SPECIAL REPORT

DOES THE U.S. CORPORATE TAX HAVE A FUTURE?

By Eric Engen and Kevin A. Hassett

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I. Introduction

The corporate income tax has been levied on a permanent basis in the United States since 1909, when it was introduced at the rate of 1 percent. Almost one hundred years later, the U.S. federal tax rate for most corporations is 35 percent, and state taxes on average add another 4 percent tax. When corporate income is delivered to shareholders, it then faces a dividend tax. With combined federal and state personal income tax rates ranging above 40 percent for many shareholders in 2002, the overall marginal tax rate on distributed corporate income is likely above 60 percent, making corporate income the highest taxed form of income in the United States.

The high rates of taxation on capital income in the United States stand in marked contrast to the implications of optimal tax theory in the economics literature. Over the past three decades, numerous studies — including Diamond (1973); Feldstein (1978); Auerbach (1979); Atkinson and Sandmo (1980); Judd (1985, 1999); Chamley (1985, 1986); Lucas (1990); Bull (1993); Chari, Christiano, and Kehoe (1994); and Jones, Manuelli, and Rossi (1993, 1997) — have concluded that an optimal tax system in most cases will not include a tax on capital. Judd (2001) provides a useful intuition for the result. A capital tax introduces a distortion into an economy, a distortion that "explodes" over time. Hence, even a small capital tax will not be optimal.

When capital accumulation and economic growth suffer, it is not just high-income individuals that pay the price.

When capital accumulation and economic growth suffer, it is not just high-income individuals that pay the price. Mankiw (2001) developed an interesting model that shows that this zero capital tax result is not solely a consequence of models where a benevolent social planner concerned with Pareto optimality decides on tax policy. In Mankiw's model there are two distinct types of agents: workers and capitalists. Capitalists chose the capital stock in order to maximize profits; workers supply labor. In Mankiw's model there can be a tax on capital and a tax on labor. Because workers outnumber capitalists, and the hypothesized economy is a democracy, workers effectively get to dictate the tax on capital and labor to maximize their own welfare. Mankiw shows that even in this context, workers would rationally choose to set the capital tax to zero. The intuition here is that workers are better off — their wages are higher — when the capital stock is higher, which makes workers more productive and feeds through to wages.

The U.S. income tax system is, of course, far from the optimal tax suggested by economic studies. Yet on the personal income side, the tax treatment of owner-occupied housing, IRAs, 401(k) accounts, and various types of pensions has lowered the effective tax on some capital income, effectively moving the system in the direction of a consumption tax. It might therefore behoove tax-reform-minded specialists to focus their efforts on quantifying the economic benefits associated with corporate tax reform, since the present system appears farthest from the optimum in that arena.

Charged as we are with gazing into a crystal ball, the forward-looking thesis of this paper is that pressure for fundamental corporate tax reform in the U.S. is emerging with or without the assistance of economists. Indeed, the interaction between corporate taxation and international competitiveness has become so striking in the "casual" data that a fierce international tax competition is raging. For example, it does not take a rocket scientist to recognize that between 1991 and 2000, Ireland, which has a corporate tax rate on profits from manufacturing activities of only 10 percent, posted an average growth rate of real GDP that was almost three times the average of other countries in the European Union (EU). While the U.S. has avoided engaging in this corporate tax competition over the past decade, the positive experience of those countries that have cut corporate taxes — and negative experience of those that have not — will likely have a significant impact on the U.S. tax policy debate in the coming years. Put differently, while the high tax on corporate income makes little sense from an optimal tax perspective, it makes even less sense from the perspective of international competitiveness.

We begin by documenting the evolution of the relative position of the U.S. corporate tax system since the mid-1980s and show that the United States, mostly through inaction during the 1990s, has become one of the least favorable corporate tax climates among industrialized economies. We then turn to exploring the economics of tax competition and recent efforts to identify the areas of the tax code that have been most affected by it. We conclude with policy recommendations.

