A Score of the Death Tax Repeal Permanency Act

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A Study Published by the American Family Business Foundation

April 5, 2011

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American Family Business Foundation

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Executive Summary

Much of the debate over the future of the Federal Estate Tax concerns the revenue impact of repeal. One model of revenue analysis, known as "static" scoring, largely ignores the economic effects of estate tax repeal. Dynamic scoring, on the other hand, considers the effects of estate tax repeal on behavior and how those affect larger economic trends and other taxes. Using a dynamic model of the economy, this issue brief finds that estate tax repeal would result in a net increase in federal tax revenues.

According to the dynamic score employed in the brief, the estate tax would increase Gross Domestic Product by about 2.25 percent, private sector output and labor income (hours worked times hourly wage) by about 2.34 percent, and capital stock by 6.1 percent. The increase in other federal government tax revenue would more than offset the revenue decline from the estate tax, and would ultimately result a net revenue increase of $89 billion by 2021. On the other hand, the static score used by the Congressional Budget Office (CBO) predicts that the government would lose about $460 billion over a decade if the tax were repealed.

Estimating the Cost of Estate Tax Repeal

The 2001 Bush tax cut reduced the estate tax in stages through 2009, and then ended it for the year 2010. The gift tax remained, in modified form. The sunset of the Bush tax cut meant that the estate tax would reappear in 2011 at levels set by prior law. This would be a top estate tax rate of 55 percent, with an estate and gift tax credit that would offset the tax on the first $1 million of an estate (or less, if gifts during the donor's lifetime used up part of the exempt amount). Late in 2010, Congress provided two years of partial relief, allowing the estate tax to re-emerge in 2011 with a top rate of 35 percent and a credit offsetting the tax on the first $5 million of an estate for 2011 and 2012. The tax will revert to the higher 55 percent rate and $1 million exempt amount in 2013 and beyond, unless further action is taken.

The Death Tax Repeal Permanency Act of 2011 (H.R. 1259) would block the reinstatement of the estate tax. Introduced by Representatives Kevin Brady (R-TX-8) and Mike Ross (D-AK-4), it would permanently eliminate the tax effective in 2011.

The Joint Committee on Taxation of the Congress (JCT) and the Treasury Department's Office of Tax Analysis may each provide an estimate of the revenue loss of the bill over the budget window, 2011-2021. In preparing revenue estimates, the JCT uses the economic baseline provided by the Congressional Budget Office (CBO) and the associated baseline gift and estate tax revenue. Treasury uses the Administration's economic and revenue budget baseline and its own estimate of the baseline estate tax.

In both cases, the estimators assume that the return of the tax and, by comparison, its continued elimination, have no effect on the size of the economy or on other tax revenues. This assumption of unchanged "macro-economic" conditions -- GDP, levels of income, employment, the amount of capital formation, etc. -- is called static scoring. The estimators may assume some "micro-economic" behavior changes, such as a reduction in estate tax avoidance practices such as giving during one's lifetime, which would affect gift tax revenue.

Static scoring greatly exaggerates the cost of eliminating the estate tax. The tax is a direct hit on capital formation. In particular, it raises the required pre-tax return on capital (the service price) needed to yield a normal after-tax return to the saver/investor, discouraging saving and investment. The result is a smaller stock of plant, equipment, and commercial and residential real estate. The capital stock will shrink until, at its reduced level, its rate of return increases to cover the additional tax rate burden. A reduced capital stock depresses the productivity of labor, and lowers national output and income. Reduced earnings of labor and capital reduce federal, state, and local government revenues from taxes of all types, including personal and corporate income taxes, social insurance (payroll) taxes, sales taxes, tariffs, property taxes, etc. By contrast, ending the estate tax would reduce the service price, encourage additional capital formation, and raise wages and incomes, increasing other taxes.

