

THE SUPERIORITY OF AN IDEAL CONSUMPTION TAX OVER AN IDEAL INCOME TAX

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This Article considers the arguments regarding the choice between an ideal income tax and an ideal consumption tax, focusing on an argument first made by Atkinson and Stiglitz regarding neutral taxation of commodities. This argument shows that, under its assumptions, a properly designed consumption tax is Pareto superior to an income tax: it is either more efficient, more redistributive, or both. The Article illustrates the Atkinson-Stiglitz argument using the simple case in which investments produce risk-free returns, and individuals vary by their ability. It then considers more complex cases, such as risky returns, inherited wealth, heterogeneous savings rates, and the possibility of additional returns to savings, such as power, prestige, and security. Finally, it examines qualifications to the argument and circumstances under which an optimal tax might provide for some taxation of interest income.

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INTRODUCTION

Perhaps the single most important tax policy decision is the choice between an income tax and a consumption tax. The topic has been discussed and argued over since at least the time of Hobbes and Mill, without apparent resolution.¹ Consumption and income taxes both represent substantial sources of revenue in all modern economies.

This Article considers the choice between an income tax and a consumption tax, focusing on an argument first made by Anthony Atkinson and Joseph Stiglitz in 1976 (“AS 1976”). AS 1976 shows (under the assumptions of the model) that taxes should be imposed on all commodities at the same rate—that is, taxes should be neutral. For reasons illustrated below, this conclusion implies that a consumption tax is superior to an income tax. AS 1976 has recently attracted substantial attention in the economics literature but, perhaps because the arguments are technical, has yet to receive any attention in the legal literature.² Our primary task here is to explain the intuition behind AS 1976 and explore its implications for the income tax versus consumption tax debate. In addition, we examine what happens when some of the strict assumptions of AS 1976 are relaxed and, in doing so, revisit a number of arguments that have been made in favor of income taxes. We conclude that, based on current understanding, ideal consumption taxes are superior to ideal income taxes.

We will generally compare only the ideal forms of income and consumption taxation. The actual choice of a tax system has to be based on

1. The literature is immense. *See, e.g.*, ALAN J. AUERBACH & LAWRENCE J. KOTLIKOFF, *DYNAMIC FISCAL POLICY* (1987); DAVID F. BRADFORD & THE U.S. TREASURY TAX POLICY STAFF, *BLUEPRINTS FOR BASIC TAX REFORM* (2d ed. 1984); IRVING FISHER, *THE NATURE OF CAPITAL AND INCOME* (1906); THOMAS HOBBS, *LEVIATHAN* (1651); NICHOLAS KALDOR, *AN EXPENDITURE TAX* (1955); JOHN STUART MILL, *PRINCIPLES OF POLITICAL ECONOMY* (1871); DANIEL SHAVIRO, *WHEN RULES CHANGE* (2000); David F. Bradford, *The Case for a Personal Consumption Tax*, in *WHAT SHOULD BE TAXED: INCOME OR CONSUMPTION?* 75 (Joseph A. Peckman ed., 1980); William Andrews, *A Consumption-Type or Cash Flow Personal Income Tax*, 87 *HARV. L. REV.* 1113 (1974); Barbara H. Fried, *Fairness and the Consumption Tax*, 44 *STAN. L. REV.* 961 (1992); Michael Graetz, *Implementing a Progressive Consumption Tax*, 92 *HARV. L. REV.* 1575 (1979); Alvin Warren, *Would a Consumption Tax Be Fairer than an Income Tax?*, 89 *YALE L.J.* 1081 (1980).

2. There are some hints of the argument in the legal literature but no cites to the paper. For example, prior to the publication of AS 1976, Andrews suggested a similar argument. Andrews, *supra* note 1, at 1174-75. Daniel Shaviro recently made an argument similar to AS 1976. Daniel Shaviro, *Replacing the Income Tax with a Progressive Consumption Tax*, 103 *TAX NOTES* 91 (2004). The economics literature has also not fully absorbed their argument. For example, JANE GRAVELLE, *THE ECONOMIC EFFECTS OF TAXING CAPITAL INCOME* (1994), makes arguments that were refuted in AS 1976.

AS 1976 has been cited in the legal literature with respect to a related but distinct consideration: whether legal rules should be used to redistribute income. *See, e.g.*, Louis Kaplow & Steven Shavell, *Why the Legal System Is Less Efficient than the Income Tax in Redistributing Income*, 23 *J. LEGAL STUD.* 667 (1994).

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how the system would be implemented, focusing on administrative and compliance costs. Neither an income tax nor a consumption tax would likely be implemented in its pure form, and differences in administrative and compliance costs might be dispositive in the choice between the two. Nevertheless, it is worth examining the ideal forms for two reasons. First, determining which ideal form is most desirable helps us design actual systems and helps us understand the flaws of actual systems—ideals matter in tax reform.

Second, the case for the income tax is likely to be strongest if the comparison is made between ideal forms. This is true because the income taxes we have had for almost a century are much worse than the ideal income tax, and they contain structural features that make reform difficult. For example, an ideal income tax would tax the change in the value of investments each year. Under existing law, the change in investment value is taxed only if it is “realized” in the form of a sale or exchange. The so-called realization requirement is responsible for much of the current complexity and distortion. Elimination of that requirement, however, raises difficult liquidity and valuation issues and, in part for those reasons, has never been seriously considered. An ideal income tax would also measure gain and loss on an inflation-adjusted basis. Inflation adjustments, while possible, would be difficult and also have never been seriously considered. A consumption tax raises neither of these difficulties, and most scholars believe that a consumption tax is easier to administer, and can be administered in purer form, than an income tax. By comparing ideal systems and ignoring administration costs, we are deliberately making the best possible case for the income tax. If a consumption tax is superior to an income tax even ignoring the major implementation problems of an income tax, it follows that a consumption tax will be even more desirable once those problems are taken into account.

Part I of this Article presents the core argument, focusing on the simplest case, in which investments produce only risk-free, time-value returns, and individuals vary by their ability. Income taxes tax the risk-free return while consumption taxes do not. In this simple world, the AS 1976 arguments show that a consumption tax can be structured to be a Pareto improvement over an income tax. Importantly, this argument addresses both efficiency and redistributive concerns. Everyone is equally well off or better off under a properly designed consumption tax. It is either more efficient, more redistributive, or both.

The AS 1976 model, like all models, contains assumptions and simplifications. To understand the practical impact of the AS 1976 arguments, we need to understand the realism of the assumptions and the effect of relaxing them. The remaining Parts of the Article consider these issues. We consider the four most prominent issues and show that the conclusions from the simplified world of only risk-free investments carry through, almost in their entirety, to more realistic cases.

Part II considers the taxation of risky returns and economic profits.

Extension of the basic case to risky returns and profits is straightforward. There is a long line of literature showing that ideal, flat-rate income and consumption taxes treat risky returns and economic profits the same way, leaving the risk-free rate of return as the only difference, as discussed in Part I. Part II very briefly explains this literature and then discusses whether imposing graduated rates on capital income changes the conclusions.

Part III considers how labor income and wealth are related and the extent to which the possibility of wealth without labor income affects the arguments. One might think, for example, that because they tax capital income, income taxes are better at capturing the benefits of inheritances. Part III shows that if correctly implemented, a consumption tax can tax such wealth; therefore, such wealth should not affect the choice between the two tax bases.

Part IV considers the difference between spenders and savers and whether savers are better off in a manner that would support an income tax. The basic argument given in Part I assumes that within an earnings or ability class, individuals make similar savings decisions. In the real world, there may be significant heterogeneity in savings, and this heterogeneity has been thought by some to support an income tax. Part IV argues that it does not.

Part V examines the argument that savings brings prestige, power, and security and that the benefit of savings is more than future consumption. This extra benefit of savings is thought by some to support an income tax. Part V shows that this is not the case. Consumption taxes properly tax the benefits from savings.

The AS 1976 model, like all models, is subject to a number of qualifications and extensions. The economics literature examining and extending AS 1976 is large and complex. Our goal here is to explore the core arguments that arise from the literature and their practical implications. Newer models show that a complete, optimal tax analysis could produce exotic taxes that look like neither a pure consumption tax nor a pure income tax. These models may also help explain deviations from pure income and consumption taxes (such as deductions granted to particular types of individuals or activities) that might otherwise seem troubling. In Part VI, we will briefly discuss the possibility that newer models might show that a tax on savings is desirable.

Before we begin the analysis, we should clarify our terminology and the origins of the ideas explored here. Throughout the Article, we will refer to the argument as originating with AS 1976 because that paper was the first in a line of papers on the topic. AS 1976 and many later papers in the economics literature analyzed the problem of taxation by assuming that there was a perfectly designed and implemented labor income or consumption tax in place and asked whether any small perturbations from such a tax were desirable.³ An

3. The literature taking this approach is large. See, e.g., Joseph E. Stiglitz, *Pareto Efficient and Optimal Taxation and the New Welfare Economics*, in 2 HANDBOOK OF PUBLIC ECONOMICS 991 (Alan J. Auerbach & Martin Feldstein eds., 1987); Robin Boadway

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alternative method of analyzing the problem was first developed by Hylland and Zeckhauser and substantially strengthened and extended by Kaplow.⁴ This method uses a “replicating tax” argument. It starts with a nonneutral commodity tax and shows how to construct a Pareto superior neutral tax. This latter method of analyzing the problem has two key strengths. First, it extends the result to cases in which a labor income or commodity tax is not optimal, which is extremely important for applying the argument to the real world. Second, the analysis is more direct and intuitive. We follow the Hylland/Zeckhauser and Kaplow method of analysis here; to avoid constant parsing of which paper in the economics literature developed which idea, however, we simply refer to the entire literature as AS 1976.

I. THE CORE ARGUMENT

A. *Basic Definitions and Relationships Between the Bases*

We begin with the simplest case. We assume in this Part that investments produce only the risk-free, time-value return and that individuals vary by their ability to earn. All of the AS 1976 intuitions can be illustrated in this simple case. We relax these strict assumptions in later Parts.

As is well known, the difference between an income tax and a consumption tax is the taxation of the return to savings or capital income. In a consumption tax, the risk-free return to investing is exempt, while in an income tax, the return is taxed.

A consumption tax, as a matter of legal implementation, is imposed on consumption and not on labor, but it is economically equivalent to a tax on labor earnings. The reason is that on a going-forward basis, there are two sources of consumption: earnings from labor (wages) and earnings from capital. If, under a consumption tax, capital income is not taxed, all that is left to tax is wages.⁵

et al., *Redistribution with Unobservable Bequests: A Case for Taxing Capital Income*, 102 SCANDINAVIAN J. ECON. 253 (2000); Helmuth Cremer et al., *Direct Versus Indirect Taxation: The Design of the Tax Structure Revisited*, 42 INT’L ECON. REV. 781 (2001); Angus Deaton, *Optimal Taxes and the Structure of Preferences*, 49 ECONOMETRICA 1245 (1981); Roger H. Gordon, *Taxation of Interest Income*, 11 INT’L TAX & PUB. FIN. 5 (2004); J.A. Mirrlees, *Optimal Tax Theory*, 6 J. PUB. ECON. 327 (1976); Joseph E. Stiglitz, *Self-Selection and Pareto Efficient Taxation*, 17 J. PUB. ECON. 213 (1982).

4. See Aanund Hylland & Richard Zeckhauser, *Distributional Objectives Should Affect Taxes but Not Program Choice or Design*, 81 SCANDINAVIAN J. ECON. 264 (1979). Hylland and Zeckhauser’s article was substantially strengthened and extended by Louis Kaplow, *On the Undesirability of Commodity Taxation Even When Income Taxation Is Not Optimal* (Harvard John M. Olin Ctr. for Law & Econ., Discussion Paper No. 470, 2004) [hereinafter Kaplow, *Undesirability of Commodity Taxation*], and Louis Kaplow, *Taxation and Redistribution*, ch. 6 (unpublished manuscript, on file with authors).

5. There are significant differences between the two in actual implementation. For example, not all labor earnings are paid out as wages, which means that a wage tax might

Another way to see that a consumption tax is a tax on labor earnings is to imagine a consumption tax imposed when consumption goods are purchased, as is the case in a retail sales tax. The tax on purchases will reduce the value of a dollar earned in exactly the same way that a direct tax on earnings would. For example, suppose all commodities face a 30% tax when purchased.⁶ If an individual has \$100 of labor earnings, he can consume only \$70 of goods. The benefit of working hard enough to earn \$100 has been reduced by 30%. We could equivalently have taxed the \$100 when earned, leaving the individual with \$70 to spend as he pleases.

Note that a tax on consumption purchases does not burden capital income. Suppose, for example, the individual, subject to the retail sales tax, waits until next year to consume, investing his \$100 in the market at a 10% rate of return. He will have \$110 next year and will be able to consume \$77 after paying the 30% taxes on his purchases. This result is the same as if we taxed his labor income when earned at 30%, and he invested his after-tax \$70 in the market at a 10% rate of return.

When we refer to an ideal, neutral, or uniform consumption tax, we mean that the consumption tax is imposed at the same rate on all consumption. Note that this includes consumption occurring in different time periods as well as different forms of consumption in the same period. For example, the 30% retail sales tax considered above imposes the same 30% rate on consumption whenever it occurs. A nonneutral or nonuniform consumption (or commodity) tax imposes different tax rates on different commodities or forms of consumption. For example, a nonneutral consumption or commodity tax might impose a 20% rate on one type of good and a 40% rate on another.

Neutral consumption taxes can be progressive. Individuals with more consumption can face higher average or marginal tax rates even while those rates are imposed uniformly on all of their purchases. The easiest way to envision this progressivity is through a wage tax with graduated rates, but there are other methods of implementing such a system.⁷

not capture all labor income. A wage tax will also not tax economic profits, while a well-designed consumption tax will.

