LIFTING THE BURDEN:

Tax Reform, the Cost of Capital and U.S. Economic Growth

By

Dale W. Jorgenson and Kun-Young Yun

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Executive Summary

This book presents a comprehensive treatment of the cost-of-capital approach for analyzing the economic impact of tax policy. This approach has provided an intellectual impetus for reforms of capital income taxation in the United States and around the world. The most dramatic example is the Tax Reform Act of 1986 in the United States. In this landmark legislation the income tax base was broadened by wholesale elimination of tax preferences for both individuals and corporations. Revenues generated by base broadening were used to finance sharp reductions in tax rates at corporate and individual levels.

The cost-of-capital approach presented in this book shows that important opportunities for tax reform still remain. This approach suggests two avenues for reform. One would retain the income tax base of the existing U.S. tax system, but would equalize tax burdens on all forms of assets as well as average and marginal rates on labor income. Elimination of differences in the tax treatment of all forms of assets would produce gains in efficiency comparable to those from the Tax Reform Act of 1986. Equalization of marginal and average tax rates on labor income would more than double these gains in efficiency.

Proposals to replace income by consumption as a tax base were revived in the United States during the 1990's. The Hall- Rabushka Flat Tax proposal would produce efficiency gains comparable to those from equalizing tax burdens on all forms of assets under the income tax. However, a progressive National Retail Sales Tax, collected on personal consumption expenditures at the retail level, would generate gains in efficiency exceeding those from the Flat Tax by more than 50 percent! Equalizing marginal and average rates of taxation on consumption would double the gains from the Flat Tax.

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Summary

This purpose of this book is to provide a comprehensive treatment of the cost of capital approach for analyzing the economic impact of tax policy. This approach has provided an important intellectual impetus for reforms of capital income taxation in the United States and around the world. When President Ronald Reagan took office in January 1981, there was widespread concern about the slowdown of U.S. economic growth. Tax reform received overwhelming support from the Congress with the enactment of the Economic Recovery Tax Act of 1981. The 1981 Tax Act combined substantial reductions in tax rates with sizable enhancements in incentives for saving and investment.

Beginning with the introduction of accelerated depreciation in 1954 and the investment tax credit in 1962, U.S. tax policy had incorporated progressively more elaborate tax preferences for specific forms of capital income. The 1981 Tax Act brought this developments to its highest point with adoption of the Accelerated Cost Recovery System and a ten percent investment tax credit. These tax provisions severed the connection between capital cost recovery and the economic concept of income.

The 1981 Tax Act continued the shift from income to consumption as a tax base that had characterized the postwar period. In order to stimulate saving, individuals were allowed to establish tax-favored accounts. In the United States these took the form of pension funds for corporate and non-corporate businesses and Individual Retirement Accounts. Savings were removed from the tax base by excluding contributions to these accounts from income for tax purposes and exempting earnings from taxation until withdrawn for consumption. The tax base could be shifted from income toward consumption by the simple expedient of allowing larger contributions to the tax-favored accounts.

More rapid write-offs of investment outlays through accelerated cost recovery also provided enhanced investment incentives. Subsidies for investment like the investment tax credit reduced tax liabilities. The ultimate investment incentive is to treat investment expenditures symmetrically with outlays on current account, thereby removing investment from the income tax base and shifting the base to consumption. Three landmark reports in Sweden, the United Kingdom, and the United States proposed taking these developments to their logical conclusion by replacing income by consumption as a tax base.

The tax reforms of the early 1980's substantially reduced the burden of taxation on capital income. However, these policies also heightened discrepancies among tax burdens on different types of capital. This gave rise to Congressional concerns about tax distortions in the allocation of capital. In the State of the Union Address in January 1984 President Reagan announced that he had requested a plan for further reform from the Treasury, initiating a lengthy debate that eventuated in the Tax Reform Act of 1986.

The 1986 Tax Act abruptly reversed the direction of U.S. tax policy. Proposals for a consumption-based tax system were rejected in favor of an income-based approach. The income tax base was broadened by wholesale elimination of tax preferences for both individuals and corporations. The investment tax credit was repealed for property placed in service after December 31, 1985. Capital consumption allowances were brought into line with economic depreciation. Revenues generated by base broadening were used to finance sharp reductions in tax rates at corporate and individual levels.

