for those principles". Promoting a balanced budget or surplus or a paying down of the national debt regardless of the macroeconomic effects would best be referred to as *dysfunctional finance.*
5. *'Printing money' can have no effect on the economy independently of fiscal operations (in this case, the spending, lending and giving of money by the treasury and/or central bank).* If a trillion dollars are printed and left in a closet there will be no impact on the economy. To have any impact, money must be spent, lent, or given away. Therefore, if these fiscal operations are comprehensively accounted for, and 'printing money' is also considered, this would constitute double-counting. Therefore, 'printing money' can be effectively disregarded.
6. *The 'sound money', 'sound finance' view of the hawks treats the modern money system as if it were on a gold standard.* Former Federal Reserve Board Chairman Alan Greenspan has said as much: "since the late '70s, central bankers generally have behaved as though we were on the gold standard. [W]e've behaved as though there are, indeed, real reserves underneath the system". Fixed exchange rates, such as a gold standard, reduce or even eliminate a nation's ability to use fiscal and monetary policies to pursue the public purpose. Under a gold standard, government spending is constrained by the accumulation of gold (or by the accumulation of foreign currency under a peg), and the central bank's ability to set short-term interest rates are sacrificed to the requirements of maintaining the peg. In any case, different systems operate according to different logics, and managing a modern money system according to the logic of a gold standard is like playing chess using the rules of checkers.
7. *Doves are wrong because, by saying that the deficit is not really as big as it seems, or that we can balance the budget over the cycle, they are giving in too much to the hawk view and end up harming the position of supporters of common-sense budgetary policy.* According to what has come to be known as 'Lerner's Law', trying to placate the public and the media for reasons of short-term political expediency will inevitably backfire. Eventually, one will be revealed as a hypocrite, one's hands will be tied, or both. This seems a likely explanation of what has happened to Democrats who decided to call the Republicans fiscally irresponsible during the 1980s. Currently, Republicans and the Democrats each vie to be more 'fiscally responsible' than the other, and they are likely to run the nation's (and possibly the world's) economy into the ground in the process. As one student remarked when I explained that virtu-

ally all members of both parties are now hawks: "anything that all Democrats and Republicans agree on [i.e. that deficits and a larger national debt are harmful] must be wrong!"

8. *The deficit is just accounting information – it tells us how much the domestic private and foreign sectors want to 'net save' in assets denominated in the domestic currency.* The government budget deficit is the mirror image of the non-government surplus in the basic macroeconomic accounting identity:

   government deficit = non-government surplus

   where non-government surplus includes both the domestic (or resident) private sector and the foreign (non-resident) sector, which includes foreign firms, households and governments. It is therefore equivalent to the well-known identity:

   (G – T) = (S – I) + (M – X)

   Government budget deficit = domestic private sector surplus + foreign sector surplus

   where the foreign sector surplus is another way of expressing the trade deficit. The government budget deficit permits both the domestic private sector and the foreign sector to 'net save' in the government's unit of account. Only a domestic government budget deficit permits the domestic private sector and foreign sector to actualize their combined desired net saving. Deficits do not reduce savings, as the hawks argue, but just the opposite: deficits generate savings.

   Another way of stating the problem is to focus on the relation between the desired and actual levels of holdings of net financial assets, or net nominal savings. Nobel Prize-winning economist William S. Vickrey argued that if, at the full employment level of output, the supply of assets held by all individuals in the economy falls short of their desired holdings, spending will decline as people try to bring their net worth up to their desired level. Business sales, output, employment, and income will all fall until the demand for assets is reduced to their supply. As Warren Mosler has cogently argued, unemployment may be viewed as the real, material evidence of a discrepancy between desired and actual levels of net nominal savings, for if the desired level was lower, individuals would be spending more, sales would be higher, and firms would be hiring more workers.

   There is only one solution to closing the gap between desired and actual levels of net nominal savings: government deficits. This is because there is no other source of change in the private sector's total holdings of net financial assets (in dollars). If one individual in the private sector wants to increase their holdings of net financial assets, this can only occur if another individual is willing to decrease their holdings by the corresponding amount. The private sector is incapable of creating net nominal assets. Under such conditions, budget deficits and increasing public debt are the norm.

   It must be emphasized that this is not a 'closed economy' argument, as the foreign sector – including foreign governments, firms, and households – is included in the private demand for assets. Beggar-thy-neighbor exporting of unemployment through trade surpluses is, of course, not a global solution, even if it were desirable. While Americans could indeed net save dollar assets with a trade surplus, this would only be temporary, as the resulting world-wide dollar squeeze would cause the government deficit to rise.

9. *The national debt is just accounting info.* It is the record of government's draining of excess reserves through bond sales to maintain short term interest rates. It might therefore be better called the 'IRMA' (interest rate maintenance account) than the national debt.

10. *The national debt is not a burden on the future, because there can be no financial burden on a money monopolist in a modern money economy.* The only financial constraints are those that are self-imposed. There may be other constraints, such as political, ideological, or even environmental ones, but the *financial* capacity of a modern money monopolist is infinite. As Alan Blinder, former Vice Chair of the Federal Reserve Board of Governors put it, "as long as our borrowing is denominated in dollars, we never need fear defaulting, for we can always print as many dollars as we need".

As previously discussed, functional finance is equally valid in an open or closed economy context. It

may be true that, without a full employment policy, a country must suffer over its trade balance. With a full employment policy, however, there is no need to worry about importing 'too much' relative to exports.

Fears regarding the current account and flexible exchange rates are generally about a fall in the currency as international investors dump the currency, but three things must be recognized:

- Under flexible exchange rates, this has no effect on the central bank's ability to set interest rates and thus on the term structure of rates on the government's debt. Dumping the currency doesn't mean that the government has more debt service unless it has borrowed in another currency – which a functional finance approach would argue strongly against doing in the first place.
- If the currency drops, the trade balance improves and the government's deficit can fall. Orthodox economists generally think this is a good thing. But note that is what it means to dump the currency – stop net saving in that currency, and by definition the current account improves, unemployment falls, and so on. Yes, domestic businesses that borrow in other currencies would be in trouble, as in the Asian Crisis of 1997–98, but that suggests that domestic businesses did not hedge against a fall in the domestic currency and that mostly happens under a fixed peg, not a flexible exchange rate (again, Asia during 1997–98). Under a flexible exchange rate, businesses should know that they should hedge.
- The purpose of functional finance is to expand the economy to full employment and no further, so there should be no additional inflationary pressures. A nation with full employment would seem to be an attractive place to invest, so it is not clear why investors would be dumping that nation's currency.

Understanding modern money and macro balance sheets enables a society to use the government budget for achieving economic and social policy goals. We can afford prosperity under such institutional arrangements, and the good news is that this is exactly the way our current system operates. The question then becomes whether we can find the political will to move forward, or whether we will continue to choose austerity over expansion. In a nation with millions unemployed and living in poverty, and in a world with billions living under similar and worse conditions, economic prosperity is the only long term solution to the challenges of the twenty-first century. In the United States both political parties must decide to call a halt to the 'deficit scares' – with their frightening images. Rather than 'cliffs' we must begin to envision 'vistas of prosperity' Instead of 'ceilings', we need to invoke images of 'limitless skies'. This is what economic justice must mean today.

On European Austerity

Stefan Homburg[1]

Since the outbreak of the sovereign debt crisis in winter 2009/10, eurozone governments have enacted a number of so-called rescue programmes. Most bail-outs pertained to Southern European countries like Greece, Portugal and Spain, on which this article concentrates; Cyprus as a small state is excluded. During the early stages of the crisis the bail-outs were seen as temporary measures was aimed at achieving orderly budgets, as well as reasonable growth and unemployment rates.

Since then disillusion has set in as the aforementioned countries have suffered from severe recessions and unprecedented levels of unemployment. According to a widely shared view, this adverse development is due to a brutal austerity course – a course aimed at balancing government budgets as soon as possible. Austerity measures, so the story goes, depress economic activity and induce a downward economic spiral.

The prevailing opinion, hopefully portrayed fairly, consists of two propositions. The first is the factual statement that Southern Europe practices austerity. The second is the economic hypothesis that balancing government budget deficits aggravates recessions. In this article I would like to challenge both propositions.

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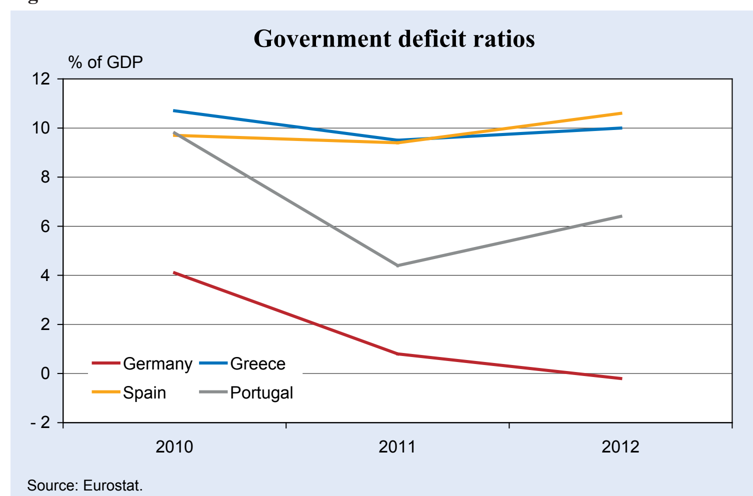
Is austerity real?

This is easy in the first case, i.e. the alleged austerity policies.[2] Let us first consider Spain. At the outset of the crisis in 2010 the country ran a budget deficit ratio of 9.7 percent of GDP, followed by 9.4 in 2011 and 10.6 percent in 2012. These figures are clearly unsustainable. In absolute terms the budget deficit rose from 101.4 million euros in 2010 to 111.5 million euros in 2012, flatly contradicting any sensible notion of austerity.

Greece's budget deficit ratios amounted to 10.7 percent in 2010, followed by 9.5 in 2011 and 10.0 percent in 2012, and the corresponding figures for Portugal reached 9.8, 4.4 and 6.4 percent, respectively. In all cases, deficit ratios obviously did not converge to zero. Portugal at least showed a deficit reduction in 2011, followed by an increase in 2012, whereas the deficit ratios of Spain and Greece remain almost steady at around 10 percent over the entire period. 'Austerity policy' in Southern Europe is simply a myth.

Figure 1



Source: Eurostat.

Government deficit ratios

This finding is remarkable for two reasons. Firstly, article 126 of the Treaty on the Functioning of the European Union obliges member states to avoid excessive deficits. The associated Stability and Growth Pact stipulates that budget defi-

[2] Data were retrieved from 'epp.eurostat.ec.europa.eu' on 25 April 2013 Government deficit is series 'EDP_89, sector S13, measured as PC_GDP'.

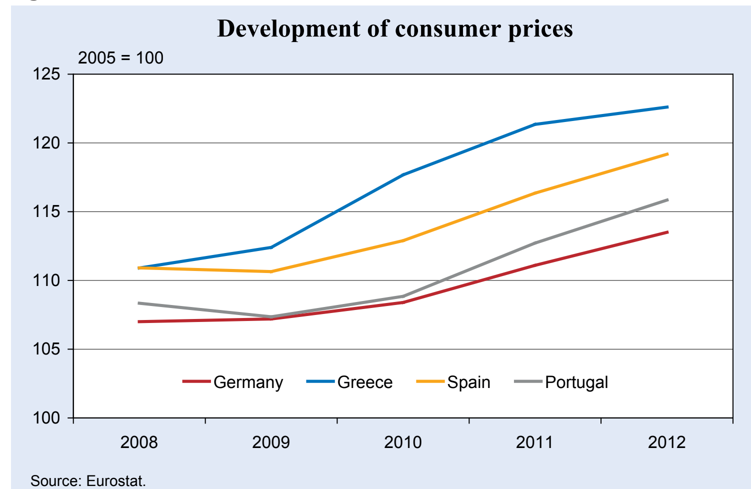
cits must not exceed 3 percent of GDP. The figures mentioned above exceed this reference value grossly. Yet sanctions are not discussed. What is more, Southern European countries obtain one bail-out after another, notwithstanding the evident fact that programme conditions do not work. Secondly, not only in the public press but also in the more technical literature on this topic there is an intensive debate about whether or not 'current austerity policies' are appropriate. Some authors agree (see e.g. Buti and Carnot 2013), others disagree (see De Grauwe and Ji 2013). However, from the viewpoint developed here, this debate is entirely beside the point since it disputes a myth. Discussing Spain's 'austerity policy' would only make senses if Spain had actually reduced its budget deficit in recent years, which has not been the case.

The complete failure of attempts to reach fiscal sustainability is nowadays disguised by references to 'primary', 'structural' or, preferably, primary structural deficits. These references neglect (rising) interest obligations and extrapolate former growth rates. By contrast, the original Stability and Growth Pact referred to plain budget deficits. It required member states to keep a close to balance or in surplus position, with a safety margin of 3 percent of GDP over the entire business cycle.[3]

Does austerity boost unemployment?

Meanwhile unemployment rates in Southern Europe have risen to frightening levels of 25.0 percent in Spain, 24.3 percent in Greece and 15.9 percent in Portugal.[4] This development challenges the prevailing opinion, which holds that extreme deficit spending spurs economic growth. The named challenge is reinforced by the fact that German unemployment rates fell from 7.1 in 2010 to 5.5 percent in 2012, while Germany actually reduced its budget deficit, from

Figure 2



4.1 percent in 2010 to 0.8 in 2011 and – 0.2 in 2012. In the German case a mild austerity policy was, in fact, accompanied by falling unemployment rates, an observation that is also totally at variance with the prevailing opinion.

Theoretical background

A remarkable shift has taken place in macroeconomic thinking since the inception of the Great Recession (see Farrell and Quiggin 2012). Until 2007 the majority of economists sustained the view that government expenditure crowds out private expenditure and hence does not change the level of GDP, but only its composition: if you buy government bonds you have to reduce other expenditure by a corresponding amount. On the basis of this accounting argument, myriads of articles demonstrated that deficit spending policies are (i) theoretically ill-conceived, (ii) empirically questionable, and (iii) politically impractical.

Some scholars added, however, that temporary budget deficits may help to cushion recessions because prices and wages do not react instantaneously. Even this sticky-price view, designed for a time span of some months, has been wiped out by now, as many economists sustain extreme deficit spending strategies intended for years (or decades?).

In Spain, Portugal and Greece, inflation rates were positive (repeat: positive!) until 2012. This contradicts the notion that current recessions are caused by downward price rigidities. With the single exception of Greece 2012, Southern European

[3] Council Regulation (EC) No. 1477/97 of 7 July 1997, revised by Council Regulation (EC) No. 1055/2005 of 27 June 2005 which introduced the 'cyclical adjustments'.

[4] Data were retrieved from 'epp.eurostat.ec.europa.eu' on 25 April 2013. Harmonized unemployment rates are series 'une_rt_a, total'.

inflation rates also exceeded German inflation rates.[5]

From a basic AD/AS diagram it follows that rising prices are incompatible with the leftward shifts of the AD curve, stemming from some unexplained 'lack of demand'. In the case of a leftward shift of aggregate demand, prices must fall rather than increase. Only a leftward shift of the AS curve, due to dwindling trust and increasing chaos would be compatible with present Southern European stagflation, where real incomes fall and prices rise.

Conclusion

The proposition that Southern European countries suffer from austerity policies contains two flaws. Firstly, there is no austerity policy; and secondly, deficit reductions are unlikely to prolong recessions. It remains to be seen why the latter view, dominating economics for centuries, has become a minority position in recent years. To explain this fully may be an interesting task for philosophers and historians. Personally I believe that pressure of the financial industry – which is eager to prolong the Ponzi games as long as possible – may be an explanation. In the case public debate investors' opinions and governments' interests have largely crowded out received economic doctrine.

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[5] Data were retrieved from 'epp.eurostat.ec.europa.eu' on 25 April 2013. Harmonized consumer price index is series 'CP00, average AVX'.

Saving the European Union: Are Eurobonds the Answer?

A Debate between George Soros and Hans-Werner Sinn[1]

In a speech given at the Goethe University, Frankfurt on 7 April 2013 and in a Project Syndicate contribution that was published online by The Guardian on 9 April 2013, US investor George Soros argues that Germany should accept Eurobonds or exit the euro. In his reply Hans-Werner Sinn firmly rejects this claim.

George Soros

How to save the European Union

The euro crisis has already transformed the European Union from a voluntary association of equal states into a creditor-debtor relationship from which there is no easy escape. The creditors stand to lose large sums should a member state exit the union, yet debtors are subjected to policies that deepen their depression, aggravate their debt burden and perpetuate their subordinate position. As a result, the crisis is now threatening to destroy the European Union. That would be a tragedy of historic proportions which can only be prevented with German leadership.

The causes of the crisis are so complicated that they boggle the mind. They cannot be properly understood without realising the crucial role that mistakes and misconceptions have played in creating them. The fatal flaw of the euro is that by creating an independent central bank, member countries have become indebted in a currency that they don't control.

[1] George Soros is Chairman of the Soros Fund Management and of the Open Society Foundations, New York. Hans-Werner Sinn is President of the Ifo Institute. Copyright Project Syndicate 2013.

The risk of default relegates some member countries to the status of third world countries that became over-indebted in a foreign currency. This feature of the euro was ignored both by the authorities and market participants until the Greek crisis and it is still not properly understood today.

At first, both the authorities and market participants treated all government bonds as if they were riskless, creating a perverse incentive for banks to load up on the weaker bonds. When Greece revealed the extent of its deficit, financial markets discovered the risk of sovereign debt default and raised risk premiums not only on Greek bonds but on the bonds of all heavily indebted euro members with a vengeance. Since European banks were heavily loaded with exactly those bonds, this precipitated a twin sovereign debt and banking crisis.

Subsequently the so-called periphery countries were treated as if they were solely responsible for their misfortunes and the structural defects of the euro remained uncorrected. Germany and the other creditor countries did the minimum necessary to preserve the euro but they continued to apply the treaties that proved to be flawed and imposed new rules that prolonged and aggravated the recession. The pain and suffering is almost entirely self-inflicted by the eurozone. It has the quality of a nightmare.

The burden of responsibility falls mainly on Germany. The Bundesbank helped design the blueprint for the euro, whose defects put Germany into the driver's seat. This has created two problems. One is political, the other financial. It is the combination of the two that has rendered the situation so intractable.

The political problem is that Germany did not seek the dominant position into which it has been thrust and it is unwilling to accept the obligations and liabilities that go with it. Germany understandably doesn't want to be the 'deep pocket' for the euro. So it extends just enough support to avoid default but nothing more, and as soon as the pressure from the

financial markets abates it seeks to tighten the conditions on which the support is given.

The financial problem is that Germany is imposing the wrong policies on the eurozone. Austerity doesn't work. You cannot shrink the debt burden by shrinking the budget deficit. The debt burden is a ratio between the accumulated debt and the GDP, both expressed in nominal terms. And in conditions of inadequate demand, budget cuts cause a more than proportionate reduction in the GDP – in technical terms the so-called fiscal multiplier is greater than one. This means for every that for every million euro reduction in the budget deficit, the country's GDP falls by more than a million euros, leading to a rise in the ration of national debt to GDP.

The German public finds this difficult to understand. The fiscal and structural reforms undertaken by the Schröder government worked in 2006; why shouldn't they work for the eurozone a few years later? The answer is that austerity for a single country works by increasing its exports and reducing its imports. When everybody is doing the same thing it simply doesn't work: it is clearly impossible for all members of the eurozone to improve their balance of trade with one another.

In the bailout of Cyprus, Germany went too far. In order to minimise the cost of the bailout it insisted on bailing in bank depositors. This was premature. If it had happened after a banking union had been established and the banks recapitalised, it might have been a healthy reform. But it came at a time when the banking system was retreating into national silos and remained very vulnerable. What happened in Cyprus undermined the business model of European banks, which relies heavily on deposits. Until now the authorities went out of their way to protect depositors. Cyprus has changed that. Attention is focused on the impact of the rescue on Cyprus but the impact on the banking system is far more important. Banks will have to pay risk premiums that will fall more heavily on weaker banks and the banks of weaker countries. The insidious link between the cost of sovereign debt and bank debt will be reinforced and a banking union that would re-establish a more level playing field will be more difficult to attain.

