TAKING CAPITAL’S GAINS: CAPITAL’S IDEAS AND TAX POLICY IN THE TWENTY-FIRST CENTURY

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This essay examines Thomas Piketty’s proposal in Capital in the Twenty-First Century for wealth taxation as a policy tool for addressing rising wealth inequality. In so doing, I also address portions of his other two contributions — a history of inequality and wealth and a forecast for how wealth shares will evolve. While Piketty’s scope impresses, his tax policy conclusions miss the mark. Not only does his core analytical apparatus fail to bolster the case for greater taxation of capital, but familiar contemporary policy discussions of social insurance and consumption taxation better address the concerns he raises.

Keywords: wealth inequality, capital income taxation, consumption taxation

JEL Codes: E2, E6, H3

I. INTRODUCTION

Thomas Piketty’s Capital in the Twenty-First Century (“Capital”) is magisterial and ambitious in scope and has clearly both caught and enhanced the wave of popular anxiety over inequality in income and wealth. It has also fostered a substantive policy discussion on capital taxation, a discussion which calls for a much more rigorous focus.

In this essay, I examine Piketty’s proposal for wealth taxation as a policy tool for addressing rising wealth inequality. In so doing, I also address portions of his other two contributions — a history of inequality and wealth and an analytical forecast for how wealth shares will evolve over the coming century. While Piketty’s scope impresses, his tax policy conclusions miss the mark. Not only does his core analytical apparatus fail to bolster the case for greater taxation of capital, but familiar contemporary policy discussions of social insurance and consumption taxation better address concerns he raises.

To anticipate my themes, Piketty’s central thesis that a rate of return on capital exceeding the rate of growth of the economy leads to ever-increasing wealth inequality mischaracterizes both capital and its rate of return. These problems extend beyond the criticism in early reviews of the book that finite horizons, charitable giving, poor
investments, and other considerations would limit wealth accumulation (Feldstein, 2014; Giles, 2014; King, 2014; Summers, 2014). And those mischaracterizations, in turn, fail to motivate wealth taxation as a policy remedy, though they do present opportunities for additional research on wealth accumulation by the wealthy and in tax reform.

This essay is organized as follows. Section II presents a brief review of the trends in U.S. wealth holdings and wealth shares in Capital. Section III considers in more detail Piketty’s arguments about relationships among capital’s return, the rate of economic growth, and wealth accumulation and wealth concentration; in this section, I highlight the importance of understanding inframarginal returns to capital. Section IV focuses on effects that tax and social insurance policy responses have on wealth accumulation and wealth concentration, highlighting the problems faced by Piketty’s wealth tax compared to other tax reforms. Section V concludes and offers suggestions for future research to enhance understanding of wealth accumulation by the wealthy and policy effects on such wealth accumulation.

II. TRENDS IN U.S. WEALTH HOLDINGS AND SHARES IN CAPITAL

Piketty’s Capital in the Twenty-First Century presents wealth data for a number of countries and time periods before offering an analytical approach and policy recommendations. Given my emphasis here on the United States and contemporary policy toward taxation of capital income, I begin by reviewing Piketty’s evidence on the increase in the wealth-output ratio and in the share of wealth owned by the top one percent of the wealth distribution in recent decades.

A number of authors have observed that Capital’s claim of a steadily rising share of wealth held by the top one percent since 1970 is sensitive to data choices and to averaging (e.g., Giles, 2014; Auerbach and Hassett, 2015). Auerbach and Hassett note, for example, that the unaveraged source data reveal no particular trend, and estimates of a trend at many starting points other than the 1970 starting point emphasized in Capital fail to be statistically significantly positive, perhaps unsurprising given market value fluctuations in assets owned by the wealthy. Data sources other than the Federal Reserve data used by Piketty are also inconclusive about a trend in the rising share of wealth held at the top of the wealth distribution. Even though Saez and Zucman (2014), using wealth measures based on flows of capital income, do estimate a rising top wealth share, such a finding is much less apparent from estate tax data, the source used by Kopczuk (2014).