II. How Does the U.S. Corporate Income Tax Stack Up Against Its Competitors?

A. Statutory Corporate Tax Rates

Corporate tax systems are complicated and difficult to accurately describe. Statutory corporate tax rates are probably the most noticeable feature of corporate tax codes and are frequently used to provide a rough summary of the burden of the corporate income tax. Table 1 shows the statutory total corporate income tax rates for the United States, countries in the EU, and other industrialized economies. Like the United States, most countries have a maximum statutory corporate rate that all but relatively small corporations face, and it is only these top corporate rates that are included in the table. In countries like the United States, where corporate taxes are also applied at a level below the central government, the local corporate tax rate is also included. The average of the local rates is used if local rates vary across regions. The total corporate tax rate is adjusted to reflect whether local corporate taxes are deductible from the federal corporate tax. Finally, supplementary corporate taxes, or surcharges, are included. Taxation of corporate profits at the shareholder level is not included in these tax rates.

In the United States the top corporate federal tax rate was 35 percent in 2001. Local U.S. corporate tax rates varied from zero to 12 percent and were deductible from federal corporate taxes. Thus, statutory local corporate tax rates effectively varied from zero to 8 percent.[1] Accounting for both the federal and local statutory tax rates, the total statutory U.S. corporate tax rate in 2001 varied from 35 to 43 percent — an average of 39 percent.[2]

While the high tax on corporate income makes little sense from an optimal tax perspective, it makes even less sense from the perspective of international competitiveness.

Two noticeable features jump out in Table 1 when comparing statutory corporate tax rates across industrialized economies from 1985 to 2001. First, statutory corporate tax rates decreased substantially over this period.[3] Virtually all industrialized countries decreased their statutory corporate tax rates; only the statutory corporate tax rate in Spain remained unchanged. Sweden had the largest decline; its statutory corporate tax rate dropped 32 percentage points from 60 percent to 28 percent. Ireland's statutory rate for nonmanufacturing corporations declined by 30 percentage points, from 50 percent to 20 percent. Ireland had already reduced its corporate tax rate to 10 percent on profits generated in the manufacturing sector beginning in 1981. The total statutory corporate tax rate in the United States dropped by 11 percentage points, from 50 percent in 1985 to 39 percent in 2001. The median statutory corporate tax rate of all non-U.S. countries included in Table 1 also declined by 11 percentage points — from 46 to 35 percent —somewhat less than the 15.6 percentage-point decline in the mean of the statutory corporate rates for non-U.S. countries.

Second, as a result of tax developments in both the United States and in other countries during the 1990s, the U.S. statutory corporate tax rate is now above the corporate rate imposed by most of its economic competitors. Following the decrease in the U.S. corporate rate put in place by the Tax Reform Act of 1986, the top U.S.

[1]Other countries that have local corporate taxes in addition to those imposed by the central government include Canada, Germany, Japan, Luxembourg, Portugal, and Switzerland.

[2]Corporate surcharge taxes, such as those levied in Belgium, Canada, Germany, and Luxembourg, are not applicable in the United States.

[3]*See also* the discussion in Devereux, Griffith, and Klemm (2002).

Table 1
Statutory Corporate Tax Rates
(1985-2001, selected years)

Country	Corporate Income Tax Rate[1]				Change
	1985	1990	1995	2001	1985 to 2001
Australia	46	39	36	30	-16
Austria	61	39	34	34	-27
Belgium	45	41	40	40	-5
Canada	45	37	36	35	-10
Denmark	50	40	34	30	-20
Finland	43	25	25	29	-14
France	50	37	37	36	-14
Germany	63	58	57	38	-25
Greece	44	40	40	38	-6
Italy	46	46	53	40	-6
Ireland	50	43	38	20	-30
Japan	55	51	50	41	-14
Luxembourg	44	41	40	37	-7
Netherlands	43	35	35	35	-8
New Zealand	45	33	33	33	-12
Norway	51	51	28	28	-23
Portugal	55	40	40	35	-20
Spain	35	35	35	35	0
Sweden	60	45	28	28	-32
Switzerland	n.a.	n.a.	n.a.	21	n.a.
United Kingdom	40	34	33	30	-10
non-U.S. median	46	40	36	35	-11
non-U.S. mean	48.6	40.5	37.6	33.0	-15.6
United States	50	38	39	39	-11

[1]Maximum statutory corporate tax rate. Local corporate tax rates are included; the average local rate is used if local tax rates vary across regions. Supplementary taxes (i.e., corporate surcharges) are included. Taxation at the shareholder level is not included.