Chancellor Merkel would have liked to put the euro crisis on ice at least until after the elections, but it is back in force. The German public may be unaware of this because Cyprus was a tremendous political victory for chancellor Merkel. No country will dare to challenge her will. Moreover, Germany itself remains relatively unaffected by the deepening depression that is enveloping the eurozone. I expect, however, that by the time of the elections Germany will also be in recession. That is because the monetary policy pursued by the eurozone is out of sync with the other major currencies. The others are engaged in quantitative easing. The Bank of Japan was the last holdout but it changed sides recently. A weaker yen coupled with the weakness in Europe is bound to affect Germany's exports.

The solution for all these problems of the eurozone can be summed up in one word: Eurobonds. If countries that abide by the fiscal compact were allowed to convert their entire stock of government debt into Eurobonds, the positive impact would be little short of the miraculous. The danger of default would disappear and so would the risk premiums. The balance sheets of the banks would receive an immediate boost and so would the budgets of the heavily indebted countries. Italy, for instance, would save up to 4 percent of its GDP. Its budget would move into surplus and fiscal stimulus would replace austerity. Its economy would grow and its debt ratio would fall. Most of the seemingly intractable problems would vanish into thin air. It would be truly like waking from a nightmare.

With some modification, the fiscal compact would provide adequate safeguards against the risks involved in a joint and several obligation. It would allow member countries to issue new Eurobonds only to replace maturing ones, but nothing more; after five years the outstanding debt would be gradually reduced to 60 percent of GDP. Non-compliant countries would be penalised by restricting the amount of Eurobonds they are allowed to issue, forcing them to borrow the balance in their own name and pay heavy risk premiums – a powerful inducement to adhere to the fiscal compact's terms.

Eurobonds would not ruin Germany's credit rating. On the contrary, they would favorably compare with the bonds of the United States, Britain and Japan.

Eurobonds are not a panacea. First of all, the fiscal compact itself needs some modifications to ensure that the penalties are automatic, prompt and not too

severe to be credible. Second, the boost derived from Eurobonds may not be sufficient, necessitating additional stimulus but it would be a luxury to have such a problem. Third, the European Union also needs a banking union and eventually a political union. The Cyprus rescue made these needs more acute by calling into question the business model of European banks that relies heavily on large deposits. The main limitation of Eurobonds is that they would not eliminate the divergences in competiveness. But Germany accepting Eurobonds would totally change the political atmosphere and facilitate structural reforms. Unfortunately Germany is adamantly opposed to Eurobonds. Since chancellor Merkel vetoed them, the arguments put forward here have not even been considered. People don't realise that agreeing to Eurobonds would be much less costly than doing only the minimum to preserve the euro.

It is up to Germany to decide whether it is willing to authorise Eurobonds or not. But it has no right to prevent the heavily indebted countries from escaping their misery by banding together and issuing Eurobonds. In other words, if Germany is opposed to Eurobonds it should consider leaving the euro and letting the others introduce them.

This exercise would yield a surprising result: Eurobonds issued by a eurozone that excludes Germany and other like-minded countries would still compare favourably with those of the United States, Britain and Japan.

Let me explain why. Since all the accumulated debt is denominated in euros, it makes all the difference which country remains in charge of the euro. If Germany left, the euro would depreciate. The debtor countries would regain their competitiveness. Their debt would diminish in real terms and, if they issued Eurobonds, the threat of default would disappear. Their debt would suddenly become sustainable. Most of the burden of adjustment would fall on the countries that left the euro. Their exports would become less competitive and they would encounter stiff competition from the euro area in their home markets.

By contrast, if Italy left, its euro-denominated debt burden would become unsustainable and would have to be restructured. This would plunge the global financial system into a meltdown, which may well prove beyond the capacity of the monetary authorities to contain. The collapse of the euro would likely lead to the disorderly disintegration of the European Union and Europe would be left worse off than it had been when it embarked on the noble experiment of creating a European Union. So, if anyone must leave it should be Germany, not Italy.

There is a strong case for Germany to make a definitive choice whether to accept Eurobonds or to leave the euro. The trouble is that Germany has not been put to the choice, and it has another alternative at its disposal: it can continue along the current course, always doing the minimum to preserve the euro, but nothing more. That is not the best alternative even for Germany, except perhaps in the very near term. Nevertheless, that is chancellor Merkel's preferred choice, at least until after the elections.

In sum, I contend that Europe would be infinitely better off if Germany made a definite choice between accepting Eurobonds or leaving the euro. That holds true whether Germany chose Eurobonds or exit; and it holds true not only for Europe but also for Germany, except perhaps in the very near term. Which of the two alternatives is better for Germany is less clear-cut. Only the German electorate is qualified to decide.

If a referendum were called today the eurosceptics would win hands down. But more intensive consideration could change people's mind. They would discover that authorising Eurobonds would actually benefit Germany and the cost of leaving the euro has been greatly understated.

I have made some surprising assertions; notably how well Eurobonds could work even without Germany. My pro-European friends simply cannot believe it. They can't imagine a euro without Germany. I think they are conflating the euro with the European Union. The two are not identical. The European Union is the goal and the euro is a means to an end. Therefore the euro ought not to be allowed to destroy the European Union.

But I may be too rational in my analysis. The European Union is conflated with the euro not only in popular narratives but also in law. Consequently the European Union may not survive Germany leaving the euro. In that case the German public needs to be persuaded to abandon some of its most in-

grained prejudices and misconceptions and accept Eurobonds.

I should like to emphasise how important the European Union is not only for Europe, but for the world. The EU was meant to be the embodiment of the principles of open society. That means that perfect knowledge is unattainable. Nobody is free of prejudices and misconceptions; nobody should be blamed for having made mistakes. The blame begins only when a mistake or misconception is identified but not corrected. That is when the principles on which the European Union was built are betrayed. It is in that spirit that Germany should agree to Eurobonds and save the European Union.

Hans-Werner Sinn

Should Germany exit the euro?

Last summer, the financier George Soros urged Germany to agree to the establishment of the European Stability Mechanism, calling on the country to 'lead or leave'. Now he says that Germany should exit the euro if it continues to block the introduction of Eurobonds.

Soros is playing with fire. Leaving the eurozone is precisely what the newly founded 'Alternative for Germany' party, which draws support from a wide swath of society, is demanding.

Crunch time is fast approaching. Cyprus is almost out of the euro, its banks' collapse having been delayed by the European Central Bank's provision of Emergency Liquidity Assistance, while euroskeptic parties led by Beppe Grillo and Silvio Berlusconi garnered a combined total of 55 percent of the popular vote in the latest Italian general election.

Moreover, the Greeks and Spaniards are unlikely to be able to bear the strain of economic austerity much longer, with youth unemployment inching toward 60 percent. The independence movement in Catalonia has gathered so much momentum that a leading Spanish general has vowed to send troops into Barcelona should the province hold a referendum on secession.

France, too, has competitiveness problems, and is unable to meet its commitments under the European Union's Fiscal Compact. Portugal needs a new rescue program, and Slovenia could soon be asking for a rescue as well.

Many investors echo Soros. They want to cut and run – to unload their toxic paper onto intergovernmental rescuers, who should pay for it with the proceeds of Eurobond sales, and put their money in safer havens. The public is already being misused in an effort to mop up junk securities and support feeble banks, with taxpayer-funded institutions such as the ECB and the bailout programs having by now provided 1.2 trillion euros in international credit.

If Soros were right, and Germany had to choose between Eurobonds and the euro, many Germans would surely prefer to leave the euro. The new German political party would attract much more support, and sentiment might shift. The euro itself would be finished; after all, its primary task was to break the Bundesbank's dominance in monetary policy.

But Soros is wrong. For starters, there is no legal basis for his demand. Article 125 of the Treaty on the Functioning of the European Union expressly forbids the mutualization of debt.

Worst of all, Soros does not recognize the real nature of the eurozone's problems. The ongoing financial crisis is merely a symptom of the monetary union's underlying malady: its Southern members' loss of competitiveness.

The euro gave these countries access to cheap credit, which was used to finance wage increases that were not underpinned by productivity gains. This led to a price explosion and massive external deficits.

Maintaining these countries overdrawn prices and nominal incomes with artificially cheap credit guaranteed by other countries would only make the loss of competitiveness permanent. The entrenchment of debtor-creditor relationships between the states of the eurozone would fuel political tension – as occurred in the United States in its first decades.

In order to regain competitiveness, the Southern countries will have to reduce their goods prices, while the Northern countries accept higher inflation. Eurobonds, however, would hinder exactly this outcome, because relative prices in the North can be

raised only when Northern savers invest their capital at home instead of seeing it publicly escorted to the south by taxpayer-financed credit guarantees.

According to a study of Goldman Sachs, countries like Greece, Portugal, and Spain will have to become 20 to 30 percent cheaper, and German prices will have to rise by 20 percent relative to the eurozone average. To be sure, if Germany were to leave the common currency, the road back to competitiveness would be easier for the Southern countries, since the remaining euro would undergo devaluation, but the crisis countries' fundamental problem would remain as long as the other competitive countries remain in the eurozone. Spain, for example, would still have to cut its prices by 22 to 24 percent relative to the new eurozone average.

From this perspective, the crisis countries would not be spared painful retrenchment as long as they remain in a monetary union that includes competitive countries. The only way to avoid it would be for them to exit the euro and devalue their new currencies. But, so far, they have not been willing to go this route.

Politically, it would be a big mistake for Germany to exit the euro, because that would reinstate the Rhine as the border between France and Germany. Franco-German reconciliation, the greatest success of the postwar period in Europe, would be in jeopardy.

Thus, the only remaining option, as unpleasant as it may be for some countries, is to tighten budget constraints in the eurozone. After years of easy money, a way back to reality must be found. If a country is bankrupt, it must let its creditors know that it cannot repay its debts. And speculators must take responsibility for their decisions, and stop clamoring for taxpayer money whenever their investments turn bad.

George Soros

Hans-Werner Sinn has deliberately distorted and obfuscated my argument. I was arguing that the current state of integration within the eurozone is inadequate: the euro will work only if the bulk of the national debts are financed by Eurobonds and the banking system is regulated by institutions that create a level playing field within the eurozone.

Allowing the bulk of outstanding national debts to be converted into Eurobonds would work wonders. It would greatly facilitate the creation of an effective banking union, and it would allow member states to undertake their own structural reforms in a more benign environment. Moral Hazard Countries that fail to implement the necessary reforms would become permanent pockets of poverty and dependency, much like Italy's Mezzogiorno region today. Yes, Dutch Disease, like East Germany.

If Germany and other creditor countries are unwilling to accept the contingent liabilities that Eurobonds entail, as they are today, they should step aside, leave the euro by amicable agreement, and allow the rest of the eurozone to issue Eurobonds. No problem. Whoever wants to have Eurobonds can introduce them. The bonds would compare favorably with the government bonds of countries like the United States, Britain and Japan, because the euro would depreciate, the shrunken eurozone would become competitive even with Germany, and its debt burden would fall as its economy grew. Yes, but who exits?

But Germany would be ill-advised to leave the euro. The liabilities that it would incur by agreeing to Eurobonds are contingent on a default – the probability of which would be eliminated by the introduction of Eurobonds. No, present value would become bigger. Germany would actually benefit from the so-called periphery countries' recovery. Recovery will not happen by having lower interest rates. By contrast, were Germany to leave the eurozone, it would suffer from an overvalued currency and from losses on its euro-denominated assets. No, Bundesbank could buy assets, maintain the exchange rate and accumulate marketable assets instead of Target claims.

Whether Germany agrees to Eurobonds or leaves the euro, either choice would be infinitely preferable to the current state of affairs. The current arrangements allow Germany to pursue its narrowly conceived national interests but are pushing the eurozone as a whole into a long-lasting depression that will affect Germany as well.

Germany is advocating a reduction in budget deficits while pursuing an orthodox monetary policy

whose sole objective is to control inflation. This causes GDPs to fall and debt ratios to rise, hurting the heavily indebted countries, which pay high risk premiums, more than countries with better credit ratings, because it renders the former countries' debt unsustainable. Debt-GDP ratio is irrelevant. What matters is current accounts. From time to time, they need to be rescued, and Germany always does what it must – but only that and no more – to save the euro; as soon as the crisis abates, German leaders start to whittle down the promises they have made. So the austerity policy championed by Germany perpetuates the crisis that puts Germany in charge of policy. Germany does not carry out austerity. The market does that.

Japan has adhered to the monetary doctrine advocated by Germany, and it has experienced 25 years of stagnation, despite engaging in occasional fiscal stimulus. With flexible exchange rates austerity does not work. It has now changed sides and embraced quantitative easing on an unprecedented scale. Europe is entering on a course from which Japan is desperate to escape. And, while Japan is a country with a long, unified history, and thus could survive a quarter-century of stagnation, the European Union is an incomplete association of sovereign states that is unlikely to withstand a similar experience.

There is no escaping the conclusion that current policies are ill-conceived. They do not even serve Germany's narrow national self-interest, because the results are politically and humanly intolerable; eventually they will not be tolerated. There is a real danger that the euro will destroy the EU and leave Europe seething with resentments and unsettled claims. The danger may not be imminent, but the later it happens the worse the consequences. That is not in Germany's interest. That is well true.

Sinn sidesteps this argument by claiming that there is no legal basis for compelling Germany to choose between agreeing to Eurobonds or leaving the euro. He suggests that, if anybody ought to leave the euro, it is the Mediterranean countries, which should devalue their currencies. That is a recipe for disaster. They would have to default on their debts, precipitating global financial turmoil that may be beyond the capacity of authorities to contain. Defaulting means that German banks suffer. States will not default, as citizens are rich.

The heavily indebted countries must channel the rising their citizens' discontent into a more constructive channel by coming together and calling on Germany to make the choice. The newly formed Italian government is well placed to lead such an effort. As I have shown, Italy would be infinitely better off whatever Germany decides. And, if Germany fails to respond, it would have to bear the responsibility for the consequences.

I am sure that Germany does not want to be responsible for the collapse of the European Union. It did not seek to dominate Europe and is unwilling to accept the responsibilities and contingent liabilities that go with such a position. Which liabilities. Can you not read the Maastricht Treaty? That is one of the reasons for the current crisis. But willy-nilly Germany has been thrust into a position of leadership. All of Europe would benefit if Germany assumed the role of a benevolent leader that takes into account not only its narrow self-interest, but also the interests of the rest of Europe – a role similar to that played by the United States in the global financial system after World War II, and by Germany itself prior to its reunification.

Hans-Werner Sinn

A riposte to George Soros

Germany will not accept Eurobonds. The exclusion of debt-mutualization schemes was its main condition for giving up the Deutschmark and signing the Maastricht Treaty (Article 125 TFEU).

Moreover, the German Supreme Court has indicated that Germany will require a referendum before Eurobonds can be introduced. The Bundestag does not have the right to make that decision, because it would change the constitutional basis of the Federal Republic of Germany. And, even if a referendum on Eurobonds were held, it would never win a majority, unless it was coupled with the founding of a common European state – a step to which France strongly objects. Angela Merkel, who will in all likelihood be re-elected in September, has said that Eurobonds will not come in her lifetime. George Soros should know all of this. By suggesting that Germany should choose between adopting Eurobonds and leaving the euro, he is effectively advocating the euro's destruction.

If Germany exited the euro, the competitiveness problem of some of the eurozone's Southern countries *vis-à-vis* the economically stronger countries in the North would still be substantial, and they would still have to undergo a process of real devaluation *via* austerity. Soros dodges the competitiveness problem by concentrating on the financial side of the crisis. But calming markets by offering public guarantees for investors will not solve the competitiveness problem. On the contrary, it will exacerbate it by strengthening the euro.

Furthermore, in all likelihood, Germany's exit would prompt the countries of the former Deutschmark bloc (the Netherlands, Austria, Finland, and perhaps Belgium) to follow suit. When France proposed in 1993 that Germany leave the European Monetary System, a forerunner of the euro, the Netherlands and Belgium immediately declared that they would also be leaving, leading France to withdraw its demand. Thus, the result of Germany being forced to exit would be Northern and Southern euro blocs. The only question is which bloc France would choose to join.

That said, Soros's suggestion that a sub-group of euro countries could issue joint Eurobonds if they wished to do so is good. Every country should be free to organize a two-speed eurozone if it so wishes. Whether that would improve the credit ratings of the jointly issued bonds is another matter.

His accusation that Germany is imposing austerity is unfair. Austerity is imposed by the markets, not by the countries providing the funds to mitigate the crisis. By now, the overall sum of credit provided *via* intergovernmental rescue operations and the European Central Bank has reached 1.185 trillion euros (707 billion euros in GIPSIC Target liabilities minus GIPSIC claims from under-proportional banknote issuance; 349 billion euros in intergovernmental rescue funds; including those from the IMF; and 128 billion euros in GIPSIC government-bond purchases by non-GIPSIC national central banks). And this total does not account for the unlimited guarantees that the ECB has given to Southern countries through its Outright Monetary Transactions program, which imposes the expense – and the risk – on the taxpayers of Europe's still-sound economies.

If the euro broke up and the GIPSIC countries defaulted, Germany alone would lose about 545 billion euros – nearly half of the total sum of credit – because the Bundesbank has carried out most of the net payments that are reflected in the Target balances on behalf of the GIPSIC countries. Germany has by far the biggest exposure among the countries rescuing the eurozone's crisis-stricken countries, and thus helps to mitigate austerity more than any other country.

Soros underestimates the risks that debt mutualization would pose for the future of the eurozone. When Alexander Hamilton, the first US finance minister, mutualized state debts in 1791, he thought that it would cement the new America. But the mutualization of debt gave rise to huge moral hazard effects, inducing the states to borrow excessively, fueling the creation of a credit bubble. When it burst in 1838, most of the US states were driven into bankruptcy. Nothing but animosity and strife resulted.

The euro crisis arose because investors mispriced the risks of investing in Southern Europe. This was the reason for the inflationary credit bubble that deprived a number of countries of their competitiveness. Eurobonds are a way of perpetuating this mispricing, keeping the markets from correcting their mistakes. Eurobonds would imply lingering soft budget constraints and huge political moral hazard effects that would destroy the European model.

Soros says that countries that fail to implement the necessary reforms after the introduction of Eurobonds would become permanent pockets of poverty and dependency, much like Italy's Mezzogiorno region today. Indeed, this is what will happen. Given the cheap financing available, a number of countries will become like the Mezzogiorno – or like East Germany, for that matter – and will permanently suffer from the so-called 'Dutch Disease', with chronic unemployment and underperformance but an acceptable living standard.

Soros says that Germany will suffer from exiting the eurozone, because of the revaluation of the Deutschmark. This is not true. First, Germany is currently undervalued and would benefit from a limited appreciation *via* the terms-of-trade effect. The advantage of imports becoming cheaper would more than outweigh the losses in export revenue.

Second, the Bundesbank can always prevent an excessive revaluation by selling Deutschmarks and buying foreign assets, just as Switzerland did last year. Germany would be far better off than it is now, because real foreign assets would replace the Target claims that it currently holds. Such assets would be safer and generate a higher return. That said, I reemphasize that, in my opinion, Germany should not exit the euro, because of the political value of the euro as a European integration project and because of its potential trade benefits should the current crisis be resolved.

Soros claims that the exit of Southern countries would exacerbate their external debt problems, leading them to default on their debt. This is also not true. While exiting and devaluing the new currency would increase the debt-to-GDP ratio, so would remaining in the euro and cutting prices to enact a real devaluation. Outside of producing inflation in the eurozone, a depreciation – whether external or internal *via* price cuts – is an uncompetitive country's only option to regain competitiveness and to generate a structural current-account surplus, which is the only possibility for orderly debt redemption.

Seen this way, a temporary increase in the debt-to-GDP ratio is unavoidable if a country wants to repay its debt and attain a sustainable foreign-debt position. In my opinion, we should tolerate more inflation in the eurozone's Northern countries in order to help make the eurozone South competitive. But, if we try to escort the Northern savings to the South *via* Eurobonds, exactly the opposite will happen. We would destroy the German building boom, which is beginning to lead to higher wage demands and has the potential to inflate the country.