While Piketty’s finding of a sharply rising share of wealth held by top wealth holders remains arguable, it is certainly not the murder with the smoking gun. To torture the metaphor, we may not even have a body, but let’s turn to model-based means and motive, then to remedies.

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1 Focusing on underlying capital income is problematic when changes occur both in corporate and individual taxation, as the same income can shift from the corporate to the individual tax base, a point observed by Feldstein (2014) and others.
The interesting and rich data description of wealth holdings and share in *Capital* is, in part, an introduction to Piketty’s recommendation for tax policy of a global wealth tax (along with much higher marginal tax rates on incomes of top earners). The bridge between the data presentation and the policy recommendations is an analytical missing link of sorts — the idea that the excess of the rate of return on capital over the economy’s growth rate drives both a rising ratio of wealth to output and a rising share of wealth owned by the richest households. It is to this critical bridge that I now turn.

III. CAPITAL’S RETURN, ECONOMIC GROWTH, AND WEALTH ACCUMULATION

A. The Wind-Up: “Fundamental Laws”

Piketty’s tax policy focus on wealth taxation stems from his view of inherently rising inequality in the ownership of wealth as a factor of production under capitalism. Indeed, Piketty’s “fundamental laws,” presented almost innocuously, seemingly bear this radical conclusion under his assumptions. The first law is definitional, noting that capital’s share in national income is just the product of the net real rate of return on capital \( r \) and the ratio of capital \( k \) to output \( y \), or \( r(k/y) \). The second law requires much more economic interpretation, equating \( (k/y) \) with the ratio of the saving rate \( s \) and the growth rate of output \( g \): \( (k/y) = (s/g) \).³, ⁴

It is from his second “fundamental law” that Piketty’s policy conclusions emerge. He essentially takes \( r \) and \( s \) to be approximately constant. When growth \( g \) is low, capital’s share of national income will be greater. More generally, this argument requires empirical analysis; it is not a general implication of models of saving, investment, and economic growth. On the production side, \( g \) affects capital accumulation and \( r \); that is, it is not reasonable to hold \( r \) constant and vary \( g \). As a practical matter, Piketty dismisses this problem by assuming that the elasticity of substitution between labor and capital is high. That is, \( r \) would not vary significantly with a change in \( g \), and a fall in \( g \) would raise \( r(s/g) \), capital’s share in national income. But empirical analysis does not corroborate a high value of the elasticity of substitution even in the long run (e.g., Cummins, Hassett, and Hubbard, 1996; Hassett and Hubbard, 1997; Chirinko, Fazzari, and Meyer, 1999; Chirinko, 2008), an issue to which I return in the context of tax policy.

2 Acemoglu and Robinson (2014) call into question any such search for “fundamental laws,” arguing that no analysis of \((r-g)\) implications for wealth inequality can be divorced from political and institutional environments that enable groups to earn or extract wealth.

3 Piketty uses the intuition of a Solow growth model that, in a closed economy, saving \((sY)\) equals net investment; over time since \(\Delta K = sY\) and \(\Delta Y = gY\), the ratio \((K/Y)\) reflects \((s/g)\). This focus on net concepts is not innocuous. With depreciation at rate \(\delta\), a Solow-type derivation would suggest that the capital-output ratio \((K/Y)\) equals \((s/(g+\delta))\).

4 Piketty focuses on a net-unit specification, in which \(\delta = 0\); in that case, the saving rate is that exceeding the amount necessary to cover depreciation, and national income is net of depreciation. The more general expression with depreciation substantially reduces the extent to which the wealth-income ratio rises as \(g\) falls (e.g., Krusell and Smith, 2014; Jones, 2014).
The book also stresses as a general law that the net real return exceeds the growth rate of the economy, $r > g$. This law does not necessarily follow from the Solow (1956) growth model or from basic overlapping-generations models (Samuelson, 1958; Diamond, 1965). An equilibrium with $r > g$ occurs when an economy is dynamically efficient, with too little capital. Given Piketty’s emphasis on very high future values of the capital-output ratio, which would more generally be associated with a lower return to capital (as I argue below), such an assumption is odd.