6. Throughout, we will use tax-inclusive terminology, so that a 30% tax on a \$100 purchase includes the tax paid, leaving only \$70 of goods. We could alternatively express the same tax as a 43% tax on the \$70 purchase. Taxpayers in this case would purchase \$70 of goods and pay an additional tax of \$30, leaving them \$100 out of pocket. It is common to express retail sales or commodity taxes on a tax-exclusive basis and wage taxes on a tax-inclusive basis. To avoid switching between the two methods of expressing taxes, we use only tax-inclusive terminology here.

7. One system that has received substantial attention in recent years is a value-added tax (VAT) that allows a deduction for wages and imposes a tax on wages at the individual level at increasing marginal rates. This system has been proposed under various names, such as the Flat Tax, the X-Tax, and the SAT. See DAVID F. BRADFORD, *UNTANGLING THE INCOME TAX* (1986); ROBERT E. HALL & ALVIN RABUSHKA, *THE FLAT TAX* (2d ed. 1995); Charles McLure, *Economic, Administrative, and Political Factors in Choosing a General*

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An ideal income tax, like an ideal consumption tax, will impose the same nominal rate on the entire tax base (and, like a consumption tax, can be made progressive by imposing graduated marginal rates, among other methods). Because it taxes the returns to savings, however, an income tax can be thought of as imposing a higher rate of tax on future consumption than on current consumption. To see this, recall the Haig-Simons definition of income as the sum of consumption plus change in wealth in a given time period. The first component, consumption, is just like an ideal consumption tax (uniform on all consumption) and taxes all consumption, whether present or future, at the same marginal rate. The second component, the tax on the return to savings, reduces the benefit of savings, making future consumption relatively more expensive than current consumption.

We can (and will) think of an income tax as a nonneutral consumption (or sales or commodity) tax in the sense that it imposes different rates on consumption choices in different time periods. That is, the choice between an income tax and consumption tax can be seen as part of the more general question of whether any uneven or nonneutral commodity tax is desirable.

To illustrate this numerically, consider an individual, *Z*, who earns \$100 in period one and is considering whether to spend the sum in period one or two. Assume arbitrarily that the pretax rate of interest is 5%. Absent taxes on interest income, *Z* could either consume \$100 of goods in period one or save the \$100, earn 5%, and consume \$105 of goods in period two. The \$105 of goods in period two have a present value to the individual of \$100. Assume now that the return to savings is taxed at a 40% rate and is thus reduced to 3%. *Z* now must choose between consuming \$100 in period one or \$103 in period two. This reduction from \$105 to \$103 has the same effect as a sales tax of about 2% on consumption in period two. If discount rates remain constant at 5%, the market value of available period two consumption drops to \$98.10.⁸

The effective tax rate levied on future-consumed goods increases as the time of consumption grows more distant. If, in the above example, consumption is deferred for three years, the tax reduces available consumption from \$116 to \$109—the equivalent of a sales tax of 6.4%. After thirty years, the amount available is reduced from about \$430 to \$240. This is equivalent to a sales tax of approximately 80%. The choice between an income tax and a consumption tax can be restated as the question of whether such a sales tax is desirable. As such, this question is part of the general issue of whether and when nonneutral commodity taxes are desirable.

Consumption Tax, 46 NAT'L TAX J. 345 (1993).

8. The burden to *Z* of the sales tax would be reduced to the extent the tax is borne by borrowers; to the extent that occurs, the before-tax rate of return will rise. The incidence of the tax, however, does not change its characterization as a sales tax. Sales taxes may also be shifted between buyers and sellers.

B. Arguments for an Income Tax

There is a large literature on the choice between an income tax and a consumption tax, split in its support of one or the other.⁹ While there are numerous arguments on the issue, we believe that there are three reasons why many prefer an income tax to a consumption tax. The first is an efficiency argument, which concludes that the determination of whether a consumption tax is more efficient than an income tax depends on empirically unknowable or indeterminate facts and that, therefore, there should be no presumption that one is more efficient than the other. The second is that an income tax is better at redistribution. This argument states that since the efficiency effects of the choice between a consumption and an income tax are ambiguous and possibly unknowable but there are clear distributive gains under the income tax system, we should support an income tax. The third argument is that wealth is thought to bring a host of benefits, such as power, prestige, and security and an income tax is more effective than a consumption tax at taxing these benefits.

The efficiency argument, which we will call the “tradeoff theory,” compares the relative distortions of an income tax and those of a consumption tax. A consumption tax does not tax the return to savings. This means that savings decisions are undistorted, and individuals choose the optimal amount to consume at each date. A consumption tax does, however, tax labor earnings, which means that decisions about how much to work are distorted. An income tax taxes the return to savings, which means that future consumption is relatively more expensive, and savings decisions will be distorted. The claimed advantage of an income tax, however, is that, by taxing the returns to savings, the tax rate on labor earnings can be lower; thus, work decisions are distorted less under an income tax than they are under a consumption tax. Whether a consumption tax or an income tax is more efficient depends on the relative elasticities of savings and work effort. As stated by one prominent economist:

The efficiency effects [of the choice between an income tax and a consumption tax] depend on assumptions about behavioral effects. If individuals are relatively unwilling to substitute consumption over time and relatively willing to substitute leisure for consumption of goods, then a significant tax on capital income would constitute part of an optimal tax system. These behavioral effects are difficult to estimate empirically.¹⁰

This same argument is repeated in the most recently published public finance

9. See *supra* note 1 for a partial list of papers.

10. GRAVELLE, *supra* note 2, at 31. Readers will recognize the tradeoff theory as Ramsey tax theory. Under Ramsey taxation, we should levy a tax on goods with low elasticity of demand because the quantities consumed are likely to change less when subject to taxation as compared to goods with high elasticities, thus minimizing deadweight loss. Moreover, distortion rises with the square of tax rates, which means that the tax base should be broad; the distortion from the first dollar of tax on one commodity is very likely to be smaller than the distortion from the *n*th dollar of tax on another commodity.

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textbook, which is intended to summarize economists' basic understanding of these issues.¹¹

The second reason for supporting an income tax is distributive. Income taxes are thought to have better distributive consequences than consumption taxes. One version of this argument is that failure to tax returns to savings leaves enormous pools of wealth untaxed, creating vast inequalities in our society. Much of that wealth is created because of general societal conditions—such as property rights, an effective government, the legal system, educated workers, natural resources, and protection from invasions—which have nothing to do with the fortunate (although also skilled and hard-working) individual who earns great wealth as a result. Society has a right to distribute that wealth as it sees fit, and it is just and fair to use it to reduce inequality.¹²

The more technical version of this argument is that transferring a dollar from the wealthy to the poor increases welfare because the marginal utility of that dollar to a wealthy person is likely to be lower than it is to a poor person.¹³ If utility goes up with income from capital as well as with income from labor, both should be used as a basis for redistributing. This would seem to be true—someone with a large trust fund is unlikely to value another dollar as much as someone working two jobs just to scrape by. Redistributing one dollar from the trust-fund baby to the working poor is likely to increase overall welfare. Paris Hilton very likely has a much lower marginal utility of money than someone slaving in the salt mines sixty hours a week to support his family. Redistribution from Paris Hilton to the worker makes sense.

The third, often-repeated argument for an income tax is that wealth brings benefits beyond the value of future consumption. For example, wealth is said to bring security, prestige, and power. Some have argued that only an income tax can tax this wealth and corresponding benefits and, therefore, redistribute in ways that even a highly progressive consumption tax cannot. Given the importance that these commentators put on redistribution, they conclude that an income tax is desirable.

AS 1976 shows that a properly designed consumption tax is Pareto superior to an income tax. It is either more efficient (holding distribution constant), more redistributive (holding efficiency constant), or both, which

11. JONATHAN GRUBER, *PUBLIC FINANCE AND PUBLIC POLICY* 708 (2005). Gruber claims that “[g]iven the evidence that labor supply is fairly inelastic . . . most economists think efficiency would rise with a consumption tax that shifts the burden of taxation for savings to labor. Given the lack of evidence on the response of savings to its after-tax return, however, such a conclusion is only tentative.” *Id.*

12. See STEPHEN HOLMES & CASS R. SUNSTEIN, *THE COST OF RIGHTS* (1999); LIAM MURPHY & THOMAS NAGEL, *THE MYTH OF OWNERSHIP: TAXES AND JUSTICE* 101 (2002); Warren, *supra* note 1.

13. This may not be true in every case. Some wealthy people may crave additional wealth more than the poor. But given that we must make some assumption about utility, an assumption of declining marginal utility of wealth seems to be an unproblematic assumption.

means that the efficiency and distributive arguments are incorrect. We also argue that the “wealth as more than future consumption” argument is incorrect, reserving discussion of this issue for Part V.

*C. The AS 1976 Argument—Efficiency*¹⁴

The tradeoff theory argues that an income tax might possibly be more efficient than a consumption tax because it reduces the tax on labor income while increasing the tax on capital income. Depending on the relevant elasticities, an income tax might be preferable. AS 1976 shows that the tradeoff theory is incorrect because it misses one of the effects of a tax on the return to savings. In particular, a tax on the return to savings, or any nonneutral commodity tax, has two effects. As widely noted, a tax on the return to savings distorts savings decisions by reducing the benefit of saving. In addition, it distorts work effort in exactly the same manner as if the work had been taxed directly. Thus, the income tax has the same effect on work as a consumption tax, but it also distorts savings decisions. A tax on savings distorts work effort for the simple reason that it lowers the payoff from work. Individuals who work today, planning on consuming in the future, will be able to consume less in the future for a given hour of work exactly as if their wages were taxed directly. Thus by ignoring the latter effect, the tradeoff theory gets the efficiency calculus wrong.

We first illustrate this by using a generic, nonuniform consumption tax and then by showing how it applies in the case of taxes on the return to savings. Recall that a uniform tax on consumption is equivalent to a tax on labor because it reduces the return from working just like a direct tax on labor would. For example, suppose an individual who earns \$100 can spend his earnings on two goods, prunes and figs, each of which is taxed at a 30% rate when purchased. This consumption tax is equivalent to a 30% tax directly on labor income. The individual faces exactly the same set of choices under both taxes—each hour of labor brings the same ability to purchase the goods. The individual, therefore, will behave the same way under each tax, and the efficiency costs—the distortion in work effort (the so-called labor/leisure distortion)—of the two taxes are the same. Moreover, if the individual behaves the same way, government revenues will be the same under the two regimes.¹⁵

14. Looking only at efficiency is, in an important sense, contrary to one of the key points of AS 1976. The authors in AS 1976 argue that Ramsey-type efficiency analysis is wrong because if we eliminate redistribution from the analysis, the most efficient tax is a head tax. Once redistribution is added back in, a wage tax best distinguishes among individuals on the basis of their abilities. AS 1976 never considers the pure efficiency argument. The discussion in the text treats efficiency separately merely to give the spirit of the argument before moving on to the more complex case with redistribution.

15. If the individual defers consumption, the government will receive the revenues at a different point in time, but with the same present value.

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Suppose instead of a uniform 30% tax on figs and prunes, the tax on prunes was reduced to 20% and the tax on figs increased to 40%. The obvious effect of such a tax is to distort the choice between prunes and figs. As has long been noted, a nonuniform tax distorts the choice of which goods to purchase.¹⁶ Absent good reasons, we would not want the tax system to tilt the market-determined choice between prunes and figs (or among commodities more generally).

A second, and key, effect of the nonuniform consumption tax is that it burdens labor just like the uniform tax. Suppose that under the nonuniform tax, the individual spent \$50 on figs (including the tax on figs) and \$50 on prunes (including the tax on prunes). The individual would have \$70 of after-tax consumption.¹⁷ The result is the same as the uniform tax on consumption: his work effort brings him only \$70 of value, as measured by the market, reducing the return to work exactly as if his labor had been taxed directly.¹⁸ Thus, the two effects of the nonuniform tax are to distort the choice between prunes and figs and to distort labor effort exactly as if labor had been taxed at a 30% rate.¹⁹

Suppose we substitute the nonuniform 20%/40% tax on prunes and figs with a uniform 30% tax. The individual's work effort is taxed in exactly the same way in the previous two cases. In both cases, the time it takes him to earn \$100 will produce consumption of \$70. The efficiency cost with respect to work—the labor/leisure distortion—is unaffected. The choice between prunes and figs, however, is improved because relative market prices are preserved. The nonuniform tax increased the price of figs relative to prunes, and the uniform tax restores the balance. In particular, under the uniform tax, the individual can consume the same bundle as before (\$30 of figs, \$40 of prunes), but now that the relative prices have changed, he can also adjust his consumption to better reflect market prices. The uniform tax is strictly more efficient.²⁰

One way to think of the issue is to “renormalize” the nonuniform 20%/40% tax as a direct 30% tax on labor income and a 10% subsidy for prunes financed

16. GRAVELLE, *supra* note 2, at 51.

17. He pays \$50 for figs, but this includes a 40% tax on that amount, or \$20, leaving him with \$30 of actual figs. He pays \$50 for prunes, but this includes \$10 of taxes, leaving him with \$40 of actual prunes. Therefore, \$30 of figs and \$40 of prunes makes \$70 total.

18. If the individual spent a different amount on prunes and on figs, the effective tax rate on labor would be different, but the principle would be the same. Part II.D deals with the case where individuals with different earnings choose different amounts of commodities. Part IV deals with the case where individuals with similar earnings choose different amounts of different commodities.

19. The distortion of the fig/prune choice will reduce the subjective value of the goods he can purchase through his labor and, in that sense, will reduce the return to labor more than a 30% wage tax. *See infra* note 22.