Source: AEI tax data base. Primary sources are Price Waterhouse's tax guides.

corporate tax rate in 1990 ranked fourteenth, below the median of other countries top corporate rates. However, while the U.S. corporate rate edged up over the decade, owing to the corporate tax hike in President Clinton's Omnibus Budget Reconciliation Act of 1993, corporate tax rates in other countries declined by an average of more than 7 percentage points. By 2001 the United States had the fourth highest statutory corporate rate (39 percent) of the 22 countries shown on Table 1, only narrowly behind Belgium (40 percent), Italy (40 percent), and Japan (41 percent). Belgium recently enacted a corporate tax rate reduction to 34 percent (scheduled for 2004), and Italy also appears to be on the verge of lowering its

corporate tax rate to somewhere around 33 percent. Thus the U.S. corporate tax position looks poised to erode even further in the next couple of years.[4]

Although not reflected in Table 1, corporate shareholders in the United States also face the taxation of corporate earnings on the personal income tax level. The United States, along with Belgium, Luxembourg, the Netherlands, and Switzerland, are the only countries of the 22 industrialized countries in Table 1 that do not substantially reduce or eliminate the double taxation of dividends. Many European countries allow shareholders a credit on their personal income taxes for income taxes paid at the corporate level. Hence, Table 1 understates the extent to which the United States has become a high-tax country for corporations.

B. Effective Marginal Corporate Tax Rates

The impact of taxes on marginal corporate investment decisions has often been modeled by economists through its effect on the cost of capital and summarized by the effective marginal tax rate.[5] Table 2 shows calculations developed by Devereaux and Griffith (2002)[6] of the effective marginal tax rate for corporations in the United States and most of the EU countries from 1985 to 2001. Because generous investment incentives can offset the impact on capital formation of high corporate tax rates, it is important to amend the above analysis with one of marginal rates.

The effective marginal corporate tax rate in the United States was 24 percent in 2001, 2 percentage points *above* where it was in 1985. While the Tax Reform Act of 1986 lowered the statutory marginal corporate rate, it also effectively decreased the present discounted value of depreciation allowances, therefore raising the effective marginal tax rate — and the cost of capital for corporations. In contrast, the effective marginal tax rates on corporations in the EU declined markedly over the same period. The median EU rate was 30 percent in 1985 and dropped to 20 percent by 2001; the average effective marginal corporate tax rate in the EU declined a similar magnitude. Moreover, the effective marginal corporate tax rate in the EU in 2001 was 4 percentage points below the effective marginal tax rate in the United States. Clearly, the impression one acquires about the relative position of the United States is not altered by inspection of effective marginal tax rates.

C. Effective Average Corporate Tax Rates

Devereux and Griffith (2002) suggest that discrete corporate investment decisions, such as the choice of location, depend on an effective average tax rate.[7] Table 3 shows their calculations of the effective average tax rate from 1985 to 2001 for corporations in the United States and most of the EU countries.

In 1985 the effective average corporate tax rate in the United States was 39 percent, equivalent to the median rate in the EU. While the effective average U.S. corporate rate was 6 percentage points lower in 2001 — owing to the tax reform in 1986 — the median effective average tax rate in the EU fell by 10 percentage points, and the mean effective average rate fell by more than 12 percentage points. Thus,

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[4]In 2002, countries with corporate tax rates already lower than in the United States that further decreased their corporate income tax rates included France, Greece, Ireland, Luxembourg, Netherlands, and Portugal.

[5]*See* Auerbach (1979), King and Fullerton (1984), and Jorgenson and Yun (2001).

