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The Appropriate Roles for Equity and Efficiency in a Progressive Individual Income Tax

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THE APPROPRIATE ROLES FOR EQUITY AND EFFICIENCY IN A PROGRESSIVE INDIVIDUAL INCOME TAX

by

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ABSTRACT

Increased focus on economic efficiency in formulating tax policy, at the expense of achieving equity, has resulted in decreased rate progressivity in our individual income tax. This decrease has exacerbated inequality.

There are several explanations for the intense focus on efficiency and reduced emphasis on equity. Predictions of efficiency gains from low individual income tax rates appear more certain than equity gains from progressive tax rates. Efficiency gains seem measurable, while equity gains appear intangible and unquantifiable. In addition, distributive justice, which underlies and shapes tax equity, exists in many abstract forms, some of which may not require progressive tax rates.

This Article argues, however, that the emphasis on efficiency is misplaced. Inequality imposes measurable costs on the health, social well-being, and intergenerational mobility of our citizens, as well as on our democratic process. This is corroborated by significant empirical analysis.

In contrast, empirical analysis shows that anticipated efficiency gains from low individual tax rates are speculative. A consensus exists among economists that taxes within the historical range of rates in the United States have little or no impact on labor supply. Moreover, economists cannot agree whether the myriad empirical studies on savings indicate that progressive tax rates decrease, increase, or have no impact on savings in the United States.

The clear harms arising from inequality and the uncertain harms arising from progressive tax rates, strongly support always giving equity at least equal weight with efficiency in formulating tax policy. But given the high level of inequality in the United States and the currently low and flat tax rate structure, equity should be given more weight than efficiency at this time. Emphasizing equity in a progressive individual income tax will contribute to the health and economic mobility of our citizens, as well as the stability of our democracy.

> *"In moderate states, there is a compensation for heavy*
> *taxes; it is liberty. In despotic states, there is an equiv-*
> *alent for liberty; it is the modest taxes."*
>
> —*Montesquieu*[1]

I. Introduction

Concerns about the harmful effects of inequality have dominated tax policy debates for decades. Attention has often focused on the appropriate role for the individual income tax in redressing inequality. But plans to use a progressive income tax to reduce inequality have often clashed with worries about economic efficiency.[2] Many have asserted that high tax rates in a progressive system harm our economy by reducing labor supply and savings.[3] Over 30 years ago, Peter Kilborn stated in the *New York Times*:

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1. Charles de Montesquieu, *On the Relations that the Levy of Taxes and the Size of Public Revenues Have with Liberty*, in Montesquieu: The Spirit of the Laws 213, 221 (Anne M. Cohler et al. trans. & eds., 1989).

2. *See, e.g.*, Arthur M. Okun, Equality and Efficiency: The Big Tradeoff 88–89 (2015) (discussing the tradeoff between efficiency and equality that legislators confront in formulating tax policy).

3. *See, e.g.*, Reuven S. Avi-Yonah, *Why Tax the Rich? Efficiency, Equity, and Progressive Taxation*, 111 Yale L.J. 1391, 1392 (2002) (reviewing Does Atlas Shrug? The Economic Consequences of Taxing the Rich (Joel B.

> Beneath the current Washington debate over raising taxes lies a fundamental change in thinking about the Federal tax system. In most previous discussions, there was a strong emphasis on redistributing income from the well-off to the less well-off. But now, the tax system is being viewed as a tool to build a more efficient economy, not a fairer one.[4]

This debate has high stakes. An efficient tax system can improve a nation's standard of living by ensuring that taxes do not harm welfare. At the same time, tax rate progressivity can make important contributions to the well-being of citizens by helping to reduce inequality.

In general, individual tax rates have decreased over the past 60 years in an attempt to increase efficiency. In 1956, the maximum statutory tax rate was 91%.[5] In 2020, the maximum rate is 37% (40.8% including the 3.8% Medicare surtax on investment income).[6] At the same time that our country was reducing tax rates, inequality increased, fueled in part by the declining rates.[7]

There are several explanations for the focus on efficiency. Predictions of gains from efficiency appear more certain than gains from achieving equity through progressive tax rates. Efficiency gains seem quantifiable while equity gains appear intangible and unmeasurable.[8] In

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Slemrod ed., 2000) (stating that the "consensus is that high marginal tax rates on the rich come with an unaffordably high price for the U.S. economy in the form of reduced incentives for the rich to work and to save").

4.   Peter T. Kilborn, *Tax System: Efficiency vs. Fairness*, N.Y. TIMES (Dec. 10, 1988), https://nyti.ms/29mW62T; *see also* GEORGE GILDER, WEALTH AND POVERTY: A NEW EDITION FOR THE TWENTY-FIRST CENTURY 256 (2012) (sarcastically arguing, **"**Regressive taxes help the poor! . . . To help the poor and middle classes, one must cut the tax rates of the rich.").

5.   *Historical Individual Income Tax Parameters 1913–2019*, TAX POL'Y CTR., https://www.taxpolicycenter.org/statistics/historical-individual-income-tax-parameters (last visited July 19, 2020).

6.   I.R.C. §§ 1(j), 1411(a).

7.   See *infra* text accompanying notes 149 to 173.

8.   *See* Joseph M. Dodge, *Theories of Tax Justice: Ruminations on the Benefit, Partnership, and Ability-to-Pay Principles*, 58 TAX L. REV. 399, 410 n.40 (2005) (stating that attempts to compare efficiency to equity are similar to attempts to compare apples to oranges); *see also* CASS R. SUNSTEIN, FREE MARKETS AND SOCIAL JUSTICE 70–107 (1997) (observing that, since

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addition, many forms of distributive justice underlie tax equity, and not all forms require progressive tax rates.[9] It is not surprising, therefore, that efficiency analysis currently dominates the debate among politicians and lawyers about the appropriate level of rates.[10]

 As lawyers and policy analysts, we need to be very careful about how we use efficiency analysis as a tool.[11] Lawyers have become accustomed in the courtroom to challenging the conclusions of experts that are framed in numerical analysis. We have learned that assumptions that underlie the specification of variables in the model significantly affect the outcome. But many lawyers and policy makers have embraced economic efficiency as providing the best case for selecting one form of tax over another without critically assessing its shortcomings.

 This Article suggests that, at least in the case of the individual income tax, the perceived certainty of efficiency is false. Efficiency analysis suffers from empirical and theoretical uncertainty similar to equity analysis because, like equity analysis, efficiency analysis is rooted in human experience. The "efficiency" of a tax system frequently refers to its "excess burden," which reflects the decrease in utility attributable to behavioral changes that would not occur in a tax-less world. The magnitude of the presumed efficiency gains or losses are quantified only by estimating these behavioral changes.

 Once efficiency analysis is understood as based upon predictions of human behavior, its problems become apparent. While the concept of efficiency is deceptively simple (minimize the behavioral response to a tax), the design of tax systems that accomplish this is difficult because human behavior cannot be predicted as a matter of theory. Taxpayer responses to taxation are empirical questions, but

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human goods cannot be measured using a common index, social decisions cannot be based solely on quantitative factors).

 9. See *infra* text accompanying notes 185 to 207.

 10. *See, e.g.*, Robert E. Hall & Alvin Rabushka, *Putting the Flat Tax into Action*, *in* Fairness and Efficiency in the Flat Tax 3, 27 (Robert E. Hall et al. eds., 1996) (arguing, "[t]he flat tax at a low, uniform rate of 19 percent will improve the performance of the U.S economy").

 11. *See* Roberta Mann, *Economists Are from Mercury, Policymakers Are from Saturn: The Tax Policy Implications of Communication Failure*, 5 Wm. & Mary Pol'y Rev. 1, 21 (2013) (observing that policymakers and economists often miscommunicate with each other and that policymakers assign too much certainty to economists' numerical analyses).

the empirical analyses of actual taxpayer behavior are frequently contradictory.

The result is a surprising amount of uncertainty about the efficiency effects of progressive tax rates in the individual income tax. The empirical evidence suggests that individual tax rates have had little or no impact on labor supply in the United States. In addition, empirical studies have failed to show a clear relationship between individual income taxation and savings. Many feel that the weight of evidence suggests that taxes do not affect savings, but more research is necessary before we can be confident about this assessment.

In contrast to the uncertainty about the harmful effects of progressive tax rates, there is significant empirical evidence that high levels of inequality harm our health, social well-being, political process, and intergenerational mobility.

The clear harms from inequality and the uncertain harms arising from progressive tax rates, strongly support always giving equity at least equal weight with efficiency in formulating tax policy. But given the high level of inequality in the United States and the currently low and flat tax rate structure, equity should be given more weight than efficiency at this time.

This Article proceeds as follows. Part II discusses various measures of inequality in the United States and the strong empirical evidence for the significant social and political problems associated with inequality. Part III then discusses evidence showing the extent to which reductions in tax rate progressivity have exacerbated inequality and explains that the ambiguous nature of various theories of tax equity may account for the reduced focus on tax progressivity. Part IV then explains, however, that many uncertainties also exist about the efficiency gains often attributed to reduced tax rates in an individual income tax. It notes that economists generally agree that individual income taxes do not reduce labor supply and that economists cannot agree whether taxes reduce savings, increase savings, or have no effect. Part V concludes the Article, observing that the empirical evidence for the harms attributable to inequality are much stronger than the empirical evidence about the harms from a progressive income tax. As a result, equity should always be given at least the same weight as efficiency. But, at this particular time, policymakers should give equity more weight than efficiency given the currently high level of inequality in the United States and the currently low and flat tax rate structure.

II. Rising Inequality and Its Social and Political Impact

A. Growth in Inequality

One of the traditional roles of a progressive individual income tax has been to decrease inequality,[12] as well as to collect large amounts of revenue.[13] Inequality can be measured using income or wealth. Most data show that inequality has been growing in the United States.[14] The extent of the increases, however, has recently become the subject of heated debate. A recent article in *The Economist* stated: "Few dispute that wealth shares at the top have risen in America, nor that the increase is driven by fortunes at the very top, among people who really can be considered an elite. The question, instead, is by just how much."[15] This Part II.A describes some measures of the increases in inequality that have occurred in the past several decades. Part II.B then discusses the empirically quantified harms attributable to inequality.

The studies that examine the rates of growth in income for the various percentile groupings of income generally show increased inequality. The most recent 2019 study by the Congressional Budget Office (CBO) compared the growth in household income before taxes and government transfers during the period 1979 through 2016.[16] The CBO found that real (inflation-adjusted) income of the top one percentile

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12.   *See, e.g.*, W. Elliot Brownlee, Federal Taxation in America: A History 83 & 128 (3rd ed. 2016); Meredith R. Conway, *Money, It's a Crime. Share It Fairly, but Don't Take a Slice of My Pie!: The Legislative Case for the Progressive Income Tax*, 39 J. Legis. 119, 143–44 (2012–13).

13.   John F. Witte, The Politics of Development of the Federal Income Tax 69 (1985).

14.   *See, e.g.*, *Measuring the 1%: Economists Are Rethinking the Numbers on Inequality*, Economist (Nov. 28, 2019), https://www.economist .com/briefing/2019/11/28/economists-are-rethinking-the-numbers-on -inequality [hereinafter *Measuring the 1%*].

15.   *Id.*

16.   *The Distribution of Household Income, 2016*, CBO 15 (July 2019), https://www.cbo.gov/system/files/2019-07/55413-CBO-distribution-of -household-income-2016.pdf [hereinafter *CBO Household Income 2016*]; *The Distribution of Household Income and Federal Taxes, 2014*, CBO 20–21 & fig.10 (Mar. 2018), https://www.cbo.gov/system/files/115th-congress-2017-2018 /reports/53597-distribution-household-income-2014.pdf [hereinafter *CBO Household Income 2014*].

of households (ranked by their income) *before* taxes and government transfers grew by 218% from 1979 through 2016, while the lowest quintile and the middle three quintiles grew by only 33%.[17] The following CBO chart illustrates this development:

Chart 1[18]
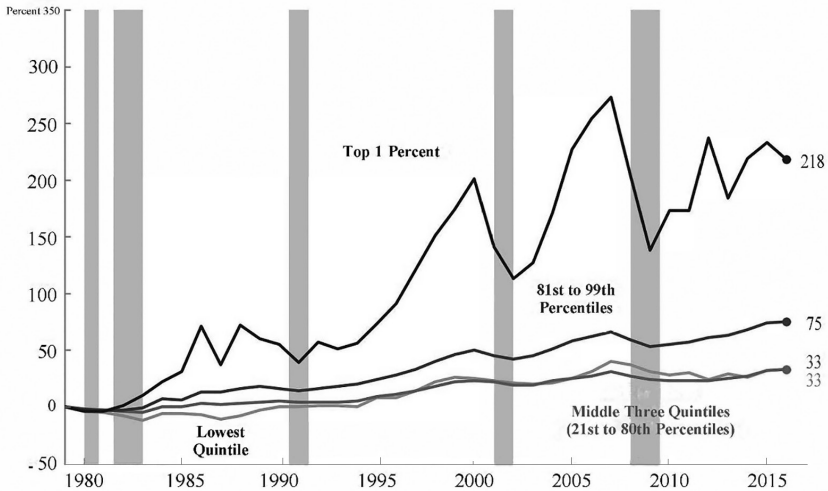
The differences in cumulative growth *after* transfers and taxes for the various quintiles were not as large due to the ameliorative effects of transfer payments and taxes. The CBO found that the income after transfers and taxes grew by 226% for the top one percentile of households ranked by their income, by 47% for the middle three quintiles and by 85% for the lowest quintile.[19]

The magnitude of the estimates, however, have to be viewed cautiously because there is significant variation among studies about the extent of growth rates. For example, a recent literature survey observed that while the CBO calculated that median income in the U.S. grew by

17.   *CBO Household Income 2016*, *supra* note 16, at 15; *CBO Household Income 2014*, *supra* note 16, at 20–21 & fig.10.

18.   Source: *CBO Household Income 2016*, *supra* note 16, at 15 (updating 2014 data); *CBO Household Income 2014*, *supra* note 16, at 21 fig.10.

19.   *CBO Household Income 2016*, *supra* note 16, at 21.

only 51% during the period 1979–2014 (compared to 221% for the top one percentile),[20] five other studies estimated changes in median income ranging from a *decrease* of 8% to an *increase* of 37%.[21] The different calculations are attributable to the differences among the measures of income used, methods for defining the taxpayer (individual taxpayers versus household), and the treatment of government transfer payments.[22]

Disagreements have also arisen about the extent to which the *share* of income received by the top 1% of households has grown because of disputes about the appropriate units for measuring income (i.e., individuals or households, and the composition of such households) and about the best methods to fill gaps in the various data bases. Auten and Splinter have argued that estimates of the increases in the share of income earned by the top 1% ranked by income have been too large because the units used to measure income have been improperly defined and because of inappropriate adjustments to fill gaps in the data.[23] Auten and Splinter have calculated an increase of only 4% in the *share* of aggregate pretax income received by the top 1% in the U.S. from 1970 to 2014 compared to the CBO's calculation of 8% and Piketty and Saez's calculation of 12%.[24] Piketty, Saez, and Zucman have countered that

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20. *CBO Household Income 2014*, *supra* note 16, at 21 fig.10.

21. Stephen J. Rose, *How Different Studies Measure Income Inequality in the US*, Urb. Inst. 5 tbl.1 (Dec. 2018), https://www.urban.org /sites/default/files/publication/99455/how_different_studies_measure _income_inequality_1.pdf; *see also Measuring the 1%*, *supra* note 14.

22. Rose, *supra* note 21, at 3–5.

23. Gerald Auten & David Splinter, *Top 1 Percent Income Shares: Comparing Estimates Using Tax Data*, 109 AEA Papers & Proc. 307, 307–09 (2019) [hereinafter Auten & Splinter, *Top 1 Percent Income Shares*]; *see also* Gerald Auten & David Splinter, *Income Inequality in the United States: Using Tax Data to Measure Long-Term Trends* 4–6 (Dec. 20, 2019), http:// davidsplinter.com/AutenSplinter-Tax_Data_and_Inequality.pdf [hereinafter Auten & Splinter, *Income Inequality*] (explaining their adjustments to the data and their finding that for the period 1979 through 2014 the share of income received by the top 1% grew by only 3.2% compared to the calculation of 9% by Piketty, Saez, and Zucman).

24. Auten & Splinter, *Top 1 Percent Income Shares*, *supra* note 23, at 307; *see also* Jesse Bricker et al., *Estimating Top Income and Wealth Shares: Sensitivity to Data and Methods*, 106 Am. Econ. Rev.: Papers & Proc., no. 5, 2016, at 641, 641 (observing that estimates of the share of income

Auten and Splinter's calculations may be incorrect because they allocate too much of the income not accounted for in tax return data to the lower percentiles.[25] They refer to such allocations as "extreme and hence unrealistic."[26]

Another tool for measuring the degree of inequality in a nation is the Gini index. The Gini index summarizes a nation's distribution of income or wealth using a single number that ranges from zero to one. A value of zero in the Gini index for income means that income is distributed equally among all income groups.[27] A value of one means that the highest-income group receives all income and the lower-income groups receive none.[28]

CBO data compiled in 2018 and reproduced in Table 1, below, show that the Gini index rose for the various measures of income employed by CBO. The Gini Index for "market income"[29] rose from 0.47 in 1979 to 0.60 in 2014,[30] an increase of 28%. The Gini index for "income before transfer and taxes"[31] similarly increased 0.41 to 0.52, an increase

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held by the top 1% using tax data are often larger than estimates using data from the Survey of Consumer Finances).

25.   Thomas Piketty et al., *Distributional Diversity in the National Accounts: Simplified Distributional National Accounts*, 109 AEA Papers & Proc. 289, 293–94 (2019).

26.   *Id.* at 294 (noting that "one needs extreme and hence unrealistic assumptions on equalization of income components" to replicate the calculations by Auten & Splinter).

27.   *CBO Household Income 2014*, *supra* note 16, at 22.

28.   *Id.*

29.   Market income is essentially all income received by an individual other than from government means-tested transfers and from social insurance transfers. *Id.* at 4 (defining market income as "labor income; business income; capital income (including capital gains); income received in retirement for past services, and other nongovernmental income sources").

30.   *Data Underlying Figures*, CBO at fig.16 (Mar. 19, 2018), https://www.cbo.gov/system/files/115th-congress-2017-2018/reports/53597-dataunderlyingfigures.xlsx [hereinafter *CBO 2014 Data*] (data underlying figures in *CBO Household Income 2014*, *supra* note 16).

31.   "Income before transfers and taxes" is "market income plus social insurance transfers." *CBO Household Income 2014*, *supra* note 16, at 4. Market income is essentially all income received by an individual other than from government means-tested transfers and from social insurance transfers. *See supra* note 29.

of 27%.[32] The Gini index for "income after-taxes and transfer payments"[33] increased from .35 to .44, an increase of 26%.[34]

Table 1:   Gini Coefficients, 1979 to 2014[35]

	Gini Coefficient			
	Based on Market Income[36]	**Based on Income Before Transfers and Taxes[37]**	**Based on Income After Transfers but Before Taxes**	**Based on Income After Transfers and Taxes[38]**
1979	0.47	0.41	0.39	0.35
1985	0.51	0.45	0.43	0.40
1990	0.52	0.45	0.43	0.40
1995	0.53	0.46	0.43	0.39
2000	0.56	0.50	0.48	0.44
2005	0.58	0.51	0.48	0.45
2010	0.58	0.50	0.46	0.42
2014	0.60	0.52	0.48	0.44

The observed increases in inequality and stagnation of the middle class are remarkable because productivity grew during that period

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32.   *CBO 2014 Data*, *supra* note 30, at fig.16.

33.   "Income after transfers and taxes" is "income before transfers and taxes," *supra* note 31, plus means-tested transfers, minus federal taxes. *CBO Household Income 2014*, *supra* note 16, at 4.

