

From the
Office of Tax Policy Research

WORKING PAPER SERIES

The Economics of Taxing the Rich

by

Joel Slemrod
University of Michigan

The Office of Tax Policy Research, established in 1987, promotes policy-oriented research in taxation, and serves as a liaison between the academic, business, and policy making communities. We are committed to using state-of-the-art methods to analyze tax policy issues, and to disseminate our findings, and those of a broader academic community, to people in the policy making community.

LEADING IN THOUGHT AND ACTION

THE ECONOMICS OF TAXING THE RICH

**Joel Slemrod
The University of Michigan**

February, 1998

Prepared for the Office of Tax Policy Research conference "Does Atlas Shrug? The Economic Consequences of Taxing the Rich," held in Ann Arbor, October 24 and 25, 1997. I am grateful for comments on an earlier draft from Bill Gale, Paul Courant, Julie Cullen, Roger Gordon, Ned Gramlich, and Jim Hines.

THE ECONOMICS OF TAXING THE RICH

“To show, for example, the obvious advantages of enabling men to enjoy securely the “fruits of their labor” is not to justify all forms of property or its present distribution – any more than the manifold examples of property gained without labor justify the counter-generalization that all property is theft.” (Wedgwood, p. 62)

1.a. Introduction

Ayn Rand’s Atlas Shrugged, published in 1957, depicted a world when the “prime movers” go on strike¹ in order to demonstrate how essential their contribution is to society, and to expose the obstacles society places in their way. Each prime mover decided “not to work in his own profession, not to give the world the benefit of his mind” (p. 747).

In 1957 the top marginal tax rate under the U.S. federal individual income tax was 91%, beginning at taxable incomes of \$400,000, equivalent to \$2,276,000 in 1997 dollars.² Very high (by today’s standards) marginal rates started at lower levels of taxable income: at \$100,000 (of 1957 dollars), the marginal rate was 75%; at \$140,000, it was 81%. The high tax rates in this era were undoubtedly one of the obstacles to the prime movers that enraged Ayn Rand, as they did another high earner of those years, Ronald Reagan.

Notably, 1957 lies in the middle of a period of extraordinary U.S. economic growth – the average annual rate of productivity growth was 3.1% over the period 1951 through 1963, compared to about 1.5 percent since 1981. The fact that the golden years of modern American economic growth occurred during the apex of marginal tax rates is, at a minimum, an embarrassing coincidence for those who believe that avoiding such a policy is the key to economic success. But this correspondence is surely not convincing in itself, because it could be

¹ While it was being written, the working title of the novel was “The Strike.” *Atlas Shrugged* did not become the title until 1956, at the suggestion of Ayn Rand’s husband.

that the post-war growth could have been even higher than it was, if only the tax rates had been lower.

Economic controversies are rarely disposed of, and this one is no exception. How the tax system affects the behavior of the affluent and the impact of these behavioral changes on economic performance are still controversial questions for the design of tax policy. There has been surprisingly little hard evidence uncovered on the impact of the tax system on the behavior of the very affluent, or on the contribution of the affluent to overall economic performance.

In spite of, or perhaps because of, the paucity of evidence, strong opinions on these issues abound. George Gilder (1981) stated bluntly that “a successful economy depends on the proliferation of the rich,” (p. 245), and that “to help the poor and middle classes, one must cut the taxes of the rich.” (p. 188). In contrast, the noted author Peter Drucker, quoted in Lenzner and Johnson (1997), dismisses the economic importance of the rich as follows: “If all the super-rich disappeared, the world economy would not even notice. The super-rich are irrelevant to the economy.” He also predicts that in the next economic downturn “there will be an outbreak of bitterness and contempt for the super corporate chieftains who pay themselves millions. In every major economic downturn in U.S. history the ‘villains’ have been the ‘heroes’ in the preceding boom.”

Pressing policy issues cannot be put off until these questions are settled. The appropriate rates of income tax for affluent households periodically surfaces as a hot policy issue, as it did during the recent discussion of the flat tax. The capital gains tax is a perennial topic, and given the great concentration of realized and unrealized gains among the affluent, inevitably involves

² This calculation assumes that 1997 CPI-U will be 160, or 5.67 times higher than its value in 1957.

these same questions. Recently, the estate and gift tax, which directly affects less than one percent of all families, has made it on the federal policy agenda; the exemption level was increased in the 1997 tax bill, and many Republican legislators favor abolishing it entirely.

Today's tax policy debate must be seen in the context of two historical trends. The first is that the top federal income tax rates are quite low by post-WWII standards. The 90+ plus percentage rates in the era of Ayn Rand the author and Ronald Reagan the actor are long gone. The top rate was cut to 70% by the 1964 tax act, and to 50% in the first year of the first term of Ronald Reagan the president. It was further cut to 28% in the second year of Reagan's second term, marking an extraordinary decline in the span of slightly more than two decades. By 1993 the top rate had returned to 39.6%, still low by historical standards. As Brownlee (1997) discusses, the average effective tax rate on the most affluent never reached nearly as high as the top statutory rates would indicate, but it probably has declined as well.

Second, there is near-unanimity that since 1970 the distribution of pre-tax income has become more unequal. While the real earnings of the broad swath of the population has stagnated, the real income of the most affluent Americans has risen considerably. A fierce debate rages among economists about the source of this phenomenon, with the leading candidates being skill-biased technological change and more integration of the world economy, but no theory has satisfactorily explained the quarter-century long trend. The role of the tax system has received some attention. Gramlich et al. (1993) and others have shown that the federal income tax system has neither offset the increased inequality of pre-tax incomes by increased progressivity, nor significantly exacerbated it. More controversial is the extent to which the income growth at the top has been the result of increased labor supply, entrepreneurial activity and generally less aversion to receiving taxable income coaxed out by lower taxes.

Understanding the answer to this last question is critical to the policy issues, for it sheds light on the economic consequences of the attempt to tax the affluent.

The papers prepared for the Office of Tax Policy Research conference “Does Atlas Shrug? The Economic Consequences of Taxing the Rich” begin to fill the gaps in our understanding of these key issues. This paper provides some conceptual background for these investigations and their policy implications.

1.b. Who Are the Rich?

Who is rich and who is not? The answer to that question depends on the measure of affluence chosen, and what dividing line one chooses. Some candidates for a measure of affluence are annual income, annual consumption, wealth, lifetime income and lifetime consumption; depending on the issue at hand, different measures may be more or less appropriate. Although conceptually attractive, a lack of data that tracks people over a lifetime precludes empirical examination of the latter two measures, although longitudinal data sets that follow people over a decade or more are now available.

Data on measures of annual income are readily available, but may be misleading for two reasons. First, the top fractile of income earners will inevitably include some households who had one great year of unusually high income; this problem is exacerbated if capital gains realizations are included in income. However, several studies (e.g., Slemrod, 1992) suggest that a snapshot of a single year’s income distribution is not highly misleading as a representative of several years’ average income, the closest measure we have to lifetime income. Second, focusing on the skewness of annual income is also potentially misleading to the extent it reflects life-cycle effects; if income naturally rises as individuals age, a snapshot of people at every age

may overstate the concentration of lifetime income. This concern turns out not to be quantitatively important. In 1995, the top 1% received 14.4% of adjusted gross income (AGI). If one classifies people by age,³ the share of the top 1% is 7.9%, 11.8%, 15.2%, 17.8%, and 19.4%, for age groups 25-34, 35-44, 45-54, 55-64, and over 65, respectively.⁴ Clearly, within-age-group skewness rises with age, and the overall share in fact understates the concentration of income among the groups with the highest average income, those between 45 and 64.

