Taxes Around the World:
A Brief History of World Tax Policy, 1981-2007

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Abstract

In this paper, we provide a brief overview of U.S. tax policy in relation to other OECD countries and also in some cases, in relation to world averages. The U.S. tax code emerges in our analysis is exceptional in many regards. Most countries have gradually moved toward collecting a large share of their revenue from value added taxes. This movement has generally allowed countries to reduce income tax rates relative to the U.S. The U.S. tax code also redistributes income significantly more than most of its trading partners.

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1. Introduction

In this paper, we trace the historical changes in virtually all forms of taxation across countries and over time. For practical as well as expositional reasons, the focus of the paper is mostly on the U.S. and other OECD countries. These countries have relatively better and more consistent data available and are fairly similar in their economic, political and social characteristics. However, wherever sufficient data are available, we also provide trends in other countries around the world.

In the sections that follow, we describe trends in 10 different tax rates between 1981 and 2007 across all the 30 OECD countries. For some tax variables the data are available only until 2004 or 2005, and we will clarify the data availability in the next section. The simple agenda guiding our analysis is to provide a description of how taxes have changed around the world since 1981, with a brief reflection on what these changes might mean for the relative position of U.S. with respect to the rest of the world.

Section II describes the data and the sources of the data. Section III describes trends in tax rates and tax revenues. Section IV offers a brief discussion of the proposed tax hike under the new administration and Section V concludes.

II. Data Sources

Table 1 discusses the sources and availability for our data on tax rates as well as tax revenues. All the revenue data come from the OECD Database on revenue statistics and include the total of central and local government revenue. All the tax data come from AEI’s International Tax Database which itself uses various sources including PriceWaterHouseCoopers’ Worldwide Tax summaries (various editions) Ernst & Young,
and the OECD tax database. These data are described in detail in the appendix. All tax rates are federal (central) government rates, except for effective marginal corporate tax rates where local (sub-central) corporate rates are used. GDP per capita data comes from the International Financial Statistics published by the International Monetary Fund.

The countries included in the analysis are the OECD member countries. These 30 countries are Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States. Eastern European countries are only included for the later part of the sample, from the mid-1990s. The AEI tax database has information on almost 128 countries for 1981-2007. However, we do not have reliable data for several of the non-OECD countries. Therefore, we provide world averages only where such data are available.

As Table 1 shows, all revenue data are available through 2005. Corporate and personal tax rates are available through 2007. Payroll tax rates are available through 2004 while VAT rates are available through 2006. Note that any tax rate constructed using either the payroll or the value added tax will therefore have data available only until 2004. This applies, for instance, to our progressivity measure. When measuring progressivity using only the personal tax rates, the data are available through 2007. However, when we include a more comprehensive measure of labor taxation, which includes not just the personal tax rate but also payroll and value-added taxes, these data are available through 2004 only.

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1 Access to the data can be made available upon writing to the authors.
2 It is important to keep in mind that the countries included in the world averages are not the same group for every calculation. Where relevant, we highlight the importance of this in the text below.
We also provide charts showing the distribution of countries at different tax rates or revenue levels, at different points in time. For these distribution charts, we show the earliest year available (i.e. 1981), the last available year and an intermediate year. ³

III. Tax Rates and Revenues in the OECD

III.A. Corporate Income Tax Revenues

To enable meaningful comparisons of corporate tax revenues across countries, we scale tax revenues in each country by GDP. In the charts shown here, (and all other charts to follow), we show separate trend lines for the U.S. and the other OECD countries to show the country’s historical and current position relative to other OECD countries.

For the average OECD country, corporate income tax revenues relative to GDP have been increasing between 1981 and 2005 from about 2 percent to 3 percent. However, the variation across countries is considerable. Some countries, such as Luxembourg and Norway raised more than 7 percent of GDP from corporate income tax revenues at the beginning of this decade, while others such as Switzerland and the U.S. raised slightly more than 2 percent.

Further, for most countries, the ratio of revenues to GDP increased over this period. In fact, countries like Ireland have

³ Data for other years are available on request.
more than doubled their corporate tax revenue to GDP ratio over this period. This is not surprising since Ireland is known for its success in attracting corporate capital after having substantially lowered its corporate tax rate. There were only a few exceptions. In 1981, the U.S. raised about 2.3 percent of GDP from revenues, but between 2000 and 2004, it raised between 1.7 to 1.9 percent of GDP from revenues. The 2005 number was slightly higher than 1981, leading to the upward spike in the chart. The chart also shows that for the U.S., revenues dipped substantially below the OECD average in 1983, 1987 and peaked in 1995. Japan is another country that has seen a decline in the revenue to GDP ratio over this period. In 1981, Japan raised more than 5 percent of its GDP from corporate tax revenue while in 2005 it raised close to 4 percent.