34.   *CBO Household Income 2014*, *supra* note 16, at 32 fig.16.

35.   Source: *CBO 2014 Data*, *supra* note 30, at fig.16.

36.   *See supra* note 29 for the definition of "market income."

37.   "Income before transfers and taxes" is market income (*supra* note 29) plus "social insurance benefits." "Social insurance benefits consist of benefits provided through Social Security (Old Age, Survivors, and Disability Insurance); Medicare (measured as the average cost to the government of providing those benefits); unemployment insurance; and workers' compensation." *CBO Household Income 2014*, *supra* note 16, at 4.

38.   "Income after transfers and taxes" is "income before transfers and taxes" plus means-tested transfers minus federal taxes. *Id.*

in the United States. Historically, wages track productivity.[39] But despite the fact that productivity per worker increased, wages have failed to keep pace. Chart 2, below, illustrates this.[40]

Chart 2:   Change in Hourly Productivity and Median Compensation, 1973–2011[41]
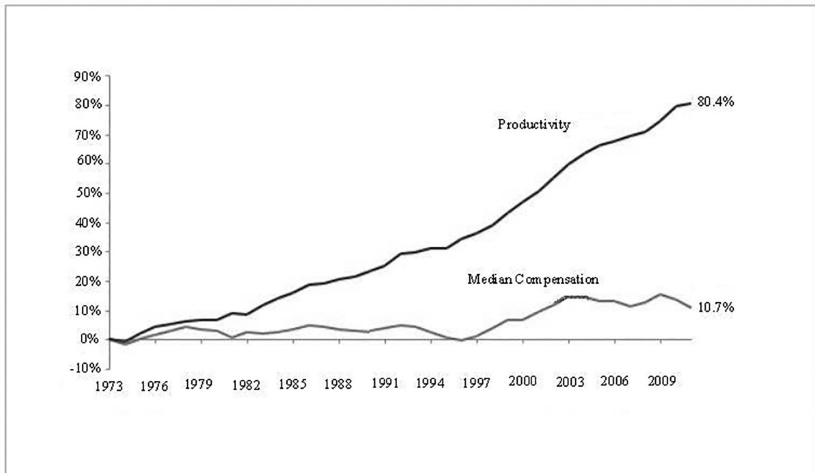
Chart 2 shows that, beginning in 1975, growth in median compensation failed to keep pace with growth in labor productivity.[42] This failure is reflected in declines of the "labor share," which is the fraction

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39.   *See, e.g.*, Richard G. Anderson, *How Well Do Wages Follow Productivity Growth?*, Econ. Synopses, no. 7, 2007, https://files.stlouisfed.org/files/htdocs/publications/es/07/ES0707.pdf.

40.   Jacob S. Hacker & Nate Loewentheil, *Prosperity Economics Building an Economy for All* 4 (2012), https://files.epi.org/2012/Prosperity_Economics.pdf.

41.   Source: Hacker & Loewentheil, *supra* note 40, at 4 fig.A.

42.   Note that the 10.7% growth in median compensation shown in Chart 2 for the period 1973–2009 is lower than many of the other estimates referred to in the text accompanying notes 20–21, *supra*. But the 80.4% growth in productivity exceeds even the CBO's large estimate for growth of 51% for median income for the period 1979–2014, suggesting that productivity growth far exceeded median income growth.

of economic output received by workers in exchange for their labor.[43] The U.S. Bureau of Labor Statistics has calculated that the labor share in the U.S. has declined from 65.8% in 1948 to 58.4% in 2016.[44] Declines in the labor share contribute to increases in the gap between the growth in productivity and real compensation since they reflect the decline in labor's ability to share in the benefits from improved productivity.[45]

The causes for the failure for income to keep pace with productivity are not clear. Hacker and Lowenthiel attribute this failure to declines in the political power of labor unions and the middle class. They state: "[W]hen the clout of the middle class and labor unions declined starting in earnest in the late 1970s—as . . . money became more and more important in politics—the middle class' share of national income declined as well."[46]

Others have suggested that declines in union membership, decreases in inflation-adjusted minimum wages, and the globalization of the U.S. economy have placed downward pressure on wages of less educated workers.[47] Some have also suggested that the increases for high-income individuals since 2000 have primarily been attributable to income from capital.[48] They find that the top 0.1% obtain more than two-thirds of their income from capital while the top 1% obtain more than half of their incomes from capital.[49] As we will discuss later, this is

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43. Michael D. Giandrea & Shawn Sprague, U.S. Bureau of Labor Statistics, *Estimating the U.S. Labor Share*, Monthly Lab. Rev., Feb. 2017, at 2, https://www.bls.gov/opub/mlr/2017/article/pdf/estimating-the-us-labor-share .pdf; Gilbert Cette et al., *Labor Shares in Some Advanced Countries* 17 (Nat'l Bureau of Econ. Research, Working Paper No. 26136, 2019), https://www.nber .org/papers/w26136.pdf.

44. U.S. Bureau of Labor Statistics, *Labor Share of Output Has Declined Since 1947*, TED: The Econ. Daily (Mar. 7, 2017), https://www.bls .gov/opub/ted/2017/labor-share-of-output-has-declined-since-1947.htm.

45. Giandrea & Sprague*, supra* note 43, at 2.

46. Hacker & Loewentheil, *supra* note 40, at 3.

47. Jay Shambaugh et al., *Thirteen Facts About Wage Growth*, Hamilton Project 2, 6 (Sept. 2017), https://www.hamiltonproject.org/assets /files/thirteen_facts_wage_growth.pdf.

48. Thomas Piketty et al., *Distributional National Accounts: Methods and Estimates for the United States*, 133 Q.J. Econ. 553, 553–554, 598 (2018).

49. *Id.* at 595. Compare that source with *The Distribution of Household Income and Federal Taxes, 2013*, CBO 7–8 & tbls.2–3 (June 2016),

important because capital income is often taxed at substantially lower rates as compared to labor income.[50]

Consistent with these hypotheses, Stone et al., have argued that high-income households fared much better than low-income households fared in terms of increasing their compensation as productivity increased.[51] Their findings are illustrated in Chart 3, below. Note that their research indicates that real family income for the bottom 20% has remained almost unchanged since 1975.[52]

Chart 3:   Real Family Income Between 1947 and 2017, as a Percentage of 1973 Level[53]

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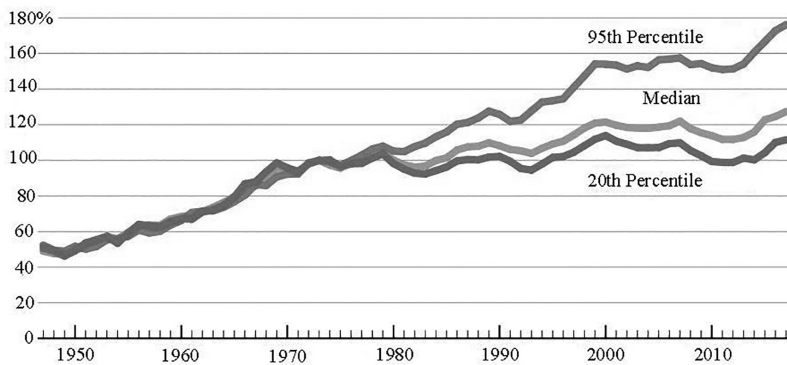
http://www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/51361-householdincomefedtaxesonecol.pdf [hereinafter *CBO Household Income 2013*] (finding that 38% of the market income of the top 1% measured by market income consists of income from capital and capital gains).

50.   Ben Steverman, *Why American Workers Pay Twice as Much in Taxes as Wealthy Investors*, Bloomberg (Sept. 12, 2017), https://www.bloomberg.com/news/features/2017-09-12/why-american-workers-pay-twice-as-much-in-taxes-as-wealthy-investors.

51.   Chad Stone et al., *A Guide to Statistics on Historical Trends in Income Inequality*, Ctr. on Budget & Pol'y Priorities 9 fig.1, https://www.cbpp.org/sites/default/files/atoms/files/11-28-11pov_0.pdf (last updated Jan. 13, 2020).

52.   *Id.; see also* Piketty et al*., supra* note 48, at 577–78 (finding almost no growth of income for adults in the bottom 50% for the period 1980–2014). *But see* Auten & Splinter, *Income Inequality*, *supra* note 23, at 4 (criticizing methodology used by Piketty et al*., supra* note 48, and finding that income for the bottom 50% grew by almost one-third during the period 1980–2014).

53.   Source: Stone et al., *supra* note 51, at 9 fig.1.

Studies also suggests that the level of income inequality in the United States exceeds many other countries. Linda Levine at the Congressional Research Service (CRS) compared the household income of the top 10% to the bottom 10% in the United States and other countries.[54] She found that the top 10% in the United States has income that is 5.5 times greater than the income of the bottom 10%. As shown towards the bottom of the third column in Table 2, below, only Mexico and Colombia exceed this ratio.

Table 2:   Measure of Disposable Household Income Distributions for the Selected Countries in the Mid-2000s[55]

Country	Year	P90 /P10
Denmark	2004	2.778
Slovenia	2004	2.920
Sweden	2005	2.821
Finland	2004	3.071
Norway	2004	2.865
Netherlands	2004	3.018
Austria	2004	3.232
Germany	2004	3.445
France	2005	3.528
Australia	2003	4.241
Poland	2004	4.022
Canada	2004	4.379
Greece	2004	4.374
Italy	2004	4.440
United Kingdom	2004	4.411
United States	2004	5.506
Mexico	2004	8.468
Colombia	2004	11.254

Changes in the growth of *wealth* concentration (as opposed to *income* concentration) also show increases, but again the numbers vary

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54.   Linda Levine, Cong. Res. Serv. R42400, The U.S. Income Distribution and Mobility: Trends and International Comparisons (2012), www.fas.org/sgp/crs/misc/R42400.pdf.

55.   Source: Levine, *supra* note 54, at 10 tbl.2.

greatly.[56] In a 2016 article, Saez and Zucman found that the share of wealth held by the top 0.1% of households (ranked by wealth) increased threefold from 7% in 1978 to 22% in 2012, and they observed that this was a "level comparable to that of the early 20th century."[57] In contrast, the share of wealth held by the middle class, which Saez and Zucman defined as households between the 50th and 90th percentile,[58] has languished. Saez and Zucman observed that "despite the rise in pensions and home ownership rates, the middle class owns the same share of wealth today as it did 70 years ago."[59]

In a 2019 draft article, Saez and Zucman calculated increases in the share of wealth held by the top 0.1% using various types of databases.[60] They estimated increases in the share of wealth held by the top

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56.   In part, the varying calculations are attributable to different databases. Saez and Zucman explain:

> There are four main sources to estimate the distribution of wealth in the United States: (1) the Survey of Consumer Finances (SCF), (2) named lists of wealthy individuals such as the Forbes list of the 400 richest Americans, (3) estate tax data using the estate multiplier technique, (4) income tax data using the capitalization technique. The capitalization method infers wealth from capital income by assuming a constant rate of return by asset class and year (estimated from macro data). The estate multiplier method blows up each estate by the inverse probability of death (estimated by age × gender cells) to recover the distribution of wealth in the full population. Each source and method has limitations and hence triangulating among sources is useful.

Emmanuel Saez & Gabriel Zucman, *Progressive Wealth Taxation* 8 (Brookings Papers on Econ. Activity, Conf. Drafts Sept. 5–6, 2019), https://www .brookings.edu/wp-content/uploads/2019/09/Saez-Zucman_conference-draft .pdf.

57.   Emmanuel Saez and Gabriel Zucman, *Wealth Inequality in the United States Since 1913: Evidence from Capitalized Income Tax Data*, 131 Q.J. Econ. 519, 520 (2016).

58.   *Id.* at 554–55.

59.   *Id.* at 555. Saez and Zucman define the "middle class" as households between the 50th and 90th percentile. *Id.*

60.   Saez and Zucman*, Progressive Wealth Taxation, supra* note 56, at 8–9.

0.1% of wealth holders from 7% in the late 1970s to 20% using the capitalization method applied to income tax data and from approximately 7.5% to 16% using the estate multiplier method applied to estate tax data.[61]

Their calculations, however, are very sensitive to the various assumptions required to fill in gaps in the data. In reviewing Saez and Zucman's recent calculations, another economist cautioned, "If I can convince the reader of nothing else, I hope I can at least convince that these are highly uncertain numbers that should be presented together with some explicit notion of the magnitude of the measurement error."[62] Indeed, an earlier 2015 analysis of three of the methods commonly used by economists to measure shares of wealth found that two of the three methods resulted in no or only modest increases in the share of wealth held by the top 1% from 1980 through 2000 and 1980 through 2012, while one method showed significant increases.[63]

A recent working paper by the staff of the Federal Reserve has also concluded, similarly to Saez and Zucman, that inequality in the share of wealth held by the top percentile has grown.[64] They found that the share of the top 1% of households ranked by wealth increased from 23% to nearly 32% from 1989 to 2018.[65] They observed that similarly large increases in the wealth share of the top 10% came at the expense of households in the 50th to 90th percentiles of the wealth distribution, whose share decreased from 36% to 29%.[66] In addition, they concluded

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61.   Saez and Zucman, *Progressive Wealth Taxation*, *supra* note 56, at 9. For a description of the capitalization and estate multiplier methods, see *supra* note 56.

62.   Wojciech Kopczuk*, Comment on "Progressive Wealth Taxation" by Saez and Zucman Prepared for the Fall 2019 Issue of Brookings Papers on Economic Activities* 8 (Nov. 2019) http://www.columbia.edu /~wk2110/bin/BPEASaezZucman.pdf.

63.   Wojciech Kopczuk, *What Do We Know About the Evolution of Top Wealth Shares in the United States?*, J. Econ. Persp., no 1, 2015, at 47, 50 fig.1. It is important to note, however, the analyzed studies did not cover identical time periods, making a direct comparison difficult.

64.   Michael Batty et al., *Introducing the Distributional Financial Accounts of the United States* 26 (Fed. Res. Bd., Fin. & Econ. Discussion Series Paper 2019-017, 2019), https://www.federalreserve.gov/econres/feds /files/2019017pap.pdf.

65.   *Id.*

66.   *Id.*

that the bottom 50% of the wealth distribution experienced no increase in their nominal net worth over the last 30 years, resulting in a fall in total wealth share from 4% in 1989 to just 1% in 2018.[67] Remarkably, Edward Wolff has argued in a different study that real net worth of the bottom 40% of households in the United States actually declined by 269.7% during the period 1983–2010.[68]

In summary, it is likely that the various estimates of inequality will change in the future as economists settle on appropriate methodologies. It is clear, however, that inequality in the United States is high and has likely increased in recent decades.

B. Social Welfare Impact of Inequality

Although the need for revenue to fund wars played a primary role in our adoption of a progressive income tax,[69] concerns about inequality's harmful effects also played a part.[70] In the early 1900s, Teddy Roosevelt started to lobby for a constitutional amendment that would permit a progressive individual income tax because he and other proponents were concerned that rising inequality threatened capitalism.[71] The current level of inequality described in Part II.A is troubling because inequality in the United States is associated with many problems that affect our quality of life. This Part II.B focuses on health and social problems that are empirically associated with inequality. Part II.C will focus on political problems arising from inequality that also have significant empirical support.

Epidemiologists Wilkinson and Pickett have argued that a variety of health and social problems appear related to inequality.[72] They

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67.   *Id.*

68.   *See* Edward N. Wolff, *The Asset Price Meltdown and the Wealth of the Middle Class* 52 tbl.4 (Nat'l Bureau of Econ. Research, Working Paper No. 18559, 2012), http://www.nber.org/papers/w18559.pdf.

69.   Witte, *supra* note 13, at 69.

70.   *See, e.g.*, Brownlee, *supra* note 12, at 83; Conway, *supra,* note 12, at 143-44.

71.   Conway, *supra* note 12, at 128.

72.   Richard Wilkinson & Kate Pickett, The Spirit Level: Why Greater Equality Makes Societies Stronger 81 (2010). Wilkinson and Pickett use the ratio of the income received by the richest 20% to the poorest 20% as their measure of inequality. *Id.* at 17–18. This is similar to the measure used by Linda Levine at the CRS, *supra* note 54.

constructed an index of health and social problems to determine whether these problems correlate with inequality. The index incorporates life expectancy, math skills and literacy, infant mortality, homicides, imprisonment, teenage births, level of trust, obesity, mental illness (including drug and alcohol addiction), and social mobility. They find a remarkable correlation between these social ills and inequality as illustrated in the following Chart 4.

Chart 4:   Income Inequality and Health and Social Problems[73]
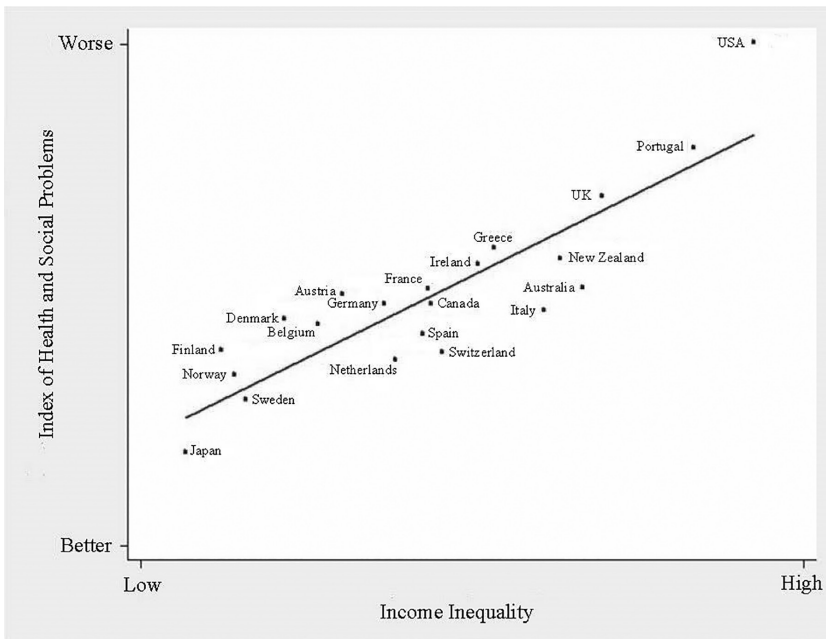
Note that in this sample of nations the United States is in the high upper right corner, having both the highest level of social problems and inequality.

A study published in *The BMJ* (formerly, the *British Medical Journal*) also observed a statistical relationship between inequality and health problems.[74] The study consisted of a meta-analysis of cohort

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73. Source: Wilkinson & Pickett, *supra* note 72, at 20 fig.2.2.

74. Naoki Kondo et al., *Income Inequality, Mortality, and Self Rated Health: Meta-Analysis of Multilevel Studies*, BMJ: Online First 1, 7 (2009), https://www.bmj.com/content/bmj/339/bmj.b4471.full.pdf.

studies that included close to 60 million individuals.[75] It concluded that the United States has an 11% greater mortality risk with a Gini Index of .357[76] as compared to reference countries that have a Gini Index of less than 0.3.[77] This association is independent of the socioeconomic status, age, and sex of their citizens.[78]

In fact, the correlation between inequality and poor health is independent of the wealth of the nation.[79] Wilkinson and Pickett discovered this by confining their analysis to wealthy countries and still found a negative relationship between various health indicators and inequality.[80] The following graph (Chart 5) plots life expectancy as a function of income inequality for wealthy countries and illustrates that even among wealthy countries, increased inequality seems to be related to increased mortality. The United States has the second lowest life expectancies among the group of wealthy countries and is located in the lower right corner with the second highest level of income inequality.

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75.   *Id.* at 7.

76.   *Id.* at 8.