On another point Soros raises, I do not see why Italy should exit the eurozone, and why it would be 'infinitely better off' if Germany exited. Italy has a very low level of foreign debt, and northern Italy has a highly competitive economy. According to the study by Goldman Sachs that I cited, it needs only to depreciate against the eurozone average by 10 percent or less. Italy's problems are manageable. If it was true that Germany would suffer after its own exit, Italy would suffer, too, because Italy and Germany are closely interlinked *via* supply chains. The two countries are complements, rather than competitors.

Soros points to Japan's unsuccessful attempts to solve its problems by monetary austerity of the German kind, and warns against repeating the experiment. Japan clearly did not choose austerity after its banks collapsed in 1997. The Bank of Japan has kept interest rates close to zero since then, while government debt has increased from 99 percent of GDP in 1996 to 237 percent in 2012, because of permanent Keynesian deficit spending. Apart from that, the ineffectiveness of austerity in a country with a flexible exchange rate does not apply to the situation of a country in a currency union. While the flexible exchange rate would sterilize all attempts at increasing competitiveness *via* deflation, price cuts in a currency union do work wonders, as the Irish example has shown. Ireland has cut its prices relative to the rest of the eurozone by 15 percent since 2006, and it succeeded in saving its economy.

One final word. Soros said that I had 'distorted and obfuscated' his argument. If that was the case, I apologize, for the public discourse would make no sense if the antagonist's view were purposefully distorted. But I still do not see where, and in what sense, that could have been the case.

The Transatlantic Trade and Investment Partnership (TTIP): Potentials, Problems and Perspectives

Gabriel J. Felbermayr[1] and
Mario Larch[2]

"And tonight, I am announcing that we will launch talks on a comprehensive Transatlantic Trade and Investment Partnership with the European Union – because trade that is free and fair across the Atlantic supports millions of good-paying American jobs".

State of the Union Address, President Obama, 12 February 2013.

The High-Level Working Group *"recommends to US and EU Leaders that the United States and the EU launch … negotiations on a comprehensive, ambitious agreement that addresses a broad range of bilateral trade and investment issues, including regulatory issues, and contributes to the development of global rules".*

Final Report, High Level Working Group on Jobs and Growth, 11 February 2013.

The logic of trade liberalization 2.0

The logic for free trade between the United States and the EU, regions with strong trade and investment links, has always been compelling. One important initiative for a transatlantic trade deal was pushed by the then Foreign Minister Kinkel in 1995 (The Economist 2012). Towards the end of the 1990s, this initiative was followed up by Leon Brittan, former European Commissioner for Trade, who advanced plans for a *'New Transatlantic Agreement'*.

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[2] University of Bayreuth.

However, at the time the idea did not gain traction. Brittan's successor as Commissioner for Trade, Peter Mandelson, revived the idea in 2007, and signed the *'Framework for Advancing Transatlantic Economic Integration'*. Since then, proposals have multiplied under various headings (e.g. Transatlantic Market Place (TRAMP), Transatlantic Free Trade Agreement (TAFTA)), and several studies have offered detailed analysis on the topic (e.g. Ecorys 2009). Some bilateral initiatives, mostly with a very narrow focus, have also been successfully concluded. For example, both parties have agreed to mutually recognize standards for bio food. Nonetheless, no major formal agreement has been struck.

For several reasons, the chances are better than ever that the EU and the United States will come to an understanding this time. Why? Firstly, both regions have experienced anemic growth since the financial crisis of 2008. With little room to loosen fiscal and monetary policies further, they are turning to structural reforms. Unlike domestic labour or product market reforms, trade liberalization promises substantial benefits at relatively low political costs.[3] Secondly, the Doha-round multilateral trade talks orchestrated by the World Trade Organization (WTO) have not been successful, despite 12 years of negotiations. Trade issues have become increasingly complex and have moved away from simple tariff reduction scenarios to much more complicated problems related to regulation. There is substantial doubt as to whether the WTO as we know it can deliver on what one may call 'trade liberalization 2.0'. Thirdly, leaders in both Europe and the United States see the reduction of trade frictions between their regions as an important means of regaining some of the competitiveness that they lost relative to emerging countries like China and India.

Trade liberalization 2.0, i.e. the elimination of non-tariff barriers (NTBs) to trade, poses a number of distinct and novel problems. One usually defines

[3] In Europe, trade agreements are concluded by the European Commission and do not require ratification by national parliaments.

NTBs as measures that amount to discriminatory regulatory barriers to market access. Rather frequently, however, the discrimination of foreign suppliers is not the only, or not even the primary objective of the measure; instead the policies are meant to protect consumer or worker health, or the environment. They may be in place to ensure the technical compatibility of complementary goods, or to enforce minimum quality standards. NTBs also include rules that directly discriminate against foreigners, e.g. by excluding them from participating in public procurement programs, or by denying specific tax advantages. Most of the literature, including our own work, has tended to treat NTBs as cost shifters that increase the marginal or fixed costs of production. They put foreign suppliers at a cost disadvantage relative to domestic firms without generating any advantages for, say, consumers or the environment. The adequate modeling of NTBs and their relation to conventional trade policy tools such as tariffs or subsidies in the context of general equilibrium models is the subject of an ongoing debate (see e.g. Felbermayr, Jung and Larch 2013).

The second challenge regarding NTBs concerns their measurement. The literature has developed direct measures as well as measurement methods based on residuals of gravity equations (see for a good survey Anderson and van Wincoop 2004). In other words, NTBs are understood as unobserved determinants of trade volumes. We view this as problematic, because residuals not only reflect unmeasured regulatory trade costs, but also other unobserved components of bilateral trade flows. These examples also seem problematic, as they are all country-related and, therefore, easily controllable by country-fixed effects! Moreover, residuals are naturally centered around zero, so that inferred NTBs can also boost bilateral trade volumes. A separate problem with this method is that the researcher has to quantify those portions of NTBs that are 'actionable', i.e. that can be reduced by a trade policy agreement between two countries.

As we argue in more detail below, we use a different approach. Roughly, our exercise can be understood as follows. In a first step, we use an empirical gravity model based on observed bilateral trade data for the year 2005 to estimate the effect of existing free trade agreements on trade flows. To obtain consistent and unbiased estimates, one must deal with the fact that the occurrence of trade agreements in the data is clearly non-random. In a second step, we use external information on trade elasticity to back out the total effect of free trade agreements on trade costs. The total effect must be brought about by a reduction in both tariff and non-tariff measures. So, since the former barriers are observed, in a third step, we can quantify the amount by which real-world free trade agreements have lowered NTBs. Our preferred transatlantic trade liberalization scenario uses this *ex post* estimate as the most plausible *ex ante* scenario. Our strategy has the advantage that we avoid the pain-staking task of calculating a full trade cost matrix that includes NTBs. This allows us to work with an extremely large country sample (126 nations), for which it would be totally illusory to come up with NTB estimates. We also do not need to speculate about what share of measured total NTBs is actionable and by how much NTBs would be reduced in the transatlantic agreement. The way we define our scenario is one of the key differences to other studies that have been completed in recent months.[4]

This paper summarizes the key findings of our study. We find that a comprehensive free trade agreement, which lowers non-tariff barriers (NTBs) significantly, increases German exports to the United States. This is driven by a substantial boost to sales of medium-sized firms. Trade liberalization increases the average real wage by about 1.6 percent, while it leads to a marginally lower unemployment rate. The study does not expect a lasting negative impact on the international trading regime.

Overview of the transatlantic trade and investment relationship

Existing free trade agreements

Both the EU and the United States maintain a number of free trade agreements, which typically cover trade in both goods and services. According to data published by the WTO, the United States maintains 14 bilateral agreements, some of which involve several countries (NAFTA, which includes the United States, Canada and Mexico; CAFTA, which involves a number of Caribbean States). The EU has a total of 35 bilateral agreements. Korea, Mexico, Canada, Singapore (not yet in force), Israel, and Chile all have bilateral agreements with both the EU and with the United States.

[4] See Kommerskollegium (2013) for Sweden, Francois and Pindyuk (2013) for Austria, Fontagne and Gourdon (2013) for France and Francois et al. (2013) for a study focusing on the EU.

However, an agreement between the EU and the United States would be unprecedented in terms of its sheer dimension. It would create a free trade area representing nearly 50 percent of global economic output, with only 11.8 percent of the world population.

Table 1

Composition of German exports to the United States, 2010

	Million US dollars	% of bilateral trade
Industrial goods	87,043	80.3
Services	19,732	18.2
Agricultural goods	1,581	1.5
Total	108,372	

Source: UNCTAD.

The following synthesis of the Ifo study begins by outlining the relevant defining features of the transatlantic trade relationship. This includes a brief discussion of the existing tariff and non-tariff barriers. It subsequently presents the most important results of a survey of German trade associations. This helps to understand the views of German companies on the Transatlantic Trade and Investment Partnership (TTIP) and serves as external validation of the simulation exercises. Thereafter, the main empirical results of the Ifo study are presented, emphasizing trade creation, trade diversion and welfare effects of TTIP.

Special features of the EU-US relationship

The United States is Germany's second largest export market (after France). Despite the dynamic development of China, the Ifo Institute's medium range forecasts predict that this ranking will remain roughly stable. The United States is the third most important source for imports behind the EU and China for Germany.

Germany and the United States differ significantly in their export shares. The German share stands at 50.5 percent of GDP, while the United States comes in at 13.9 percent of GDP.[5] This clearly highlights the different economic orientations: Germany is strongly orientated towards exports, while domestic consumption dominates in the United States.

Bearing these facts in mind, it is not surprising that Germany generated a goods trade surplus of 208,252 million US dollars with the rest of the world in 2010. Conversely, the United States had a deficit of 645,123 million US dollars with the rest of the world. In 2010, 8.2 percent of total German exports went to the United States, valued at 108,372 million US dollars (see Table 1), while imports from the United States accounted for 6.6 percent of all German imports (76,898 million US dollars). As far as industrial goods are concerned, Germany had a surplus of 26,908 million US dollars in 2010. In total, over 80 percent of all German exports to the United Sates are industrial goods. Trade in machinery and the automotive sector alone account for over 50 percent of total exports, while exports in agricultural products and services together represent less than 20 percent. It is clear that, from a German perspective, manufactured goods dominate transatlantic trade with the United States.

However, when looking at trade in services, a different picture emerges. While Germany was the second largest exporter of services in 2010 in nominal terms, with services exports relative to GDP at 7.4 percent, Germany had an overall deficit of 24,192 million US dollars with the world. In contrast, the United States had a surplus of 145,827 million US dollars by services exports of 3.8 percent relative to GDP. This difference is also reflected in bilateral trade in services between these two countries, where Germany recorded a deficit of 1,025 million US dollars in 2010.[6]

This divergence in trade in goods and services suggests that the United States has a comparative advantage in services exports, while Germany has an advantage in manufacturing industries. This relationship also holds for the nominal trade volume. Nonetheless it must be noted that Germany's deficit in services trade has declined substantially in recent years, during which the German services industry has rapidly caught up.

Turning to the agricultural sector, the United States exports larger volumes to Germany than it imports. However, in general, trade in agricultural commodities commands much lower volumes relative to output than the other sectors.

[5] Source: UNCTAD.

[6] Source: OECD, Destatis, and own calculations.

Table 2

Comparison of weighted average customs duties 2007 (%)		
	US imports from EU	EU imports from US
Agricultural goods	2.62	3.89
Industrial goods	2.82	2.79

Source: TRAINS Data from WITS.

Across all sectors, trade between the United States and Germany (or, more broadly, the EU) has a strong *intra-industry* nature (Grubel-Lloyd indices of 0.73 to 0.90). Additionally, *intra-firm* trade (i.e. international transactions within the same firm) is quantitatively very important and accounts for 80 percent of German exports in the automotive industry, 76 percent in the chemicals sector and 61 percent in machinery. Interestingly, however, the share of intra-firm trade in imports from the United States to Germany is higher than in German exports to the United States. This marked asymmetry is related to the structure of foreign investment between the two countries. Furthermore, the share of *intra-firm* trade exceeds 30 percent in 12 of 32 sectors, measured either as German exports to the United States or as German imports from the United States. In almost all sectors, a significant fraction of German imports from the United States, and of exports to the United States, takes place within firms. This demonstrates the high degree of cross-linkages between the two countries.

Low average tariff duties, high industry variation

Tariff barriers between the United States and EU are low on average. In 2007, for the manufacturing sector, the trade weighted average tariff rate was approximately 2.8 percent in both countries. However, this low average masks extreme sectorial peaks (for example, in textiles or motor vehicles). Furthermore, the agricultural sector is generally regulated far more heavily.

Peak tariff rates may reach 350 percent in the United States and 74.9 percent in the EU. The EU median is 3.5, while the United States features a median of 2.5; the arithmetic mean is more than a percentage point higher than the median. This latter fact testifies to a substantial amount of skewness in the distribution of tariffs across products, as illustrated by Figure 1.

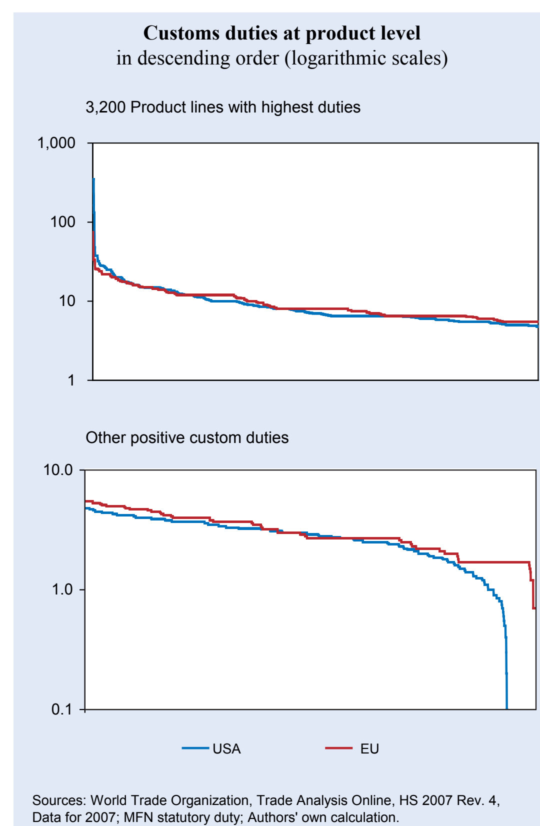
In both, the United States and the EU, at least 25 percent of all product lines are not subject to import duties. However, it is also true that 25 percent of product lines are subject to tariff rates higher than 6.5 percent (EU) and 5.5 percent (US). This is relevant for welfare: economic theory shows, that in addition to the average rate, the distribution of tariffs matters.

Figure 1 shows that some industries clearly have the potential to benefit greatly from tariff liberalization. Nonetheless, in comparison to other countries, the average tariff rates between the EU and the United States are at very low levels. It is therefore unlikely that the elimination of these relatively low tariffs will lead to strong trade and welfare effects in the aggregate.

Non-tariff trade barriers (NTBs)

Identifying and quantifying statistically robust non-tariff barriers (NTBs) at the industry level is a particularly challenging task. There is not yet any well-established methodology that can be used to estimate NTBs consistently across countries and sectors in a harmonized way, so that the results could be safely used in model simulations.

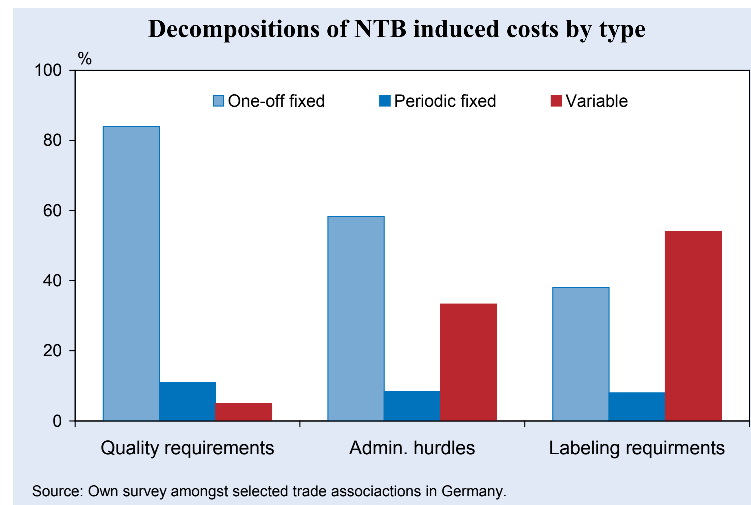
Figure 1



Sources: World Trade Organization, Trade Analysis Online, HS 2007 Rev. 4, Data for 2007; MFN statutory duty; Authors' own calculation.

Nevertheless, to present estimates of non-tariff barriers at the industry level, we use results from the MIRAGE consortium. This enables statements about the distribution of NTBs across sectors and demonstrates important asymmetries between the United States and the EU. Results show that, while European alcohol and tobacco exporters to the United States face additional costs averaging about 14 percent, the US companies can expect additional costs of over 50 percent on their exports to the EU. Similarly, the chemical industry in Europe has NTBs amounting to additional costs of 112 percent, more than three times as much as in the United States. This compares to the European machinery sector, which appears to impose no additional costs on the US imports, while exports to the United States face NTBs that increase the cost by 46 percent.

Figure 2



To summarize, compared to tariff duties, NTBs are quantitatively much more important, probably by about one order of magnitude. Thus, they play a much stronger trade-restricting role. Additionally, they take a much more asymmetric shape between the United States and the EU than tariffs.

Survey amongst German trade associations

Before we proceed with the estimation and simulation of a general equilibrium model to quantify the effects of a free trade agreement between the EU and the United States, we present the results of a survey amongst leading German trade associations. This allows us to check the plausibility of the results generated by our models and acts as external validation. In addition, the survey captures the firms' attitudes towards the different liberalization scenarios, as well as towards the prospect of a free trade agreement between the EU and the United States in general. The results aid the parameterization of our numerical model, which does allow for imperfect competition and heterogeneous firms.

A total of 60 trade associations were contacted, of which 70 percent responded to our initial contact. 20 percent of associations did not respond at all, while 10 percent were willing, but unable, to be interviewed by December 2012 due to time constraints. We asked the trade associations which types of trade costs were most crucial for their members in terms of exports to the United States. We also asked about the economic role of these costs (variable or fixed costs), what advantages and disadvantages companies expect from a free trade agreement, and how these effects were distributed across businesses by size.

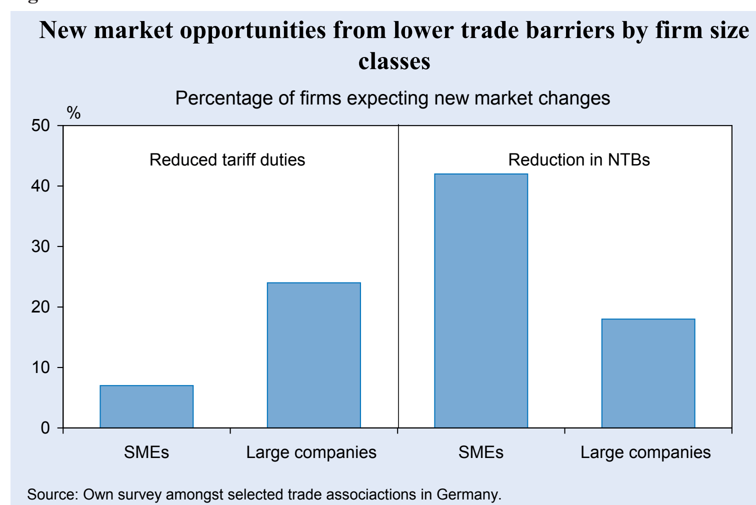
The survey results show that non-tariff barriers (NTBs), and, in particular, quality standards, constitute the main obstacles for German exporters in gaining access to the US market. NTBs are primarily understood as market entry fixed cost (see Figure 2).

A reduction in NTBs appears to be especially useful for small and medium enterprises (SMEs). Conversely, the benefits of simply eliminating tariffs accrue to larger firms. For most industries, the US market is more important as an export destination, than as a manufacturing base.

In addition, small and medium enterprises see big opportunities and great chances for growth (see Figure 3), particularly in the chemical and agricultural sectors.