There are a number of reasons for the variation in corporate tax revenues over time. Auerbach and Poterba (1988) consider the sources of the gradual decline in U.S. corporate income tax revenues over the period 1959–1985; Douglas (1990) does a similar analysis for Canada over the period 1960–1985. Neither decline is visible in our charts. Both papers decompose the tax revenue share into the tax rate and the profit rate. Both studies conclude that it is declining profitability, rather than declining tax rates, that explains the bulk of the reduction in corporate income tax revenues.

For the more recent period, Clausing (2007) provides a decomposition of revenues based on factors such as the rising corporate profits, rising fraction of income considered taxable and an increase in the relative size of the corporate sector. For instance, while the average OECD country had about 55 percent of its GDP as corporate value added over this period, there is a lot of variation across countries. The United Kingdom (66%), the United States (62%), and Switzerland (68%) have large corporate
shares, while Greece (28%), Poland (45%), and Portugal (48%) have small corporate shares.

The OECD also reports the operating surplus of the corporate sector, a variable closest to representing corporate profits. This variable has been trending upwards over time, so perhaps this accounts somewhat for the rising corporate tax revenues of the average OECD country. This would be consistent with the earlier Auerbach and Poterba analysis. Operating surplus is about 33% of corporate value added at the beginning of the sample, rising to 39% of corporate value added by the end of the sample. A final explanation for rising revenues that has been emphasized in the literature is the tendency for OECD countries to engage in base-broadening tax reform efforts over this period. The best treatment of these trends in the prior literature is Devereux et al. (2002). After a detailed examination of data from 16 OECD countries, the authors present the broadening of the corporate income tax base as a stylized fact of their time period (1982–2001), a time period which closely overlaps with that under consideration here.

Any discussion of revenues, however, is incomplete without an analysis of trends in corporate tax rates which we turn to in the next section.
The last two decades have seen considerable reforms in corporate income taxation in major industrialized countries. Many countries, including the United States, apply statutory tax rates to taxable corporate income according to a schedule—that is, they tax different portions of taxable income at different rates. We have limited the comparisons we present to the top corporate tax rates in those schedules, as these apply to most corporate income. An international comparison of, for example, intermediate statutory corporate tax rates would add little information about investment incentives because most corporate investment is undertaken by corporations that face the highest statutory rates.

The top statutory corporate tax rates in 2007 among the 30 members of the Organization for Economic Cooperation and Development (OECD) ranged from 8 percent in Switzerland and 12.5 percent in Ireland to 35 percent for the U.S.. Hence within the OECD countries, the U.S. has the highest statutory rates of taxation. The picture changes only marginally when we add the sub national corporate tax rates to the top national rate. In the case of the United States, the top statutory rate imposed in 2007 at the federal level on business income subject to the corporate income tax was 35 percent, and the average top statutory corporate income tax rate imposed by states in that
year added just over 4 percent (after accounting for the fact that state taxes are deducted from federal taxable income)—for a combined top statutory rate of 39.3 percent. Among all OECD countries in 2007, the United States’ top statutory combined corporate tax rate (with the local rates) was the second highest, after Japan (39.5 percent).

Statutory rates amongst OECD countries have fallen from an average of about 45 percent in the early 1980s to less than 25 percent in 2007. The main wave of reforms occurred in the mid to late 1980s but has continued in the 1990s and the early part of this decade. In fact, a recent survey conducted by KPMG (2008) concluded that for the first time since 1994, none of the 106 countries covered by the survey, raised its corporate tax rate. The U.S., however, has not changed its top statutory rate since the mid 1990s.

In fact, if we look at the frequency distribution of countries (using a kernel estimator) at different tax rates in 1981, 1994 and 2007, we can see a striking change in the U.S. position relative to other OECD countries. In 1981, the bulk of OECD countries had an average tax rate of slightly above 40 percent. The U.S. rate was about 4 to 5 percentage points higher than that, at 46 percent. In 1994, the U.S. tax rate was close to the average for the bulk of OECD countries, at approximately 35 percent. However, in 2007, with no change in the top rate since the 1990s, the U.S. is now amongst the very few OECD countries that have tax
rates above 30 percent. Thus, the competitive gap between U.S. and OECD corporate tax rates has opened up since the 1990s primarily because of widespread and substantial rate reductions abroad, rather than any significant corporate tax increase in the United States. This is true not just for the U.S.’s relative position in the OECD economies, but also its position relative to all other countries on which we have information. In 1981 and also in 1994, the U.S. tax rate was approximately at the same level as that for the majority of countries. However, in 2007, the U.S. tax rate is higher than almost every other country in the sample. Hence these charts show that the U.S. corporate tax rate is increasingly out of line, not just when we compare to other OECD economies, but also when we consider developing countries.