77.   *Id.* at 7. The reference countries and their associated Gini coefficients (in parentheses) were Denmark (0.225), Sweden (0.243), Iceland (0.250), Netherlands (0.251), Austria (0.252), Slovakia (0.258), Czech Republic (0.260), Luxembourg (0.261), Finland (0.261), Norway (0.261), Switzerland (0.277), Belgium (0.272), France (0.273), Germany (0.277), and Hungary (0.293). *Id.* at 8 fig.2.

78.   *Id.* at 7.

79.   Kate E. Pickett & Richard G. Wilkinson, *Income Inequality and Health: A Causal Review*, 128 Soc. Sci. & Med. 316, 318 (2015) [hereinafter Pickett & Wilkinson, *Health*]; Richard G. Wilkinson & Kate E. Pickett, *Income Inequality and Social Dysfunction*, 35 Ann. Rev. Soc. 493, 494–97 (2009) [hereinafter Wilkinson & Pickett, *Social Dysfunction*].

80.   Wilkinson & Pickett, *supra* note 72, at 82 fig.6.3.

Chart 5:   Income Inequality and Life Expectancy[81]
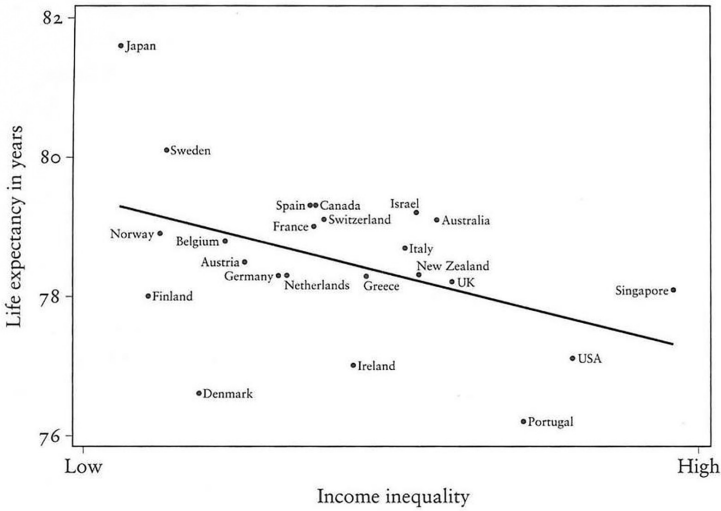
Another study published in the *Journal of the American Medical Association* found that life expectancies in the United States for the bottom 1% of income distribution were 15 years lower for men and 10 years lower for women compared to men and women in the top 1%. [82]

There is a similar relationship between infant mortality and inequality. As illustrated in Chart 6, below, the United States, which has the second highest level of inequality in the sample of wealthy countries, has the highest rate of infant mortality.[83]

Statistics for other factors show a similar pattern and suggest that the extent of inequality is more important as an explanatory variable than the nation's wealth. Table 3, below, shows the correlations between various societal problems and inequality for a sample of wealthy nations. For comparison, it also shows correlations between societal

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81.   Source: Wilkinson & Pickett, *supra* note 72, at 82 fig.6.3.

82.   Raj Chetty et al., *The Association Between Income and Life Expectancy in the United States, 2001–2014*, 315 J. Am. Med. Ass'n 1750, 1762 (2018).

83.   Wilkinson & Pickett, *supra* note 72, at 82 fig.6.3.

Chart 6:   Income Inequality and Infant Mortality[84]
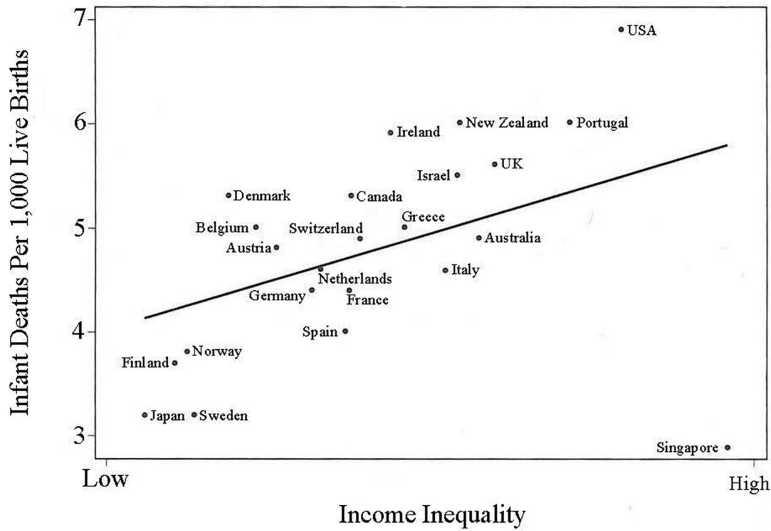
problems and average income, which is employed as a measure for the wealth of the nation.[85]

Table 3:   Health and Social Problems in Relation to Income Inequality and Average Income[86]

| | Rich countries | | | |
| | Inequality | | Average income | |
	r	p	r	p
Trust	−0.66	<0.001	0.49	0.02
Mental illness	0.59	0.04	0.38	0.20
Life expectancy	−0.44	0.04	0.01	0.95
Infant mortality	0.42	0.04	0.02	0.92

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84.   Source: WILKINSON & PICKETT, *supra* note 72, at 82 fig.6.4.

85.   Wilkinson & Pickett, *Social Dysfunction*, *supra* note 79, at 496 tbl.2.

86.   Source: Wilkinson & Pickett, *Social Dysfunction*, *supra* note 79, at 496 tbl.2.

Table 3: (*Continued*)

| | Rich countries | | | |
| | Inequality | | Average income | |
	r	p	r	p
Obesity	0.57	0.007	−0.08	0.74
Educational performance	−0.45	0.04	0.43	0.05
Teenage births	0.73	<0.001	0.18	0.43
Homicides	0.47	0.02	0.13	0.56
Imprisonment	0.67	<0.001	0.21	0.34
Social mobility	0.93	<0.001	0.26	0.53
Index of health and social problems	0.87	<0.001	−0.05	0.82

In most instances, the correlation coefficients (r)[87] in Table 3 and their statistical significances (p)[88] are much stronger for the nations' level of inequality than for the nations' average income (the measure used to approximate the nations' wealth).[89] For example, imprisonment shows a correlation coefficient r of 0.67[90] relative to inequality and is also highly

87. The correlation coefficient r provides a sense of how closely two variables are related or "correlated" to each other. A correlation coefficient of 0 means that two variables are not related at all to each other, while a correlation factor of 1 means that the two variables are perfectly correlated. FRANK WESTHOFF, AN INTRODUCTION TO ECONOMETRICS 23, 27 (2013).

88. The p value represents the probability of finding a relationship between two variables when in fact no relationship exists. KAREN A. RANDOLPH & LAURA L. MYERS, BASIC STATISTICS IN MULTIVARIATE ANALYSIS 62−63 (2013). Social scientists prefer that a p value be .05 or less before they will determine that a statistically significant relationship exists between two variables. *Id.* at 63.

89. Wilkinson & Pickett, *Social Dysfunction*, *supra* note 79, at 496 tbl.2.

90. The correlation factor of .67 for imprisonment and inequality suggests that as inequality increases, imprisonment also increases. Social scientists view correlation coefficients greater than or equal to 0.5 as representing a strong correlation. RANDOLPH & MYERS, *supra* note 88, at 102−03. Thus, a strong correlation exists between imprisonment and inequality.

significant with a *p* value less than .001.[91] In contrast, the correlation for imprisonment with average national income is low, 0.21, and is statistically insignificant with a *p* value of 0.34.[92] In fact, the correlation for most of the societal factors with average national income are much smaller and are not statistically significant.[93] There are only two factors—low levels of trust and educational performance—that exhibit a high correlation with average income and are statistically significant. But these two factors also correlate closely with inequality.[94] Wilkinson and Pickett conclude: "The United States is both the wealthiest and the most unequal among this group of rich countries, but the poor performance of the nation as a whole on most health and social outcomes is predicted by its inequality . . . not by its high average income. Inequality trumps average income."[95]

Wilkinson and Pickett identify the stresses created by inequality as a major contributing factor to its impact on health. They state: "Income inequality is linked to lower levels of social cohesion and generalized trust, suggesting that inequality acts as a social stressor. Chronic stress impairs memory and increases risk of depression, lowers immune responses, elevates blood pressure and risk of cardiovascular disease,

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91.   A *p* value of .001 means that the probability of incorrectly concluding that a relationship exists between inequality and imprisonment is only 1 in 1,000. *Id.* at 63.

92.   A *p* value of .34 indicates that there is a 34 in 100 chance of incorrectly concluding that a relationship exists between imprisonment and average national income. Social scientists prefer that a *p* value be .05 or less before they will determine that a statistically significant relationship exists between two variables. *Id.* at 63. Thus, social scientists would reject the hypothesis that there is a statistically significant relation between imprisonment and average national income.

93.   Wilkinson & Pickett, *Social Dysfunction*, *supra* note 79, at 496 tbl.2.

94.   Trust has a correlation coefficient *r* of -0.66 with inequality, indicating that as inequality increases, trust decreases. It also has a *p* value of .001 indicating that there is only a one in 1,000 chance of incorrectly concluding that a relationship exists between trust and inequality. Similarly, educational performance has a correlation coefficient *r* of -0.45, indicating that as inequality increases, educational performance decreases. Its *p* value of .001 indicates that there is only a one in 1,000 probability of incorrectly concluding that a relationship exists between educational performance and inequality.

95.   Wilkinson & Pickett, *Social Dysfunction*, *supra* note 79, at 499.

and affects hormonal systems."[96] Others have also identified stress created by inequality as a key factor.[97]

One of the most ominous aspects of significant inequality is that families may become trapped in lower economic levels for generations. Former Chair of the Federal Reserve System, Janet Yellen, observed that one of the harms arising from inequality is that it affects opportunity for advancement:

> Some degree of inequality in income and wealth, of course, would occur even with completely equal opportunity because variations in effort, skill, and luck will produce variations in outcomes. Indeed, some variation in outcomes arguably contributes to economic growth because it creates incentives to work hard, get an education, save, invest, and undertake risk. However, to the extent that opportunity itself is enhanced by access to economic resources, inequality of outcomes can exacerbate inequality of opportunity, thereby perpetuating a trend of increasing inequality. Such a link is suggested by the "Great Gatsby Curve," the finding that, among advanced economies, greater income inequality is associated with diminished intergenerational mobility.[98]

It is difficult for individuals in lower economic levels to elevate their children into higher, more affluent levels. The extent of intergenerational mobility into different economic levels is measured using an elasticity measure, intergenerational elasticity (IGE), which has a scale of one to zero.[99] An IGE of one indicates that adult children end up in

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96. Pickett & Wilkinson, *Health*, *supra* note 79, 322–23 (citations omitted).

97. *See, e.g.*, Robert M. Sapolsky, *The Health-Wealth Gap*, Sci. Am., Nov. 2018, at 63, 63–64.

98. Janet Yellen, Chair of the Bd. of Governors of the Fed. Reserve Sys., Perspectives on Inequality and Opportunity from the Survey of Consumer Finances, Speech at the Conference on Econ. Opportunity & Inequality (Oct. 17, 2014), https://www.federalreserve.gov/newsevents/speech/yellen20141017a.htm.

99. *See* Levine, *supra* note 54, at 14.

exactly the same income class as their parents.[100] In contrast, an elasticity of zero indicates that parents' income is not at all related to their adult children's income.[101] A CRS report surveyed the economic literature and concluded that the elasticity measure for intergenerational mobility is probably about 0.5.[102] The CRS report explains that if the income of a child's parents was 30% above the average income of families in the parents' generation, then the expected value of the child's income will be 15% above the average for that child's generation.[103] The report concludes, "In other words, in the United States, about 50% of the (dis)advantage of growing up in a (low) high income family may be inherited."[104]

The IGE correlates positively with national inequality.[105] Thus, countries with greater inequality also have lower intergenerational

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100.   *See id.*

101.   *Id.*

102.   *Id.*

103.   *Id.*

104.   *Id.* Other studies confirm the CRS estimate of an IGE of 0.5. A study by the OECD measured the earnings IGE for the United States to be 0.47. OECD, *Economic Policy Reforms: Going for Growth* 185 (2010), https://read.oecd-ilibrary.org/economics/economic-policy-reforms-2010_growth-2010-en#page187. Another recent study by Pablo Mitnik et al. also concludes that the IGE in the Unites States is .52 for men and .47 for women after an exhaustive critique of prior studies and the use of new tools to address their concerns about the prior studies. Pablo A. Mitnik et al., *New Estimates of Intergenerational Mobility Using Administrative Data* 70 (July 8, 2015), https://www.irs.gov/pub/irs-soi/15rpintergenmobility.pdf. This study concludes that the IGE may be higher for those at the extremes of income distribution. *Id.* at 71. It finds an elasticity for families at the 10th and 90th percentiles of parental income of 0.65 for men and 0.60 for women. *Id.* The article also has an excellent review of the literature.

105.   Miles Corak, *Income Inequality, Equality of Opportunity, and Intergenerational Mobility*, J. Econ. Persp., no. 3, 2013, at 79, 82 (2013); *Chairman Alan Krueger Discusses the Rise and Consequences of Inequality at the Center for American Progress*, Obama White House (Jan. 12, 2012), https://obamawhitehouse.archives.gov/blog/2012/01/12/chairman-alan-krueger-discusses-rise-and-consequences-inequality-center-american-pro.

mobility. The so-called "Great Gatsby Curve" illustrates this in Chart 7, below, which shows that countries with higher levels of inequality tend to have higher IGE.

**Chart 7: The Great Gatsby Curve: More Inequality Is Associ-
ated with Less Mobility Across the Generations[106]**

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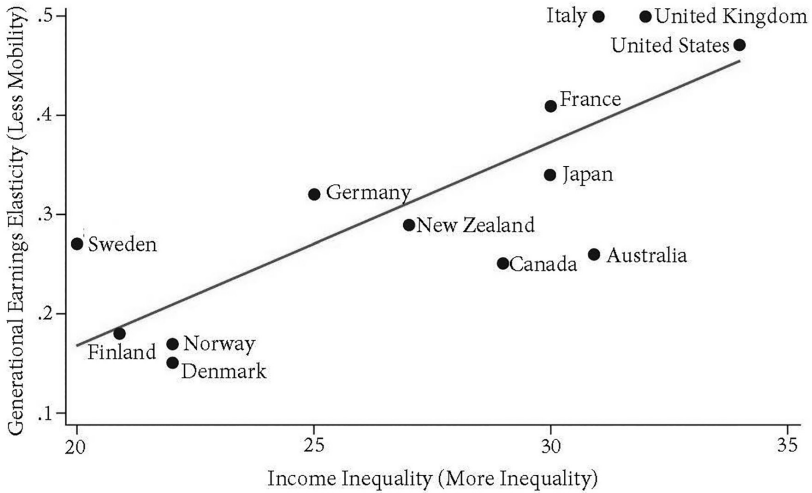
106.   Source: Corak, *supra* note 105, at 82 fig.1. In a note accompanying the figure, Corak explains the methodology used to create the graph:

> Income inequality is measured as the Gini coefficient, using disposable household income for about 1985 as provided by the OECD. Intergenerational economic mobility is measured as the elasticity between paternal earnings and a son's adult earnings, using data on a cohort of children born, roughly speaking, during the early to mid 1960s and measuring their adult outcomes in the mid to late 1990s. The estimates of the intergenerational earnings elasticity are derived from published studies, adjusted for methodological comparability. . . . I only use estimates derived from data that are nationally representative of the population and which are rich enough to make comparisons across generations within the same family. In addition, I only use studies that correct for the type of measurement errors described by . . . [David J. Zimmerman, *Regression Toward*

Note that the three countries in the upper right corner with the highest IGE—Italy, United Kingdom, and United States—also have the greatest amount of inequality.

C. Inequality's Threat to Democracy

In addition to contributing to health problems and difficulties in generational mobility, inequality poses a threat to democracy. *The Economist* once stated, "Money in politics: Cash rules everything around us."[107] Our political process has become a vote by dollars rather than a vote by citizens.

Recent campaign finances illustrate this phenomenon. The amounts expended are staggering. In the 2016 presidential campaign, Hillary Clinton benefitted from approximately $623 million in contributions to her campaign, received another $598 million from donations to the Democratic Party and joint fund raising committees, and received $204 million of Super PAC support.[108] President Trump received contributions of $334 million (including $66 million of his own money[109]) to his campaign, received another $543 million from donations to the

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Mediocrity in Economic Stature, 82 Am. Econ. Rev. 409 (1992)], which means deriving permanent earnings by either averaging annual data over several years or by using instrumental variables.

Id. (citations omitted).

107. T.N., *Money in Politics: Cash Rules Everything Around Us*, Economist (Apr. 4, 2014), http://www.economist.com/blogs/democracyiname rica/2014/04/money-politics-0.

108. Eugene D. Mazo & Timothy K. Kuhner, *Democracy by the Wealthy: Campaign Finance Reform as the Issue of Our Time*, *in* Democracy by the People: Reforming Campaign Finance in America 1, 3–4 (Eugene D. Mazo & Timothy K. Kuhner, eds., 2018); Anu Narayanswamy et al., *Election 2016–Money Raised as of December 31*, Wash. Post, https://www.washingtonpost.com /graphics/politics/2016-election/campaign-finance/ (last updated Feb. 1, 2020).

109. *Here's How Much of His Own Money Donald Trump Spent on His Campaign*, Fortune (Dec. 9, 2016), http://fortune.com/2016/12/09/donald -trump-campaign-spending/.

Republican Party and joint fund raising committees, and benefitted from $79.3 million in Super PAC spending.[110]

The affluent play a major role in campaign contributions. In the 2012 election cycle, .01% of the voting population accounted for more than 40% of all campaign contributions.[111] In addition, 40 individuals included in the Forbes 400 made 40 of the total of 155 contributions of $1 million or more.[112] The two largest donors, Sheldon and Miriam Adelson, gave $56.8 million and $46.6 million, respectively.[113] More than 80% of the 4,493 board members and CEOs of the Fortune 500 contributed a total of $170 million in the 2012 election cycle.[114]

In addition to their campaign contributions, the affluent are clearly more politically active than the less affluent.[115] An article in the *Annals of the American Academy of Political and Social Science* summarized the evidence to date:

> The American creed stresses political equality and political involvement, but political participation and political authority in America are highly stratified by income and education. People with higher income and education are more active participants in American politics (Verba, Schlozman, and Brady 1995[[116]]). They are more likely to have their interests represented by

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110. *See* Mazo & Kuhner, *supra* note 108, at 3–4; Narayanswamy et al., *supra* note 108.

111. Adam Bonica et al., *Why Hasn't Democracy Slowed Rising Inequality?*, J. Econ. Persp., no. 3, 2013, at 103.

112. *Id.* at 112–13.

113. *Id.* at 112.

114. *Id.* at 113.

115. *See, e.g.*, Christopher Ellis, *Understanding Economic Biases in Representation: Income, Resources, and Policy Representation in the 110th House*, 65 Pol. Res. Q. 938, 939 (2012) ("Low-income citizens are disadvantaged in the political process in many ways that go beyond income: they vote less, participate less, tend to know and care less about policy, and are less likely to have the political 'resources' necessary to voice their views." (citations omitted)).

