

Should the Top Marginal Income Tax Rate Be 73 Percent?

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In this article, Mathur, Slavov, and Strain respond to the argument by Peter Diamond and Emmanuel Saez that the socially optimal top marginal income tax rate is around 73 percent, with a range from 54 to 80 percent. The authors argue that Diamond and Saez's analysis underestimates the distortive effect of a higher tax rate on real economic choices and embodies judgments about fairness that many Americans may find unacceptable. They also assert that Diamond and Saez's underlying economic model cannot prudently be used as the basis for specific, real-world policy recommendations.

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When they won the 2011 Nobel Prize in economics for their research on the causes and effects of government policy on the macroeconomy, Thomas Sargent and Christopher Sims were given a unique opportunity to connect their academic work to actual government action. They had spent their professional lives studying macroeconomic policy, and here we were in the middle of a macroeconomic crisis with the entire policymaking world anxious to hear what they had to say. How do tax cuts affect GDP? How should the government respond to sluggish growth and a terrible labor market? Might we experience serious inflation? Is fiscal stimulus

effective? Everyone was listening — now was Sargent and Sims's chance to let the world know their policy prescriptions.

The first questions the press asked the new laureates went right to the heart of the matter: Had the U.S. government responded appropriately to the Great Recession and what should it do to create jobs and support the economy?

Sims's answer was fascinating:

I think part of the point of this prize in the area that we work in is that answers to questions like that require careful thinking, a lot of data analysis, and that the answers are not likely to be simple. So that asking Tom [Sargent] and me for answers off the top of our heads to these questions — you shouldn't expect much from us. My own view is that what we ought to do is the kind of thing that Chairman Ben Bernanke has urged the U.S. government to do: make good long-run plans for resolving our budget difficulties without imposing severe fiscal stringency in the short-run and that accommodative monetary policy is a good idea. But these are not very original ideas. I think eighty percent of the economics profession would agree with this. The problem is to figure out how in the real world to get these things done.¹

His answer echoed his response in another interview, quoted in *The New York Times*: "The methods that I've used and that Tom [Sargent] has developed are central for finding our way out of this mess," [Sims] said. But asked for specific policy conclusions of his research, he responded, 'If I had a simple answer, I would have been spreading it around the world.'"²

Those answers are a model of how academic economists should behave when facing questions about specific policy. It is extremely difficult to take the results in an academic journal article and apply them to real-world policy questions because the method used in much of economics research is to start with assumptions and to derive conclusions

¹YouTube, "Princeton News Conference With Nobel Prize in Economics Winners," uploaded Oct. 10, 2011, available at <http://www.youtube.com/watch?v=bVIOCIT4Rws>.

²Catherine Rampell, "2 American Professors Awarded Nobel in Economic Science," *The New York Times*, Oct. 10, 2011.

from them. Much of economics research is a series of if-then statements. But as economists readily admit, the ifs are often wildly incorrect. That is not a problem for academic research, in which all results come with a long list of caveats and in which readers are professional economists who spend years in PhD programs learning the caveats. But it does present a problem for economists who try to base specific real-world policy prescriptions on highly stylized models.

Peter Diamond, also a Nobel laureate, and Emmanuel Saez, both eminent and widely respected economists, agree. In a 2011 essay on tax policy they wrote, "When done well, moving from mathematical results, theorems, or calculated examples to policy recommendations is a subtle process."³ Diamond and Saez have outlined three conditions under which "a theoretical result can be fruitfully used as part of forming a policy recommendation":

First, the result should be based on an economic mechanism that is empirically relevant and of first order to the problem at hand. Second, the result should be reasonably robust to changes in the modeling assumptions. . . . Third, the tax policy prescription needs to be implementable — that is, the tax policy needs to be socially acceptable and not too complex relative to the modeling of tax administration and individual responses to tax law. By socially acceptable, we do not mean to limit the choice to currently politically plausible policy options. Rather, we mean there should not be very widely held normative views that make such policies seem implausible and inappropriate at pretty much all times.

Having established those conditions, they then argue that their policy recommendation of significantly higher income taxes on the country's top earners — summarized in an influential *Wall Street Journal* op-ed essay — satisfies them.⁴

We disagree. We do not believe that their model can be used prudently as the basis for the real-world public policy problem of determining the socially optimal top marginal income tax rate.⁵

³Peter Diamond and Emmanuel Saez, "The Case for a Progressive Tax: From Basic Research to Policy Recommendations," 25 *J. Econ. Persp.* 165 (2011).

⁴Diamond and Saez, "High Tax Rates Won't Slow Growth," *The Wall Street Journal*, Apr. 23, 2012.

⁵We focus on the taxation of labor income. In their *Journal of Economic Perspectives* 2011 essay and *Wall Street Journal* op-ed, Diamond and Saez called for increasing tax rates on capital income as a way to reduce tax avoidance opportunities. While there are many arguments against higher taxes on capital, they

(Footnote continued in next column.)