III.C. Effective Marginal Corporate Tax Rate

Several authors have questioned whether focusing on statutory tax rates exaggerates the anticompetitive impact of the high U.S. corporate tax rate on the grounds that the “effective” tax rate is less than the statutory rate. For example, 2005 data from Schedule M-3 of the corporate income tax return suggest that the “book” effective tax

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rate was 25.3 percent, determined by dividing U.S. corporate income tax liability before foreign tax credits by pretax book income of the tax consolidated group. From an international competitiveness standpoint, however, the issue is not whether the effective tax rate is less than the statutory rate, but how the U.S. effective tax rate compares with the effective tax rates in other countries. There are a variety of ways in which an “apples-to-apples” comparison can be made. One is to consider a representative company in a typical year of operation and compute the taxes it would pay if located in different countries as a percent of its financial income using standardized financial accounting (a “book” measure of effective tax rate). This is the approach used by the World Bank in its annual Doing Business report. According to the World Bank Doing Business 2009 report, the U.S. book effective tax rate in 2008 was quite high by global standards, ranking 50th highest out of 181 countries (top 28th percentile), and was also high by comparison to OECD member countries, ranking 7th highest out of 30 (top 23rd percentile). But the position of the U.S. is not as much an outlier as it is with the statutory rate.

Another approach for calculating effective tax rates, developed by economists, is to calculate the “tax wedge” between the pre-tax and post-tax internal rate of return on a new investment that either just breaks even or earns a higher rate of return due to some element of market power. To calculate these rates, we used the methodology discussed in

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5 Charles Boynton, Portia DeFilippes, and Ellen Legel, “A First Look at 2005 Schedule M-3 Corporate Reporting,” Tax Notes, Nov. 3, 2008, p. 563, Doc 2008-22309, or 2008 TNT 214-23. For tax year 2005, U.S. corporate tax liability was $263 billion, foreign tax credits were $77 billion, and pretax book income for the includable group was $1.345 trillion.
Devereux and Griffith (1999). The approach in the paper is to consider the net present value of the income stream from an investment and the net present value of the cost of the investment. In the usual fashion, the effective marginal tax rate (EMTR) is the tax rate on the marginal investment, where the marginal investment equates the net present value of the income stream to the net present value of costs from the investment. The effective average tax rate (EATR) can be computed as the difference between the pre-tax and the post-tax economic rent scaled by the net present value of the pre-tax income stream $Y_i^*$. Conceptually, the EATR can be expressed as follows,

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\zeta_i = \frac{(R_i^* - R_i)}{Y_i^*}
$$

Where $R_i^* = Y_i^* - F_i$ is the pre-tax economic rent and $F_i$ equals the fixed cost. $R_i = (1 - \tau_i)Y_i^* - (1 - A_i)F_i$ is the post-tax economic rent calculated as the net present value of the income stream post-tax minus the net cost of the investment. $A_i$ is the net present value of tax allowances per unit of investment and $\tau_i$ is the statutory tax rate. In other words, the EATR summarizes the distribution of tax rates for an investment project over a range of profitability, with the EMTR representing the special case of a marginal investment. We computed the EATR and the EMTR for all countries in the sample and for each time period using the methodology outlined in Devereux et al. (1999), assuming fixed parameter values for the economic depreciation rates, the inflation rate and the annual discount rate.$^8$

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$^8$ To calculate EATR and EMTR, we assume an economic depreciation rate of 12.25%, a real annual discount rate of 10% and an expected annual inflation rate of 3.5% for all countries and all years. These are the assumptions made by Devereux, Griffith and Klemm (2002). Author calculations are available upon request.
The chart below shows the U.S. effective marginal corporate rate relative to the distribution of this rates for other OECD countries in 1981, 1994 and 2007. Even using this measure, we find that currently, the U.S. is to the right of the mode of the distribution. In other words, the U.S. effective marginal tax rate is among the highest in the OECD, though it again is not as much an outlier as it is for the statutory rate.

Doing the same analysis for the effective average tax rate, we find a somewhat similar picture. The U.S. effective average tax rate has remained the same between 1981 and 2007. However, with the decline in rates in other OECD countries, the U.S. currently has one of the highest average tax rates and is to the right of the mode of the distribution.
III.D. *Individual Income Tax Revenue*

Income tax revenues generally rise and fall with the economy, and changes in the level of economic activity explain some of the fluctuation in nominal revenues.\(^9\) For the U.S., from 1946 to 2007, income tax revenues averaged just over 8 percent of GDP. Previous revenue peaks occurred at the end of the 1960s and the beginning of the 1980s. Revenues reached 9.2 percent of GDP in 1969 following enactment of surtaxes during the Vietnam War era but fell in 1971 when those surtaxes expired. Revenues peaked again in 1981 at 10.2 percent of GDP as a result of high inflation and an income tax structure that was not indexed to inflation, causing more income to be taxed at higher rates. The 1981 tax cuts offset that rise and drove down the revenue share of GDP over the next few years. From 1994 to 2000, income tax revenues grew by 85 percent compared with growth of only 39 percent for nominal GDP. That growth increased the ratio of income taxes to GDP by 2 percentage points—from 9 percent to just over 11 percent, a historic high. In the following four years, that trend reversed, and individual income taxes dropped precipitously, falling to 8.0 percent of GDP by 2004, the lowest level in more than 50 years. Revenues rebounded in the next three years, rising to 8.8 percent of GDP by 2007. Those changes in individual income tax revenues relative to the economy present a complicated story. The key factors