116. Sidney Verba et al., Voice and Equality: Civic Voluntarism in American Politics (1995); *see also* Kay Lehman Schlozman et al., The Unheavenly Chorus: Unequal Political Voice and the Broken Promise of American Democracy 122–39 (2012).

lobbyists (Schlozman, Verba, and Brady 2012[117]), and they are more likely to have their opinions count for policy outcomes (Bartels 2008[118]; Gilens 2012[119]). As a result of the unequal stratification of political participation, authority, and outcomes, those with the most political power can influence the government's tax and expenditure policies to shape economic and social stratification to their taste. This insight is not new. More than 100 years ago, Max Weber recognized that the stratification of political authority could affect the stratification of class and social status.[120]

A study that interviewed 83 individuals in the Chicago area who are in the top 1% of wealth holders in the United States similarly observed that 68% of the participants in the survey contributed to political campaigns during the 12-month period preceding the survey compared to 14% of the general population in a comparable survey.[121] Those contributions may have helped the survey participants gain access. Forty percent of the Chicago wealthy reported contacting their own senator, and 37% contacted their own representative; and about 25% contacted a representative or senator from another district or state.[122] Twelve percent contacted an official in the White House.[123] Forty-four percent of these contacts related to the individual's economic self-interest, while 56% pertained to broader issues.[124] In addition, the study found that these individuals were more conservative with respect to policies such as taxation, economic regulation, and social welfare

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117. SCHLOZMAN ET AL., *supra* note 116.

118. LARRY M. BARTELS, UNEQUAL DEMOCRACY: THE POLITICAL ECONOMY OF THE NEW GILDED AGE (2008).

119. MARTIN GILENS, AFFLUENCE AND INFLUENCE: ECONOMIC INEQUALITY AND POLITICAL POWER IN AMERICA (2012).

120. Henry E. Brady et al., *Political Mobility and Political Reproduction from Generation to Generation,* 657 ANNALS AM. ACAD. POL. & SOC. SCI. 149, 149–50 (Jan. 2015).

121. Benjamin I. Page et al., *Democracy and the Policy Preferences of Wealthy Americans*, 11 PERSP. ON POL. 51, 53–54, 64–65 (2013).

122. *Id.* at 54.

123. *Id.* at 55 fig.1.

124. *Id.* at 54–55.

programs.[125] The majority of the top 1% wanted to decrease expenditures on health care, Food Stamps, and Social Security, while the majority of the general public wanted to increase expenditures with respect to those items.[126]

The activism and influence of the affluent have skewed the political process in favor of the wealthy. In a landmark 2008 book, Larry Bartels found significant statistical evidence that Senators were responsive to middle-income and high-income groups but unresponsive to low-income groups.[127] In a subsequent article, Thomas Hayes retested some of Bartels's conclusions, focusing on the period 2001 through 2010.[128] Hayes felt that a reexamination was appropriate because the period Bartels had tested, 1989 to 1994, had less inequality than the subsequent 2001 through 2010 period.[129] Hayes characterized the period 2001 through 2010 as "a period of extreme inequality in America, a period in which we might expect greater responsiveness toward those with the most resources."[130] He found that bias had increased with the Senate no longer responding to middle-income taxpayers and instead responding only to high-income constituents.[131] He also discovered no difference between the major political parties with both Democrats and Republicans being equally responsive to the high-income group.[132] Hayes suggested a few reasons for this increased bias: "This change in responsiveness could reflect the growing inequality in America or perhaps increasing polarization in Congress. Unequal responsiveness could also be the result of campaign contributions and the fact that this form of political participation is dominated by the wealthy."[133]

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125. *Id.* at 51, 53–54, 64–65.

126. *Id.* at 56. Interestingly, however, 66% of the top 1% favored progressive tax rates, compared to 61% of the general public. *Id.* at 61.

127. Bartels, *supra* note 118, at 260–62.

128. Thomas J. Hayes, *Responsiveness in an Era of Inequality: The Case of the U.S. Senate*, 66 Pol. Res. Q. 585, 586 (2012).

129. *Id.* at 586.

130. *Id.*

131. *Id.* at 590.

132. *Id.* at 594.

133. *Id.* at 595 (citations omitted). The House of Representatives also favors the wealthy over the poor. Ellis, *supra* note 115, at 948. Ellis studied the voting patterns in the 110th Congress (January 2007–January 2009) in order to identify causes of income-based biases in representation of citizens by members of Congress. He found that "preferences of lower income citizens

Subsequently, Martin Gilens refined the analysis of the political impact of wealth. In a 2012 book, he examined 1,779 surveys that asked members of the general public whether they favored or opposed a proposed change in U.S. government policy during the period 1981–2002.[134] Gilens was able to access demographic information about the respondents of the surveys so that he could identify their income levels and determine whether the action taken by the U.S. government with respect to a particular policy proposal was consistent with their views.[135] Consistent with the findings of Bartels and Hayes, he found significant empirical evidence that policy outcomes of the federal government were more responsive to high-income voters where opinions of wealthy and poor diverge.[136] He stated:

> When preferences of the middle class and the affluent align in my data, responsiveness is strong and . . . equal for these two groups and essentially nonexistent for the poor. . . . But when middle-class preferences align with those of the poor, responsiveness to the affluent remains strong while responsiveness to the poor and middle class is completely absent. . . .
> . . . .
> In sum, the responsiveness of policy makers to the preferences of the American public is highly skewed in favor of the most affluent, and this remains true even when we isolate those policies on which the preferences of the poor and middle class converge.[137]

These results startled political scientists and encouraged further research. Benjamin Page teamed up with Gilens to continue exploration

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are significantly less well represented than those of wealthier citizens in the voting behavior of their" congressional representatives. *Id.* at 948. Politics at the state level also exhibits similar behavior. *See* Elizabeth Rigby & Gerald Wright*, Political Parties and Representation of the Poor in the American States*, 57 Am. J. Pol. Sci. 552, 563 (2013) (finding that state political parties ignore low income individuals in setting their campaign platforms).

 134. Gilens, *supra* note 119, at 57.

 135. *Id.* at 57, 61.

 136. *Id.* at 82–85.

 137*.* *Id.* at 84–85.

of the impact of inequality on the political process. In their 2014 article, they analyzed the political impact of wealthy individuals, business interest groups, and mass-based interest groups using the survey data on U.S. government policies that Gilens had previously collected. They also concluded that economic elites had disproportionate influence.[138] They summarized their conclusions as follows: "The central point that emerges from our research is that economic elites and organized groups representing business interests have substantial independent impacts on U.S. government policy, while mass-based interest groups and average citizens have little or no independent influence."[139]

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138.   Martin Gilens & Benjamin I. Page, *Testing Theories of American Politics: Elites, Interest Groups, and Average Citizens*, 12 Persp. on Pol. 564, 572 (2014) [hereinafter *Testing Theories*].

139.   *Id.* at 565. Despite the existence of significant research that predated and supported the Page and Gilens article, there were very strong reactions to their article. *See, e.g.*, Martin Gilens & Benjamin Page, *Critics Argued with Our Analysis of U.S. Political Inequality. Here Are 5 Ways They're Wrong*, Wash. Post (May 23, 2016), https://www.washingtonpost.com/news/monkey-cage/wp/2016/05/23/critics-challenge-our-portrait-of-americas-political-inequality-heres-5-ways-they-are-wrong/ [hereinafter Gilens & Page, *Critics*] (noting that their *Testing Theories* article, *supra* note 138, "was in line with a good deal of previous research," but "for some reason, [*Testing Theories*] caught the media's attention in a way that few academic journal articles do."). In *When Do the Rich Win?*, Branham, Soroka, and Wlezien argue that the middle class and the rich agree about 90% of the time and that when they disagree, the rich only win slightly more than the middle class. J. Alexander Branham et al., *When Do the Rich Win?*, 132 Pol. Sci. Q. 43, 46, 51 tbl.2 (2017). Using Gilen's data, they and a paper by Omar S. Bashir found that when high income and middle income groups disagree, the middle group wins 47% of the time and the rich win 53% of the time. Omar S. Bashir, *Testing Inferences About American Politics: A Review of the "Oligarchy" Result*, Res. & Pol., no. 4, 2015, at 6–7, https://journals.sagepub.com/doi/pdf/10.1177/2053168015608896; Branham et al., *supra*, at 51 tbl.2. Page and Gilens have responded that such statistics are misleading because they fail to distinguish between items that have the support of only a slight majority of the wealthy versus items that are supported by a large majority of the wealthy. Gilens & Page, *Critics*, *supra*. They argue that when 75% of the affluent strongly support a proposed policy change opposed by 75% of the middle class, that policy is adopted 46% of the time. *Id.* In contrast, when 75% of the middle-class strongly support a policy opposed by 75% of the wealthy, that policy is adopted only 24% of the time. *Id.* They further argue that the affluent have stronger power to block policies they dislike. *Id.* They assert

Rhodes and Schaffner refined the research by Page and Gilens in 2017 by analyzing data from the 2012 Cooperative Congressional Election Study (CCES).[140] They found that individuals with Democratic representatives experienced no difference in the level of representation based on income, but that wealthy individuals with Republican representatives received much more representation than less wealthy individuals.[141] They observed:

> An individual with an income in the 85th percentile receives representation on 49% of the major bills from a Republican incumbent, but that increases to 56% when her income is in the 97th percentile and 58% if she is in the top 1% of income earners. In other words, Republican House members provide about 10% more representation to the 99th percentile as they do to the 85th percentile.[142]

While the statistical studies show that wealth buys representation, it is not clear to what extent this results in favorable federal tax policy for the wealthy. Empirical studies examining whether contributions actually result in favorable action on floor votes by members of Congress are inconclusive.[143] However, during the 1986 major tax reform, members of the tax-writing committees experienced significant increases in contributions.[144] And the studies suggest that contributors

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that when a policy is strongly opposed by the affluent (less than 25% support) but not strongly opposed by the middle class, that policy is adopted only 4% of the time. *Id.* In contrast, when a policy is strongly opposed by the middle class but not by the affluent, they state that the policy is adopted 40% of the time. *Id.* Thus, inequality appears to have a detrimental effect on our democracy.

    140.   Jesse H. Rhodes & Brian F. Schaffner, *Testing Models of Unequal Representation: Democratic Populists and Republican Oligarchs?*, 12 Q.J. Pol. Sci. 185, 198 (2017).

    141.   *Id.* at 197–198, 200–201.

    142.   *Id.* at 200.

    143.   See Linda W. Powell, *The Influence of Campaign Contributions on Legislative Policy*, 11 Forum 339, 341 (2013) (surveying the studies).

    144.   Kevin B. Grier & Michael C. Munger, *Committee Assignments, Constituent Preferences, and Campaign Contributions,* 29 Econ. Inquiry 24 (1991); Jeffrey Milyo, *Electoral and Financial Effects of Changes in Committee Power: The Gramm-Rudman-Hollings Budget Reform, The Tax*

are clearly motivated by expectations of favorable action by the recipients of their contributions.[145]

The anecdotal evidence is more compelling. Marjorie Kornhauser has described how decades ago a group of wealthy individuals achieved a surprising reversal of a newly passed provision requiring disclosure of tax return information that affected only the relatively rich, less than 10% of the population, through extensive lobbying, media, and rhetorical appeals to the other 90%.[146] More recently, a small group of 18 families contributed $500 million dollars to fund a campaign to repeal the estate tax.[147] Although their effort resulted in only a temporary one-year repeal, their efforts did culminate in a substantial increase of amounts exempted from the estate tax.[148]

This analysis suggests that an important byproduct of progressive tax rates is to help level political influence of the wealthy and poor.[149] To the extent a progressive tax system helps to decrease income and wealth inequality, it is also helping to preserve democracy.

Reform Act of 1986, and the Money Committees in the House, 40 J.L. & Econ. 93, 97 (1997).

145.   Powell, *supra* note 143, at 342–43. *See generally* Michael Barber, *Donation Motivations: Testing Theories of Access and Ideology*, 69 Pol. Res. Q. 148, 156 (2016) (finding that political contributions by PACS are primarily motivated by hopes of gaining access to candidates while contributions by individuals are motivated primarily by the ideology of the candidates).

146.   Marjorie E. Kornhauser, *Shaping Public Opinion and the Law: How a "Common Man" Campaign Ended a Rich Man's Law*, 73 Law & Contemp. Probs. 101, 102 (2009).

147.   Michael J. Graetz & Ian Shapiro, Death by a Thousand Cuts: The Fight over Taxing Inherited Wealth (2005).

148.   Kornhauser, *supra* note 146, at 102; Pub. Citizen & United for a Fair Econ., *Spending Millions to Save Billions: The Campaign of the Super Wealthy to Kill the Estate Tax* 24–26 (2006), http://www.citizen.org /documents/EstateTaxFinal.pdf.

149.   *See, e.g.*, Ari Glogower, *Taxing Inequality*, 93 N.Y.U. L. Rev. 1421, 1442 (2018); James R. Repetti, *Democracy and Opportunity: A New Paradigm in Tax Equity*, 61 Vand. L. Rev. 1129, 1152–58 (2008) [hereinafter Repetti, *Democracy and Opportunity*]; James R. Repetti, *Democracy, Taxes, and Wealth*, 76 N.Y.U. L. Rev. 825, 843–49 (2001).

III. The Role of Federal Taxes in Inequality: The Decline of Progressivity

As discussed in Part II, inequality contributes to health and social ills, lack of mobility, and problems in our democracy. This Part III discusses the impact of declining tax rate progressivity on inequality.

A. The Decline in Progressive Rates

To analyze the impact of taxation on inequality, it is necessary to distinguish between the statutory marginal tax rates, statutory average tax rates, effective marginal tax rates, and effective average tax rates. Statutory marginal tax rates are the rates applied by law to a taxpayer's last dollar of income. For example, the statutory rate of 37% will be applied to the last dollar earned by a taxpayer who is in the 37% tax bracket. A taxpayer's statutory average tax rate represents that average tax rate of all the statutory rates applied to all her taxable income in the various tax brackets. A taxpayer's statutory average tax rate will be less than the maximum marginal rate because income that she earned in lower tax brackets is taxed at lower rates due to our progressive rate structure.

A taxpayer's effective marginal tax rate is the actual tax burden applied to the last dollar of the taxpayer's income after taking into account credits, deductions, exemptions, and other special provisions in the tax code. The effective marginal tax rate for most taxpayers is usually less than the statutory marginal rate because of all the special provisions in the Code that often reduce a taxpayer's actual tax liability.[150] The effective average tax rate is the average tax rate that equals the percentage of the taxable income actually paid by the taxpayer as a tax.

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150. Molly F. Sherlock, Cong. Res. Serv. R44787, Statutory, Average, and Effective Marginal Tax Rates in the Federal Individual Income Tax: Background and Analysis 1–10 (2017), https://crsreports.congress.gov/product/pdf/R/R44787.

As shown in Chart 8, below, the statutory marginal rates for the income tax have decreased over the past decades since the early 1960s.

Chart 8:   Top Federal Individual Income Tax Rates[151]
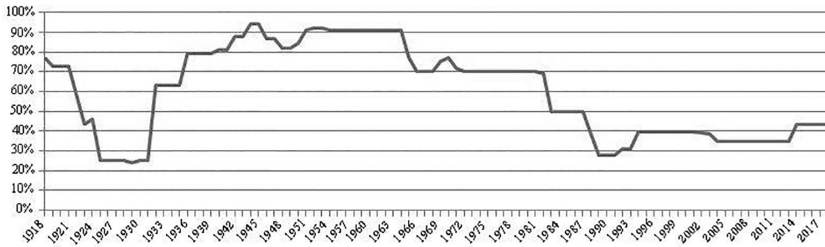
Note that statutory marginal rates declined significantly beginning in the early 1960s and again in the early 1980s. In 1960 the maximum statutory rate was 90%. The maximum rate has hovered around 40% since 1993 and is currently 37% (40.8% including the 3.8% Medicare surtax on investment income).[152]

The maximum statutory rates for the income tax do not tell the entire story because investment income qualifies for favored treatment. Prior to 2003, dividends received by individuals were taxed as ordinary income, while long term capital gains were generally taxed at lower preferential rates.[153] Beginning in 2003, most types of dividends became eligible for the same favorable rates applicable to long term capital gains. From 2003 through 2012, that favorable rate was a maximum of 15%.

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151.   Source *History of Federal Income Tax Rates: 1913–2020*, Bradford Tax Inst., https://bradfordtaxinstitute.com/Free_Resources/Federal -Income-Tax-Rates.aspx (last visited July 24, 2020).

152.   I.R.C. §§ 1(j), 1411(a).

153.   During the short period 1988–1990, an identical 28% maximum statutory tax rate applied to both ordinary income and long term capital gains. *How Are Capital Gains Taxed?*, Tax Pol'y Ctr.: Briefing Book, https://www.taxpolicycenter.org/briefing-book/how-are-capital-gains-taxed (last updated May 2020).

Beginning in 2013, the maximum statutory rate is 20% (23.8% including the 3.8% Medicare surtax on investment income).[154]

There has been a similar decline in the statutory marginal rates for the estate tax. In 1960, the maximum statutory estate tax rate was 77% and only $60,000 of a decedent's assets were exempted from the tax.[155] In 2018, the exemption amount increased to $11,180,000.[156] The inflation-adjusted amount for 2020 is $11,580,000.[157] This means that a taxpayer who dies in 2020 would have to have a taxable estate of over $11,580,000 before any tax would be due.

Statutory marginal rates are not very helpful in determining the progressivity of a tax system because they do not measure the actual burden imposed by a tax on taxpayers. The effective marginal rates and effective average rates provide a much better picture of the actual burden placed upon taxpayers because the statutory rates do not reflect various loopholes available to taxpayers. The Center for Budget and Policy Priorities, for example, calculates an effective average tax rate for the estate tax of only 17% in 2017, although the statutory rate was 40%.[158]

A recent study by the CRS (Chart 9, below) similarly calculated lower effective rates for the individual income tax, finding that effective tax rates ranged between a low of 21% to a high of 31% during the period 1960 to 2017.[159] Note that Chart 9 shows that effective marginal rates for the income tax began to decline after 1980.

154.   I.R.C. §§ 1(h), 1411(a).

155.   Darien B. Jacobson et al., *The Estate Tax: Ninety Years and Counting, in* 2 SOI Tax Stats—Compendium of Federal Transfer Tax and Personal Wealth Studies 9, 17 (2011), https://www.irs.gov/statistics/soi-tax-stats-compendium-of-federal-transfer-tax-and-personal-wealth-studies-volume-2.

156.   I.R.C. § 2010.

157.   Rev. Proc. 2019–44, 2019–47 I.R.B. 1093.

158.   Jacobson et al., *supra* note 155, at 9, 17.

159.   Sherlock, *supra* note 150, at 7.

Chart 9:   Average and Effective Marginal Federal Income Tax
Rates 1960–2016[160]
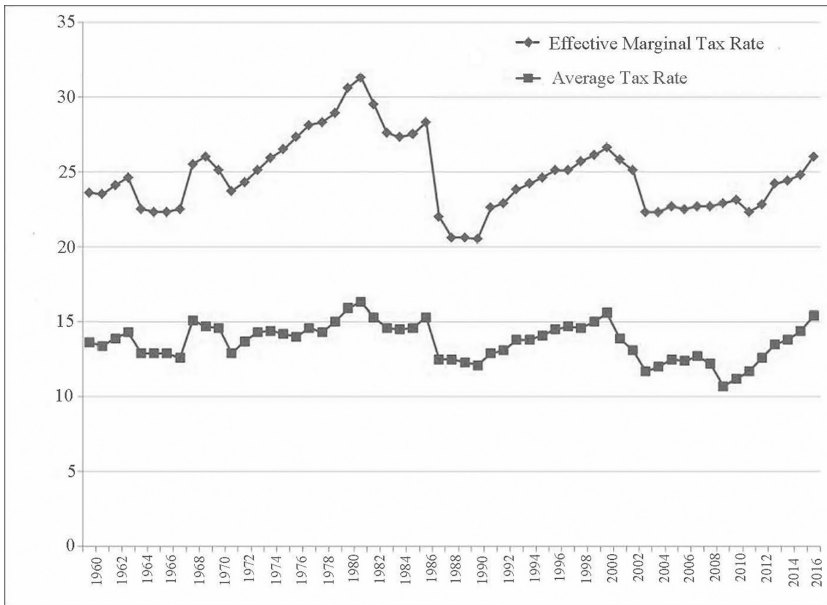
Also, a recent study by economists at the Tax Policy Center found that effective marginal rates of the individual income tax for the top .01% of income distribution decreased from slightly above 40% in 1980 to 27% in 2015.[161]

Picketty, Saez, and Zucman provide more detailed data in Chart 10, below, which shows the effective average tax rates for the top 1% of households ranked by their income calculated using taxes on individual incomes, payroll, estates, corporate profits, properties, and sales. Their research shows there was a general decline in the effective average rates for the top 1% for all these taxes from the mid-1960s

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160.   Source: SHERLOCK, *supra* note 150, at 7 fig.3.