Finally, the greatest new market opportunities are seen in the machinery and plant engineering sectors, in metal production and processing, in the chemical and pharmaceutical industries, as well as in agriculture and forestry.

Figure 3



Trade creation, trade diversion and welfare effects

In this section, we discuss trade creation and the diversion effects of different liberalization scenarios, as well as their implications for welfare. Our model focuses primarily on the reallocation effects within industries, i.e. on *intra-industry* trade (Krugman 1980), as opposed to *inter-industry* trade. This is a salient choice because, as we have seen above, trade between the EU and the United States mainly takes place within similar industries.

Model

The key idea of our approach in this study is to first econometrically measure the trade effects of existing *preferential trade agreements* (PTAs), and then apply the results to the transatlantic agreement with the help of a model simulation. This has the advantage that, in addition to tariffs barriers, NTBs are automatically taken into account as well. We call this scenario 'comprehensive agreement' and contrast this in a second scenario with only a pure tariff reduction.

Building on the work of Egger *et al.* (2011) as well as Egger and Larch (2011), we perform a structural econometric estimation of trade effects, and simulate the counterfactual scenario of a transatlantic free trade agreement. When estimating the effects of existing PTAs, it is absolutely crucial to take into account the non-random occurrence of free trade agreements. This is achieved through the use of an instrumental variables estimator. Furthermore, we carefully model that the start-up of trade relationships between two countries may be subject to other economic laws than the intensification of pre-existing economic relationships. Following the estimation of parameters, the effects of a TTIP agreement were quantified by simulating our model. The total number of 126 countries are considered: all EU countries, the United States, Canada and Mexico (the three NAFTA countries), as well as other large and important emerging markets such as China and India.

Trade creation effects of a comprehensive liberalization

Across existing PTAs, our econometric estimates show average long-term trade creation effects of at least 67 percent. Carefully modeling the selection of countries into PTAs increases these effects still further. Trade growth within already existing trade relationships (the so-called intensive margin) turns out to be more important than growth stemming from the inception of new trade relationships (the so-called extensive margin).

Taking into account all relevant general equilibrium effects, trade between EU member states and the United States grows strongly by an average of 79 percent. This trade creation is a multiple of what would be expected from the observed reduction in tariffs duties alone. Compared to other studies, our econometrically sound methods signal greater trade creation effects in all country pairs affected by a transatlantic trade initiative.

Trade diversion effects of comprehensive bilateral liberalization

A comprehensive transatlantic trade agreement also increases trade between pairs of countries that are not directly affected: in 56 percent of those pairs, trade increases. Overall, in this group of country pairs, it rises by about 3.4 percent on average. There is, however, a high degree of heterogeneity. Trade between a few small countries can even come to a complete standstill.

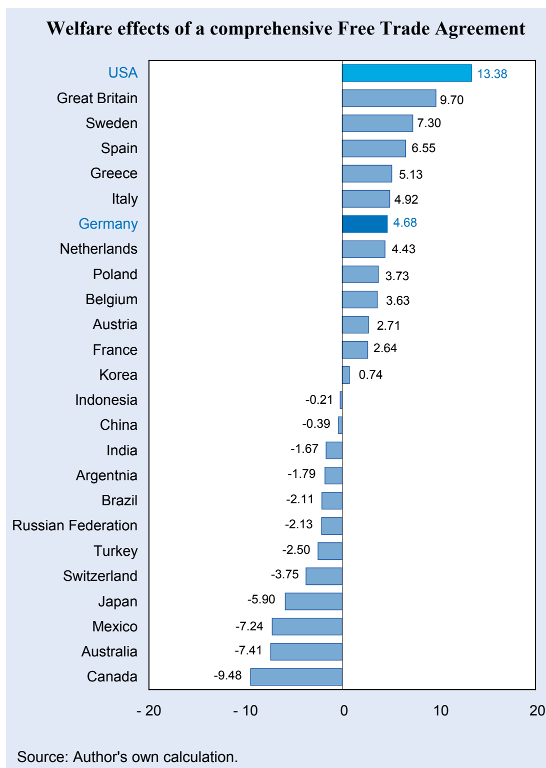
Although total German exports increase overall, they fall in over half of Germany's bilateral rela-

tions. Importantly, however, the decline in most cases is either small or refers to very low trading volumes. The minimum change in bilateral exports is – 40 percent, while the maximum increase is + 94 percent. The changes in bilateral trade for the United States are even more asymmetric. The median number over all bilateral trade relationships indicates a decline of 25 percent, with a minimum at – 36 percent and a maximum trade creation of 109 percent. This shows the considerable heterogeneity in the change in trade flows, which are due to trade diversion effects. However, if one focuses on bilateral trade flows, it becomes clear that German exports to the United States rise by 94 percent, while exports to Canada and Mexico rise a little less (by + 19 and + 10 percent, respectively). Exports to markets with which the EU or the United States have PTAs are considerably reduced, especially trade with some EU countries. This is due to trade diversion effects.

Welfare effects of comprehensive liberalization

Figure 4 shows the welfare effects for a selected number of countries. The increase in trade raises average global welfare (real income) in the long run by about 3.3 percent. In *Germany*, welfare increases by about 4.7 percent and in France by 2.6 percent. The

Figure 4



Source: Author's own calculation.

United States and Britain are major winners with an increase of 13.4 percent and 9.7 percent, respectively. Countries with which either the EU or the United States already enjoy free trade agreements are the main losers. These include Mexico, Canada, and Chile, as well as countries in North Africa.

It is very clear that a comprehensive free trade agreement has a significant potential for welfare gains in the long run for the TTIP-member countries. Looking at the 27 EU member states and the United States, our results show that all future TTIP member states would achieve an increase in welfare. The spread of welfare gains for the EU lies between 2.6 percent (France) and 9.70 percent (Britain). To put these effects into perspective, it is very important to bear in mind that these calculated welfare gains pertain to the *long-term* effects, and are only generated from a *comprehensive* agreement.

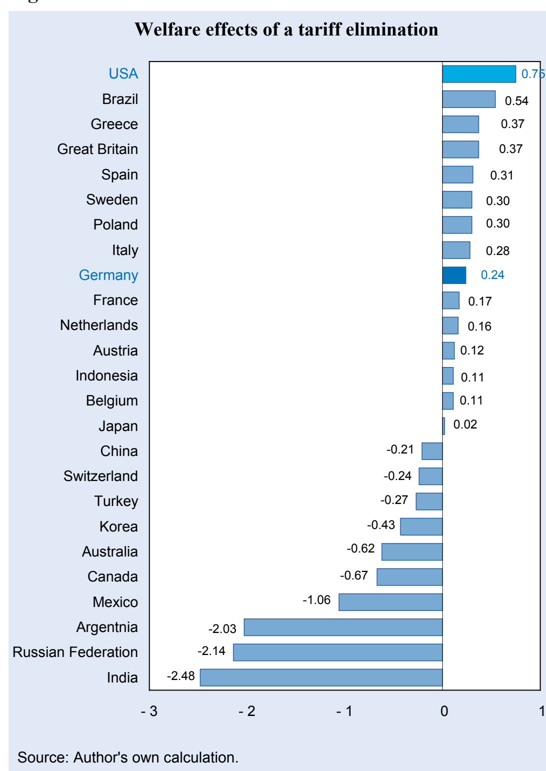
The welfare effects generated by TTIP have two main sources:

1. The introduction of TTIP leads to an increase in the availability of foreign products and possibly to the availability of entirely new products or product varieties; greater product diversity has a positive effect on welfare; and
2. Due to lower trading costs, prices are lower, and consequently the consumer price index falls, leading to an increase in the purchasing power of income. This, too, constitutes an important source of welfare gains.

Trade creation, trade diversion and welfare effects of a tariff elimination

As mentioned above, the weighted average tariff on imports from the EU and the United States in 2007 was only 2.8 percent. Thus, it is not surprising that the elimination of these tariffs leads to lower trade creation effects than may be expected by the occasional observer may expect; but, trade creation remains 5.8 percent on average. However, there are now a few TTIP member countries whose trade volumes fall. For countries not participating in TTIP, the trading volumes fall on average by about 0.5 percent. Yet, in around 60 percent of non-participating country pairs, trade is still rising as a consequence of TTIP. Trade diversion is therefore also less pronounced than in a more comprehensive treaty.

Figure 5



Source: Author's own calculation.

Figure 5 provides an illustration of the welfare effects of the tariff elimination scenario. In the long run, welfare increases by 0.24 percent in Germany, while America's increases by 0.75 percent. The global average long-run increase is 0.09 percent. Once again, those countries, with which the United States and the EU already maintain FTAs lose; however, losses are now much smaller (for example, Canada – 0.67 percent and Mexico – 1.06 percent).

Germany's reduced welfare gain of only 0.24 percent can be attributed to the already low rate of tariff duties. In comparison, substantial gains from a transatlantic agreement require eliminating NTBs. This is also corroborated by the results of the trade association survey, as well as the stylized empirical facts discussed above.

Effects on the labour market

For a more detailed analysis of the effects on the labour markets, on productivity growth, and on firm-specific effects, we empirically implement the theoretical model of Felbermayr *et al.* (2011). In doing so, we build on work by Felbermayr *et al.* (2012). The theoretical model incorporates an accurate modeling of the search process on labour markets and differentiates between firms according to their size (employment, turnover) and productivity.

The simulation makes use of the econometric results of the above presented approach. At the same time, the careful modeling of labour markets and the inclusion of firm heterogeneity makes a higher aggregation level of data necessary; this concerns mostly the level of regional detail. We consider five regions: Germany, the United States, the rest of the EU, the rest of NAFTA and the rest of the world.

We examine three scenarios. The 'tariff scenario' assumes, as mentioned above, the complete elimination of all import duties. In the 'NTB scenario' it is assumed that the trade creation between the United States and the EU due to TTIP is, on average, equivalent to what was measured econometrically in the second section for existing agreements. This means that trade barriers from the initially calibrated equilibrium are reduced such that average trade creation predicted by the model is exactly 76 percent. This reduction naturally includes the reduction of all tariffs to zero. The entire reduction of non-tariff barriers is achieved through changes in the variable costs of trading. In the third scenario, 'single market scenario', we assume that the level of total effective bilateral trade barriers between participating TTIP countries fall to the levels that we have calibrated for trade relations within the EU. To reflect the greater geographical distance, we assume an ad valorem surcharge for transportation costs on transatlantic trade of 10 percent.

Table 3 shows that merely eliminating tariffs does not generate any significantly measurable effects on *structural* (meaning equilibrium and not cyclical) unemployment, neither in the United States nor in Germany or the rest of the EU. If the TTIP agreement amounts to substantial reductions in NTBs, then up to 110,000 new jobs in Germany and a total of 400,000 jobs in the EU can be created. Employment growth in the United States is lower. In Canada and Mexico, there are only very small, partially positive effects on employment. The rest of the world loses about 240,000 jobs in this scenario. Relative to the '*Status Quo*' (i.e. 2007), an ambitious reduction of NTBs leads to a pronounced increase in real wages in Germany, in the EU as a whole, and also in the United States. In other regions real wages remain almost unchanged. Liberalization generates new jobs, but above all it leads to better paying jobs.

Table 3

Effects of the free trade initiative on labour markets

	Germany	US	EU26	NAFTA2
[A]Unemployment rate in %				
Baseline scenario	8.70	4.60	6.90	4.90
Tariff scenario	8.70	4.60	6.90	4.90
NTB scenario	8.64	4.55	6.85	4.91
Single market scenario	8.38	4.49	6.70	4.91
[B] Number of unemployed (thousands, absolute change)				
Tariff scenario	– 2,10	– 6,25	– 9,89	0,65
NTB scenario	– 25,22	– 68,79	– 98,91	6,51
Single market scenario	– 109,30	– 103,19	– 280,89	– 3,91
[C] Real Wage (Change relative to baseline scenario in %)				
Tariff scenario	0.13	0.17	0.13	– 0.04
NTB scenario	1.60	2.15	1.67	– 0.46
Single market scenario	8.32	5.25	6.18	– 0.21

Source: Authors' own calculation.

Table 4

Change in average labour productivity (relative to baseline scenario) (in %)

	Germany	US
Tariff Scenario	0.06	0.07
NTB-Scenario	1.14	1.14
Comprehensive Scenario	5.65	3.70

Source: Authors' own calculation.

Table 5

Gross and net employment effects for Germany

	NTB scenario	Single market scenario
Firm exits	2,549	11,045
Shrinking firms	19,620	85,031
Jobs lost	22,169	96,076
Firm entries	42,757	185,304
Growing firms	4,631	20,072
Jobs gained	47,389	205,376
Net employment effect	25,220	109,300

Source: Authors' own calculation.

At an average of 3,311 euros gross monthly wage in Germany, the implementation of the 'single market scenario' increases a worker's wage by 268.75 euros a month.

In our model simulations, the increase in real wages is due to a higher average productivity of labour. This is driven by the fact that trade liberalization leads to a reallocation of employment away from companies with low labour productivity towards companies with high labour productivity. Accordingly, the proportion of these relatively productive firms increases in relation to total employment.

The productivity effect is an important factor in increasing the GDP – see Table 4. It turns out that the productivity-enhancing effect of the agreement is negligible in all regions, as long as one focuses only on the tariff reduction. The 'NTB scenario' results in a productivity effect of about 1 percent, which is already quite pronounced, but in the ambitious 'single market scenario' it increases further to 5.65 percent in Germany, which is more than in other regions. In other markets, the productivity effect can even be negative: by displacing exports a reverse re-allocation effect can ensue. Work is shifted towards non-exporting firms, which are also less productive. However, this productivity-reducing effect is very small in all cases.

The higher productivity of domestic firms leads to a reduction of average prices for domestic consumers. Increased competition due the entry of new foreign companies that serve the domestic market through exports also dampens prices. In fact, the price level falls in all scenarios and in all regions. The decline in third markets follows from the fact that the higher average productivity of American and/or European companies also causes price adjustments downwards in those countries.

Effects on small and medium-sized enterprises

Trade liberalization leads to the growth of export-oriented SMEs, which only start operating in the US market following improved market access conditions. Therefore among the medium-sized companies, the smallest stand to benefit to the greatest degree. In contrast, large companies, which are al-

ready exporting to the United States, and account for a larger proportion of total employment, remain largely unaffected by a TTIP agreement. They benefit from falling transaction costs on the one hand; but face stiffer competition both in their home markets and abroad on the other. The entry of more efficient American companies into the German market may lower the competitiveness position of certain non-exporting, small firms. However, on the macroeconomic level, this is compensated for by lower prices due to increased competition, which leads to overall welfare gains for consumers. Generally, a TTIP agreement leads to an increase in the degree of internationalization of firms, especially in the medium-size range.

Table 6

Export growth by sector (in %)

	German exports to US	US exports to Germany
Agriculture	28.56	56.02
Industrial goods	11.10	17.85
Services	3.78	1.44

Source: Authors' own calculation.

Industry-level effects

For an analysis at the industry level, a computable general equilibrium model of the type MIRAGE (Modeling International Relationships in Applied General Equilibrium) was used. The underlying dataset is based on the GTAP 8 data set for 2007. Since the program allows an aggregation of countries/regions and industries, Germany and the United States were analysed separately for this study. The rest of the countries were grouped into eight regions. The industry level was left as disaggregated as possible.

In the considered scenario, all duties in the agricultural and industrial sectors are lifted, while no NTB reduction is performed. In the services sector, it is assumed that the market access in telecommunications, air transport, postal services, financial services and environmental services will be liberalized based on the GATS (General Agreement on Trade in Services) agreement.

The reported results reflect the long-term. They report percentage changes relative to a situation, in which no agreement was reached. The results indicate trends at the sector level; for a macroeconomic analysis please refer to the two previously described analyses.

Looking at the development of the bilateral exports between the United States and Germany, it is evident that export growth is to be expected in all three main sectors of the economy (agriculture, industry, services) – see Table 6. The largest increase in exports is in the agricultural sector, albeit starting from a relatively low level. The largest increases on the German side can be expected in the agricultural sector for dairy products, vegetable oils and fats and sugar. For America the growth is much stronger on average, with especially high increases forecast for meat products.

In the industrial sector, the strongest German gains in export growth take place in the textile and leather branches. The United States is expecting equally strong export growth here. However, quantitatively more welfare relevant effects come from the significant increases in mechanical and automobile engineering exports, both in the United States and Germany. US exports can be expected to grow significantly faster than German exports, especially in automotive engineering.

In the service sector, Germany is able to expand its bilateral exports significantly. Strikingly, double-digit growth in financial services, communications sector, and in business services are the driving force here. In these areas, there is also significant, but lower overall growth, on the American side.

Table 7 shows changes in the aggregate volume of exports for the United States and Germany in percent. Changes in all export sectors were corrected using the GDP deflator.

Table 7

Growth in overall exports (in %)

	US exports	German exports
Agriculture	0.16	3.54
Industrial goods	0.74	3.17
Services	0.42	2.46

Source: Authors' own calculation.

At the multilateral industry level, i.e. against all trading partners, all US sectors feature positive export growth, whereas individual sectors in Germany experience a decline in exports. Overall, however, exports increase in all of the three main sectors of the economy in both economic regions.

Effects on the global trading regime

Does a regional agreement, like the one between the United States and the EU, reduce the likelihood of a successful reform of the multilateral trade regime under the WTO? Or does it increase its chances? Baldwin and Seghezza (2010) recently demonstrated very convincingly that regional integration efforts are neither a building block for, nor a stumbling block to the progress of multilateral liberalization. On the one hand, they reduce the incentives of the participating countries to make concessions at a multilateral level. On the other hand, they increase the benefits from successful multilateral negotiations for initially uninvolved countries. In particular, the emerging economies could be persuaded to make concessions.

Only a reduction of NTBs, which are not addressed within the existing WTO agreements, can deliver significant additional welfare benefits. Such liberalization appears to be unthinkable in the current WTO framework. In that sense, the multilateral approach does not represent a feasible alternative to deeper regional agreements.

An important objection, which has been frequently made, is that a transatlantic free trade agreement will diminish the value of bilateral agreements with third countries, such as with Turkey, or the signatories of the Cotonou Agreement (post-Lomé), because they would be confronted with increased European competition on the American market. This results in *'TTIP swallowing bilaterals'* (Langhammer 2008, 17).

The results of our study suggest that Canada, for example, should have a vital interest in successfully concluding its negotiations on a free trade deal with the EU. The same applies to all countries that maintain free trade agreements with either the United States or the EU. Countries that are already linked by agreements to either the EU or the United States would have an incentive to form a bilateral agreement with the partner with whom they do not yet have an agreement. This is the core of the building bloc argument. Thus, a deep bilateral agreement between the EU and the United States poses no existential threat to the multilateral trading system.

Conclusions

Compared to other free trade agreements, that have been completed in the recent period, or are currently being negotiated, the expected welfare, growth and employment effects of a transatlantic free trade initiative are significantly more substantial, in the United States, in Germany and other EU member states, but also in third countries. This is so because the EU and the United States are each other's main trading partners; the main player on the European side being Germany. This is true for any type of trade liberalization scenario, but it is particularly relevant when considering the important role of non-tariff barriers.

At the same time, the two economic blocs are sufficiently similar in terms of their cost and productivity structures. This makes it very unlikely that an agreement involving comprehensive trade liberalization generates strong competitive effects based on different wage levels.

The facts of very similar economic development levels, strong mutual investment positions, deep political ties (for example, the common defense policy) and high degrees of cultural proximity, suggest that the partners should find it easier to lower non-tariff regulatory barriers to market entry. In many areas, for example in the approval of products, this requires high levels of institutional trust.

The central point of criticism on a comprehensive agreement between the EU and the United States is that such a trade deal would put third countries at a disadvantage. It is (or rather was) often said that this would jeopardize the functioning of the WTO and hinder the successful conclusion of a multilateral agreement (e.g. Doha Round). However, modern empirical research points to the possibility that the conclusion of important bilateral agreements actually increases the incentives of third parties to achieve further liberalization steps at the multilateral level.

