

Prepared Testimony for Joint Economic Committee Hearing**Hearing on “Measuring Economic Inequality in the United States”****Eric Zwick, Associate Professor of Finance, Booth School of Business, University of Chicago****October 16, 2019****I. Executive Summary**

Vice Chair Maloney, thanks to you, Chairman Lee, and members of the Joint Economic Committee for the opportunity to appear today to discuss my research and lessons for measuring economic inequality.

My name is Eric Zwick. I am currently Associate Professor of Finance in the Booth School of Business at the University of Chicago. In my research, in addition to working with academics at other universities, I have collaborated with staff economists across the government, including in the Treasury’s Office of Tax Analysis (OTA), the Internal Revenue Service (IRS) Research and Statistics Division, the Federal Reserve, and the Congressional Budget Office (CBO). However, the views I express today are my own.

I will make three points today that I first summarize here:

1. **Inequality is high and has risen.** There is a significant and well supported scientific consensus that inequality in America is high and has risen. However, the academic community is still debating the size of this increase and learning about the composition of high end inequality. Specifically, top inequality is more human-capital intensive than previously thought. In other words, relative to what we previously thought, households at the top of the income distribution derive more of their income from their work and entrepreneurship and less from investment income like dividends and interest.
2. **Measuring broad inequality requires assumptions based on evolving data collection and methods, therefore conclusions from the research frontier are somewhat uncertain.** The state of the art on implementing *distributional national accounts*, which would provide statistics like GDP but broken out by different income groups, remains a work in progress. The conclusions we can draw from various attempts at distributional accounts are therefore somewhat uncertain.

The core issue is that distributional national accounts methods require many assumptions, and the ultimate conclusions are sensitive to which assumptions we make. When data are missing on who gets what type of income, researchers make certain assumptions to fill in the gaps. These assumptions are in many cases well justified and defended. But they necessarily rely on incomplete data and convenient simplifications. As a result, alternative assumptions

can be equally and in some cases better justified, with significant quantitative implications for measuring income inequality, wealth inequality, and progressivity of tax burdens.

It is also important to recall that what we observe in tax data is influenced by reporting responses to changing tax rules over time.

- 3. I recommend several clear next steps for collecting new data to help implement distributional national accounts and improve inequality measures.** The academic literature remains somewhat divided on the technical specifics of distributional accounts. These divisions largely reflect an evolving state of current knowledge that is changing as new data becomes available. This is not unusual in academic research and I strongly believe that we will reconcile these differences and continue to build toward a consensus method over time. My recommendations for a path forward are predicated on this belief. These recommendations include having the experts at the Bureau of Economic Analysis (BEA) take on this exercise, as well as several concrete suggestions for new information that can improve distributional national accounts while also aiding tax enforcement.

At the outset, let me also say that I greatly admire Professor Zucman's work despite our occasional friendly disagreements over accounting methods. I also have tremendous respect for the work of his colleagues Thomas Piketty and Emmanuel Saez, who have been asking essential and fascinating questions about economic growth and inequality and who have pioneered methods to answer these questions. My work would not have been possible without theirs.

Furthermore, I want to be clear that my reading of the evidence is not that inequality in America is low or that it has not increased at all. Rather my reading is that the increase has been more modest and the nature of that increase—what factors contribute, who benefits—skews away from the passive capital highlighted in Piketty (2014)¹ and toward human capital, labor, and entrepreneurial activity.

II. Top Inequality is More Human-Capital Intensive than Previously Thought

My research seeks to understand the nature of top income inequality and the drivers behind its recent rise. As a first step, I worked with economists Danny Yagan of UC Berkeley, Owen Zidar of Princeton, and researchers at the Office of Tax Analysis and IRS to assemble new data from de-identified administrative tax records on the population of businesses in the United States linked to their owners and workers. Our first paper documents the increasing role of pass-through businesses since the Tax Reform Act of 1986 and estimates the tax rate faced by different types of

¹*Capital in the Twenty-First Century*, Harvard University Press.

businesses in 2011.²

Though it may seem an arcane topic, the rise of pass-through business has implications for interpreting trends in income inequality and economic measurement. By way of background, pass-through businesses, including S-corporations and partnerships, are taxed only at the owner level; in contrast, traditional C-corporations are taxed at the firm level and then again at the owner level if they receive taxable distributions. The relative importance of these different kinds of businesses has evolved over time in response to changes in federal tax policy.