[6]*See also* Devereux, Lockwood, and Redoano (2002) and Devereux, Griffith, and Klemm (2002).

[7]The effective average tax rate accounts for the fact that firms will locate profitable investment in countries that have the most favorable tax treatment of the project, whether through a favorable tax base or tax rate. For a marginal investment that occurs after a location has been selected, the effective average tax rate is equivalent to the effective marginal tax rate. For a highly profitable investment, the effective average tax rate approaches the statutory corporate tax rate. *See also* Fullerton (1984) for a discussion of when to use different effective tax rates.

Table 2
Effective Marginal Corporate Income Tax Rates
The European Union and the United States
(1985-2001, selected years)

Country	Effective Marginal Corporate Tax Rate[1]				Change
	1985	1990	1995	2001	1985 to 2001
Austria	25	32	28	17	-8
Belgium	30	26	26	26	-4
Denmark	n.a.	n.a.	n.a.	n.a.	n.a.
Finland	43	25	14	20	-23
France	26	20	19	21	-5
Germany	43	38	37	28	-15
Greece	33	30	30	28	-5
Italy	23	31	38	9	-14
Ireland	0	6	7	7	7
Luxembourg	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	31	24	24	24	-7
Portugal	48	24	24	20	-28
Spain	22	25	26	29	7
Sweden	43	29	16	16	-27
United Kingdom	17	23	23	20	3
EU[2] — median	30	25	24	20	-10
EU[2] — mean	29.5	25.6	24	20.4	-9.1
United States	22	23	23	24	2

[1]Effective marginal corporate tax rate in the manufacturing sector. Assume that the tax is on return from investment in plant and machinery and it is financed by equity or retained earnings. Local corporate tax rates are included; the average local rate is used if local tax rates vary across regions. Supplementary taxes (i.e., corporate surcharges) are included. Taxation at shareholder level is not included.

[2]Excluding Denmark and Luxembourg, for which data are unavailable. Source: Devereux, Griffith, and Klemm (2002). Data available at: http://www.ifs.org.uk/corptaxindex.shtml

in 2001 the United States was tied with Greece for the third highest effective average corporate tax rate, only slightly behind Belgium and Germany (both at 34 percent).[8]

D. VAT Rates

While corporate rates have been declining, value added tax (VAT) rates have increased steadily in EU countries, as shown in Table 4. Because VATs are border adjusted, their presence does not harm the competitiveness of domestic firms. Therefore, the trend in VATs is consistent with the view that tax competition has put significant pressure on tax authorities in these countries.

[8]The average corporate rates for Greece and Belgium will be lower after 2001 as Greece lowered its top statutory corporate tax rate by 2.5 percentage points in 2002 and Belgium will lower its corporate rate by 6 percentage points in 2004.

Table 3
Effective Average Corporate Income Tax Rates
The European Union and the United States
(1985-2001, selected years)

	Effective Average Corporate Tax Rate[1]				Change
Country	1985	1990	1995	2001	1985 to 2001
Austria	50	36	31	27	-23
Belgium	39	35	34	34	-5
Denmark	n.a.	n.a.	n.a.	n.a.	n.a.
Finland	53	34	20	25	-28
France	41	30	29	30	-11
Germany	55	50	49	34	-21
Greece	39	36	36	33	-6
Italy	37	40	47	29	-8
Ireland	6	8	8	8	2
Luxembourg	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	38	30	30	30	-8
Portugal	52	33	33	29	-23
Spain	30	31	31	32	2
Sweden	54	38	23	23	-31
United Kingdom	31	29	28	26	-5
EU[2] — median	39	34	31	29	-10
EU[2] — mean	40.4	33.1	30.7	27.7	-12.7
United States	39	32	33	33	-6

[1]Effective average corporate tax rate in the manufacturing sector. Assume that the tax is on return from investment in plant and machinery and it is financed by equity or retained earnings. Local corporate tax rates are included; the average local rate is used if local tax rates vary across regions. Supplementary taxes (i.e., corporate surcharges) are included. Taxation at shareholder level is not included.

