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The Tax Revenue Capacity of the U.S. Economy

James R. Hines Jr.

Summary: The United States imposes smaller tax burdens than do other large high-income countries, its 24.8 percent ratio of tax collections to GDP in 2010 representing the lowest fraction among the G-7. The United States also differs from other G-7 countries in relying relatively little on expenditure-type taxes. It follows that there is significant unused tax capacity in the United States that could be deployed to pay the country's debts, but that the most promising source of additional tax revenue is expenditure taxation that is widely perceived to have very different distributional features than the income taxes on which the U.S. government currently relies. The extent to which the country is able, politically and economically, to incur greater tax burdens to pay its debts may therefore depend on its willingness to adopt a tax system that more heavily emphasizes taxing expenditures.

1. Introduction

Politics famously impedes cogent discussion of long-run government budget issues, but for all of the partisan controversy over U.S. fiscal policy, there is little dispute over the plain fact that the United States

government rapidly accumulated debt following the crash of 2008. At year-end 2007, the value of U.S. government debt held by the public was equal to 36.3 percent of U.S. GDP.¹ By year-end 2011, that figure had risen to 67.7 percent of GDP, and, in March 2012, the Congressional Budget Office (2012) estimated that, in their “alternative fiscal scenario” intended to offer an optimistic but nonetheless more realistic projection than official baselines, U.S. debt held by the public would rise from 73.3 percent of GDP at year-end 2012 to 93.2 percent of GDP by year-end 2022. This accumulation of U.S. public debt reflects the impact of the recession that followed the crash of 2008, including the accompanying tax cuts and spending increases. Deficits are projected to average 5.3 percent of GDP over the 2012-2022 decade; and these figures generally understate total obligations, since debt held by the public is only a portion (69.7 percent as of 2012) of total U.S. government indebtedness.

This very rapid accumulation of U.S. government debt is troubling to many observers, who worry about the political and economic repercussions of shifting burdens to future generations of taxpayers, the macroeconomic consequences of large amounts of debt, the efficiency cost of raising taxes to meet future interest and principal payments, and simply whether the U.S. economy is capable of generating sufficient tax revenues to satisfy debt obligations along with financing annual expenditures. The purpose of this paper is to evaluate the ability of the U.S. economy to meet current and future government funding needs, and the implications for tax policy of actually undertaking to do so.

Some comfort can be found in the experiences of other G-7 countries, all of which collect significantly greater tax revenues as a fraction of GDP than does the United States. To the extent that these countries offer reasonable guides to the type of policy the United States might adopt, it follows that there is ample ability of the United States to finance projected interest and principle payments on its debt. This is not to say that addressing U.S. fiscal imbalances could be easily accomplished. Other G-7 countries that raise significant tax

¹ These estimates and others are drawn from data provided by the Congressional Budget Office, www.cbo.gov, and in which years are U.S. government fiscal years. March 2012 projections are reported in Congressional Budget Office (2012).

revenue rely on expenditure-basis taxes that differ significantly from the income taxes that are the mainstay of U.S. federal tax collections. Furthermore, the greater government expenditures that typically accompany higher taxes in these countries make the taxes more tolerable politically than they would be simply in the service of debt repayment.

Tax policies ultimately represent the outcomes of political processes that express the willingness of citizens to subject themselves to taxation. Tax alternatives differ in the extent to which they distort economies and in the distribution of their burdens. As aggregate burdens rise, the consequences of inefficient taxes become increasingly severe, thereby moving even intractable political processes in the direction of adopting efficient taxes. This is evident in the widespread use of consumption-based taxes in most of the world. It is a sad reality that countries must be forced by events to undertake efficient tax reforms – though this pattern may carry promising implications for U.S. policy as the country confronts its own debt burdens.

2. U.S. Taxation in Global Perspective

Throughout the modern era, the United States has maintained a smaller public sector than the other large high-income countries in the G-7 (Canada, France, Germany, Italy, Japan, and the United Kingdom). This entails correspondingly lower total tax burdens. The large U.S. deficits of 2007-2012 are the products of declining tax collections and rising government expenditures, but even prior to the crash of 2008, or for that matter prior to the 2000s, U.S. tax collections were low compared to those of other high income countries.