161.   Robert McClelland & Nikhita Airi, *Effective Income Tax Rates Have Fallen For The Top One Percent Since World War II*, TAX POL'Y CTR.: TAX VOX (Jan. 6, 2020), https://www.taxpolicycenter.org/taxvox /effective-income-tax-rates-have-fallen-top-one-percent-world-war-ii.

Chart 10: Effective Average Tax Rates by Pretax Income Group[162]
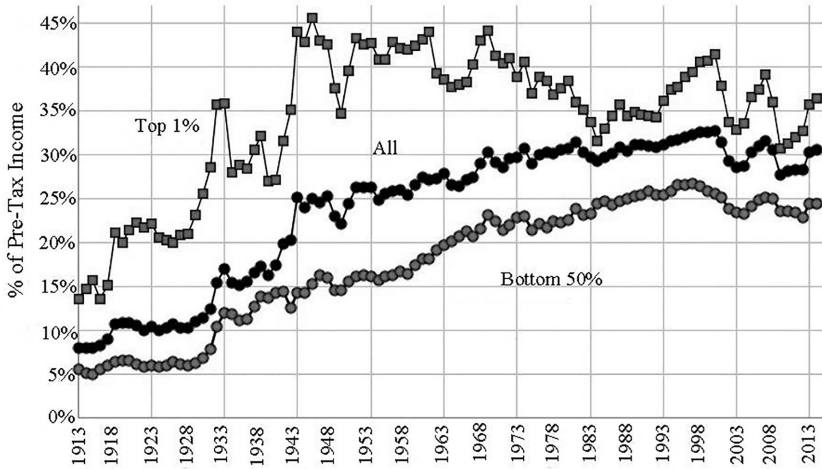
through the early 1980s. Thereafter, effective average tax rate for all taxes of the top 1% has hovered between 30 and 40%.[163]

But note something far more significant in Chart 10. The post-World War II gap between the effective tax rate for the top 1% of income distribution and the bottom 50% has been narrowing since the early 50s. Since 1953, we have been taking less away from the top 1% and more away from the bottom 50%. Picketty, Saez, and Zucman observe that the gap between the top and bottom is much smaller today because top earners pay about 30% to 35% of their income in taxes while the bottom 50% pay about 25%.[164] They conclude that our system has become less effective in redistributing wealth from the rich to the poor.[165]

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162. Source: Piketty et al., *supra* note 48, at 599.

163. *Id.* at 600.

164. *Id. But see infra* note 165, for calculations by Auten and Splinter suggesting that progressivity may have improved.

165. Piketty et al., *supra* note 48, at 598–600. *See generally*, Sita N. Slavov & Alan D. Viard, *Taxes, Transfers, Progressivity, and Redistribution: Part 1*, 152 Tax Notes 1437 (Sept. 5, 2016) (describing the factors that influence the redistributive character of a tax system). Again, however, the measurements have to be viewed cautiously. The calculations of effective tax rates suffer from the same difficulties that we discussed earlier with respect to the

B. Taxes Reduce Inequality

The compression of effective tax rates illustrated in Chart 10 has increased inequality. For example, a 2016 CBO study showed that in 2013 the before-tax income Gini in the United States was .48 while the after-tax income Gini was .44.[166] This suggests that taxes helped reduce inequality as measured by the Gini index by 8.3%. But the same CBO study suggests that in 1980, taxes helped reduce income inequality by 10%.[167]

In analyzing the effect of taxes on inequality, it is helpful to distinguish between income inequality and wealth inequality because the two may be affected differently by taxation. While after-tax income inequality can be reduced simply by increasing effective marginal tax rates on high-income taxpayers relative to rates on low-income taxpayers, the impact of taxes on *wealth* inequality may be more complex.

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calculations of how income is shared among the various income percentiles. *See supra* text accompanying notes 22 to 26. Differing assumptions about how taxpaying units should be defined and how income not accounted for in the databases should be allocated among the various income percentile groups can result in widely varied calculations. Auten and Splinter argue that the effective tax rate for the top 1% of households measured by income has hovered around 38% for the period 1960 through 2015 when the individual income, corporate, and state and local taxes are all taken into account. Auten & Splinter, *Income Inequality*, *supra* note 23, at 25. In contrast, they determine that the effective rate of these taxes for the bottom 90% of income distribution dropped from 17.5% to 14%. *Id.* As discussed earlier, Piketty, Saez, and Zucman disagree with these calculations. *See supra* text accompanying note 25.

166.   *CBO Household Income 2013*, *supra* note 49, at 43 fig.14.

167.   *Id.* The before-tax GINI in 1980 was .40, while the after-tax GINI was .36. This represents a decline in inequality by 10%. Another study by Alm, Lee, and Wallace found that the extent to which the federal individual income tax reduced income inequality decreased from 8.47% in 1978 to 7.3% in 1998. James Alm et al., *How Fair? Changes in Federal Income Taxation and the Distribution of Income, 1978 to 1998*, 24 J. Pol'y Analysis & Mgmt. 5, 16–17 (2005). For similar results, see, for example, Thomas L. Hungerford, Cong. Res. Serv. R42131, Changes in the Distribution of Income Among Tax Filers Between 1996 and 2006: The Role of Labor Income, Capital Income, and Tax Policy 7–8 (2011), https://fas.org/sgp/crs/misc/R42131.pdf; James M. Poterba, *Income Inequality and Income Taxation*, 29 J. Pol'y Modeling 623, 626 (2007) (finding that payroll, individual income, corporate income taxes, and federal excise taxes in 1989 increased the share of income for the lowest quintile from 4.3% to 5.1%, an increase of over 18%).

Wealth is not generated solely by income—it is also affected by the savings rate. Saez and Zucman argue that during the period 1978–2012 the share of income held by the top 10% of wealth increased by 13.6 percentage points while the share of wealth held by the top 1% increased by 16.7 points.[168] They attribute the greater increase in wealth to a combination of higher income inequality and "a collapse" in the saving rate by the bottom 90%.[169]

Subsequent studies suggest that the tax system has played an important role in the increase of wealth inequality. Hubmer, Krusell, and Smith analyzed the impact of the major federal taxes (the individual income tax, corporate tax, estate tax, and payroll taxes) on wealth inequality during the period 1967–2012.[170] They found that the most significant factor affecting increases in inequality was the decline in progressivity of federal taxes, which in turn increased the return on savings for high-income taxpayers.[171] In another 2016 study, Kaymak and Poschke concluded that the decline in tax progressivity contributed slightly less than one-half of the increase in wealth inequality during the period 1960–2010, while increased inequality in wages played a slightly greater role. They stated: "[C]hanges in the tax and transfer system made a significant contribution to the rise in wealth inequality in the U.S. Between 1960 and 2010, they explain nearly half the rise in wealth concentration, with each of these components accounting for a similar share."[172] More recently, a 2018 study found that "the rapid concentration

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168.   Saez & Zucman, *supra* note 57, at 552. *But see* Kopczuk, *supra* note 62, at 8 (cautioning that calculations by Saez & Zucman about wealth concentrations are highly sensitive to their underlying assumptions).

169.   Saez & Zucman, *supra* note 57, at 564–65.

170.   Joachim Hubmer et al., *The Historical Evolution of the Wealth Distribution: A Quantitative-Theoretic Investigation* 3, 14, 21 (Nat'l Bureau of Econ. Research, Working Paper No. 23011, 2016), http://www.nber.org /papers/w23011.

171.   *Id.*

172.   Bari Kaymak & Markus Poschke, *The Evolution of Wealth Inequality over Half a Century: The Role of Taxes, Transfers and Technology*, 77 J. MONETARY ECON. 1, 2 (2016); *see also* Daniel H. Cooper et al., *Quantifying the Role of Federal and State Taxes in Mitigating Wage Inequality* 17–18 (Fed. Res. Bd., Fin. & Econ. Discussion Series Paper 2012-5, 2012), www.federalreserve.gov /pubs/feds/2012/201205/201205pap.pdf (concluding that federal taxes during the period 1944 to 2008 helped reduce inequality for wage income, although such taxes had less of an effect over time due to declining tax rates).

of income share to the top is largely the consequence of tax cuts for the top income groups, even though the majority of tax reforms enact marginal rate changes over the entire income distribution."[173]

C. Redistributive Spending as an Alternative to Progressive Taxation

Some have cautiously suggested that we consider abandoning progressivity in our rate structure and instead rely exclusively on redistributive spending to address inequality.[174] This approach may initially seem appealing because three-quarters of the redistribution that currently occurs in the U.S. is through redistributive spending and only one-quarter through our tax system. A 2018 CBO study showed that for the period 1979–2014 social insurance transfers (Social Security payments consisting of Old Age, Survivors, and Disability Insurance; Medicare; unemployment insurance; and workers' compensation) reduced the GINI coefficient from .60 to .52, a decrease of .08.[175] Means-tested transfers

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173.   Yifan Shen et al., *Marginal Income Tax and Income Inequality: A Narrative Approach* 2 (2018), https://www.researchgate.net/profile/Yifan_Shen14 /publication/331561396_Marginal_Income_Tax_and_Income_Inequality_A _Narrative_Approach/links/5c808578299bf1268d405af5/Marginal-Income-Tax -and-Income-Inequality-A-Narrative-Approach.pdf.

174.   *See* Eric M. Zolt, *Inequality in America: Challenges for Tax and Spending Policies*, 66 Tax L. Rev. 641, 643–44 (2013) ("The United States may need less progressive (or even regressive) taxes to fund more progressive spending programs."). *See generally* Edward D. Kleinbard, We Are Better Than This: How Government Should Spend Our Money 340–46 (2015). Kleinbard suggests that policy makers should not view progressive rates as a tool to decrease inequality but should rather principally rely on redistributive spending programs. *Id.* at 340. Kleinbard makes clear, however, that he is not opposed to progressive taxation. He favors a progressive individual income tax as a form of "social insurance." *Id.* at 345. This social insurance "relieves those at the bottom of the income hierarchy of a cash expense they would face were income taxes collected on a proportional schedule, and does so simply because their material life outcomes have not been terribly successful" due to "an undifferentiated porridge of personal efforts and brute luck." *Id.* at 345–46.

175.   *CBO Household Income 2014*, *supra* note 16, at 31–32.

further reduced the GINI from .52 to .48, a decrease of .04.[176] Lastly, our tax system reduced the GINI from .48 to .44, a decrease also of .04.[177]

The worrisome question, however, is whether such redistributive spending would occur without a progressive tax system to help "level the playing field" in our representative democracy. The confluence of the need to fund wars and concerns about equity motivated our country's adoption of a progressive tax system.[178] The historian Brownlee suggests that our adoption of a progressive rate structure might have occurred in any event but that the need to finance wars helped set the stage to prove the merits of a progressive system. He suggests that progressive rates continued after the wars because these "emergency-driven tax policies acquired a legitimacy and cultural force that sustained them well after the emergencies were over."[179]

The "legitimacy and cultural force" that Brownlee refers to may reflect our collective recognition of the ameliorative effects of a progressive tax in reducing the harmful effects of inequality and in helping our democracy. By 1952, even critics of progressive rates observed that progressivity was "one of the central ideas of modern democratic capitalism" and was "widely accepted as a secure policy commitment."[180]

It is likely that progressive tax rates have played a role in sustaining the "cultural force" supporting redistribution through transfer payments (as well as through progressive taxes) because of their impact on our democracy. A progressive tax system helps to safeguard democracy and assures that Brownlee's "cultural force" will support a system designed to reduce inequality. It does so by ensuring that the voice of

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176.   *Id.* Means-tested transfers include transfers provided through Medicaid and the Children's Health Insurance Program (measured as the average cost to the government of providing those benefits); the Supplemental Nutrition Assistance Program (formerly known as the Food Stamp program); and Supplemental Security Income. *Id.*

177.   *Id.*

178.   STEVEN A. BANK ET AL., WAR AND TAXES 53 (2008); WITTE, *supra* note 13, at 69; *see also* Joseph J. Thorndike, *The Century of the Estate Tax: Made for Revenue, Not Redistribution*, 152 TAX NOTES 1330, 1333 (Sept. 5, 2016) (observing that the estate tax was supported by some Republicans because additional revenue was needed and they did not wish to increase the already progressive income tax).

179.   BROWNLEE, *supra* note 12, at 94.

180.   Walter J. Blum & Harry Kalven, Jr., *The Uneasy Case for Progressive Taxation*, 19 CHI. L. REV. 417, 417 (1952).

the poor is not entirely eclipsed by the wealthy. Since systems with pro-gressive rates generally take less from the poor than a flat rate system, while raising the same amount of revenue, progressive rates help to increase the poor's political power apart from any redistributive trans-fer payments they may receive. The elimination or further reduction of progressive rates may further reduce the voice of the poor[181] and, thus, may result in less redistributive spending since the wealthy are less likely to support redistributive spending programs.[182]

This is particularly true to the extent that race and ethnicity are factors that affect redistribution. Several studies suggest that countries in which the poor are a different race or ethnicity compared to the major-ity engage in less redistributive spending.[183] Unfortunately, this is the case in the United States. Three prominent economists observed:

> Opponents of redistribution in the United States have regularly used race-based rhetoric to resist left-wing policies. Across countries, racial fragmentation is a powerful predictor of redistribution. Within the United States, race is the single most important predictor of support for welfare. America's troubled race relations are clearly a major reason for the absence of an Amer-ican welfare state.[184]

Without progressive rates, low-income minorities would be even more powerless than they are now to promote equitable redistribution.

D. Uncertainties in Using Equity to Structure a Tax

The decreased progressivity of our tax system and the lessened interest in using taxes to reduce inequality is attributable at least in part to

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181.   *See supra* text accompanying notes 107 to 149.

182.   *See supra* text accompanying notes 125 to 126; *see also* Linda Sugin, *A Philosophical Objection to the Optimal Tax Model*, 64 Tax L. Rev. 229, 280 (2011) ("The further a society finds itself from equality, the more work a tax system must do to contribute to justice.").

183.   *See, e.g.*, Christian Houle, *Inequality, Ethnic Diversity, and Redistribution*, 15 J. Econ. Ineq. 1, 17, 20 (2017).

184.   Alberto Alesina, Edward Glaeser, & Bruce Sacerdote, *Why Doesn't the United States Have a European-Style Welfare State?*, 2 Brook-ings Papers on Econ. Activity 187, 189 (2001).

concerns about the negative impact of high taxes on economic efficiency.[185] Predictions of gains from increased efficiency may appear more certain than gains from using progressive tax rates to achieve equity because efficiency gains seem quantifiable while gains from distributive justice appear intangible and unmeasurable.[186] In addition, as we will discuss in Part IV, policymakers and economists generally agree what an efficient tax system is. In contrast, there is much less agreement about what equity is and how it should apply to tax policy. There are many forms of distributive justice, and not all require progressive tax rates. It is not surprising, therefore, that efficiency analysis currently seems to dominate the debate among politicians and lawyers about the best forms of taxation and the appropriate level of tax rates.

Traditional equity analysis in tax policy often examines "horizontal equity" and "vertical equity." Horizontal equity (HE) proposes that similar taxpayers should be taxed in a similar manner.[187] Vertical equity (VE), in contrast, seeks to make an "appropriate" difference among dissimilar taxpayers.[188] Application of both HE and VE in designing a tax system depends critically on the type of distributive justice utilized to make the "appropriate" difference among taxpayers.[189]

This would not present a problem if a consensus existed about the best form of distributive justice. But that is not the case. Many agree that our tax system should be used to achieve distributive justice. For

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185.   *See, e.g.*, OKUN, *supra* note 2, at 88–89 (discussing the tradeoff between efficiency and equality that legislators confront in formulating tax policy); Kilborn, *supra* note 4.

186.   Repetti, *Democracy and Opportunity*, *supra* note 149, at 1130–31; Sugin, *supra* note 182, at 240.

187.   *See, e.g.*, Brian Galle, *Tax Fairness*, 65 WASH. & LEE L. REV. 1323, 1325 (2008); Louis Kaplow, *Horizontal Equity: Measures in Search of a Principle*, 42 NAT'L TAX J. 139 (1989); Paul R. McDaniel & James R. Repetti, *Horizontal and Vertical Equity: The Musgrave/Kaplow Exchange*, 1 FL. TAX REV. 607 (1993); Richard A. Musgrave, *Horizontal Equity, Once More*, 43 NAT'L TAX J. 113 (1990); R.A. Musgrave, *In Defense of an Income Concept,* 81 HARV. L. REV. 44, 45 (1967) (referring to horizontal equity as the principle that "people in equal position should pay equal amounts of tax"); James R. Repetti & Diane M. Ring, *Horizontal Equity Revisited*, 13 FL. TAX REV. 135 (2012).

188.   Repetti & Ring, *supra* note 187, at 136.

189.   Thomas D. Griffith, *Should "Tax Norms" Be Abandoned? Rethinking Tax Policy Analysis and the Taxation of Personal Injury Recoveries*, 1993 WIS. L. REV. 1115, 1155–56; Repetti & Ring, *supra* note 187, at 137–138.

example, Kaplow and Shavell suggest that our tax and transfer systems should be the principal tool for accomplishing fairness, whereas the focus of all other legal rules should be efficiency.[190] There is less agreement about the type of distributive justice.

Two forms of distributive justice that have received significant attention are the government-benefits principle and the ability-to-pay principle. Unfortunately, neither provides much guidance about the appropriate rate structure or tax base. Because much has already been written about these principles, the following presents only a brief review to illustrate the uncertainties.

1. The Government-Benefits Principle

The government-benefits principle posits that a tax should be assessed based on the benefits an individual receives from the government.[191] The

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190. Louis Kaplow & Steven Shavell, *Why the Legal System Is Less Efficient Than the Income Tax in Redistributing Income*, 23 J. LEGAL STUD. 667, 668 (1994). *But see* Kyle Logue & Ronen Avraham, *Redistributing Optimally: Of Tax Rules, Legal Rules, and Insurance*, 56 TAX L. REV. 157, 165 (2003) (arguing that the determination whether the tax system or legal rules should be used to achieve redistribution is a contextual inquiry); Chris William Sanchirico, *Deconstructing the New Efficiency Rationale*, 86 CORNELL L. REV. 1003, 1005 (2001) (arguing against the "practice of evaluating legal rules solely on the basis of the efficiency criterion" and asserting that "these arguments are alternatively logically flawed or reliant on untenable assumptions"); Zachary Liscow, *Equality, Taxation, and Law and Economics in the 21st Century* 3–5 (Feb. 2020), https://law.yale.edu/sites/default/files/documents/faculty/papers/liscow_-_equality_taxation_and_law_and_economics_in_the_21st_century_-_2020-02-06.pdf (arguing that political realities about the manner in which voters tend to compartmentalize redistributive tools require that many tools should be used to achieve redistribution).