A. Diamond and Saez's Arguments

In their 2011 essay, Diamond and Saez lay out an elegant theory of the optimal top marginal income tax rate based on a 2001 paper by Saez.⁶

1. Two key concepts. There are two economic concepts to keep in mind in order to understand Diamond and Saez's argument. The first is the concept of a social welfare function, which can be thought of as a tool to determine the level of social well-being in different situations. That is a similar concept to the individual's utility function, which measures an individual's well-being in different situations. Indeed, a social welfare function can be thought of as the aggregation of all individual utility functions in a society. This concept is obviously important here because a substantial increase in the top marginal income tax rate produces both winners and losers at the individual level. The question pursued by Diamond and Saez is whether society as a whole will be better off if the top marginal income tax rate is raised significantly.

The second concept is the law of diminishing marginal utility, which states that the more of something you have, the less value you receive from an additional unit of it. As a simple example, think of pizza: You gain a lot more utility from your second slice of pizza than from your 12th. This concept is applicable to the debate over the top marginal rate because it tells you that people are likely to value an additional dollar of consumption more when they are poor than when they are wealthy. Under the assumption that we can compare one person's utility to another's (more on that later), we can also say that a wealthy person values an additional dollar of consumption less than a poor person does.

Looking at an extreme example helps clarify the point. Imagine that Warren Buffett spends a dollar at McDonald's. Eating the food he buys makes him better off (that is, increases his utility) and society is better off because social welfare is determined by individual welfare. But now imagine that the government takes the dollar away from Buffett and gives it to a starving person. The starving person buys exactly the same item, but because he is starving, his welfare will be significantly improved after he eats — his welfare will increase much more than Buffett's. The extra utility the starving man receives from the food is greater than the extra

are outside the scope of this essay, as capital taxation is of secondary importance in Diamond's and Saez's recommendation.

⁶Saez, "Using Elasticities to Derive Optimal Income Tax Rates," 68 *Rev. Econ. Stud.* 205 (2001).

utility Buffett receives, so society is made better off when the government takes the dollar from Buffett and redistributes it to the starving man.

As explained below, the concepts of a social welfare function and diminishing marginal utility are necessary to understand Diamond and Saez's argument.

2. Setup. Imagine an increase in the top marginal tax rate from t to t^* for incomes above the income level z^* . For example, t might be 40 percent, t^* might be 50 percent, and z^* might be \$400,000. Those paying higher taxes obviously will be worse off as a result of the change, but the revenue collected will be redistributed to others, making them better off. With the rich worse off and the non-rich better off, the key question considered by Diamond and Saez is whether *society as a whole* is better off when the top marginal income tax rate is increased. More generally, Diamond and Saez want to find the top rate at which social welfare is maximized — the top marginal income tax rate at which society is as well off as possible. That social-welfare-maximizing rate is called the optimal rate.

3. Two effects: mechanical and behavioral. The tax change will have two effects. The first is the mechanical effect of additional revenue flowing to the government as a consequence of the higher tax rate. Holding all else constant, a higher tax rate results in more money going to the government. The second is the behavioral effect. Holding all else constant, the higher tax rate lowers taxable income for several reasons, which reduces the revenue flowing to the government.

The mechanical effect is easy to understand. In our example, the government collects 10 percent more of every dollar of income earned in excess of \$400,000 from every person who earns that much. So mechanically, the government will see its revenue rise. If the government redistributes the additional revenue, then middle- and low-income earners will see their consumption increase as a result of the tax change.

The behavioral effect captures how the behavior of top earners changes in response to the new tax regime. When faced with higher taxes, some wealthy people may work less, some may substitute earnings for other forms of income that are taxed at lower rates (like capital gains), some may move activities overseas, and some may engage in tax evasion.⁷ Because all those behavioral changes reduce the amount of taxable income that wealthy people report to the government, they can be sum-

marized by looking at how much taxable income varies with the top tax rate.

To get a bit more technical, if t is the marginal tax rate, then $(1 - t)$ is known as the net-of-tax rate — the fraction of every dollar earned that a person can keep for himself. The behavioral response can be summarized by a parameter called the elasticity of taxable income with respect to the net-of-tax rate, which is defined as the percent increase in taxable income that follows from a 1 percent increase in $(1 - t)$.

Raising the tax rate, t , from 40 to 50 percent means the net-of-tax rate, $(1 - t)$, falls by 10 percentage points, or by $0.1/(1 - 0.4) = 16.7$ percent. If the elasticity is 0.5, then that tax change causes taxable income to fall by $(0.5 * 16.7) = 8.3$ percent. If the elasticity is higher, the change causes taxable income to fall by more than 8.3 percent — a higher value for the elasticity implies that the amount of taxable income is relatively more responsive to changes in the tax rate. The converse is also true. The elasticity measures how responsive taxable income is to changes in the net-of-tax rate.

Those two effects pull in competing directions. Holding all else constant, the mechanical effect of an increase in the top marginal rate increases the revenue received by the government, whereas the behavioral effect decreases the revenue the government collects.

4. Determining the optimal rate. Diamond and Saez use those two effects to find the socially optimal top marginal income tax rate. In their model, raising taxes on the rich makes them worse off. And if the behavioral effect outweighs the mechanical effect — if raising taxes results in less tax revenue — then middle- and low-income individuals also are worse off because the tax increase results in less money (consumption) being redistributed to them. However, provided that the mechanical effect offsets the behavioral effect, raising taxes on those with high incomes makes the non-rich better off. In that case, how should we weigh the gain to the non-rich against the losses to the rich? Recall that the goal is to set the top rate so that society as a whole is as well-off as possible. How do Diamond and Saez determine what is socially optimal, given that some individuals are worse off and others are better off?