Another useful indicator of affluence is wealth. It has the advantage of being less subject to transitory fluctuations, but may misclassify high-income, high-spending households as non-affluent. It is also subject to the potential problem that a single-year snapshot will, because of the natural life cycle of wealth accumulation, overstate inequality.

Annual consumption data should be less subject to the problem of fluctuating incomes, given the tendency for people to smooth consumption across high- and low-income periods. If consumption depends primarily on permanent or lifetime income, then it is an ideal indicator of well being. This has led some researchers (e.g., Cutler and Katz, 1991) to focus on this measure of well-being; unfortunately, it is not well-measured by surveys.

Whatever measure of affluence is chosen, one has to decide on a cutoff level that distinguishes the rich from the nonrich. This is an arbitrary choice, but one that affects the nature of the group under investigation; after all, the \$200,000 a year rich family is quite different from the \$200,000,000 a year “super-rich” family. Many researchers have focused on the top 1%, but others also separate out the top 0.5%, top 0.1%, and even the top 5%. What does it take to make

³ For a married couple, age is defined as that of the “primary” taxpayer, i.e., the one listed first on the tax form.

⁴ These figures are based on tabulations of the tax data base of the Office of Tax Analysis, U.S. Treasury Department. I am grateful to Gerald Auten for providing them to me.

the top 1%? In tax year 1995, it took an adjusted gross income of \$218,220. According to Wolff (1997), in 1992 the 1% cutoff for net worth of a family was \$2.42 million.

These cutoffs may or may not correspond to what most Americans mean by “rich.” In a 1990 Gallup Poll, (Gallup and Newport, 1990), less than one-half of one percent of respondents considered themselves to be rich (another seven percent admitted to being “upper-income”), but on average respondents said that 21 percent of all Americans are in fact rich. When asked what income it takes to be rich, the median response was \$95,000. Because in 1990 only about 4% of all households had income at least that high, it is clear that a correct perception of the actual distribution of income is not widely shared.

1.c. The Economic Importance of the Rich

Why focus on the rich? For one thing, it’s where the money is. In 1994, the 1% of taxpayers with the highest AGI received 13.8% of total income and remitted 28.7% of total federal personal income tax. Increasing these payments by 25% would generate \$38.2 billion more in tax revenue, and could finance a 10% across-the-board tax cut for everyone else.⁵

Their role in the economy is also disproportionate to their numbers, and for that reason policymakers must be wary of the potential adverse consequences of taxation. Avery and Kennickell (1991) report that the top 1% of wealthholders owned 31.9% of net wealth in 1983, and 30.4% in 1986. Wolff (1997) reports that in 1992, 35.9% of total net worth and 45.6% financial wealth (net wealth excluding house and auto) was held by the wealthiest 1% in that

⁵ These figures are based on Tax Foundation (1996).

category. According to Wolff, both measures of concentration had increased from 1983, when the figures were 32.6% and 42.9%, respectively.⁶

The distribution of net saving by wealth class is also apparently quite concentrated.⁷ According to Avery and Kennickell (1991), the top 1% of 1983 wealthowners did 13% of net saving between 1983 and 1986; when ranked by 1986 wealthholders, the top 1% did 53.7% of net real saving! The striking difference in results is due to the endogeneity of 1986 wealth to realized savings between 1983 and 1986—those that successfully saved are, other things equal, bound to become wealthier.

Not only do the rich account for a large fraction of personal saving, it is undoubtedly true, as Ayn Rand emphasized, that they provide tangible and intangible skills that are critical to economic performance.⁸ Whether they are compensated in line with their social contribution, and what is the correlation between affluence and talent, are taken up later. In any event, the extent to which these talents are withheld from the economy because of the tax system is of great import, and is a principal focus of this conference.

Clearly, the economic stakes in taxing the rich are enormous. Their potential contribution to tax revenue is large, and probably growing in importance. But also large is the potential cost of diverting their wealth and talents into socially unproductive uses.

⁶ This claim that the concentration of wealth increased substantially between 1983 and 1992 is controversial. See Weicher (1996), who argues that the distribution of wealth in 1992 was about the same as in 1983 and, in fact, as in 1962.

⁷ Note that high-wealth families tend to be older, and thus more likely to be in their declining saving years.

⁸ Characterizing the focus of this conference as “the rich” is certainly provocative; consider the difference in emphasis if the subtitle were “The Economic Consequences of Taxing the Talented,” or “The Economic Consequences of Taxing the Successful.” From another perspective, one colleague of mine, upon hearing the title of the conference, offered that it should instead be “Does Atlas Shirk?” instead of “Does Atlas Shrug?”

1.d. How Much Tax Do They Pay?

Before discussing how much tax the rich ought to pay, it helps to talk about how much tax they pay now, and what average tax rate that amounts to. This turns out to be a harder question than it might seem. Here are some facts. In 1994, the top 1% of taxpayers in terms of adjusted gross income remitted taxes totaling \$152.7 billion, which was 27.9% of their total AGI of \$546.7 billion.⁹

For a few reasons, the 27.9% number is an inadequate measure of the average tax rate of the affluent. One is that it does not include state and local income taxes, nor other kinds of taxes levied by all governments, including sales taxes, property taxes, corporate income tax, or estate and gift taxes. Another reason is that the person who remits money to the IRS is not necessarily the person who “pays” the tax, in the sense of being worse off because of the tax. This is because, through price adjustments, the tax may be shifted onto someone else. How much shifting occurs depends on the supply and demand characteristics of the economy, and is a highly controversial subject among economists, especially with regard to the corporate income tax.

Controversy notwithstanding, there have been several recent attempts to assess the burden of taxes, using reasonable assumptions about incidence. The Congressional Budget Office (CBO) (1994) estimated the average (federal only) tax rate on the top 1% of families, ranked by income, to be 33.2%, compared to a 23.7% average for all families. The Office of Tax Analysis (OTA) of Treasury Department (1996) estimated the average tax rate on the top 1% to be 24.5%, compared to 19.7% for all taxpayers.¹⁰ Though the two estimates differ somewhat, they agree

⁹ Based on Tax Foundation (1996).

¹⁰ The Treasury’s average tax rates are lower than CBO’s mainly because their methodology adopts a broader definition of income as the denominator in calculating the average tax rate.

that overall the federal tax system is slightly, but not overwhelmingly, progressive, and that taxes other than the income tax are much less progressive than the income tax, or even regressive.

Beside the difficulty of assessing the true incidence of taxes, estimated average tax rates are subject to error because they are based on income reported to the IRS: in the words of Kolko (1962, p. 9), “since [the social scientist] is getting the same information as the tax collector, he is confronted with essentially the same barriers of the deception and silence in approaching...a good number of the wealthy.” The CBO makes no adjustment for nonreporting at all, but Nunns (1995) reports that the OTA uses information from the Taxpayer Compliance Measurement Program (TCMP) of the IRS to correct reported income for noncompliance. Although Nunns does not spell out how this correction is done or how large it is, the TCMP data suggests that any correction is small. As Christian (1994) documents, in the 1988 TCMP data the voluntary compliance rate (reported income as a percentage of true income) is actually higher for the highest income class (AGI over \$500,000) than for any other income group, at 97.1%; in comparison, it is 92.4% for those with income between \$25,000 and \$50,000. It may be that these data confirm the old saying that “the poor evade, and the rich avoid,” but it may also be that the TCMP auditors are unable to detect the kind of sophisticated evasion that some upper-income people engage in.