\(^9\) Includes both central and local government revenue.
include: A rising and falling income tax base, resulting from growth in wages and capital gains realizations that first exceeded and then lagged behind overall economic growth; A rising and falling effective tax rate on adjusted gross income, caused by changes in real (inflation-adjusted) bracket creep and a concentration of income in higher tax brackets; and Tax legislation, which was a major factor in the decline in income taxes relative to GDP from 2000 to 2004 but had little to do with the increase from 1994 to 2000. (CBO, 2008). Over the same period, for the other OECD countries, the share of personal income tax as a percentage of GDP has been relatively stable since the early 1980s. While taxes on personal income were 7 per cent of GDP on average among OECD countries in 1965, the share had increased to 10.4 per cent of GDP by 1980 and has since been stable fluctuating between 8 and 10 per cent of GDP. In 2005, the share had decreased to 8.4 per cent of GDP.

However, the overall OECD average conceals large differences between OECD countries. In 2005, personal income tax as a percentage of GDP, varied from 2.9 per cent in Korea and 2.5 per cent in the Slovak Republic to 15.7 per cent in Sweden and 24.4 per cent in Denmark. This clearly illustrates the large differences in tax policies between OECD countries, where countries differ on policies concerning both how much and how to tax personal income.

There are also large differences between countries in the development over time. While some countries rely less on personal tax revenues in 2005 relative to 1981, others have increased their share of revenue to GDP. For instance, the share has gone up in countries like France, Italy and South Korea and it has reduced substantially in several countries such as the U.S., Sweden, Japan and New Zealand. This reduced reliance on
personal income taxes in recent years is partly due to changes in tax policy, e.g. reflecting an increased reliance on social security contributions and/or consumption taxes over income taxes. Partly, it is the result of fundamental tax reform in many countries, where tax base broadening went together with cuts in statutory tax rates. The chart shows where the U.S. stood relative to the other OECD countries at different points of time.

Across the three years, the U.S. revenue to GDP ratio has remained fairly similar to the average for all other OECD countries. In 2005 (the latest year available), the U.S. had marginally higher revenues than the average OECD country.

III.E. Top Marginal Personal Tax Rate

The trend towards reduced rates started in the mid-1980s in most countries, and even earlier in some countries. In the late 1970s it was not uncommon to find top marginal personal income tax rates between 70 and 80 per cent, while it is now well below 50 per cent in a majority of OECD countries. Many OECD countries have reformed their personal income tax system over the last two decades. These reforms have tried to create a competitive fiscal environment, which encourages investment, risk taking and entrepreneurship and provides increased work incentives. At the same time, fairness
and simplicity have become the byword of reformers. Fairness requires that taxpayers in similar circumstances pay similar amounts of tax and that the tax burden is appropriately shared. Simplicity requires that paying your taxes becomes as painless as possible and that the costs of collecting taxes are kept at a minimum. Almost all of these tax reforms reduced the tax rates and broadened the tax base.

The unweighted OECD average of the top marginal income tax rates on labor income has decreased from 59.5 percent in 1981 to 36.1 percent in 2007. A reduction is also observed with respect to the top marginal tax rates on dividend income. This is part of a general trend of reducing tax rates at all income levels. It also suggests a reduction in the use of high marginal rates for top-income earners as a vehicle for income redistribution. As part of a trend towards “flatter taxes”, many countries have reduced the number of tax brackets. This trend – also caused by the reduction in the top marginal income tax rates – has continued after 2000. The number of brackets in the personal income tax system in 2005 varies from just one rate in the Slovak Republic to 16 in Luxembourg.
For the U.S., the chart clearly shows that there were frequent changes to the top marginal tax rate with the rates being lowered till 1993, and then raised to about 40 percent prior to the tax reforms in 2001 and 2003. The U.S. reduced its top rate by over 13 percent between 2000 and 2007, dropping it to 14\textsuperscript{th} highest place in the OECD rankings of countries with the highest tax rates. If no other country had reduced its tax rates, the U.S. would stand at 26\textsuperscript{th} highest, but the strong tax-cutting trend in other OECD countries blunted the impact of the 2001 rate cuts.

In fact, relative to other OECD countries, in 2007, the U.S. personal tax rate was less than the rate for the majority of OECD countries, as shown by the chart. However, it was slightly higher than the rate for the majority of other countries around the world as seen in the chart below.
High personal tax rates introduce distortions in the labor market. In a 2004 paper, Davis and Henrekson investigate the long run response to national differences in tax rates on labor income, payrolls and consumption. The theory implies that higher tax rates reduce work time in the market sector, increase the size of the shadow economy, alter the industry mix of market activity, and twist labor demand in a way that amplifies negative effects on market work and concentrates effects on the less skilled. Regressions on rich-country samples in the mid 1990s indicate that a unit standard deviation tax rate difference of 12.8 percentage points leads to 122 fewer market work hours per adult per year, a drop of 4.9 percentage points in the employment-population ratio, and a rise in the shadow economy equal to 3.8 percent of GDP. It also leads to 10 to 30 percent lower employment and value added shares in retail trade and repairs, eating, drinking and lodging, and a broader industry group that includes wholesale and motor trade.