Diamond and Saez argue that because of diminishing marginal utility, the decrease in utility experienced by the rich under the new tax regime will be much less than the increase in utility experienced

⁷Individuals can choose to realize income at different times in order to face lower tax rates. For instance, Austan Goolsbee has shown that the timing of income realization depends on (Footnote continued in next column.)

expectations about tax rates. See "What Happens When You Tax the Rich? Evidence From Executive Compensation," 108 J. Pol. Econ. 353 (2000).

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by the non-rich when the government redistributes the new tax revenue to them. In fact, Diamond and Saez argue that the loss to the rich is so small relative to the gain to the non-rich that we might as well assume it is zero.

Because the social loss from taking money from the rich is assumed to be zero and the social gain from giving money to the non-rich is greater than zero, society's goal is clear: The government should take as much money as possible from the rich and redistribute it to the non-rich. In other words, the government should raise taxes on the rich until the behavioral effect just barely offsets the mechanical effect — that is, until the government maximizes the revenue collected from the rich.⁸

Diamond and Saez show that given the considerations outlined above, a simple and elegant formula with only two parameters determines the socially optimal top income tax rate: $1/(1 + \alpha * e)$. The parameter α is simply a statistic that describes a feature of the income distribution and for the United States is equal to about 1.5.⁹ (We can consider that a fact and not something to be estimated.) The parameter e is the behavioral effect discussed above: the elasticity of taxable income with respect to the net-of-tax rate. Diamond and Saez argue that that e is equal to about 0.25, what they describe as "a mid-range estimate from the empirical literature." That estimate implies that when the tax rate increases by 1 percent, causing $(1 - t)$ to fall, taxable incomes fall by 0.25 percent. If that is correct, then the socially optimal top marginal income tax rate is easy to find. Just plug the numbers into their formula: $1/(1 + 1.5 * 0.25) = 0.727$. That is, the rich should face a marginal tax rate of approximately 73 percent.

Diamond and Saez readily admit there is controversy over the exact value of e and they discuss other estimates of e . They argue that 0.57 "is a conservative upper bound estimate" and imply that 0.17 is a good lower bound. Using those two elasticities, they argue that the optimal total top marginal income tax rate is somewhere between 54 and 80 percent. After netting out state and payroll taxes, that puts the socially optimal top federal marginal income tax rate somewhere between 48 and 76 percent.

⁸In other words, the goal is to set the top tax rate at the peak of the Laffer curve.

⁹It is an empirical fact that high incomes in the United States approximate a Pareto distribution, in which the ratio of any income level z^* to the average income above z^* (denoted by z_m) is constant. The parameter α is then defined as $z_m/(z_m - z^*)$. According to Diamond and Saez, the average income above \$400,000 (their cutoff for high income) is around \$1.2 million, which means $\alpha = 1,200,000/(1,200,000 - 400,000) = 1.5$.

Diamond and Saez took their findings into the public square with an op-ed in *The Wall Street Journal*, offering the following policy recommendation:

According to our analysis of current tax rates and their elasticity, the revenue-maximizing top federal marginal income tax rate would be in or near the range of 50 percent to 70 percent (taking into account that individuals face additional taxes from Medicare and state and local taxes). Thus we conclude that raising the top tax rate is very likely to result in revenue increases at least until we reach the 50 percent rate that held during the first Reagan administration, and possibly until the 70 percent rate of the 1970s. To reduce tax avoidance opportunities, tax rates on capital gains and dividends should increase along with the basic rate. Closing loopholes and stepping up enforcement would further limit tax avoidance and evasion.¹⁰

The current top federal marginal income tax rate is 35 percent. So at a minimum, Diamond and Saez are recommending publicly that the top federal rate be raised by 15 percentage points.

B. Our Response

Saez's work on determining the optimal top marginal income tax rate is very elegant and an example of the best type of applied theoretical research in public economics. And Diamond and Saez apply that work in a way that is interesting and informative to professional economists. There is no question that their *Journal of Economic Perspectives* paper and their computation of the optimal top rate of 73 percent provides a valuable perspective to economists who think about taxes and, more specifically, the distance between the current and optimal tax regimes.

But we believe that sufficient issues — some unavoidable — with their estimate prevent it from being usable as the basis for a real-world policy recommendation.

1. The long-run behavior response. Diamond and Saez implicitly assume that the only behavioral response (elasticity) that matters is the short-run effect of a small increase in the top marginal income tax rate. In other words, if we raise tax rates now, what impact will it have on revenue within a few years? But is that all that matters? They wrote:

Perhaps most critically, does an estimate based on a single period model still apply when recognizing that people earn and pay income

¹⁰Supra note 4.

taxes year after year? First, earlier decisions such as education and career choices affect later earnings opportunities. It is conceivable that a more progressive tax system could reduce incentives to accumulate human capital in the first place. The logic of the equity-efficiency tradeoff would still carry through, but the elasticity e should reflect not only short-run labor supply responses but also long-run responses through education and career choices. While there is a sizable multi-period optimal tax literature using life-cycle models and generating insights, we unfortunately have little compelling empirical evidence to assess whether taxes affect earnings through those long-run channels.¹¹

Diamond and Saez have evidently thought about our objection and acknowledge its importance.