Within the base of taxable income, nearly half of the rise since 1980 in the top 1% income share comes from pass-through business, which includes the ordinary income earned by partners in partnerships and the profits of S-corporation owners (Figure 1). In a paper with Yagan, Zidar, and Matt Smith, we present a comprehensive analysis of the nature of this income, with the goal of answering the question: how important is human capital at the top of the U.S. income distribution?³ We define human capital broadly to refer to all factors embodied in people, including labor supply, networks, reputation, and rent-seeking ability. Human capital contrasts with nonhuman, or financial, capital because (in the modern economy) it can't be sold, and it is not bequeathed at death.

Combining rich descriptive analysis with natural experiments, we find that human capital, as opposed to financial capital, remains central to rising top incomes in the United States. This finding depends crucially on how we think about pass-through income, which we estimate to have a human capital share of 75% despite its appearance as business profits in tax data. When ignoring pass-through income, it appears that a minority of top earners are human-capital rich. However, when defining labor income comprehensively to include that due to pass-through income, this assessment reverses: most top earners are human-capital rich, not financial-capital rich (Figure 2). Hence, the human capital component of pass-through income transforms one's view of the typical top earner.

This finding is bolstered by the basic facts that our new data reveal. Most top earners are pass-through business owners—a group that includes consultants, lawyers, doctors, and owners of large non-publicly traded businesses, such as auto dealers and wholesale distributors. In 2014, more than 69% of the top 1% of income earners and more than 84% of the top 0.1% of income earners accrued some pass-through business income. In absolute terms, that amounts to more than 1.1 million pass-through owners with annual incomes above \$390,000 and 140,000 pass-through owners with annual incomes of more than \$1.6 million. In both number and aggregate

²“Business in the United States: Who Owns It and How Much Tax Do They Pay?” (with Michael Cooper, John McClelland, James Pearce, Richard Prisinzano, Joseph Sullivan, Danny Yagan, and Owen Zidar), *Tax Policy and the Economy*, 30(1), 91-128, 2016.

³“Capitalists in the Twenty-First Century” (with Matthew Smith, Danny Yagan, and Owen Zidar), *Quarterly Journal of Economics*, 134, 1675-1745, 2019.

income, these groups far surpass that of top public company executives, who have been the focus of much inequality commentary (Figure 3). In terms of age, they more closely resemble the working-age distribution of top wage earners and not the older age distribution of top passive-capital-income earners (Figure 3).

In short, the typical top 1% earner is not a public company CEO or tech billionaire; instead, she or he is a doctor, lawyer, or owner-operator of a middle-sized business.

III. The Tax Code Affects Economic Measurement

Another way of thinking about our results is that, while pass-through income is taxed as business profits, its underlying nature more closely reflects the labor income of business owners. This fact underscores a more fundamental issue facing those who use tax data to measure and study economic inequality. The nebulous boundary between labor and capital income, especially among business owners who can flexibly characterize their income to reduce tax, introduces uncertainty into the data. For example, if payroll tax applies to owner-manager payments recorded as wages but not to profits, then owner-managers will have a tax incentive to reduce wages and increase profits (subject to tax rules). These profits will appear as capital income in aggregate statistics, although their economic nature reflects a mix of labor and capital.

When we compare data from different points in time under different tax regimes, we must take into account how the tax code affects the income being measured. The same high-level statistics might be consistent with very different underlying stories of what is going on. This uncertainty is where the scholarship plays its role—more data are needed to draw the appropriate conclusions. For example, while we found that the majority of the growth since 1990 in entrepreneurial income reflects real economic growth, a significant share (approximately 30%) reflects businesses reorganizing to pass-through form (Figure 4). This reorganization effect occurs because pass-through owners report income in pre-tax form, whereas C-corporation owners report income after the corporate tax. It does not represent a real increase in pre-tax income inequality.

In preliminary follow-on work, we also find that correcting for tax effects in how labor income is reported can account for a meaningful part of the decline in the corporate sector labor share since the 1980s.⁴ In other words, neglecting how taxes influence income reporting would lead us to overstate how much economic growth has accrued to capital instead of labor.