Table 1 presents OECD statistics on total (federal plus subnational) tax revenues as a fraction of GDP in G-7 countries in 2006 and 2010, which are representative years before and after 2008.² In 2006 U.S. tax revenues were 27.9 percent of GDP, representing the lowest fraction among G-7 countries. Japan was a close second at 28.0 percent, Canada third at 33.3 percent, and others higher. By 2010

² These and other OECD tax data presented in Tables 1-5 are available at: http://www.oecd-ilibrary.org/taxation/data/revenue-statistics_ctpa-rev-data-en.

U.S. tax revenues had fallen to 24.8 percent of GDP, still the lowest among the G-7 countries, the 3.1 percent of GDP U.S. tax revenue drop between 2006 and 2010 also representing the greatest percentage decline of all the G-7 countries.

Table 1: Total Tax Revenue as a Percentage of GDP

Country	2006	2010
Canada	33.3	31.0
France	44.4	42.9
Germany	35.6	36.3
Italy	42.3	43.0
Japan	28.0	26.9
United Kingdom	36.4	35.0
United States	27.9	24.8

Source: OECD StatExtracts, <http://stats.oecd.org/Index.aspx?QueryId=21699>.

Note to Table 1: The entries represent ratios of total government (federal, state and local) tax collections to national GDPs in 2006 and 2010.

The United States, which had relatively modest tax collections prior to 2008, responded to the crash by reducing taxes more significantly than did the other G-7 countries. Falling incomes due to the crash had the effect of reducing both GDP and tax collections, with taxes typically declining more than GDP, due to the progressive nature of taxes in these countries and the sensitivity of business profits to macroeconomic conditions. Furthermore, all of these countries enacted tax cuts and delayed tax increases in efforts to stimulate their economies. That these tax-cutting efforts are reversible has been demonstrated by the United Kingdom and others subsequently talking steps to address long-run fiscal balance.

The most obvious difference between U.S. tax policy and the policies of other G-7 countries – indeed, the tax policies of almost any other country in the world – is that there is no U.S. value added tax (VAT).³ A VAT is a sophisticated form of a sales tax, and has proven immensely popular among governments around the world; since 1966, more than 150 countries have adopted VATs. Among the high-income OECD countries, 33 out of 34 have VATs; the United

³ While there has never been a U.S. federal VAT, for a period of time the state of Michigan imposed a business tax with many VAT-like features (Hines, 2003).

States is the lone exception. A VAT has the attractive property of not taxing the return to saving and investing, and thereby not discouraging business formation or expansion; furthermore, VATs are commonly believed to be more easily enforced than are other taxes. Despite these features, the U.S. federal government has consistently resisted adopting a VAT, reflecting liberal concerns that the VAT is insufficiently progressive and conservative concerns that the VAT too readily facilitates the tax collections necessary to support big government.

Despite its aversion to VATs, the United States uses some expenditure-based taxes. Most U.S. states impose general sales taxes at rates that are significantly below VAT rates in other countries. Furthermore, there are federal and state excise taxes on specific goods and services, such as gasoline, cigarettes, and alcohol; but overall U.S. taxes on goods and services are low compared to equivalent tax rates in other countries.⁴

Table 2 presents ratios of taxes on goods and services to GDP for G-7 countries in 2006 and 2010. The numerator includes VAT, sales, and excise tax revenues. The United States has the lowest ratio, collecting 4.5 percent of GDP in goods and services taxes in 2010. Japan is the next lowest country at 5.1 percent, Canada follows at 7.5 percent, and the European G-7 countries are all above 10 percent. It indeed appears that VATs can be used effectively to collect significant revenues from expenditures on goods and services.

U.S. taxes on goods and services declined from 4.8 percent of GDP in 2006 to 4.5 percent in 2010, but this was much more modest than the drop in total tax revenues. Expenditure taxes offer revenue streams that are more stable over the business cycle than are the revenue streams produced by many income tax alternatives. Legislative changes actually increased the fraction of GDP collected by expenditure taxes in some other G-7 countries between 2006 and 2010, with only Canada and France showing declines of comparable magnitude to the U.S. change.

⁴ Hines (2007) reviews the history and impact of U.S. sales and excise taxation.

Table 2: Taxes on Goods and Services as a Percentage of GDP

Country	2006	2010
Canada	8.1	7.5
France	11.1	10.7
Germany	10.1	10.7
Italy	11.1	11.1
Japan	5.2	5.1
United Kingdom	10.6	10.8
United States	4.8	4.5

Source: OECD StatExtracts, <http://stats.oecd.org/Index.aspx?QueryId=21699>.