191. *See, e.g.*, FRIEDRICH A. HAYEK, THE CONSTITUTION OF LIBERTY 315–16 (1960) ("[S]ince almost all economic activity benefits from the basic services of government, these services form a more or less constant ingredient of all we consume and enjoy . . . [;] therefore a person who commands more of the resources of society will also gain proportionally more from what the government has contributed."); RICHARD A. MUSGRAVE & PEGGY B. MUSGRAVE, PUBLIC FINANCE IN THEORY AND PRACTICE 239–42 (3d ed. 1980) ("Under a strict regime of benefit taxation, each taxpayer would be taxed in line with his demand for public services."); Blum & Kalven, *supra* note 180, at 452 ("The relevant question is whether, granting that most benefits from government

theory is that the tax represents payment by the taxpayer for her "contract" with the government to protect her life, liberty, and property.[192]

It is not easy to design a tax using this approach because the benefits principle does not designate an appropriate tax base and rate structure.[193] With respect to the tax base, some have asserted that income is the best measure of government-provided benefits because the government maintains and regulates the capitalist system that provides such income.[194] Others have responded that consumption may reflect the same measure.[195]

The benefits approach also does not indicate a rate structure (e.g., progressive versus proportionate). While the quid-pro-quo nature of the benefits theory suggests that taxes should be collected commensurate to the benefits provided by the government, it does not provide guidance about tax rates.[196] One justification for progressive tax rates under the benefits approach is that the portion of government benefits received by high-income taxpayers increases more rapidly than their income. However, it would be difficult to prove this justification. If the benefits are derived from the government's protection of property, for example, it seems unlikely that the costs of protecting property increase more rapidly than the value of the property itself.[197]

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cannot be particularized and traced, it nevertheless can be held that such benefits as a whole vary in some fashion with income.").

192.   *See* Dodge, *supra* note 8, at 402, 412 ("[T]axation is the necessary 'cost' everybody pays to secure the benefits of entering into the social contract.").

193.   Liam Murphy & Thomas Nagel, The Myth of Ownership: Taxes and Justice 17 (2002).

194.   Deborah A. Geier, *Incremental Versus Fundamental Tax Reform and the Top One Percent*, 56 SMU L. Rev. 99, 119 (2003).

195.   Dodge, *supra* note 8, at 435 n.135. *But see* Repetti, *Democracy and Opportunity*, *supra* note 149, at 1158 (arguing that a consumption tax is not an appropriate measure of governmental benefits because it does not tax all of wealth's benefits until the time such wealth is consumed).

196.   Murphy & Nagel, *supra* note 193, at 17.

197.   *See* Blum & Kalven, *supra* note 180, at 454 ("[T]he principle of progression requires not merely that the benefits increase with income but that they increase more rapidly than income."); *see also* Marjorie E. Kornhauser, *Choosing a Tax Rate Structure in the Face of Disagreement*, 52 UCLA L. Rev. 1697, 1708 (2005) (observing that the benefits theory lost support in the late 19th century because of the belief that poor individuals received many

2. The Ability-to-Pay Principle

Another approach to designing a tax is to base it on each taxpayer's ability to pay.[198] Under an ability-to-pay approach, taxpayers with greater resources are expected to pay higher amounts of taxes. The ability-to-pay principle overlaps with the benefits approach in that wealthy individuals who are more able to pay taxes also may be viewed as having benefited more from government programs than people who are less wealthy.[199]

Like the benefit approach, the ability-to-pay principle does not recommend one tax base over another. Some argue that the ability-to-pay principle favors an income tax because a consumption tax does not tax income from capital and, therefore, does not fully reflect the taxpayer's ability to pay.[200] Others counter that a consumption tax burdens capital because the present value of capital is diminished by the consumption tax that will be imposed when the taxpayer's capital ultimately is consumed.[201]

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more benefits from the government than the rich). Kornhauser points out that if this were true, a tax based on benefits could never be progressive. *Id.*; *cf.* 50 Cong. Rec. 3835–36 (1913) (statement of Senator Poindexter arguing for a progressive income tax rate on the grounds that large fortunes resulted from special favors from the government, not from individual merit).

198.   *See, e.g.*, Musgrave & Musgrave, *supra* note 191, at 242 (defining the ability-to-pay principle). For an excellent discussion of the history of the ability-to-pay principle, see Stephen Utz, *Ability to Pay*, 23 Whittier L. Rev. 867, 870 (2002).

199.   *See* David F. Bradford, Untangling the Income Tax 150 (1986) ("We are likely, for example, to feel that well-to-do people should pay more in taxes than poor people both because it accords with our sense of justice and because we believe that well-to-do people typically derive more benefit than poor people do from services such as national defense.").

200.   *See* Richard Goode, The Individual Income Tax 23–24 (2d. rev. ed. 1976) (arguing that income tax is preferable because it better captures the benefit from wealth that is not consumed than a consumption tax does); Alfred G. Buehler, *Ability to Pay*, 1 Tax L. Rev. 243, 250 (1946) (arguing that an income tax is fairer than a consumption tax because the consumption tax ignores capital and, therefore, does not fully reflect the taxpayer's ability to pay).

201.   Daniel N. Shaviro, *Replacing the Income Tax with a Progressive Consumption Tax*, 103 Tax Notes 91, 106 (Apr. 5, 2004).

Although higher-income taxpayers are expected to pay more taxes than lower-income taxpayers, the ability-to-pay doctrine does not resolve the debate about rate structure. The ability-to-pay approach raises additional issues about whether taxpayer liabilities should involve equal sacrifices and the appropriate level of such sacrifices.[202] A tax that imposes equal reductions in the utility of all taxpayers may have regressive, proportional, or progressive rates, depending on whether the elasticity of the marginal utility of income with respect to income is, respectively, less than, equal to, or greater than one.[203] In other words, not only does the marginal utility of income have to decline as income increases, but it also has to decline at a rate that is greater than the rate at which the taxpayer's income increases to justify a progressive rate schedule. Because it is likely that elasticities of the marginal utility of income differ among individuals, any attempt to design a tax system based on equal burdens is bound to be controversial.

An alternative to imposing equal burdens is to impose proportionate burdens.[204] Each taxpayer would give up an equal portion of her income, measured in terms of the lost utility of the taxes paid. The structure of the rates, however, is again dependent on the rate of declining marginal utility. If a taxpayer's utility of income remains constant, a flat tax rate will result in proportionate burdens.[205] If marginal utility declines in a straight line, a progressive tax rate will impose proportional burdens.[206] If, however, the marginal utility decreases in a nonlinear fashion, then determining the appropriate rate structure is difficult.[207]

3. The Equal-Opportunity Principle

A different approach to formulating tax policy has been suggested by Liam Murphy and Thomas Nagel. They argue that identifying a just tax

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202.   *See* Blum & Kalven, *supra* note 180, at 455–65 (describing difficulties in designing a tax system based on taxpayer sacrifice).

203.   Musgrave & Musgrave, *supra* note 191, at 251.

204.   *See, e.g.*, Murphy & Nagel, *supra* note 193; Blum & Kalven, *supra* note 180, at 457 (analyzing the imposition of equal burdens and proportionate burdens).

205.   Musgrave & Musgrave, *supra* note 191, at 252.

206.   *Id.*

207.   *Id.*

requires looking outside the tax system and focusing on the "broader principles of justice in government."[208]

Looking outside the tax system reveals that a broad consensus exists about the appropriate objectives for distributive justice in a capitalist democracy. Many have proposed that the principle underlying distributive justice for democratic governments is that "no one should have less valuable resources and opportunities available to him than anyone else, simply in virtue of some chance occurrence[,] the risk of which he did not choose to incur."[209] Others similarly have suggested that equality of "opportunities, not outcomes" should be the major concern of distributive justice.[210] Rawls asserted that "each citizen, regardless of class or origin, should have the same chance of attaining a favored social position, given the same talents and willingness to try."[211] Rawls's first principle of justice, that individuals enjoy equal rights to the most extensive liberty possible,[212] was aimed at allowing individuals to maximize self-realization.[213] His second principle of justice stated that social and economic inequalities should be arranged such that offices and positions are open to everyone under conditions of fair equality of opportunity.[214] A task force of the American Political Science Association summarizes the prevailing view:

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208.   MURPHY & NAGEL, *supra* note 193, at 30 (2002).

209.   ERIC RAKOWSKI, EQUAL JUSTICE 1 (1991) (footnote omitted); *see also* Kornhauser, *supra* note 197, at 1728 ("What Americans do agree on . . . is that all people should have an equal chance to achieve their goals, including the accumulation of wealth and income.").

210.   *See, e.g.*, BRUCE ACKERMAN & ANNE ALSTOTT, THE STAKEHOLDER SOCIETY 24 (1999) (proposing that equality of "opportunities, not outcomes" should be the major concern); Richard J. Arneson, *Equality and Equal Opportunity for Welfare*, 56 PHIL. STUD. 77 (1989) (same); Ronald Dworkin, *What Is Equality? Part 2: Equality of Resources*, 10 PHIL. & PUB. AFF. 283, 284 (1981) (discussing equality in resources).

211.   JOHN RAWLS, THE LAW OF PEOPLES WITH, THE IDEA OF PUBLIC REASON REVISITED 115 (1999) [hereinafter RAWLS, THE LAW OF PEOPLES]; *see also* JOHN RAWLS, A THEORY OF JUSTICE 73 (1971) (advocating equality of opportunity).

212.   RAWLS, A THEORY OF JUSTICE, *supra* note 211, at 60.

213.   *See* RAWLS, THE LAW OF PEOPLES, *supra* note 211, at 115.

214.   RAWLS, A THEORY OF JUSTICE, *supra* note 211, at 73.

> Americans support private property and free enterprise, and see much of the skewed distribution of wealth and income as a legitimate result of differences in individual talent and effort.
>
> But it is important to remember that Americans accept economic inequalities only when they are sure that everyone has an equal chance to get ahead—to make the best of life for the individual or his or her family. Government is expected to help ensure equal opportunity for all, not to tilt toward those who already have wealth and power.[215]

The broad consensus about equal opportunity to get ahead or for self-realization suggests that a tax system should be designed to achieve equal opportunity for self-realization as one of its principal goals.[216] This in turn suggests another guiding principle. Both political philosophy and empirical literature assert that equal access to the electoral process and participation in the community are prerequisites to equal opportunity for self-realization.[217] Political philosophers long have understood that participation in democracy and in the community is necessary for individuals to achieve self-realization.[218] Such participation allows all, including the least advantaged, to participate in the discussion about what equal opportunity for self-realization means and how to achieve it.

One of the major impediments to equal participation in democracy is inequality. As previously discussed in Part II.C, inequality contributes to significant biases in the electoral system and representative government. As a result, some have previously argued that the tax system should be designed to decrease inequality, since this will help

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215.   Task Force on Inequality & Am. Democracy, *American Democracy in an Age of Rising Inequality*, Am. Political Sci. Ass'n 4 (2004), https://www.apsanet.org/portals/54/Files/Task%20Force%20Reports/taskforcereport.pdf.

216.   *See* Repetti, *Democracy and Opportunity*, *supra* note 149, at 1143.

217.   Rawls, A Theory of Justice, *supra* note 211, at 525 n.4; *see* William R. Caspary, Dewey on Democracy 12 (2000).

218.   *See, e.g.*, Caspary, *supra* note 217, at 12; Rawls, A Theory of Justice, *supra* note 211, at 525 n.4.

promote self-advancement for individuals (i.e., to make the most of their lives) and promote equal opportunity for taxpayers to participate in the political process.[219] To accomplish these goals, they have asserted that we need a progressive income tax that burdens both investment and labor income with progressive rates in order to reduce the burden on low-income taxpayers and reduce disparity in economic and political power.[220]

Designing a tax system to maximize these opportunities would eliminate the uncertainty inherent in prior approaches that defined equity by reference either to benefits conferred by the government on the taxpayer or to the taxpayer's ability to pay. A design focused on achieving equality of opportunity for self-realization and participation in the democratic process need not measure a taxpayer's increase in utility as the result of government benefits or a taxpayer's decrease in utility in an attempt to impose equal sacrifices. Instead, the design should ensure that the tax burden on disadvantaged taxpayers is sufficiently low so that it does not harm their opportunity for self-realization.[221] It should also ensure that the tax burden on advantaged taxpayers is sufficiently high to provide the revenues needed to permit a low burden for the disadvantaged and to help offset the disproportionate political power of the advantaged.[222] These objectives support adopting a progressive rate structure on all income, including income from capital.[223]

Although the "equal opportunity" principle would reduce design uncertainties associated with the benefits and ability-to-pay approaches, it does not eliminate them. It is still necessary to determine the level of taxation for low-income taxpayers that will not harm their opportunity for self-realization and for high-income taxpayers that will help offset

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219. Repetti, *Democracy and Opportunity*, *supra* note 149, at 1143–47; Miranda Perry Fleischer, *Equality of Opportunity and the Charitable Tax Subsidies*, 91 B.U. L. Rᴇᴠ. 601, 604 (2011) (insightful analysis of the manner in which concerns about equality of opportunity affects the design of tax subsidies for charities).

220. Repetti, *Democracy and Opportunity*, *supra* note 149, at 1153–54; Sugin, *supra* note 182, at 280 n.222.

221. Repetti, *Democracy and Opportunity*, *supra* note 149, at 1153–54.

222. *Id.* at 1154.

223. *Id.*

the economic power of the wealthy. This determination is likely to be controversial.

4. Summary of Uncertainties in Using Equity to Structure a Tax

In summary, the two forms of distributive justice that have received significant attention, the government-benefits principle and the ability-to-pay principle, provide little guidance about the appropriate rate structure or base for a tax system. While the equal-opportunity approach suggests a progressive tax on all income, including income from capital, it does not quantify the rate of progressivity.

IV. UNCERTAINTIES IN USING EFFICIENCY ANALYSIS IN TAX POLICY

A. Introduction to Efficiency

Given the competing theories about distributive justice and the problems in applying such theories, basing the design of a tax system on economic efficiency appears appealing. But efficiency's appeal is based on assumptions about theory and empirical analyses that are not supported by the evidence. Thus, there is no clear case for prioritizing efficiency over equity.

This section will first describe the manner in which the efficiency of tax systems is determined and then consider the theoretical and empirical uncertainties that exist about the impact of taxes on efficiency.

1. Measuring Efficiency: The Excess Burden

In determining the efficiency of an income tax, economists often refer to the term "excess burden." The excess burden compares the decline in welfare prompted by the tax's impact on behavior to the revenues raised by the tax.[224] The excess burden thus represents the welfare loss created by a tax that is an "excess" of the tax revenue generated by that tax.[225] Any tax that causes the taxpayer to do something that she would not have done without the tax creates an excess burden. An income tax,

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224.   *See, e.g.*, HARVEY S. ROSEN, PUBLIC FINANCE 292 (2d ed. 1988).

225.   *Id.*; *see also* JANE GRAVELLE, THE ECONOMIC EFFECTS OF TAXING CAPITAL INCOME 29–30 (1994).

for example, has an excess burden because it creates a disparity between the income paid to the taxpayer and the after-tax income received by the taxpayer. This difference causes the taxpayer to change her behavior to differ from the way she would behave in a tax-free world. For example, a tax on wages may cause a taxpayer to work more or less hours in response to the tax. Similarly, a tax on savings may cause a taxpayer to save more or less in response to the tax. This behavioral change creates a welfare loss to the taxpayer in addition to the taxes paid because the tax distorts her behavior.[226]

All taxes that are based on and alter a taxpayer's behavior create an excess burden. Only a lump sum tax, which is not based on the taxpayer's behavior, arguably avoids an excess burden. The excess burden is a function of the elasticity of the compensated demand curve for the item being taxed and the square of the tax exclusive tax rate.[227] The elasticity of the demand curve is a measure of how strongly a taxpayer responds to the tax. It reflects the willingness of the taxpayer to substitute another item for the item being taxed. The less willing a taxpayer is to substitute the item being taxed with another item, the less elastic the demand for the item is, which in turn means the smaller the excess burden of the tax will be.[228]

Focusing on the tax rate component of the calculation, note that the excess burden is calculated using the square of the *tax exclusive* rate.[229] This contrasts with the common usage of the *tax inclusive* rate for

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226. Rosen, *supra* note 224, at 319–20.
227. Gravelle, *supra* note 225, at 30.
228. *Id.* at 29.
229. The *tax exclusive* rate is the rate applied to an amount that does not include the amount to be used to pay the tax. Boris Bittker & Lawrence Lokken, Federal Taxation of Income, Estates and Gifts ¶ 3.7 (2020). For example, the gift tax is tax exclusive because the tax is assessed against the amount transferred by the taxpayer to a third party. The amount subject to the gift tax does not include the amount that will be used to pay the gift. In other words, the gift tax paid is "excluded" from the amount subject to tax. If a taxpayer makes a gift of $100 that is subject to a gift tax rate of 45%, the $45 used to pay the tax is not itself subject to the gift tax.In contrast, the income tax is usually thought of as "tax inclusive" because a portion of the amount subject to tax is used to pay the tax itself. *Id.* For example, if a taxpayer earns $100 and is subject to a 20% tax rate, the amount used to pay the $20 tax is "included" in the $100 that was subject to the tax. As discussed in note 231,

the income tax.[230] At first glance, one might think that doubling the income tax rate from 25% to 50% will quadruple the excess burden. But, in fact, it will increase the excess burden nine-fold. To see this, first convert the 25% tax inclusive rate to a 33% tax exclusive rate and the 50% tax inclusive rate to a 100% tax exclusive rate.[231] Note now that the tax exclusive rate has tripled. Thus, the square of that means that the rate increase has increased the excess burden nine-fold.[232] The flip side of this means that reducing the tax inclusive rate from 50% to 25% will shrink the excess burden to one-ninth of its former size. As a result, even small rate decreases can seem quite inviting because of the potential efficiency gains.

2. Uncertainties in Determining the Excess Burden

A major problem with calculating excess burden is that it assumes that the elasticity of the compensated demand curve for the item being taxed can be accurately determined. Theory, however, cannot predict how taxpayers will respond to tax.[233] Indeed, theory predicts that taxpayers may respond in two opposite ways to taxation.[234] For example, consider a tax on the income from savings. Theory suggests that taxpayers may increase their savings in response to the tax (the income effect) or decrease their savings by increasing consumption (the substitution effect).[235]

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infra, it is possible to convert the tax inclusive tax rate for the income tax to a tax exclusive rate.

    230.   *See supra* note 229 for an explanation of "tax inclusive."

    231.   The formula for converting the tax inclusive tax rate to the tax exclusive rate is:

$$\text{tax exclusive rate } = \frac{\text{tax inclusive rate}}{1 - \text{tax inclusive rate}}$$

    232.   GRAVELLE, *supra* note 225, at 30.

    233.   For an insightful criticism of the many assumptions underlying efficiency analysis, see Neil H. Buchanan & Michael C. Dorf, *A Tale of Two Formalisms: How Law and Economics Mirrors Originalism and Textualism* (Cornell Law Sch. Research Paper No. 20-20, 2020), https://ssrn.com/abstract=3553508.

    234.   *See, e.g.*, JONATHAN GRUBER, PUBLIC FINANCE AND PUBLIC POLICY 685 (6th ed. 2019).