III.F. Progressivity

The overall system of taxation in the United States is progressive. By a progressive tax system, we mean that the percentage of income an individual (or household) pays in taxes tends to increase with increasing income. Not only do those with higher incomes pay more in total taxes, they pay a higher rate of taxes. For example, a person making $100,000 in a year might pay 25% of their income in taxes ($25,000 in taxes), while someone with an income of $30,000 might only pay a 10% tax rate ($3,000 in taxes). A tax system may also be regressive or proportional. A regressive tax system is one where the proportion of income paid in taxes tends to decrease as one’s income increases. A proportional tax system simply means that everyone pays the same tax rate regardless of income.
The overall tax system of the United States, and in most other countries, is progressive for a number of reasons. A progressive tax embodies the concept that those with high incomes should pay more of their income in taxes because of their greater ability to pay without critical sacrifices. By paying a tax, any household must forego an equivalent amount of spending on goods, services, or investments. For a high-income household, these foregone opportunities might include a second home, an expensive vehicle, or a purchase of corporate stock. A low-income household, by comparison, might have to forego basic medical care, post-secondary education, or vehicle safety repairs. As income increases, the opportunity costs of paying taxes tend to be associated more with luxuries rather than basic necessities. The ability-to-pay principle recognizes that a flat (or regressive) tax rate would impose a larger burden, in terms of foregone necessities, on low-income households as compared to high-income households.

For our purposes, we would like to compare the progressivity of the U.S. tax system with that of other countries. One measure that has been proposed includes constructing a Lorenz curve distribution of the inequality in average taxes paid by households at different levels of the income distribution.\(^{10}\) However, these kinds of measures are difficult to

\(^{10}\) Kakawani (1977) and Suits (1977).
implement across countries without detailed knowledge of tax codes, income distributions etc. A more direct measure that we propose is to look at the ratio of the tax rate imposed on the lowest income households to the tax rate imposed on the higher income households. The higher the ratio, the less progressive is the tax system since it imposes a relatively higher tax rate on the lower income classes. To enable comparisons across countries, we further weight the top rate by the Gini coefficient of income inequality for each country. This captures the idea that for two countries with the same ratio of the bottom to the top, the country with the greater degree of inequality would be deemed to be more progressive because its weighted ratio would be lower than for the country with a lower degree of inequality.

In particular, we look at the inverse of the ratio of the tax rate in the top income bracket to the tax rate that a person with an income below 50 percent of the average income for the country would face. The only data that we need to carry out this analysis is data on the tax brackets in each country, the tax rate in each bracket and the incomes to which they apply and also the average GDP per capita (with all the relevant variables being denoted in terms of the local currency).

The chart shows how the U.S. compares to the other OECD countries, when we average the ratio for the other OECD countries. Using this measure, the U.S. had a progressivity ratio of 0.27 in 1981, while the average for other countries was about 0.29. The high number for the other OECD countries is driven by the rates in countries like Australia, Austria, Canada, Finland and Ireland which had ratios close to or above 0.5.
Over time, the number of tax brackets in most countries has gone down along with the top rates. For the U.S., reductions in the top rate are primarily responsible for bringing up the ratio to about 0.43 by 2007. The average for other countries in 2007 is marginally higher, at about 0.49. Hence the U.S. continues to be marginally more progressive than the OECD average. This is not a consequence of big changes in the U.S. tax code, but more a result of changes in the tax code of other OECD countries, which have become less progressive over time, using our measure of progressivity. We can see these changes looking at snapshots of where the U.S. stood in relation to the other OECD countries at different points in time. In 2007, the U.S. progressivity ratio is to the left of the mode of the distribution.

III.G. Value Added and Sales Taxes

Value Added taxes (VAT) and sales taxes are different forms of consumption taxes. A consumption tax is a tax on spending on goods and services. In other words, the base for the tax is consumption expenditures, rather than income. Sales taxes are normally only charged on final sales to consumers. Value added taxation avoids the cascade effect of sales taxes by only taxing the value added at each stage of production.
Value added taxation has been gaining favor over traditional sales taxes worldwide. In principle, value added taxes apply to all commercial activities involving the production and distribution of goods and the provision of services. VAT is assessed and collected on the value added to goods in each business transaction. Under this concept the government is paid tax on the gross margin of each transaction. In many developing countries such as India, sales tax/VAT are a key revenue source as high unemployment and low per capita income render other income sources inadequate. However there is strong opposition to this by many sub-national governments as it leads to an overall reduction in the revenue they collect as well as a loss of some autonomy.

