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LONG-TERM FISCAL SUSTAINABILITY IN ADVANCED ECONOMIES

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ALAN J. AUERBACH

UNIVERSITY OF CALIFORNIA, BERKELEY

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EABER SECRETARIAT
CRAWFORD SCHOOL OF ECONOMICS AND GOVERNMENT
ANU COLLEGE OF ASIA AND THE PACIFIC
THE AUSTRALIAN NATIONAL UNIVERSITY
CANBERRA ACT 0200 AUSTRALIA

I. Introduction

The international financial crisis that precipitated the worldwide Great Recession has largely subsided, with capital markets generally operating smoothly, liquidity restored, and new initiatives at financial regulation aimed at reducing the likelihood of recurrence. But in other respects the effects of the crisis live on. Many leading economies are struggling to regain adequate levels of economic growth, even with historically low (in cases even negative) government interest rates. Moreover, large government budget deficits during the recession, attributable to the economic weakness itself as well as expansionary fiscal measures aimed at combating it, have left many advanced economies with much larger levels of national debt than they had just a few years earlier. Thus, in confronting many remaining and serious economic challenges, advanced economies do so facing greater fiscal pressure. But this pressure comes not only from elevated debt-GDP ratios. Indeed, while debt burdens have received considerable attention, these economies face considerable and to a large extent unrelated fiscal challenge over the longer term, due to demographic change and the rising cost of age-related social insurance and other spending programs. While focusing on managing the short-term debt burden may help avoid crises like the one being played out in Greece, attention and policy actions must eventually turn to the longer-term fiscal problem.

This paper provides an evaluation of the long-term fiscal sustainability of advanced economies, based on current estimates of these economies' current-policy fiscal trajectories.¹ As will be quite evident, for many countries short-term fiscal measures, such as the debt-GDP ratio and the current budget deficit as a share of GDP, bear little relationship to the sustainability of

¹ These estimates use a similar methodology as those in Auerbach (2011) and thus provide an update of those calculations for a largely overlapping set of countries. Other recent estimates, for EU countries, are provided by the European Commission (2012).

policy. Some countries appear to be on relatively sustainable paths despite challenging short-run statistics, while for others benign short-term measures mask very large long-term problems. Of course, the future is uncertain while the present is known, so one may be tempted to discount negative long-term projections. But, based as they are on a demographic transition that is surely underway, one can discount particular estimates but not their general direction.

II. Short-Run Fiscal Indicators

Figure 1 shows the evolution of net general government debt-GDP ratios for several leading economies in recent years, comparing 2007, just as the worldwide recession began, to 2014.² With the exception of Norway, which has a large net asset position associated with its natural-resource wealth, every country included in the figure experienced an increased debt-GDP ratio over this seven-year period. While the increase was modest for some, for others it was very large. The four countries experiencing the largest increases – between 0.6 and 0.8 of GDP – all have received considerable attention for their fiscal and economic problems: Ireland, Greece, Portugal, and Japan. The last three of these countries, along with Italy, now have debt-GDP ratios in excess of 1.0, and many other countries, including Belgium, France, Ireland, the United States, and the United Kingdom, are not far behind, with ratios exceeding 0.8.

These short-term levels and trajectories clearly are relevant. For some countries, such as Greece, there is little need to look beyond them to know that a large and immediate fiscal adjustment is needed. Indeed, interest-rate differentials reflect variations in indebtedness. For example, Figure 2 shows the evolution of long-term government interest rates over roughly the

² These figures come from the IMF World Economic Outlook database, October 2014, <http://www.imf.org/external/pubs/ft/weo/2014/02/weodata/index.aspx>. Net debt equals gross debt for all levels of government net of government financial assets. Data for the Czech Republic, Luxembourg, Slovenia and the Slovak Republic are gross debt-GDP ratios, as data for net debt are missing. Values for 2014 are estimates. The sample of countries corresponds to those listed by the IMF as “advanced economies” and for which IMF pension and health spending projections are also available.

same seven-year period, from February 2008 to January 2015, for a selected group of EU countries for which comparable data are available.³ While Greece stands out, elevated interest rates are also present during the period in other economies under stress, such as Ireland and Portugal. Even though rates have converged in recent years, they remain more dispersed than they were prior to the financial crisis, when investors may have had more confidence that the debts of any one EU country were in some sense a common liability of the EU itself. For those countries in this EU sample that are also within the Eurozone, among which a common currency allows a meaningful comparison of nominal interest rates without concern for differences in expected exchange-rate movements, a regression of the average interest rate during the last year of the sample on the 2014 debt-GDP ratios from Figure 1 yields a coefficient of 0.023 (with an adjusted R^2 of .51), indicating that an increase of 10 percentage points in the debt-GDP ratio increases the government's long-term borrowing rate by 23 basis points. (Even excluding Greece, which has both a much higher interest rate and a much higher debt-GDP ratio than any other country in the sample, the coefficient of the interest rate on the debt-GDP ratio is still significant, although only about half as large in magnitude.)

But debt-GDP ratios alone typically do not tell us how long countries have before they must make fiscal adjustments or how large these adjustments need to be. Some countries, for example Japan, have maintained relatively high debt-GDP ratios for some time. One factor that many have suggested may affect a country's ability to maintain a high debt-GDP ratio is the share of its debt held domestically.

³ These data come from the European Central Bank database, <https://www.ecb.europa.eu/stats/money/long/html/index.en.html>. The rates are for secondary market yields of government bonds with maturities of close to ten years.

Figure 3 shows the share of national debt held externally for the same sample of countries as in Figure 1.⁴ Indeed, virtually all of Japan's debt is held internally. The same is true for South Korea and Switzerland, although these countries have low debt-GDP ratios. Italy, which has also managed to maintain a relatively high debt-GDP ratio over the years, also has a relatively low share of its national debt held abroad, as is the case for the United States and United Kingdom, each with its own very well developed capital market. On the other hand, virtually all of Austria's national debt is held abroad, as is Finland's and Estonia's.

Whatever the determinants of short-run budget dynamics and the associated pressure from financial markets, these projections may provide an inadequate picture of underlying fiscal imbalances. This is because the factors contributing to short-term debt accumulation differ substantially from those that will affect debt accumulation over the longer term, after the next few years, factors that have little to do with the business cycle, countercyclical measures and the rate of economic recovery, and much more to do with demographic change and the associated changes in government spending and tax collections.