We have used a neo-classical economic model to estimate the degree to which the capital stock, employment, and output would differ under the pre-Bush tax relief estate tax parameters ($1 million exemption, 55 percent rate) compared to what they would be if the estate tax were repealed. The model is one of "comparative statics". That is, it provides an estimate for the differences for a point in time (in our case, the economy of 2009) assuming the policy change had been enacted in the past and enough time had elapsed for all the resulting economic adjustments to be completed. The changes in incomes and the associated changes in tax revenue can then be used to provide a "dynamic" (as opposed to a "static") estimate of the revenue effects of the tax policy change.

Compared to the estate tax provisions in current law, and after all economic adjustments, repeal of the estate tax would increase GDP by about 2.25%, private sector output and labor income (hours worked times hourly wage) by about 2.34%, and the capital stock by 6.1%. (See attached table.) The increase in other federal government tax revenue would more than offset the decline in the estate tax portion of the estate and gift tax.

The added capital formation and the rise in the GDP would not happen instantly. It would take about 5 years for all the added equipment to be put in place, and about a decade for the plant and other structures. During the decade-long adjustment period, there would be some revenue loss. To provide a picture of the adjustment period, we apply the comparative statics growth factors over time to the CBO baseline incomes and revenues.

The CBO projects a total of $503 billion in estate and gift tax revenue from 2011 through 2021. (There are slight rounding differences – e.g. $505 billion -- in the accompanying spreadsheet.) We assume about 91% of that would be from the estate tax, and about 9% from the gift tax. The elimination of the estate tax portion, other things equal, would appear to cost about $460 billion in revenue over the period, on a static basis (about $495 billion with interest, if covered by additional federal borrowing). The static annual loss versus current law would begin at about $10 billion in 2011, jump to $38 billion in 2014 as a result of the scheduled rise in the estate tax rate the year before, and continue to rise to $66 billion in 2021. CBO and JCT would assume no gains in GDP over the period relative to the baseline.

The picture looks very different on a dynamic basis. GDP would gradually increase by 2.25 percent over the baseline, for a total gain of nearly $3 trillion above the baseline GDP numbers during the eleven years. The estate tax would end, but most other tax revenues would rise in line with GDP (or a bit faster in the case of the individual income tax). The corporate income tax and non-corporate business revenue would grow more slowly because the added capital formation would involve higher depreciation allowances. Over the period, the repeal would raise federal revenue by a total of $89 billion. On an annual basis, the initial $10 billion loss in 2011 would become a $4 billion gain in 2013 (relative to the partial estate tax relief granted in 2010), and then revert to an $11 billion loss in 2014 (as prior law rates return). The loss would disapappear by 2016, and in 2021 federal revenue would be $36 billion higher than if the estate tax had been continued.

If one assumes less economic growth (lower than the reduction in the service price would indicate on a historical basis), the GDP and revenue gains would be less. Assuming a third less growth, 1.5 percent additional GDP by 2021, other revenue gains would just begin to fully offset the estate tax reduction in 2021 and beyond. There would be about $94 billion in revenue losses between 2011 and 2021 (mostly between 2014 and 2018). However, the GDP gains would sum to nearly $2 trillion higher over the period, some twenty times the amount of government spending we would need to give up to cover the transitional deficit.

In either case, beyond 2021 both GDP and federal revenues would continue to be higher without the estate tax than with it. The future surpluses would grow a bit faster than the economy due to the progressive nature of the income tax.

Conclusion

The static revenue cost over the budget window of repealing the estate tax is greatly exaggerated. Instead of a large revenue loss of about $460 billion through 2021, we should expect a revenue increase of $89 billion due to added economic growth as the lower tax on saving and investment raises the capital stock and boosts employment and wages. The added GDP and income for the population over the period would be about $3 trillion. This trade is clearly of benefit to the nation, even if it means foregoing the benefits of a very small amount of federal spending in the first several years of the transition.

About the Author

Stephen J. Entin is currently President and Executive Director of the Institute for Research on the Economics of Taxation (IRET), a pro-free market economic public policy research organization based in Washington DC. He advises members of Congress, Congressional staff, and Administration officials on tax, budget, and entitlement policy matters. He was a consultant for the National Commission on Economic Growth and Tax Reform (the Kemp Commission), assisted in the drafting of the Commission's report, and was the author of several of its support documents. Mr. Entin was also a member of the New York State Tax Advisory Panel established by Governor Pataki in 2005.