[2]Excluding Denmark and Luxembourg, for which data are unavailable. Source: Devereux, Griffith, and Klemm (2002). Data available at: http://www.ifs.org.uk/corptaxindex.shtml

III. The Economics of Tax Competition

There are significant potential advantages from the development of global capital markets. An international capital market tends to allocate capital to its most productive uses. Risk diversification can also be more easily achieved in a global capital market. Furthermore, international capital markets can restrain policymakers by creating competition between countries for highly mobile capital. The competition for capital across countries puts downward pressure on capital taxes because countries that attract the most capital will benefit at the expense of their neighbors.

If capital can move freely across country borders, it will tend to leave high-tax countries to go to low-tax countries. Also, accounting procedures can allow the tax base for corporate income taxes to shift to a different country even when the physical capital does not move. Transfer pricing adjustments or the relocation of a corporation's headquarters (or corporate inversion) are both ways in which a multinational

Table 4
Value-Added Tax Rates
The European Union and the United States
(1985-2001, selected years)

Country	VAT rate[1]				Change
	1985	1990	1995	2001	1985 to 2001
Austria	20	20	20	20	0
Belgium	19	19	20.5	21	2
Denmark	22	22	25	25	3
Finland	16	17	22	22	6
France	18.6	18.6	20.6	19.6	1
Germany	14	14	15	16	2
Greece	0	18	18	18	18
Italy	18	19	19	20	2
Ireland	23	23	21	20	-3
Luxembourg	12	12	15	15	3
Netherlands	19	18.5	17.5	19	0
Portugal	17	17	17	17	0
Spain	0	12	15	16	16
Sweden	23.5	25	25	25	1.5
United Kingdom	15	15	17.5	17.5	2.5
EU — median	18	18.5	19	19.6	1.6
EU — mean	15.8	18	19.2	19.4	3.6
United States	0	0	0	0	0

[1]The VAT is the effective general consumption tax rate levied by the central government at each stage of production based on the value added to the product at that stage.

Source: International Tax Summaries, Coopers & Lybrand International, and Tax Summaries, Price Waterhouse.

corporation can shift profits from high-tax countries into low-tax countries more quickly than moving physical capital.

As mentioned in the introduction, an optimal tax system in a dynamic setting will set the capital tax to zero. Even in models that have only one period, it is possible to generate equilibrium outcomes that produce a very low or zero capital tax. If capital is highly mobile and immobile workers receive a wage that equals their marginal product, a country can increase the welfare of its own workers by luring capital away from other countries with low taxes. In such settings, it is often the case that tax competition can push the capital tax rate to zero.[9]

[9]*See* Gordon and Hines (2002) for a thorough review of the international tax competition literature. Wilson (1999) also provides an excellent view of the literature on tax competition. As noted in Wilson (1999), much of the literature on tax competition leads to the conclusion that competition can be harmful because it leads to lower levels of public good provision. The models in this literature do not, however, have the same general dynamic framework as the optimal capital tax literature pioneered by Judd (1985), and hence it is difficult to assess the practical importance of the conclusion that tax competition is harmful.

But do countries compete? Which measure of the corporate tax rate — statutory, marginal, or average — should policymakers focus on? As previously mentioned Devereux and Griffith (2002) developed a model demonstrating that countries may wish to lower the statutory corporate tax rate. Also, countries may wish to adjust the tax base to lower the effective average corporate tax rate while paying attention to their relative effective marginal tax rate. Their reasoning is that the plant location is a discrete decision that locks a firm into a whole-time path of payment well described by the average rate. For plant location, the effective average corporate tax rate is the most relevant. Yet, conditional on the choice of location, the magnitude of investment depends on the effective marginal tax rate. The statutory tax rate affects both the average and the marginal rates.

Devereux, Lockwood, and Redoano (2002) find empirical evidence that countries do indeed compete over all three corporate tax rate measures by estimating other countries' reactions. They find strong evidence that countries tend to lower their tax rates when they find that they have become higher than the average of other countries. Both marginal corporate tax rates and average corporate tax rates matter in determining competitiveness.