In particular, a marked aging process is well underway in advanced countries around the world, due to a combination of low birth rates and increasing longevity. Figure 4 presents current (2015) and projected (2050) values of old-age dependency ratios for the advanced countries represented in Figure 1.⁵ All of the countries are projected to experience substantial

⁴ These ratios are constructed using data from the World Bank, dividing a country's gross external debt position from the Quarterly External Debt Statistics (QEDS) database, <http://datatopics.worldbank.org/debt/qeds>, by gross general government debt from the Quarterly Public Sector Debt (QPSD) database, <http://datatopics.worldbank.org/debt/qpsd>, for the third quarter of 2014 (except for a few countries where the most recent data range from the fourth quarter of 2013 to the second quarter of 2014). Data for Greece are missing, presumably because of classification difficulties associated with the recent bailout.

⁵ Data and projections were obtained from the U.S. Census Bureau, International Data Base, <http://www.census.gov/population/international/data/idb/informationGateway.php>, accessed March 5, 2015. The old-age dependency ratios in the figure are defined as population age 65 and over divided by population between ages 15 and 64.

increases in the dependency ratio; the largest is in South Korea, which is projected to approach Japan as the “oldest” society by 2050. With this aging will come increased pressure from the expenses of old-age public pension programs, which are largely unfunded, and health care programs, which are largely publicly financed and, like public pensions, unfunded.⁶

III. Longer-Term Projections

One method of measuring a country’s fiscal imbalance that takes longer-term commitments into account is the *fiscal gap* associated with them, typically expressed as a share of GDP. As defined, for example, in Auerbach (1994, 1997), a fiscal gap, say Δ , over a horizon from the end of the current period, t , through a terminal period, T , would equal the required increase in the annual primary surplus, as a share of GDP, relative to those projected under current policy that would be needed for the terminal debt-GDP ratio to achieve some desired value, or

$$(1) \quad \Delta = \frac{b_t - \left(\frac{1+g}{1+r}\right)^{(T-t)} b_T + \sum_{s=t+1}^T \left(\frac{1+g}{1+r}\right)^{(s-t)} d_s}{\sum_{s=t+1}^T \left(\frac{1+g}{1+r}\right)^{(s-t)}}$$

where b_t is the outstanding debt-GDP ratio at the end of year t , b_T is the target debt-GDP ratio at the end of period T , d_s is the primary deficit-GDP ratio in year s , g is the GDP growth rate, and r is the relevant interest rate, with both growth and interest rates assumed constant for the sake of simplicity. The target debt-GDP ratio is often taken to be the current value, although in cases where a country starts with an elevated debt-GDP ratio this likely understates the size of the

⁶ Although most countries have publicly financed health care for aged and non-aged alike, health expenditures per capita are much higher for the elderly population.

required adjustment, to the extent that long-run stability would be difficult at such a high value of this ratio.⁷

Figure 5 presents estimates of fiscal gaps for the same countries appearing in Table 1, based on recent data and IMF projections. These are for general government at all levels. To form these estimates, we start with the estimated 2014 ratios of net publicly held debt to GDP in Figure 1, and then add projections for primary surpluses as a share of GDP from 2015 through 2019 from the IMF October, 2014 World Economic Outlook Database.⁸ For years after 2019, it is necessary to make some assumptions as to the further evolution of primary surpluses, and we take an approach that separates “normal” components from those related to aging and health.

For shares of GDP accounted for by revenues and non-interest spending in areas excluding health care and public pensions, we set values equal to the values of these shares in 2019, a year in which most countries are projected to have small or no output gaps, and therefore representative of underlying budget positions purged of cyclical components. For the remaining expenditure components, we incorporate recent projections underlying the summary tables in the October, 2014 IMF Fiscal Monitor.⁹ For our initial calculations, we assume a real discount rate of 3 percent and a real GDP growth rate of 2 percent. (From the nature of these calculations, the levels of the real interest and growth rates matter little, with the gap between them being the key

⁷ For infinite horizon calculations, the formula in (1) simplifies to $\Delta = \frac{b_t + \sum_{s=t+1}^{\infty} \left(\frac{1+g}{1+r}\right)^{(s-t)} d_s}{\sum_{s=t+1}^{\infty} \left(\frac{1+g}{1+r}\right)^{(s-t)}}$ and no terminal debt-

GDP ratio need be specified, beyond the condition that it grow less slowly than roughly the interest rate minus the growth rate. One can also estimate the effect of delayed implementation by assuming that adjustments do not fully occur immediately, as in the medium-term indicator “S1” provided by the European Commission (2012), which takes adjustments as not taking full effect until 2020 and then being sustained through 2030 to hit a 60-percent debt-GDP ratio in that year. That report’s long-term indicator “S2” is an infinite-horizon calculation of the fiscal gap.

⁸ <http://www.imf.org/external/pubs/ft/weo/2014/02/weodata/index.aspx>

⁹ I am grateful to Martine Guerguil of the IMF Fiscal Affairs Department for providing these projections.

factor.) Given the fact that these projections run only through 2050, we limit our fiscal gap estimates to a 36-year horizon, i.e., with year $T = 2050$.¹⁰

Figure 5 displays two resulting fiscal gap estimates for each country, with the first bar representing the fiscal gap when the terminal debt-GDP ratio is set equal to the 2014 debt-GDP ratio, and the second bar representing the fiscal gap when the terminal debt-GDP ratio is set equal to 60 percent, a figure often used in such calculations (and, for example, used as a target in Europe's original Stability and Growth Pact). By construction, the second gap will be higher (lower) than the first if the initial debt-GDP ratio is higher (lower) than 60 percent.

In the figure, the U.S. estimate is the highest, under both assumptions regarding terminal debt, around 10 percent of GDP. That is, according to these calculations, the United States would have to reduce non-interest spending or increase revenues by 10 percent of GDP relative to baseline projections in order to hit a 60 percent debt-GDP ratio in 2050. The gaps for many other countries, including Japan, exceed 5 percent. While the projected gap for Portugal is also large, gaps for other "problem" countries such as Ireland and Italy are *negative*, meaning that fiscal policy can *expand* relative to baseline and still achieve the terminal debt-GDP target. Even for Greece, the fiscal gap appears modest even when achievement of a 60 percent debt-GDP ratio is taken as the target in the terminal year.