    235.   *Id.*

Since theory cannot predict how taxpayers will respond to taxes, the actual response of taxpayers is an empirical question. As discussed below, the empirical results about how individuals respond to tax rates are very mixed. The result is that there is no consensus about the aggregate impact of the individual income tax on economic growth in general. When one focuses on the important economic factors that contribute to growth, labor supply, and savings, a consensus does exist among economists that taxpayers do not alter significantly their aggregate labor supply in response to taxation. There is no consensus with respect to the impact of taxes on savings, but many economists feel that the weight of the empirical evidence is that the personal income tax also does not affect aggregate saving by individuals.[236]

B. Illustrations of Uncertainty About the Efficiency Effects of Taxation

1. Impact of Taxation on Growth

Economists had a wonderful opportunity to analyze the impact of the individual income tax on labor supply and savings due to two major tax reforms in the 1980s.[237] A major reform in 1981 decreased the maximum individual marginal tax rates from 70% to 50% and introduced the Individual Retirement Account (IRA).[238] Another major act in 1986 further reduced the maximum individual rate from 50% to 28% and broadened

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236.   An economics purist might express concern that even though an individual income tax does not result in *aggregate* declines in labor or (perhaps) savings, individual taxpayers may have altered their behavior in response to the tax. Those taxpayers who altered their behavior would experience a decline in utility, although the behavior of all taxpayers in the aggregate netted each other out. The problem with this concern, however, is that utility is a dimensionless parameter that is intangible and cannot be measured. What exactly are the harms arising from a decline in utility? *See* Buchanan & Dorf, *supra* note 233 (discussing the "unbounded" approach to defining utility). As a result, most economists have sensibly focused on the impacts of taxation on GDP, aggregate savings, and aggregate labor supply, which, unlike declines in utility, are measurable and have tangible impacts.

237.   Joel Slemrod, *Do Taxes Matter? Lessons from the 1980's*, 82 Am. Econ. Rev.: Papers & Proc., no. 2, 1992, at 250, 250–51.

238.   *Id.*

the tax base.[239] Economists were puzzled, however, that these major reforms had little impact on taxpayer behavior.[240] Joel Slemrod quipped in his article, *Do Taxes Matter? Lessons from the 1980's*, that economists "were fooled again" by the relatively small impact on taxpayer behavior by these major changes in the individual income tax.

Since then, economists have continued to comment on the relatively small impact of taxes. In 2014, Jane Gravelle and Donald Marples, economists at the CRS, examined the impact of tax rates on economic growth and found no effect.[241] They constructed Table 4, below, to show that there is no obvious relationship between individual marginal tax rates and growth in real GDP or real net fixed investment. Note that in Table 4, the periods with the highest tax rates, 1950–1970 and 1971–1986, also experience the greatest rate of growth in real GDP.

Table 4:   Average Top Tax Rates on the Growth Rate of Real GDP and Real Net Fixed Investment, by Time Period 1950–2010[242]

	Average Top Marginal Income Tax Rate on Labor Income	Average Top Marginal Tax Rate on Capital Gains Income	Rate of Growth in Real GDP	Rate in Growth in Real Net Fixed Investment
1950–1970	84.8%	25.6%	3.86%	0.93%
1971–1986	51.8%	30.2%	2.94%	0.32%
1987–2010	36.4%	23.0%	2.85%	0.23%

It is important to observe that Table 4 is a broad generalization in that it employs marginal statutory rates rather than effective rates and that there may be significant difference between the two. In particular,

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239. *Id.*

240. *Id.*

241. Jane G. Gravelle & Donald J. Marples, Cong. Res. Serv. R42111, Tax Rates and Economic Growth 5 tbl.1 (2014), https://crsreports.congress.gov/product/pdf/R/R42111.

242. Source: Gravelle & Marples, *supra* note 241, at 5 tbl.1.

although the average top marginal statutory rate during the period 1950–1970 was 84.8%, it is likely that the effective rate was much lower because many provisions to attack tax shelters, such as the at-risk and passive activity loss rules had not yet been adopted.[243] Nevertheless, Table 4 is an interesting observation.

Gravelle and Marples observed that the lengthy duration of the periods they examined in Table 4 might hide other effects because of the various events that had occurred during those long periods.[244] As a result, they decomposed the 1987–2010 period from Table 4 into shorter periods (1987–1992, 1993–2002, and 2003–2007) that correspond to periods of relatively low, high, and moderate income tax rates. Table 5, below, displays their results. Similar to Table 4, the data in Table 5 does not support a clear relationship between lower marginal taxes and higher economic growth. Once again, the periods with the highest statutory tax rates, 1993–2002 and 2003–2007 exhibit the highest growth rates.

Table 5:   Average Top Income Tax Rate on the Growth Rate of Real GDP 1987–2007[245]

	Average Top Marginal Income Tax Rate on Labor Income	Rate of Growth in Real GDP
1987–1992	33.3%	2.31%
1993–2002	39.5%	3.68%
2003–2007	35.0%	2.79%

Other economists have also argued that personal taxes in the U.S. do not affect economic growth. Another economist with the CRS found that neither the top U.S. statutory income tax rates nor the top U.S. statutory capital gains tax rates for the period 1945 through 2010 had a statistically significant association with real GDP growth rate.[246]

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243.   *See supra* Charts 9 and 10 at text accompanying notes 160 and 162, which illustrate that historically effective rates were lower than statutory marginal rates.

244.   Gravelle & Marples, *supra* note 241, at 5.

245.   Source: Gravelle & Marples, *supra* note 241, at 6 tbl.2.

246.   Thomas L. Hungerford, Cong. Res. Serv. R42729, Taxes and the Economy: An Economic Analysis of the Top Tax Rate Since 1945

Also, a 2019 study of the United States for the period 1947–2011 found that *increasing* the share of taxes paid by high-income individuals correlates with increased employment in the Unites States in the short run, some decreases in the long run, with an overall cumulative positive increase over the short and long run.[247] But not all agree. For example, a 2013 study found that increases in the average individual income tax rate in the United States during the period 1950–2006 reduced economic output.[248]

Shifting the focus to OECD countries, a 2018 study found that personal income tax rates in OECD countries do not begin to harm economic growth until they reach approximately 60%.[249] The study found that growth *increases* as marginal personal income tax rates increase until the 60% level is attained and that only rates higher than 60% harm economic growth.[250] Similarly, Piketty, Saez, and Stantcheva determined that large changes in the top marginal income tax rate in OECD countries did not appear to correlate with rates of growth.[251] They note that the growth rate in the United States, which had experienced large tax cuts, was no different than Germany and Denmark, which had not.[252] But again there is not universal agreement. Several other articles argue

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(UPDATED) 10 (2012), https://fas.org/sgp/crs/misc/R42729.pdf. There is also an interesting line of research about the optimal income tax rate for maximizing tax revenue that suggests that rates higher than our current 37% level would maximize tax revenue. *See* Bruce Bartlett, *What Is the Revenue Maximizing Tax Rate?*, 134 TAX NOTES 1013 (Feb. 20, 2012), for an excellent review of the literature.

247.   Ahiteme N. Houndonougbo & Matthew N. Murray*, Millionaires or Job Creators: What Really Happens to Employment Growth When You Stick It to the Rich?,* 47 PUB. FIN. REV. 112, 115 (2019). *But see* Karel Mertens & Morten O. Ravn, *The Dynamic Effects of Personal and Corporate Income Tax Changes in the United States*, 103 AM. ECON. REV. 1212, 1239, 1243 (2013) (finding that increases in the average individual income tax rate during the period 1950–2006 affected labor supply and investment).

248.   Mertens & Ravn, *supra* note 247, at 1239, 1243.

249.   Santo Milasi & Robert J. Waldmann, *Top Marginal Taxation and Economic Growth*, 50 APPLIED ECON. 2156, 2162–65 (2018).

250.   *Id.*

251.   Thomas Piketty et al., *Optimal Taxation of Top Labor Incomes: A Tale of Three Elasticities,* 6 AM. ECON. J.: ECON. POL'Y, no. 1, 2014, at 230, 256–57 (2014).

252.   *Id.*

that the personal income tax has a greater negative impact on economic growth in OECD countries than consumption taxes and property taxes.[253]

As a result of the conflicting studies, there is no clear consensus about the impact of the individual income tax on economic growth. Indeed, the Tax Foundation and the Center on Budget and Policy Priorities had a terse exchange about whether a consensus exists. The Tax Foundation argued that a consensus exists that personal income taxes are harmful for economic growth.[254] In contrast, the Center on Budget and Policy Priorities asserted, "[S]tudies that the Tax Foundation cited, as well as others that it omitted, explicitly note the *lack* of academic consensus."[255]

Most economists have focused on the individual income tax's potential impact on aggregate labor supply and savings to identify the manner in which taxes might harm growth.[256] The personal income tax could harm the economy by discouraging work and savings. But the

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253.   *See, e.g.*, Jens Matthias Arnold et al., *Tax Policy for Economic Recovery and Growth*. 121 Econ. J., Feb. 2011, at F59, F62–F63; Oguzhan Akgun et al., *The Effects of the Tax Mix On Inequality and Growth* 25 (OECD Econ. Dep't Working Papers No. 1447, 2017), https://doi.org/10.1787/c57eaa14 -en. However, a more recent 2019 study finds inconclusive results about the impact of the personal income tax relative to other types of taxes. Donatella Baiardi et al., *Tax Policy and Economic Growth: Does It Really Matter?*, 26 Int'l Tax Pub. Fin. 282, 292, 308 (2019). The authors in that study identify a number of potential econometric problems with the study by Arnold et al. *Id.* at 314.

254.   William McBride, *What Is the Evidence on Taxes and Growth?*, Tax Found. Special Report no. 207, Dec. 18, 2012, at 7 (Dec. 18, 2012), https://files.taxfoundation.org/legacy/docs/sr207.pdf.

255.   Chye-Ching Huang & Nathaniel Frentz, *What Really Is the Evidence on Taxes and Growth? A Reply to the Tax Foundation*, Ctr. on Budget & Pol'y Priorities 1 (Feb. 18, 2014), https://www.cbpp.org/sites/default /files/atoms/files/2-18-14tax.pdf.

256.   *See* David Gamage, *The Case for Taxing (All of) Labor Income, Consumption, Capital Income, and Wealth*, 68 Tax L. Rev. 355 (2015). As discussed in note 236, *supra*, an economics purist might express concern that even though an individual income tax does not result in *aggregate* declines in labor or (perhaps) savings, individual taxpayers may have varied their behavior in response to the tax. Those taxpayers who altered their behavior would experience a decline in utility, although the behavior of all taxpayers in the aggregate netted each other out. The problem with this

empirical results are ambiguous. As discussed, below, in subpart 2, a consensus exists that the individual income tax has little or no effect on labor. In contrast, as discussed in subpart 3, there is no consensus about the effect of the personal income tax on savings.

2. Efficiency Effects of Taxation on Labor Supply

An important example of the uncertain impact of taxes is their effect on labor supply. Advocates of lower tax rates often refer to the ameliorative effect of encouraging more work. In theory, however, two opposing forces exist.[257] The income effect predicts that higher tax rates will encourage more work as taxpayers seek to make up for the increased tax burden.[258] The other effect, the substitution effect, predicts the opposite—that taxpayers will work less, substituting leisure for work because the after-tax benefit from work decreased due to higher taxes.[259] The result is that theory cannot predict which of these will dominate. Rather, the question is empirical. While not entirely free from doubt, the empirical evidence suggests that individual income taxes have either no impact or only a small impact on labor supply.[260]

In general, economists measure the responsiveness of labor supply to taxes by calculating the labor supply elasticity, a fraction that compares the percentage change in hours worked to the percentage

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concern, however, is that utility is a dimensionless parameter that is intangible and cannot be measured. Buchanan & Dorf, *supra* note 233.

    257.   *See* Gruber, *supra* note 234, at 665–67.

    258.   *Id.*

    259.   *Id.*

    260.   *See* CBO Memorandum, Labor Supply and Taxes 2 (Jan. 1996) https://www.cbo.gov/sites/default/files/104th-congress-1995-1996/reports /labormkts.pdf [hereinafter CBO Labor Supply]; George J. Borjas, Labor Economics 42 (8th ed. 2020); Anil Kumar & Che-Yuan Liang, *Declining Female Labor Supply Elasticities in the United States and Implications for Tax Policy: Evidence from Panel Data*, 69 Nat'l Tax J. 481, 482 (2016); Emmanuel Saez et al., *The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review*, 50 J. Econ. Literature 3, 3–4 (2012) [hereinafter Saez et al., *The Elasticity of Taxable Income*]; Robert McClelland & Shannon Mok, *A Review of Recent Research on Labor Supply Elasticities* 30 tbl.2 (CBO Working Paper 2012-12, 2012), https://www.cbo.gov/sites/default/files/112th -congress-2011-2012/workingpaper/10-25-2012-recentresearchonlaborsupplye lasticities.pdf.

change in wages. When the fraction is less than one, the response is said to be inelastic. This means that the percentage change in labor is less than the percentage change in wages. On the other hand, if the fraction is greater than one, then the percentage change in labor supply exceeds the percentage change in wages.

Many factors affect the measurement of labor elasticity.[261] For example, the period used to measure the change in the hours of work of individuals impacts the elasticity calculation.[262] The response in hours of work to a wage change depends substantially on whether the study examines the hours of work by individuals for a day, a week, or a year.[263] The longer the period used to define the hours of work, the more likely a response will occur, because the worker has a longer period to adjust to the wage change.[264]

Other factors that affect the empirical study results include difficulty in defining the wage rate for workers who are paid monthly salaries rather than an hourly wage,[265] the influence of non-labor income on the supply of labor,[266] the gender and marital status of the workers,[267] and general economic conditions.[268] In addition, several different types of labor elasticities exist that often yield different results.[269]

A leading labor economics textbook summarized the empirical results from attempts to measure the labor supply elasticity in the U.S.:

> There is a lot of variation in existing estimates of the labor supply elasticity. Some studies report the elasticity to be zero; other studies report it to be large and negative; still others to be large and positive. There have been some attempts to determine which estimates are

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261.   Borjas, *supra* note 260, at 42–44.

262.   *Id.* at 43.

263.   *Id.*

264.   *Id.*

265.   *Id.*

266.   *Id.* at 44.

267.   *See, e.g.*, Kumar & Liang, *supra* note 260, at 482 ("There has long existed a broad consensus among researchers that the female labor supply is more elastic than male labor supply.").

268.   Pierre Cahuc et al., Labor Economics 55–56 (2d ed. 2014).

269.   *Id.* at 50–56 (discussing extensive and intensive elasticities, and also discussing Marshallian, Hicksian, and Frisch macro and micro elasticities.).

most credible. These surveys conclude that the elastic-
ity of male labor supply is roughly around -0.1. In
other words, a 10 percent *increase* in the wage leads,
on average, to a 1 percent *decrease* in hours of work for
men.[270]

Note that the elasticity of -0.1 is inelastic, suggesting that the
response of labor to changes in wages is not large. In addition, the fact
that the value, -0.1, is negative suggests that male workers respond to a
decrease in their wages of 10% by *increasing* their hours worked by
1%, not by decreasing their hours worked. This suggests that at least in
the case of males, a tax increase, which would reduce their net wage
income, might actually increase their labor supply.

Despite the variability in factors that influence labor supply and
the various types of tests available to measure the response of labor to
taxes, as the quote from the labor economics textbook states, a consen-
sus has developed among most economists that taxes do not affect the
labor supply of males.[271] A paper by three highly respected economists
summarized the many studies as follows:

With some notable exceptions, the profession has set-
tled on a value for . . . [the elasticity of labor supply with
respect to marginal tax rate] close to zero for prime-age
males, although for married women the responsiveness

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270.   Borjas, *supra* note 260, at 42 (emphasis added; footnote
omitted).

271.   *See, e.g.*, Eric Engen & Jonathan Skinner, *Taxation and Eco-
nomic Growth*, 49 Nat'l Tax J. 617, 631 (1996); Jerry A. Hausman, *Taxes and
Labor Supply*, *in* 1 Handbook of Public Economics 213, 241–43 (Alan J.
Auerbach & Martin Feldstein eds., 1985); John Pencavel, *Labor Supply of
Men: A Survey*, *in* 1 Handbook of Labor Economics 3 (Orley C. Ashenfelter
& Richard Layard eds., 1986); Emmanuel Saez, *The Effect of Marginal Tax
Rates on Income: A Panel Study of 'Bracket Creep,'* 87 J. Pub. Econ. 1231,
1253–54 (2003) (finding that response in wages earned to tax rate changes
were small and in most cases not statistically different from zero); Robert K.
Triest, *The Effect of Income Taxation on Labor Supply When Deductions Are
Endogenous*, 25 Rev. Econ. & Stat. 91 (1992). *But see, e.g.*, Mertens & Ravn,
supra note 247, at 1239 (finding that a 1% decrease in the average individual
income tax rate increases employment per capita by 0.8% and increases hours
worked by 0.4%).

of labor force participation appears to be significant. Overall, though, the compensated elasticity of labor appears to be fairly small. In models with only a labor–leisure choice, this implies that the efficiency cost per dollar raised of taxing labor income—to redistribute revenue to others or to provide public goods—is bound to be low, as well.[272]

Surveys of the empirical studies by the CBO in 1996 and 2012 have similarly determined that taxes have little or no impact on the labor supply of men and single women.[273]

One potential area of concern, however, has been the impact of taxes on married women. The CBO's surveys of the empirical studies observed that the response of married women to taxes is higher than responses by men and single women.[274] This supports the view that high taxes do discourage married women from entering the job market outside the home. One potential explanation for this is that when married women enter the job market, they have to pay someone to perform all the work that they had been performing at home. Their ability to pay the home worker is affected by the tax liability they incur in their job outside the home. The higher that tax burden is, the less is available to them to pay their substitutes.[275]

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272.   Saez et al., *The Elasticity of Taxable Income*, *supra* note 260, at 3–4; *see also* GRUBER, *supra* note 234, at 660 ("[T]he work decisions for primary earners are not very responsive to changes in their wages (such as those induced by taxes). For every 10% reduction in after-tax wages, primary earners work about 1% fewer hours, for an elasticity of labor supply with respect to after-tax wages of 0.1.").

273.   CBO LABOR SUPPLY, *supra* note 260, at 2 ("A reduction in tax rates that raised after-tax hourly wages by 10 percent would probably increase the total supply of labor by between zero and 3 percent."); McClelland & Mok, *supra* note 260, at 4 ("[F]or men and single women, the range of elasticities for the choice of hours to work, conditional on working, appears to be -0.1 to 0.2, and the range of elasticities for whether to work appears to be zero to 0.1.").

274.   CBO LABOR SUPPLY, *supra* note 260, at 2; McClelland & Mok, *supra* note 260, at 4.

275.   For various studies that explored this, see, for example, BENJAMIN M. FRIEDMAN, DAY OF RECKONING: THE CONSEQUENCES OF AMERICAN ECONOMIC POLICY UNDER REAGAN AND AFTER 242–43 (1998); Nada Eissa, *Tax and*

The CBO's survey results also suggest, however, that the impact of taxes on the labor supply of married women is decreasing because the participation elasticities for married women have been decreasing.[276] The participation elasticity represents the percentage change in the portion of taxpayers working in response to a 1% change in their after-tax wage rates.[277] A decline in the participation elasticity for married women means that the labor supply elasticity will similarly decline, all other items remaining the same, because the participation elasticity is a component of the labor supply elasticity.[278] The 1996 CBO Survey showed a participation elasticity for married women ranging from 0.2 to 0.4[279] while the 2012 survey showed that the participation elasticity for married women had decreased to a range of 0.0 to 0.3.[280] The 2012 CBO survey range from 0.0 to 0.3 means that the effect of a wage tax increase of 10% on the participation of married women in the work force would vary somewhere between having no impact to decreasing their participation by 3%. Several other studies have also observed a decline in the elasticities for married women.[281] The result is that the impact of

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Transfer Policy and Female Labor Supply, 88 Proc. Ann. Conf. on Tax'n Held Under Auspices Nat'l Tax Ass'n-Tax Inst. 160 (1995); William C. Randolph & Diane Lim Rogers, *The Implications for Tax Policy of Uncertainty and About Labor Supply and Savings Responses*, 48 Nat'l Tax J. 429 (1995); Robert K. Treist*, Fundamental Tax Reform and Labor Supply*, in Economic Effects of Fundamental Tax Reform 247, 255–64 (Henry J. Aaron & William G. Gale eds., 1996).

276.   McClelland & Mok, *supra* note 260, at 30 tbl.2.

277*.   Id.* at 6.