Why is that important? Imagine a high school student who graduates in a world where the top marginal income tax rate is more than 70 percent. He may decide not to pursue his dream of becoming a college-educated engineer because the government will take a large share of the returns to his college investment — that is, much of the extra money he will earn because he is a college-educated engineer will be seized by the government, so he may conclude that going to college isn't worth it. He is worse off because of the high top income tax rate. And so is society, because we now have one less engineer.

Or imagine a medical school student. She may decide to become a pediatrician instead of a heart surgeon because a large share of the extra money she would earn being a surgeon would be taken by the government. There is nothing wrong with pediatricians, but the problem is that the government is distorting this medical student's decision — that is, she isn't making the choice based on her preferences and market prices alone. If enough people made that choice, there wouldn't be enough surgeons (an economist would say there is an inefficient allocation of human resources).

Or imagine a small business owner. His business is growing and he has the opportunity to expand it over the next decade. But because expanding it will require a lot of work — not to mention that the payoff is risky — he chooses not to. He decides that it's just not worth it given that the potential rewards from his hard work will largely go to the government.

Those issues — investment in schooling, occupational choice, and business creation and develop-

ment — are critically important when thinking about the real-world top tax rate. To quote from Diamond and Saez's three conditions, they are clearly of "first order to the problem at hand." All U.S. citizens benefit greatly from people who take risks and make career choices in the hope of becoming extremely wealthy. Significantly reducing that possibility by hitting those individuals with extremely high income taxes is of first-order importance in determining the optimal top tax rate.

Yet Diamond and Saez's short-run estimate completely ignores the effects an increase in the top marginal income tax rate has on choice of schooling, occupation, entrepreneurship, and business development. They argue that they "unfortunately have little compelling empirical evidence to assess whether taxes affect earnings through those long-run channels."

We agree with Diamond and Saez that the economics literature does not have good estimates of the long-run effects of high top marginal tax rates on human capital accumulation, career, entrepreneurship, and business development choices. But most economists would agree that those effects exist and may be important. We do not have estimates of their magnitude only because we lack appropriate data. Indeed, the most important questions in economics are often the hardest to answer because of data limitations. This is certainly one of those cases.

In the absence of good empirical estimates, Diamond and Saez have picked an estimate that is clearly bad: They have effectively assumed that the long-run effects are zero. While that assumption might be fine in a caveat-filled academic journal article, it is obviously not a reasonable assumption to employ when making a specific real-world policy recommendation. At the very least, the vast uncertainty surrounding those long-run effects should have led Diamond and Saez to conclude that the plausible range of optimal top tax rates is much wider than 50 to 70 percent, or that the range of plausible estimates may be so wide that their optimal tax model — while very useful in helping professional economists think about taxes — is not useful for generating specific real-world policy recommendations. It's the difference between an academic paper written for an audience of economists and public advocacy for a specific policy to be adopted in the real world. And it suggests that Diamond and Saez do not satisfy their own criteria for using a theoretical result as part of forming a policy recommendation.

2. The value of the behavioral elasticity. The short-term elasticity of taxable income with respect to the net-of-tax rate, the effect that is included in Diamond and Saez's model, is denoted by e in the optimal tax rate formula. In solving for the optimal

¹¹Supra note 3.

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tax rate, Diamond and Saez set e equal to 0.25, describing that number as a midrange estimate from the empirical literature. We do not consider 0.25 a midrange estimate for this parameter.

When tax rates go up, people can change their behavior in many ways. First and most obviously, they can work less. Early studies assumed that to be the main behavioral effect of taxes. The idea is that as tax rates increase the number of hours worked by a given individual would decrease and thus dampen the revenue effects from increased taxation. Arnold Harberger's seminal analysis of the efficiency costs of income taxation focused on the distortionary effects of personal income taxes on labor supply.¹² Following his analysis, labor supply elasticity became a key policy guideline to measure the behavioral response to taxes. Richard Blundell and Thomas MaCurdy reviewed that body of research and found that men don't change their work decisions much in response to the tax rate.¹³ According to the study, women — and more generally, secondary earners — exhibit more responsiveness to income tax rates.

The balance of the literature suggests that labor supply decisions made by primary earners aren't particularly responsive to changes in the top tax rate, which argues for a low estimate of Diamond and Saez's behavioral effect. However, there are many other ways people can change their behavior to avoid taxes.

For example, people can shift income into non-taxable forms, such as employer-sponsored health insurance and other untaxed fringe benefits, or they can engage in tax evasion by underreporting income. Martin Feldstein has argued that the labor supply elasticity greatly underestimates the total deadweight loss of income taxation because it ignores those types of behavioral effects.¹⁴ His principal message is that taxation distorts the relative price of goods and activities that are not taxed. Hence, even if all income is labor income, as long as individuals have some discretion over what portion of their income is taxed or reported to the tax authorities, the elasticity of taxable income may be larger than the elasticity of total labor income.