The issue is even more severe when comparing data across countries. For example, in many European countries (such as in France) where income inequality series based on tax data imply low and stable inequality, closely-held private businesses are even more important for economic activity than in the U.S. (Figure 5). These countries often have tax rules that encourage business

⁴“The Rise of Pass-Throughs and the Decline of the Labor Share” (with Matthew Smith, Danny Yagan, and Owen Zidar), in preparation.

owners to keep income within the firm and off their personal tax returns. So far, there has been less research into how important this issue is for measuring inequality outside the U.S.

IV. Distributional Accounts Have Tremendous Potential

This brings me to distributional income accounts, which Piketty, Saez, and Zucman (2018, henceforth PSZ) developed to address this and other concerns with inequality measures derived from tax data alone.⁵ The most important concern is that income distributions from tax data do not fully capture much of what is generally considered income, including untaxed compensation like health insurance and pensions, and also the way in which ultimately all of the retained profits of corporations are owned by people. As mentioned above, the problem of missing income retained in firms is “solved” with distributional accounts, which use ownership information to allocate this missing income to people. In principle, this approach can also help reconcile estimates across years and countries. Beyond providing a full macroeconomically consistent inequality series, the distributional accounts also attempt to measure both pre-tax and post-tax distributions, which can be used to evaluate how government policy affects inequality.

Recently, economists at the Federal Reserve have released the results of an analogous project that attempts to distribute national wealth. The Distributional Financial Accounts layer detailed household wealth data from the Survey of Consumer Finances onto the official aggregates in the U.S. Financial Accounts, thereby integrating two alternative data sets that can teach us about wealth inequality. In addition, because the Distributional Financial Accounts will be released quarterly and in “near-real-time,” we can now study how wealth evolves into and out of recessions and inform policymakers on the fly.

These resources have tremendous potential to further our understanding of economic activity. As an empirical researcher, I am always excited about the prospects of new data. But I believe a timely and well done distributional accounts product would have value well beyond the academic community.

It is worth noting that such series are most informative about inequality at a point in time, relative to what they tell us about the distribution of growth. Studying the latter will require panel data that allow us to follow the same people over time and adjust for life cycle forces and temporary shocks.⁶

⁵“Distributional National Accounts: Methods and Estimates for The United States,” *Quarterly Journal of Economics*, 133, 553-609, 2018.

⁶See Kopczuk, Saez, and Song (2010) and Auten and Splinter (2019, citation below) for a discussion of the conceptual issues here.

V. The Link between Income and Wealth in Distributional Accounts

In our investigation of human capital income, we implemented a full replication of PSZ's distributional account series.⁷ In general, replication is an important step in academic research, which allows scholars to learn from prior work, to determine the reliability of past findings, and to reconcile conflicting results. In the process, we established that our conclusions about the human-capital rich hold even after accounting for this broader notion of income, which includes capital income missing from tax data.

This work has given me insight into the state of the art on implementing distributional national accounts. The methods in the Saez and Zucman (2016, henceforth SZ)⁸ and PSZ papers are based on strong assumptions that entail significant uncertainty, which could be made more salient. The foundation of the PSZ data comes from tax returns. But approximately 40% of national income does not show up on tax returns.⁹ As much of this unobserved income is capital income, PSZ have to make an educated guess about who owns the capital that receives this income. As the basis for this guess, they use SZ's estimates of the wealth distribution.

A new paper that I have co-authored with Smith and Zidar uses our data to refine the wealth estimates of SZ and study implications for income and wealth taxation.¹⁰ This paper is a work in progress, so the numbers are preliminary. We believe the conclusions are robust, but are still working to reconcile our findings and address questions Saez and Zucman have raised.

The wealth estimation method proposed by SZ scales up, or “capitalizes,” income observed on tax returns to estimate wealth. This approach relies upon having an accurate mapping of income to wealth, or equivalently knowing the rates of return earned on different types of income by different groups of people. Currently, their estimates deploy the simplifying assumption for converting income flows to wealth that everyone gets the same return within an asset class. In contrast to recent estimates of wealth concentration based on the Survey of Consumer Finances or estate tax data, which show high levels of wealth concentration and modest increases, SZ's estimates show rapidly increasing concentration in recent years (Figure 7). They also show that fixed income wealth rapidly increased as a share of top portfolios, in contrast to the portfolio composition revealed in other data sets.

Several studies have raised concerns about these estimates, in particular, arguing that the equal

⁷We refer to this series as “Imputed National Income” to contrast it with the tax income-based series because the distributional accounts impute missing components of national income to individuals based on observed tax income.