20. Note also that the uniform tax raises the same revenue as the 20%/40% tax, \$30, so the government is indifferent.

by a 10% tax on figs.²¹ The overall tax on figs would be the 30% tax on labor and the 10% direct tax on figs, or 40%. Similarly, the overall tax on prunes would be the 30% tax on labor less the 10% subsidy for prunes, or 20%. Formulated this way, we can see directly both effects of the nonuniform tax. It distorts labor effort just like a direct tax on labor; in addition, it distorts the choice of which commodities to consume, here subsidizing prunes and penalizing figs. Unless there is some reason for subsidizing prunes and penalizing figs, we would not want to have the nonuniform tax.

The use of prunes and figs is intended to hint at consumption in the present and in the future. To see the connection, recall that we can view an income tax as a nonneutral commodity tax because it imposes higher rates on future consumption than on present consumption. It is just like the 20%/40% tax on prunes and figs. The tax on future consumption (figs) reduces the return to labor because the individual knows that each hour of effort produces fewer goods at the future date. The tradeoff theory misses the effect of the tax on the return to savings on labor effort. Moreover, the tax on the return to savings is less efficient than a pure labor tax because, in addition to raising revenue, it distorts savings decisions. The result does not depend at all on the relative elasticity of savings and labor. A wage tax is more efficient even if labor income is highly elastic and savings highly inelastic.²²

To illustrate, suppose that an individual plans to save half of his earnings for retirement in twenty-five years, that the rate of return on his savings is 5%, and that he is subject to a 20% income tax. As noted, we can think of this income tax as a uniform tax on all consumption plus an additional tax on future consumption due to the tax on investment returns. Under these numbers (picked to match the prune/fig example), the tax on present consumption is 20%. Future consumption is taxed more heavily because the rate of return on investments is reduced from the pretax 5% to the after-tax 4%. If we treat the reduction in year-25 consumption as an additional tax on that consumption, the rate would be roughly 20%.²³ The total tax on future consumption would then

21. Kaplow, *Undesirability of Commodity Taxation*, *supra* note 4, introduces this type of renormalization in his extension of AS 1976.

22. Said another way, to have any force, the tradeoff theory has to assume that the tax on figs or on future consumption does not affect labor effort but only affects the choice between figs and prunes, future and present. Although the effect on labor effort is relatively easy to miss, once it has been pointed out, it is hard to see a justification for such an assumption. Perhaps one can offer various psychological theories for why people misperceive the effect of various taxes, but the tradeoff theory purports to apply standard economics, and such an assumption is entirely unjustified within standard economics. A tax on future consumption reduces the value of work today and, therefore, has the same distorting effect as a direct tax on that work.

23. Calculated as follows: Suppose the individual invests \$100 at the pretax rate of interest of 5% for twenty-five years. He would have \$339 to consume. The tax on the interest reduces the return to 4% and the amount available at retirement to \$267. The reduction in retirement consumption is the difference, or \$72. Translating this to the present,

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be 40%, matching the prune/fig example.

The individual would face the same choices as the individual in the prune/fig example. His choice of when to consume, like the choice between prunes or figs, would be distorted by the nonuniform tax. Moreover, his return to work would be reduced both by the 20% tax on all consumption, during whatever period, and by the additional tax on any future consumption. Continuing with the same numbers as the prune/fig example, suppose that, facing these rates, he invested half his earnings for consumption in the future and spent the other half in the present. For each hour he works, he would know that the overall tax rate was a blend of the tax rate on immediate consumption and the tax on future consumption. Overall, his labor would face a tax rate of 30%, and he would adjust his work effort accordingly. We can, like in the prune/fig case, think of the tax as a 30% tax on all consumption (or labor) and a 10% subsidy for present consumption financed by a 10% tax on future consumption.

Suppose we replace the 20% income tax with a 30% consumption or wage tax. The individual will face the same tax on labor. The time it takes to earn \$100 will, in both cases, bring \$70 of consumption (in present value terms). With the 30% consumption tax, however, there is no tax distorting the choice between consuming today and consuming in the future. This choice, therefore, can be made more efficiently. The 30% consumption or wage tax is strictly more efficient than the 20% income tax. There is no tradeoff.

At the risk of belaboring the issue, we want to extend the prune/fig example by explicitly adding wage income and a wage tax. We do so both to further illustrate the efficiency arguments made here and to set the stage for considering redistribution in the next Part. We use prunes and figs rather than present and future merely to avoid the complexities of present value calculations.

Consider a person (whom we will call "Middle" in the next Part when we consider redistribution) who has wage income of \$50,000 and spends it on two goods, prunes and figs. Suppose we have a wage tax of 50% and a tax on figs of 50% but no separate tax on prunes. Given these taxes, Middle has \$25,000 remaining after paying wage taxes to spend on prunes and figs. Suppose Middle spends \$20,000 on prunes and \$5000 on figs (consisting of \$2500 on figs and \$2500 in taxes on the figs).²⁴ Of the \$50,000 earned, he pays \$27,500 in taxes and gets \$22,500 in consumption in return for the labor effort. We may assume that the tax has also distorted Middle's choice of whether to eat figs or

it is equivalent to imposing an immediate tax on retirement savings of \$21 but allowing the savings to grow tax-free.

24. We are assuming that the tax on figs is 50% of the total amount paid, including taxes. Alternatively, the tax could be stated on a tax-exclusive basis, in which case it would mean that Middle spends \$3333 on figs and pays taxes of \$1667. It doesn't matter which method is used, as long as the numbers are all done consistently through the remainder of the example.

prunes; while he still eats figs, he eats fewer figs than he would if they were not subject to the additional tax.

The technique used above was to find a tax, which we will call the replicating tax, that falls only on labor income or consumption and that provides the government the same revenue as the nonneutral tax. In our example, Middle pays \$27,500 in taxes and gets \$22,500 in consumption. The replicating tax would be a tax of \$27,500 on wages of \$50,000, or a 55% tax. Middle will now have \$22,500 left after paying the wage tax and will have the same amount available for consumption as before. However, Middle will be better off because the choice between prunes and figs is no longer distorted by taxes. The replicating tax, therefore, is a Pareto improvement over the 50% wage/fig tax—Middle is better off, and the fisc is equally well off.²⁵

The key fact missed by the tradeoff theory is that the tax on figs reduces

25. We use prunes and figs rather than present/future in the text because examples using present value calculations tend to be numerically complex. The same principles apply in the present/future context. To illustrate, suppose that in year 1, taxpayer *T* receives wages of \$50,000 when the income tax rate is 50%. He pays \$25,000 in wage taxes, consumes \$12,500 and invests \$12,500 at 10% to produce \$13,781 in after-tax consumption in year 2. The Treasury receives \$25,000 in year 1 and \$1344 in year 2, or \$25,955.24 in year 1 present value.

Now assume that (1) the tax on interest income is eliminated, (2) the tax rate on wages is increased to 51.1367%, and (3) amounts saved in year 1 are subject to a tax of 2.3% while amounts spent on consumption get a subsidy at the same rate. *T* and the Treasury can achieve exactly the same results as under the income tax.

In year 1, *T* pays wage taxes of \$25,568.18 ($0.51136 \times \$50,000$), and divides his after-tax wages of \$24,431.82 equally between spending and saving. The savings of \$12,215.91 are reduced by a tax of \$284.09 ($0.023 \times$ the saved amount), which is used to subsidize the spending, so *T* has after-tax year-1 consumption of \$12,500 ($\$12,215.91 + \284.09). *T*'s year-1 after-tax savings of \$11,931.82 ($\$12,215.91 - \284.09) produces year-2 consumption of \$13,125.00 ($\$11,931.82 \times 1.1$).

T's responses to the income tax and the reconstructed tax should be identical because the opportunities are identical under the two systems. Therefore, the distortion of his choice between labor and leisure under both taxes must be due to an effective tax rate of 51.136% on wages, not the nominal rate of 50% under the income tax. *T*'s choice between savings and spending is also identically distorted under the two taxes. Elimination of the second distortion by adopting an explicit wage tax of 51.1367% (without the tax on savings and subsidy for spending) must, therefore, be more efficient because it eliminates the second distortion without increasing the first. When substituting a wage tax for an income tax, there is no additional distortion caused by the higher wage tax rate, so the efficiency gains from eliminating interest taxation do not have to be weighed against any efficiency losses from increasing wage taxation. We thank Al Warren for this example.

There is an important and subtle difference between the adjustments to the tax schedule described here and that found in much of the literature, such as those by Kaplow, *supra* note 4. Kaplow's approach is to adjust the wage tax to hold utility constant and show that this raises more revenue than the alternative, nonneutral tax. We adjust the wage tax to keep revenue rather than utility constant. Our adjustment is based entirely on an observable variable—the revenue raised at each wage level under the commodity tax. By basing the adjustment on an observable variable, however, we give up flexibility in how the Pareto improvements are distributed.

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Middle's labor effort. Assuming he wants to eat some figs,²⁶ Middle will know that each hour of work will produce fewer figs than it had without the tax. Work is correspondingly less rewarding to Middle, just as if it were taxed directly. Moreover, the tax on figs is an inefficient tax on labor because in addition to paying the explicit tax, Middle will suffer an additional decline in welfare to the extent the tax has led him to substitute prunes for his preferred good, figs. Replacing the tax on figs with a small increase in wage tax will eliminate this latter form of welfare loss. This result will hold any time the tax causes Middle to substitute prunes for figs. He will pay an explicit tax and suffer an additional decline in welfare due the substitution away from his preferred good. The pure wage tax will always eliminate this latter form of welfare loss. We do not have to know anything about the so-called Ramsey factors—the relative elasticities of figs or prunes—to know that the replicating tax, a pure wage tax, is more efficient than the nonneutral tax.²⁷

The argument applies equally to present and future consumption. An income tax is like the tax on figs. It imposes an additional tax on future consumption that both burdens labor and distorts the decision of when to consume. A replicating tax is strictly more efficient.

Note that the argument does not depend on the usual arguments for taxing consumption. For example, the argument does not depend on what one thinks about the alleged unfairness of taxing income twice, once when it is earned and once when it is invested and earns interest.²⁸ The number of times an item is taxed is irrelevant. (Ten taxes at 1% should equal one tax at 10%.) Similarly, the argument does not rely on common-pool reasoning²⁹ or equal-sacrifice ideas.³⁰ It also does not require us to view interest income as compensation for the pain of deferring consumption.³¹ Instead, we need merely to view the interest rate as setting the price of goods to be consumed in the future and a tax on interest income as increasing that price. Given that a person saves (other than with respect to his last, marginal dollar of savings), he very much likes that price and is better off for taking it. Therefore, he is more than compensated by interest for the pain of deferring consumption. This fact, however, is entirely irrelevant, just as it is irrelevant that he likes the price of prunes and is better

26. If Middle never consumes any figs, the tax on figs is a nullity.

27. There are two (unrealistic) assumptions under which the replicating wage tax will merely be equally efficient but not strictly more efficient. First, if Middle is completely indifferent between prunes and figs he can costlessly avoid the tax on figs by giving up figs. The tax will not be inefficient—but it will raise no revenue. Second, if Middle's demand for figs is completely inelastic and so he consumes as many figs as before, the tax is as efficient as a wage tax because it does not impose an additional welfare loss by causing Middle to give up a preferred good.

28. See generally MILL, *supra* note 1.

29. See generally HOBBS, *supra* note 1.

30. See generally BRADFORD, *supra* note 1.

31. See Alan Gunn, *The Case for an Income Tax*, 46 U. CHI. L. REV. 370 (1979); Mark Kelman, *Time Preference and Tax Equity*, 35 STAN. L. REV. 649 (1973).

off for buying prunes at their going price and just as it is irrelevant that a tax on labor ignores the fact that wages compensate individuals for the costs of work.

D. The AS 1976 Argument—Redistribution

We can now add redistribution to the analysis. The argument is straightforward given the efficiency analysis above. The efficiency analysis considered a single individual and showed that we can replace a nonneutral tax (such as a tax on savings) with a consumption or wage tax (the replicating tax) to make that individual better off. To add distribution to the analysis, we simply perform this same substitution of tax systems at each income level. Following the same argument, individuals at each income level would be better off. The replicating tax, therefore, is a Pareto improvement over an income tax, even when redistribution is taken into account. A wage or consumption tax, properly structured, is thus preferable to an income tax, and this holds entirely without regard to our views on how much redistribution is appropriate.

We can analogize the argument for a tax on savings to the argument for a luxury tax. The argument for a luxury tax is that only the rich can afford to purchase luxuries. A tax on luxuries, therefore, seems to have good distributive properties that might outweigh any inefficiencies. Notwithstanding the possible distributive properties, however, a luxury tax is not desirable. For each income class, we can determine its luxury purchases and replace the luxury tax with the replicating wage tax. For example, suppose that those who earn between \$30,000 and \$50,000, \$50,000 and \$100,000, \$100,000 and \$200,000, and so forth tend to purchase luxuries with a given percentage of their earnings that increases as incomes increase. As illustrated above, we can adjust the tax on their labor earnings to replicate the effect of the luxury tax. With such an adjustment, each income class will pay the same total tax. Distribution, therefore, is held constant, but the overall system is more efficient. Indeed, the efficiency gains can be traded off for more redistribution, if so desired. If the gains from eliminating the luxury tax are used to create more redistribution, the more one favors redistribution, the more one should be *against* a luxury tax.

The identical argument applies to a tax on the return to savings. The argument for a tax on the return to savings is that the rich save more than the poor, so savings is like a luxury good. On the surface, taxing savings seems to have good distributive properties, but for the same reason the luxury tax is undesirable, a tax on savings is also undesirable.