This distinction between initial debt-GDP ratios and fiscal gaps is illustrated in Figure 6, which provides a scatter plot of the two series¹¹ and a trend line based on the scatter plot. While

¹⁰ Because population aging and medical cost growth would typically be projected to continue in years beyond this terminal date, extending the horizon of the fiscal gap calculation would be expected to increase the estimated gaps, in many cases very substantially. See, for example, recent calculations by Auerbach and Gale (2014) for the United States.

¹¹ The fiscal gap series is the second in Figure 5, for a terminal debt-GDP ratio of 60 percent. For purposes of exposition, Figure 6 excludes Norway, which has extreme negative values for both series.

there is a positive relationship between the two series, the residuals are large – the adjusted R^2 is just .07.

An explanation for this apparently weak relationship between current debt and estimates of the long-run fiscal gap comes from inspection of expression (1). If one assumes that achievement of a sustainable path means that a country must maintain a constant debt-GDP ratio, then a portion of debt service is provided by debt growth, since debt is allowed to grow at the same rate as GDP. Thus, the added fiscal burden of debt service is determined by the difference between the interest rate and the growth rate, and will not be especially high unless one assumes a large gap between the two rates, an issue to which we return shortly. That is, with the assumed difference of 1 percentage point between the two rates, the primary surplus needed in any given year, as a share of GDP, to prevent the debt-GDP ratio from growing equals about 1 percent of the net debt-GDP ratio, not a particularly large number.

Another way of demonstrating this point is by considering how much of the fiscal gap is due to the initial stock of debt, and how much is due to current and future primary surpluses. In Figure 7, the first bar for each country repeats the fiscal gaps from Figure 5 for the case of a 60 percent terminal debt-GDP ratio. The second bar shows what the fiscal gap would be without any initial debt (and a zero terminal debt-GDP ratio as well). In a sense, the difference between these two series represents the share of the fiscal gap attributable to *past* fiscal policy, in the form of past deficits that together led to the initial level of debt on which the calculation is based. For countries with high initial debt-GDP ratios, such as Greece and Japan, the difference between the first and second series is quite large, while for countries, such as Australia, with low initial debt-GDP ratios, the difference is negative, as having a low debt-GDP ratio that is assumed to grow to

60 percent (which reduces the need for fiscal adjustment) more than outweighs the cost of servicing the initial debt.

The third bar in Figure 7 illustrates how important the implicit liabilities are that are associated with health care spending and pension growth. For each country, it shows what the fiscal gap would be if, in addition to there being no initial debt, there were also no increase relative to GDP in spending on health care or pensions after 2019. In a sense, this calculation indicates how much of the fiscal gap comes not from the *past* deficits, just considered, or the *present*, in the form of current and near-term primary deficits, but the *future*, in the form of increases in primary deficits, as a share of GDP, relative to their near-term values. For all countries, this assumption reduces the estimated fiscal gaps, and for many it eliminates the gap entirely. The incremental effect of this factor is especially large for the United States, for which assumed growth in health costs is very large in the IMF projections. For the United States, then, the biggest share of the estimated fiscal gap comes from the future component – the growth in primary deficits as a share of GDP, while for, say, Japan, much more of the problem is a legacy of the past, in the form of a very high initial debt-GDP ratio.

How seriously should one take these fiscal gap estimates, given that they rely on projections far into the future? There is clearly considerable uncertainty about them; indeed projections over much shorter horizons are subject to considerable uncertainty. As an illustration, Figure 8, taken from Auerbach (2014), shows short-run federal budget deficit estimates (as a percent of GDP) done by the U.S. Congressional Budget Office in March, 2008 for the then-current and following five fiscal years, along with confidence bands that accompanied these estimates and the actual deficits that were realized, with the latter purged of the estimated effects of changes in policy adopted after the initial forecast, to allow comparison

with the initial estimates, which were based on the assumption of no policy changes. Even five years into the future, the 90-percent confidence interval encompassed a range running from a deficit of nearly 5 percent of GDP to a surplus of over 5 percent – a range of over 10 percent of GDP; and indeed, the large 90-percent confidence band for the period was actually breached in 2009, with the full weight of the Great Recession being felt.

If short-run uncertainty is large for the United States, it must surely be larger for other countries that may be subject to greater instability. A good example here is Greece. The surprisingly small fiscal gaps shown in Figures 5-7 are traceable to a large extent (as the last bar in Figure 7, which eliminates existing debt and deficit growth after 2019, suggests) to substantial primary surpluses being forecast by the IMF for the period 2015-19, actually exceeding 4 percent of GDP in 2016-2019. Presumably, this forecast is consistent with the bailout plan for Greece to which the IMF was a party, but it also does not reflect the impact of the recent Greek elections, the outcome of which reflected a desire to change course from this fiscal trajectory.

Not only is uncertainty recognized to exist for any given set of projections, but different projections done at a given time and based on the same available information often vary greatly. For example, the very large fiscal gaps projected for the United States in Figures 5-7 reflect rapid growth of pension and health care spending, particularly the latter. But, while different forecasters agree that there will be some “excess cost growth” in the future – medical spending growing faster than GDP, even after adjustment for changes in the age structure of the population – the extent of health growth varies and this produces large differences in projections. The IMF projections used in producing the U.S. fiscal gap estimates here show government health spending rising by 11.6 percent of GDP between 2015 and 2050, from 8.7 percent to 20.3 percent – an increase of 133 percent relative to GDP – while CBO (2014) estimates for the same

period of the growth in *federal* health spending on two key health programs – Medicare and Medicaid – project growth from 5.1 percent to 9.4 percent, an increase of “just” 84 percent relative to GDP. Assuming the same growth rate relative to GDP for all government health spending would reduce the fiscal gap (for a terminal debt-GDP ratio of 60 percent) from 10.4 percent to 8.9 percent.

Given the considerable uncertainty about fiscal conditions in the long run, a natural inclination may be to limit one’s attention to the present, to leave future fiscal issues to be addressed in the future, when there is more information about their severity. However, this intuition is inconsistent with what economic analysis would generally indicate – that uncertainty about the future should induce precautionary saving, whether the uncertainty is with regard to a private individual’s spending needs or those of the government. The logic is that when direct insurance against future risks is unavailable, setting more resources aside constitutes a form of self-insurance, so that the occurrence of very unfavorable outcomes is not so costly. Put simply, it is better to put aside resources that may not be needed than to have to find such resources when there is a dire need for them.