IV. Tax Competition: A Race to the Bottom or a Race to an Optimal Tax Rate?

Because tax competition puts downward pressure on corporate taxes, international organizations such as the EU and OECD have experimented with efforts to stave off what some have called "harmful" tax competition. Despite whether one believes that tax competition is harmful or not, these efforts have been unsuccessful. For example, in 1992 the EU's Ruding Committee proposed a minimum statutory corporate tax rate of 30 percent, a rate well below the corporate tax rates of every EU country at that time except Ireland and Finland. Today, more than a third of EU countries have corporate tax rates below 30 percent.

That the EU would be the playing field for tax competition might seem surprising since the governments of these nations are often perceived to be more oriented toward highly redistributive objectives. While there may be some erudite European policymakers aware of the nuances of optimal tax theory that suggest that the distributional feedback effects through wages can be important, recent research suggests that the raw economic numbers have likely had a significant impact on the evolution of the corporate tax competition. For example, a recent IMF study found that from 1988 to 1997, OECD countries with high corporate tax rates relative to their competitors' experienced sharp capital outflows over time, and *declines in corporate tax revenue.*[10] The latter point is worth emphasizing because observations on the wrong side of the Laffer curve are so infrequent in the "real world." Because capital and profits are apparently highly mobile, a decrease in corporate tax revenue results when corporate tax rates are raised.

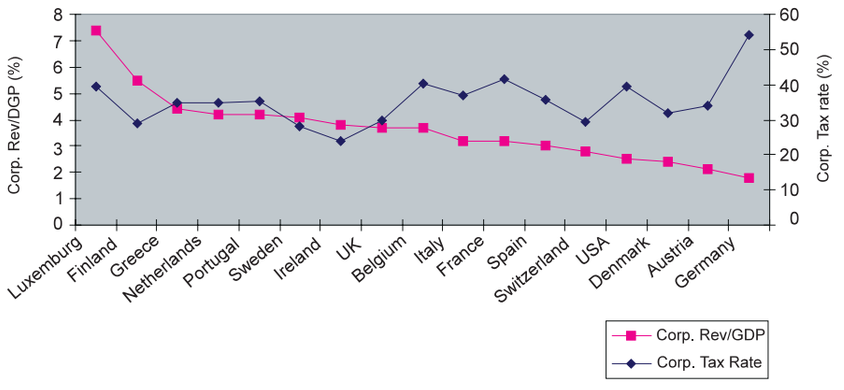
Figure 1 shows the negative relationship between corporate tax revenues, measured as a ratio to GDP, for the U.S. and most European countries and their statutory corporate income tax rates in 2000. The correlation coefficient between corporate tax revenues and corporate tax rates in this chart is -0.21. Even if the extreme data points for Luxembourg — with the highest corporate tax revenue relative to GDP — and Germany — with the highest corporate tax rate and lowest corporate tax revenue — are eliminated, the correlation is still similarly negative at -0.28.[11]

Further evidence of this Laffer curve effect is provided by Devereux, Griffith, and Klemm (2002). Their study of tax rates in the EU and G7 countries includes a historical review of trends in the key variables and attempts to identify stylized

[10]Gropp and Kostial (2001)

[11]Similar results were found for these countries using data from 1999.

Figure 1
Corporate Tax Rates and Corporate Revenues in Europe and the United States in 2000



Source: Tax Database & Revenue Statistics 2002, OECD.

facts that would be useful to theorists studying tax competition. Devereux, Griffith, and Klemm document that corporate rates have fallen in the 1980s and 1990s, as was shown above in Tables 1 through 3. They also note that "tax revenues on corporate income have remained broadly stable as a proportion of GDP since 1965," which might be surprising given the marked drop in corporate tax rates.[12] The pattern has been even more apparent in the extreme cases. For example, they found that Ireland, which has a 10 percent rate on manufacturing activity, had such a dramatic increase in inward activity that corporate income tax receipts increased as a share of GDP, which is shown in Figure 2.