Mr. Entin is a former Deputy Assistant Secretary for Economic Policy at the Department of the Treasury. He joined the Treasury Department in 1981 with the incoming Reagan Administration. He participated in the preparation of economic forecasts for the President's budgets, and the development of the 1981 tax cuts, including the "tax indexing" provision that keeps tax rates from rising due to inflation. He represented the Treasury Department in the preparation of the Annual reports of the Board of Trustees of the Social Security System, and conducted research into the long run outlook for the system. Mr. Entin was instrumental in revamping the reports to make their economic and demographic assumptions more realistic and to present their information in a more informative and understandable format. This information triggered several proposals in the Congress to adjust the formulas determining Social Security benefits in order to avoid future payroll tax increases. Prior to joining Treasury, Mr. Entin was a staff economist with the Joint Economic Committee of the Congress, where he developed legislation for tax rate reduction and incentives to encourage saving.

Mr. Entin is a graduate of Dartmouth College and received his graduate training in economics at the University of Chicago, majoring in macroeconomics, monetary policy, and international economics.

About the American Family Business Foundation

The American Family Business Foundation (AFBF) is the research and education voice of America’s family business owners and farmers. Established in 2008, the Foundation publishes reports that examine critical policy questions about the impact the estate tax has on capital accumulation, family businesses, employment, income mobility and wealth disparity, federal revenues and the general economy. In addition to academic research, the Foundation hosts educational events designed to drive the public debate about the estate tax. Finally, the Foundation’s principals are policy experts that are frequently called upon to provide insight on estate tax issues.

Table 1

Estimating Revenues from Repeal of Estate Tax on CBO Revenue Baseline

Using Static and Dynamic Scoring, Assuming Additional Growth of GDP

The spreadsheet assumes an additional amount of GDP is generated over a decade in the percentage amount specified below in the "assumed added growth" cell. 'The increase in GDP is driven by a gradual accumulation of additional equipment made profitable by the tax reduction, taking five years to complete, and accumulation of additional structures taking ten years to complete.

Dollars in billions (small differences due to rounding)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	**total 2011-2021**
CBO revenue	$2,228	$2,555	$3,090	$3,442	$3,651	$3,832	$4,075	$4,275	$4,489	$4,712	$4,963	$41,312
Estate and gift	$11	$12	$14	$42	$48	$53	$57	$61	$65	$69	$73	$505
Estate share (est @ 91%)	$10	$11	$13	$38	$44	$48	$52	$56	$59	$63	$66	$460
Corporate tax	$201	$279	$343	$428	$398	$370	$413	$417	$420	$420	$437	$4,126
Other revenue ex estate & corp	$2,017	$2,265	$2,734	$2,976	$3,209	$3,414	$3,610	$3,802	$4,010	$4,229	$4,460	$36,726
Weighted growth factor	1	1.003	1.006	1.009	1.012	1.015	1.0165	1.018	1.0195	1.021	1.0225	
Other revenue growth	$0	$7	$16	$27	$39	$51	$60	$68	$78	$89	$100	$535
Corporate tax growth gross	$0	$1	$2	$4	$5	$6	$7	$8	$8	$9	$10	$58
Corp. tax with depreciation adj., ne	$0	$0	$1	$1	$1	$2	$2	$2	$2	$3	$3	$17
Non-corp. bus. depreciation adj.	$0	$0	$0	$0	$0	$0	$0	-$1	-$1	-$1	-$1	-$4
Static loss = -estate tax share	-$10	-$11	-$13	-$38	-$44	-$48	-$52	-$56	-$59	-$63	-$66	**-$460**
Revenue from growth	$0	$7	$17	$28	$40	$52	$61	$70	$80	$91	$103	$548
Net dynamic revenue change	-$10	-$4	$4	-$11	-$4	$4	$9	$15	$21	$28	$36.2	**$89**
CBO baseline GDP	$15,034	$15,693	$16,400	$17,258	$18,195	$19,141	$20,033	$20,935	$21,856	$22,817	$23,810	$211,172
Post-policy change GDP	$15,034	$15,740	$16,498	$17,413	$18,413	$19,428	$20,364	$21,312	$22,282	$23,296	$24,346	$214,127
Increase in GDP	$0	$47	$98	$155	$218	$287	$331	$377	$426	$479	$536	$2,955
5 & 10 straightline growth factor												
Assumed added growth by yr.10, 9	2.25%		(Note: alternative end-of-period ultimate growth amounts may be entered in column B)									
year	0	1	2	3	4	5	6	7	8	9	10	
10 yr growth to assumed gain	1	1.00225	1.0045	1.00675	1.009	1.01125	1.0135	1.01575	1.018	1.02025	1.0225	
In structures in 10 years, wgt. 2/3	1	1.0015	1.003	1.0045	1.006	1.0075	1.009	1.0105	1.012	1.0135	1.015	
In equipment in 5 years, wgt. 1/3	1	1.0015	1.003	1.0045	1.006	1.0075	1.0075	1.0075	1.0075	1.0075	1.0075	
Combined wgtd. growth factor	1	1.003	1.006	1.009	1.012	1.015	1.0165	1.018	1.0195	1.021	1.0225	