Most countries in the world have sales taxes or value-added taxes at all or several of the national, state, county or city government levels. Countries in western Europe, especially in Scandinavia have some of the world's highest valued-added taxes. Norway, Denmark and Sweden have the highest VATs at 25 percent, although reduced rates are used in some cases, as for groceries and newspapers. In some countries, there are multiple levels of government which each impose a sales tax. For example, sales tax in Chicago (Cook County), IL is 10.25%--the highest among major cities in the United States--consisting of 6.25% state, 1.25% city,
1.75% county and 1% regional transportation authority, Chicago also has The Metropolitan Pier and Exhibition Authority tax on food and beverage of 1% (which means eating out is taxed at 11.25%). And in Baton Rouge, Louisiana, the tax is 9%, consisting of 4% state and 5% local rate. Combined sales taxes in the town of Arab, Alabama were highest in the US at 12% in 2008 according to a study by tax firm Vertex, Inc. In Tennessee the sales tax is 9.25%, due to the lack of a state income tax. However, there is no general nationwide sales tax in the United States. For our analysis, we used a population weighted average of U.S. state sales tax rates, while all other countries use the central government VAT or sales tax rate.

The trend has been for conventional sales taxes to be replaced by more broadly based value added taxes, and the United States is now one of the few countries to retain conventional sales taxes (with no VAT). VAT has been adopted by the European Union, Mexico, Australia, Canada and many other countries. It is not surprising therefore, that the chart shows more and more countries moving towards higher VAT rates over time. This is true not just within the OECD, but also around the world. Most countries seem to be converging towards average VAT rates of about 20 to 25 percent. The U.S. sales tax rate has
remained fairly constant at about 5 percent. Therefore, as of now, the U.S. does not have a huge reliance on consumption taxes as opposed to the other OECD countries.

III.H. VAT and Sales Tax Revenues

Consumption taxes are a significant source of revenue for governments. Today, they account for more than 30% of overall taxation in OECD member countries. However, the composition of these revenues has changed over the past thirty years. Thirty years ago they were mainly taxes on specific goods and services such as excise taxes, whereas today general consumption taxes (mainly value added taxes) constitute the majority of consumption tax revenues.

Since 2000, Value Added Tax (VAT) receipts have stabilized as a percentage of both GDP and total taxation. These ratios vary considerably between countries, from Japan where VAT revenues account for less than 10 percent of total taxation and less than 2.5 percent of GDP, to Hungary and New Zealand where they account for more than 26 percent of total tax and more than 8 percent of GDP.

No other tax innovation has spread so widely or rapidly as the VAT. In half a century it has been adopted by more than 130 countries. VAT has become
the most widespread general tax on consumption demonstrating its potential to raise tax revenue in a neutral and transparent manner. The United States remains the only OECD member country without VAT.

For 2005, the chart below shows that the United States (federal government) relied less on taxes on general consumption (2.2% of GDP) than any other nation in the OECD. In fact, historically, the share of GDP derived from sales taxes has been fairly stable in the U.S., while revenues in other countries have been rising rapidly. This is the consequence of increasing consumption expenditures linked to economic growth and a growing reliance on VAT as a critical part of overall revenue generation.

III.I. Top Marginal Employee and Employer Payroll Tax

In the U.S., most income from wages and self-employment is subject to payroll taxes that help fund Social Security’s Old-Age, Survivors, and Disability Insurance (OASDI) programs and Medicare’s Hospital Insurance (HI) program. Employers and employees each pay an OASDI tax of 6.2 percent on earnings up to a certain amount ($90,000 in 2005) and a 1.45 percent HI tax on all earnings. Similarly, other countries have payroll taxes that are used to fund pension and insurance schemes. Since payroll
taxes lower the take-home pay of workers, they are said to have negative employment effects. For instance, in a study for Canada, Kugler and Kugler (2002) conclude that the sharp rise in payroll taxes following the social security reform of 1993 had significant negative effects on wages and employment. In this section, we evaluate U.S. employer and employee payroll taxes relative to the other OECD countries, both contemporaneous as well as historical.

As the chart shows, in 1981, the U.S. had zero employee payroll taxes. There were also very few OECD countries that imposed such taxes, only about 10 countries had any form of payroll taxation. The largest rates were imposed by Netherlands, Portugal, Belgium, France and Norway, either above or at 10 percent. By 2004, about 15 countries had payroll taxes-including the U.S.. The U.S. rate is one of the lowest, with only Japan and Turkey having marginally lower rates of employee payroll taxes. Note that we have
the U.S. rate at 1.45 rather than 7.65 which includes social security contributions, since social security taxes are only paid on the first $90,000 of income and therefore don’t affect the top marginal rate.

The employer portion of the payroll tax was higher than the employee portion for most countries in all years. Again, the U.S. had no employer payroll tax till 1994, when it was set to match the employee rate of 1.45 percent. It has stayed at that level since.