Lawrence Lindsey was one of the first to estimate how taxable income responds to changes in tax

rates.¹⁵ He used cross-sectional data from the Economic Recovery Tax Act of 1981 (ERTA) and estimated elasticities of adjusted gross income relative to tax rates in the range of 1.05 to 2.75, with a central estimate of 1.6. However, the use of cross-sectional data forces the assumption that taxpayers are in the same relative place in the income distribution before and after the tax changes.

Longitudinal data avoid many of the problems of cross-sectional data because they permit comparison of each taxpayer's situation before and after a tax change. Feldstein used panel data on individual tax returns from the Tax Reform Act of 1986 and estimated elasticities in the range of 1.1 to 3.05, with a central estimate around 2.¹⁶ Gerald Auten and Robert Carroll used the same regression method, but with a much larger panel of data available from Treasury, and found a significantly lower central estimate of 0.6.¹⁷ John Navratil used a slightly different approach and estimated elasticities as high as 1 for the top 3 percent of earners, and much smaller elasticities for other groups.¹⁸

Contemporaneous, non-tax-related trends of rising income inequality could bias elasticity estimates upward in studies of tax cuts, particularly those from the 1980s. According to Joel Slemrod¹⁹ and Austan Goolsbee,²⁰ for example, those trends may account for most of the measured behavioral responses to ERTA and TRA 1986.²¹ It is therefore useful to consider tax increases; the 1990 and 1993 Omnibus Budget Reconciliation acts (OBRA) are natural choices.²² Carroll used panel data from 1989-1995 and estimated an elasticity around 0.4.²³

¹⁵Lindsey, "Individual Taxpayer Response to Tax Cuts: 1982-1984, With Implications for the Revenue Maximizing Tax Rate," 33 *J. Pub. Econ.* 173 (1987).

¹⁶Feldstein (1995), "Behavioral Responses to Tax Rates: Evidence From the Tax Reform Act of 1986," 85 *Am. Econ. Rev.* 170 (1995).

¹⁷Auten and Carroll, "The Effect of Income Taxes on Household Income," 81 *Rev. Econ. & Stat.* 681 (1999).

¹⁸Navratil, "Essays on the Impact of Marginal Tax Rate Reductions on the Reporting of Taxable Income on Individual Tax Returns," PhD dissertation, Harvard University (1995).

¹⁹Slemrod, "High-Income Families and the Tax Changes of the 1980s: The Anatomy of Behavioral Response," in *Empirical Foundations of Household Taxation* 169 (1996).

²⁰Goolsbee, *supra* note 7.

²¹Auten and Carroll, *supra* note 17, have examined the contribution of behavioral responses to the tax cuts of the 1980s to rising measured income inequality.

²²In "The Elasticity of Taxable Income During the 1990s: A Sensitivity Analysis," MRA Paper 17603 (2006), Seth Giertz provided a sensitivity analysis for estimates from the 1990s.

²³Carroll, "Do Taxpayers Really Respond to Changes in Tax Rates? Evidence From the 1993 Act," Treasury Office of Tax Analysis Working Paper 78 (1998).

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Bradley Heim²⁴ and Auten, Carroll, and Geoffrey Gee²⁵ examined data from the period around the Economic Growth Tax Relief Reconciliation Act of 2001 (EGTRRA) and Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA), and they estimated ETIs of 0.32 and 0.39. Their estimates are much higher for high-income individuals than for low-income individuals. However, the rate changes of EGTRRA and JGTRRA are much smaller than those from the 1980s and 1990s.

To control for trends in income inequality, Jon Gruber and Saez used state and federal tax return data from 1979 to 1990.²⁶ During that time, each income group underwent multiple tax changes. In addition to being able to control for the trend of rising income inequality, the multiple tax changes allowed them to study the variation of elasticities within the income distribution and propose an optimal nonlinear tax schedule. They reached greatly differing estimates for the overall elasticity of broad income, 0.12, and the overall elasticity of taxable income, 0.4.²⁷ In their analysis, the difference is mostly because tax preferences, such as the use of exemptions, deductions, and exclusions, are influenced greatly by tax rates. Seth Giertz used an approach similar to Gruber and Saez's, but with data from 1979 to 2001.²⁸ He found an overall elasticity of 0.3 and estimated an elasticity of 0.2 for the 1990s, which is half of Gruber and Saez's result of 0.4 for the 1980s. But Giertz estimated a broad income elasticity of 0.15, which is only slightly different from the 1980s' result of 0.12.

Several studies have examined the effect of unlegislated changes in tax rates. Saez used data to study the behavioral effects of taxpayers shifting into a higher tax bracket as the result of inflation.²⁹ He found fairly small elasticities for the average taxpayer, although elasticities were 0.65 for married itemizers, which was significantly higher than for non-itemizers.

²⁴Heim, "The Effect of Recent Tax Changes on Taxable Income: Evidence From a New Panel of Tax Returns," 28 *J. Pol'y Analysis & Mgmt* 147 (2009).

²⁵Auten et al., "The 2001 and 2003 Tax Rate Reductions: An Overview and Estimate of the Taxable Income Increase," 61 *Nat'l Tax J.* 345 (2008).