Table 2				
Economic Effects of Estate Tax Repeal versus Higher Rates Scheduled in Current Law				
Calculated at 2009 GDP and Income Levels				
	Current Law	Repeal	Difference	% Difference
Gross domestic product, $ billions	$14,084.7	$14,401.6	$316.9	2.25%
Private business	$10,292.4	$10,533.2	$240.8	2.34%
Compensation of employees	$5,991.4	$6,131.5	$140.2	2.34%
Gross capital income	$3,547.4	$3,630.4	$83.0	2.34%
Private Business Stocks	$27,167.2	$28,821.9	$1,654.7	6.09%
Wage rate, $ per hour	$33.81	$34.46	$0.65	1.92%
Private business hours of work, billion hours	177.22	177.96	0.74	0.42%
Weighted Average service price				
Corporate	14.12%	13.59%	-0.54%	-3.79%
Noncorporate	13.23%	12.84%	-0.39%	-2.91%
All business	13.85%	13.36%	-0.49%	-3.54%

Appendix A: A Small Comparative Statics Model of the US Economy

We have developed a small comparative statics model of the US economy. It is based on empirical observations of the behavior of the economy over the post world-war period. The underlying assumptions are straightforward:

- The long run real after-tax rate of return to physical capital is virtually constant,
- Labor's share of factor income is virtually constant as well,
- The supply of labor is somewhat inelastic (unresponsive) to its aftertax compensation.

These three assumptions define a set of five basic equations that when solved describe a baseline picture of the economy at a point in time as well as allowing changes in government taxes and spending to yield an alternative description.

The first assumption says that the level of real interest rates tends to be constant when viewed over long periods. It doesn't have to be completely stationary; it merely requires that deviations tend to return toward the average. Observations by economists as early as 1800 suggest this fact as they found that interest rates in England tended toward its average. Our own analysis shows the same result in the US over the past 60 years. Deviations tend to return to the long run average within 5 years. The mechanics are simple – deviations above the long run average encourage extra investment which drives down the return to capital and the interest rate toward normal levels, and deviations below the long run discourage investment, raising the return to capital and the interest rate toward normal levels over time.

Looking at shares of factor income in businesses we find a second virtual constant. The share of factor income going to labor and capital are so constant that more sophisticated alternative explanation are statistically rejected. The implication of this observation is that output can be predicted by a simple relationship that is linear in the logs of output and factor inputs (capital and labor). Further the compensation paid labor and capital can be predicted as a constant percentage of net revenues. Many have tried to estimate alternative models of production but none have overcome the empirical fact of the constancy of the shares.