⁸“Wealth Inequality in the United States since 1913: Evidence from Capitalized Income Tax Data,” *Quarterly Journal of Economics*, 131, 519-578, 2016.

⁹National income is a concept very similar to GDP but that subtracts out depreciation and adjusts for income earned by U.S. residents outside the country.

¹⁰“Top Wealth in the United States: New Estimates and Implications for Taxing the Rich” (with Matthew Smith and Owen Zidar), preliminary working paper.

returns assumption can bias wealth estimates toward the top when top wealth holders actually earn higher returns than average. Kopczuk (2015) suggests these adjustments are especially important when average returns are close to zero, such as was the case for interest rates in the wake of the Great Recession. Other papers, especially Bricker, Henriques and Hansen (2018) and Fagereng, Guiso, Malacrino and Pistaferri (2016), also emphasize that higher returns at the top affect these wealth estimates.

We follow these authors and consider the effect of allowing returns to differ across people. We draw on new data from a variety of sources to discipline our approach. We also correct for bias at the geographic level, which allows us to produce wealth estimates by state and metropolitan area. Our preliminary findings reveal that wealth concentration is lower and more dependent on private business ownership than previously thought (Figure 7). We stress that our results do not imply that wealth concentration is low or irrelevant from a policymaker's perspective: the top 1% in our preferred series has as much wealth as the bottom 90%.

Overall, we view our work as helping to clarify how capitalization works in practice, to emphasize the quantitative importance of relaxing the equal returns assumption, and to make more salient the uncertainty that remains. To the extent possible, we also seek to reconcile the capitalized-income approach with additional sources of data, including the Survey of Consumer Finances and estate tax data. Acknowledging the uncertainty in current practice, the sensitivity to specific assumptions, and the need for additional data are especially important as statistical agencies consider adopting this approach to produce distributional national accounts (Figure 8).

VI. Distributional Accounts Are a Work in Progress

As mentioned above, there is a strong link between SZ's wealth estimates, PSZ's distributional income estimates, and Saez and Zucman's recent work on tax progressivity (Figure 9). Changing the assumptions for estimated wealth inequality will change distributional income estimates. And changing distributional income estimates will change estimates of average tax rates. For example, one way to understand the concerns David Splinter at the Joint Committee for Taxation recently raised about Saez and Zucman's tax rates is that they correspond to concerns about distributional income estimates.¹¹ It is important to keep in mind that, despite this debate about the current level of progressivity, there is fairly strong agreement that the tax-and-transfer system has become somewhat less progressive over the past few decades.

A recent working paper by Gerald Auten at the Office of Tax Analysis and Splinter (henceforth

¹¹"U.S. Taxes are Progressive: Comment on Progressive Wealth Taxation," unpublished note. There are a number of other questions that have been raised about their tax rate estimates that I do not address here, like deciding who ultimately pays corporate taxes and whether to include the Earned Income Tax Credit.

AS) questions PSZ's approach for estimating distributional national accounts.¹² AS also attempt to construct distributional accounts, motivated as an improvement to the CBO's measures of broad market income. The takeaway from the AS paper is still that income inequality has risen, but the trend is less dramatic than in the PSZ series (Figure 6).

What is the difference between these papers? The core issue is that distributional national accounts are very sensitive to assumptions. Both PSZ and AS start with the same data from tax returns. Thus, the papers are making different assumptions about missing gaps in the data, essentially taking components of national income not on tax returns and making different educated guesses about who gets what. Whereas PSZ rely on SZ's wealth estimates to allocate unobserved capital income, AS use a different approach: they combine surveys, tax data, and data from other sources to allocate this income. My reading of this back and forth is that PSZ's assumptions are in many cases well justified and defended. But they necessarily rely on incomplete data and convenient simplifications. As a result, alternative assumptions can be equally and in some cases better justified, with sometimes surprisingly large quantitative implications.

The AS paper is currently going through the peer-review and publication process, so their final estimates may differ from those in the working paper. My goal today is not to adjudicate this debate. Instead, I hope this discussion helps give a sense of why there is a debate at all, and of why I believe further data collection and encouraging additional work in this area, including by the BEA, can help.