To fill this in, we expand the example used in the prior Part. Suppose there are three types of individuals in society: Poor, Middle, and Rich, with Middle the same as the individual described in Part I.C. They consume two types of commodities: figs and prunes. Rich consumes more figs and fewer prunes (relative to his total) than does Middle, who similarly consumes more figs and fewer prunes than Poor.

Suppose again that we have a flat-rate wage tax of 50%, a 50% tax on figs,

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and no tax on prunes. The tax on figs but not prunes is justified on the theory that Rich consumes relatively more figs, so such a tax is progressive. We use a flat-rate wage tax here for illustration, but the wage tax could have any structure, and the argument would still work.³² Suppose that given these taxes, incomes and consumption amounts are as follows:

Table 1. Effect of 50% Flat-Rate Wage Tax and 50% Fig Tax on Poor, Middle, and Rich Taxpayers

	Poor	Middle	Rich
Pretax wage income	\$25,000	\$50,000	\$100,000
Wage taxes (50% rate)	\$12,500	\$25,000	\$50,000
After-tax wages	\$12,500	\$25,000	\$50,000
Prune consumption	\$12,500	\$20,000	\$25,000
Fig consumption (including tax)	\$0	\$5000	\$25,000
Fig tax (50% rate)	\$0	\$2500	\$12,500
Total taxes paid	\$12,500	\$27,500	\$62,500
Taxes as a percent of wages	50%	55%	63%

In the argument on efficiency above, we replaced Middle's wage/fig combination tax with a wage tax that produced the same total taxes. We make the same adjustment here except that we do so for each type of individual separately. Therefore, we eliminate the combination wage/fig tax and replace it with a new, more progressive wage tax with rates of 50% on Poor, 55% on Middle, and 62.5% on Rich. This tax is a Pareto improvement over the wage/fig combination tax.

As in the case with only one individual, both Middle and Rich are better off under the new structure. (Poor is neutral rather than better off because he did not consume figs.) Given the tax on figs and not prunes, Middle and Rich presumably reduced their fig consumption to an amount lower than they desire. The new tax structure gets rid of this distortion, allowing them to make better consumption decisions (more figs, fewer prunes). While eliminating the prune/fig distortion, the replicating tax holds redistribution constant: each individual pays the same tax under the replicating tax as in the wage/fig tax structure. Therefore, the replicating tax is Pareto superior.

Now, as before, translate prunes into present consumption and figs into future consumption (savings). The fig tax becomes the tax on interest income. The argument that the tax on interest income is undesirable is identical to the argument that the tax on figs is undesirable. The tax on interest income may

32. The works by Kaplow, *supra* note 4, demonstrate this formally.

redistribute from the rich to the poor, but we can achieve equal redistribution through a more progressive tax on labor income that does not distort savings decisions. Everyone would be at least as well or better off.

Note that the argument does not depend on the relative degree of inequality in our society or our preferences for redistribution. Therefore, the recent increases in inequality have no bearing on the choice between an income tax and a consumption tax. Similarly, one's views on the appropriate extent of redistribution have no effect on the argument. Even if we believe in substantial redistribution, a consumption tax remains superior. In fact, as indicated above with respect to a luxury tax, the more we prefer redistribution the more we might want a consumption tax because the Pareto advantages can be used to redistribute more rather than to increase efficiency.

The analysis so far has considered only the simplest case. The return to investing was assumed to be risk-free. We have ignored the significant returns to risk-taking and the potential for economic profits (i.e., profits that are above and beyond normal returns to investing). Moreover, we have assumed that there are no inheritances or other ways that individuals can have high consumption but little or no labor. A replicating tax on labor would seem to require that there be labor earnings to tax. We have also assumed that individuals within each class—poor, middle, and rich—save the same amount (or consume the same number of figs). Individuals with the same earnings, however, save different amounts. Eliminating the tax on savings and replacing it with a higher tax on earnings will benefit individuals at a given level of earnings who save a lot at the expense of individuals who earn the same amount but save less. Depending on our views about this type of redistribution, we might support an income tax. We might, for example, believe that an individual with the same earnings as others but higher wealth (because he saved more) is better off and should be taxed at a higher rate. This might be because wealth (consumption in the future) brings more utility than early consumption. It might alternatively be because wealth brings benefits independent of consumption.³³ We consider each of these complications below.

33. Another possibility that we suspect is in the back (or front) of the minds of many supporters of an income tax is that a consumption tax would, in reality, not end up being as progressive as an income tax. See Kelman, *supra* note 31, at 679. We are not sure why this would be true. If we were going to consider political outcomes, we would also have to consider the long-term reluctance of the political branches to fully tax capital income under an income tax regime. In any event, this consideration seems irrelevant to the comparison of ideal income and consumption taxes.

A related issue is whether it is feasible to design sufficiently progressive consumption taxes to replace income taxes. The design of tax systems is beyond the scope of this Article, which merely considers ideal tax systems. We do not, however, believe that these design issues are significant. See David Weisbach, *The (Non)Taxation of Risk*, 58 TAX L. REV. 1 (2005), for a discussion comparing the design of income and consumption taxes.

II. RISK AND PROFITS

So far, the analysis has considered only the risk-free return to investing. Much of the return to investing, however, may be due to risk-taking and to super-normal returns or economic profits. If income taxes capture these returns and consumption taxes do not, there may be reasons for taxing income that are separate from the considerations discussed above. For example, income taxes might conceivably be more fair than consumption taxes by taxing those lucky enough to win when making risky investments.

The standard result in the literature, however, is that flat-rate, ideal income and consumption taxes differ only by the taxation of the risk-free rate of return, even in the presence of risk and profits.³⁴ In particular, neither tax taxes the returns to risk-bearing, and both taxes tax profits. If this is the case, the conclusions above hold without modification once we add risk and profits. Income taxes offer no additional fairness or efficiency benefits over consumption taxes by taxing risky returns or profits. That is, even with risk and profits, the only difference between income and consumption taxes is the risk-free rate of return, and all of the examples above apply directly.

We refer interested readers to the many sources on the treatment of risk and profits in ideal income and consumption taxes and do not repeat the arguments in detail here.³⁵ Because it is necessary to our discussion of graduated rates on capital income immediately below, however, we illustrate the arguments briefly. Suppose that a taxpayer makes a bet with a 50% chance of winning \$100 and a 50% chance of losing \$100. If, under an income tax, winnings and losses are both taxed at a 30% rate (losses being deducted at that rate), the bet is reduced from a \$100 bet to a \$70 bet. If the taxpayer wins \$100, he keeps \$70 after paying taxes. If he loses \$100, he gets the benefit of the \$100 deduction, reducing his after-tax losses to \$70. The taxpayer, however, can increase the size of the bet so that the bet will be worth \$100 after taxes. In particular, if the taxpayer increases the size of his bet by $1/(1-t)$, where t is the tax rate, he restores his pretax position. With our numbers, the taxpayer makes a \$143 bet, which produces winnings and losses of \$100 after taxes.³⁶ In our existing and very complicated tax system, individuals may not be able to do this because of rules such as loss limitations and the like, but in an ideal income tax, the argument is straightforward, and here we are comparing ideal systems.

This analysis does not necessarily hold if investments are taxed at increasing marginal rates, and it is this issue which we focus on now. The ideal

34. Warren, *supra* note 1.

35. See Joseph Bankman & Thomas Griffith, *Is the Debate Between an Income Tax and a Consumption Tax a Debate About Risk? Does It Matter?*, 47 TAX L. REV. 377 (1992); Louis Kaplow, *Taxation and Risk Taking, A General Equilibrium Perspective*, 47 NAT'L TAX J. 789 (1994); Warren, *supra* note 1; Weisbach, *supra* note 33.

36. The same holds true for investments (as opposed to the pure bet illustrated above) with risky returns. Individuals can increase their investments by $1/(1-t)$ by borrowing.

income tax base does not require any particular rate structure: it may be either graduated or flat. The same is true with respect to the ideal consumption tax base. As noted, the two taxes differ in their treatment of investment income, and our comparisons thus far have assumed that under an income tax, investment income is taxed at a flat rate. The tax on investment income disproportionately burdens high wage earners not because that income itself is taxed at a progressive rate but because high wage earners save more and have more of that income. The assumption that the income tax on investment income is flat is supported by many provisions of current law, but it is obviously contradicted by other provisions.³⁷ An alternative assumption is that under an income tax, investment income should be taxed under a graduated rate structure. In that case, as investment income grows, the rate at which it is taxed increases.

There is very little, if any, literature analyzing the effects of taxing capital income by using graduated rates. The literature on optimal progressivity analyzes only wage taxes.³⁸ Arguments in favor of an income tax because of the distributive effect of taxing capital income are not explicit about the rate structure to be imposed on capital income and usually discuss progressivity arising solely because of the fact of taxing capital income.³⁹ Given the lack of prior analysis of the issue and the complexity of the problem, we limit ourselves to two points. First, we argue that the issue is orthogonal to the choice between income and consumption taxes because both types of taxes can equally impose graduated rates on the returns to risk-taking and profits. Second, we will offer some preliminary analysis of the effects of imposing graduated rates on capital income and conclude that it is unlikely to be desirable. Our views on the second point are preliminary, but the first point alone should be sufficient for purposes of this Article.

To see that the issue is unrelated to the choice between income and consumption taxes, consider first the treatment of the riskless return under a rate structure with increasing marginal rates. The total tax on investment income is now comprised of a pure time-value-of-money tax and a

37. The current rate structure is progressive, on capital as well as other sources of income, so that, over certain ranges, additional income is taxed at higher rates. On the other hand, many individuals are already at the maximum rates and thus face a flat rate on investment income; this is particularly true with respect to investments that produce dividend income and capital gains, where the maximum rate is reached at relatively low levels of income. Many corporate investors are also in the maximum rate with respect to investments.

38. See J.A. Mirrlees, *An Exploration in the Theory of Optimum Income Taxation*, 38 REV. ECON. STUD. 175 (1971). Moreover, the problem of graduated rates on capital income is distinct from that with respect to labor income, so we cannot apply intuitions from that literature to capital income. The optimal labor income tax problem centers on creating taxes that cause individuals to reveal their true wage rates. The problem is one of mechanism design. The problem of the optimal rate structure on capital income can be seen as an insurance problem, reducing the harms of losing risky bets.

39. See, e.g., GRAVELLE, *supra* note 2; GRUBER, *supra* note 11.

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supplemental tax due to the rate increase. The result is a higher and more inefficient tax on capital income, as can be seen using the same replicating tax argument made above.

For example, a wage earner in the 50% bracket who realizes \$50 of interest income on a \$1000 investment finds her return reduced to \$25. If the investment income is taxed under a progressive rate structure that pushes the individual to a 60% bracket, the return is reduced to \$20. A replicating consumption tax can achieve the same distributional effect without reducing the return to capital. Therefore, as in the main case in the previous Part, replacing the income tax with one of these taxes will increase welfare without affecting the distribution of the tax burden among different wage or consumption classes. Indeed, since the tax on capital has now risen, the relative desirability of those forms of consumption tax increases.

The only possible argument, therefore, for a graduated tax on capital income is with respect to risky returns. Both income and consumption taxes, however, can use graduated taxes on risky returns. To see this, we have to examine in more detail the methods of implementing income and consumption taxes. Start with a flat-rate “cash flow” tax. Consumption in a period is equal to net receipts for the period less any amount saved—it is income minus net savings. This means that a cash flow system is a consumption tax. That is, the difference between an income tax and a consumption tax can be thought of as the method of basis recovery. In an income tax, an investment gets a basis that is offset against received income. In a cash flow system, the investment is deducted right away. The difference—that is, recovering the cost of an investment over time (through a basis account) versus recovering the cost right away—is merely the time-value-of-money difference. We can alternatively implement a consumption tax by giving taxpayers basis with the same present value as an immediate deduction. In particular, we can, like in an income tax, give taxpayers basis but then increase it in each period to reflect the time value of money.

Suppose now that we impose graduated marginal rates in an income tax. We can impose the same graduation in the consumption tax just described, where taxpayers get basis that is increased in each period by the time value of money. The two systems will impose identical taxes on risky returns—the only difference between the systems would be the increase in basis in the consumption tax for the time value of money.⁴⁰ If a graduated tax on risky returns is desirable, it can be achieved under either system.

Although our analysis is still preliminary,⁴¹ it seems unlikely that

40. The idea of a consumption tax with graduated marginal rates on risky returns is not new. For example, Edward McCaffery, *A New Understanding of Tax*, 103 MICH. L. REV. 807 (2005), advocates for a consumption tax of this sort.

41. Our analysis does not, for example, consider revenue constraints and general equilibrium effects. A more complete analysis likely would be based on the optimal

graduated taxes on risky returns would be desirable. The motivation for such a rate structure is that risky outcomes are a matter of luck rather than effort, and it is appropriate to reduce or eliminate differences in outcomes due purely to good or bad luck.⁴²

An analysis of whether or how to reduce differences in lucky outcomes must begin by asking why we have these differences. If individuals are optimally diversified, there should be no such differences—everyone would have the same portfolio. Individuals may not be fully diversified for a variety of reasons. They might, for example, hold a concentrated ownership in a small business that they cannot sell at a fair price because of a lemons market or adverse selection problem. Alternatively, they might hold a concentrated ownership in a business because of moral hazard problems—that is, it might be efficient to hold a concentrated position to improve incentives. If the problem is adverse selection, government-provided reduction in risk might be optimal, but if the problem is moral hazard, it would not. Other individuals might not be diversified because of transactions costs, in which case we might ask whether the additional risk reduction provided through the tax system has lower transactions costs than the additional risk reduction available in the market.