1.e. How Much Should They Pay? What Americans Think

In 1993, when Congress was considering President Clinton’s proposed tax increase on upper-income people, several polls found overwhelming support for increasing taxes on the affluent. For instance, in an April 1993 Gallup poll, 75% of respondents said “upper-income” people paid less than their “fair share” in taxes. Similarly, a February 1993 Time

Magazine/CNN poll found 79% support for increasing the personal income tax for families making more than \$200,000 a year.

It is, though, a bit difficult to interpret these poll results, in light of the results of another poll, taken in 1986 by Roper, which asked people to estimate how much personal income tax was actually paid by families at various income levels. The median estimate of taxes paid for a family with \$200,000 income was only \$15,000, or 7.5%, at a time when the actual average tax rate was about 21 percent. Furthermore, a 1987 survey showed that people on average believe that 45% of millionaires paid no income tax at all, although IRS statistics showed the actual figure was less than 2%. Thus, the professed desire for more progressivity may in part stem from a lack of understanding of how progressive the system really is.

The next sections lay out the underlying non-economic and economic arguments for using the tax system to redistribute income. I stress the role played in these arguments by the economic consequences of taxing the rich.

2. Non-Economic Arguments

2.a. The Case for Equality

What have the “second-handers” (as Ayn Rand described those who impede the “prime movers”) got against the rich, anyway? More generally, what are the arguments for progressive tax systems that redistribute income away from the most affluent members of society?

In a classic passage, Henry Simons (1938, p. 24) referred to inequality of income as “unlovely,” characterizing the objection to extreme affluence in the presence of poverty as almost aesthetic, and certainly a value judgment about a society with unequal outcomes. Many would subscribe to an “ability to pay” principle, under which tax burden is related to a family’s

ability to bear a tax burden or, in other words, to tolerate a sacrifice. Reasoning from the plausible idea that paying a dollar is a lesser sacrifice for a well-to-do family than for a poor family, an equal sacrifice requires higher tax payments from a well-to-do family. After all, \$100 more in taxes may induce an affluent family to cut back on magazine subscriptions, but it may induce a poor family to have less to eat. Although this is a sensible, and even compelling, proposition, it is also one that is impossible to quantify, because the magnitude of sacrifice cannot be compared across individuals. Thus, the ability-to-pay principle stands as an intuitively appealing defense of linking tax liability to some measure of well-being, but does not offer concrete guidance on just how progressive a tax system ought to be.

Others argue that economic inequality is undesirable because it inevitably leads to inequality of political power, which is itself undesirable. From another perspective, arguing about the principles underlying the proper post-fisc distribution of income is irrelevant, because that will be determined by the distribution of political power in the society, which may depend on the degree of economic inequality. The origins of the modern redistributive, welfare state can be traced to Bismarckian Germany, when the explicit objective was to counter the appeal of the Communist call for an even more radical redistribution of resources accomplished via an overthrow of the capitalist system entirely. Hayek (1950, p. 311) stresses the political function of the appearance of progressivity: "It would probably be true...to say that the illusion that by means of progressive taxation the burden can be shifted substantially onto the shoulders of the wealthy has been the chief reason why taxation has increased as fast as it has done, and that, under the influence of this illusion, the masses have come to accept a much heavier burden than they would have done otherwise."

2.b. The Case Against Equality and Redistribution

The central philosophical argument against redistribution is that individuals have a right to what they earn; governments should not redistribute income because they have no income to redistribute, they can only confiscate the income of some and confer it onto others. A modern form of this argument, introduced by Nozick (1974), is that only processes of income generation can be judged to be just or not; if incomes are obtained via a just process, then the resulting distribution of income is unassailable.

The difficulty with this type of argument is ascertaining what people would earn in the absence of government. Certainly the level and ordering of income would be much different under anarchy compared to a situation where the government supported property rights. To what income do people have a right? Beyond basic property rights all governments undertake a host of programs which affect incomes. The practical reality is that it is impossible to determine what a non-redistributive tax policy would be. This is also the response to those who argue that redistribution is politically divisive; this may be so, but there is no way for any government to wash its hands of the redistributive implications of its policies.

There is a long history to the argument that only the super-rich can and will support cultural activities. DeJouvenel (1952) lamented that in the society that would result from radical redistribution, "The production of all first-quality goods would cease... The production of artistic and intellectual goods would be affected first and foremost. Who could buy paintings? Who even could buy books other than pulp?" (1990, p. 42) Bell (1928, pp. 175, 179) cites the historical association, arguing that "civilization requires the existence of a leisured class, and a leisure class requires the existence of slaves... On inequality all civilizations have stood. The Athenians had their slaves: the class that gave Florence her culture was maintained by a voteless

proletariat.” Wedgwood (1939) restates the argument disapprovingly, as, “The surplus income of society has never been sufficient to secure the refinements and culture of civilization for all, and these would vanish if everybody had to earn their daily bread, and it is written that a few should achieve a high level of civilization than that all should remain in barbarism” (p. 269).

Accepting the importance of cultural activities to a community, the argument here rests on two empirical claims: that the marginal propensity to consume cultural activities is higher for the rich than for others, and that publicly-funded cultural activities cannot effectively provide the appropriate level of cultural activities. Econometric evidence casts doubt on the former claim, because the income elasticity of total giving is generally estimated to be positive, but less than one; it may, though, be greater than one for particular kinds of giving, such as to “high” culture. Note also that, because contributions are deductible for most high-income households, a redistribution to the rich effected by lowering marginal tax rates would, through a price effect, tend to reduce giving.

3. Economic Arguments

3.a. The Modern Theory of Optimal Progressivity

The approach of mainstream modern public finance economics to these issues has been to accept, for the sake of argument, the right of government to redistribute income through the tax system (and other means), to sidestep the ethical arguments about assessing the value of a more equal distribution of economic outcomes, and to instead investigate the implications of various value judgments for the design of the tax system. Front and center comes the fact that greater redistribution of income requires higher marginal tax rates, which may provide disincentives to

work, save, take risks, and invest in human and physical capital. The essential problem, then, is to describe the inherent tradeoffs between the distribution of income and economic performance.

Mirrlees (1971) initiated the modern literature formalizing this tradeoff. In his formulation, the government must choose an income tax schedule to raise a given amount of total revenue, with the goal of maximizing a utilitarian social welfare function. This function implicitly trades off the welfare of individuals at different income levels, but assumes that social welfare increases when any member of society (including the richest) is better off, holding others' welfare constant. It therefore precludes envy as the basis of tax policy.¹¹ Mirrlees first investigated what characterizes the optimal income tax¹² for any set of assumptions about the social welfare function, the distribution of endowments, and the behavioral response (utility) functions. He concluded that in this general case only very weak conditions characterize the optimal tax structure, conditions that offer little concrete guidance in the construction of a tax schedule.

In the absence of general results, the approach has been to make specific assumptions about the key elements of the model, and then to calculate the parameters of the optimal income tax system. This approach is meant to suggest the characteristics of the optimal income tax under reasonable assumptions and to investigate how these characteristics depend on the elements of the model. Mirrlees also pioneered this approach in his 1971 article, and concluded that the optimal tax structure is approximately linear (that is, it has a constant marginal tax rate and an exemption level below which tax liability is negative) and has marginal tax rates which were quite low by then current standards, usually between 20 and 30 percent and almost always

¹¹ Feldstein (1976) offers an excellent review of these issues.

less than 40 percent.¹³ This was a stunning and unexpected result even, it seems, to Mirrlees himself, and especially in an era where top rates of 70 percent or more were the norm.