As discussed in Auerbach (2014), there are even some additional reasons for the government, as opposed to individuals responding to uncertainty, to engage in precautionary saving, notably that waiting to make adjustments may, if the outcome is unfavorable, require the government to impose very high marginal tax rates on economic activity, or to face a financial crisis limiting its access to capital markets, either of which could cause serious economic damage. Of course, the arguments for immediate action are tempered to the extent that such actions may be difficult to reverse in the event that planned reductions in spending or increases in taxes prove to an extent unnecessary, but this simply means that responses for different

programs need to be considered individually, and that flexibility itself has value when potential responses are being evaluated.

Finally, as discussed above, the ability of a country to sustain a given path of revenues and spending depends on the degree to which markets expect it to be able to do so. That is, if interest rates rise because of perceived risk of default, then this will increase debt service costs and make it more difficult for the country to avoid default. We have ignored this issue thus far in calculating fiscal gaps, essentially assuming that debt accumulation and the expectation of future primary deficits does not affect the interest rate or the rate of economic growth. Particularly for countries already considered as being at risk, this assumption might greatly understate the difficulty of achieving sustainability.

To assess the importance of this issue, suppose that Greece must face a real interest rate not of 3 percent, but of 6 percent, roughly consistent with the average interest rate that it has faced over the past year, 7 percent, and the projected inflation rate over the next five years, 1 percent. This change, alone, would increase Greece's fiscal gap (for a terminal debt-GDP ratio of 60 percent) from 1.8 percent of GDP to 5.2 percent of GDP. Assuming in addition that Greece is able only to reach primary balance over the next five years (and thereafter, before accounting for the growth of pension and health spending), rather than substantial primary surpluses, would increase the fiscal gap to 9.4 percent of GDP. These two plausible changes would move Greece from a reasonable long-run fiscal position to a one with a very large fiscal gap, suggesting that, particularly for countries subject to considerable policy uncertainty and tenuous confidence in financial markets, it may be hard to rule out the need for policy adjustments even if baseline forecasts are relatively benign.

In summary, many leading economies face sizable fiscal gaps over the next several decades, gaps which bear only a small relationship to short-term fiscal indicators such as the debt-GDP ratio. These long-run fiscal gaps relate much more to the rising pension and health costs associated with aging societies, but aging alone is not the only factor explaining the higher long-run burdens; if this were so, then Japan, and not the United States, would face the highest fiscal gap, given that it will have the highest old-age dependency ratio in 2050 and already has the highest debt-GDP ratio, among developed countries outside of Greece. The growth rate of health care costs is an important factor, too, and one about which there is considerable uncertainty. However, uncertainty offers no excuse for ignoring long-run fiscal challenges, but rather should be a spur to confronting these challenges.

IV. Strategies for Dealing with Long-Term Imbalances

Given the large fiscal adjustments that many advanced economies must undertake, an important question is whether fiscal rules or institutions can help. The experience in the Euro area to date under the Stability and Growth Pact (SGP) is not especially encouraging. In the past its targets for annual deficits and debt of 3 percent and 60 percent of GDP, respectively, were seen as too rigid to deal with country-specific issues, with the natural result that they were frequently violated without significant consequences for the countries that transgressed. This led to modifications in 2005 intended to make the SGP more flexible and hence also more credible. On the other hand, the SGP failed to prevent the debt crisis in Greece, a failure that some have attributed to the fiscal rules and associated enforcement mechanism being too weak; and the anti-austerity positions taken more recently by countries such as France and Italy suggest that the continuing modification of the EU fiscal rules has not yet found a successful formulation.

The U.S. federal budget experience under various rules is also somewhat clouded. Although there is some evidence that the rules under different regimes over the past several decades had effects on certain aspects of government behavior, not all of these effects were positive, for example, limiting countercyclical fiscal responses or even producing procyclical ones (Auerbach 2008).

A lesson to be drawn from these experiences is that it is very difficult to design workable budget rules, given the complexity of fiscal policy and the difficulty of adjusting for cyclical conditions. Perhaps an even more important limitation is the tenuous relationship between fiscal measures like debt and current and near-term deficits, on which budget rules typically focus, and the longer-term fiscal gaps that require attention.

But the construction of long-term projections and the assessment of long-term commitments require considerable judgment and assumptions. As discussed above, estimates may vary considerably, and the considerable uncertainty associated with such projections puts pressure on the mechanism of budget rules, which need transparency and simplicity in order to be credible. Thus, improving budget rules of the traditional variety seems to be an extremely challenging objective. It is for this reason that an alternative mechanism might work better, in particular the establishment or strengthening of a more independent entity to assess and identify weaknesses in fiscal performance.

There has been an important trend toward the creation of such independent entities for fiscal evaluation, beginning perhaps with the U.S. Congressional Budget Office in 1974, and more recently including entities with perhaps greater autonomy and ability to evaluate government proposals, including the Swedish Economic Policy Council, established in 2008, and the U.K.'s Office of Budget Responsibility, established in 2010. Such entities can assess

complicated situations in a way that fiscal rules simply cannot. As is the case in the United Kingdom, the fiscal entity can also be given the power to lay out the economic and fiscal projections on which the government's policy evaluations must be based. Although there are many potentially relevant characteristics of such councils, there is some preliminary evidence that having a fiscal council that is legally independent and with a broad responsibility for monitoring fiscal performance may enhance economic performance as well as the quality of fiscal forecasts (Debrun and Kinda, 2014).

Fiscal policy councils should be viewed as having the potential to serve an important auditing role, rather than to directly constrain or determine fiscal policy in the manner intended for fiscal rules. But this is not really a limitation, given what budget rules actually can do. Further, more than simple budget rules, independent fiscal entities can expose gaps in logic and provide additional support and pressure for needed changes in fiscal policy that may require implementation over a period of years. Although the fiscal council is still a relatively new and evolving mechanism, it may well play a much more important role than explicit fiscal rules in helping countries undertake large and long-term fiscal adjustments.

V. Conclusions

The Great Recession left nearly all advanced economies with substantially higher debt-GDP ratios and in many cases with lingering economic weakness that further complicates short-term efforts at fiscal consolidation. However, the longer-term challenges these countries face are in many cases related much more to the *future* fiscal challenge of growing primary deficits, associated with the cost of providing pensions and health care in the face of growing old-age dependency ratios.

These “demographic and health” deficits that for many countries constitute the bulk of their fiscal imbalances present a number of challenges to the formulation and implementation of fiscal adjustments. First, standard budget control rules and other related mechanisms do not integrate longer-term adjustments in such “implicit” liabilities and so exert less pressure for undertaking these adjustments. Second, there is enormous uncertainty about the magnitude of these implicit liabilities. This makes the politics of adjustment more difficult, even though increased uncertainty about future costs should, in principle, lead to even more budget stringency to avoid outcomes that are socially very costly.