For the interested reader, I summarize four important outstanding questions related to producing distributional accounts:¹³

1. **Underreported income.** There is a large gap between pass-through income in PSZ distributional national income and in fiscal income, despite the fact that in principle all of this income should appear on tax returns. This gap owes primarily to the allocation of underreported income included in proprietors' income in the national accounts. AS identify this factor as the most important difference between their estimate of the top 1% share and imputed national income in PSZ. In my view, neither AS nor PSZ fully settle this issue. Additional data would help narrow the gap between them.
2. **Retained earnings.** PSZ allocate the household share of aggregate retained earnings to individuals in proportion to the sum of the individual's observed dividends and realized capital gains. The rationale is that when C-corporation income does appear on personal tax returns, it appears as either dividends or realized capital gains. However, published IRS

¹²"Income Inequality in the United States: Using Tax Data to Measure Long-term Trends," working paper, 2019.

¹³This discussion draws on Auten and Splinter (2019) and Online Appendix Sections C-G in Smith, Yagan, Zidar, and Zwick (2019).

reports indicate that at least 25% and as much as 75% of realized capital gains are not from the sale of C-corporate stock and are instead gains from real estate and other asset sales or carried interest. Realized capital gains are much larger than dividends and much more concentrated among top earners. Hence, imputing retained earnings in proportion to each individual's sum of dividends and 100% of realized capital gains likely allocates too much retained earnings to the top.

3. **Pensions.** AS raise concerns about the use of certain nontaxable pension distributions, which partly reflect pension account rollovers. Because these rollovers capture the entire value of retirement accounts, they should not be mixed with taxable pension flows when being used to infer pension wealth and to allocate missing pension income.
4. **Fixed income.** The largest component of non-business capital income that differs from fiscal income and contributes to top 1% growth is interest income. Within the PSZ distributional account data, the taxable interest series is substantially lower than the imputed national income series and fell as a share of national income in recent decades. I believe this is related to concerns about SZ's approach to estimating fixed income wealth.

VII. A Fact-Finding Mission is a Clear, High-Payoff Step Forward

While the academic literature remains somewhat divided on the technical specifics of distributional accounts, these divisions largely reflect an incomplete and evolving state of current knowledge. I strongly believe that we can reconcile these differences and continue to build toward a consensus method as time passes and new data become available. My recommendations for a path forward are predicated on this belief.

First, the academic literature will continue to make progress, but it is not too early to propose that the experts at the BEA, who have intimate knowledge of what goes into the national income accounts, take on the exercise as well. In doing so, I expect they will rely on the methods proposed by both PSZ, AS, and other contributions to this debate, including the BEA's own contributions. It would be natural for the BEA to follow a process similar to that of the Federal Reserve, which would include developing estimates, preparing a technical report, and distributing and presenting their findings to solicit feedback from the broader community.

Second, several outstanding areas of disagreement could be assessed through improved information reporting and collection by the IRS. Requiring partnerships and closely held C-corporations to trace and report their ultimate owners would both help improve tax enforcement and aid the production of distributional accounts.¹⁴

¹⁴Partnership ownership is especially opaque: we estimate that 20% of the income goes to unclassifiable partners,

Third, expanding the IRS random audit programs, whose estimates form the basis of assumptions about the distribution of underreported income, would be extremely valuable. This proposal would likely require an additional budget allocation.

Fourth, improving data collection on retirement account balances and portfolio composition could help the BEA allocate undistributed pension income. Collecting this data could also be a task for the IRS or perhaps could benefit from collaboration and information sharing between the IRS and the Federal Reserve.

Of course, such additional information reporting requirements entail compliance and privacy costs that must be weighed in deciding whether they are worthwhile. Because I am an academic and not a policymaker, I defer to the experts on who would be in charge of implementing these ideas and whether they require legislation.

VIII. Conclusions

As mentioned above, there is a general consensus to which I subscribe that inequality has risen in the United States. A better understanding of the facts about inequality is important because we want to narrow the set of policy instruments to those most likely to work. The list of potential solutions is long and diverse, including those that target the top—such as bolstering existing taxes or imposing new taxes on capital and high incomes, competition policy, charitable-giving reforms, and restrictions on political contributions and lobbying—and those that target the bottom—such as direct transfers, support for public education, affordable housing policy, and other expansions to the safety net. Whether a particular policy will have the desired effect depends on whether we correctly target the root causes and worst consequences of inequality.