For most other OECD countries, the average rates have increased between 1980 and 2004, with the exception of Finland, Poland and Sweden where rates have decreased, and Japan, where rates have stayed the same. The following charts show the distribution of countries based on their respective tax rates at
different points of time. As we can see, in 1981, the bulk of countries within the OECD had employer payroll tax rates of less than 10 percent. The distribution shifted marginally to the right in the 1990s with more countries moving towards higher rates, but the trend reversed itself in 2007. The U.S. has remained to the far left of the peak of the distribution, with rates substantially lower than the average for the OECD countries. This is similarly true when we compare the U.S. to all other countries around the world. It is also true when we compare the U.S. to other OECD countries on the basis of employee payroll tax rates.

III. J. Combined Tax on Labor Income

In this final section, we look at the total tax on labor income, when we include the top personal tax rate, plus the payroll tax. In addition, individuals have to pay consumption taxes, every time they spend their labor income. Therefore, in computing the total tax on labor income, we need to
account for all these taxes on labor income.  

For the U.S., since there is no VAT, we include a weighted average of the State sales tax rate, while for the other countries we include VAT and sales tax at the central level. The chart suggests that the U.S. total tax on personal income is significantly below the OECD average in 2007, and has historically been so. It is also significantly below the world average, suggesting that workers in the U.S. are better off than workers anywhere else in the world when it comes to labor taxation.

In fact, using the same measure of progressivity that we had defined earlier, but now using the combined tax on labor income to define the ratio of taxes paid by those with incomes 50 percent below the average to those paid by the top, we can see that the

\[ \tau = \frac{VAT + (Personal\ Tax + Empyr\ Payroll + Empye\ Payroll)}{(1 + VAT)(1 + Empyr\ Payroll)} \]

This formula accounts for the fact that the VAT rate is tax-exclusive. For the U.S., we substitute sales taxes for VAT since they are applied the same way.
U.S. is now more progressive than the other OECD countries in this measure. This is true whether or not we include the consumption taxes in the total tax measure. With consumption taxes included, the picture improves even more for the U.S., with the U.S. seen to be more progressive than the other OECD countries starting in the mid-1990s. We also defined the progressivity measure as the inverse of the ratio of the tax rate at the average income to the top (rather than 50 percent below average income). By this measure, the U.S. is quite close to the ratio of most other OECD countries today. However, it was doing significantly better in the early 1980s, but the ratio has been rising since then.

**IV. Total Tax on Labor Income: The Obama Plan**

The discussion so far has focused on the historical position of the U.S. among the group of OECD countries. However, the status quo is likely to change as the new Obama
administration has plans for raising the top marginal tax rate to increase taxes on the rich and it also plans to phase out the Bush tax cuts of 2001 and 2003. In this section, we consider where the U.S. would stand vis-à-vis the other OECD countries if this tax hike were enacted today. The “Obama Plan” bar in the graphs shows the total tax on labor income, which includes an increase in the top marginal income tax rate by 4.6 percentage points to 39.6 percent and an increase in the employer and employee portion of the payroll tax by 2 percentage points each.

The two graphs show where different OECD countries ranked in 2007 in terms of their total tax on labor income, with and without consumption taxes. Without consumption taxes, the bar titled “US Now” shows that the U.S. ranks below most OECD economies, with a low rate of 37.4 percent. With VAT and sales taxes, the U.S. does marginally better, moving two levels below its ranking without VAT. Therefore, in terms of labor taxation, the U.S. does extremely well among the OECD economies. However, if the Obama plan were adopted, this would significantly affect the U.S. ranking. As is clear from the graphs, these proposed changes will increase the overall taxation of labor income in the U.S., pushing it up to the middle of the distribution.
Top Marginal Tax Rate on Labor Income (No VAT or Sales Tax)

Country

Percent

Top Marginal Tax Rate on Labor Income (With VAT/Sales Tax)

Country

Percent

Payroll tax rate data is not available for New Zealand and Iceland.
V. Conclusion

In this paper, we have attempted to provide a brief overview of U.S. tax policy, in relation to other OECD countries and also in some cases, in relation to world averages. It is clear from this discussion that while the U.S. currently does well in terms of labor taxation, it is out of line when it comes to corporate taxation. The U.S. has one of the highest corporate tax rates in the world, while at the same time it earns relatively low levels of corporate tax revenue when compared to other countries. Several authors have hypothesized that the U.S. corporate tax rate is currently higher than the optimum rate determined on the Laffer curve, so that lowering rates could actually raise revenues. This is clearly an area that deserves attention in the framing of future U.S. tax policy.

In terms of top marginal personal tax rates and revenues, the U.S. is relatively better off than the average OECD country, with consistently lower rates and somewhat higher revenues than the other OECD countries.

The paper also compares the progressivity of the U.S. tax system by using a simple ratio of the personal tax rate faced at the bottom end of the income distribution to the tax rate faced at the top. Currently, the ratio is significantly lower for the U.S. i.e. more progressive relative to the OECD average, though historically, there have been periods when high rates of personal income taxation at the top have caused the U.S. to be significantly higher than the other OECD countries.