Note to Table 2: The entries represent ratios of total government (federal, state and local) tax collections on goods and services to national GDPs, expressed as percentages, in 2006 and 2010.

Other governments, particularly those of high-tax continental Europe, finance significant portions of their expenditures with social insurance taxes. These taxes are typically imposed at flat rates, and only on labor-type income; their revenues are dedicated to certain categories of social expenditures. As a result of their flat-rate structure, these social insurance taxes appear to be much less progressive than income tax alternatives (though the expenditures they fund tend to be highly progressive). The comparatively small size of U.S. old-age social insurance programs, together with a reluctance to use flat-rate taxes to finance general social expenditures, means that the United States relies much less than do some other countries on social insurance taxes.

Table 3 presents statistics on the use of social insurance taxes by G-7 countries. Canada, the United States and the United Kingdom rely the least on social insurance taxes, as measured by tax collections as a fraction of GDP. In 2010, the United States collected social insurance taxes equal to 6.5 percent of GDP, Canada collected taxes equal to 4.8 percent of GDP, and the United Kingdom collected taxes equal to 6.7 percent of GDP, all of these ratios roughly unchanged since 2006. All four of Japan, Italy, Germany and France in 2010 collected social insurance taxes equal to 11 percent or more of GDP.

Table 3: Social Security Taxes as a Percentage of GDP

Country	2006	2010
Canada	4.9	4.8
France	16.4	16.6
Germany	13.7	14.2
Italy	12.5	13.6
Japan	10.2	11.0
United Kingdom	6.7	6.7
United States	6.6	6.5

Source: OECD StatExtracts, <http://stats.oecd.org/Index.aspx?QueryId=21699>.

Note to Table 3: The entries represent ratios of total government (federal, state and local) social insurance tax collections to national GDPs, expressed as percentages, in 2006 and 2010.

The United States relies relatively heavily on personal income taxes, and to a lesser extent on corporate income taxes. As a result, U.S. tax collections from these sources, measured as a fraction of GDP, look similar to those of other countries, despite the significantly smaller size of the U.S. government. Personal – and particularly corporate – tax collections move over time with the business cycle, but in general the United States does not differ sharply from other G-7 countries in total income tax collections as a fraction of GDP.

Table 4 presents personal income tax collections as a fraction of GDP. In 2006, U.S. personal income tax collections were 10.1 percent of GDP, a ratio greater than those of France, Germany, and Italy, and thereby representing the median ratio for the G-7 that year. By 2010 U.S. tax cuts had reduced personal tax collections to 8.0 percent of GDP, leaving only Japan and France with smaller ratios.

Table 5 presents corporate tax collections as a fraction of GDP. In 2006, U.S. corporate tax collections represented 3.4 percent of GDP, exceeding the ratios of Germany and France, and equaling that of Italy. Between 2006 and 2010, corporate tax collections fell as a fraction of GDP in every G-7 country, reflecting primarily the decline in corporate profits associated with the recession that followed the crash of 2008, and to a much smaller extent the reactions of government policies. By 2010, U.S. corporate tax collections were only 2.7 per-

cent of GDP, still ahead of Germany and France, very close to Italy and Japan at 2.8 percent, and not far behind the United Kingdom and Canada.

Table 4: Individual Income Tax Revenue as a Percentage of GDP

Country	2006	2010
Canada	11.9	10.8
France	7.8	7.3
Germany	8.6	8.9
Italy	10.7	11.7
Japan	5.2	5.2
United Kingdom	10.5	10.0
United States	10.1	8.0

Source: OECD StatExtracts, <http://stats.oecd.org/Index.aspx?QueryId=21699>.

Note to Table 4: The entries represent ratios of total government (federal, state and local) individual income tax collections to national GDPs, expressed as percentages, in 2006 and 2010.

Table 5: Corporate Tax Revenue as a Percentage of GDP

Country	2006	2010
Canada	3.8	3.3
France	3.0	2.1
Germany	2.2	1.5
Italy	3.4	2.8
Japan	4.7	2.8
United Kingdom	3.9	3.1
United States	3.4	2.7

Source: OECD StatExtracts, <http://stats.oecd.org/Index.aspx?QueryId=21699>.