Suppose that we conclude that, on balance, it is desirable to reduce differences in outcomes due to luck. It is not clear, in such a case, that increasing graduated rates would be desirable. Consider as a baseline the case where there are no behavioral responses to the tax system; therefore, we want to entirely eliminate differences due solely to luck. To have a concrete example, suppose two identical individuals each have \$100 which they bet on a risky investment. Suppose that the investment will pay either \$120 or \$90 with equal probability. To keep the example simple, suppose that the payoff is instantaneous.

To eliminate differences in outcomes, we would give each individual the expected value of the bet, or \$105. The tax structure that would achieve this outcome has decreasing marginal rates. The loser would have to be able to deduct his loss at a rate of 150%, and the winner would pay taxes on his gains at a rate of 75%.⁴³ The intuition for this result is that if one loses money, higher tax rates are better.⁴⁴

insurance contract literature because the social goal in this case would be very much like the goals of private insurance contracts.

42. See generally AMARTYA SEN, *COLLECTIVE CHOICE AND SOCIAL WELFARE* (1970); Peter Diamond, *Cardinal Welfare, Individualistic Ethics, and Interpersonal Comparison of Utility: Comment*, 75 J. POL. ECON. 765 (1967); John C. Harsanyi, *Cardinal Welfare, Individualistic Ethics, and Interpersonal Comparison of Utility*, 63 J. POL. ECON. 309 (1955).

43. An alternative rate structure that gives the same result would be a 100% tax on all returns and a demogrant of \$15 to each individual. This, however, is a flat structure, not an increasing marginal rate structure.

44. Consider loss limitations. They create increasing marginal rates because losers, facing disallowance of loss deductions, effectively face a marginal rate of zero. Winners face a positive marginal rate. Loss restrictions are thought to hurt losers, illustrating that high

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The analysis is more complex once we allow behavioral changes and, therefore, must consider efficiency effects. Complete elimination of differences in this case is unlikely to be optimal because it would affect incentives to take risk. Moreover, portfolio shifts in response to the tax on risk can have counterintuitive effects.

Consider the same bet, a \$100 bet that pays either \$120 or \$90, and suppose that we are considering imposing three different rate structures: a flat 50% rate, increasing marginal rates of 40% and 60%, or decreasing marginal rates of 60% and 40%. We know that with a flat-rate structure of 50% we can think of individuals as borrowing and doubling their bets to \$200. After paying taxes and paying back the loan, they will be left in the same position they would have been in if there were no tax, having either \$90 or \$120. A flat-rate structure does not reduce differences in outcomes due to risk.

Suppose we impose increasing marginal rates. Individuals making the bet will not know the rate at which the payoff will be taxed, so they will not know how to adjust their portfolios. There are any number of possibilities, but consider three. First, they may adjust their portfolios using the tax rate on losses, or 40%. Winners would find that they had not increased their bets enough to offset the 60% tax on their winnings and would be left with only \$113 after all is said and done.⁴⁵ Losers would have correctly adjusted their portfolios and would be left with \$90. In this case, the tax has reduced the difference in outcomes.

Second, they may adjust their portfolios based on the gain rate, or 60%. Winners, in this case, would have made the correct adjustment and would be left with \$120. Losers, however, would have adjusted their portfolios counting on deducting losses at 60% but would only be able to deduct them at the 40% rate. Having increased the size of a losing bet and then being unable to deduct the loss at the higher tax rate, they would be worse off than without taxes, ending up with only \$85.⁴⁶ Increasing marginal rates in this case would increase differences in outcomes, the opposite of the desired effect.

Finally, they may adjust somewhere in the middle, say at 50%. In this case, winners end up with only \$116, worse off by \$4. Losers, however, also end up worse off than they would without taxes, losing \$2 and ending up with \$88. A flat-rate-structure Pareto dominates this case. Note, however, that the various cases leave the government with a different amount of money (\$7 in the case of adjustments to a 60% rate, \$5 for a 40% rate, and \$6 for a 50% rate). To make them comparable, we would have to adjust the rate structure or refund some of

rather than low marginal rates on those who lose bets may be more desirable.

45. They increase their bet by $1/(1-t)$ or 166.67% in our case. If they win, the \$166.67 turns into \$200. They have gains of \$33.33 and must pay taxes of \$20. After paying taxes and paying back \$66.67, they are left with \$113.

46. They increase their bets to \$250. They lose money, ending up with only \$225. Having lost \$25 on their bets, they deduct it and get a tax benefit of 40% of that loss, or \$10. After paying back \$150, they are left with \$85.

the tax revenue. Nevertheless, the analysis gives a basic indication of the likely directions of the effects.

The result is the opposite with decreasing marginal rates. If they adjust to the gain rate, there is a reduction in the difference in outcomes; if they adjust to the loss rate, there is an increase. If they adjust to the average, both are better off, but the winner gains more than the loser.⁴⁷

These initial results do not support increasing marginal rates on capital income. There will be clear efficiency losses, but the distributive gains are uncertain. The exact nature of the distributive gains (or possibly losses) from increasing marginal rates depend on portfolio adjustments that are the product of factors that are difficult to predict.

III. WEALTH WITHOUT LABOR INCOME

An important motivation for an income tax is to tax the idle rich. An income tax is thought to tax their wealth in ways that a consumption tax cannot. To translate this to our argument, we show that the distributive effects of an income tax can be replicated with a tax on labor income. The procedure we used above was to increase the tax on labor income by the amount each individual bears of the tax on the commodity. To make this adjustment in the manner demonstrated, individuals must have labor income to be taxed. The idle rich, however, appear to have little or no labor income, making the envisioned adjustment problematic. For a wealthy retiree, or a trust-fund baby, eliminating the tax on savings and replacing it with a more progressive wage tax would seem to be manna from heaven. Both benefit from the elimination of tax on investment income, and neither have significant amounts of wage income. Similarly, Bill Gates pays himself a very small salary. Instead, he takes most of his earnings as capital gains on the sale of Microsoft stock. There is no adjustment to the wage tax that would offset the benefits to Gates of eliminating the tax on capital. We will argue that these sorts of examples are misleading and that the intuition behind the examples is wrong. If the consumption/wage tax is properly structured and understood, these examples pose no problems for the AS 1976 analysis.

The solution lies in the distinction between a wage tax and a consumption tax. So far we have been treating them as identical and have usually used the term "wage tax" for both. As noted, however, there are important differences between the two, and the problems highlighted above are problems with wage taxes, not consumption taxes. By using a properly structured "replicating consumption tax," we can eliminate the problems of apparent wealth without labor income.

47. The numbers are as follows: If they adjust to the gain rate, the outcome is \$120/\$93. If they adjust to the loss rate, the outcome is \$130/\$90. If they adjust to the average, the outcome is \$124/\$92.

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To see the difference, compare a flat-rate wage tax and a flat-rate retail sales tax on all goods and services (a consumption tax). The wage tax is imposed when wages are earned. There is no further tax down the road when the earnings are used to purchase goods. A retail sales tax is not imposed when wages are earned. Instead, sales taxes are imposed only when the individual purchases consumption goods, often many years after the wages are earned. One might say loosely that a wage tax is *ex ante* while a retail sales tax is *ex post*. In fact, most consumption taxes are largely *ex post*—they are imposed when consumption goods are purchased.

Consider the individual who has substantial labor income that is incorrectly labeled as capital income. This is the Bill Gates problem. He did not make a big investment in Microsoft stock. Instead, most of his net worth comes from his labor. Nevertheless, most of his income appears to come from capital—in the form of dividends or stock sales. A wage tax will not pick up this income. An *ex post* consumption tax, however, will tax this income to the extent it is really attributable to his labor. A consumption tax ignores the labels put on earnings because the tax is not imposed directly on earnings. Instead, the tax is imposed when the earnings are spent, and the source of the earnings is irrelevant. Therefore, to the extent that Gates's stock value reflects his labor income, it is taxed under a properly structured consumption tax.⁴⁸ The hidden labor problem can readily be solved.

The wealthy retiree problem can also be solved with an *ex post* consumption tax. She benefits from the elimination of tax on capital, but we cannot go back and levy a more progressive tax on her wages. Under an *ex post* consumption tax, we tax her consumption when it occurs.

The retiree problem is really one of transition to a consumption tax. Had a consumption tax been imposed all along, there would be no issue. Either the retiree would have paid a progressive wage tax when she earned the money, or she would not have paid any tax on wages that were used to fund deferred consumption until the time of that consumption. The retiree problem comes about because the retirees earned and saved under an income tax. There is a large literature discussing this transition issue. Instead of reviewing that literature, we make three points.

First, the comparison between the ideal forms of an income tax and a consumption tax should be made as if each had always been in place. The goal is to find out which system is more desirable. If we assume that one system or the other is already in place, it biases the argument toward the status quo because transition in either direction (from income to consumption or consumption to income) is likely to be difficult. Rather than assume a status quo, we should instead determine which base is preferable if we were writing

48. One way to conceptualize this example is that under a cash flow consumption tax, Gates gets no deduction for his labor effort, so to the extent gains on his stock are due to labor effort, there was no earlier deduction for the investment that offsets that tax on the sale.

from a blank slate.⁴⁹ If it turns out one base is preferable but we currently use the other, we can then determine whether the transition costs are worth the benefit. The first task, however, is to determine which base is preferable. Said another way, it is quite a different thing to believe that an income tax is desirable than to believe that a consumption tax is desirable but hindered by a serious transition problem. Research agendas would shift from determining how to perfect the income tax to how to transition out of it.

Second, it is not clear that the presence of retiree wealth makes a transition to a consumption tax more or less desirable. Consider, for example, the adoption of an ex post consumption tax such as a retail sales tax. Because retirees have already been taxed on the wages and investment income that produced their current wealth, it might seem unfair to tax that wealth when it is consumed. On the other hand, taxation of retiree consumption might produce efficiency gains that could be used to fund lower overall rates for everyone.⁵⁰

Finally, the transition problem is not inherent to the choice between a consumption tax and a wage tax. Instead, it is one of the effects of switching between different methods of collecting tax.⁵¹

The case of the trust-fund baby is roughly parallel to that of the retiree. Under an ex post consumption tax, we can get at her wealth when it is consumed. Fundamentally, though, the problem is one of transition. Had a progressive wage tax been in place when the money used to fund the trust was earned, her donor would have had less to invest, and the trust-fund baby would have less to spend now. In that event, the tax due from her trust would have been "prepaid" by the donor.⁵² Alternatively, had an ex post consumption tax been in place when the money was earned, the donor would not have been taxed on the wages that were used to fund the trust, and the income from the investment would be taxed at the time of consumption.

49. In fact, it would be a bad idea, even if we were to assume a status quo, to assume that it is the income tax. Although the federal government currently relies to some extent on a version of an income tax, it also relies significantly on a wage tax. Moreover, other governments, state and foreign, rely heavily on consumption taxes. An answer that income taxes are more desirable would raise the issue of transition from a consumption tax to an income tax regardless.

50. The efficiency gains would come about because the retirees had already worked and saved, and, therefore, an extra level of tax on their wealth would not distort their behavior. However, some or all (or more than all) of these gains might be lost if the imposition of the extra tax caused taxpayers in the future to worry that the government might impose an extra tax on their work effort as well. There might be additional efficiency losses if the extra tax was anticipated because holders of soon-to-be-taxed wealth could avoid the tax by consuming.

51. See generally SHAVIRO, *supra* note 1, for an extensive discussion of this issue.

52. If the rate structure is progressive, then the tax paid under a progressive wage tax may be greater or less than the tax paid under an ex post consumption tax, since the taxes will be paid by different persons in different years subject (perhaps) to different rates.

IV. SAVINGS HETEROGENEITY

We have so far assumed that individuals within the same wage class save the same amounts. If this is true, the tax on the return to savings is merely a poor substitute for a tax on earnings. With no heterogeneity in savings decisions, a tax on savings is by assumption the same as a tax on earnings. Thus, in our running example, each class—Rich, Middle, and Poor—was entirely homogeneous—each individual in each of the classes consumed the same number of figs or saved the same amount. A tax on earnings, therefore, could replicate the tax on savings.

Earnings or ability classes, however, are likely to include individuals with different propensities to save, with some individuals being savers and some spenders (or any range in between). When there is heterogeneity in savings, the replicating wage tax will only be able to replicate the tax on average savings for each wage class. Within each class, switching tax systems will redistribute from spenders to savers. The merits of this type of redistribution (or the reverse) are precisely the focus of some of the literature on consumption taxation, and, thus, we must face directly the arguments made in that literature.

We can illustrate the issue using our running example. Suppose that there are two rich individuals rather than one (Rich1 and Rich2) and that they differ in their taste for figs. Rich1 consumes \$30,000 of figs and Rich2 consumes only \$20,000 (both tax inclusive). On average, they consume \$25,000 of figs, as in the example. If the tax adjustment is made as specified in the example, so that the total labor tax is \$62,500, the two rich individuals are, on average, indifferent. On average, they pay \$62,500 under the wage/fig tax and \$62,500 under the more progressive wage tax. If we consider ability classes as a whole, we can replicate the distributive effects of a tax on figs with a more progressive tax on earnings.

Within the class of the rich, however, the two individuals are not indifferent. Under the wage/fig tax, Rich1 paid \$50,000 in labor taxes and \$15,000 in fig taxes, or a total of \$65,000. Rich2 had total taxes of \$60,000. Under the more progressive wage tax, they both pay \$62,500 in taxes. Rich1, who favored figs, is better off by \$2500, and Rich2, who favored prunes, is worse off by \$2500. (Conversely, if the tax adjustment were made in the opposite direction, from wage tax to wage/fig tax, the redistribution would be in the opposite direction.) The substitution of the more progressive wage tax for the labor/fig tax redistributes wealth within the class of rich individuals (even though it does not redistribute among different classes of individuals). The same would be true for any class of individuals where there is heterogeneity within the class. Given that such heterogeneity is likely a fact of life, we must ask whether redistribution from spenders to savers or savers to spenders is desirable.