Subsequent work investigated the sensitivity of the optimal income tax to the parametric assumptions. Mirrlees showed that widening the distribution of skill, assumed equal to wage rates, increased the optimal marginal tax rates,¹⁴ though he considered the dispersion of skills necessary to imply much higher rates to be unrealistic. Atkinson (1973) explored the effect of increasing the egalitarianism of the social welfare function. Even in the extreme case of Rawls' (1971) "maximin" social welfare function, where social welfare is judged solely on the basis of how well off the worst-off class of people is, the model generated optimal tax rates not much higher than 50 percent. Finally, Stern (1976) demonstrated that the key parameter was the degree of labor supply responsiveness; he argued that Mirrlees' assumption was excessive, and thereby overstated the costs of increasing tax progressivity. This is true because the larger the responsiveness, the larger will be the social waste (in this case, people whose labor productivity exceeds their valuation of leisure, but do not work) per dollar of revenue raised. Stern showed that when what he considered to be a more reasonable estimate of labor supply responsiveness is used, the value of the optimal tax rate exceeds 50%, approximately twice as high as what Mirrlees found.¹⁵

¹² Because a tax schedule may feature rebates rather than taxes at some levels of income, it is really the optimal tax-and-transfer system that is at issue in the optimal progressivity literature.

¹³ Note that, although the marginal tax rate is approximately constant, the average tax rate (tax liability divided by income) increases with income due to the presence of the positive exemption level. Mirrlees assumed that the government needed to raise 20% of national income in taxes.

¹⁴ This conclusion is extremely relevant to current policy issues, debated in the midst of near unanimous agreement that the distribution of pre-tax earnings has been widening at least since 1970.

¹⁵ The revenue requirement in this example was about 20% of net output.

In sum, simple models of optimal income taxation do not necessarily point to sharply progressive tax structures, even if the objective function puts relatively large weight on the welfare of less well-off individuals. This conclusion does, though, depend critically on the sensitivity of labor supply to the after-tax wage rate; low elasticities, which imply a low marginal cost of redistributing income through the tax system, can imply highly progressive tax structures, so that lack of consensus about elasticities precludes consensus about optimal progressivity. One objective of this conference is to sharpen our understanding of the elasticity of response to taxation among the rich.

There is one other—truly startling—result of this early literature. Seade (1977) and Sadka (1976) proved that, under certain conditions, the marginal tax rate at the highest level of income should be precisely zero! This is true regardless of the form of the social welfare function, provided that the welfare of the most well off individual carries some positive weight, and provided there is a known upper bound to the income distribution. To see the intuition behind the result, first consider an income tax schedule in which the marginal rate applicable to the highest observed income is positive. Now consider a second tax schedule which is identical to the first except that it allows the highest-earning household to pay no taxes on any excess of income over what it would have earned under the first tax schedule. When faced with the second tax schedule this household is certainly better off, works more hours, and pays no less tax than under the first schedule; all other households are at least as well off. In other words, raising the marginal tax at the top above zero distorts the labor supply decision of the highest earner but raises no revenue. All other households may be strictly better off compared to a high-tax-at-the-top regime if the top marginal tax rate is set to be just slightly positive, and the increased revenue

from the highest-earning household is used to allow a reduction in average tax rates in the lower brackets.

This result calls to mind Edgeworth's (undated, p. 9) comment about Marshall's discovery of the Giffen good: "Only a very clever man would discover that exceptional case; only a very foolish man would take it as the basis of a rule for general practice." The result does not imply that marginal taxes should be zero or very low near the top, only precisely at the top. In fact, numerical calculations by Mirrlees (1976, p. 340) suggest that zero "is a bad approximation to the [optimal] marginal tax rate even within most of the top...percentiles."

Although I feel that this result should not be taken seriously as a practical guide to tax policy, it does provide some insight into the question of optimal tax progressivity. It highlights the possibility that a utilitarian social objective function, even one that places a large weight on the welfare of the poor, is not necessarily maximized through high marginal tax rates on the rich. This issue is difficult to explore in the post-Mirrlees numerical simulation tradition, which for simplicity assumes that the tax-transfer system must have a flat rate plus a fixed grant received by all household units, and finds only the optimal setting of these two parameters. Slemrod, Yitzhaki, Mayshar, and Lundholm (1994) generalize the problem by allowing a two-bracket system. They find that, for most parameter assumptions, the optimal income tax structure features a top marginal rate which is indeed lower than the first marginal rate even though, because of the grant, the average tax rate is generally increasing with income.¹⁶

This result is driven by two considerations. The first is that an increase in the marginal tax rate applying only to income above a cutoff generates less revenue than an across-the-board

¹⁶ Diamond (1996), though, shows that certain combinations of assumptions about the utility function and distribution of skills can generate a U-shaped pattern of optimal marginal tax rates.

increase, for a given (uncompensated) elasticity of response to the marginal rate. This is because the increase in the top rate does not increase the tax raised on the inframarginal income up to the cutoff. Second, recall that tax increases reduce labor supply through a substitution effect (leisure is cheaper), but also probably increase labor supply through an income effect (worse-off people work more). For given income and substitution effects, a tax change that applies only to the top tax bracket will produce a more negative supply elasticity than would an across-the-board change. This occurs because, compared to an across-the-board tax increase, the decline in income is lower, so that there will be less of a positive income effect on labor supply to offset the negative substitution effect.

These results have all been derived in the context of a very stylized model. In particular, in the standard formulation of the optimal progressivity problem, the rich are different from the poor in only one way: they are endowed with the ability to command a higher market wage rate, which is presumed to reflect a higher real productivity of their labor effort. In fact there is a variety of other reasons why some people end up affluent and others do not, with vastly different policy implications. I review some possibilities below.

The rich may have been lucky. The influential study of Jencks *et al* (1972) concluded that, in addition to on-the-job competence, economic success depended primarily on luck,¹⁷ but that “those who are lucky tend, of course, to impute their success to skill, while those who are inept believe that they are merely unlucky.”¹⁸ (p. 227)

If there is income uncertainty which is uncorrelated across individuals and for which private insurance markets do not exist, then taxation becomes a form of social insurance; a more

¹⁷ The authors of this study admit, though, that their conclusions do not apply to the “very rich,” defined as those with assets exceeding \$10 million (of 1972 dollars).

progressive system, by narrowing the dispersion in after-tax income, provides more social insurance than a less progressive tax system. The optimally progressive tax system then balances the gains from social insurance (and perhaps also redistribution) against the incentive costs. As Varian (1980) points out, introducing luck eliminates the Sadka-Seade result about a marginal rate of zero at the top of the income distribution. He argues that, in the presence of substantial uncertainty/luck, the optimal marginal tax rate should in all likelihood be high, because high realized income is probably due to a good draw of the random component of income, and taxing an event probably largely due to luck will have minimal disincentive effects.

The rich may have different tastes, either for goods compared to leisure (working harder), or for future consumption. In the former case, even with homogenous wage rates, some people will have higher incomes by virtue of working more, but the higher income is offset by less leisure time. In this case a progressive tax system is not necessarily redistributing from the better off to the worse off, but capriciously according to tastes.

The rich may have inherited more, either in terms of financial resources or in terms of human capital, broadly defined. If inherited endowment is the principal source of inequality (so that, *inter alia*, people do not differ in what they make of their endowments), from a one-generation perspective there is little potential economic cost from a tax system that redistributes the fruits of this endowment. A longer horizon is required, however, because the incentive of parents to leave an endowment would arguably be affected by such taxation, and so could affect the incentive of potential bequeathors to work and to save.