B. $r$ and $g$: Mind the Steps and Mind the Gap

There is no escaping the centrality of the “$r > g$” assumption in *Capital in the Twenty-First Century*. It underlies Piketty’s view of the evolution of a time toward a future rentier society (think Jane Austen characters, not Bill Gates or Steve Jobs). It also underlies the role of wealth taxation as the core policy instrument for addressing rising wealth inequality. Apart from critical analysis of Piketty’s implications taken on their own terms, an emphasis on wealth taxation does not fit well with the role accorded by many researchers to labor income in explaining rising inequality.

Three features of Piketty’s analysis of $(r-g)$ require empirical scrutiny before discussing implications for tax policy: (1) the relationship between “$r$” and “$g$,” (2) the definition of capital $K$ itself, and (3) the underlying pattern of wealth inequality at the core of Piketty’s fears of the evolution in the United States toward a rentier society. Classic research on the “golden rule” offers benchmarks for guidance (Ramsey, 1928; Phelps, 1961). In principle, one can account for different types of capital by noting that, in equilibrium, the net rates of return on the alternative types are equal. Hassett and Hubbard (1997) present calculations that the U.S. productive business capital stock falls short of its golden rule benchmarks described by Ramsey and Phelps, though the answer is less clear for residential capital. Abel, et al. (1989) show that an economy is dynamically efficient if the returns from capital exceed investment, which they conclude is true in the U.S. cash flow data they consider. Both capital stock data and cash flow data suggest that investment incentives for business capital have positive social returns, a point to which I return later in considering tax policy. More recently, Mankiw (2015) also notes this starting-point conundrum for Piketty’s work.

From Piketty (2014, pp. 25–26): “This fundamental inequality [$r>g$] … will play a crucial role in this book. In a sense, it sums up the overall logic of my conclusions. When the rate of return on capital significantly exceeds the growth rate of the economy…, then it logically follows that inherited wealth grows faster than output and income.”

This greater role for labor income in explaining trends in income inequality has been addressed by, inter alia, Atkinson, Piketty, and Saez (2011). Although wealth inequality exceeds income inequality, at least some research concludes that wealth inequality has not been rising as much as income inequality (e.g., Kopczuk and Saez, 2004). The role of “labor income” can mean many things, of course. For example, globalization can raise the returns to certain “superstar” skills in the sense of Rosen (1981). Occupation may be an important element in rents as in the finance example studied by Philippon and Reshef (2009) and Bell and van Reenen (2010), though Kaplan and Rauh (2010) observe that the rise in top inequality is present in many occupations. Some researchers have argued that the decrease in the top marginal tax rate on labor income increases the incentive for rent-seeking in compensation (e.g., Rothschild and Scheuer, 2011; Piketty, Saez, and Stantcheva, 2014).

Again, *Capital in the Twenty-First Century* looks over time and across countries. In this paper, I focus on the United States and contemporary tax policy.
Taken separately and together, measurement disagreements with the work in *Capital in the Twenty-First Century* cast doubt on Piketty’s predictions. As I discuss later, those doubts also undermine the case for the book’s policy perceptions.

Among the reasons *Capital in the Twenty-First Century* has attracted a following in the popular press and in policy discussion is the simple and powerful two-part claim, discussed above, that: (1) in theory and in practice $r > g$, and (2) capital’s share in national income grows as a result. A natural question then arises: What is $r$?

Putting aside inframarginal returns on capital from, say, entrepreneurial ability or market power, the return on capital on a pre-tax basis is the sum of the default-risk-free return and a risk premium. From the perspective of investors in this case, the appropriate concept for Piketty’s comparisons with the rate of economic growth is the default-risk-free rate of interest, not a measure based on national accounts data — as in the context of comparisons with Piketty’s calculations by Acemoglu and Robinson (2014) and Auerbach and Hassett (2015). Note that the risk premium simply compensates investors on an ex ante basis for the chance of low returns or for catastrophic losses (say, in wartime). That capital relative to national income is high in good periods (in the case of the twentieth century, abstracting from World War I, the Great Depression, and World War II) does not indicate a high long-term expected, let alone rising, value for such a measure.