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The Slow and Hidden Road to Serfdom

Peter Bernholz[1]

It is seldom that liberty of any kind is lost all at once.
David Hume

Freedom and the rule of law

Without the rule of law limiting the discretionary powers of government agencies, but also of other organizations and individuals, no individual freedom is possible. If government representatives or private persons can order individuals to behave in certain ways at their discretion, no individual liberty is guaranteed. In the words of Immanuel Kant, "Man is free if he needs to obey no person but solely the law". And even if individuals are only obliged to follow the law, their freedom is always threatened if the law can be changed arbitrarily by any individual or government authority. This even holds for democracies in which duly elected parliamentary majorities (that is minorities) are allowed to introduce new laws or change old ones relating to any sphere of human activities.

The problem is clearly stated by Alexis de Tocqueville (1945, vol. I, 270): "when I see that the right and the means of absolute command are conferred on any power whatever, be it called a people or a king, an aristocracy or a democracy, a monarchy or a republic, I say there is the germ of tyranny, and I seek to live elsewhere, under other laws".

Similar ideas are expressed by Friedrich v. Hayek (1944, 62): "the Rule of Law thus implies limits to the scope of legislation: it restricts it to the kind of general rules known as formal law, and excludes legislation either directly aimed at particular people, or at enabling anybody to use the coercive power of the state for the purpose of such discrimination".

Nobody is allowed to be punished except on the basis of a law that existed before the time of his/her action. All individual activities that are not forbidden are allowed. In such a system of a free society individuals can calculate the consequences of their decisions in advance and conclude agreements with others that do not contradict the legal framework.

However, as pointed out by de Tocqueville, this is not sufficient. The majority even in a democracy (including majorities in referendums and popular initiatives) should not be permitted to pass general laws forbidding everybody to become fat or to smoke, as long as they do not damage others by doing so. Similarly, nobody should be forced to take up sporting activities to preserve his/her health.

Although such regulations by patriarchal states are dangerous, they look trivial compared to problems in other countries. Many in the West hoped that the so-called Arabian revolutions in Tunisia, Egypt and Libya in the first decade of the 21st century would lead to the establishment of democracies with the rule of law. However, they overlooked the fact that the majority of decisions can be an existential danger for the minorities suppressed by them. Moreover, it was obvious from the outset that more or less radical Muslims constituted a majority of the population in these countries. So the Muslim Brotherhood won a majority in the Egyptian parliamentary elections and Tunisia saw a similar outcome. Now the secular and Christian minorities in both countries are rightly concerned that they may be subjected to general laws following the commands of the Sharia, and fresh demonstrations by protestors are raging on the streets of Cairo and Tunis.

It is important not to confuse the rule of law with legality. Even an order that is only directed at an individual or a specific group of persons can be put into a legal form.

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But why is freedom so important? Aren't other principles like justice, equality and personal safety equally or even more important? And how can freedom and the rule of law be secured, when the same state also has to provide an institutional framework? Let us first briefly discuss the last of these questions. As stressed by Thomas Hobbes in his Leviathan, it is impossible to fully remove the problem of unlimited discretionary rule whenever a sovereign or state exists with a monopoly of power in the form of an army or police. And anarchy is usually even worse than despotism. But since the publication of Hobbes' book several institutional inventions and proposals of how, at least partly, to solve this problem have been made by John Locke and others. As an important example let me quote James Madison (The Federalist 47, 313): "the accumulation of all powers, legislative, executive and judiciary, in the same hands, whether of one, a few, or many, and whether hereditary, self-appointed, or elective, may justly be pronounced the very definition of tyranny".

Thus Madison proposes a separation of powers into the legislative, the executive and the judicial branches of government, a proposal which found its application in the constitution of the United States. The executive branch only has the right to implement the laws passed by the legislative branch. The judiciary has to check whether the laws are executed according to their meaning and are consistent with the constitutional rules. It has to do so even at the request of any citizen, group or member state. Besides the separation of powers, federalism and direct democracy have been important measures to limit the abuse of government power.

However, even all these institutional innovations are admittedly still limited in their effectiveness to secure individual freedom and to check the power of rulers. Thus the Supreme Court of the United States itself has even been instrumental in extending the domain of the central government beyond the limits foreseen in the American Constitution. Interestingly, when the Swiss largely adopted the US model for their own constitution in 1848, they did not want to grant their highest court the right to check whether the Swiss Federal Constitution were violated by federal laws, referenda or initiatives as they deemed it unacceptable that the court might decide against a popular majority. This 'solution', however, also had its disadvantages, as shown by several cases in which a clear violation of the federal constitution by the government occurred.

It follows that even the best institutions presently available cannot prevent the loss of individual freedom in the long run. As a consequence, people must repeatedly be made aware of dangerous developments in the hope of bringing about a turnaround. The subsequent sections of this paper describe developments that have steadily eroded individual freedom in recent decades. Hayek warned in his *Road to Serfdom* of the dangers threatening liberty mainly because of the vain hopes pinned at that time to government planning of the economy. Meanwhile the so-called planned economies have clearly demonstrated their inferiority not only in supplying goods and services, but also because of their despotic suppression of freedom and human dignity. The communist system did not collapse in 1989 without grave reasons. Systems with mostly free markets, safe private property rights, relatively stable money and freedom of contract between individuals, business firms and organizations have proved far superior to any attempt at collective planning and property. But other, more subtle obnoxious developments are again threatening freedom, human dignity and well-being.

Shrinking share of disposable private income

What has always made the state a hell on earth has been precisely that man has tried to make it his heaven.
Friedrich Hölderlin

One of the most widely ignored developments during the last decades has been the shrinking share of the income earned by private individuals, which they are able to spend at their own discretion. This means that an increasing part of their gross incomes has to be paid in the form of taxes or other obligatory contributions, imposed by government law or decree. The latter comprise so-called social security premiums, like those financing unemployment contributions and old age pension systems. In all these cases it is not the earners, but the collective bodies that decide on the use of the income collected.

Two questions merit consideration in the context of these developments: firstly, why have they been accepted with so little resistance even in most democracies; even those allowing popular referendums and initiatives like Switzerland? Secondly, do they

endanger individual freedom, and if so, why? To answer these questions we must first consider the facts.

As shown for five countries in Figure 1, the government's share in gross domestic product (GDP), that is in the values of all goods and services produced, has risen inexorably over the last century (see also Tanzi and Schuknecht 2000). This is true for about all developed countries, even for Switzerland, despite its traits of direct democracy. Why has this development been tolerated by the populations of these countries? It is true that Germany and Japan were not democracies for part of the period considered. It is therefore unsurprising that the graph shows a first peak around 1938 due to the rearmament for World War II. However, the increase in government expenditure as a share of GDP resumes during the 60 years that follow 1950 and there looks to be no end to this trend in sight.

Moreover, it is most disturbing that the rise in government expenditure is not only financed by an increasing the burden of taxes and other obligatory contributions shouldered by the population, but also by financing government deficits *via* borrowing (Figure 2). In fact, the official figures given are only the explicit debts of governments. If their promises relating, for instance, to future pensions in an age of a population with ever rising life expectancies and low birth rates are taken into account, the implied government debts are much higher. At present, except for massive further tax increases or a substantial reduction of outlays, these debts can only be reduced either by government bankruptcies, inflation or a combination of both.

Figure 1

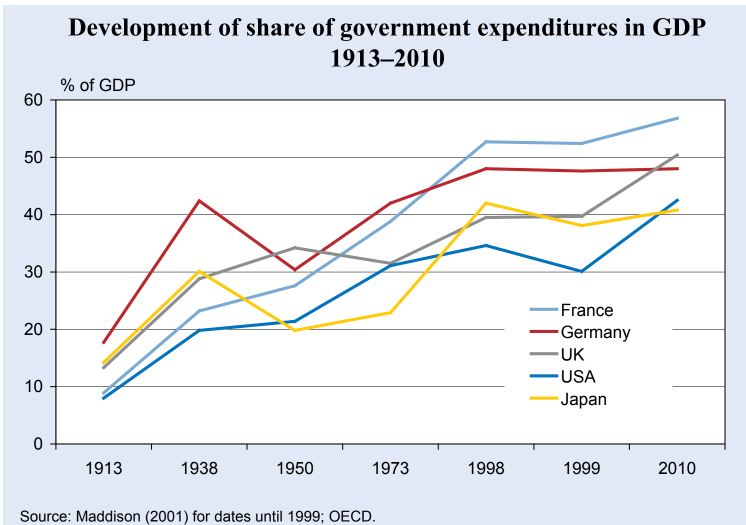
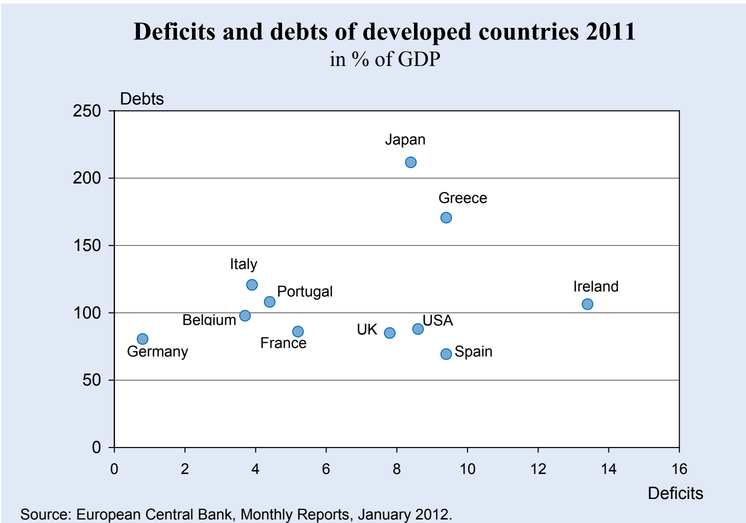
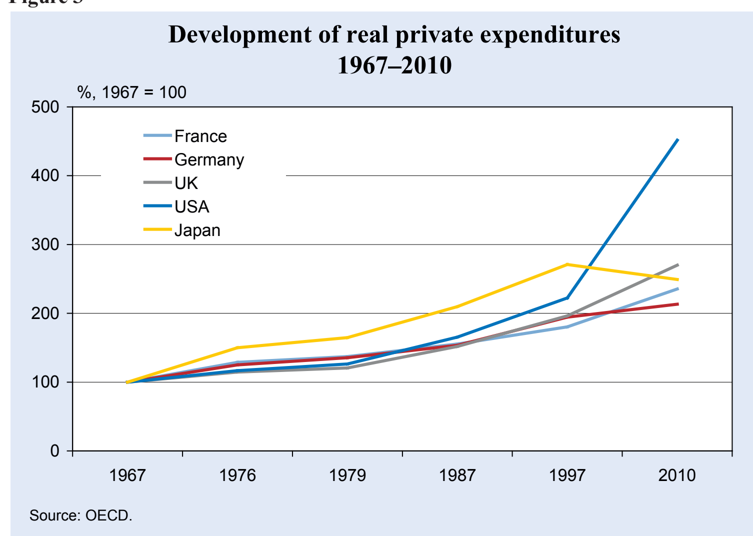


Figure 2



Given that the growing share of government expenditures in GDP has been steadily extending the power of rulers and diminishing the relative freedom of individuals, we have to ask ourselves why such a development is accepted by the population in democracies in which voters have still the power to remove the rulers. Here several explanations come to mind. Firstly, voters are uninformed for rational reasons. Since their vote is only one among millions, it would be irrational for them to inform themselves about matters that are not of immediate concern to themselves, namely their disposable incomes, their job security and major expenditure related, for instance, to housing and cars. They may also feel some sympathy for the similar situation of near relatives and friends. Secondly, governments tend to distribute the tax burden in a way that only a minority of the population has to carry most of it. Thirdly, to make the situation look better, governments prefer to incur debts instead of raising taxes further, which re-

Figure 3



Source: OECD.

sults in untenable promises for the future. Finally, and most importantly, the economy, which is still mainly organized along the lines of free markets, has been able to increase GDP per capita to date in a way that still allows for growth in real private consumption, despite an ever higher share of government expenditure (Figure 3).

As can be seen, private individuals have been able to steadily increase their real expenditure in developed countries since 1967, in spite of growing tax burdens. The surge in US figures after 1997 is due to ever higher private indebtedness, one of the main reasons for the bursting of the bubble in property prices in 2007. This growth rate was obviously not maintainable. In the decades before 1967 a similar growth in real private expenditure occurred, except during the two World Wars and the Great Depression. Only Japan has seen a fall in real private expenditure since 1997. This is, of course, a warning. Indeed, many empirical studies show that the rate of growth of GDP diminishes with a growing share of government expenditure, and rising government debts, at least beyond a certain threshold (Bergh and Karlsson 2010; Bernholz 1986; Romer and Romer 2010; Weede 1991). After having studied the experience of 44 countries over two centuries Reinhart and Rogoff (2011, 33; see also Baum, Westphal and Rother 2012) conclude: "our main finding is that across both advanced countries and emerging markets, high debt/GDP levels (90 percent and above) are associated with notably lower growth outcomes. Much lower levels of external debt/GDP (60 percent) are associated with adverse outcomes for emerging-market growth".

A final reason for the complacency of the population in democracies regarding the rising share of government expenditure as a share of GDP has to do with the way additional revenues are spent. Much of the growth of the tax burden and expenditure has been used for transfers or redistributions. In Germany the upper 40 percent of the population paid 89.3 percent of income taxes in 2011, and the up-most 10 percent 54.6 percent, whereas the majority bore only a negligible part (IW 2012). The greatest part of the redistribution is also effected by progressive income taxes, although there is empirical evidence that it is precisely these taxes, together with those on firms, that are most detrimental to economic growth (Arnold 2008). Moreover, the redistribution of burdens is also pronounced in the old age pension systems, for unemployment benefits and support for health expenditures of the poorer segments of the population. Even in the United States, which lags behind the European welfare states, the share of the richest 1 percent paying US federal taxes rose from 14.2 percent to 27.7 percent from 1980 to 2005 (Lipford and Yandle 2012). Now, since the wealthy persons bearing the burden of these redistributions form only a minority, they can easily be outvoted. Moreover, a bias exists in voting outcomes because employees of the government will always vote against any reduction of government outlays as they are afraid to receive lower incomes or be fired.

Moreover, many may argue that it is only an act of 'social justice' that the rich are forced, if they are not willing, to help their poorer compatriots to afford a decent life, to have access to adequate health services and to enjoy their old age without suffering from poverty. Is it not a great sign of progress that all citizens are secured against unemployment and bad health? And consequently, is it not a blessing that government expenditure is growing more strongly than GDP, enabling it to provide all these benefits? And don't the wealthy wholeheartedly agree with this handling of public affairs?

Unfortunately, the picture outlined above is grossly misleading, not only in terms of individual freedom, but also with regard to the long-term economic outlook. As already mentioned, growing tax burdens and government debts beyond certain levels, levels which have long been reached in welfare states, stifle the efficiency and innovative capacity of the relatively shrinking free market economy over time, meaning that the real economy is no longer able to allow a better life for most citizens in the future. Excessive welfare benefits also attract immigrants with lower capabilities and motivation to work, a fact that is also detrimental to economic development (Sinn 2004).

The same negative influences are exerted if the growth of welfare expenditure leads to a relative shrinking of expenditure on the educational system.

Wrong and excessive welfare policies have already ruined more than one state in history. A prominent example is Argentina, the fourth richest country in the world in 1930, which misguided policies turned into an under-developed country and which culminated in hyperinflation in the early 1990s. Another example is Uruguay, which took a similar path (without hyperinflation, but civil war instead). President Chavez seemingly led Venezuela in the same direction right up until his death in 2013. A counter-example is provided by Sweden, which was able to return to higher economic growth by reducing government expenditure as a share of GDP from 67 percent in 1993 to 49 percent in 2012. At the same time, it succeeded in reducing state debt from 70 percent to 37 percent of GDP by 2012 (The Economist, issue 3, 2013) through drastic reforms of selected tax rates.

It should also be a warning that in the former Communist Bloc nations, where the state dominated the whole so-called planned economy, economic progress was negligible and the population suffered deeply and was heavily suppressed. As early as 1971 the well-known Hungarian economist Janos Kornai asked why about all revolutionary new products had been invented and introduced in Western market economies during the last fifty years (Kornai 1971).

Indeed, the economic freedom of individuals competing in markets is a necessary condition for furthering invention, innovation and efficiency (Weede 2012). Individuals in and outside of firms or organizations are lured not only by their own curiosity, but also by possible profits to be gained from inventing, introducing and selling new products and services wanted in the market. Moreover, if firms do not innovate, they are soon driven into bankruptcy by their more successful competitors. Inventors, however, can borrow money to develop their ideas if they can convince creditors of their value. Moreover, if they are not able or willing to become entrepreneurs themselves, they are able to sell their inventions. All this presupposes, of course, free markets, safe property rights, relatively stable money and moderate taxes. However, the motivation to take corresponding efforts and let children enjoy an adequate education is weakened, the lower the percentage of the fruits of their labour that people can expect to keep. In addition to a stable and rational institutional framework, ‘economic freedom’ is thus a prerequisite for efficient and innovative development. It is no accident that all of the countries that have introduced free market institutions, including many Asian countries like China, have made good progress along the path of economic development. Indeed, the success of market economies requiring at least economic freedom are the best allies of individual liberty, although the latter may not yet extend to political freedom with safe human rights. Moreover, one should never forget that a result of economic growth has also been longer education, lower child mortality and rising life-expectancy.

What, however, are the implications of the rising share of government expenditure outlined above for our ‘free’ societies? Even the ‘patriarchal caring’ of the government for our health, old age pensions and unemployment benefits increases our dependency on the state. To what extent are citizens prepared to vote against the plans of a government to steadily extend its domain and power, if they are depend on the latter for the payment of their health expenses, their unemployment and old age retirement incomes? Even here, however, differences caused by institutional structures persist. For the dependence on government is certainly higher, if all these payments flow from a central state like, for instance, in France, than if they are obligatory, but provided by different private and decentralized public agencies, like the cantons in Switzerland. In all events, it is important to recall that the major share of the increase in government expenditure in recent decades has been caused by the extension of such patriarchal ‘insurance’ systems. Moreover these systems, although they are often called ‘insurances’, do

not really constitute proper insurances, since they are usually combined with substantive redistributions. In Germany this is the case because part of the expenses is financed out of progressive income tax. In Switzerland, on the other hand, the basic old age pension system AHV (a pay-as-you-go system) is managed by the central government, and higher income-earners have to pay the highest contributions, although pensions after retirement are capped to a maximum amount for everybody. In spite of these facts, Social Democrats in Switzerland are vehemently opposed to any increase in the retirement age (for women to 65 years, for example), and have instead launched a popular initiative for a national inheritance tax of 20 percent on all fortunes worth two billion Swiss francs or more to finance the AHV for some time; and this though some cantons have already heavy wealth and a few inheritance taxes In Britain health expenses are fully covered by ordinary tax revenues.

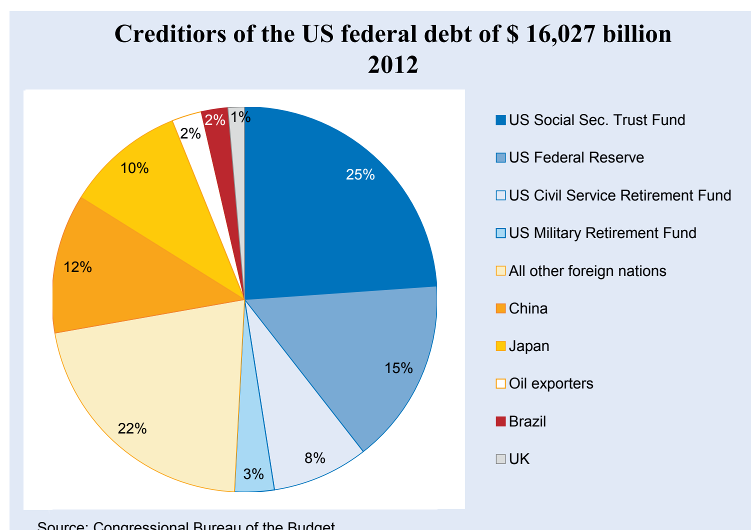
A second disadvantage of these patriarchal welfare systems for a free society are that individuals are not allowed to opt out and care for themselves, or manage their savings at their own discretion, an option that may, in many cases, produce better results than those achieved by the obligatory pension funds. Although it has to be admitted that many people lack the discipline or ability to accumulate adequate savings and manage them independently, the state's patriarchal role means that they are even less likely to acquire these skills. The good shepherd looks after his sheep who are kept in ignorance. As the British sociologist Herbert Spencer expressed it drastically (1891, 354): "the ultimate result of shielding men from the effects of folly, is to fill the world with fools".