The rich may have different skills than everyone else, rather than more of the same kind of skills. This characterization certainly rings true, as the affluent tend to supply “skilled” rather

¹⁸ Thurow (1975) offers a similar view.

than “unskilled” labor, i.e., entrepreneurs, professionals, or “symbolic analysts” in Reich’s (1991) terminology.

Why does this matter for optimal progressivity? For one thing, as Feldstein (1973) first investigated, when there are two distinct types of labor the relative wage rate will depend on the relative supply to the market of the two kinds of labor, which in turn depends on the tax system chosen. Thus, the tax system redistributes income directly through differential tax liabilities but also indirectly by altering the wage structure. Although Feldstein argued that this did not substantially alter optimal progressivity, Allen (1982) disagreed, arguing that it could be important enough that an increase in the statutory progressivity of an income tax system could actually make members of the lower-ability, lower-income group worse off, because it reduces their before-tax wage rate.

But what if the affluent offer to the economy a particularly essential ingredient? Gilder (1990, p. 245) certainly thinks so, arguing that “a successful economy depends on the proliferation of the rich, on creating a large class of risk-taking men (sic) who are willing to shun the easy channels of a comfortable life in order to create new enterprise...” If entrepreneurial talent is priced appropriately by the market, then the standard optimal progressivity framework still applies: the extent that taxes discourage its supply is a social cost. But there may be more to it than this if there are important spillovers of information from entrepreneurial activity whose social value cannot be captured by the entrepreneurs themselves. In economics jargon, there are positive externalities of innovation. These kinds of externalities are the building blocks of many “new growth” theories, propounded by Romer (1990) among others, who argue that policy can have persistent effects on economic growth rates, not just on the level of economic performance.

Gilder appears to believe this, asserting that “most successful entrepreneurs contribute far more to society than they ever recover, and most of them win no riches at all” (p. 245).

To the extent that the activities of the affluent have positive externalities because of their entrepreneurial nature, this argues for lower taxation at the top than otherwise. But the argument is not crystal clear. Although it is true that, compared to the overall population, a larger fraction of the rich classify themselves as professional or managerial (48.5% versus 27% in 1982, according to Slemrod, 1993), it is also true that a larger than average fraction (12% versus 1%) are lawyers and accountants, professions that some have argued are detrimental to economic growth, because they are concerned with rent-seeking rather than income creation. Magee, Brock, and Young (1989) present evidence that countries with more lawyers grow more slowly.

Because appropriate policy depends on the process that determines how and why the affluent become affluent, one objective of economic research is to clarify that process. A second research objective, on which the papers of this conference concentrate, is to understand better how the affluent (and those who aspire to affluence) respond to attempts to tax away some of that affluence. In the context of the modern optimal progressivity model, it is precisely the behavioral response to taxation that limits the appropriateness of progressivity: other things equal, the greater the response, the less progressivity is appropriate.

Of course, measuring the behavioral response has dominated empirical tax research for at least two decades; there have been scores, probably even hundreds, of studies investigating the response to taxation of labor supply, savings, portfolio choice, business investment, and other aspects of individual and firm choices. However, very few of these studies have focused on the affluent, primarily because of the paucity of data that focus on this segment of the population.

There are, moreover, sensible reasons to suspect that the potential behavioral response of the affluent would be larger, and of a different nature, than that of everyone else, due, for example to their greater flexibility in work arrangements and the sophistication of the financial advice and options that are available to them. The popular conception that the affluent are able to game the tax system to avoid much of its intended burden relies on this notion.

On the surface, it seems like the two questions: “should the rich be taxed a lot?” and “can the rich be taxed a lot?” are conceptually distinct. Similarly, it may seem that two classes of economic objections to taxing the rich – that there are negative economic consequences, and that it is infeasible – are incompatible: if the rich are able to find ways to avoid paying taxes that are nominally imposed on them, how could the deleterious effects be large? However, according to the modern public finance tradition, these pairs of questions are intimately linked because it is precisely the difficulty of taxing the rich – the “can” question – that circumscribes its appropriateness. It is all of the actions taken by the rich to reduce their tax burden – be it reduced work effort, reduced saving, hiring high priced accountants, or chancing evasion – that raises the social cost per dollar of revenue actually collected. There is some controversy as to whether, for policy purposes, it matters what kind of behavioral response is predominant. I return to that issue in the concluding section. In what follows I briefly review some evidence about the economic consequences of taxing the rich.

3.b. Aggregate Evidence

3.b.1. U.S. History

In highly influential work that stimulated much empirical investigation, Kuznets (1955) argued that income inequality first increases, then decreases, with development. American

economic historians have looked to the period of industrialization for evidence to shed light on the relationship between inequality and growth. Turner (1920) stressed high savings rates of the well-to-do, and the dependence of sustained growth on either capital deepening or the introduction of a radically new generation of technologies and capital equipment. Opponents of this view have stressed that greater equality stimulated growth by encouraging the evolution of more extensive networks of markets, including that for labor, and commercialization in general, and that economic growth is the cumulative impact of incremental advances made by individuals throughout the economy, rather than being driven by the actions of a narrow elite. For example, Sokoloff (1986) argues that advances in productivity during the early stages of industrialization were largely based on changes in organization, methods, and designs which did not require much in the way of capital deepening, or dramatically new capital equipment. Rather, technological advances and productivity improvements seem to have been stimulated by the extension of markets.

As mentioned, one key aspect of this argument is that inappropriate tax policy can reduce the saving rate of the affluent. If a high level of national saving is the key to economic growth, and if the rich have a higher marginal propensity to save than the non-rich, then any redistribution of income from the rich to the poor will hamper growth. If such redistribution is implemented in a way that reduces the after-tax return to saving, the negative impact is exacerbated to the extent that a lower return depresses saving.

Adam Smith maintained this connection, and it was central to growth models of the 1950s and 1960s, such as Lewis (1954) and Kaldor (1956). Lewis maintained that the central problem during industrial revolutions was increasing the saving rate, and that one key source of increased savings was the rise in the profits share – that is, a shift in the distribution of income.

However, the connection between income inequality and aggregate saving has been challenged on both empirical and theoretical grounds. Several studies find that redistribution from the poor to the rich has little impact on the aggregate savings rate. That is the conclusion of Blinder (1980) on the post-war United States, of Cline (1972) on Latin America, and Musgrove (1980) on international cross-sections. Although savings rates and growth increased concomitantly during the industrial revolutions of the U.S. and U.K., Williamson (1991) argues that these correlations are spurious and do not support the Smithian tradeoff between equality and growth.

Moreover, in the context of a pure life-cycle model, there is no presumption that the marginal propensity to save differs across people with different lifetime incomes: because all individuals spend all of their income over their lifetime, higher saving rates in the saving years are offset by higher dissaving rates in the retirement years.¹⁹ Savings differences arise, though, if the life-cycle model is enriched to include income-elastic bequests. This implies that, within a life-cycle framework, saving is increased not by redistribution across income groups, but rather via redistribution to the young (savers) from the elderly (dissavers). There is, though, a clear positive correlation between income and age, at least within the set of working families, so that any increase in the progressivity of the tax system (measured on an annual basis) may on average effect a redistribution of income toward the young (savers), and for that reason would imply an increase in aggregate savings.

3.b.2 Cross-Country Evidence

¹⁹ With a growing population, positive saving rates occur because there are always more of the young savers than the older dissavers. Thus, if the rich accumulate and decumulate wealth more rapidly than the non-rich, they would contribute to a higher aggregate saving rate.

A large, recent literature has examined the cross-country evidence on this question. There is substantial agreement that across countries more inequality is correlated with lower subsequent growth. There is, though, less argument on the structural relationship between inequality and growth.