Again from the perspectives of investors, the rate of return to be compared with $g$ should be on an after-tax basis. Piketty and Zucman (2014) do calculate after-tax returns on capital, but they use average tax rates. Especially with emphasis on the share of wealth held by very well off households, using the top marginal tax rate would be more appropriate. Recent estimates by Acemoglu and Robinson (2014) use ten-year U.S. Treasury bond yields as a measure of the pre-tax return, and estimates by Auerbach and Hassett (2015) use the after-top-marginal-tax ten-year U.S. Treasury bond yield as a measure of the after-tax return. While the pre-tax-return-on-capital measure developed by Piketty and Zucman (2014) yields values above the economy’s growth rate over the past three decades, the Acemoglu-Robinson and Auerbach-Hassett estimates fall short of the economy’s growth rate over that period (Auerbach and Hassett, 2015). With $r$ measured from an investor’s perspective, the notion of ever-increasing wealth inequality fades from prominence.

To be fair, the wealthy may earn inframarginal returns from entrepreneurial skill or access to high-return projects, so that using a long-term government bond rate may be inappropriate for measuring the rate of return on capital. Acemoglu and Robinson (2014) employ the methodology of Caselli and Feyrer (2007) to estimate the marginal product of capital net of depreciation. They use the Caselli-Freyer estimate in one test...

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9 Again, the second argument is the empirical question of whether the rate of return fails to decline sufficiently rapidly in the presence of capital deepening to counterbalance the rising capital-output ratio.

10 Jorion and Goetzmann (1999) present data on equity returns including a risk premium over the twentieth century. Wartime and other catastrophic events, however rare, can generate a substantial ex ante risk premium on capital (e.g., Barro, 2006).
of whether \((r-g)\) is positively associated with the share of income going to the top one percent of households in a cross-country regression. With this modification to the return on capital, Acemoglu and Robinson find no statistically significant effect of \((r-g)\) on the share of income earned by the top one percent. (Indeed, using the government bond yield proxy for \(r\), they find a negative and statistically significant effect of \((r-g)\) on the share of income going to the top one percent.)

Understanding wealth accumulation by very top earners almost surely requires an analytical treatment of inframarginal returns (and the growth in such returns). This distinction is also important for tax policy and public policy more generally (as will be discussed later). Returning to the possibility of high returns to entrepreneurial skill, Jones and Kim (2014) suggest a model in which top entrepreneurial earners have income that grows exponentially over time, but with a constant probability each period of displacement by an entrant. On the one hand, in this model, a higher growth rate of top earners’ incomes raises the ratio of top earners (existing entrepreneurs) to entrants, creating an increase in inequality.\(^{11}\) On the other hand, an increase in the death rate (think of it as Schumpeterian exit) of existing entrepreneurs reduces the time over which incumbents build advantage and, hence, inequality. The model generates two predictions useful for present purposes: (1) potentially rising wealth shares at the top of the distribution of wealth, and (2) a negative relationship between economic growth and top income inequality (pace Piketty) because faster growth increases exit (“creative destruction”), reducing inequality, all else equal.

C. K: Too Many Workhouses or Too Many Houses?

Piketty’s focus on capital as a factor of production, the ownership of which is increasingly concentrated, calls to mind “capital” in the sense of plant and equipment. Yet, as a number of researchers have noted, a substantial portion of the growth in the capital-output ratio (and capital’s share in income) in the United States has been accounted for by the growth in the quantity of and value of housing capital. For the United States, Auerbach and Hassett (2015) show that the upward trend in capital’s share in national income is dominated by housing income; the shares of corporate and self-employment income in total capital income (as proxies for the relative importance of the productive capital stressed by Piketty) actually declined over the period.