Where the first assumption implies that capital is highly responsive to its return, labor is much less responsive to changes in compensation. Dividing the labor force into primary and secondary pools finds that the primary pool (males 15 to 64) is extremely insensitive to compensation (an elasticity of about .1) with the secondary pool (primarily women) much more responsive (elasticities approaching 1). We generally use an assumed elasticity of labor supply of .3; that is a 10% increase in real aftertax compensation gives rise to a 3% increase in labor. Since we are less confident about this assumption we have constructed our model in a way that allows us to easily change this assumption.

The model is constructed by separating the economy into production sectors: corporate and noncorporate private business, households and institutions, government enterprises, and general government. This aligns output according to how products are distributed and taxation of the income generated. General government does not sell its product in the market place while government enterprises do. Institutions and households don't actually sell their products, and are not modelled as part of the private business sector. Households and institutions do set their own output (unlike the government sector where output is determined by the political process), and their employment and the imputed value of owner occupied housing services enter into GDP. All three of these sectors have employees that pay taxes through the individual income tax. Private businesses produce the lion's share of output. They pay taxes on their capital income and their employees pay individual taxes as well. This division into four sectors provides enough detail to construct tax bases for most taxes.

Each sector is constructed applying the three assumptions outlined above. This provides us with estimates of output and the compensation of capital and labor for the sector. Labor from all sectors is aggregated and the overall wage rate for labor is determined by our assumed response to changes in real after-tax compensation.

We make one final assumption to round out the model -- the Federal Reserve changes its policy to maintain the price level at its baseline values. This allows us to focus on the effect of the spending or tax change rather than some combination of fiscal policy change with an accompanying monetary change. The secondary benefit is that we don't have to adjust for price changes in determining real compensation for capital and labor.

Using the structure we have outlined we can calibrate the model to the chosen baseline. An alternative fiscal mix of taxes and spending can be entered into the framework. The baseline aftertax rate of return can be used to calculate what the pretax return must be under the new tax system. This rate of return implies the wage rate that must prevail to satisfy the existing production technology. Removing the taxes on labor tells us the change in the aftertax rate of compensation. Using our assumed elasticity of labor supply tells us how much labor will be supplied in the economy. This then will tell us how much capital will be employed and finally what the level of output will be.

Since we have split our income in a manner that will allow us to calculate the various tax bases needed to estimate taxes we can calibrate tax revenue parameters using the baseline and use them to calculate a detailed set of revenue accounts for federal, state and local governments. A spending account is added to allow us to calculate deficits as well.

Appendix B: Illustrative Solution of Small IRET Macromodel of US Economy

The model consists of four behavioral equations with four unknowns, five parameters, and two exogenous variables. Writing the model in logs we have:

$$lnY = \alpha_1 + \alpha_2 \cdot lnK + \alpha_3 \cdot lnL \qquad (1)$$

$$lns + lnK = ln\alpha_2 + lnY \qquad (2)$$

$$lnw + lnL = ln\alpha_3 + lnY \qquad (3)$$

$$lnL = ln\alpha_4 + \alpha_5 \cdot (lnw + lnt) \qquad (4)$$

Parameters are constructed at the baseline economic levels of Y, K, L, and t as:

$$\alpha_2 = \frac{1}{3}$$

$$\alpha_3 = \frac{2}{3}$$

$$\alpha_5 = 0.3$$

$$ln\alpha_4 = lnl - \alpha_5 \cdot (lnw + lnt)$$

$$\alpha_1 = lnY - \alpha_2 \cdot lnK - \alpha_3 \cdot lnL$$

The exogenously specified variables are s and t where:

$$s_0 = \alpha_2 \cdot Y/K$$

$$t = (1 - t_l)$$

Since we have four linear (in the logs) equations in four unknowns, we can solve the system.