The 1986 Tax Act reflected a new conceptual framework for the analysis of capital income taxation. This framework had its origins in two concepts introduced in the 1960's -- the effective tax rate, pioneered by Arnold C. Harberger, and the cost of capital, originated by Dale W. Jorgenson. The concept of the marginal effective tax rate, introduced by Alan J. Auerbach and Jorgenson, combined the cost of capital and the effective tax rate.

Marginal effective tax rates helped to frame the alternative proposals that led to the Tax Reform Act of 1986. An important objective of this legislation was to "level the playing field" by equalizing marginal effective tax rates on different types of capital income. A second objective was to insulate the definition of capital income from the impact of inflation. The cost of capital provided the analytical framework for achieving both of these objectives.

In Chapter 4 we summarize the tax burden on capital income by means of marginal effective tax rates for all assets and all sectors of the U.S. economy. We show that the Tax Reform Act of 1986 significantly reduced differences in tax burdens among corporate, non-corporate, and household sectors. Differences between short-lived and long-lived depreciable assets were almost eliminated by this legislation. However, substantial differences between household and corporate sectors still remain, resulting in large potential losses from the misallocation of capital. These gaps among effective tax

rates reveal important opportunities for tax reform.

In Chapter 7 we employ an econometric model of U.S. economic growth to simulate the economic impact of alternative policies for reforming the taxation of capital income. Estimates of tax wedges or differences in marginal effective tax rates, like those presented in Chapter 4, are useful in identifying potential sources of inefficiency. However, the welfare costs of taxation depend not only on these tax wedges, but also on substitutability along all the relevant margins captured in our econometric model.

In order to evaluate the welfare effects of tax reform we design a computational algorithm for determining the growth path of the U.S. economy following tax reform. This algorithm is composed of two parts. We first solve for the unique growth path corresponding to the Tax Policy of 1996, our reference tax policy. This is the *base case* for our analysis of changes in tax policy. The second part of our algorithm is to solve our model for the growth path of the U.S. economy following tax reform.

We first consider the elimination of differences in marginal effective tax rates among different classes of assets and different sectors -- ten alternative programs for reforming the taxation of capital income in the U.S. We also consider the cost of progressivity in the taxation of labor income by comparing the existing labor income tax with a flat labor income tax These are the *alternative cases* for our tax policy analysis. We compare the level of social welfare associated with each policy with the welfare level in the base case, translating these welfare comparisons into monetary terms.

The most dramatic welfare gain from reform of U.S. capital income taxation would be through the elimination of tax wedges among all assets and all sectors. This would produce a gain of $2.02 trillions or nearly one-quarter of the U.S. gross domestic product of $8.11 trillions in 1997, the reference year for our welfare comparisons. Alternatively, this gain is equivalent to an increment of 7.8% in the value of U.S. national wealth of $25.66 trillions at the beginning of 1997. These welfare gains are large in relative terms, comparable to estimates of gains from the Tax Reform Act of 1986.

We also measure the distortions associated with the progressive tax on labor income. This results in marginal tax rates far in excess of average tax rates. Our point of departure is the elimination of tax wedges among all assets and sectors. We replace the progressive labor income tax by a proportional labor income tax with identical marginal and average tax rates. This would produce a welfare gain of as much as $4.90 trillions, the largest gain from any tax reform that we consider. This amounts to 60 percent of 1997 U.S. GDP or more than 19 percent of 1997 U.S. national wealth!
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In the United States proposals to replace income by consumption as a tax base have been revived during the 1990's. These include the Hall-Rabushka Flat Tax proposal, a European-style consumption-based value added tax, and a comprehensive retail sales tax on consumption. In Chapter 8 we compare the economic impact of these proposals, taking the 1996 Tax Law as our base case. In particular, we consider the impact of the Hall- Rabushka proposal and the impact of replacing the existing tax system by a National

Retail Sales Tax, levied on personal consumption expenditures at the retail level. We impose the requirement that both proposals are revenue neutral, that is, that they raise the same amount of revenue as the 1996 Tax Law.