278.   CBO Labor Supply*, supra* note 260, at 4–5.

279*.   Id.* at 10 tbl.2.

280.   McClelland & Mok, *supra* note 260, at 30 tbl.2.

281.   *See, e.g.*, Bradley T. Heim, *The Incredible Shrinking Elasticities: Married Female Labor Supply, 1978–2002*, 42 J. Hum. Resources 881 (2007); Kumar & Liang, *supra* note 260, at 482; Diane J. Macunovich, *Reversals in the Patterns of Women's Labor Supply in the United States*, 133 Monthly Lab. Rev., Nov. 2010, at 11; Robert McClelland et al.*, Labor Force Participation Elasticities of Women and Secondary Earners Within Married Couples* 1–4 (CBO Working Paper 2014-06, 2014), https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/workingpaper/49433-laborforce.pdf; *see also* Melanie Guldi & Lucie Schmidt, *Taxes, Transfers, and Women's Labor Supply in the United States*, in The Oxford Handbook of Women and the Economy 453, 459 (Susan L. Averett et al. eds., 2018) ("More recently, as

taxes on the labor supply of men, single women, and married women is now thought to be small. A recent article in the *National Tax Journal* concluded:

> With male labor supply elasticity believed to be close to zero, the finding that female elasticities have converged toward those of males has significant implications for tax policy and optimal tax rates. Inelastic male and female labor supplies mean that distortions from higher taxes . . . could now be significantly smaller than previously thought. [282]

One last cautionary note. Another approach to determining the impact of taxation on labor has been to examine the relationship between tax rates and the amount of taxable income reported by taxpayers. Studies have found a statistically significant relationship between tax rates and the amount of taxable income reported.[283] But the fact that higher tax rates correlate with lower reported taxable income does not necessarily mean that taxpayers are working less. Recent studies suggest that reporting less taxable income in response to increases in tax rates likely represents tax avoidance in terms of shifting the types of income and

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women have become more connected to the labor force over time, women's labor supply elasticities have become more similar to those of men.").

282.   Kumar & Liang, *supra* note 260, at 482. The article by Kumar and Ling was also able to address an econometric concern with respect to the other studies that had showed a decline in elasticity for married women. The other studies had used cross-sectional data, which may provide false results because variables not included in the data may also impact the relationships being tested. Economists prefer panel data because it contains more observations and allows analytic methods that may eliminate biases from the unobserved variables. Kumar and Lang were able to employ panel data and, similar to the cross-sectional studies, found that there had been a significant decline in the labor supply elasticity for married women.

283.   Jerry A. Hausman, *Labor Supply*, *in* How Taxes Affect Economic Behavior 27 (Henry J. Aaron, & Joseph A. Pechman eds., 1981); Michael J. Boskin, *Taxation, Saving, and the Rate of Interest*, 86 J. Pol. Econ. S3, S13–S16 (1978).

the timing of income.[284] The reductions in reported taxable income do not appear to represent actual decreases in labor.[285]

In conclusion, there is a consensus that taxes have zero or little impact on the labor supply of men. There has historically been a larger impact on women, but the differences in the responses by women and men have narrowed considerably. While increased taxes do appear to cause taxpayers to report lower taxable income, such response does not appear to represent an actual decline in labor supply but rather a change in the type and timing of income. It is possible that a sufficiently high level of tax rate will affect labor. But the studies discussed in this subpart show that the range of effective tax rates existing during the periods analyzed by these studies have not reached that point.

3. *Efficiency Effects of Taxation on Income from Savings*

As discussed earlier, theory is also not clear about the effect of taxing income from private savings.[286] Theory again proposes two opposite effects about how savings may respond.[287] The first, the income effect, suggests that taxpayers may increase savings to offset the effect of a higher tax.[288] The intuition is that higher taxes will encourage taxpayers to save more in order to generate investment income to offset the increased tax liability. The second opposing effect, the substitution

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284.   *See* Emmanuel Saez, *Taxing the Rich More: Preliminary Evidence from the 2013 Tax Increase*, 31 Tax Pol'y & Econ. 71, 74, 114 (2017); Steven J. Davis & Magnus Henrekson, *Tax Effects on Work Activity, Industry Mix and Shadow Economy Size: Evidence from Rich-Country Comparisons* 37–38 (Nat'l Bureau of Econ. Research, Working Paper No. 10509, 2004), https://www.nber.org/papers/w10509.pdf; Enrico Rubolino & Daniel Waldenström, *Tax Progressivity and Top Incomes: Evidence from Tax Reforms* 4 (IFN Working Paper No. 1161, 2017), https://www.ifn.se/wfiles/wp/wp1161.pdf. Such shifts can be prevented by broadening the tax base.

285.   *See, e.g.*, Saez et al., *The Elasticity of Taxable Income*, *supra* note 260, at 35 ("There is no compelling evidence to date of *real* responses of upper income taxpayers to changes in tax rates."). For a discussion of problems in trying to determine the efficiency effects of tax changes by measuring the response of reported taxable income to such tax changes, see *id.* at 41–43.

286.   *See supra* text accompanying note 234.

287.   Gruber, *supra* note 234, at 685.

288.   *Id.*

effect, occurs where taxpayers reduce savings and increase current consumption in response to a tax on savings.[289] Theory cannot predict which of these effects will be dominant or whether they will offset each other.[290]

At the outset, it is important to note that the empirical relationship between taxpayer saving and tax rates in the United States is not obvious. During the 1980s, when the tax rates on capital gains fell, savings plummeted.[291] Indeed, the private saving rates have dropped precipitously since 1985[292] despite the fact that, during that period, we have experienced a significantly reduced tax burden compared to the 1960s and 1970s.[293]

The studies reflect this lack of an obvious empirical relationship between taxes and savings. While it is clear that income taxes affect the types of investments that taxpayers make,[294] the empirical evidence about the impact of taxation on the aggregate amount of savings is quite ambiguous. Analysis of savings ideally requires reliable data that show "a comprehensive measure of both the stock of wealth and annual savings or dissavings flows, including such variable as credit card debt, home equity or home mortgage debt, bank balances, retirement account contributions, and other stock market holdings."[295] Unfortunately, such high quality data are not available.[296] Moreover, many factors, in addition to tax, may influence saving. The additional factors include taxpayer

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289.   *Id.*

290.   *Id.* at 686.

291.   Albert Ando et al., The Structure and Reform of the U.S. Tax System 67–71 (1985); Gravelle, *supra* note 225, at 26; Martin J. McMahon, Jr., *The Matthew Effect and Federal Taxation*, 45 B.C. L. Rev. 993, 1086 (2004).

292.   Jeffrey M. Stupak, *Introduction to U.S. Economy: Personal Saving*, Cong. Res. Serv.: In Focus, no. 10963, 2018, at 1, https://fas.org/sgp/crs/misc/IF10963.pdf.

293.   *See supra* Charts 9 and 10 at text accompanying notes 160 and 162.

294.   *See, e.g.*, *Taxation of Household Savings* 17 (OECD Tax Policy Studies, No. 25, 2018), https://doi.org/10.1787/9789264289536-en (surveying the studies).

295.   John N. Friedman, *Tax Policy and Retirement Savings*, *in* The Economics of Tax Policy 299, 309 (Alan J. Auerbach & Kent Smetters eds., 2017).

296.   *Id.*

preferences, taxpayer wealth and disposable income, and demands on taxpayers for current consumption.[297]

A highly regarded economist, Douglas Bernheim, described the state of research in 2002, stating:

> As an economist, one cannot review the voluminous literature on taxation and saving without being somewhat humbled by the enormous difficulty of learning anything useful about even the most basic empirical questions. Having been handed two grand "experiments" with tax policy during the 1980s (IRAs and 401(k)s), it would seem that we ought to have learned more, and to have achieved greater consensus, than we have. In our defense, it can be said that we have done our best with the information at our disposal.[298]

Little has changed in the intervening years. A leading public finance textbook published seventeen years later in 2019 stated: "In contrast to the case of labor supply, there is little consensus on the impact of taxes or the interest rate on savings decisions. Indeed, economists aren't even in agreement on whether income taxes have a negative, zero, or even positive impact on savings."[299]

Similarly, a 2018 OECD survey of studies that analyzed the impact of tax incentives designed to increase retirement savings also concluded that the literature is unclear.[300] The 2018 OECD survey stated, "The literature is far from conclusive on whether tax incentives lead to an increase in national savings or instead to a reallocation of savings."[301] Eight of the articles in the OECD survey used data from the United States and are summarized in Table 6, below. Indicative of the inconclusive nature of the empirical studies, four found that tax incentives

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297. *Id.*

298. B. Douglas Bernheim, *Taxation and Savings*, *in* 3 HANDBOOK OF PUBLIC ECONOMICS 1173, 1240 (Alan J. Auerbach & Martin Friedman eds., 2002).

299. GRUBER, *supra* note 234, at 686.

300. OECD, *Pensions Outlook 2018*, at 53 (2018), https://doi.org /10.1787/pens_outlook-2018-en.

301. *Id*. at 53–54.

to encourage retirement contributions increased aggregate savings,[302] while four others found no relationship.[303]

Table 6:   Relationship of Savings to Tax Rates from OECD Pensions Outlook 2018[304]

	Nation	**Positive**	**Negative**	**No Relation**
Attanasio & DeLeire (2002)	U.S.			X
Engen et al. (1996)	U.S.			X
Attanasio et al. (2004)	U.S.			X
Pence (2002)	U.S.			X
Benjamin (2003)	U.S.		X	
Gelber (2011)	U.S.		X	
Hubbard & Skinner (1996)	U.S.		X	
Poterba et al. (1996)	U.S.		X	

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302.   Daniel J. Benjamin, *Does 401(k) Eligibility Increase Saving? Evidence from Propensity Score Subclassification*, 87 J. Pub. Econ. 1259, 1285 (2003); Alexander M. Gelber, *How Do 401(k)s Affect Saving? Evidence from Changes in 401(k) Eligibility*, 3 Am. Econ. J: Econ. Pol'y, no. 4, 2011, at 103, 119–20; R. Glenn Hubbard & Jonathan S. Skinner, *Assessing the Effectiveness of Saving Incentives*, 10 J. Econ. Persp., no. 4, 1996, at 73, 88; James M. Poterba et al., *How Retirement Saving Programs Increase Savings*, 10 J. Econ. Persp., no. 4, 1996, at 91, 111. These studies are reported in the negative column because they found that as taxes on retirement contributions decrease, retirement contributions increase. This represents a negative relationship between taxes and retirement contributions.

303.   Orazio P. Attanasio & Thomas DeLeire, *The Effect of Individual Retirement Accounts on Household Consumption and National Saving*, 112 Econ. J. 504, 532 (2002); Eric M. Engen et al., *The Illusory Effects of Saving Incentives on Saving*, 10 J. Econ. Persp., no. 4, 1996, at 113, 135; Orazio P. Attanasio et al., *Effectiveness of Tax Incentives to Boost (Retirement) Saving: Theoretical Motivation and Empirical Evidence* 26 (Inst. for Fiscal Studies Working Paper No. 04/33, 2004), https://www.ifs.org.uk/wps/wp0433.pdf; Karen M. Pence, *401(k)s and Household Saving: New Evidence from the Survey of Consumer Finances*, Fed. Res. Board Governors 19–20 (Dec. 2001), https://www.federalreserve.gov/pubs/feds/2002/200206/200206pap.pdf.

304.   *See supra* notes 302 and 303 for article citations.

While many view the studies as inconclusive, some have suggested that the evidence tilts in favor of taxation having no impact on the amount of private savings.[305] A recent extensive survey of literature analyzing the effect of retirement tax benefits on saving was conducted by John N. Friedman.[306] After his survey of 18 articles, he concluded that the studies suggest taxes do not play a role in savings:

> Although there is a diversity of estimates and opinions in the literature, the weight of the evidence suggests that tax subsidies are not effective policies for addressing retirement savings inadequacy. First, although tax subsidies generate moderate increases in savings within designated accounts, the best evidence suggests that these contributions primarily reflect savings that would have occurred . . . absent the tax subsidies. Total savings do not increase. Second, the evidence suggests that the vast majority of savers are inattentive, for one reason or another, to tax subsidies for savings, and thus do not respond at all (even in the tax-favored account).[307]

Also, two economists from the CRS have concluded that the literature suggests that taxes have little or no impact on savings. In a 2014 CRS article, Gravelle and Marples state:

> Empirical evidence suggests a negligible and possibly negative savings response. Historically the savings rate had been relatively constant until the early 1980s, after which it declined. It declined at the point that reductions in capital income taxes and an expansion of tax preferred savings vehicles (such as individual retirement accounts) were enacted. Studies that examined the savings rate over time found results that were

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305. *See generally* Gamage, *supra* note 256, at 416 ("At the very least, then, it is noteworthy that the empirical literature has failed to offer persuasive evidence that taxpayers significantly reduce their savings behaviors in response to real world attempts at capital income taxation.").

306. Friedman, *supra* note 295.

307. *Id.* at 302.

small in magnitude, but uncertain in direction, with a central tendency suggesting no response.[308]

The conclusion of Friedman, Gravelle, and Marples that the weight of the evidence suggests that taxes do not impact saving is consistent with many studies that measure the response in aggregate savings to changes in the return on savings after tax that have found zero or minimal impact.[309] But the evidence is weaker than that supporting the lack of taxes' impact on labor. There is simply too much conflicting analysis to reach a conclusion with a high degree of confidence.

As an alternative to examining the impact of tax incentives for retirement savings, others have sought to measure indirectly the taxpayer's response to taxing savings by examining changes in consumption. The studies are again ambiguous. Those that have used aggregate data have in general found no response in consumption to changes in after-tax return.[310] However, some have argued that aggregate data tends to mask changes.[311] In response, others have examined the response of

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308.   GRAVELLE & MARPLES, *supra* note 241, at 6.

309.   HUNGERFORD, *supra* note 246; Alan S. Blinder, *Distribution Effects and the Aggregate Consumption Function,* 83 J. POL. ECON. 447 (1975); E. Philip Howrey & Saul H. Hymans, *The Measurement and Determination of Loanable-Funds Saving*, 3 BROOKINGS PAPERS ON ECON. ACTIVITY 655 (1978); Jonathan Skinner & Daniel Feenberg, *The Impact of the 1986 Tax Reform on Personal Saving*, *in* DO TAXES MATTER? THE EFFECT OF THE 1986 TAX REFORM ACT ON THE U.S. ECONOMY 50 (Joel Slemrod ed., 1990); Eric M. Engen et al., *The Effects of Tax-Based Saving Incentives on Saving and Wealth* 45–48 (Nat'l Bureau of Econ. Research, Working Paper No. 5759, 1996), https://www.nber.org/papers/w5759.pdf (tax incentives for savings have little or no effect on saving); Christina D. Romer & David H. Romer, *The Incentive Effects of Marginal Tax Rates: Evidence from the Interwar Era* (Nat'l Bureau of Econ. Research, Working Paper No. 17860, 2012), https://www.nber.org/papers/w17860.pdf. For an excellent survey of the studies, see B. Douglas Bernheim, *Taxation and Saving* 47 (Nat'l Bureau of Econ. Research, Working Paper No. 7061, 1999), https://www.nber.org/papers/w7061.pdf.

310.   Bernheim, *supra* note 298, at 1210–11; John Y. Campbell & N. Gregory Mankiw, *Consumption, Income, and Interest Rates: Reinterpreting the Time Series Evidence*, 4 NBER MACROECON. ANN. 185 (1989); Robert E. Hall, *Intertemporal Substitution in Consumption*, 96 J. POL. ECON. 339 (1988).

311.   Orazio P. Attanasio & Guglielmo Weber, *Consumption Growth, the Interest Rate and Aggregation*, 60 REV. ECON. STUD. 631 (1993).

individual households to tax changes and have found changes.[312] But, again, the results are ambiguous. The magnitude of the responses varies widely, periods for which the households were studied were short in many of the studies, and in many studies only isolated components of consumption (such as consumption of food) were studied.[313]

In conclusion, empirical studies have failed to show a clear relationship between individual income taxation and savings. Many feel that the weight of evidence seems to suggest that taxes do not affect savings, but more research is necessary before we can be confident about this assessment.

C. Summary of Uncertain Efficiency Effects

In summary, efficiency's appeal is based on assumptions about theory and empirical analysis that are not supported by the evidence. Theory cannot predict the efficiency effects of the individual income tax. Rather, the impact of the tax is an empirical matter. Economists agree that the empirical studies suggest that taxes have little or no effect on labor supply. There is no consensus about the impact of the tax on savings, but many feel that the weight of evidence also suggests little or no effect. Thus, there is no clear case for prioritizing efficiency over equity. In fact, the harms from inequality to our health, societal well-being, intergenerational mobility, and democracy appear to be more certain than the potential efficiency losses often associated with a progressive rate

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312.   Orazio Attanasio & Martin Browning, *Consumption over the Life Cycle and over the Business Cycle*, 85 Am. Econ. Rev. 1118 (1995); Attanasio & Weber, *supra* note 311; Karen E. Dynan, *How Prudent Are Consumers?*, 101 J. Pol. Econ. 1104 (1993); Emily C. Lawrance, *Poverty and the Rate of Time Preference: Evidence from Panel Data*, 99 J. Pol. Econ. 54 (1991); David E. Runkle, *Liquidity Constraints and the Permanent-Income Hypothesis: Evidence from Panel Data*, 27 J. Monetary Econ. 73 (1991); Matthew D. Shapiro, *The Permanent Income Hypothesis and the Real Interest Rate: Some Evidence from Panel Data*, 14 Econ. Letters 93 (1984); Stephen P. Zeldes, *Consumption and Liquidity Constraints: An Empirical Investigation*, 97 J. Pol. Econ. 305 (1989); Bernheim, *supra* note 309, at 50.

313.   Bernheim, *supra* note 309, at 50; *cf.* Jonathan Gruber, *A Tax-Based Estimate of the Elasticity of Intertemporal Substitution*, 3 Q.J. Fin. 135001-1, 135001-8, 135001-18 (2013) (analyzing data for individual households over a long period of time (1980–2001) and finding support that the impact of taxes on savings is large).

structure. Given the high level of inequality in the United States and the currently low level of tax rate progressivity, one can reasonably conclude that equity should be given more weight than efficiency at this time.

V. Conclusion

The increased focus on economic efficiency in formulating tax policy, at the expense of achieving equity, has resulted in decreased rate progressivity in our individual income tax. This decrease has exacerbated inequality.

     Several explanations account for the intense focus on efficiency and reduced emphasis on equity. Predictions of efficiency gains from low individual income tax rates appear more certain than equity gains from progressive tax rates. Efficiency gains seem measurable, while equity gains appear intangible and unquantifiable. In addition, distributive justice, which underlies and shapes tax equity, exists in many abstract forms, some of which may not require progressive tax rates.

     This Article argues, however, that the emphasis on efficiency is misplaced. Significant empirical evidence shows that inequality imposes real costs on the health, social well-being, and intergenerational mobility of our citizens, as well as on our democratic process. In contrast, anticipated efficiency gains from low individual tax rates are speculative. Empirical studies suggest that taxes within the historical range of rates in the United States have had little impact on economic activity. Economists generally agree that individual income taxes have little or no effect on labor supply. Economists are unable to agree whether the myriad empirical studies on savings indicate that progressive tax rates decrease, increase, or have no impact on savings.

     The clear harms from inequality and the uncertain harms arising from progressive tax rates, strongly support always giving equity at least equal weight with efficiency in formulating tax policy. But given the high level of inequality in the United States and the currently low and flat tax rate structure, one can reasonably conclude that equity should be given more weight than efficiency at this particular time. An emphasis on equity in our individual income tax will contribute to the health of our citizens, the vitality of our democracy, and economic mobility of our citizens from one generation to the next.