Two problems emerge in this slip between modeling putty and housing clay — one related to the economic analysis in *Capital in the Twenty-First Century* and one related to its purported policy implications. Recall that Piketty’s argument of an approximately

\(^{11}\) It is unclear whether this framework will be useful in addressing the problem stressed by Piketty of growing wealth shares by inheritors. Inframarginal returns from skill or monopoly power will be capitalized in the value of an entrepreneur’s business. Inheritors presumably earn normal returns, a case for \(r\) I have already examined for the default-risk-free rate of interest and a risk premium.
constant $r$ in response to variation in $g$ requires a very high substitutability of capital and labor.\textsuperscript{12} Given the rising importance of housing capital in postwar U.S. data, a natural question arises: How substitutable are the bricks and mortar of one’s castle for the clicks and mortals of one’s factory? On the policy front, wealth taxation seems a poor foundation for reducing distortions in housing wealth, while conventional proposals for reducing the home mortgage interest deduction or the stringency of land use regulations are more straightforward tools. Moreover, spending out of housing wealth gains (thought to be about five percent over a year) reduces the wealth buildup Piketty stresses.

IV. TAX POLICY RESPONSES TO WEALTH ACCUMULATION IN CAPITAL

Piketty’s *Capital in the Twenty-First Century* has perhaps made its greatest splash in linking trends and analytics of wealth accumulation and the distribution of wealth to a policy recommendation of much higher taxation of capital income and, in particular, a global wealth tax. Many commentators have addressed practical considerations with this idea (Is such global coordination feasible? How would it occur? How would one value closely held businesses? How would individuals secure the liquidity to pay the tax?). I want to focus instead on two underlying fiscal policy questions: whether Piketty’s analysis accurately models the consequences of fiscal (tax and expenditure) policy on the distributions of income and wealth and whether the Piketty proposal is a sensible response to the wealth increases he considers.

A. Redistributive Policies in the Current U.S. Fiscal System

The first question has a clear answer — no. Especially in light of the importance of labor income in rising inequality, one would expect a more serious discussion of redistributive policies to reward work and/or maintain consumption by households with low earnings or earnings potential based on skill, disability, or age. This trust has been a central element of U.S. tax and expenditure policy since the Great Depression. Recall that, while Piketty compares top earners’ incomes with total national income, that income concept does not include the value of government transfer payments for health care subsidies, food stamps, or Social Security that are a substantial and rising fraction of

\textsuperscript{12} Another consideration arises in the context of Piketty’s effective emphasis on a high elasticity of substitution between labor and capital — the need to focus on adjustments in the quantity of capital, while measures of the capital-output ratio are based on the market value of capital (that is, including price changes). This consideration raises two analytical concerns. The first relates to taxation: to the extent that taxes on shareholder returns are capitalized in equity value (consistent with the evidence presented in Harris, Hubbard, and Kemsley, 2001), such taxation affects the value of capital. Second, changes in discount rates affect the market value of capital, though not necessarily its productivity.
personal income for many Americans.13, 14 That is, *Capital in the Twenty-First Century* essentially abstracts from measures of inequality on an after-tax-and-transfer basis, despite the progressive tax system and the upward trend in social insurance benefits as a share of personal income (e.g., Hassett and Mathur, 2012).

### B. Efficiency Consequences of Piketty’s Wealth Tax

1. *Starting in the Wrong Place?*

   As noted earlier, Piketty’s emphasis — central to his theme of capital deepening and rising wealth concentration — of a high elasticity of substitution between capital and labor in production is curious. It is in such a case that a high rate of taxation of capital, the policy recommended in *Capital in the Twenty First Century*, would lead to a shifting of the tax burden away from capital and on to labor — and to large efficiency costs of capital income taxation (e.g., Engen, Gravelle, and Smetters, 1997). By contrast, the assumption of a low value for the elasticity of substitution in production — the opposite of Piketty’s case — would mean a smaller decline in saving in response to higher capital income taxation and a lower efficiency cost of taxation.

   Put differently, Piketty’s assumed central case is one in which the efficiency costs of capital income taxation are relatively high in standard models, thereby placing additional scrutiny on arguments for such taxation on equity grounds. Indeed, policy interventions other than wealth taxation are better suited to address Piketty’s concerns, particularly to the extent that rising wealth and wealth concentration arise from inframarginal returns.