There is no simple formula for adjustment, because countries vary with respect to the severity of their imbalances, the composition of their imbalances and their fiscal capacity to absorb additional tax increases rather than relying on reductions in spending. The recent literature on fiscal consolidations (e.g., IMF 2010, Alesina and Ardagna 2012) has focused especially on tax increases versus expenditure reductions, but dealing with longer-term fiscal gaps requires a different focus. For example, given their importance as a source of fiscal gaps, reform of pension and health care systems is clearly a central agenda item for many advanced countries. Some countries, for example Italy, have already introduced pension reforms in recent years and face much lower fiscal gaps as a result – if these pension reforms can be sustained. Health care reform is a more complex issue, dealing as it does not simply with a system of taxes and transfers but also with the structure of a very large and complex series of markets and the incentives associated with their operations. Also, even with expenditure reforms, rising expenditures as a share of GDP may be inevitable, thus making tax increases a necessary condition for fiscal balance. But, particularly with a longer planning horizon, tax increases can

take a variety of forms, and structural tax reforms can involve considerably smaller increases in deadweight loss than simply increasing marginal tax rates.

Finally, fiscal gaps that are attributable to large implicit liabilities are not easy to deal with through traditional budget control mechanisms that focus on explicit debt and short-term deficits. Indeed, policies to deal immediately with long-term fiscal gaps could over the short term run result in large, though temporary budget surpluses (in order to accommodate longer-term spending growth), and the ability of the political process to sustain such surpluses is certainly questionable.¹² New approaches to budget control such as fiscal councils may be helpful in sustaining such policies.

¹² An illustration of this problem comes from the United States, which adopted large tax cuts in 2001 largely in reaction to the federal budget surpluses that then prevailed. The rhetoric at the time stressed that these cuts were needed to return money rightfully due to taxpayers and to avoid the elimination of the national debt (which would have presented a new challenge for the conduct of monetary policy), even though fiscal gap calculations at the time, even before the tax cuts were adopted, showed a positive long-run fiscal gap. See Auerbach and Gale (2001).

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Figure 1. Net General Government Debt-GDP Ratio, 2007 and 2014 (Percent)

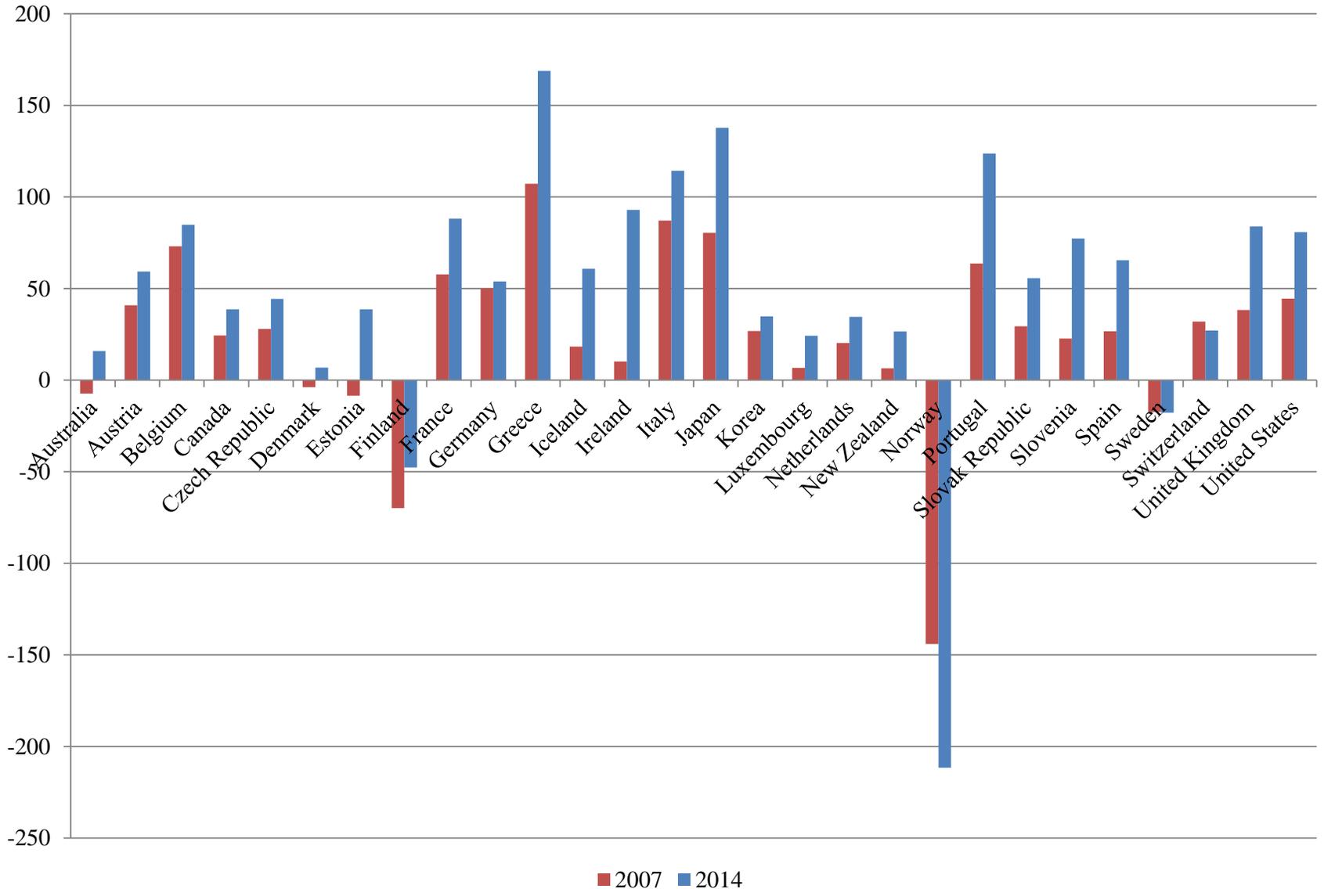


Figure 3. External Share of Gross General Government Debt (Percent)