First, we will rearrange equation 3 to solve for w in terms of L.

$$lnw = ln\alpha_3 + lnY - lnL \qquad (3a)$$

Substituting into equation 4 we have:

$$lnL = ln\alpha_4 + \alpha_5 \cdot ((ln\alpha_3 + lnY - lnL) + lnt) \qquad (4a)$$

Rearranging and combining terms, we get:

$$(1 + \alpha_5) \cdot lnL = (ln\alpha_4 + \alpha_5 \cdot ln\alpha_3) + \alpha_5 .(lnY + lnt) \qquad (4b)$$

Define two constants and rewrite equation 4b:

$$\alpha_6 = \frac{ln\alpha_4 + \alpha_5 \cdot ln\alpha_3}{(1+\alpha_5)}$$

$$\alpha_7 = \frac{\alpha_5}{(1+\alpha_5)}$$

$$lnL = \alpha_6 + \alpha_7 \cdot (lnY + lnt) \qquad (4c)$$

Solve equation 2 for *lnY*, we get:

$$lnY = lns + lnK - ln\alpha_2 \qquad (2b)$$

Substitute 2b into 4c and combine constants:

$$lnL = \alpha_8 + \alpha_7 \cdot (lns + lnK + lnt) \qquad (4d)$$

Where:

$$\alpha_8 = \alpha_6 - \alpha_7 \cdot ln\alpha_2$$

Substitute 2b into equation 1, collect terms for *K* and combine constants:

$$(1-\alpha_2) \cdot lnK = \alpha_9 + \alpha_3 \cdot lnL - lns \qquad (1b)$$

$$\alpha_9 = \alpha_1 + ln\alpha_2$$

Substitute 4d into 1b and collect terms

$$(1-\alpha_2-\alpha_{11}) \cdot lnK = \alpha_{10} + \alpha_{11} \cdot lnt + (\alpha_{11}-1) \cdot lns \qquad (1c)$$

$$\alpha_{10} = \alpha_9 + \alpha_3 \cdot \alpha_8$$

$$\alpha_{11} = \alpha_3 \cdot \alpha_7$$

Solve for *K*:

$$\alpha_{12} = \frac{\alpha_{10}}{(1-\alpha_2-\alpha_{11})}$$

$$\alpha_{13} = \frac{\alpha_{11}}{(1-\alpha_2-\alpha_{11})}$$

$$\alpha_{14} = \frac{\alpha_{11}-1}{(1-\alpha_2-\alpha_{11})}$$

The system is solved as:

$$lnK = \alpha_{12} + \alpha_{13} \cdot lnt + \alpha_{14} \cdot lns \quad (1d)$$

$$lnL = \alpha_8 + \alpha_7 \cdot (lns + lnK + lnt) \quad (4d)$$

$$lnY = lns + lnK - ln\alpha_2 \quad (2b)$$

$$lnw = ln\alpha_3 + lnY - lnL \quad (3a)$$

Constants are calculated as:

$$\alpha_2 = \frac{1}{3}$$

$$\alpha_3 = \frac{2}{3}$$

$$\alpha_5 = 0.3$$

$$ln\alpha_4 = lnl - \alpha_5 \cdot (lnw + lnt)$$ at baseline

$$\alpha_1 = lnY - \alpha_2 \cdot lnK - \alpha_3 \cdot lnL$$ at baseline

$$\alpha_6 = \frac{ln\alpha_4 + \alpha_5 \cdot ln\alpha_3}{(1 + \alpha_5)}$$

$$\alpha_7 = \frac{\alpha_5}{(1 + \alpha_5)}$$

$$\alpha_8 = \alpha_6 - \alpha_7 \cdot ln\alpha_2$$

$$\alpha_9 = \alpha_1 + ln\alpha_2$$

$$\alpha_{10} = \alpha_9 + \alpha_3 \cdot \alpha_8$$

$$\alpha_{11} = \alpha_3 \cdot \alpha_7$$

$$\alpha_{12} = \frac{\alpha_{10}}{(1 - \alpha_2 - \alpha_{11})}$$

$$\alpha_{13} = \frac{\alpha_{11}}{(1 - \alpha_2 - \alpha_{11})}$$

$$\alpha_{14} = \frac{\alpha_{11} - 1}{(1 - \alpha_2 - \alpha_{11})}$$