Therefore, a clear next step is to continue the kind of fact-finding mission taking place here today on how to continually improve our accounting methods. To reiterate, I recommend several important next steps in moving toward a consensus method:

1. Task BEA with developing a process to produce distributional national accounts estimates, to prepare a publicly available technical report, and to open up findings and methodological details to expert feedback;
2. Pass new tax laws requiring partnerships and C-corporations to trace and report ultimate owners;
3. Expand the IRS random audit program to improve understanding of underreported income; and
4. Improve data collection on retirement account balances and portfolio composition.

and 15% of the income is earned in circularly owned partnerships (CMPPSYZZ, 2016, citation above).

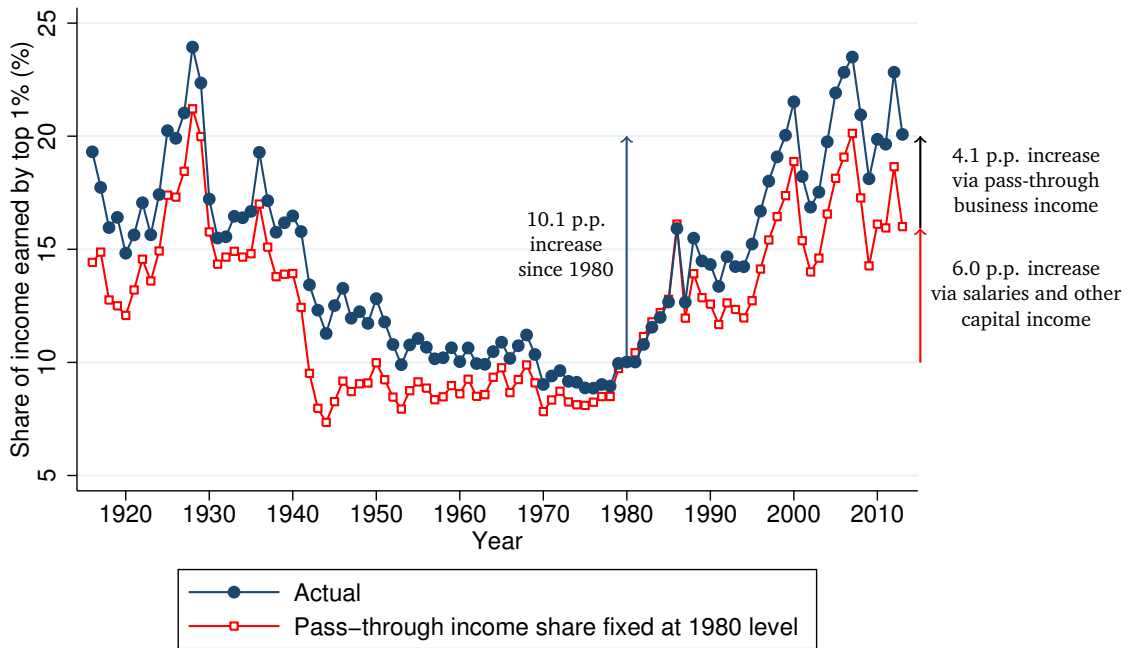
To advance our learning about the causes and potential policy mechanism for combating inequality, this committee could facilitate a substantive conversation about the following questions:

- What do we know about the nature of rising inequality?
- What role have demographic shifts and changes in the structure of the pension system played in measuring these trends?
- What are the consequences for disparities in economic opportunity, especially for children?
- What is the relative importance of multi-generational wealth as opposed to self-made wealth?
- What are the effects of inequality on the distribution of political influence?
- Is wealth inequality related to income inequality, for which human capital plays a significant role, or do wealth inequality trends represent a distinct phenomenon?

A fact-finding mission would serve three purposes. First, it would help inform policymakers and the public, moving everyone toward a common set of facts. Second, it would shed light on which policy ideas best suit the problem. Third, it would inject needed humility into the debate, given our current incomplete and evolving state of knowledge.