Moreover, it remains questionable whether the shepherd is really fulfilling his task. It is revealing that in the United States the Federal Government is presently covering part of its budget deficit by 'borrowing' from social security funds (Figure 4). As can be seen, nearly 25 percent of US Federal debt is held as a claim by federal pension funds. How safe are these 'assets'? And in countries like Germany the old age pensions are 'covered' mostly by a pay-as-you-go system in which current pensions are funded using the present contributions of the working population. This system is currently threatened by low birth rates, leading to a shrinking population and working force. This means that the promises of future pensions are not covered by present contribution rates and thus imply an implicit debt of the government not contained in the official debt figures. Although some governments, like Germany's, have implemented several reform like raising the pension age, reducing the promised public payments to retired people and asking people in employment to save privately for their old age, these measures are not sufficient, and are sadly lacking in several other nations (Börsch-Supan 2012).

In short, the stealthy growth of government expenditure as a share of GDP has reduced the relative freedom of individuals over the decades without being noticed by the majority. This has largely been possible thanks to the rise in private real expenditure, placing most of the burden on a minority of tax payers; and by imposed redistribution via the welfare state that provides unemployment benefits, health payments and old age pension systems.

This, in turn, has made the broad majority of the population increasingly dependent on the government, which is probably eroding the autonomy of citizens in their voting decisions. Moreover, paradoxically they are asked to decide as voters questions which they are deemed to be unable to decide for themselves privately. Individuals are no longer

Figure 4



Source: Congressional Bureau of the Budget.

educated to save and to invest for their own future. They are cared for by the good will of their shepherds. Moreover, the bureaucracy handling the welfare state is costly and swallows a sizable part of resources available for this purpose. Politicians are tempted to hide the costs of the system by incurring debts and making uncovered promises for the future. Finally, empirical studies and the facts presented above suggest that a further development of the welfare state will bring about a crisis because the relatively shrinking market economy and the vanishing motivation of individuals to work efficiently, to invent and to innovate will no longer be able to carry the rising burden of government 'care'.

The ever-increasing burden of regulations dominating individual life

It is more difficult to find meaningful measures for the growing flood of regulations limiting the freedom of individuals and the creative activities of businesses. As a first possible measure we may select the number of people employed by governments or government agencies as a share of total employment (Figure 5). This share has been increasing steadily until the 1970s, but has since fallen or stabilized in three of the five countries considered. It had, however, risen strongly prior to the 1960s. The German figures were, for instance, 3.45 and 5.53 percent for 1933 and 1950 respectively. Thus the change since 1970 is probably the result of economic problems stemming from the rising share. That the share has increased further in France since 1970 may be one of the reasons that this country is presently (2013) lagging economically behind Germany and suffering from a higher unemployment rate.

Other indicators of government regulations are more disturbing, especially the rising flood of new laws and executive orders. In response to an inquiry by Adriano Cavadini, a member of the lower house of the Swiss parliament (the *Nationalrat*) of 21 March 1997, the Swiss Federal Government (the *Bundesrat*) admitted on 16 June 1997: "the increasing production of legal norms, even if the underlying reasons may be understandable, is leading to a feeling of citizens and business firms that they have lost the control of the legal framework within which they have to move, and are facing insurmountable obstacles. The ever increasing change of the law and its rising differentiation require such a capability to adapt and such expenditure which not all can afford. This can especially lead to problems for small and medium-sized firms and lower private initiative" (author's translation).

For the United States a prominent legal scholar (Epstein 1995, IX, 14) complained: "there is too much law and too many lawyers. [...] We try to solve more and more problems through legal intervention, and fewer through voluntary accommodation and informal practices".

Indeed, the rising flood of new laws and executive orders is appalling. This can be demonstrated by looking at a few other countries (Figures 6 and 7). According to Sweet & Maxwell's Westlaw UK and Lawtel online legal information, the annual average legislation introduced amounted to 1,724 new pieces of legislation under Margaret Thatcher, 2,402 under John Major and 2,663 under Tony Blair as Prime Ministers.

A similar picture emerges for other developed nations. According to a report by the Mercatus Center (George Mason University, Fairfax, Virginia) of 18 October 2012, the number of instances of the words 'may not', 'must', 'prohibited' and 'required' and 'shall' in US Federal Regulatory Restrictions rose steadily from 834,949 in 1997 to 1,001,153

Figure 5

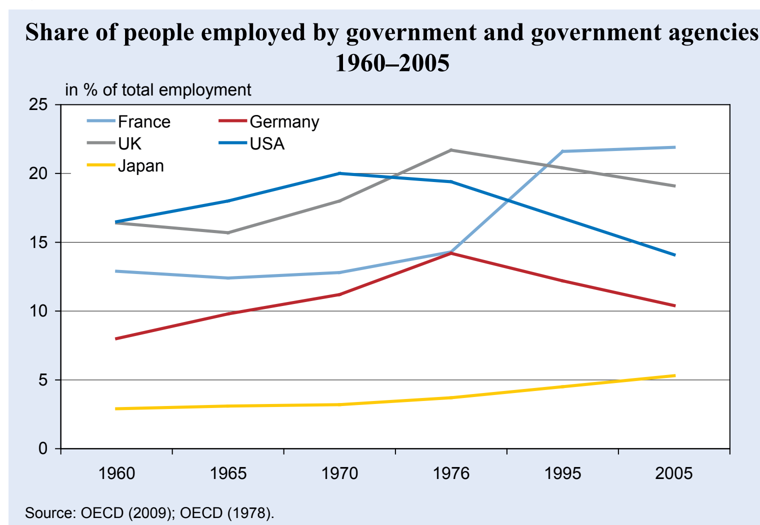
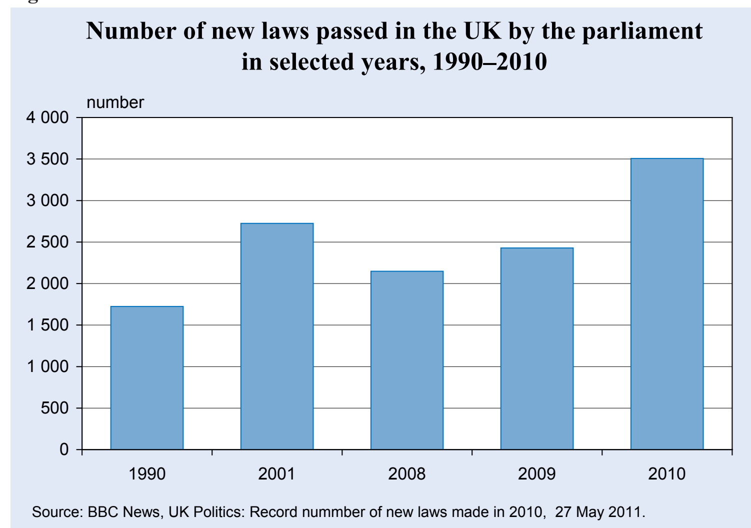


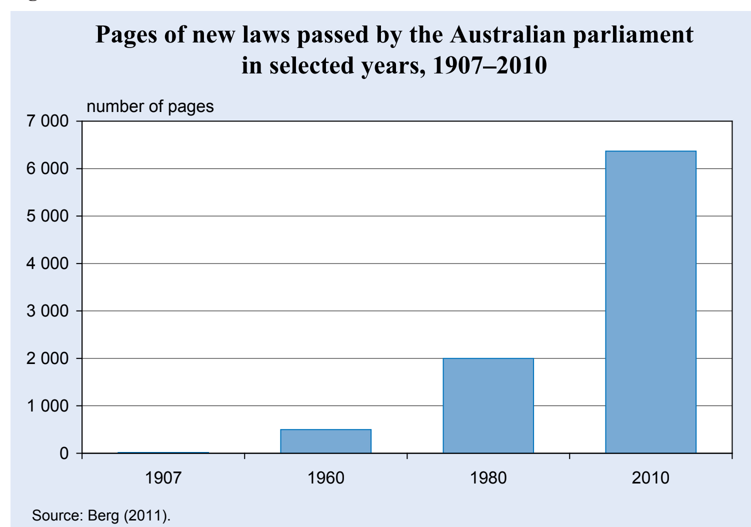
Figure 6



Number of new laws passed in the UK by the parliament in selected years, 1990–2010

Source: BBC News, UK Politics: Record nummber of new laws made in 2010, 27 May 2011.

Figure 7



Pages of new laws passed by the Australian parliament in selected years, 1907–2010

Source: Berg (2011).

in 2010. This represents an increase of 12,808 per year, whereas the average annual growth of regulations had been only 4,013 per year during the preceding 208 years since 1789. In a testimony of 15 March 2013, to a committee of the US House of Representatives James L. Gattuso (2013) argued that during President Obama's first four years in office, over 130 major rules increasing regulatory burdens (roughly defined as costing 100 million US dollars or more each year) were adopted by agencies, while about 50 such rules were imposed during George W. Bush's first term.

One can easily imagine what this means for overburdened citizens and business firms. The rule of law is severely weakened, since individuals are no longer able to even know all the laws, orders and regulations that severely restrict their freedom to take decisions. At the same time, they are often in danger of committing 'criminal' acts without even being aware of them. Even if small firms could shoulder the burden of the time required and the rising expenses of complying with laws, orders and regulations, their resources have to be misdirected and are no longer available for innovation. Moreover, ever fewer citizens will be prepared to found and to lead new enterprises.

Part of the rising flood of laws and regulations is certainly caused by the growing complexity resulting from population booms and economic development. While the former does not apply in developed nations, the latter may be far more important. Economic growth is largely supported by the constant introduction of new products, the production, transportation and use of which can involve new risks for safety and health. The number of accidents increases with the number of cars used, new chemicals and pharmaceutical drugs may be dangerous to produce or to use, or may be connected with risky side-effects. The volume of waste-products has increased with industrial production, as has air and water pollution. A growing number of plant and animal species are threatened by extinction. Thus new laws and regulations, as well as market-imitating mechanisms, may be required to limit or reduce these dangers and risks. Speed limits for driving and safety rules for producing chemicals may be necessary. Agencies have to be created to control the effects and side-effects of drugs before they are approved for production and general application.

But how important are these factors in explaining the rising flood of laws and regulations? One possible, but crude approach to measure this influence would be to analyse whether growth in the number

of laws and regulations has been smaller or greater than that of GDP. If this method is applied to the numbers cited in Figures 6 and 7 by dividing them by the respective development of real GDP, the new figures still show substantial growth. This means that the growing complexity of life only partly explains the rising number of laws and regulations.

Figure 8

Source: NWB Steuerberater Magazin, Steuer Extra-Ermittlung auf Datenbasis des Statistischen Bundesamtes mit Stand 1.3.2010.

There is also some direct evidence of an overextension of the regulation for chemicals in the European Union (EU). The new REACH legislation (Regulation, Evaluation, Authorization and Registration of Chemicals) created the new agency ECHA (European Chemical Agency) in Helsinki in 2007. ECHA already employs 500 people, and its staff is expected to increase to 600. It is important to realize that this number should be added to the staff already employed by the respective national agencies of the member states of the EU. The implementation of the REACH legislation has meant a gigantic effort by the firms concerned. The well-known German chemical producer BASF, for example, has spent 250 million euros on compliance.[2]

Another problem with the power of the respective agencies not to approve the use of pharmaceutical drugs because of negative side-effects, although they have a positive influence on the specific ailment is that this policy prevents suffering patients from using helpful drugs in full knowledge of their negative side-effects. Moreover, the high costs connected with evaluation may prevent the development of new important drugs. Many small innovative companies are already unable to bear these expenses. As a result, they have to either licence their new products or sell their inventions to big businesses, or be acquired by the latter.

The problems for the rule of law are clearly illustrated by the perversities of tax laws. Everybody with some kind of revenue from property and or other income sources is obliged to witness by his signature under the completeness and veracity of his/her wealth and income tax declaration with his/her signature. Yet in countries like Germany, for example, even tax consultants are scarcely able to remain familiar with all of the relevant articles of the laws and decisions of courts.

The increasing number of tax consultants is highly indicative of this development (see Figure 8 for Germany). Similarly, it would be interesting to know to what extent citizens' freely disposable time is reduced by the same development. The same questions regarding the time and resources spent on compliance with tax laws can be raised for business firms, tax consultants and the administration of the state.

Although the situation is especially bad in Germany, developments in other nations are following along similar lines, as the author can testify for Switzerland.

However, in spite of this situation, it seems impossible to simplify tax laws in countries like Germany. A well-designed proposal by the tax specialist and former judge at the Federal Constitutional Court, Kirchhof (2011), to radically simplify the body of tax law was met with silence by all parties of the *Bundestag* (the lower house of parliament). The reasons for such policies are probably twofold: firstly, benefits and loopholes for special interests have to be hidden from the eyes of voters. Secondly, with the high level of taxes some exceptions have to be granted to prevent an earlier breakdown of economic growth. A simplification of the tax system would mean the removal of all exceptions, which

[2] I owe this information to Christoph Bauer, who formerly worked on these problems for the pharmaceutical firm Novartis.

usually benefit special interest groups and are thus resisted vehemently by those concerned. All of these exceptions are veiled with slogans of 'equality of living conditions', 'social justice', and special aims like helping the environment by specific subsidies, etc.

Another important field of regulation is scarcely perceived by the population. Since the introduction of compulsory schooling the state usually runs schools and universities in most countries. However, this reduces or prevents the beneficial influences of competition, especially in countries where the respective systems and the obligatory rules and standards are highly centralized. The reasons given for this system are the following: every child should have the same chances, and equality is destroyed by private schools, as poorer people cannot afford the fees. Moreover, the standards of education should be the same everywhere in a country, so that parents and their children find the same conditions if they move to a new area. The first of these arguments has been rejected by Milton Friedman who proposed the issue of education vouchers to all parents, financed by the government decades ago. A realization of this proposal would also allow children from low income families to attend private schools, and presumably raise the level of education in public schools by competition. The second argument loses much of its force when one considers the question: how good are unified standards if they are of a low level, as is presently the case in many schools run by the government in several countries?

A danger of the rising flood of regulations is not only the breaking of promises and of treaties among states, but also the latters' tendency to question the validate or even invalidate contracts among private citizens, firms and other organizations. The numerous changes to laws and administrative orders ill-adapted to practical needs are leading to flood complaints in the courts.

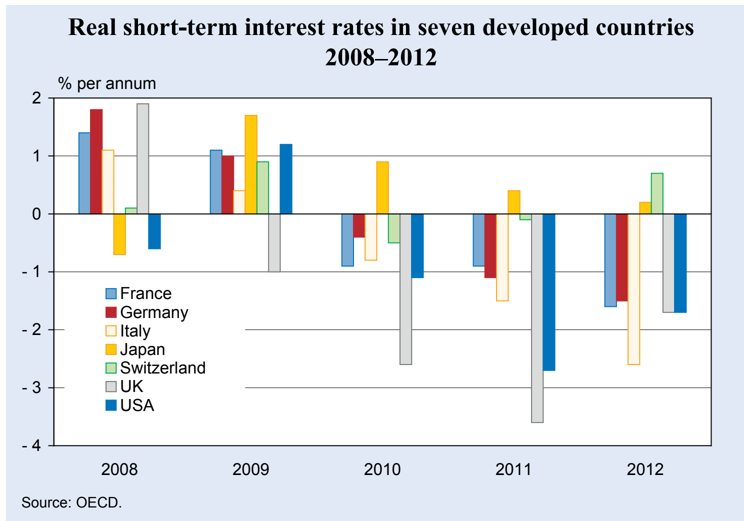
We have already mentioned the one-sided change of pension promises by governments. In the European Monetary Union the rules that stipulate a limitation of government deficits and debts to 3 and 60 percent of GDP were not been respected by France and Germany within just a few years of their introduction. Meanwhile, far worse events have occurred: not only has the article in the Maastricht and Lisbon Treaties forbidding the bail-out of bankrupt members by other EU states been broken several times since 2010, but the ECB has also violated the rules featured in these treaties not to buy the debts of governments and banks on the verge of bankruptcy. Moreover, during the debt crisis of Cyprus in 2013 governments did not shy away from directly confiscating bank deposits of above 100,000 euros. Although this is certainly better than asking the taxpayers of other countries to carry the burden of financial mismanagement by banks, since their depositors were ultimately responsible for monitoring the soundness of their banks, the confiscation of deposits in Cyprus raises another question. How can individuals protect themselves against such measures at a time when they are not allowed to carry more than 10,000 euros in banknotes across national borders? After such events, how can citizens trust in the rule of law and the protection of their freedom and wealth against the despotism of rulers any longer?

Financial repression of citizens

Since the beginning of the last financial crisis in 2007/08, followed by government debt crises, leading central banks have reacted, led by the US Federal Reserve System (Fed), by reducing interest rates to nearly 0 percent. Governments, who had already increased their debts substantially before the beginning of the crisis, not surprisingly, by assisting several of the national banks threatened by bankruptcy, entered an even more precarious financial situation (Figure 3). Indeed, several Southern nations in the euro area were only saved from government bankruptcy by billions of euros in bail-out funds from the other member states (although this is forbidden by the Maastricht Treaty) and the IMF. Besides, the ECB granted help by softening conditions for credit, buying government bonds and allowing huge transfer obligations (Target 2 balances) to be accumulated by Southern Central Banks in the European Monetary System (Sinn 2013). The first of these countries facing bankruptcy was Greece, which has a long history of bankruptcies. But instead of allowing open bankruptcy again, it received dramatic and escalating financial help, and a veiled bankruptcy was allowed by forcing private creditors to write-off a significant part of their claims.

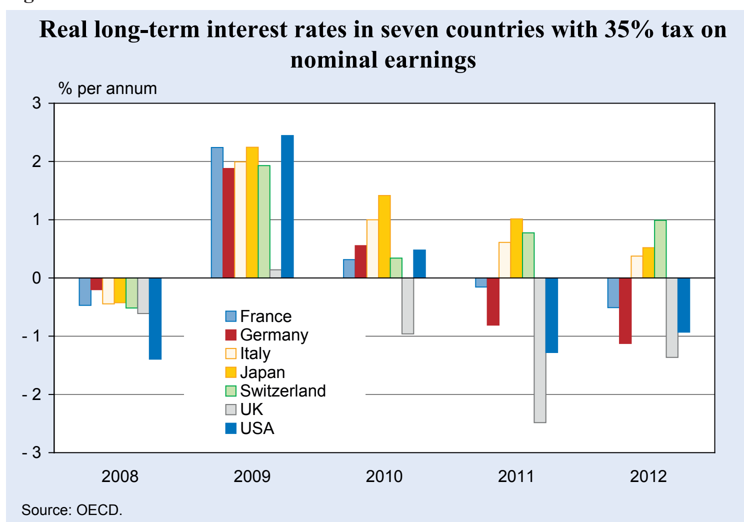
What do these events mean for the savings of individuals and their pension funds, even in nations not yet threatened by government bankruptcies? As a matter of fact, these events led to a creeping confiscation especially for the poorer part of the population (Figure 9).

Figure 9



As can be seen, the real earnings from assets bearing short-term interest have become negative for most countries in recent years. Exceptions to this rule are Japan, due to its deflation, and Switzerland in 2012. However, these are only gross earnings, i.e. nominal interest rates minus the rise of the consumer price index. The situation looks worse if the taxes on nominal earnings are taken into account. For real long-term interest rates, the picture is more favorable. Here only Switzerland, Britain and the United States show negative real gross rates during 2011 and 2012. But to get an impression of the net real long-term interest earnings after taxes, I have deducted a 35 percent tax on nominal interest earnings (Figure 10). In this case the earnings in all countries become negative in 2008, and for four of the seven in 2011 and 2012. It is important to realize that not only private individuals, but also insurance firms and pension funds (which have historically also often been forced to buy government debt at low interest rates) are suffering from the low interest rates brought about by the policies of central banks.