Note to Table 5: The entries represent ratios of total government (federal, state and local) corporate tax collections to national GDPs, expressed as percentages, in 2006 and 2010.

3. Implications for Future U.S. Tax Policy

It is clear that U.S. government finances differ significantly from those of other large high-income countries. To the extent that valid inferences can be drawn from cross-country comparisons, the experiences of other G-7 countries suggest that there is significant un-

tapped federal tax revenue capacity in the United States, particularly among expenditure and social insurance taxes. While there are differences between the U.S. economy and the economies of other G-7 countries, these differences carry no obvious implications for their relative abilities to generate tax revenue. Lower U.S. tax revenue as a fraction of GDP is the product of deliberate policy choices made by successive U.S. governments, and reflects an unwillingness to incur the tax cost of supporting a larger public sector. There are certainly impediments to increasing U.S. tax collections, but these largely fall into the category of considerations that raise the cost of greater taxation, not factors that prevent the government from generating higher levels of tax revenue.

Tax compliance is an important ingredient in producing significant tax collections. The United States currently has among the lowest measured tax evasion rates in the world, with a shadow economy – the part of the economy not reported to tax authorities – estimated to account for between between 8 and 16 percent of GDP (Schneider et al., 2010; Slemrod, 2007). In the cross-country estimates offered by Schneider et al., U.S. underground activity represents just 8.6 percent of the economy, the second lowest fraction in the world (Switzerland is the lowest at 8.5 percent). The other G-7 economies have significantly larger underground sectors, including Canada, at 15.7 percent of GDP, Germany, at 16.0 percent, and Italy, much higher at 27.0 percent. The very low U.S. tax evasion rate makes it possible to obtain greater tax revenue than would otherwise be available, though tax evasion rates are apt to rise with higher tax rates.

It is one thing to have the ability to raise taxes, another to have the willingness. There are significant political costs associated with higher taxes, particularly if the higher taxes are not accompanied by greater spending on social or other programs that the electorate values. This is not to say that the country is unwilling to incur these costs. The history of U.S. federal government debt is one of accumulation during wartime and decline during the subsequent peace. Indeed, the first U.S. federal taxes were excises imposed early in the Washington administration to pay off debts from the revolutionary war, a process that, together with land sales, led ultimately to the extinguishment

of the federal debt by 1837. Subsequent debt accumulations during the Civil War, the Spanish-American War, World War I, and World War II were likewise, albeit not quite as dramatically, diminished by frugality after these wars. There may be reason for concern that U.S. politics has evolved to a point at which it is difficult to summon the political will to impose short-term costs in the service of long-run sound fiscal management; though the focus of this essay is not on the politics of debt repayment, but instead on the underlying economics of the options facing the U.S. government.

The potential economic consequences of greater taxation include discouraging labor supply, saving, investment, business formation, efficient asset allocation, and other choices that affect the performance of the economy. The cost of lost economic efficiency associated with higher taxation depends critically on which taxes the government chooses to deploy in order to raise revenue. Feldstein (2006) estimates that an across-the-board increase in U.S. personal income taxes would be associated with an efficiency cost of 76 cents per dollar of additional tax revenue. This figure is based on estimates of the responsiveness of taxable income to changes in tax rates, a method that is controversial, and which some critics argue overstates the magnitude of deadweight loss (Saez et al., 2012), though it is clear that higher U.S. personal income taxes would generate economic distortions of significant magnitude.

The U.S. government could raise additional revenue without resorting to higher personal income taxes. VATs, social insurance taxes, and carefully chosen excise taxes have the potential to generate significant tax revenues at considerably smaller cost to the economy than a general expansion in the personal income tax, since these tax alternatives have flatter rates than the personal income tax, and effectively tax the return to saving little if at all. Whether the United States would have an interest in a significant expansion of these taxes in preference to the individual income tax turns largely on the perceived tradeoff between the distributional objectives of the tax system and the desire to maintain efficient incentives.