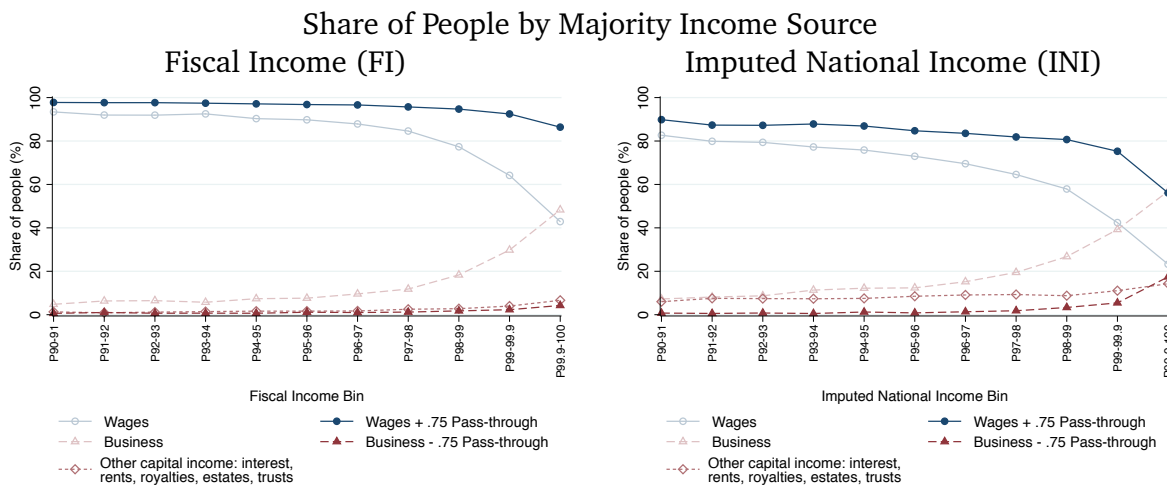
Thank you for your time and consideration of my testimony. I would be delighted to answer any questions you may have.

Figure 1: Role of Pass-Through Income in Rising Top-1% Income Share



Source: Cooper, McClelland, Pearce, Prisinzano, Sullivan, Yagan, Zidar, Zwick (2016).

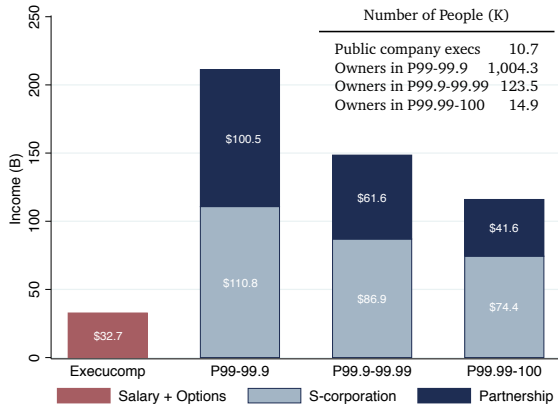
Figure 2: Are Top Earners Human-Capital Rich?



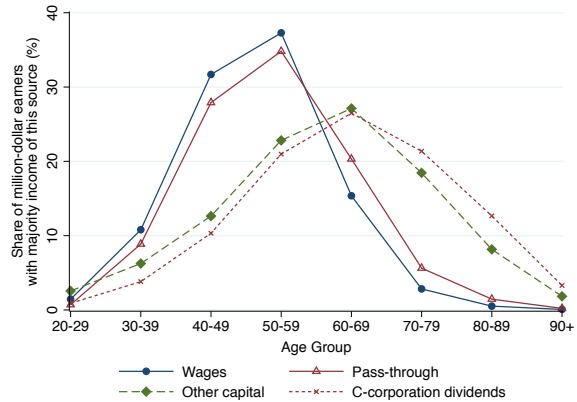
Source: Smith, Yagan, Zidar, Zwick (2019).

Figure 3: Working-Age Pass-Through Owners Preval at the Top of the Income Distribution

Pass-Through Income in Top 1% is Large



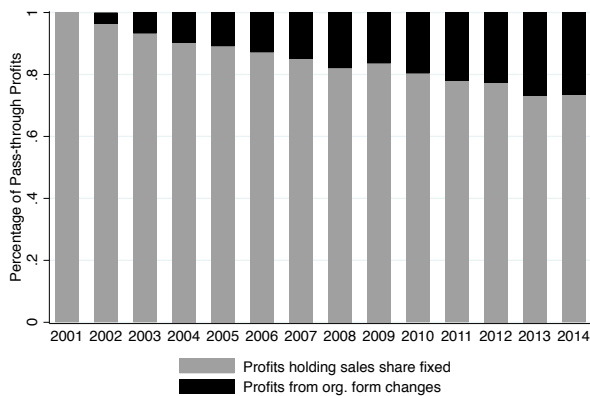
Millionaire Pass-through Owners are Working Age