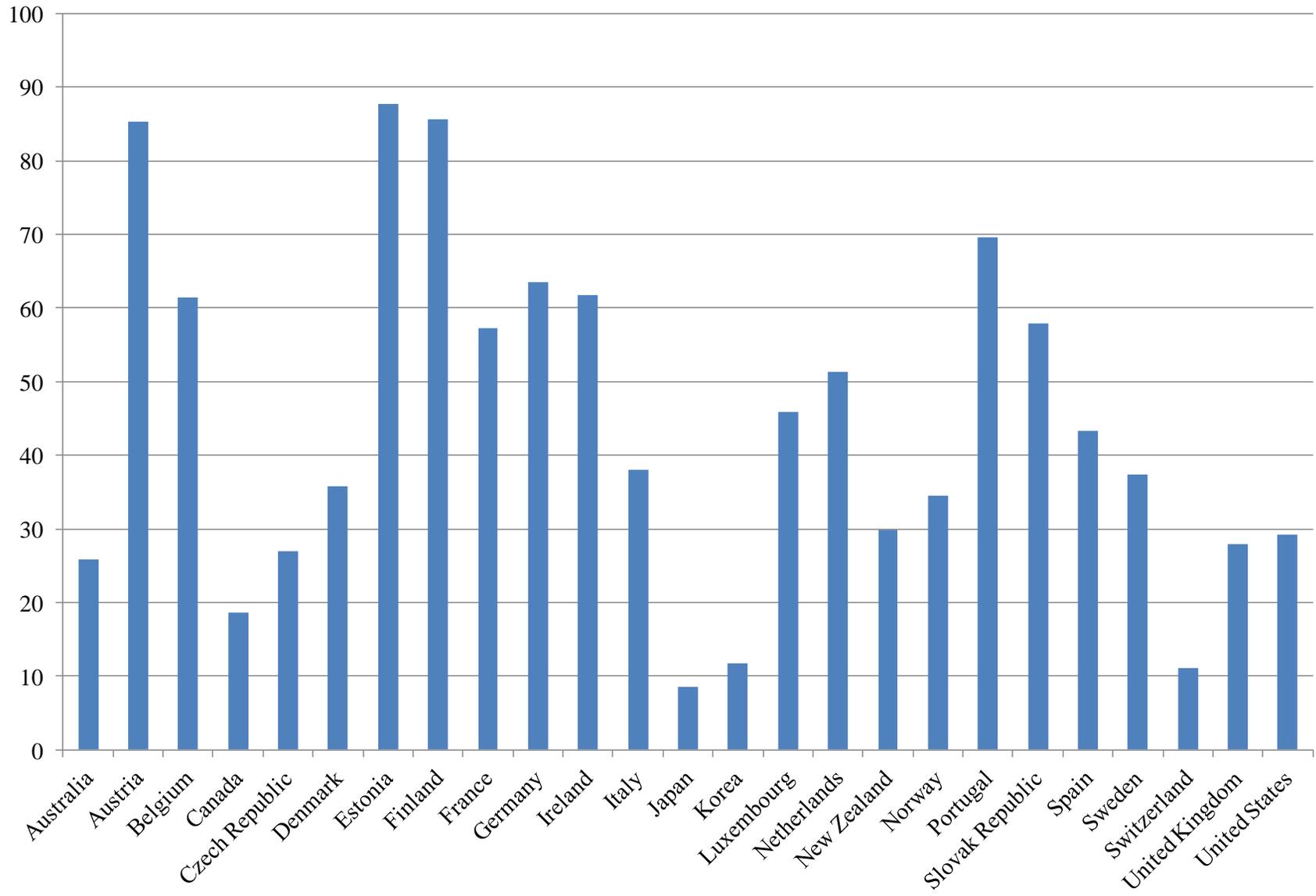


Figure 4. Old-Age Dependency Ratios, 2015 and 2050

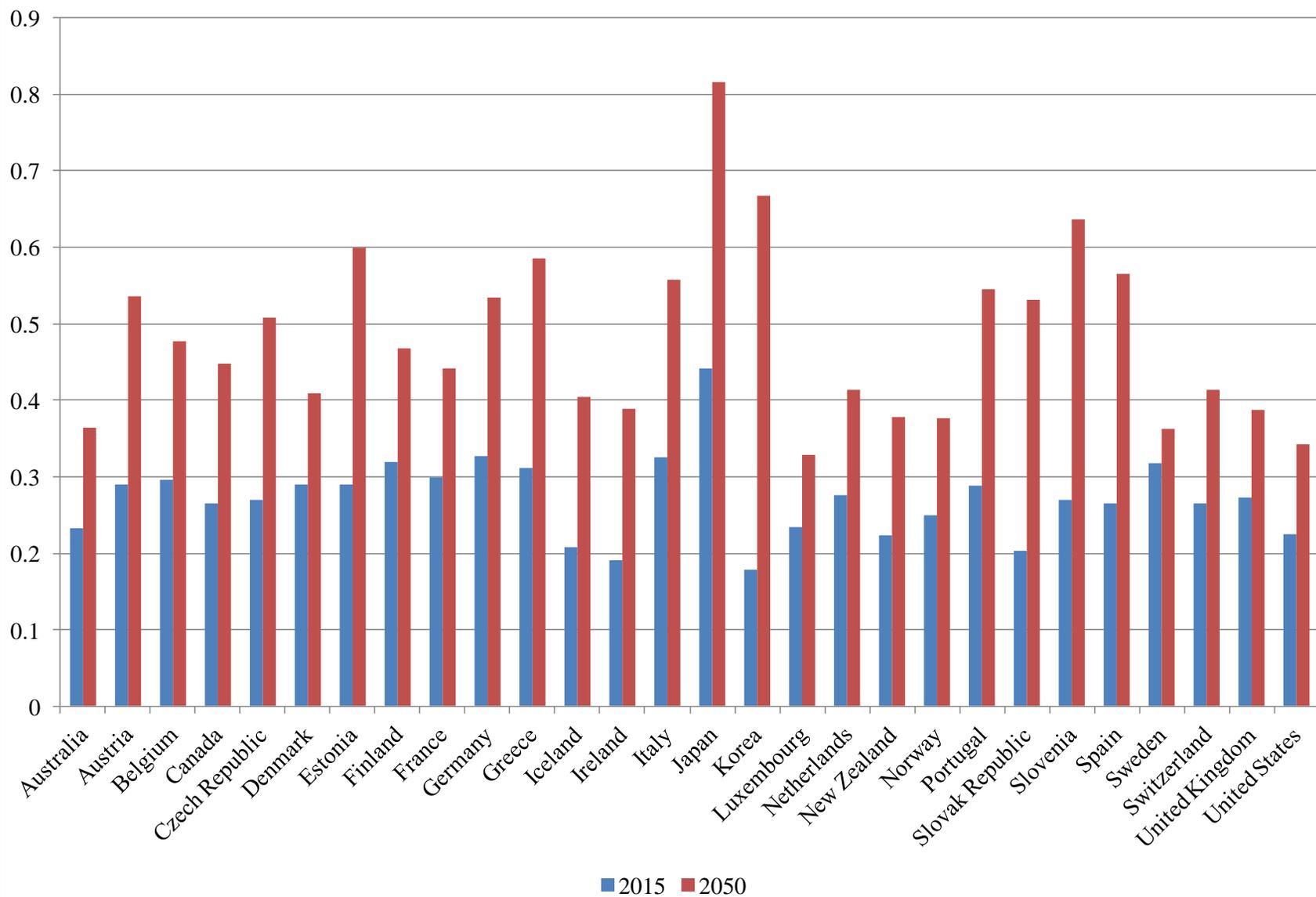


Figure 5. Fiscal Gaps Through 2050 (Percent of GDP)