Proponents of income taxes argue that redistribution from savers to spenders is desirable because savers are systematically better off than spenders.

One prominent reason, associated with Alvin Warren, is that even though in present value terms their consumption is the same, savers have more total consumption than spenders and, therefore, are better off.⁵³ A second argument, not made in the tax literature but often made in the behavioral economics literature, is that many individuals systematically save too little and would be better off if they saved more. We explore these arguments below, starting first with an attempt to set forth the appropriate grounds of the debate and the basic argument against redistributing from savers to spenders. In Part V, we consider the argument that savings has value above and beyond the future consumption it brings, such as security and power, and that we need an income tax to tax this imputed income from savings.⁵⁴

Before turning to the analysis, it is worth emphasizing two key points made in the previous Parts. First, the only redistribution we need worry about is the redistribution within a wage class. A common objection to a consumption tax is that it redistributes from one wage class to another. In other words, since the rich save more than the poor, eliminating the tax on the return to saving benefits the rich. This is the luxury tax argument highlighted above. The comparison when making the luxury tax argument is between a lawyer who earns \$400,000 per year and a janitor who earns \$20,000 per year. A tax on savings has the effect of a luxury tax, since the wealthy disproportionately save, and eliminating that tax benefits the wealthy at the expense of the poor. Thus, a consumption tax increases the burden on the janitors and lessens the burden on the lawyers—or so it is argued. As discussed above, a consumption tax can be designed to avoid the entire force of this argument. The sum of wage and savings taxes on each wage class can be replicated with a wage tax. Thus, there is no net redistribution from one wage class to another. We do find intraclass redistribution: the burden of the \$400,000-per-year wage earner who spends rises relative to the \$400,000-per-year wage earner who saves; the burden of the \$20,000-per-year wage earner who spends rises relative to burden of the \$20,000-per-year wage earner who saves. It is the desirability of this change in relative tax burden that we discuss below.

Second, the intraclass redistribution stems only from the treatment of the risk-free return to savings. The consumption tax is often opposed on the grounds that, by not taxing the return to investment, it ignores the morally relevant difference between winners and losers: investments that pay off and investments that do not. As Michael Graetz said, “lucky gamblers are not the same as unlucky gamblers.”⁵⁵ Warren makes the same point: “If A and B have identical expectations about their financial futures, but A’s hopes are dashed,

53. See Warren, *supra* note 1, at 1097-1101.

54. There is a fourth possibility, which is that savings is an indicator of ability. This possibility is discussed in Part VI, *infra*.

55. Michael Graetz, *Implementing a Progressive Consumption Tax*, 92 HARV. L. REV. 1575, 1601 (1979).

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while B's wildest dreams are realized, should not a fair tax system take into account the differences in outcome?"⁵⁶

Whatever the merits of treating winners and losers differently, they have no bearing on the choice between an income tax and a consumption tax. As noted, both taxes treat returns to risk the same way. If they tax capital at a flat rate, neither taxes the winners nor helps the losers. If it is desirable to tax risk using graduated rates, both income and consumption taxes can do so. In practice, either tax might deviate from this treatment, but there is no reason to believe that one tax base systematically performs differently than the other in this regard.⁵⁷

Given these two points, we can turn to the analysis of whether savings heterogeneity supports an income tax. We begin with the case of rational savings decisions and then turn to savings myopia and other irrationalities.

A. Rational Savings Decisions

Under standard assumptions, individuals make reasonable consumption choices, such as whether to consume prunes or figs, chocolate or vanilla, or in the present or in the future. Under these assumptions, a consumption tax is preferable to an income tax. As usual, we compare the efficiency and distributive consequences of the two systems. We can no longer use the Pareto criteria because the spender may be worse off when we switch to the replicating wage tax. Nevertheless, equalizing the tax rates on labor income—by eliminating the indirect tax on labor income due to the tax on savings—produces welfare gains.

Consider again the effect of the replicating wage tax on the rich in our example. The tax rate on the rich saver (Rich1) goes down from 65% to 62.5%, and the tax rate on the spender (Rich2) goes up from 60% to 62.5%. The efficiency gain from reducing the tax rate on labor income for savers would be greater than the losses from increasing the tax rate on spenders because efficiency losses increase with the square of the tax rate. The efficiency gains are similar to the types of gains achieved from reducing the level of rate graduation. Moreover, there is the additional efficiency gain that is the primary subject of this Article—the gain from eliminating the distortion in consumption choices between current consumption and deferred consumption.

There is no reason to sacrifice these efficiency gains to redistribute from savers to spenders. Although individual circumstances differ, as a general matter, individuals with the same wages or earnings ability can choose to spend

56. Warren, *supra* note 1, at 1098.

57. Warren argues that the claim that income taxes do not tax risky returns relies on an *ex ante* perspective. *Id.* at 1105. This argument is incorrect. An individual's consumption is the same *in each period* under a Haig-Simons tax and a tax only on the risk-free return. *See generally* Kaplow, *supra* note 35.

or save, much like they can choose to consume prunes or figs. The interest rate determines the relative prices of future and present consumption just like various factors determine the relative prices of prunes and figs. Given these prices, there is no reason to assume that individuals who choose one or the other—prunes or figs, present or future—are systematically better off. Indeed, if spenders and savers are equally well off when the return to savings is not taxed, an income tax has worse distributive consequences than a consumption tax because it puts spenders and savers in unequal positions after tax. Therefore, a consumption tax remains more efficient than an income tax and, even taking into account savings heterogeneity, has equally good, and perhaps better, distributive effects.

The analysis above was implicitly *ex ante*. It assumed that we could compare individuals with different savings preferences by looking at their initial positions and discounting their savings to present value. Warren famously criticizes this position by arguing that we should analyze the effects of savings decisions (and taxes) from an *ex post* perspective rather than an *ex ante* perspective.⁵⁸ The argument is that, *ex post*, the saver has more total consumption than the spender and is thus better off. It is one thing, argues Warren, to use present value to discount future consumption as against present consumption and quite another to use the same discount rate to match present consumption against past consumption. The fact that this latter form of discounting seems inappropriate or odd casts doubt upon the present value concepts underlying many consumption tax arguments. With characteristic economy and rhetorical flourish, Warren manages to build his argument into a single sentence: “It is not at all obvious that consumption of a bottle of fine wine 30 years ago is, in any meaningful sense, equivalent to consumption of several cases today.”⁵⁹

Once we recognize that the only difference between an income tax and a consumption tax is the taxation of the risk-free return to savings, however, the difference between an *ex ante* perspective and an *ex post* perspective evaporates. All of the information known *ex post* is known *ex ante*, so any decision about who is better off can be made at either point in time.⁶⁰ Therefore, it cannot be the case that fairness depends on one perspective or another.

Moreover, even from an *ex post* perspective, if we assume that individuals made reasonable savings decisions, there would be no reason to believe that individuals who chose the wine thirty years ago over several cases today are worse off. As long as the two choices are available (and recall that we are

58. Warren, *supra* note 1, at 1097-1101.

59. *Id.* at 1100.

60. The arguments in the philosophical or political economics literature in favor of an *ex post* perspective uniformly rely on risk. *See, e.g.*, SEN, *supra* note 42. Where there is no risk, these arguments do not apply.

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discussing individuals in the same ability or earnings class who, by assumption, make reasonable choices), we have no reason to think one or the other is better off.

Nevertheless, Warren's hypothetical creates a powerful intuitive argument against discounting. We suspect the power of Warren's hypothetical, however, lies not in the perspective from which one discounts but from the startlingly high discount rate used in his example. The equivalence of one bottle to two-and-a-half (the midpoint of "several") cases implies an inflation-adjusted discount rate of approximately 12%. The riskless interest rate is generally estimated at around 1.5%.⁶¹ At that more realistic rate, the equivalent trade-off would be a bottle of wine thirty years ago and about a bottle and a half of wine today. The individual who consumes several cases of wine today seems better off than the individual who consumed a single bottle thirty years ago because, in market terms and from the perspective of all but those with the highest internal discount rates, he is.⁶²

Consider an equally stylized, but somewhat more realistic, example. *A*, *B*, and *C* each save \$10,000 earned from a summer job in their last year at college. *A* decides to use the money to pay for a European trip she takes with her significant other. The two stay in youth hostels and eat at cheap cafes. *B* saves his money and takes a similar trip with his wife ten years later. They stay in two-star hotels and eat at two-star restaurants. *C* also saves her money and takes a similar trip with her significant other thirty years later. They stay in three-star hotels and eat at three-star restaurants.

Our hypothetical also assumes a high discount rate (although not as extreme a discount rate as Warren's). One cannot invest at the riskless interest rate and upgrade from a youth hostel today to a three-star hotel in thirty years. We have, in this respect, built our hypothetical to make the consumption pattern favored by the saver, *C*, look better. Nonetheless, we have no intuition as to whether *C* has higher welfare than *A*. *A* has had her pleasure earlier, and another thirty years in which to enjoy the memories of her trip; *C* has higher explicit consumption and perhaps has had years of pleasure anticipating her trip. More importantly, if *A*, *B*, and *C* each had the ability to choose when to

61. See Reed Shuldiner, *Taxation and Risk* (2004) (unpublished manuscript, on file with authors). Warren was writing in 1980 when inflation was very high, which might justify the high discount rate. In this example, however, since we are dealing with goods rather than money, we can ignore the inflation rate. Any inflation-related change in the price of wine is already built into the example.

62. The selection of wine as a consumption good raises other problems, though perhaps not ones that directly affect the hypothetical. Wine is an acquired taste that takes time and experience to appreciate. As one develops a nose for wine, each subsequent bottle becomes more satisfying, such that the first bottle contributes to the enjoyment from later bottles. See Paul Samuelson, *Probability, Utility, and the Independence Axiom*, 20 *ECONOMETRICA* 670, 674 (1952) ("The amount of wine I drank yesterday and will drink tomorrow can be expected to have effects upon my today's indifference slope between wine and milk.").

take their trips, we cannot say that one is better off than the other, even if our own preferences happen to match one of their choices. As long as they make reasonable choices, the fact that their preferences differ should not cause us to believe one is better off than the other.

We conclude from this analysis that arguments in favor of an income tax based on savings heterogeneity must rely on a belief that individuals do not make good savings decisions. Virtually all developed societies have massive programs, such as social security programs, based in part on savings myopia, and it is possible that an income tax can be similarly justified. In the next Part, we analyze these arguments.

B. *Savings Myopia and Similar Problems*

An income tax, as discussed, can be thought of as a uniform tax on labor plus a tax on savings and an equivalent subsidy on spending. (This is the “renormalization” discussed in Part I.) If individuals systematically made bad savings/spending decisions, these distortions might be justified, even if they would not be in the case of figs and prunes. We review this argument here. We begin with a brief overview of the literature on savings decisions and then discuss whether problems with savings decisions can be used to support an income tax.

1. *Experimental studies*

The subject of intertemporal choice has generated a great deal of literature, much of it in the relatively new fields of behavioral economics or decision theory. Researchers in these fields commonly use controlled experiments, with college students as paid subjects, to gain insight into the determinants of consumption patterns. For example, an experiment might ask subjects how much they would pay or would have to be paid to move the delivery date of a consumer durable forward or backward,⁶³ or the way in which they would like to schedule a few free meals at a favorite French restaurant.⁶⁴

One persistent experimental result is that the decisions subjects make reveal extraordinarily high short-term discount rates. In one early study, subjects were asked how much they would need to be paid in the future to forgo \$15 today; the results implied short-term discount rates well over 100%.⁶⁵ These results have been replicated in a variety of later experiments.⁶⁶

63. See George F. Loewenstein, *Frames of Mind in Intertemporal Choice*, 34 MGMT. SCI. 200, 205-06 (1988).

64. George Loewenstein & Drazen Prelec, *Preferences for Sequences of Outcomes*, 100 PSYCHOL. REV. 91 (1993).

65. Richard H. Thaler, *Some Empirical Evidence on Dynamic Inconsistency*, 8 ECON. LETTERS 201 (1981).

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Discount rates fall with time, however, becoming much lower and virtually constant after the first year.⁶⁷ The declining rate of time preference is commonly described as “hyperbolic discounting.” Moreover, the high short-term discount rates fall dramatically as the amount at stake increases.⁶⁸

While hyperbolic discounting seems to present evidence that some individuals will spend more than is rational—or at least more than would be expected under standard discount utility theory—other experimental results point in the opposite direction. For example, most subjects prefer an improving sequence of consumption even if this means deferring present consumption with no interest: \$10 today and \$12 next year is preferred over \$12 today and \$10 next year.⁶⁹ Thus, improving wage profiles are preferred over wage profiles that start high and decline, although the latter provide higher present value consumption.⁷⁰

These and other results are sensitive to the construction or framing of the experiment.⁷¹ Some of the more startling anomalies can be explained in a manner consistent with rational decisionmaking. For example, high discount rates may reflect the subjects’ perception of the risk associated with deferred consumption.⁷² A preference for rising consumption may conflict with standard discount utility theory but is consistent with the so-called “new hedonics” literature, which shows (or purports to show) that perceived welfare is affected not only by the absolute level of consumption, but also by the pattern of consumption.⁷³

66. See Uri Benzion et al., *Discount Rates Inferred from Decisions: An Experimental Study*, 35 MGMT. SCI. 270 (1989); Gretchen B. Chapman, *Temporal Discounting and Utility for Health and Money*, 22 J. EXPERIMENTAL PSYCHOL.: LEARNING, MEMORY, & COGNITION 771 (1996); Shane Frederick et al., *Time Discounting and Time Preference: A Critical Review*, 40 J. ECON. LITERATURE 351, 360 (2002); Daniel A. Redelmeir & Daniel N. Heller, *Time Preference in Medical Decision Making and Cost Effectiveness Analysis*, 13 MED. DECISION MAKING 212 (1993).