Figure 10



Moreover, as shown by Reinhart and Rogoff (2011), such events are not an exception limited to the financial and government debt crisis since 2008. They explain: "it is worth noting that the real *ex post* interest rate on public debt (appropriately weighted by the type of debt instrument) was negative for US debt for 25 percent of the years during 1945-80, while the comparable share for the United Kingdom was nearly 50 percent, […]" (Reinhart and Rogoff 2011, 31).

Drugs, terrorism, 'money-laundering' and the transparent citizen

Citizens have long since been suspected of 'money-laundering' whenever they do not declare to the border controls that they are carrying more than 10,000 euros or Swiss francs with them. The US regulations are even more rigorous. And if they declare that they are carrying, for example, 15,000 euros across the border, the usual burden of proof is reversed. For citizens then have to prove that the money is their legal property and has been legally acquired. If they cannot prove this or fail to declare the amount, their property is confiscated.

To carry one's own money was not a crime in earlier decades. It was artificially made a crime following pressure by the United States after the American authorities failed to win the 'war' against drug providers that they initiated by forbidding the production, sale and use of drugs. Making the production and use of drugs a crime pushed up drug prices dramatically and turned their production and distribu-

tion into a flourishing business. High drug prices led to secondary criminality by drug users, who had to try to get enough money to pay for them. Moreover, since it became rewarding for farmers to produce drugs, several nations trying to suppress drug production with the financial and military help of the United States, entered a long-lasting fight against their own farmers and the drug barons, supporting them, who started smuggling their product into those countries with the highest demand.

It quickly became clear that the laws against money-laundering did not help to win the war against drugs. On the contrary: several countries like Colombia, Bolivia and Afghanistan were soon at least partly dominated by the 'drug barons', who were making big profits because of high drug prices. The drug war is currently raging in Mexico, where the number of deaths because of the fights of drug barons with each other and the police has been steadily increasing during the last years.

While the drug industry and money-laundering are undoubtedly serious problems, the government measures taken to counter them constitute disquieting attacks on the freedom of the majority of citizens who have nothing to do with the drug business or terrorism, and who regularly pay their taxes. It is also important to remember that banknotes are the only form of legal tender in existence and their value as a means of payment depends partly on their nature as a bearer's note. Moreover, banknotes of relatively stable currencies are not only a last safeguard against the confiscation of bank deposits like in Cyprus in 2013, but also against high inflation rates in many nations. Measures opposing payment with banknotes are nevertheless proliferating at an alarming rate. It seems that France and Italy are currently considering prohibiting the use of cash for payments of more than 1,000 euros. And recently (February 2013) the Swiss government proposed the prohibition of domestic payments of over 100,000 Swiss francs in banknotes. Moreover, rumors are circulating now (i.e. 2013) that the United States is exerting pressure on Swiss authorities to abolish the 1,000 franc banknote. All this would be quite consistent with US policies to force all banks that do business with the United States to become a kind of police for its tax authorities, obliged to report all American residents' holdings with them (by the so-called FATCA legislation). This again means that all US residents with foreign bank accounts are now suspected of tax fraud. Several Swiss banks have already decided not to accept any deposits from US residents. This is of special concern to Swiss citizens living in America who need a Swiss account for the ordinary payments that they still need to make and receive in Switzerland.

The ultimate cost of steps to counter money-laundering, namely the loss of freedom experienced by citizens, is immeasurable. The extension of the rules against money-laundering to apply to everybody essentially throws all citizens under suspicion of involvement in drugs, terrorist activities and tax evasion. In time it will utterly destroy the privacy of ordinary citizens, making their lives completely transparent to government agencies, including the police, the secret services and the tax authorities, whose access to information cannot be adequately controlled by the legislature. Moreover, this makes citizens reluctant to oppose problematic or illegal acts by government authorities for fear that these agencies can access information on some trivial or unintentional transgression of laws that they themselves have committed and use this information against them.

Control of private information flows under the pretext of protecting the people or the state

The privacy of citizens is increasingly threatened by government access to information covering all their private messages. In some cases this access may be illegally acquired by the secret services, which often transgress the rights granted to them by the law. Even in Switzerland it was revealed in the late 1980s that the federal public prosecution acting for the *Staatsschutz* (the agency responsible for protecting the state) had illegally gathered information about 900,000 out of about 7 million Swiss inhabitants. This prompted to a public outcry, leading to the destruction of this information and the severe restriction of the agency's rights of access. In recent years governments have even granted legal rights not only to secret services, but also to the police to monitor all private contacts and (or) information flows. At the moment the Swiss secret service is 'only' allowed to register all contacts by telephone, computer and mail among persons and to store them for one year. The contents of the information are, however, not stored. Yet in March 2013 the government proposed legalizing the opening of mail, the listening to telephone conversations and the spying out of com-

puters by the *Bundesnachrichtendienst* (the Federal Information Service). But this is 'only to be allowed' if one of the following five dangers is present: terrorism, foreign espionage, assembling of dangerous weapons, and threatening attacks on communication, energy and other critical infrastructure. Moreover, first the Federal Administrative Court (*Bundesverwaltungsgericht*) would have to agree to corresponding measures, then the Minister of Defense and, finally, a group of three federal ministers. On the other hand, no restrictions are planned to espionage in foreign countries, where the federal government "can use the services of the Federal Information Service in other specific situations for safeguarding other important interests of the country". According to the proposal this includes "the protection of the Swiss workplace, its economy and financial institutions" (Neue Zürcher Zeitung, 9 March 2013). It remains to be seen whether this bill will indeed be approved by Switzerland's federal parliament. There is a strong possibility that its politicians will accept the proposal without many changes, since recently the parliament agreed that the federal agency responsible for the gathering of information on money-laundering should be allowed to pass on this information to foreign agencies (Neue Zuercher Zeitung, 22 March 2013). Similarly, the Swiss parliament passed a motion (14 March 2013) to allow the police to obtain information from the data bank used to assemble vital information for issuing new passports. It passed this motion despite the fact that when the extension of the information required for the new set of passports was introduced, it was promised that this information would not be used for policing purposes.

Given that such developments are possible in peaceful and neutral Switzerland, it should come as no surprise that the secret services of countries like the United States have recently been proven of spying on their own compatriots.

Abolishment of *habeas corpus* and incarceration and killing of people without due process of law

It should be clear to everybody that wars pose the greatest of all threats to human liberty. Aggressive wars which are not justified by purposes of defense against other nations have brought death and misery not only to the members of fighting armies, but also to millions of civilians. The secondary consequences of wars, however, are even more dangerous. I have already mentioned increased border controls and the strengthening of laws against money-laundering.

Worryingly, however, human rights are also being violated in other ways. On 13 December 2012 the European Court in Strasbourg decided that Macedonia had violated the rights of kidnapping victim Khaled al-Masri and had to pay him compensation totaling 60,000 euros. The government of Macedonia was found responsible for the torture and maltreatment of this German-Lebanese citizen on its territory, as well as his extradition to the US CIA. The court deemed the maltreatment of the victim at Skopje airport as a kind of torture.

A similar case was decided by the Court of Appeal in Milan on 8 January 2013. In this case the court condemned the former head of the Italian Secret Service, Nicolo Pollari, and his deputy, Marco Mancini, to 10 and 9 years in prison respectively, for their collaboration in the abduction of the Egyptian Imam Abu Omar by the American CIA in Milan on 17 February 2003. The Court of Appeal also condemned three other members of the Italian Secret Service and two dozen agents of the CIA in absentia to prison sentences. Moreover, it granted the former Imam compensation totaling one million euros.

Another decision of the European Court in Strasbourg throws more light on the practices of the CIA of kidnapping suspected, but sometimes innocent victims. In this case the court decided to begin public legal proceedings concerning an alleged former secret and illegal CIA prison in Northeast Poland. The proceedings relate to the Saudi-Arabian Abderrahim an-Nashiri, who complains of being imprisoned and tortured in Poland for some time.

A further characteristic of the American 'war on terror' is the expansion by Obama of George W. Bush's drone war, i.e. of unmanned airplanes to commit targeted assassinations. This strategy may be warranted to a certain degree as long as it is selectively directed against high-ranking enemies, by the argument that it saves US soldiers' lives and limits collateral damages. It is precisely this higher selectivity, however, which makes it tempting to extend the use of drones to areas of lesser threat, even at the risk of many innocent civilians being killed. However, even if the earlier attacks were justified to eliminate highly dangerous top-level al-Qaeda terrorists trying to

attack the United States, this no longer appears to be the case, prompting the US Congress to look into the matter.

I would like to conclude by citing Jonathan Turley, professor of law at George Washington University: "an authoritarian nation is defined not just by the use of authoritarian powers, but by the ability to use them. If a president can take away your freedom or your life on his own authority, all rights become little more than a discretionary grant subject to executive will. [...] Since 9/11, we have created the very government the framers feared: a government with sweeping and largely unchecked powers resting on the hope that they will be used wisely".

In the light of the facts discussed above, Turley's words are chilling, and should surely strike an alarm bell in any enlightened and civilized democracy.

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Historical CO_2 Emissions and Their Worldwide Allocation

Anna Ciesielski, Stephan Beitz and Jana Lippelt[1]

While CO_2 emissions continue to rise worldwide, emissions per GDP are declining in most countries. Western nations in particular are achieving growing incomes, while their relative emissions drop. Countries like China and India are following this trend on a deferred basis. This article is concerned with the historical development of worldwide CO_2 emissions relative to GDP. The long observation period, starting in 1850, enables a precise analysis of past trends and the lessons that can be learnt from them for the future. In view of the current debates about the Kyoto Protocol this seems particularly important. The two countries that are responsible for the highest CO_2 emissions worldwide, the United States and China, never participated in the contract and other big emitters like Russia and Canada won't take part in a second period of commitment. Apparently, in order to avoid an economic slowdown, none of these countries is willing to accept a certain, self-imposed amount of emission reductions. This article will discuss this position by considering a history of over 150 years of depletion and utilization of fossil resources.

Figure 1 visualizes the development of the historical CO_2 emissions relative to GDP in world maps. The darker a country is the more tons of CO_2 it emitted. Between 1900 and 1950 these emissions increased all over the world, except for in Europe and the United States. Comparing the years of 1950 and 2000, emissions in the Western world decreased, while they continued to rise in the rest of the world. This may lead to the assumption that all countries experience a similar transition, where the change from increasing to decreasing relative emissions sets in once a certain income level is achieved.

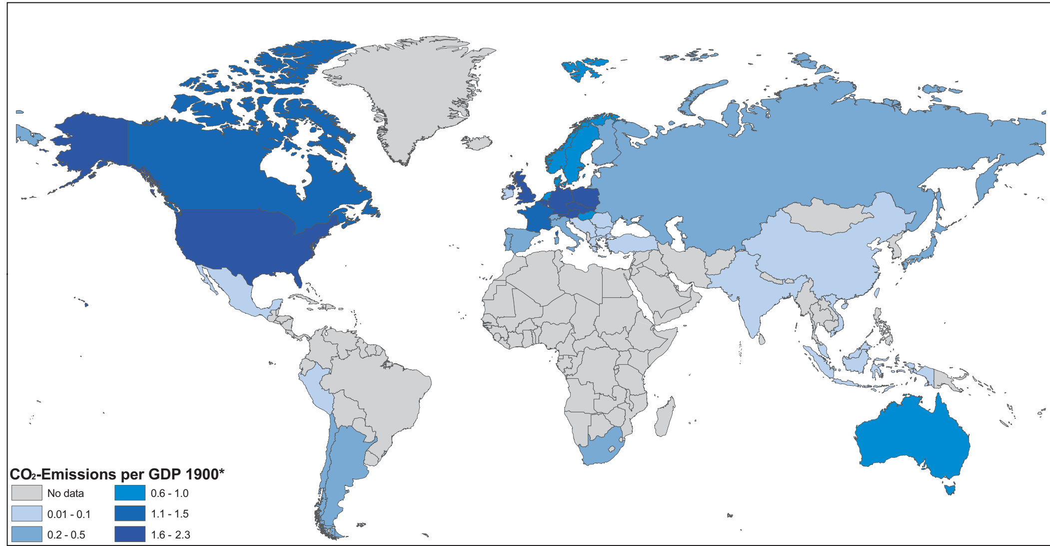
This idea is further investigated in Figure 2. This figure shows the development of CO_2 emissions relative to GDP in selected countries between 1850 and 2008. The red trend lines show similar characteristics in all six plots. Every country reveals a decline in relative emissions, which sets in at different points in time. In developed countries such as Britain, the United States and Germany maximum emissions were registered around 1900. By comparison the decrease in less developed countries such as China set in around 1960 and India, as well as the former USSR followed at the turn of the millennium.

Table 1 gives an overview of the points in time and the GDPs at which maximum emissions were achieved. A possible explanation for the discrepancies in the data may be the economies' sectoral composition at their respective states of development. Typically, while their income is growing, all countries experience a transition from an agricultural economy through industrialization to a services economy. Those countries that leave industrialization behind earlier also show earlier reductions in relative emissions. All curves have a positive slope until a certain income is achieved from which point onwards forward income grows faster than CO_2 emissions. In addition, in less developed countries such as India and China, the relative maximum emissions are smaller than in Britain or the United States, for instance. The data leads us to a weak connection between the maximum of emissions and the income level at which the maxima are found. Germany, for instance, arrived at its maximum emissions in 1917 at a GDP per capita of 2.704 Int.$, in China this figure was only 0.662 Int.$ in 1960 and in the former USSR 4.029 Int.$ in 1995. One reason for a relatively low turning point in some countries may be a positive technology transfer. While those countries which were the pioneers in industrialization first had to develop technological innovations, they are already available for those countries that followed. For this

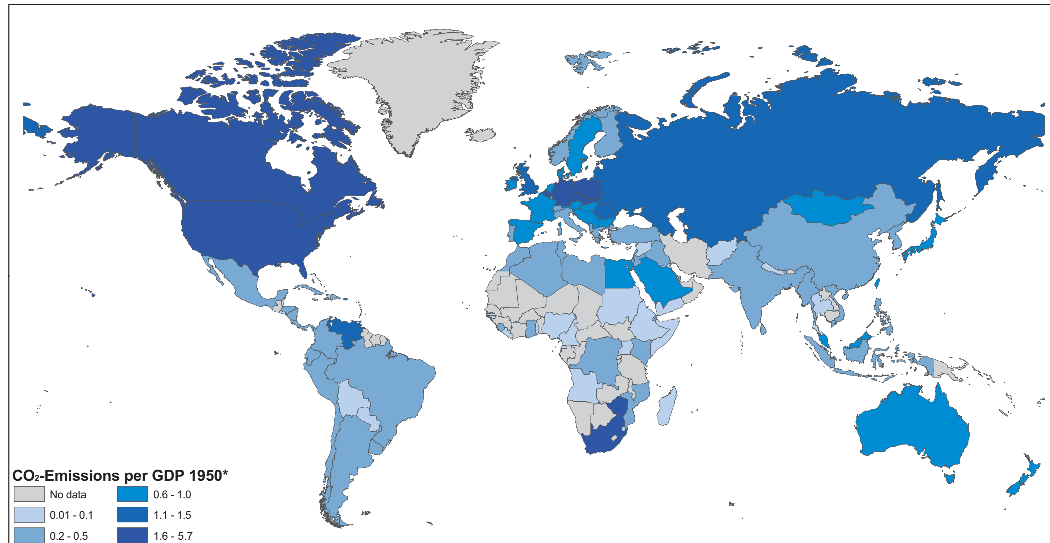
[1] Ifo Institute.

Figure 1

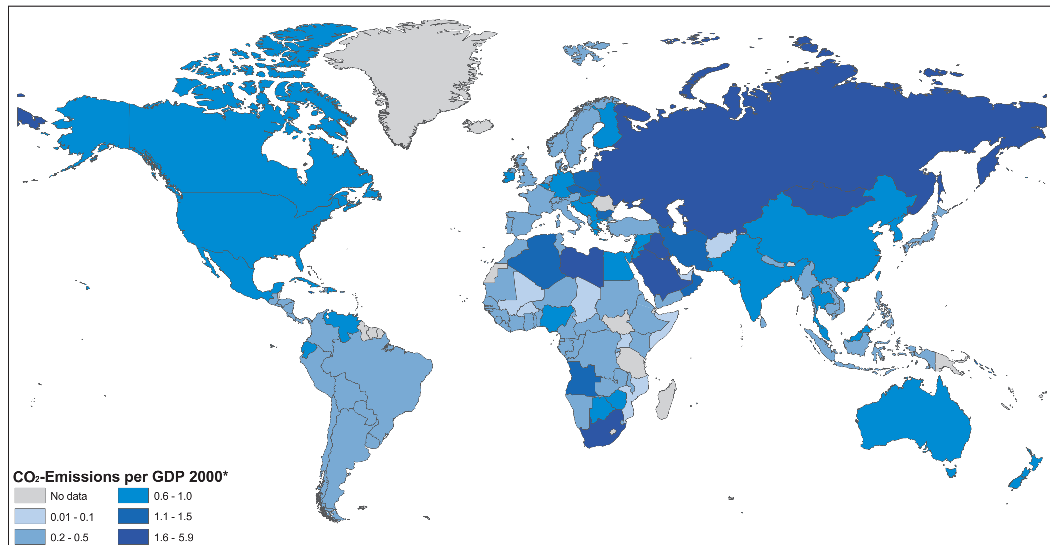
CO_2 Emissions per GDP



*tC per 1000 1990 International Geary-Khamis Dollar



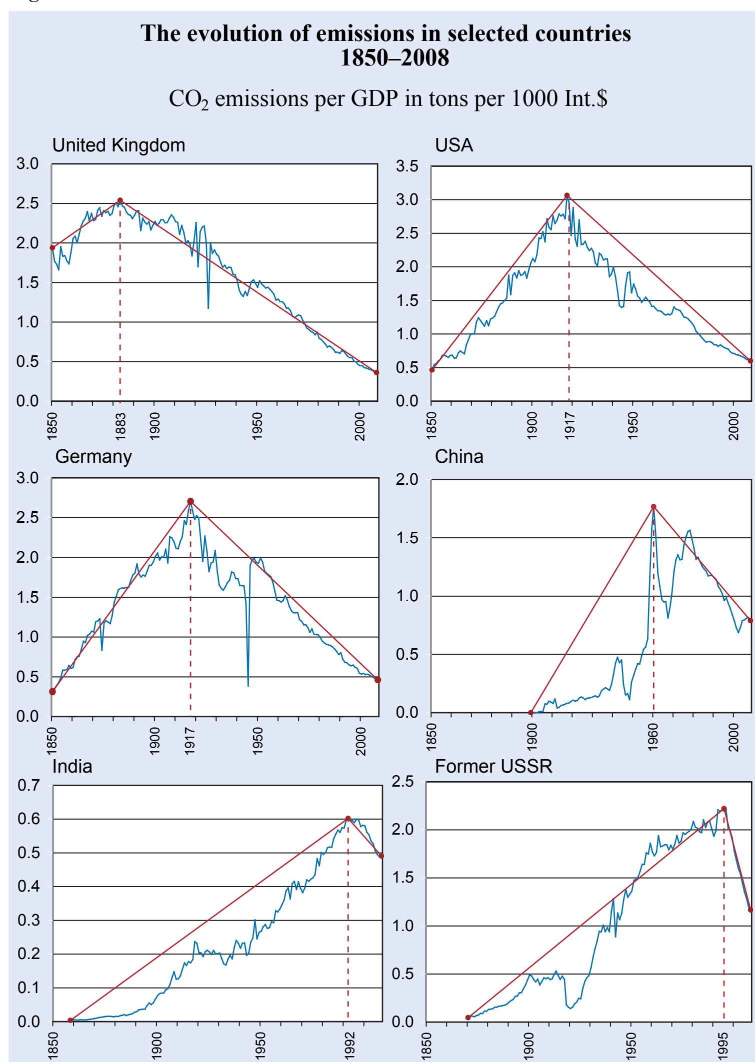
*tC per 1000 1990 International Geary-Khamis Dollar



*tC per 1000 1990 International Geary-Khamis Dollar

Source: Maddison (2010) and CDIAC (2013).