Perotti (1996) usefully classifies the theoretical underpinnings into four main categories: the fiscal policy approach, in which inequality leads to redistributive, distortionary fiscal policy which reduces growth; the sociopolitical instability approach, in which inequality engenders sociopolitical instability, which reduces investment and growth; the borrowing constraints approach, in which inequality reduces investment in human capital among those with little wealth, which reduces growth; and the joint education/fertility approach, in which inequality not only decreases investment in human capital among the non-wealthy but also increases fertility, both of which decrease per capita growth. Perotti's empirical investigation of the cross-country data finds support for all but the fiscal policy approach; Deininger and Squire (1996) agree, but Persson and Tabellini (1994) argue that the postwar OECD data weakly support the fiscal policy approach.

This ongoing controversy is not directly relevant to the question at hand, because it concerns the link between pre-tax inequality and economic performance. We are not concerned with the political economy question of whether more inequality engenders a more redistributive tax and transfer policy, but instead on the economic consequences of such policies, whatever their origin. In the sociopolitical approach, presumably it is the extent of inequality in after-tax incomes that would create incentives for organized individuals to pursue their interests outside normal market activities or the usual political channels, so that this factor, alluded to in the ominous statement of Peter Drucker quoted in the introduction, still applies. The human capital

approaches rely on spreading wealth more broadly, and not specifically on which sections of the society the redistributed wealth is taken from.

Of more relevance would be the link between economic performance and attempts by government to redistribute income by taxing the rich.²⁰ I am not aware of any cross-country study which attempts this. The evidence linking the level or rate of growth of prosperity to the overall level of taxes is, however, quite fragile. As I argue in Slemrod (1995), there are inherent problems of separating out the effects of tax policy on prosperity and to what extent prosperity facilitates the collection of taxes.

3.c. Micro Evidence

3.c.1 Earlier Survey Evidence

There were several descriptive and analytical studies of the impact of taxes on the behavior of the rich in an earlier generation. One particularly influential study (Barlow, Brazer, and Morgan, 1966) was the result of an extensive field study, conducted in 1964 by The University of Michigan Survey Research Center, of 957 individuals who had yearly incomes in 1961 of \$10,000 or more. Of the respondents 69% (48% if income-weighted) had 1961 incomes between \$10,000 and \$15,000, and less than 0.5% (6% if income-weighted) had incomes over \$100,000. Correspondingly, 77% of the sample (60% if income-weighted) faced marginal tax rates of 39% or less, and only 6% (17% if income-weighted) faced a marginal tax rate over 50%.

This study found little impact of the tax system on economic decisions. Only one-eighth of the sample said they had curtailed their work effort because of the income tax, and those facing the highest marginal tax rates reported work disincentives only a little more frequently

than did those facing the lowest rates. Very few reported that their wives' participation in the labor force or the timing of retirement was affected by taxes. With regard to investment decisions, sensitivity to taxes appeared widespread in two situations. One is when income could be received in the form of capital gains; there was a noticeable "lock-in" effect on gains and a tax-related tendency to realize losses. The second tax-sensitive area is where it was possible to transfer assets to relatives and reduce one's tax liabilities by so doing; the timing of large gifts to children and other relatives appeared to be dominated by tax considerations. Between one-fourth and one-third of the respondents were definitely unaware of their marginal tax rates; furthermore, the awareness of preferential tax treatment and the inclination to take advantage of it appeared to be confined to a small minority, with the exception of the tax advantages of capital gains.

3.c.2 Modern Economic Evidence

These days economists tend to devalue this type of evidence, preferring to analyze data on actual behavior rather than to rely on people's stated intentions and motivations. A large literature exists on many of the critical aspects of behavior—labor supply, saving, entrepreneurship—although little of it focuses on, or even treats, the behavior of the affluent. I do not have space here to review all that has been learned in these fields. The papers of this conference taken together review much of the relevant literature. Auerbach and Slemrod (1997) discusses what evidence was unearthed by the Tax Reform Act of 1986 (TRA86). We argue that the evidence from TRA86 is consistent with the notion of a hierarchy of behavioral responses to taxation, as suggested in Slemrod (1992b). At the top of the hierarchy—the most clearly responsive to tax incentives—is the timing of economic transactions. The pattern of capital gains

²⁰ This is one part of the fiscal approach linking pre-tax inequality to reduced growth.

realizations before and after TRA86 is the best example, but there are many others. Foreign direct investment into the U.S. climbed to \$16.3 billion in the fourth quarter of 1986, more than double the rate of adjacent quarters, as investors raced to beat the expiration of tax rules favoring mergers and acquisitions. In these and other instances, for many people the opportunity to achieve temporarily available tax savings obviously dominated any cost of accelerating transactions.

In the second tier of the hierarchy are financial and accounting responses. There is substantial evidence of the reshuffling of individuals' portfolios and repackaging of firms' financial claims in response to tax cuts of 1981 and TRA86, and clear evidence (discussed in Gordon and MacKie-Mason, 1990) of a post-TRA86 shift of small and medium-sized businesses out of C corporation status into S corporation status. There are many other examples, such as how after TRA86 individuals were quick to change the form of much of the debt away from newly nondeductible personal loans into still-deductible mortgage debt.

At the bottom of the hierarchy is the response of real activities chosen by individuals or firms. On this issue, the evidence is mixed. The aggregate values of labor supply and saving apparently responded very little, but it is not clear whether this reflects a low elasticity of substitution or the fact that TRA86 did not in fact effect a large change in the relevant relative prices. Furthermore, for some aspects of real behavior, such as multifamily housing starts and investment in equipment, TRA86 apparently did generate a significant response.

The striking response of the set of behaviors which might be characterized as avoidance—in that they do not involve individuals altering their consumption bundle or firms altering their inputs or outputs—suggests that in the future more attention be paid to these aspects. A pervasive issue is the difficulty of disentangling the real response from the financial,

accounting, and timing responses that accompany it. In most of the simple theoretical models of taxation that underlie empirical investigation, only a real response is possible. For example, in models of labor supply the choice facing the consumer is between (possibly dated) leisure and consumption; alternative methods of avoidance and increased noncompliance thus are not allowed as possible responses to higher marginal tax rates. In these cases and others the statutory tax rate is not a reliable measure of how the tax system affects the opportunities of individuals and firms, and the true budget set reflects not only the apparent relative prices that would prevail in the absence of avoidance, but also how real behavior facilitates avoidance and vice versa. A first step toward a generalized model of behavioral response, in which individuals choose both their real consumption activity and avoidance expenditures, is taken in Slemrod (1995b).

What policy difference does it make how (as opposed to how much) the rich respond to taxation? If, for example, the hypothetical revenue gain from a tax increase assuming no behavioral response were reduced by \$1 billion due to such a response, does it matter whether the response is in the form of reduced labor supply, intensified use of accountants, or increased evasion?

Feldstein (1996) has argued that, for the purpose of calculating the marginal efficiency cost of taxation—a critical parameter for optimal progressivity as well as the size of government—all one needs to know is the elasticity of taxable income, and the origin of that elasticity is irrelevant. However, because Feldstein derives this conclusion in a model which allows real substitution response but neither avoidance nor evasion, the question remains whether knowing taxable income elasticity is sufficient.