67. Frederick et al., *supra* note 66, at 360-61.

68. See *id.* at 363, 370, 373-74; Leonard Green et al., *Rate of Temporal Discounting Decreases with Amount of Reward*, 25 MEMORY & COGNITION 715 (1997).

69. Frederick et al., *supra* note 66, at 363-64.

70. *Id.* at 365; George Loewenstein & Nachum Sicherman, *Do Workers Prefer Increasing Wage Profiles?*, 9 J. LAB. ECON. 67, 75 (1991).

71. For example, several studies show that the discount rate is sensitive to the number of periods in which a given unit of time is partitioned. Subjects show higher discount rates if asked to discount consumption on a month-by-month basis than if they are asked to discount consumption on an annual basis. See Christopher K. Hsee et al., *The Relative Weighting of Position and Velocity in Satisfaction*, 2 PSYCHOL. SCI. 263 (1991); Daniel Reed, *Is Time Discounting Hyperbolic or Subadditive?*, 23 J. RISK & UNCERTAINTY 5 (2001).

72. Frederick et al., *supra* note 66, at 382.

73. For a summary of this literature, see WELL-BEING: THE FOUNDATIONS OF HEDONIC PSYCHOLOGY (Daniel Kahneman et al. eds., 1999).

2. Retirement savings and other intertemporal consumption decisions

Economists have attempted to measure discount rates by looking at how individuals respond to choices involving temporal tradeoffs. Many of these studies involve choices in which the discount rate may be confounded by a lack of information. In this category are studies that show that individuals are unwilling to pay extra for energy-saving appliances, that they are willing to trade in annuities for lump-sum payments with lower present value (suggesting high discount rates), or that they are willing to expose themselves to increased risks tomorrow for higher pay today (suggesting discount rates the authors deem “reasonable”).⁷⁴

A significant body of recent literature examines the adequacy of retirement savings. A number of economists have concluded that many lower-income individuals, in particular, save too little.⁷⁵ Evidence for this position includes savings behavior consistent with hyperbolic discount rates,⁷⁶ and survey results that show many Americans wish they had saved more,⁷⁷ a lack of knowledge, and reliance on faulty heuristics in making savings decisions.⁷⁸ Other researchers have concluded that the savings decisions of the poor are rational.⁷⁹

74. See Jerry A. Hausman, *Individual Discount Rates and the Purchase and Utilization of Energy-Using Durables*, 10 BELL J. ECON. 33 (1979); Michael J. Moore & W. Kip Viscusi, *Models for Estimating Discount Rates for Long-Term Health Risks Using Labor Market Data*, 3 J. RISK & UNCERTAINTY 381 (1990); Henry Ruderman et al., *The Behavior of the Market for Energy Efficiency in Residential Appliances Including Heating and Cooling Equipment*, 8 ENERGY J. 101 (1987); W. Kip Viscusi & Michael J. Moore, *Rates of Time Preference and Valuations of the Duration of Life*, 38 J. PUB. ECON. 297 (1989); John T. Warner & Saul Pleeter, *The Personal Discount Rate: Evidence from Military Downsizing Programs*, 91 AM. ECON. REV. 33 (2001) (finding that where service personnel were offered choice of lump-sum payment or annuity with an implicit 17.5% rate of return, more than three-fourths of enlisted personnel and half the officers selected a lump-sum payment). But see Emily Lawrance, *Poverty and the Rate of Time Preference: Evidence from Panel Data*, 119 J. POL. ECON. 54 (1991) (finding a negative correlation between discount rates and socioeconomic factors such as levels of education and income).

75. See, e.g., Steven F. Venti, *Choice, Behavior, and Retirement Savings* 5 (2004), available at http://www.dartmouth.edu/~bventi/Papers/venti_savings_12-04.pdf. On the whole, the research indicates that a substantial proportion of, and perhaps most, households in the United States fail to save “enough” income for retirement.

76. See, e.g., Karen E. Dynan et al., *Do the Rich Save More?*, 122 J. POL. ECON. 397, 416 (2004) (finding definite relationship between income and saving rates but little support for explanations that relied solely on time-preference discounting).

77. See James M. Choi et al., *For Better or Worse: Default Effects and 401(k) Savings Behavior*, in PERSPECTIVES ON THE ECONOMICS OF AGING 81 (David A. Wise ed., 2004). For a general discussion of this issue, see Venti, *supra* note 75.

78. See Venti, *supra* note 75, at 4-6.

79. See R. Glenn Hubbard et al., *Precautionary Saving and Social Insurance*, 103 J. POL. ECON. 360 (1995); see also C.D. Carrol & A.A. Samwick, *The Nature of Precautionary Wealth*, 40 J. MONETARY ECON. 41 (1997) (noting savings of poor consistent with “buffer stock” model of savings, in which consumers spend most of their lives trying to maintain modest “target” wealth-income ratios and begin saving for retirement only around age fifty).

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A recent survey of the literature on this subject concluded that the savings behavior of the upcoming group of baby-boomer retirees is comparable to that of earlier generations and that, due to increased wealth, fewer members of the this generation will fall below the poverty line.⁸⁰ On the other hand, the study also concluded that some segment of the population saves too little to meet generally accepted standards of retirement adequacy.

3. *Lessons from the literature*

This review of the literature illustrates that our current understanding of savings decisions is unclear. Suppose, however, that after further study we ultimately conclude that there is a class of individuals who make systematically bad savings decisions or, alternatively, that we are forced to make a decision now and this conclusion is our best guess. The most likely case, and the only one we will consider, is that this class of individuals systematically saves too little—i.e., they have savings myopia.⁸¹

An income tax, by taxing those who save and reducing the burden on spenders, would redistribute in the right direction in this case. The benefit of this redistribution would have to be weighed against the efficiency losses created by taxing future consumption at a higher rate than present consumption. Depending on the behavioral responses, size, and heterogeneity of the relevant groups, this redistribution may be desirable.

An income tax designed to help those with savings myopia, however, has another consequence: it increases the cost of saving, thus encouraging spending over saving and exacerbating the very problem it is supposed to ameliorate. That is, by lowering the price of spending relative to saving, it might cause those who spend too much to spend that much more. It is entirely possible that these behavioral responses reverse all distributional benefits.

Note that this is not the normal efficiency/redistribution tradeoff. In the normal case, individuals who are hurt by the redistribution (i.e., they are distributed away from) adjust their behavior to avoid the impact of the redistribution. In this case, individuals who are supposed to be helped might adjust their behavior to offset the effect of the help.

Indeed, reducing, rather than increasing, the tax on savings is the conventional tax response to a perceived problem that some individuals save too little, in keeping with the paternalist rationale for subsidies on other beneficial goods and services, such as education and health care. Seen in this

80. ROBERT SHACKLETON, CONG. BUDGET OFFICE, BABY BOOMERS' RETIREMENT PROSPECTS: AN OVERVIEW 32 (2003), available at <http://www.cbo.gov/ftpdocs/48xx/doc4863/11-26-BabyBoomers.pdf>.

81. An alternative possibility is that there is a class of individuals who systematically save too much. One might think of the Japanese savers of the 1990s or of American Depression-era babies, both known for their extraordinarily high savings rates.

light, supporting an income tax, which encourages spending out of solicitude for those who are made worse off by spending, is perverse. It is like noting the welfare-reducing effects of smoking but then seeking to help smokers by reducing the price of cigarettes.

To the extent we are concerned about those with savings myopia, there are alternative responses to the problem that are likely to be superior to increasing the cost of saving. For example, mandatory savings programs, such as Social Security, do not have the problem of subsidizing the very activity to be discouraged. If successful, these programs increase the welfare of the spender, thereby reducing the need for redistribution to him. Moreover, savers may be only minimally affected by such programs. Given the fungibility of savings, they may be able to reduce spending elsewhere in their portfolios. A complete analysis of mandatory savings is well beyond the scope of this Article. Our only points on this topic are that an income tax may be precisely the wrong solution for aiding myopic spenders and that better tools may be available.

The savings-myopia case for an income tax, while possible, is extremely tenuous. We would have to believe there is a significant class of individuals with savings myopia, and making savings more, rather than less, expensive is a good way to help these individuals. Assuming that there is some benefit to these individuals, the benefit would have to outweigh the efficiency costs (with respect to nonmyopic individuals) of taxing future consumption more highly than present consumption. Finally, we would have to believe that an income tax is an appropriate instrument for helping those with savings myopia, particularly when compared with more direct solutions such as mandatory savings plans or savings incentives. The extent to which these conditions are met is an empirical question, and while it is possible that they are met, we believe it to be unlikely.

V. DOES SAVINGS BRING VALUE BEYOND FUTURE CONSUMPTION?

Consumption tax opponents often argue that savers, unlike spenders, get intangible benefits from holding wealth and that these benefits are not captured by a consumption tax. For example, Murphy and Nagel argue that it should be obvious that wealth is an independent source of welfare, quite apart from the fact that some of it may be consumed later.⁸² As Henry Simons famously stated in 1938, “[i]n a world where capital accumulation proceeds as it does now, there is something sadly inadequate about the idea of saving as postponed consumption.”⁸³ Commentators typically mention benefits from saving such as security, political power, and social standing.⁸⁴

82. MURPHY & NAGEL, *supra* note 12.

83. HENRY SIMONS, PERSONAL INCOME TAXATION 97 (1938).

84. MURPHY & NAGEL, *supra* note 12, at 115; *see also* DEP'T OF TREASURY, 1 TAX REFORM FOR FAIRNESS, SIMPLICITY, AND ECONOMIC GROWTH 209 (1984) (“If accumulation of wealth has value beyond the consumption that it can buy—if it confers power, prestige, or

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Strictly speaking, an income tax misses these intangible benefits as well. It is argued, however, that by taxing the explicit return to savings, an income tax levies an indirect tax on these benefits, and thus an income tax offers a second-best way of taxing the imputed benefits of wealth. For the reasons described below, this argument is incorrect.

First, the argument, even if true, would not raise distributional issues under the replicating consumption or wage tax proposal we outline. To the extent savings are constant within wage classes, the sources of welfare or utility from savings are irrelevant for distributional purposes. Distributional equity is held constant by the consumption or wage tax. To the extent there is savings heterogeneity, untaxed intangible benefits from wealth would create distributional concerns only if we believe spenders do not maximize their own welfare, and even then it is by no means clear that taxing these benefits would ameliorate, rather than exacerbate, the welfare loss caused by excessive spending. Because intangible benefits from savings are simply a subset of benefits from savings, the analysis in the previous Part of this Article would extend to these forms of benefits.

The primary issue raised by the intangible-benefits-from-wealth argument is efficiency. If part of the consumption stream from savings, the intangible benefits of wealth, is untaxed, it will be tax-preferred over other forms of consumption. People might seek too much security, status, and prestige.⁸⁵ If correct, we might be concerned about these efficiency consequences.

Efficiency concerns, however, are baseless. A consumption tax accurately captures the consumption of intangible benefits associated with savings because those benefits are a function of net after-tax consumption, rather than the gross amount of savings. A consumption tax reduces consumption and, in so doing, reduces those benefits. The point is ably made by Shaviro:

Why does wealth offer security, political power, and social standing? The answer must be because of its value—that is, because of what it can be used to buy. . . . [S]avings and wealth are indeed subsidiary to consumption in that they derive their value entirely from that potential use, whether its exercise is proximate or not. That ability to buy things is, after all, the difference between real money and play money from board games such as Monopoly and Life.⁸⁶

A consumption tax, by taxing goods purchased with savings, taxes these intangible benefits. For example, assume that the knowledge of available consumption gives a saver the sense of security because she knows that when she desires or needs something, she will have the money available. The imposition of a consumption tax reduces the amount available. This, in turn, reduces the security (or power or prestige) associated with the savings.

peace of mind—then annual consumption does not measure equals.”).

85. Robert Frank argues the opposite—that individuals will seek prestige through excess consumption, not excess savings. *See generally* ROBERT FRANK, *LUXURY FEVER: WHY MONEY FAILS TO SATISFY IN AN ERA OF EXCESS* (1999).

86. SHAVIRO, *supra* note 1, at 106.

We can also argue that power and prestige likely come more from labor than from savings. To see why this may be the case, it is useful to compare an individual with a \$20 million diversified portfolio that provides explicit consumption of \$2 million a year with a group of chief executive officers whose salaries provide the same explicit consumption. As noted above, to the extent the individual with the brokerage account realizes welfare from security, that welfare is a function of after-tax consumption and is effectively taxed by a consumption tax. The securities in her portfolio are unlikely to give her any power whatsoever over the companies in which she invests. Most other forms of wealth-related power seem a function of after-tax consumption rather than before-tax savings. The power over perspective beneficiaries, for example, is ultimately a function of the amount of (after-tax) consumption any gifts might fund. Political power realized through the prospect of contributions would also be a function of after-tax consumption, since contributions would be treated (then, as now) as nondeductible consumption under a cash-flow tax. The only apparent case in which power might be a function of before-tax savings is power over charitable organizations attributable to future donations, since gifts would presumably be deductible under a consumption tax as under an income tax. Any prestige or respect that comes from wealth is much more likely to be a function of her past or future consumption, which is or will be public, than the before-tax amount of her holdings. Again, since a consumption tax reduces the amount of consumption, it will reduce the imputed income from that form of consumption-related benefit.