The Hall-Rabushka Flat Tax proposal divides tax collections between firms and households. Firms expense all purchases from other firms as well as all forms of labor compensation. This compensation is taxed at the individual level, permitting the introduction of family allowances for low-income taxpayers in order to retain a progressive rate structure. A flat rate is applied to the consumption tax base, excluding the family allowances. Substitution of the Hall-Rabushka proposal for existing corporate and individual income taxes at federal, state, and local levels would produce a welfare gain of $2.06 trillions. This is slightly greater than the welfare gain from the reforms of capital income taxation considered in Chapter 7.

We next consider replacing the revenues of the government sector by a National Retail Sales Tax, collected on personal consumption expenditures at the retail level. We design a prototype sales tax with family allowances like those incorporated into the Hall-Rabushka Flat Tax proposal. We find that a sales tax with the same progressivity as the Flat Tax would generate welfare gains of $3.32 trillion, exceeding those of the Hall-Rabushka proposal by more than fifty percent. This is due to the fact that a sales tax is less distorting that the Hall-Rabushka Flat Tax. The National Retail Sales Tax is clearly superior to the Flat Tax when both retain an element of progressivity.

The cost of progressivity in terms of lost economic efficiency is substantial. One way to measure this cost is to compare a progressive sales tax with a flat sales tax that would raise the same revenue. This would produce a welfare gain of $1.37 trillion, in addition to the welfare gain from a progressive sales tax of $3.32 trillion, for an overall gain of $4.69 trillion, more than double the gain from the Flat Tax! A progressive sales tax would improve efficiency, relative to the Flat Tax proposal, but progressivity has a substantial efficiency cost. We conclude that the potential gains in economic efficiency from replacement of income by consumption as a tax base are very large.

In Chapter 9 we measure the cost of public spending under the 1996 Tax Law and under alternative tax reform proposals. This depends on the tax instrument, the allocation of funds among different categories of public spending, and the type of benefits resulting from the spending. To illustrate the evaluation of the costs of a government program, we consider the benefits of the "peace dividend" resulting from the end of the Cold War. The end of communism in Eastern Europe and the former Soviet Union and the dissolution of the Warsaw Pact made possible permanent reductions in U.S. defense expenditures.

We take defense spending as a proportion of the U.S. gross domestic product in 1990 as a benchmark for Cold War expenditure. We compare spending at this level with the spending that has actually taken place, extrapolated into the future by the Congressional Budget Office. The welfare gains range from $7.38 trillions to $6.42 trillions depending on the taxes that are reduced. By comparison U.S. GDP in 1990 was $5.74 trillions, so that the welfare gain from the end of the Cold War was the equivalent

of more than one year's GDP! This is large, even by comparison with the most substantial potential gains from tax reform.

Our final objective is to evaluate the cost of capital as a practical guide to reform of taxation and government spending. For this purpose information about the cost of capital must be combined with estimates of the substitutability among different types of outputs and inputs by businesses and households. The model of U.S. economic growth we present in Chapter 5 provides both types of information. In Chapter 7 we show that reform of capital income taxation by equating marginal effective tax rates for all forms of capital would generate large welfare gains, largely by equalizing the tax burdens on housing and business capital. Equating marginal and average tax rates on labor income, in addition, would produce the largest welfare gains of any tax reform that we consider.

During the 1990s, tax reformers have renewed their interest in replacing income by consumption as the basis for taxation. In Chapter 8 we have shown that the popular Flat Tax proposal for achieving this objective would generate welfare benefits that are comparable to those from the capital income tax reforms discussed in Chapter 7. However, a National Retail Sales Tax would produce benefits that are fifty percent higher! The cost of maintaining a progressive rate structure within the framework of the National Retail Sales Tax is very large. The benefits of a National Retail Sales Tax with a flat rate structure would be double those of a Flat Tax .

Finally, we have extended the conceptual framework employed in our analysis of alternative tax reforms to the evaluation of government spending programs. We show that the "peace dividend" from the end of the Cold War is greater than the potential gains from tax reform, amounting to more than a full year of the U.S. gross domestic product. We have illustrated the cost-of-capital approach for a variety of tax reforms, both incremental and fundamental, as well as a variety of spending programs, including the defense cuts following the end of the Cold War. Our hope is that these illustrations will serve as an inspiration and a guide for policy makers who share our goal of making the allocation of capital within a market economy more efficient.