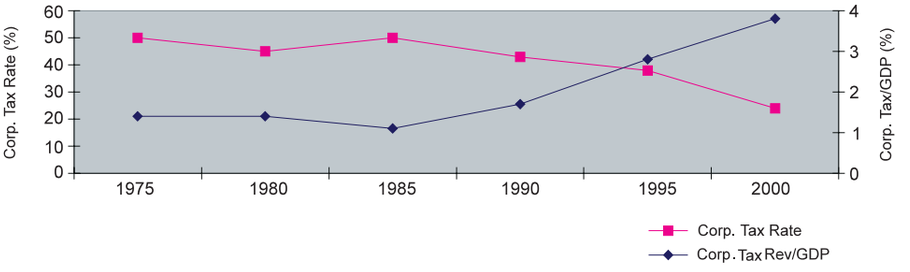
That such high elasticities with respect to tax rates might be observed should not be surprising. Today's multinational corporations have evolved in a world that rewards firms that can flexibly relocate activity to the choicest environment. Moreover, once a firm has engaged in greenfield investments, transfer pricing techniques can sharply increase the profitability of assets in low-tax jurisdictions. Combining the two effects, it is easy to see how very high elasticities of tax revenue with respect to the corporate tax rate could be observed.

These results highlight the pressure that the international competitive environment has increasingly put on revenue authorities. To some extent, the United States, which is separated from many of its closest developed competitors by oceans, has been less affected by these forces. But because of this, the United States has seen its corporate tax code become one the least advantageous among major industrialized nations.

Technological advances in computer and telecommunications technology have certainly made the world a smaller place, making it easier for firms from every corner of the world to compete with firms in every other corner. This dramatic decline in the real barriers to international activity has created a circumstance wherein subtle variations in local economic climates can lead to large differences in economic outcomes. The response of national policymakers to these new circumstances has been clear. Tax competition has led to sharply lower corporate tax rates and gradually rising VATs. Because fundamental tax reform ideas that have grown out of the optimal tax literature often suggest replacing the income tax with a

[12]Devereux, Griffith, and Klemm (2002) p. 22.

Figure 2
Corporate Tax Rates and Corporate Revenues in Ireland, 1975-2000



Source: Revenue Statistics 2002, OECD.

consumption tax, one can state that tax competition has pushed national tax systems in the direction of an optimal tax. Indeed, if current EU trends continue, the corporate tax may virtually disappear and be replaced by revenue from the VAT in just a few decades.

V. Whither the U.S.?

The evidence on tax competition suggests that countries have tended to adopt corporate tax reductions when they find that they have fallen behind their competitors and have a higher rate than average. Accordingly, the evidence suggests that the United States might well be close to a major corporate tax reform. What types of reforms might be considered? Ireland's experience suggests that gains from being ahead of the competition can be extraordinary. Given the path of policy that we identified in the previous section, a natural candidate would be a reform that abolished the corporate tax and replaced it with a VAT, a system that the rest of the world appears to be headed towards anyway.

What might such a reform look like? Using 2000 as a base year (to avoid using recession-reduced earnings data), the corporate tax-raised revenue equaled about 2 percent of GDP. Personal consumption expenditures in the same year were 68 percent of GDP. A quick-and-dirty calculation suggests that the corporate tax could be fully replaced by a VAT of about 3 percent. However, Gale (1999) has demonstrated that such calculations likely understate the true required size because they ignore several complications. While the result is somewhat sensitive to assumptions, if we employ Gale's calculations, we find that the VAT may have to be between 5 and 7 percent to replace the corporate income tax.

The optimal tax literature would suggest that the possible economic gain from such reform would be significant, as would the reduction in compliance costs. Of course, such a dramatic change would be very difficult politically and cannot be considered likely in the near term. But the evidence suggests a reform that went part of the way in that direction would have significant ripple effects, accelerating the pace at which other countries adjust their systems and setting the stage for another step in the direction of the optimal tax structure in the United States. Accordingly, absent successful attempts at tax harmonization, it seems unlikely that the corporate income tax will exist when this fine journal assembles its 60th anniversary issue.

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