The executives, in contrast, realize enormous power relative to their explicit consumption or the capitalized value of their future consumption stream. They are apt to have an army of subordinates, to be able to decide on the allocation of substantial amounts of capital, and so on. They are likely accorded more respect than the holder of the brokerage account both because respect often accompanies power and because, to the extent respect accompanies wealth, their wealth is more visible.

The same relationship between savings and wages and these sorts of intangible benefits seems to hold for individuals with lower levels of wealth. An attorney with an income of \$250,000 and a certain level of consumption probably has more power and prestige than someone with an equivalent amount of consumption financed through a return from savings.

The final objection to the imputed-income-from-savings argument is that the rationale seems unclear for including within the tax base these forms of intangible benefits but excluding other intangible benefits and burdens associated with consumption or income.⁸⁷ As noted in the previous Part, consumption may bring with it regret, anticipation, pleasant memories, and the

87. See Louis Kaplow, *Human Capital Under an Ideal Income Tax*, 80 VA. L. REV. 1477, 1504 n.61 (1994) (noting that other intangible benefits, such as the prestige associated with joining a country club, are not taxed).

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like. Labor carries with it an even wider variety of intangible benefits, including the very benefits mentioned in connection with savings. Focusing only on a few of the benefits and burdens associated with deferred consumption is apt to produce misleading policy proposals.

The argument for taxing savings because it brings power, prestige, and security ultimately relies on a rhetorical trick (or perhaps mistake). It depends on describing the utility gained from saving as coming from two or more sources, future consumption and power/prestige/security, while the utility from other forms of consumption comes from one source, enjoyment of the good. We can, however, describe the utility from almost any item as coming from multiple sources. The utility we gain from eating well comes from both the good flavors and the nutrition. The utility from exercise comes from the endorphins and the fitness. This change in the description of the benefits of eating well or exercise, however, should not lead us to want to tax them more.

VI. QUALIFICATIONS

As noted in the Introduction, recent extensions of AS 1976 show that the optimal tax system might be very complex. The discussion so far has focused on what we believe to be the core issues presented by their argument and those issues that most legal analysts have focused on in thinking about income and consumption taxation. By doing so, the discussion risks oversimplifying the results in the literature. This Part briefly discusses how two qualifications to the AS 1976 argument might lead away from a pure consumption tax to a system of varying taxes or subsidies on many goods or activities, including savings/future consumption.

The first qualification, which affects the efficiency argument found in Part I.C above, is the possibility that any good, including future consumption, is a “relative complement” to leisure. An economic complement is something whose use increases with increased use of the complementary item. Sugar is a complement to coffee. A relative complement to leisure is something that is more of a complement to leisure (i.e., its consumption increases more when leisure increases) than other things are.⁸⁸ For example, long novels and hikes might be relative complements to leisure.

Taxing relative complements to leisure would be efficient if we had a wage tax. The wage tax distorts the decision of whether to work or enjoy leisure. Taxing relative complements to leisure reduces that distortion. The same

88. The technical name for the assumption that no commodity is a relative complement for leisure is “weak separability.” Under weak separability, an individual’s utility function can be stated as a function of two variables: work effort and a function of commodities. That is, utility is equal to $U(w, v(c_i))$ where the w is work effort, c_i are the various commodities one can consume, and v is a subutility function that determines the utility from consumption.

reasoning implies that goods that are relative substitutes for leisure ought to be subsidized, since their consumption reduces the temptation to loaf instead of work, thereby reducing the distortion caused by the wage tax. The question here is whether savings/future consumption is a relative complement to leisure. If it is, then, implementation problems aside, it should be taxed at a rate determined by its relative complementarity to leisure. On the other hand, if savings/future consumption is a relative substitute for leisure, it ought to be subsidized. The ideal tax on savings would be negative. The government might, for example, give taxpayers an annual credit equal to 1% of savings. There is little reason to believe that savings is either a relative complement or a relative substitute to leisure. Armchair reasoning suggests that the answer will be complex and does not point in any one direction.⁸⁹ Suppose that we can increase an individual's resources at one of two times: when he is working or when he is retired. The choice of an income tax is essentially a choice to increase resources early in life, when a person is working, and reduce them later, when he is retired. If we increase his resources when he is working, he is likely to take time off from work to spend these resources, increasing the labor/leisure distortion. If we increase his resources when retired, he already is not working and, therefore, there is no increase in labor/leisure distortion. This result would suggest that savings is a relative substitute for leisure and that we should have a capital subsidy. A capital subsidy, however, might make individuals retire earlier, offsetting the above effect. We do not have a strong intuition about the net result.

More generally, while it is the case that a pure wage tax might be improved by taxing relative complements to leisure and subsidizing relative substitutes for leisure, it is hard to determine what such taxes might look like. We would want to tax items that take a long time to consume but are relatively inexpensive and subsidize quickly consumed, expensive items. For example, we might want to tax long novels or hiking gear and subsidize rock concerts. Similarly, we might want to tax food prepared at home and subsidize food eaten at restaurants—the opposite pattern from most VATs in the world today.⁹⁰ The rate of tax (or subsidy) would depend on the strength of the complementary or substitution relationship. While the technical economics literature views the “relative complementarity problem” as important from a practical standpoint,⁹¹ it has no obvious bearing on the choice between an income and consumption tax.

89. We thank Louis Kaplow for suggesting this reasoning.

90. See Aled ab Iowerth & John Whalley, *Efficiency Considerations and the Exemption of Food from Sales and Value Added Taxes*, 35 CAN. J. ECON. 166, 167 (2002); cf. Louis Kaplow, *On the Undesirability of Commodity Taxation Even When Income Taxation Is Not Optimal* (Harvard's John M. Olin Ctr. for Law, Econ. & Bus., Discussion Paper No. 470, 2004), http://www.law.harvard.edu/programs/olin_center/papers/470_kaplow.php (arguing that any commodity tax in an income tax system will be suboptimal).

91. See Deaton, *supra* note 3.

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The second qualification to AS 1976 relates to savings heterogeneity, discussed in Part IV. The qualification arises if savings is a signal of ability separate from wages. Nichols and Zeckhauser call goods that provide these sorts of signals “indicator goods.”⁹² The idea is that at any given level of income, those high-ability individuals who are shirking—i.e., choosing leisure over labor because of the tax on labor—will be likely to consume a different set of items than those who have lower ability but are working hard. These items are indicators of ability—thus the term indicator goods. Because individuals with the same labor income but different abilities make different choices with respect to the indicator goods, the replicating wage tax cannot differentiate among individuals on this basis. The presence of indicator goods, therefore, provides an additional tool (beyond wage or consumption taxation) to identify (and tax) those of high ability. That is, by taxing indicator goods, we can tax those of high ability in ways that a wage tax cannot.

Indicator goods did not arise in AS 1976 because individuals were assumed to be identical except with respect to their wage rates. That is, in their model, individuals varied only in one way, wage rates, and did not have differing preferences. The only way to differentiate among individuals, therefore, was based on wages. It is highly likely that individuals are heterogeneous in their tastes, so the possibility of indicator goods is real.

Finding examples of indicator goods is tricky because we need to be able to observe ability. That is, we have to find items that those of high ability consume (or fail to consume) independent of their earnings. Because ability cannot be observed directly, we have to make implicit judgments about various tastes as a signal of ability.

Nichols and Zeckhauser do not offer any examples of indicator goods.⁹³ (They use a hypothetical to illustrate the issue, but they do not explicitly state that they believe the hypothetical to be an indicator good.) Kaplow suggests that highbrow culture is such a good.⁹⁴ Long, abstract novels and plays, modern art, and classical music arguably require greater ability to appreciate. Therefore, those with higher ability are more likely to consume these items independent of income, and these items thus should be taxed. Saez uses the example of smoking tobacco.⁹⁵ He argues that those with higher ability tend to smoke less, and “this clearly cannot be due to the mechanical fact that they have higher disposable income.”⁹⁶ All else equal, a subsidy for smoking or, equivalently, a tax on “not smoking” (the “activity” of the high-ability people)

92. Albert Nichols & Richard Zeckhauser, *Targeting Transfers Through Restrictions on Recipients*, 72 AM. ECON. REV. 372, 375 (1982).

93. *Id.*

94. Louis Kaplow, *Theory of Taxation and Public Economics* 12 (draft on file with authors).

95. Emmanuel Saez, *The Desirability of Commodity Taxation Under Non-Linear Income Taxation and Heterogeneous Tastes*, 83 J. PUB. ECON. 217, 225-26 (2002).

96. *Id.*

would be desirable if Saez is correct. The reason is that a tax on individuals for failing to smoke cannot be replicated with a labor income tax, and the activity of not smoking correlates with ability. Blumkin and Sadka suggest that education might be an indicator good. Taxing education allows us to tax those of high ability in ways that merely taxing wages does not.⁹⁷

Our question is whether to tax the return to savings (at the same rate as the tax on labor income). Many of those who argue for a tax on savings make precisely the wrong argument in this respect. They argue that only the wealthy can save—the poor must spend all of their resources merely to survive. This claim, however, suggests that saving depends entirely on resources rather than being related to some innate ability. The AS 1976 argument shows that this rationale is wrong because a tax on savings is merely a substitute for a tax on earnings, and a direct tax on earnings is superior. Instead, for a tax on savings to produce welfare gains, savings would have to depend on ability, not earnings. Those with low ability would have to save less than those with high ability, even at the same income level (or changes in savings would have to be different than changes in income).

The most well-known proponent for assertions of this sort is Saez.⁹⁸ He suggests that savings is an indicator good. (He does not use that term, but his definition is essentially the same as Nichols and Zeckhauser's.) Therefore, we would want to tax savings as a way of taxing ability.⁹⁹ He cites a single paper for support but says that the claim is also supported generally in the literature.¹⁰⁰ Our search of the literature, however, shows that the correlation of savings with ability is unknown. The reason is that we have no independent measure of ability. The most that can be said is that there does seem to be a correlation between savings and financial sophistication. Financial sophistication is likely to be correlated with education, which in turn may be correlated with ability. In addition, holding education constant, innate ability may be related to numeracy, financial sophistication, and, therefore, savings.

97. Tomer Blumkin & Efraim Sadka, *A Case for Taxing Education* 12-13 (CESifo Working Paper No. 1440, Apr. 2005), available at <http://SSRN.com/abstract=700682>.

98. See Saez, *supra* note 95, at 228; see also Gordon, *supra* note 3.

99. Even if one accepts Saez's claim that savings is an indicator good, his conclusion may not follow. He argues that "higher income individuals save more not only because they have more income to save but also because they might have a better financial education and be more aware of the need to save for retirement." Saez, *supra* note 95, at 228. Savings rates under his argument, however, do not depend directly on ability. Instead, they depend on education, which in turn depends on ability. Rather than taxing savings, however, we could tax education as the more direct signal of ability.

A second problem with Saez's argument is that he only shows that a marginal tax on some commodities might be optimal and illustrates this argument with a two-period example and a tax on savings. In the two-period example, a tax on savings can be marginal, but in the more realistic, infinite horizon case, it cannot. None of his proofs cover the case when the tax on the commodity is nonmarginal, so we cannot learn anything from his model about whether a tax on savings is desirable.

100. *Id.* (citing Lawrance, *supra* note 74).

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There is, thus, some support, albeit weak and indirect, for the characterization of savings as an indicator good. Of course, there are bound to be countless indicator goods more closely tied to ability. For example, if savings is an indicator good because it reflects education, perhaps education is an even more direct signal of ability and should be taxed.¹⁰¹ Moreover, the fact that savings may be an indicator good tells us very little about *how* it should be taxed. Thus far, economists have only been able to show that welfare increases as we move from no tax on indicator goods to an infinitely small tax on such goods, and they cannot characterize what the actual taxes should look like.

In the end, arguments of the sort made by Saez may very well end up supporting some tax on capital (and countless other indicator goods).¹⁰² The answer will depend on further development of the models and the empirics. If income tax advocates need a place to hang their hat, it would be here, but the arguments at this point are sufficiently theoretical and tenuous that we cannot say they currently support an income tax.

CONCLUSION

Supporters of an income tax have argued that any efficiency gains realized from switching to a consumption tax are overstated. They argue that eliminating the tax on savings will require higher taxes on wages and that any efficiency gains from eliminating the first tax will be reduced or offset by the efficiency loss from increasing the latter tax.

Supporters of an income tax also make a number of related normative arguments. They argue that a consumption tax is regressive because it reduces the tax burden on savers, and savings rates rise with income or wealth. They also argue that among those with equal opportunity sets, those who save are better off than those who spend. Savers are better judges of their own welfare than are spenders, and, in addition, savers benefit from the nontaxation of imputed income from savings.

We show that none of these arguments is correct. The tax on savings is a tax on labor that produces that savings, and it is a particularly inefficient tax on that labor. Replacing that tax with a direct tax on labor, or an economically equivalent consumption tax, will generate efficiency gains and appropriately tax most forms of imputed income, realized savings, and deferred consumption. It will also leave the tax burden unchanged among those with equal wages or those who, for other reasons, find themselves with equal opportunity sets.

Our analysis is based on a comparison of ideal tax regimes. A comparison of nonideal systems would likely strengthen our conclusion. While we think the

101. See Blumkin & Sadka, *supra* note 97.

102. See Saez, *supra* note 95, at 228-29.

arguments based on ideal tax regimes are important, the true Achilles' heel of comprehensive income taxation is likely to be implementation.¹⁰³

103. See William D. Andrews, *The Achilles' Heel of the Comprehensive Income Tax*, in *NEW DIRECTIONS IN FEDERAL TAX POLICY FOR THE 1980S*, at 278 (Charles E. Walker & Mark A. Bloomfield eds., 1983) (“[O]ur failure to live up to the comprehensive income tax ideal has also proved to be remarkably durable.”).