Slemrod and Yitzhaki (1996, 1997) demonstrate that Feldstein's assertion does generalize to a world with avoidance and evasion, but only subject to several provisos. One is that taxable

income needs to be defined comprehensively, so as to take account of shifts across tax bases and time periods. For example when TRA86 lowered the top personal rate below the top corporation income tax rate, there is evidence that this induced many small corporations to reorganize as “S” corporations, which are not subject to the entity-level corporation income tax, and instead subjects the shareholders’ income to personal tax as accrued, in the same way as a partnership would. To the extent this occurred, some of the post-TRA86 increase in individual taxable income and revenue was offset by a decline in corporate income tax revenue. Furthermore, the tax base must be defined in present value terms. If a tax change changes the timing of when taxable income will be realized, the revenue of other periods cannot be disregarded. For example, the taxable income response to an anticipated future decrease in tax rates must consider the lost revenue in the period before the tax rate change. Similarly, if a tax change causes an increase in deferred compensation, the increased future tax liability (discounted) must be netted against any decline in current tax payments.

Second, this conclusion applies only when the cost born by taxpayers in the process of reducing tax liability is also a social cost. This is a reasonable presumption in many situations, such as when the private cost takes the form of a distorted consumption basket. But in some cases the private cost is not identical to the social cost. A straightforward example is when the taxpayer hires an accountant to search for legal reductions in taxable income, and the accountant’s fees are deductible from taxable income. In this case the social cost is $1/(1 - t)$ higher than the private cost, where t is the taxpayer’s marginal tax rate.

Fines (but not imprisonment) for tax evasion bring up a more subtle example of divergence between the private and social costs of tax-reducing activities. The possibility of a fine for detected tax evasion is certainly viewed as a cost by the taxpayer, but from society’s

point of view it is merely a transfer; thus the leak of revenue resulting from evasion has a lower social value than the private value.

Third, the conclusion presumes that the rich and poor are linked only through the collection and redistribution of tax revenue. The salience of positive externality arguments will certainly depend on the nature of the behavioral response. If, for example, the rich supply entrepreneurial services which have spillover effects, a tax increase which increases avoidance but not effort will be better than one which inhibits effort.

Finally, although labor supply or savings elasticities are presumably ineluctable aspects of people's preferences, avoidance and evasion elasticities depend critically on the institutional details of tax law enforcement. If, for example, enforcement instruments are set suboptimally, so that the marginal cost of raising revenue is higher than it need be, the optimal tax rate will appear lower than if the enforcement parameters are set optimally: the optimal progressivity can be properly assessed only simultaneously with the instruments the government uses to control avoidance and evasion.²¹

4. Conclusion

How much and how to tax high-income individuals is at the core of many recent proposals for incremental as well as fundamental tax reform. The right answer to these questions depends in part on value judgments to which economic analysis has little to contribute, but it also depends on standard economic concerns such as the process generating income, and whether these individuals' efforts generate positive externalities. How much and how to tax the rich also

depends critically on how they will respond to attempts to tax them, because other things equal it is wise to limit the extent to which they are induced to pursue less socially productive activities in order to avoid taxes. We can be sure that most of the rich, like most everyone else, will entertain ways to rearrange their affairs to reduce their taxes. Some Atlases do shrug, depending on the burden they are asked to bear. The real questions are, alas, less literary than the one Ayn Rand considered forty years ago: how much does Atlas shrug, and how much is too much to ask?

²¹ Slemrod (1994) constructs an example in which, at given suboptimal settings of the enforcement parameter, it is optimal to reduce that progressivity, while the true global optimum features more enforcement and more progressivity.

REFERENCES

- Alesina, Albert and Dani Rodrik (1994), "Distributive Politics and Economic Growth," Quarterly Journal of Economics, 104, 465-90.
- Allen, Franklin (1982), "Optimal Linear Income Taxation with General Equilibrium Effects on Wages," Journal of Public Economics, 17, 135-43.
- Atkinson, Anthony B. (1973), "How Progressive Should Income Tax Be?," in M. Parkin and A. R. Nobay (eds.), Essays in Modern Economics (London: Longman), 90-109.
- Auerbach, Alan J. and Joel Slemrod (1997), "The Economic Effects of the Tax Reform Act of 1986," Journal of Economic Literature, 35, 589-632.
- Avery, Robert and Arthur Kennickell (1991), "Household Saving in the U.S.," Review of Income and Wealth, 37, 4, 409-32.
- Barlow, Robin, Harvey E. Brazer, and James N. Morgan (1966), Economic Behavior of the Affluent (Washington, D.C.: Brookings Institution).
- Bell, Clive (1928), Civilization (New York: Harcourt, Brace, & Co.).
- Blinder, Alan S. (1980), "The Level and Distribution of Economic Well-Being" in M. Feldstein (ed.), The American Economy in Transition (Chicago: University of Chicago Press).
- Brownlee, W. Elliot (1997), "Historical Perspective on U.S. Tax Policy Toward the Rich," paper prepared for Office of Tax Policy Research pre-conference on the Economic Consequences of Taxing the Rich, April.
- Christian, Charles W. (1994), "Voluntary Compliance with the Individual Income Tax: Results from the 1988 TCMP Study," IRS Research Bulletin, 1993/1994, Publication 1500 (Washington, D.C.: Internal Revenue Service).

Cline, William R. (1972), Potential Effects of Income Distribution on Economic Growth: Latin American Cases (New York: Praeger).

Congressional Budget Office (1994), "An Economic Analysis of the Provisions of OBRA-93," Working Paper.

Crosland, C.A.R. (1963), The Future of Socialism (New York: Schocken Books).

Cutler, David M. and Lawrence F. Katz (1992), "Rising Inequality? Changes in the Distribution of Income and Consumption in the 1980's," American Economic Review, 82, 2, 946-51.

de Jouvenel, Bertrand (1990), The Ethics of Redistribution (Indianapolis: Liberty Press).

Deininger, Klaus and Lyn Squire (1996), "New Ways of Looking at Old Issues: Inequality and Growth," July.

Diamond, Peter (1996), "Optimal Income Taxation: An Example with a U-Shaped Pattern of Optimal Marginal Tax Rates," mimeo, Massachusetts Institute of Technology.

Edgeworth, Francis Y. (undated), On the Relations of Political Economy to War (London: Oxford University Press).

Feenberg, Daniel and James Poterba (1993), "Income Inequality and the Incomes of Very High-Income Taxpayers: Evidence from Tax Returns," In Tax Policy and the Economy, 7, James Poterba (ed.), (Cambridge: MIT Press) 145-77.

Feldstein, Martin (1973), "On the Optimal Progressivity of the Income Tax," Journal of Public Economics, 2, 357-76.

Feldstein, Martin (1976), "On the Theory of Tax Reform," Journal of Public Economics, 6, 7-64.

Feldstein, Martin (1995), "The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act," Journal of Political Economy, 103, 3, (June), 551-72.

- Feldstein, Martin (1996), "Tax Avoidance and the Deadweight Loss of the Income Tax," mimeo, Harvard University.
- Frank, Robert (1997), "Progressive Taxation and the Incentive Problem," paper prepared for the Office of Tax Policy Research pre-conference on the Economic Consequences of Taxing the Rich, April.
- Gallup, George, Jr. and Frank Newport (1990), "Americans Widely Disagree on What Constitutes 'Rich'," The Gallup Poll Monthly, July, 28-36.
- Galor, Oded and Joseph Zeira (1993), "Income Distribution and Macroeconomics," Review of Economic Studies, 60, 1, 35-52.
- Gilder, George (1981), Wealth and Poverty (New York: Basic Books).
- Gordon, Roger and Jeffrey MacKie-Mason (1990), "Effects of the Tax Reform Act of 1986 on Corporate Financial Policy and Organizational Form," in Joel Slemrod (ed.), Do Taxes Matter? The Impact of the Tax Reform Act of 1986 (Cambridge: MIT Press).
- Gramlich, Edward M., Richard Kasten and Frank Sammartino (1993), "Growing Inequality in the 1980s: The Role of Federal Taxes and Cash Transfers," in Sheldon Danziger and Peter Gottschalk (eds.), Uneven Tides: Rising Inequality in America (New York: Russell Sage Foundation).
- Hayek, Friedrich A. (1960), The Constitution of Liberty (Chicago: University of Chicago Press).
- Jencks, Christopher, with Marshall Smith, Henry Aulands, Mary Jo Bane, David Cohen, Herbert Gintis, Barbara Heyns, and Stephan Michelson (1972), Inequality: A Reassessment of the Effect of Family and Schooling in America (New York: Basic Books).
- Kaldor, Nicholas (1956), "Alternative Theories of Distribution," Review of Economic Studies, 23, 83-100.