Figure 2



Source: Maddison (2010) and CDIAC (2013).

reason following countries were able to achieve a turning point at lower income levels. Only the former USSR is an exception. Even although industrialization here set in at the end of the 19th century, relative emissions did not decline before 2000. A possible reason for this long upward sloping trend may be relatively low commodity prices for fossil fuels and subsidies to their depletion under the communistic regime. The sudden decline of relative emissions in 1995 could be a consequence of the collapse of the communistic system in the early 1990s.

Ultimately it remains to be said that, despite the fact that relative emissions are currently sinking, absolute CO_2 emissions continue to increase worldwide. For this reason further emission reductions are necessary, although their equitable worldwide allocation is hotly debated. Whether it is reasonable to expect major commitments from developing and emerging countries is a political question. In the past Europe has emitted large amounts of CO_2 itself, while its economy grew unconstrained. When European countries began to reduce their emissions, they were disproportionately larger than those of today's developing and emerging countries. Consequently it is self-explanatory that today's developing countries ask for less drastic emission reduction schemes. However, if developing countries were allowed to emit as much as western countries have in the past (relative to their income), a tremendous increase in future emissions would have to be expected. This is a sharp contrast to the decided aim of climate protection and the reduction of CO_2 emissions, and it mirrors the difficulties of the Kyoto-Protocol. On the one hand, worldwide CO_2 emissions need to be reduced. On the other hand many countries don't feel morally bound to their reduction.

To make global ambitions to stop climate change efficient and equitable, a compromise has to be found that prevents developing countries from unconstrained CO_2 emissions and,

Table 1

Maximum emissions per GDP in selected countries

Country	Year	Maximum relative emissions in tons of CO_2/1000 Int.$	GDP per capita in Int.$
UK	1883	2,540	3,643
USA	1917	3,065	5,248
Germany	1917	2,704	2,952
China	1960	1,768	0,662
India	1992	0,602	1,345
Former USSR	1995	2,221	4,029

Source: Maddison (2010) and CDIAC (2013).

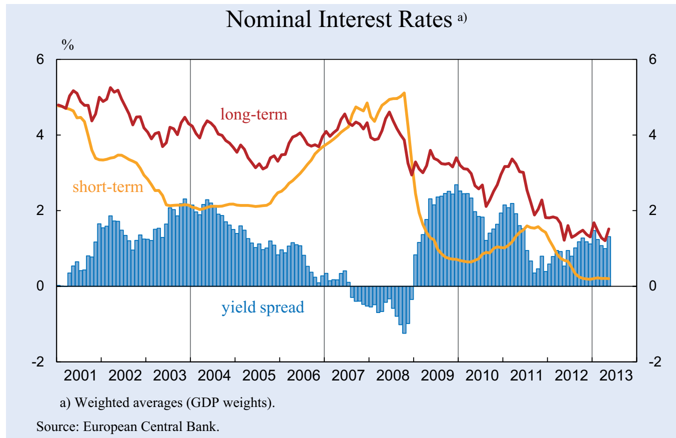
at the same time, doesn't derail economic growth in those countries. Such a compromise could be a stronger technology transfer from developed to developing countries, which could reduce future emissions of the latter and allow for their economic growth.

References

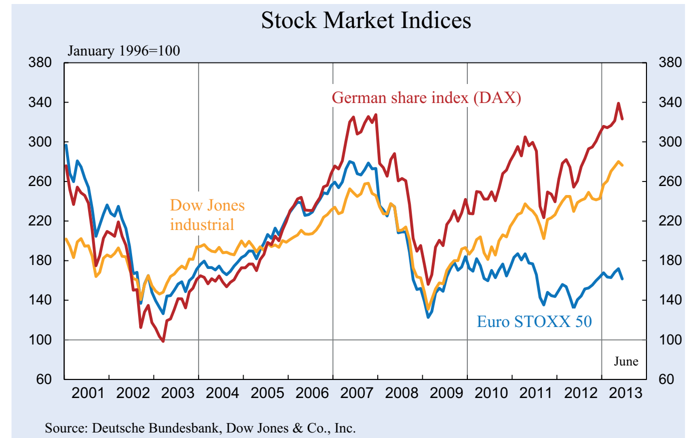
Carbon Dioxide Information Analysis Center (CIDAC, 2013), *Fossil Fuel CO2 Emissions by Nation,* http://cdiac.ornl.gov/trends/emis/tre_coun.html.

Maddison, A. (2010), *Statistics on World Population, GDP and Per Capita GDP, 1-2008 AD*, http://www.ggdc.net/maddison/oriindex.htm.

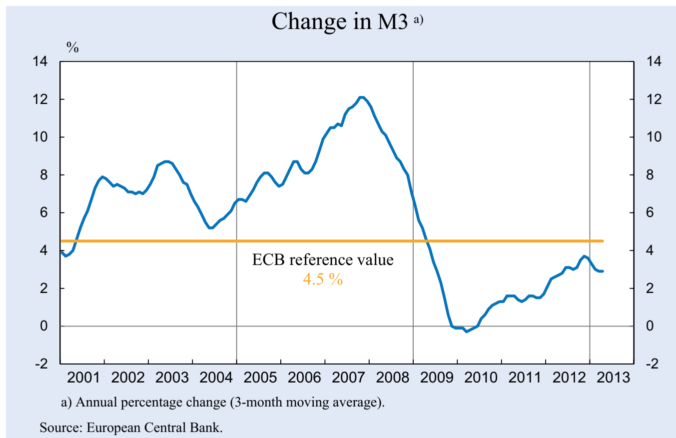
Financial conditions in the euro area



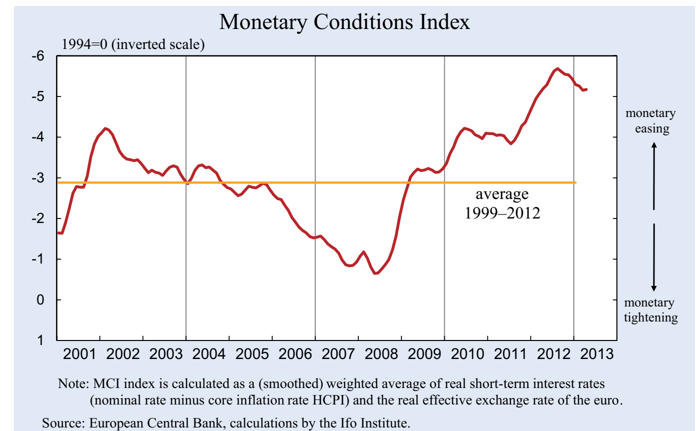
In the three-month period from March 2013 to May 2013 short-term interest rates slightly decreased. The three-month EURIBOR rate declined from an average 0.21% in March 2013 to 0.20% in May 2013. On the other hand, the ten-year bond yields increased from 1.28% to 1.51% in the same period of time. Furthermore the yield spread grew from 1.07% in March 2012 to 1.31% in May 2013.



The German stock index DAX decreased in June 2013, averaging 7,959 points compared to 8,349 points in May 2013. The Euro STOXX declined also from 2,770 to 2,603 in the same period of time. The Dow Jones International increased, averaging 14,910 points in June 2013, compared to 15,116 points in May 2013.

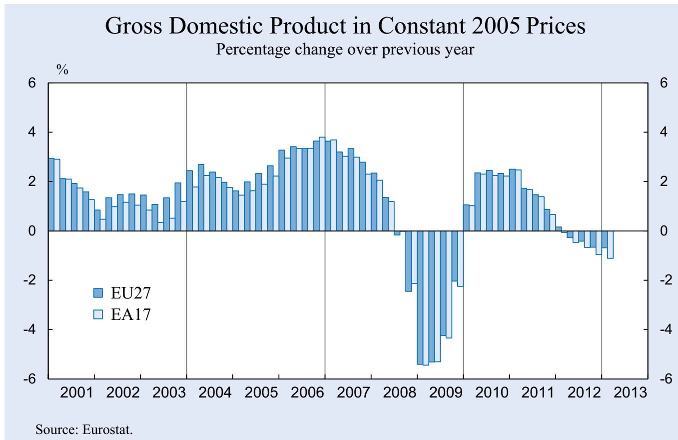


The annual growth rate of M3 stood at 2.9% in May 2013, compared to 3.2% in April 2013. The three-month average of the annual growth rate of M3 over the period from March 2013 to May 2013 amounted to 2.9%, unchanged from the period from February 2013 to April 2013.

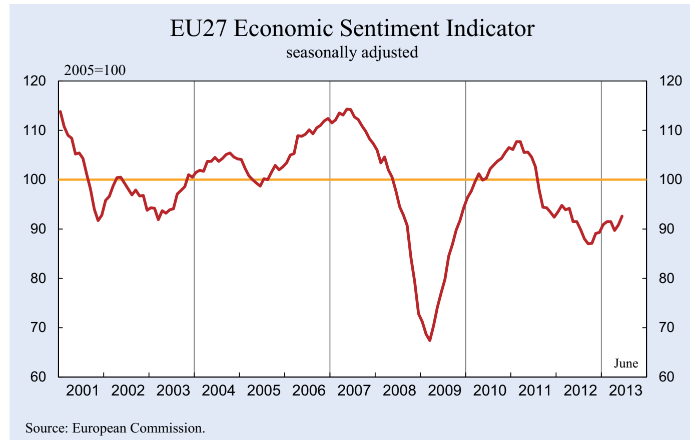


Between April 2010 and July 2011 the monetary conditions index remained rather stable. This index then continued its fast upward trend since August 2011 and reached its peak in July 2012, signalling greater monetary easing. In particular, this was the result of decreasing real short-term interest rates. In April 2013 the index continued its downward trend, initiated in August 2012.

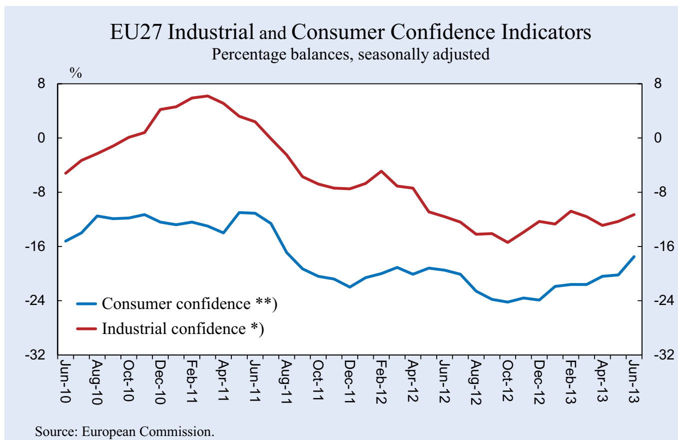
EU SURVEY RESULTS



According to the second Eurostat estimates, GDP decreased by 0.2% in the euro area (EA17) and by 0.1% in the EU27 during the first quarter of 2013, compared to the previous quarter. In the fourth quarter of 2012 the growth rates were – 0.6% and – 0.5% respectively. Compared to the first quarter of 2012, i.e. year over year, seasonally adjusted GDP fell by 1.1% in the euro area and by 0.7% in the EU27.



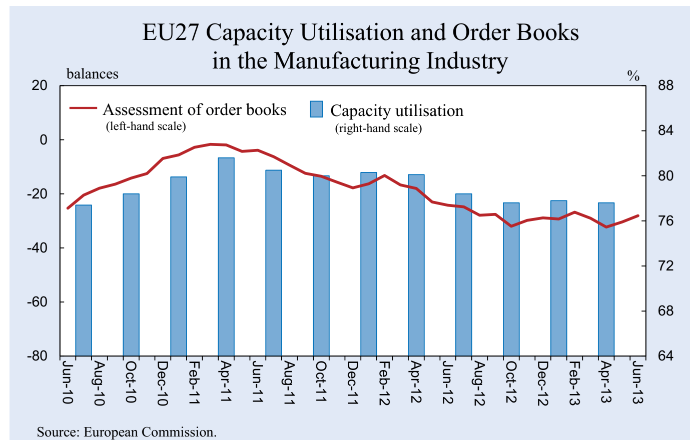
In June 2013 the Economic Sentiment Indicator (ESI) increased by 1.8 points in both the euro area (EA17), to 91.1, and the EU27, to 92.6. In both the EU27 and the EA17 the ESI stands below its long-term average.



* The industrial confidence indicator is an average of responses (balances) to the questions on production expectations, order-books and stocks (the latter with inverted sign).

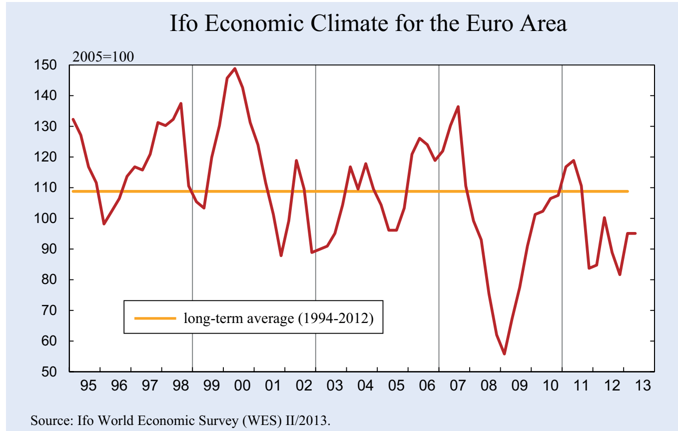
** New consumer confidence indicators, calculated as an arithmetic average of the following questions: financial and general economic situation (over the next 12 months), unemployment expectations (over the next 12 months) and savings (over the next 12 months). Seasonally adjusted data.

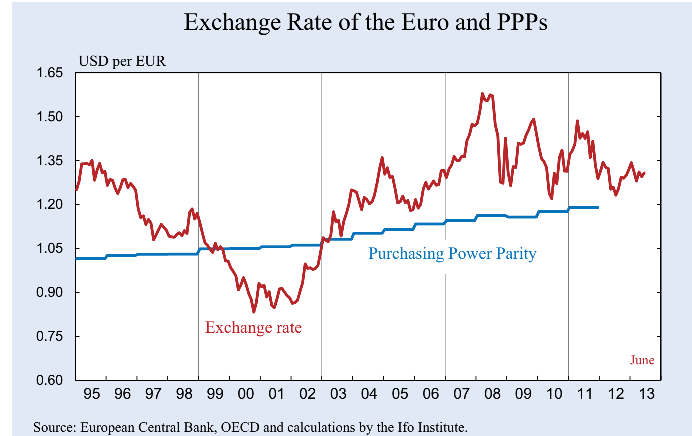
In June 2013, the *industrial confidence indicator* increased by 1.0 in the EU27 and by 1.8 in the euro area. The *consumer confidence indicator* improved more strongly by 2.7 in the EU27 and by 3.1 in the euro area.



EU27 Capacity Utilisation and Order Books in the Manufacturing IndustryManagers' assessment of *order books* improved from – 30.4 in May 2013 to – 28.1 in June 2013. In April 2013 the indicator had reached – 32.3. *Capacity utilisation* decreased slightly to 77.6 in the second quarter of 2013, from 77.8 in the previous quarter.

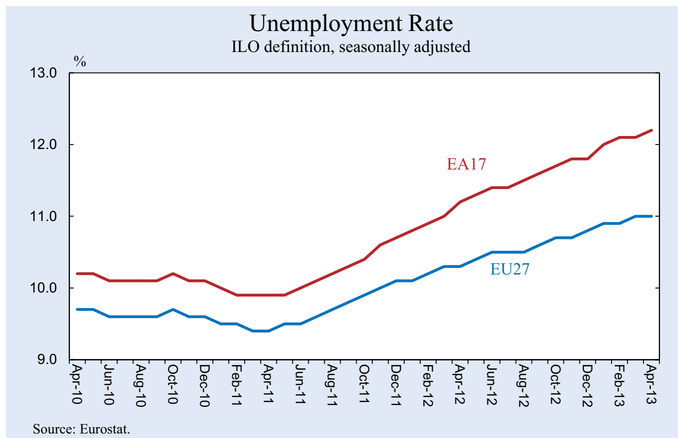
Euro area indicators

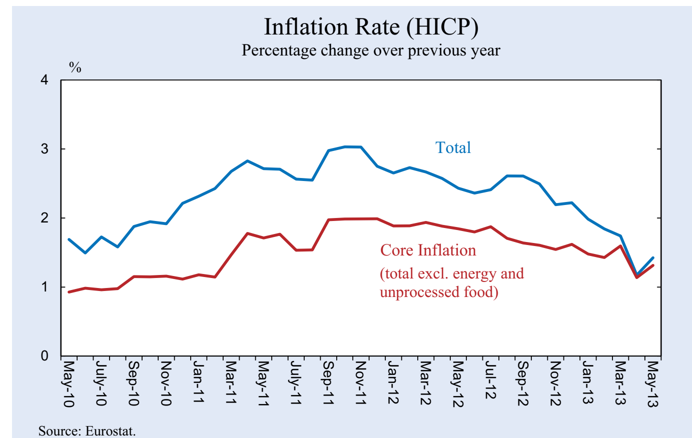




The Ifo Economic Climate Indicator for the euro area (EA17) remains at a low level in the second quarter of 2013. Assessments of the current economic situation are slightly less favourable than in the first quarter of 2013. Expectations for the six-month economic outlook improved only slightly. An economic recovery has not yet started.

The exchange rate of the euro against the US dollar averaged approximately 1.31 $/€ between April 2013 and June 2013. (In March 2012 the rate had amounted to around 1.28 $/€.)





Euro area (EA17) unemployment (seasonally adjusted) amounted to 12.2% in April 2013, up from 12.1% in March 2013. EU27 unemployment rate was 11.0% in April 2013, unchanged compared to the previous month. In both zones, rates have risen compared to April 2012, when they were 11.2% and 10.3%, respectively. In April 2013 the lowest unemployment rate was registered in Austria (4.9%), Germany (5.4%) and Luxembourg (5.6%), while the rate was highest in Greece (27.0%), Spain (26.8%) and Portugal (17.8%).

Euro area annual inflation (HICP) was 1.4% in May 2013, up from 1.2% in April 2013. A year earlier the rate had amounted to 2.4%. The EU27 annual inflation rate reached 1.6% in May 2013, up from 1.4% in April 2013. A year earlier the rate had been 2.6%. An EU-wide HICP comparison shows that in May 2013 the lowest annual rates were observed in Greece (-0.3%), Latvia (-0.2%) and Cyprus (0.2%), and the highest rates in Romania (4.4%), Estonia (3.6%) and the Netherlands (3.1%). Year-on-year EA17 core inflation (excluding energy and unprocessed foods) increased to 1.31% in May 2013, from 1.14% in April 2013.

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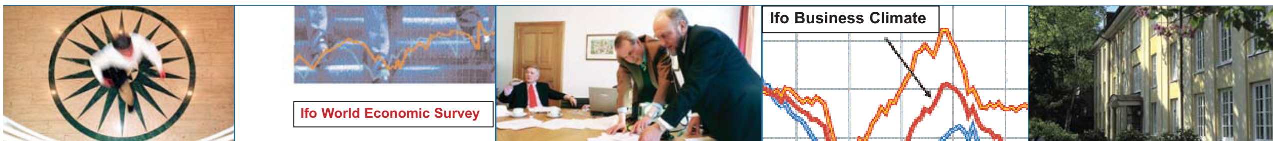

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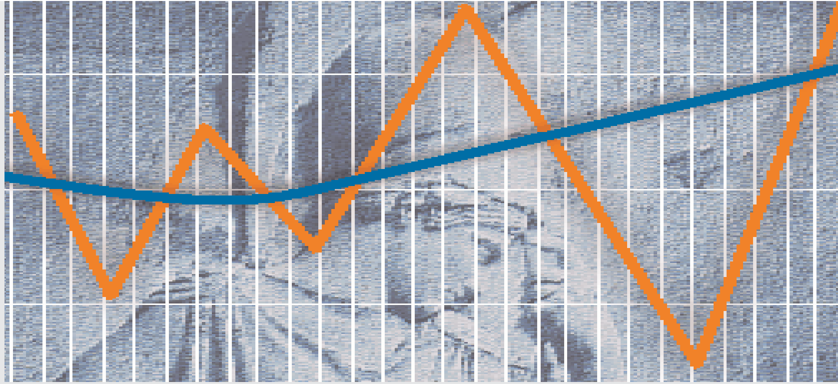

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Trade, Climate Policy and Carbon Leakage
Theory and Empirical Evidence

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