²⁶Gruber and Saez, "The Elasticity of Taxable Income: Evidence and Implications," 84 *J. Pub. Econ.* 1 (2002).

²⁷Broad income includes wages, salaries, tips, interest income, dividends, alimony received, business income, total IRA distributions, total pensions and annuities, income reported on Schedule E, farm income, full unemployment compensation, and other income.

²⁸Giertz, "The Elasticity of Taxable Income Over the 1980s and 1990s," MRA Paper 18313 (2007).

²⁹Saez, "The Effect of Marginal Tax Rates on Income: A Panel Study of 'Bracket Creep,'" 87 *J. Pub. Econ.* 1231 (2003).

The studies examined the size of the behavioral elasticity for all earners, but the behavioral response elasticity that is relevant in Diamond and Saez's calculation of the optimal tax rate is the one that applies to high-income individuals. What does the literature say about high earners?

It appears that studies focusing on high-income individuals tend to find much higher estimates of the short-term elasticity than ones that include mainly lower-income households. For instance, Auten and David Joulfaian estimated the value of that elasticity at 1.3.³⁰ Goolsbee used data on executive compensation from 1991 to 1995 to study the responsiveness of executives' taxable income to OBRA 1993.³¹ He calculated very high, short-term elasticities of more than 1, which he attributed to the exercise of options in anticipation of tax rate increases. Robert Moffitt and Mark Wilhelm found a range of estimates from 0.35 to 1.99.³²

It seems clear that 0.25 is not, as Diamond and Saez argue, "a mid-range estimate from the empirical literature" for high-income earners. Empirical studies have not produced a consensus as to the magnitude of the elasticity of income relative to the marginal tax rates for high earners — Diamond and Saez's behavioral effect. In the appendix, we have provided a table showing the estimates from different studies as well as the samples used. Given the range of estimates, assuming a median value of the short-term elasticity of 0.25 as Diamond and Saez do does not seem prudent, especially when making a specific real-world policy recommendation.

Diamond and Saez seem to implicitly acknowledge that. They argue that the "behavioral elasticity is due to real economic responses such as labor supply, business creation, or savings decisions, but also tax avoidance and evasion responses" and that "when a tax system offers tax avoidance or evasion opportunities, the tax base in a given year is quite sensitive to tax rates, so the elasticity e is large, and the optimal top tax rate is correspondingly low. . . . Most important, the tax avoidance or evasion component of the elasticity e is not an immutable parameter and can be reduced through base

³⁰Auten and Joulfaian, "The Taxable Income Elasticity of High-Income Taxpayers: Evidence From a Long Panel," Social Science Research Network Working Paper Series 1406641 (2009).

³¹Goolsbee, *supra* note 7.

³²Assume Diamond and Saez have the right formula. Let's use a value for the behavioral elasticity for high earners of 1.3, as estimated both by Goolsbee, *supra* note 7, and Auten and Joulfaian, *supra* note 30. Using their model, the optimal top tax rate is 34 percent. For Moffitt and Wilhelm's article, see "Taxation and the Labor Supply: Decisions of the Affluent," National Bureau of Economic Research Working Paper Series 6621 (2000).

broadening and tax enforcement. Thus, the distinction between real responses and tax avoidance responses is critical for tax policy.³² Diamond and Saez offer a range of estimates for e , arguing that 0.57 "is a conservative upper bound estimate" and consequently that the top federal income tax rate should be at least 48 percent.

We agree that there is an important difference between the real economic response of taxable income to the top tax rate and the tax avoidance and evasion response. However, we do not believe that in the real world the top tax rate should be set under the assumption that tax avoidance and evasion behavior can be dramatically changed. In the messy world of public policy it is important not to put the cart before the horse.³³

3. The right social welfare function? The goal as Diamond and Saez describe it is to get as much money from the rich as possible and to transfer it to the non-rich, who, because of diminishing marginal utility, value it more. That goal follows from a social welfare function that aggregates the utility functions of all individuals in society. An implication of that social welfare function is that ideally, we would like income to be distributed evenly across all people. As Diamond and Saez put it, "social welfare is larger when resources are more equally distributed."³⁴

Nearly all economists who study optimal tax theory use the social welfare function approach, along with the "more equality is better" social welfare criterion that it implies. So there is nothing unusual about the setup of Diamond and Saez's model, and its result — that we should maximize the revenue we collect from high earners — is useful to professional economists in thinking about taxes in the context of an academic journal article. It answers an interesting research question: If we generally think that more income equality is better, then what is the right tax system?

But is it appropriate to use that result as the basis for making specific, real-world policy recommenda-

³³A comprehensive reform policy including base broadening and efforts to crack down on tax evasion when combined with a higher top rate is intriguing and worth considering. But Diamond and Saez offer little more on that topic than the sentences quoted.

