

Corporate Taxes and Economic Growth

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Introduction

While the United States is a relatively low-tax country by OECD standards, with taxes as a share of GDP ranked fourth lowest among the 30 OECD member countries in 2007, it currently has the second highest corporate tax rate and has historically relied on corporate taxes to fund a larger share of the cost of government than the average OECD country.¹

This paper reviews empirical studies of the effects of high corporate tax rates and revenue shares on the economic growth of nations. The studies reviewed find that high statutory and effective corporate tax rates hinder a country's investment, productivity, and economic growth and, paradoxically, high statutory tax rates do not appear to result in higher corporate tax revenues.

OECD Studies (2008)

The burden of taxes typically exceeds the revenue raised by government due to adverse effects on savings, investment, labor supply, and costs of compliance and administration. This "excess" burden of taxation is the hidden cost of taxation on the economy, also referred to as a "deadweight loss." Economic theory suggests that taxes that impair capital accumulation and productivity gains, such as corporate taxes, over time will have the most detrimental impact on the economy.

This theoretical result is confirmed by three recent OECD studies.

The first study examines the effects of corporate taxes on corporate investment and productivity growth using a sample of 100,000 domestic-only firms in the Amadeus database covering 41 European countries over the 1998-2004 period.² This study finds that corporate income taxes, as measured by the user cost of capital, reduce investment, with a 10 percent increase in the user cost of capital lowering investment by 7 percent.

Corporate taxes also were found to have a significant adverse impact on firm-level productivity growth, potentially resulting from lower levels of capital accumulation. The results indicate that over ten years, a reduction in the corporate tax rate from 35 to 30 percent would increase

¹ OECD, *Revenue Statistics*, 2009, Tables 3 and 13 and OECD Tax Database, accessed, January 22, 2010 at: http://www.oecd.org/document/60/0,3343,en_2649_34533_1942460_1_1_1_1,00.html#cci.

² Jens Arnold and Cyrille Schwellnus, "Do corporate taxes reduce productivity and investment at the firm level? Cross-country evidence from the Amadeus dataset" (2008), OECD Economics Department Working Paper No. 641, September 30, 2008, at: <http://www.cepii.fr/anglaisgraph/workpap/summaries/2008/wp08-19.htm>

annual productivity growth by 0.4 percent per year relative to median productivity growth for OECD member countries of 1.1 percent over the 2000-2005 period.³

The second OECD study examines the effects of taxes on investment and productivity growth at the industry level for 21 industries in 16 OECD countries over the period 1983-2001.⁴ Like the OECD study of firm-level data, this study finds that higher effective corporate tax rates, as measured by the user cost of capital, lower industry investment and productivity. The study also finds that tax incentives for R&D have a positive effect on productivity.

The third OECD study examines the relationship between tax structure and economic growth at the national level for 21 OECD member countries over a 30 year period (1971-2004). The study finds that:⁵

"Corporate income taxes appear to have the most negative effect on GDP per capita. These findings suggest that a revenue-neutral growth-oriented tax reform would be to shift part of the revenue base towards recurrent property and consumption taxes and away from income taxes, especially corporate taxes."

The implication of this OECD research is that per dollar of revenue raised by the government, the corporate income tax, more than any other tax studied, imposes the greatest penalty on national economic growth.

Gordon-Lee Study (2005)

Roger Gordon and Young Lee analyzed the effects of tax structure on per capita GDP growth over the 1970-1997 period in a sample of 70 countries. The authors found that higher statutory corporate tax rates are associated with lower per capita GDP growth, both across countries and within the same country over time.⁶ The coefficient estimates suggest that cutting the corporate tax rate by ten percentage points can raise the real annual per capita growth rate by between 1.1 and 1.8 percentage points.⁷ By comparison, the annual real per capita U.S. growth rate over the 1970-1997 period was about 1.5 percent.

³ *Ibid.* Note that productivity growth in this study is measured as "total factor productivity" growth, which is the excess of the growth in output over a weighted average of the growth rates of labor and capital inputs.