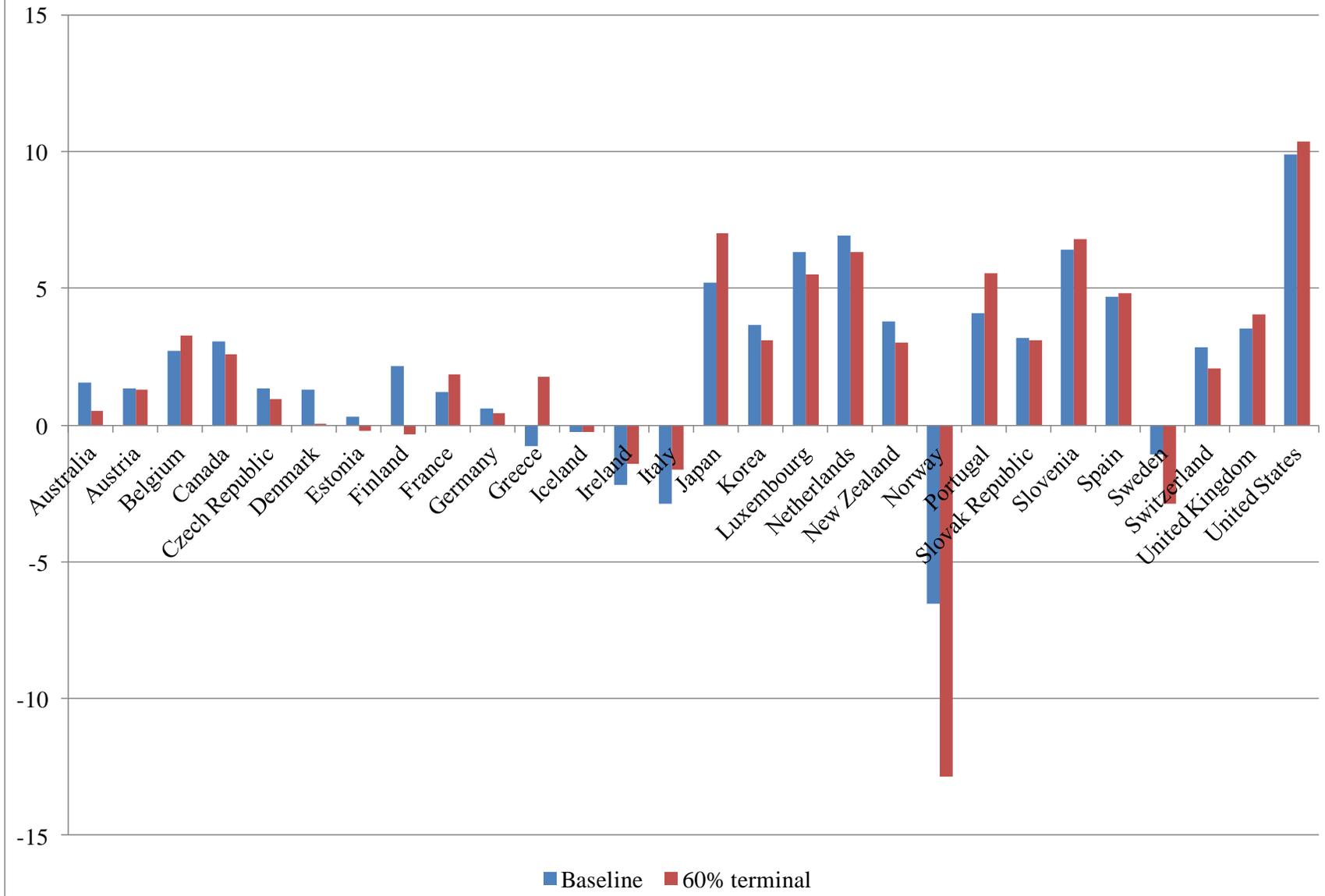


Figure 6. Fiscal Gap versus Debt-GDP Ratio

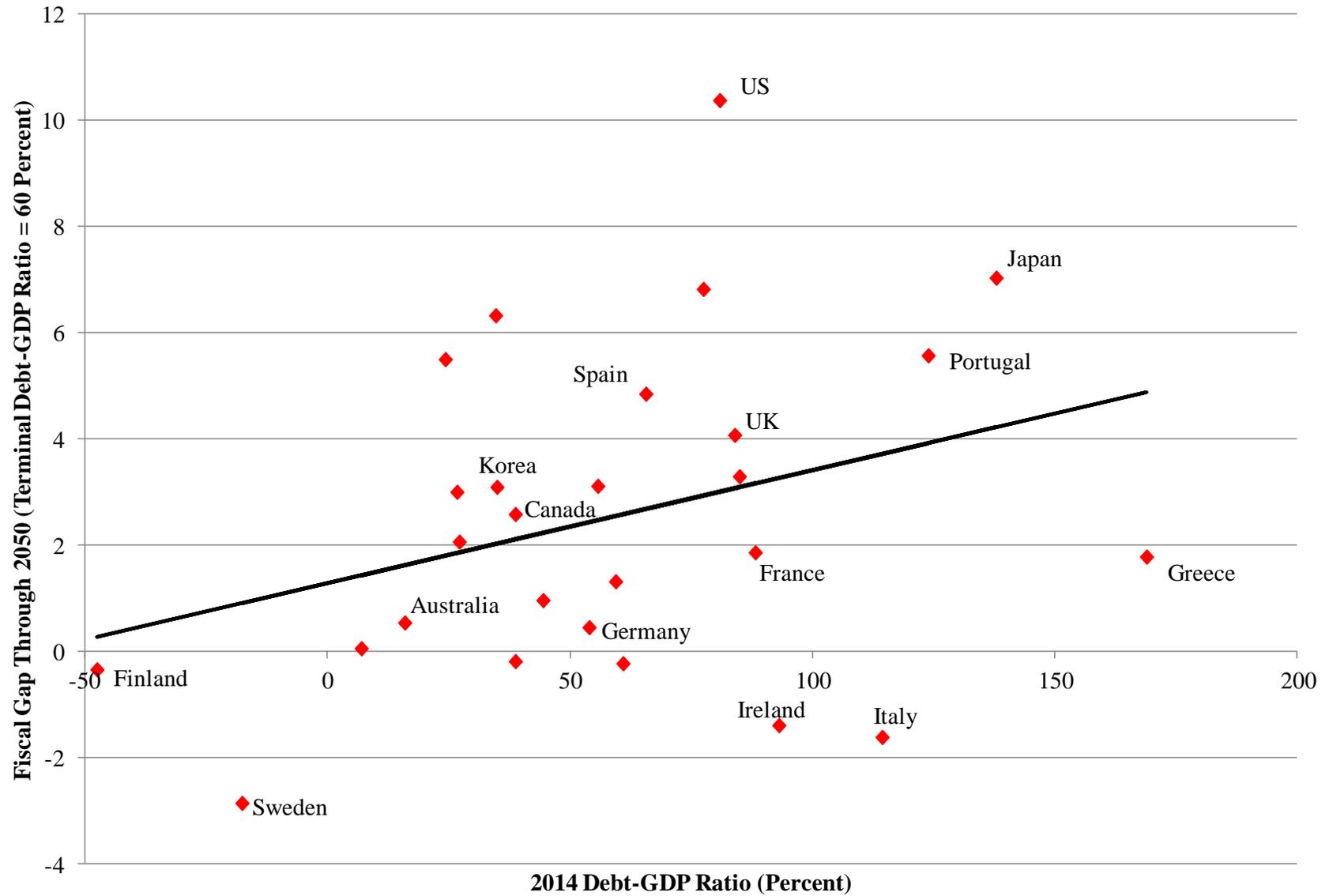


Figure 7. Factors Contributing