Finally, if we compare the total taxes on labor income (which include payroll and consumption taxes) in the U.S. to other countries, the U.S. does remarkably well in imposing some of the lowest rates of overall taxation. The paper however cautions that this picture could be reversed in the future if the Obama administrations’ plans to raise
the top marginal personal and payroll tax rates and phase out the Bush tax cuts, materialize.

References


KPMG’s Corporate and Indirect Tax Rate Survey 2008


https://www.stanford.edu/group/siepr/cgi-bin/siepr/pubsarchiveorg/3/wpa?q=publicationsprofile/1379

Appendix

A.1 AEI International Tax Database

The main sources of information for the data are: (1) The Price Waterhouse Coopers Corporate Taxes – Worldwide Summaries” and “Individual Taxes – Worldwide Summaries” (2) Coopers and Lybrand: “International Tax Summaries” (3) “Worldwide Corporate Tax Guide 2001” by Ernest & Young (4) The International Bureau for Fiscal Documentation’s Loose-leaf Service (5) Embassies and ministries of taxation in individual countries. Historical information was gathered from Georgetown Law Library and the Library of Congress. The most recent information was purchased from the PWC website: (http://www.pwc.com/extweb/pwcpublications.nsf/docid/9B2B76032544964C8525717E00606CBD) or printed out from the E&Y website.

The Database consists of a number of spreadsheets containing information on a specific tax rate, the number of income tax brackets and the upper limit of each bracket (in local currency) and the tax rate in each bracket for about 128 countries. We chose countries based on data availability and to ensure a mix of developing and developed economies.

The database contains information on the following tax variables: (1) Personal Income Taxes (2) Deductions to Personal Income Taxes (3) Personal Dividend Taxes (4) Local Personal Taxes (5) Capital Gains Taxes (6) Corporate Taxes (manufacturing are reported separately) (7) Local Corporate Taxes (8) Corporate Dividend Taxes (9) Corporate Capital Gains Taxes (10) Employer Payroll Taxes (11) Employee Payroll Taxes (12) VAT (13) Inheritance and Gift Taxes. It also provides information on the tax depreciation rules followed by countries. Depreciation rules are broadly based on the straight line method or the declining balance method or a combination of both. These rates vary across countries and were used in the calculation of the effective average and effective marginal corporate tax rates.

Cross-country comparability issues

The main differences across countries in corporate taxation arise due to various surcharges and additional contributions that are either (1) added to the base tax rates or (2) are imposed as a proportion of taxes payable. For instance, Barbados in 1991 added a 1.5 percent stabilization tax to all marginal tax rates. Brazil in 2005 imposed an additional ‘social contribution’ of 10 percent. The assumption we have made is that if the surcharge applies to all tax brackets, it is added to all the corresponding tax rates. In other cases, the surcharge is applied to all tax payable. In this case, all tax rates are multiplied by (1+surcharge%). For instance, Belgium in 2005 imposed a crisis tax of 3 percent, raising its total corporate tax rate to 33.99 percent from 33 percent. Canada in 1987 imposed a temporary 3% surtax on tax payable. All marginal tax rates were multiplied by

12 The corporate tax information is for corporations organized or created in the specific country or under the law of the country. A domestic corporation is a resident corporation even though it does no business or owns no property in the specific country.
1.03. However, in some cases this is not possible since the surcharge applies only if the tax liability is above a certain level. In such cases, the marginal tax rate would vary for the high income and the low income groups depending upon the actual tax payments (net of deductions etc). If no further information is provided, in such cases the surtax is not included. For example, in Korea 1981-1990, there is a 10% defense tax on tax payable, which is increased to 20% for higher tax payers. The 20% surtax is not included in this database, while the 10% surtax is applied to all income levels.

Apart from the various surcharges and additional contributions imposed on the marginal tax rates, we have had to make certain assumptions while dealing with the data. Some of these are listed here. For more detailed notes, we would refer you to the AEI International Tax Database.

In Saudi Arabia, Saudi owned enterprises and the Saudi portion of joint enterprises are not subject to the corporate income tax. We have used the tax rate applicable to foreign firms.

In Thailand for certain years, the tax rate for companies listed on the stock exchange was lower than for those companies not listed on the exchange. We have used the rate for companies listed on the stock exchange. This is also true of Pakistan, where different rates apply to publicly listed companies compared to non-publicly listed companies. We have used the rate for the former.

In Canada, the national corporate tax rate is reduced by 10% to allow the provinces and territories room to impose corporate taxes. In general, whenever a country allows deductions of the local corporate tax from the national tax, these deductions are taken into account.

In Spain, there is a reduced rate for qualifying small businesses who earn up to a certain level of income (the actual number varies across years). This is not taken into account since it is not possible to distinguish between types of businesses or the number of years they are in operation.
### Table 1: Data Sources and Description

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