- Kolko, Gabriel (1962), Wealth and Power in America (New York: Praeger).
- Kuznets, Simon (1955), "Economic Growth and Income Inequality," American Economic Review, 45, 1-28.
- Lenzner, Robert and Stephen S. Johnson (1997), "Seeing Things as They Really Are," Forbes, March 10, 122-8.
- Lewis, W. Arthur (1954), "Economic Development with Unlimited Supplies of Labour," Manchester School, 22, 139-91.
- Magee, Stephen P., William A. Brock and Leslie Young (1989), Black Hole Tariffs and the Endogenous Policy Theory, (Cambridge: Cambridge University Press).
- Mirrlees, James A. (1971), "An Exploration in the Theory of Optimum Income Taxation," Review of Economic Studies 38, 175-208.
- Mirrlees, James A. (1976), "Optimal Tax Theory: A Synthesis," Journal of Public Economics 6, 327-58.
- Musgrove, Philip (1980), "Income Distribution and the Aggregate Consumption Function," Journal of Political Economy 88, 504-25.
- Nozick, Robert (1974), Anarchy, State, and Utopia (New York: Basic Books).
- Nunns, James R. (1995), "Distributional Analysis at the Office of Tax Analysis," in David F. Bradford (ed.), Distributional Analysis of Tax Policy (Washington, D.C.: The AEI Press).
- Office of Tax Analysis, U.S. Treasury Department (1996), "'New' Arme-y-Shelby Flat Tax Would Lose Money, Treasury Finds," Tax Notes, January 22, 451-61.
- Perotti, Roberto (1996), "Growth, Income Distribution, and Democracy: What the Data Say," Journal of Economic Growth, 1, 149-87.

- Persson, Torsten and Guido Tabellini (1994), "Is Inequality Harmful for Growth?" American Economic Review 84, 3, 600-21.
- Rand, Ayn (1957), Atlas Shrugged (New York: Random House).
- Rawls, John (1971), A Theory of Justice (Cambridge: Harvard University Press).
- Reich, Robert B. (1991), The Work of Nations: Preparing Ourselves for 21st-Century Capitalism (New York: Alfred A. Knopf).
- Romer, Paul (1990), "Capital, Labor, and Productivity," Brookings Papers on Economic Activity, special issue, 337-420.
- Sadka, Efraim (1976), "On Income Distribution, Incentive Effects, and Optimal Income Taxation," Review of Economic Studies, 43, June, 261-8.
- Schmidt-Hebbel, Klaus and Luis Servén (1996), "Income Inequality and Aggregate Saving: The Cross-Country Evidence," Policy Research Working Paper No. 1561, The World Bank Policy Research Department, January.
- Seade, Jesus (1977), "On the Shape of Optimal Tax Schedules," Journal of Public Economics, 7, 203-36.
- Shackelford, Douglas A. (1997), "The Tax Environment Facing the Wealthy," paper prepared for the Office of Tax Policy Research pre-conference on the Economic Consequences of Taxing the Rich.
- Simons, Henry (1938), Personal Income Taxation (Chicago: University of Chicago Press).
- Slemrod, Joel (1983), "Do We Know How Progressive the Income Tax System Should Be?," National Tax Journal, 36, 361-9.
- Slemrod, Joel (1990), "Optimal Taxation and Optimal Tax Systems," Journal of Economic Perspectives, 4, 157-78.

- Slemrod, Joel (1992a), "Do Taxes Matter? Lessons from the 1980s," American Economic Review, 82, 2, 250-6.
- Slemrod, Joel (1992b), "Taxation and Inequality: A Time-Exposure Perspective," in James M. Poterba (ed.), Tax Policy and the Economy, 6 (Cambridge: MIT Press).
- Slemrod, Joel (1994), "Fixing the Leak in Okun's Bucket: Optimal Tax Progressivity When Avoidance Can Be Controlled," Journal of Public Economics 51, 41-51.
- Slemrod, Joel (1995a), "A General Model of the Behavioral Response to Taxation," Mimeo, University of Michigan.
- Slemrod, Joel (1995b), "What Do Cross-Country Studies Teach About Government Involvement, Prosperity and Economic Growth?," Brookings Papers on Economic Activity, 2, 373-431.
- Slemrod, Joel (1996), "High-Income Families and the Tax Changes of the 1980s: The Anatomy of Behavioral Response," in Martin Feldstein and James Poterba (eds.), Empirical Foundations of Household Taxation (Chicago: University of Chicago Press and NBER).
- Slemrod, Joel and Jon Bakija (1996), Taxing Ourselves: A Citizen's Guide to the Great Debate Over Tax Reform (Cambridge, MIT Press).
- Slemrod, Joel and Shlomo Yitzhaki (1996), "The Cost of Taxation and the Marginal Efficiency Cost of Funds," IMF Staff Papers, 43, 1, 172-98.
- Slemrod, Joel and Shlomo Yitzhaki (1997), "Tax Avoidance, Evasion, and Administration," mimeo, University of Michigan.
- Slemrod, Joel, Shlomo Yitzhaki, Joram Mayshar, and Michael Lundholm (1994), "The Optimal Two-Bracket Linear Income Tax," Journal of Public Economics, 53, 269-90.

- Sokoloff, Kenneth (1986), "Productivity Growth in Manufacturing During Early Industrialization: Evidence from the American Northwest, 1820 to 1860," in Stanley Engerman and Robert E. Gallman (eds.), Long-Term Factors in American Economic Growth (Chicago: University of Chicago Press).
- Stern, Nicholas H. (1976), "On the Specification of Models of Optimum Income Taxation," Journal of Public Economics, 6, 123-62.
- Tax Foundation (1996), "Latest Data Shows Trend Reversal: Top 1% Not Paying Larger Share of Federal Income Taxes," Tax Features, 40, 8, 1-2.
- Thurow, Lester (1975), Generating Inequality (New York: Basic Books).
- Turner, Frederick J. (1920), The Frontier in American History (New York: H. Holt & Co.)
- Varian, Hal (1980), "Redistributive Taxation as Social Insurance," Journal of Public Economics, 14, 49-68.
- Wedgwood, Josiah (1929), The Economics of Inheritance (London: G. Routledge & Sons).
- Weicher, John C. (1996), "The Distribution of Wealth, 1983-1992: Secular Growth, Cyclical Stability," Federal Reserve Bank of St. Louis Research Division Working Paper No. 96-012A.
- Williamson, Jeffery G. (1991), Inequality, Poverty, and History: The Kuznets Memorial Lectures, (Oxford: Basil Blackwell).
- Wolff, Edward N. (1997), "Who Are the Rich? A Demographic Profile of High-Income and High-Wealth Americans," paper prepared for Office of Tax Policy Research pre-conference on the Economic Consequences of Taxing the Rich, April.