³⁴Perfect equality is unattainable because (as discussed above) the behavioral effect will eventually outweigh the mechanical effect and society will be worse off because the government will not be receiving the maximum amount of tax revenue possible from the wealthy. That will occur before incomes are fully equalized throughout the population, which is why Diamond and Saez do not argue that the top marginal income tax rate should be 100 percent.

tions? It is, but only if most citizens accept the more equality is better criterion — Diamond and Saez's third criterion of social acceptability. That criterion does not pass the social acceptability test because it focuses entirely on outcomes and totally ignores process. In other words, social welfare in those models does not depend on how the rich got rich. Did the rich invent products that most of us can't imagine living without? Or did they get rich by lobbying for favorable regulations for their industries? We suspect those questions are important to most citizens and that they are OK with Bill Gates being rich, but Jack Abramoff, not so much. Consistent with that, poll results suggest many U.S. citizens view inequality as "an acceptable part of our economic system."³⁵

We also suspect that most U.S. citizens would not accept a social welfare criterion whose ideal outcome is a completely equal distribution of income. Most of us would agree, at least on some level, with the notion of diminishing marginal utility: A person who cannot afford basic necessities would value a dollar more than a person who can. And the overwhelming majority of Americans surely support policies to give food to the starving and shelter to the homeless, and to ensure a basic standard of living for those who face hard times. But the reality is that most tax dollars do not fund government programs targeted to low-income individuals. They fund entitlement programs like Social Security and Medicare, whose main beneficiaries is middle-income earners, a group that is very rich by world standards.³⁶ Supporting a strong social safety net for low-income individuals and some redistribution from the wealthy to those in the middle is a far cry from supporting complete equality. So a social welfare criterion that argues that the best social outcome is complete equality is suspect when used to formulate real-world policy recommendations.

And while many U.S. citizens may value a more equal distribution of wealth, many would probably also value the opportunity to increase their own wealth through hard work. The satisfaction that comes from improving one's life through hard work can't be found in a world where everyone has the same amount of wealth. Along those lines, there is

³⁵Gallup, "Americans Prioritize Economy Over Reducing Wealth Gap" (Dec. 16, 2011).

³⁶Indeed, some economists have pointed out that taking the more-equality-is-better approach to its logical extreme would require massive redistribution from U.S. citizens to individuals in poorer countries. See N. Gregory Mankiw, "Spreading the Wealth Around: Reflections Inspired by Joe the Plumber," 36 *Econ. J.* 285 (2010).

some evidence to suggest that the happiest individuals are those who believe they can improve their lives.³⁷

The question of what makes U.S. citizens happy — or what they believe is fair — is complex. We certainly don't want to claim that hard work and the opportunity to strive for success are the only relevant factors, and we readily acknowledge that many Americans think the U.S. income distribution needs to be more equal.³⁸ Our point is that the Diamond and Saez social welfare function criterion of more equality is better is far too simplistic to capture the preferences of most people and that, when taken to its logical conclusion, it is likely contrary to the average taxpayer's preferences.

Finally, even if we ignore what most U.S. people believe is fair, it is still not clear how seriously we should take the social welfare function approach in general as the basis for policy. Utility is a subjective concept, essentially a preference ranking using index numbers. While those arbitrary numbers can be used to rank alternatives for an individual (for example, an alternative that gives someone 10 units of utility is better than an alternative that gives someone five units of utility), it is not clear whether units of utility can be compared across individuals. For example, suppose we ask you to tell us, on a scale of one to 10, how happy an ice-cream cone would make you. Let's say you respond with a five. Now suppose we ask your friend, and she responds with a seven. Do we have any idea whether the ice-cream cone would make you happier than it would make your friend? No — and therein lies the problem with interpersonal comparisons of utility.

That criticism of the social welfare function approach is found in standard PhD microeconomic theory textbooks, which urge extreme caution in comparing utility across individuals. Economists who study optimal taxation routinely ignore that advice and use the social welfare function approach with impunity. Again, that is fine in a caveat-filled journal article intended for economists who have sat through the standard microeconomic theory courses and know the approach's limitations. But are we willing to go beyond academic research and make specific, bold policy recommendations based on comparing units of utility across people who may place radically different values on the consumption of material goods?

³⁷See Arthur C. Brooks, "What Really Buys Happiness?" 17 *City J.* 59 (2007).

³⁸For example, only 28 percent of respondents to a recent Gallup poll stated that it was not important to "reduce the income gap between the rich and the poor," *supra* note 35. The remainder believed it was at least somewhat important.

We are not the only economists to question the social welfare function approach to tax policy. N. Gregory Mankiw, a Harvard economist and former senior economic adviser to President George W. Bush, has said:

My sense is that people are rarely outraged when high incomes go to those who obviously earned them. When we see Steven Spielberg make blockbuster movies, Steve Jobs introduce the iPod, David Letterman crack funny jokes, and J.K. Rowling excite countless young readers with her Harry Potter books, we don't object to the many millions of dollars they earn in the process. The high incomes that generate anger are those that come from manipulating the system. The CEO who pads the corporate board with his cronies and the banker whose firm survives only by virtue of a government bailout do not seem to deserve their multimillion dollar bonuses. The public perceives them (correctly or incorrectly) as getting more than they contributed to society.

A better criterion, according to Mankiw, would be: "People should get what they deserve."³⁹

C. Conclusion

What is the socially optimal top marginal income tax rate? Economists don't know. We don't have a formula that spits out a reasonably tight range of values for the socially optimal top marginal income tax rate — at least, we don't have a formula that can be prudently used to make a specific, real-world policy recommendation.