to Fiscal Gaps, 60% Debt-GDP Target

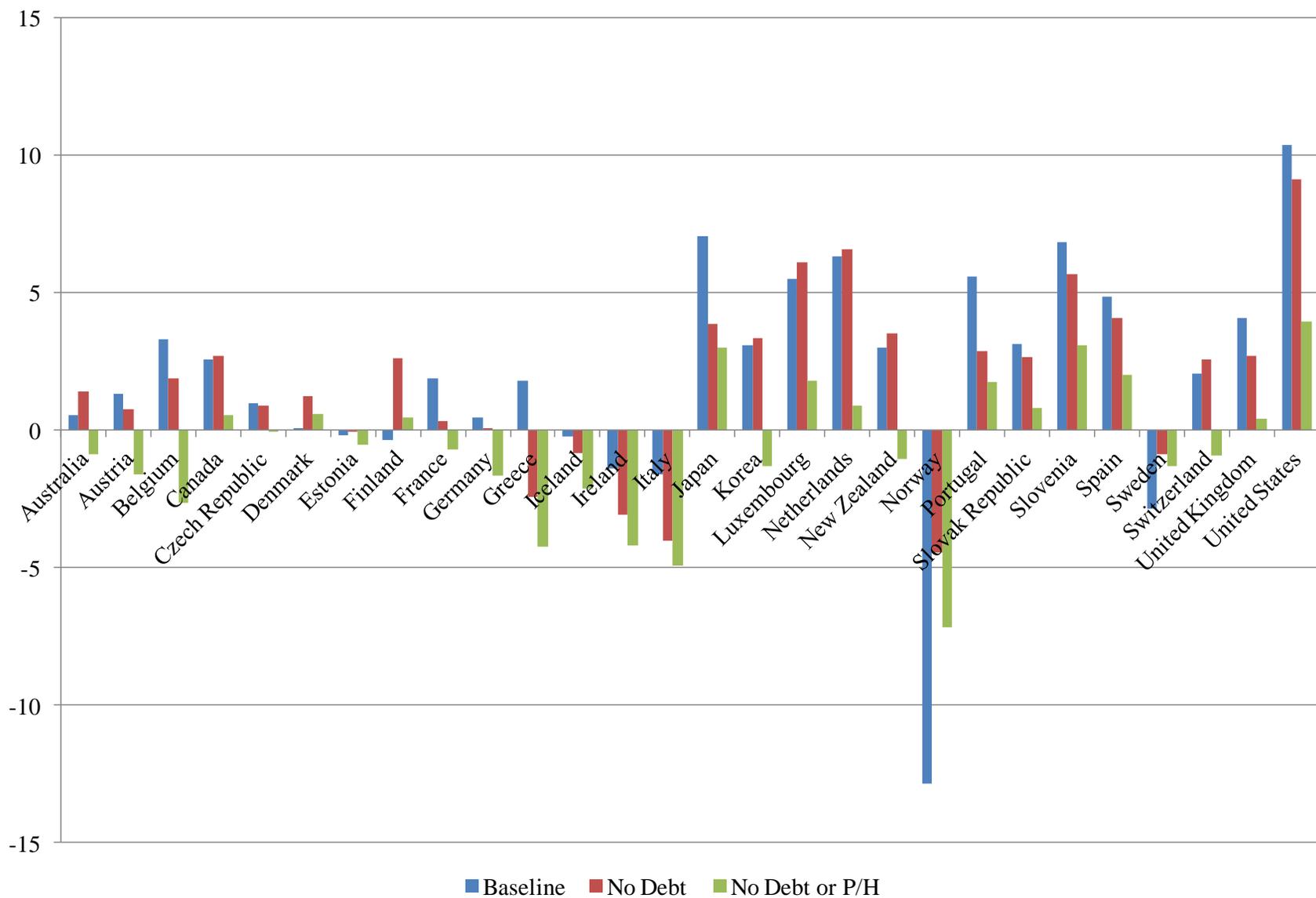


Figure 8. Current Policy Deficits (March, 2008 Confidence Intervals)