2. *First Base: Understanding Relationships Among Tax Bases*

   Understanding alternatives to wealth taxation is easier if we delineate relationships among alternative bases of taxation — e.g., income versus consumption taxation and, within the income tax, taxation of labor and capital (for example, Mirrlees et al., 2011). The relative efficiency of consumption taxation over income taxation in life-cycle models of consumption and wealth accumulation is well known (e.g., Summers, 1981; Auerbach and Kotlikoff, 1987), and the ability of consumption taxation to provide a

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13 This problem is more general, as trends reported in *Capital* show a rising share in taxable income of the top one percent. As many researchers have noted (e.g., Winship, 2014), tax units are not households; capital income by the non-wealthy is often not currently taxable (as it accrues in retirement accounts); and transfers are not accounted for a particular problem for older individuals, given the importance of Social Security and Medicare benefits in their resources. Burkhauser, Armour, and Larrimore (2013) estimate that the incomes of the top five percent of households (using Current Population Survey and Federal Reserve data) including capital gains and transfers fail to show the marked upward trend reported in *Capital*.

14 “Wealth” measures face the same problem, as not all household wealth is in the form of bequeathable assets. For many Americans, the capitalized values of retiree health and Social Security benefits are a substantial share of wealth.
progressive distribution of the tax burden over households’ lifetimes is also well known (e.g., Altig et al., 2001). In the distributional context emphasized by Piketty, consumption taxation offers an important advantage in that such a tax can tax all sources of wealth.\textsuperscript{15}

This link is apparent from the observation (with a single rate) that a consumption tax is equivalent to a tax on labor income and a tax on cash flow (returns on inframarginal investments). This form of consumption tax (e.g., Hall and Rabushka, 1983; Brady, 1992) is commonly compared to income tax reforms that tax business income once (e.g., American Law Institute, 1992; U.S. Department of the Treasury, 1992).

The conventional description of a consumption or cash flow tax—evaluated in life-cycle models (Auerbach and Kotlikoff, 1987; Hubbard, Skinner, and Zeldes, 1995)—assumes that all income from capital is exempt from taxation. For a marginal investment (one in which the expected rate of return equals the discount rate), the upfront subsidy to investment provided by expensing under a cash flow tax equals the expected future cash payments. It is in this sense that the return to capital is not taxed under a consumption tax; Hubbard (1997) discusses the use of this observation in evaluating differences between income and consumption tax reforms.

More generally, the difference between an income tax and a consumption tax is not the elimination of taxation of all capital income (composed of the default-risk-free return, a risk premium, and inframarginal returns), but only of taxation of the default rate of interest.

In Piketty’s context of wealth taxation, this observation is important—consumption taxation can tax returns to risk-bearing and inframarginal returns without taxing the default-risk-free return. And it is that return that is associated with saving incentives and intertemporal terms of trade in consumption identified with large welfare costs of capital income taxation.\textsuperscript{16}

3. The Rest of the Game: Tax Reform and the Analytical Underpinnings of Piketty’s World

As I observed earlier, models underlying the wealth trends emphasized by Piketty must generally focus on inframarginal returns. And what of inframarginal investments available to certain entrepreneurs (associated with rents to ideas, managerial skill, or market power)? Here again, the consumption tax implemented as a wage tax and a cash flow tax offers a possibility: in this case, rates of cash flow in excess of the firm’s discount rate for discounting depreciation allowances are taxed, and cash flows

\textsuperscript{15} A consumption tax implemented as a wage tax and a cash flow tax would be capitalized into the value of corporate equities, partnerships, and commercial real estate investments. Such a change would lower the market value of wealth without the need for an explicit tax on wealth.

\textsuperscript{16} Chamley (1986) and Judd (1985) argue against capital income taxation. While more recent research suggests the desirability of non-zero levels of capital income taxation (e.g., as discussed in the review in Auerbach, 2013), the rates would be less than the much higher rates recommended by Piketty in wealth-tax-equivalent form.
representing inframarginal returns are taxed equivalently under a broad-based income tax and a cash flow tax (as a consumption tax).\textsuperscript{17} Hence, for inframarginal investments, only the return representing the default-risk-free return is untaxed under the cash flow tax (consumption tax).\textsuperscript{18}

These distinctions are important in evaluating long-run distributional consequences of tax reform in Piketty’s setting. In particular, a wage tax and cash flow tax are more progressive than implied by representative-agent life-cycle models with a single default-risk-free rate of return. Gentry and Hubbard (1997) find that holdings of assets most easily identified with inframarginal returns — e.g., active business interests of households — and risky returns — e.g., equities — are highly concentrated among high-income and high net worth households.