We don't have a precise and reliable estimate of the long-run effect of high top marginal tax rates. To what degree will high rates discourage educational investment or distort occupational choice, business creation, and business expansion? We're sure the effect exists, but in a very real sense we don't know how important it is.

What about the short-run response? Again, we're pretty sure that it's larger than Diamond and Saez's estimate of 0.25, but estimates span a large range. Ignoring the long-run effect and using Diamond and Saez's formula, that corresponds to an extremely wide range of possible values for the socially optimal top rate. A range of that width isn't helpful for policy; we don't need economists to tell us that the optimal top rate is either the same, less than, or greater than the current rate.

Perhaps we have stumbled on a better algorithm than Diamond and Saez's formula? We think so. In a real-world policy setting, the optimal top rate should be determined by taking the status quo

³⁹*Supra* note 36.

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seriously and deciding how to deviate from it in a way that will be welcomed by society and implementable by the president and Congress. Advocates for particular policies should not allow the pursuit of the perfect to become the enemy of the good.

The academic literature in economics — and especially the seminal papers by Diamond and Saez — should unquestionably be used to inform the debate. Economics is at its best when it clarifies and quantifies trade-offs between different scenarios, and the research by Diamond and Saez does that well.

But there is more to public policy than economics. There are value judgments and moral considerations. We don't know what to do about the fact that economists haven't credibly and precisely estimated many effects that are of first-order importance in policy, but we're pretty sure that the solution isn't to pretend the effects don't matter. We don't know what social welfare criterion we should use to decide the socially optimal top rate, but it's not obvious to us that we should use the same criterion that professional economists use in journal articles.

The vast majority of academic papers on this topic use the social welfare function to justify assigning zero weight to the marginal utility of those at the very top, regardless of how they earned their incomes. We are sympathetic to Feldstein's reaction to that:

What kind of nation places no value on the welfare of those with income in the top bracket, treating them only as the revenue producing property of the state? Many non-economists would find the . . . suggestion that a society could disregard the welfare of any group of taxpayers repugnant.⁴⁰

So what is the socially optimal top marginal income tax rate? Diamond and Saez ignore long-term behavioral responses, assume a more equality is better social welfare function, assign no social value to the marginal dollar of consumption for the rich, and use a short-run behavioral response predicated in part on less evasion and more enforcement to compute an answer of 73 percent. Consequently, we can be pretty sure that the answer is significantly less than that. Further, we find the suggestion that the government should take more than half of a citizen's income in taxes to be unpalatable. But do we have a specific answer to the question? Do we have a concrete number to throw out in response? To borrow from Sims, if we had a simple answer, then we would be spreading it around the world.

(Table appears on the following page.)

⁴⁰Feldstein, "The Mirrlees Review," 50 *J. Econ. Lit.* 781 (2012).

Appendix Table. Taxable Income Elasticities From Different Studies

	Central Estimates	Elasticity Studied	Sample	Tax Change	Data Description
Lindsey (1987)	1.6	Taxable income	AGI exceeding \$5,000	ERTA 1981	SOI cross-sectional data 1980-1984
Feldstein (1995)	1.1-3.1	Taxable income	Married, income exceeding \$30,000	TRA 1986	NBER tax panel 1985-1983
	0.7-1.3	AGI			
Navratil (1995)	0.8	Taxable income	Married, income exceeding \$25,000	ERTA 1981	NBER tax panel 1980-1983
Auten and Carroll (1999)	0.6	AGI	Single and married, ages 25-55, income exceeding \$15,000	TRA 1986	Treasury tax panel 1985-1989
Carroll (1998)	0.5	Taxable income	Married, ages 25-55, income exceeding \$50,000	OBRA 1993	Treasury tax panel 1987-1996
Moffitt and Wilhelm (2000)	0-2.1	AGI	High incomes oversampled	TRA 1986	SCF panel 1983-1989
Goolsbee (1999)	-1.3-2.1	Taxable income	Income exceeding \$30,000	Various reforms	Tax statistics tables 1922-1989
Goolsbee (2000)	1.3 SR, 0.4 LR	Wages, bonuses, and options	Corporate executives, real permanent income exceeding \$275,000	OBRA 1993	Panel of corporate executives 1991-1994
Gruber and Saez (2002)	0.4	Taxable income	Income exceeding \$10,000	Various reforms	NBER tax panel 1979-1990
	0.1	Broad income			
Saez (2003)	0.4	Taxable income	Married and singles	Bracket creep	NBER tax panel 1979-1981
	0.3	AGI			
Giertz (2007)	0.4	Taxable income	Income exceeding \$10,000	Various reforms	SOI and CWHS 1979-2001
	0.2	Broad income			
Auten, Carroll, and Gee (2008)	0.4	Taxable income	Ages 21-61, gross income exceeding \$50,000	EGTRRA 2001, JGTRRA 2003	SOI 1999-2005
Heim (2009)	0.3	Taxable income	Age over 25, gross income exceeding \$10,000	EGTRRA 2001, JGTRRA 2003	1999 edited panel 1999-2005
	0.2	AGI			
Auten and Jouffaian (2009)	1.3 SR, 0.6 LR	Taxable income	Top 1 percent income	Various reforms	Panel of federal income tax returns 1979-1995
	0.8 SR, 0.5 LR	AGI			