⁴ Laura Vartia, "How Do Taxes Affect Investment and Productivity? An Industry-Level Analysis Of OECD Countries," OECD Economics Department Working Papers No. 656, December 19, 2008 at: [www.oecd.org/olis/2008doc.nsf/LinkTo/eco-wkp\(2008\)64](http://www.oecd.org/olis/2008doc.nsf/LinkTo/eco-wkp(2008)64)

⁵ Jens Arnold, "Do Tax Structures Affect Aggregate Economic Growth? Empirical Evidence From a Panel of OECD Countries," OECD Economics Department Working Paper No. 643, October 14, 2008, p 2., at: [http://www.oecd.org/olis/2008doc.nsf/linkto/eco-wkp\(2008\)51](http://www.oecd.org/olis/2008doc.nsf/linkto/eco-wkp(2008)51)

⁶ The statistical analysis controls for a variety of other factors that may explain economic growth, including: initial (1970) levels of education and GDP, the average tariff rate, an index for corruption and the quality of the bureaucracy, inflation, and population growth).

⁷ Young Lee and Roger H. Gordon, "Tax Structure and Economic Growth," *Journal of Public Economics*, Volume 89, Issues 5-6, June 2005, Pages 1027-1043

World Bank Study (2009)

A recent study by Andrei Shleifer and World Bank economists uses the 2004 effective corporate tax rate calculated for a hypothetical mid-size domestic manufacturing firm in 85 countries to estimate the impact of corporate taxes on investment and entrepreneurial activity.⁸ The authors find that higher corporate taxes are associated with lower investment and entrepreneurial activity. Raising the corporate effective tax rate by 10 percentage points: (1) reduces the gross fixed capital formation as a percent of GDP by 2.2 percentage points (mean is 21.5 percent), (2) reduces the direct investment by foreign investors as a percent of GDP by 2.3 percentage points (mean is 3.36 percent), and (3) reduces the entry rate for new firms by 1.4 percentage points (mean is 8 percent).⁹

Joint Committee on Taxation Study (2005)

The staff of the Joint Committee on Taxation analyzed three different proposals to reduce taxes by \$500 billion over the period from 2005-2014: (1) a decrease in individual income tax rates, (2) an increase in the personal exemption, and (3) a decrease in the corporate income tax rate.¹⁰ Both the Joint Committee Macroeconomic Equilibrium Growth model and an overlapping generations life cycle model were used in the simulations. The Joint Committee staff concluded that "the corporate tax rate reduction has the greatest effect on long-term growth, as the stock of productive capital accumulates and leads eventually to higher labor productivity."¹¹ The implication of this study is that corporate taxes, particularly high corporate tax rates, have a more adverse effect on U.S. economic growth than individual income taxes.

Oxford Study (2006)

Based on data from 20 OECD countries over the period 1965-2004, Professor Michael Devereux finds that while the average corporate tax rate has *fallen*, the level of corporation tax revenues has *risen* as a proportion of GDP and the revenue increase cannot be explained solely by changes in the corporate tax base.¹² The econometric analysis in the paper finds little relationship between statutory corporate tax rates and corporate tax revenues, which "contradicts the common assumption that a higher tax rate tends to increase revenue."¹³ Possible explanations are that high corporate tax rates shift business activity into non-corporate legal entities, encourage debt finance, and create an incentive to reduce the domestic share of reported profits.

⁸ Simeon Djankov, Tim Ganser, Caralee McLiesh, Rita Ramalho, and Andrei Shleifer, "The Effect of Corporate Taxes on Investment and Entrepreneurship," (July 2009), forthcoming in *American Economics Journal: Macroeconomics*. A draft dated March 2009 is available at: <http://www.doingbusiness.org/features/Research-Corporate-Taxes.aspx>

⁹ *Ibid.*, p. 23.

¹⁰ Staff of the Joint Committee on Taxation, "Macroeconomic Analysis of Various Proposals to Provide \$500 Billion in Tax Relief," (JCX-4-05), March 1, 2005.

¹¹ *Ibid.*, p. 2.

¹² Michael Devereux, "Developments in the Taxation of Corporate Profit in the OECD Since 1965: Rates, Bases and Revenues", *Oxford University Centre for Business Taxation*, Working Paper 07/04, (December 2006), available at: <http://ideas.repec.org/p/btx/wpaper/0704.html>

¹³ *Ibid.* p. 24.