Countries differ in the extent to which taxes are apt to distort their economies. Higher tax collections are generally associated with great-

er economic costs of raising additional tax revenues, since the efficiency cost of taxation rises roughly proportionately with the square of tax rates (Auerbach and Hines, 2002). Consequently, countries with the greatest tax revenue needs will tax themselves to the point that additional tax revenue is associated with significant economic distortions. These high-tax countries stand to benefit the most from adopting efficient tax structures, typically consisting of a combination of expenditure taxes and income taxes with relatively flat tax rates. In practice, tax system design appears to be sensitive to the costs of economic distortions. Lindert (2004) reports that countries with large government sectors tend to have less progressive tax systems than countries with small government sectors, reflecting the cost of high-rate progressive taxes. There is also almost a mechanical relationship between tax collections and the extent of measured tax progressivity. Consider an extreme case in which the government represents 99 percent of the economy, and is financed by income taxes. The tax system would need to extract virtually all of private income, in which case income tax rates must average 99 percent, and would therefore have a nearly flat structure. This is obviously a fanciful example, but it illustrates that the decline of tax progressivity at high tax collection levels is a function not only of the rising economic cost of collecting tax revenue, but also of the need for broad-based taxes to support large governments.

Factors that contribute to the economic cost of heavy taxation include not only high tax rates themselves, but also a high degree of responsiveness of economic activity to taxation. There is ample evidence that, in the modern era, economic activity has become considerably more responsive than before to taxation, this sensitivity being attributable in large part to technology changes and the globalization of the world economy. Firms seeking to maximize after-tax returns have extensive options among production locations, suppliers, and final markets, all located in jurisdictions with potentially very different taxes. High tax rates discourage economic activity in part by encouraging the activity to relocate to tax-friendlier jurisdictions.

Governments attempting to raise significant tax revenue in this environment are understandably loath to do so with taxes that have the

effect of driving businesses to other locations. As a result, the range of attractive tax options narrows to those whose burdens are largely borne by fixed local factors, specifically land and labor, as land is unable to relocate and labor is often not much more mobile than land. Given that land is simply not valuable enough for land taxes to finance much of the needs of modern governments, it follows that labor taxes are instead likely to represent the mainstay of modern government finance. Labor income can be taxed in many guises, including by personal income taxes, social insurance contributions, and expenditure taxes. Of these, personal income taxes bear only partly on labor income, as personal income that forms the tax base commonly includes returns to saving and investing. By contrast, social insurance taxes are usually flat-rate taxes on wages and salaries, and expenditure taxes do not (in present value) tax the expected return to saving and investing, so effectively tax labor income. Consequently, modern developments give governments strong incentives to rely on social insurance and expenditure taxes.

There is evidence that governments have responded to these incentives. Small countries, whose economies depend to the greatest extent on international trade and foreign investment, and who therefore have long faced more elastic tax bases than larger countries, rely on corporate and personal taxes much less than do large countries. Small countries largely use expenditure taxes instead of income taxes. In a cross-sectional study of national tax patterns in 1999, Hines and Summers (2009) report that a ten percent smaller national population is associated with a one percent smaller ratio of personal and corporate income tax collections to total tax revenues. Over time, the experience of small countries is likely to become the experience of all countries, as technological advances, and accompanying globalization, increase the elasticity of economic activity to taxation, pushing governments ever more strongly in the direction of taxing fixed labor rather than mobile business capital.

4. Conclusion

Throughout the modern era, the United States has maintained a smaller government sector than have other large high-income coun-

tries, and consequently U.S. tax collections have represented a relatively small fraction of national income. This pattern can be viewed in two ways. From one perspective, there appears to be significant unused tax capacity in the United States, so the tax increases necessary to finance significant U.S. government debts are well within the capacity of the U.S. economy. From another perspective, the United States in recent decades has demonstrated that it is unwilling to demand of its residents large tax payments. This tension, between the capacity of the economy and the realities of political decision making, leaves the course of future policy far from certain.

Some aspects of future tax policy have predictable features. It is unlikely that business and personal income taxes will be used to generate significant additional future tax revenues, since current economic forces, if anything, put downward pressure on these taxes. Since the United States has relied to a greater extent on income taxation than have other high-income countries, reducing reliance on income taxes entails a significant restructuring of revenue sources. The additional resources necessary to pay the country's debts are likely to come instead from social insurance and expenditure taxes. Consequently, greater U.S. tax collections in the future will almost surely entail a tax system that is less progressive than is the current U.S. system. This reality generates considerable political anguish, which may be a good part of the reason why the country has for so long put off dealing with its fiscal imbalances.

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