To summarize, the economic assumptions explicitly assumed by Piketty cast doubt on the case for aggressive use of capital income taxation. And the economic models implicit in explaining the wealth patterns in Capital in the Twenty-First Century argue more for consumption tax reform,\textsuperscript{19} if tax changes are warranted at all.

V. WHAT IS TO BE DONE?

As I noted at the outset, Thomas Piketty’s book is one part a rich description of data and trends on wealth inequality, one part a descriptive story of the difference between the rate of return on capital and the rate of economic growth as a driver of increasing inequality in the distribution of wealth, and one part a policy proposal to address rising inequality. There are reasonable disagreements with the first two parts expressed by many researchers. The third part, however, simply falls flat. Whatever one’s views about the desirability of using tax policy to reduce wealth inequality are, contemporary research offers little comfort for the particular proposal in Capital in the Twenty-First Century.

Policy debates surrounding Piketty’s analysis and recommendations will extend beyond the (almost surely implausible) global wealth tax to a consideration more generally of policies to force the wealthy to pay at least current statutory rates of income and estate tax. As I noted above, a shift to a broad-based consumption tax — an option not considered by Piketty but one that would generate substantial efficiency gains under his assumptions as well as taxation of inframarginal returns received by the wealthy — is a particularly promising option.

\textsuperscript{17} Risk adds two complications. Ex post, the component of capital income that represents luck after a risky investment has been made can be treated like the inframarginal investment just described. Risky investments also carry an ex ante risk premium to compensate savers for bearing risk. This return is treated equivalently under an income tax and a consumption tax.

\textsuperscript{18} Note that a wealth tax, while it does tax inframarginal returns (as does a consumption tax), would not be the most efficient tax in this context. Auerbach and Hassett (2015) note, by contrast, that the wealth tax fails to reduce the variance of consumption (which a consumption tax would), while retaining the intertemporal distortion by taxing the default-risk-free rate of return (which a consumption tax would not).

\textsuperscript{19} An example is the consumption tax and high-earner wage tax proposed by Secretary Nicholas Brady at the end of the George H.W. Bush administration.
Two areas for further research stand out. The first relates to modeling the consequences of tax policy for wealth accumulation and wealth concentration. Jones and Kim (2014) suggest the importance of entrepreneurial returns in top wealth concentration. Tax policy can play a role in inequality in the presence of endogenous skill investment, as in undertaking entrepreneurial investment (e.g., Trostel, 1993; Gentry and Hubbard, 2005; Kim, 2013). While Kim’s research presents links among lower top marginal tax rates, endogenous skill investment, and top income and wealth shares, more analysis in a richer setting of risk, inframarginal returns, and growth effects of tax policy would be instructive. In addition, modeling transfers and social insurance programs will be important for analyzing wealth shares held by the non-wealthy (e.g., Hubbard, Skinner, and Zeldes, 1995).

Tax policy is almost surely a blunt instrument for addressing the problems identified by Piketty, to the extent that one believes they are, in fact, problems. Hence a second area of research is the analysis of tools to limit tax evasion and to promote competition. The former would include steps like international cooperation against bank secrecy laws as a tool for tax avoidance. The latter focuses on competition policy to influence inequality via both subsidies to innovation and limiting the extent to which entrepreneurial incumbents are protected. Such non-tax-policy interventions are consistent with the argument in Acemoglu and Robinson (2014) that understanding institutions (e.g., corporate governance, antitrust law, etc.) supporting wealth accumulation and rent extinction is important.

*Capital in the Twenty-First Century* will no doubt continue to spark discussion of inequality and tax policy, despite some analytical shortcomings. A more ambitious and fruitful agenda would be to model more explicitly the differential consumption and investment decisions of the wealthy and analyze those decisions in the context of tax policy and institutional design.

**DISCLOSURES**

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