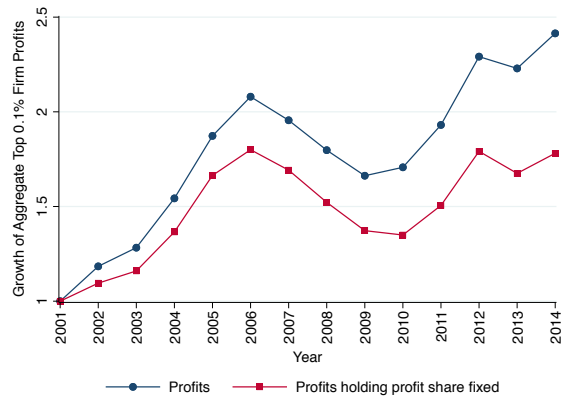
Source: Smith, Yagan, Zidar, Zwick (2019).

Figure 4: Growth in Pass-through Profits Accounting for Organizational Form Changes

Total Pass-through Profits Adjusted for Org. Form Changes

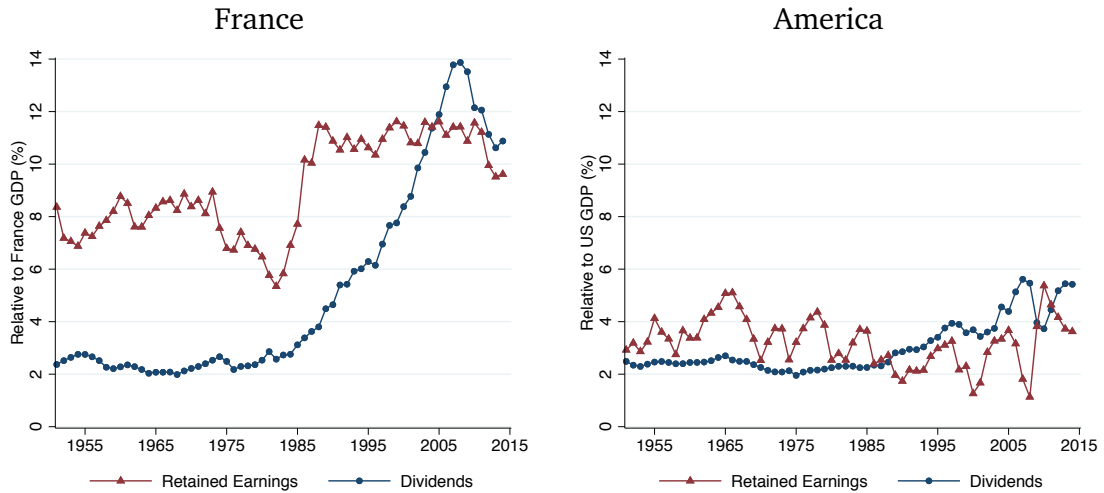


Top-0.1% Pass-through Profit Growth Adjusted for Org. Form Changes

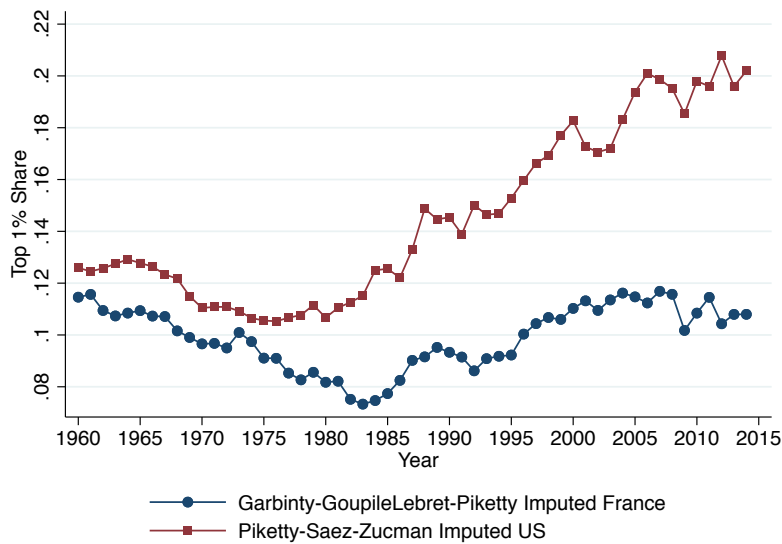


Source: Smith, Yagan, Zidar, Zwick (2019).

Figure 5: Inequality and Retained Earnings in France and America

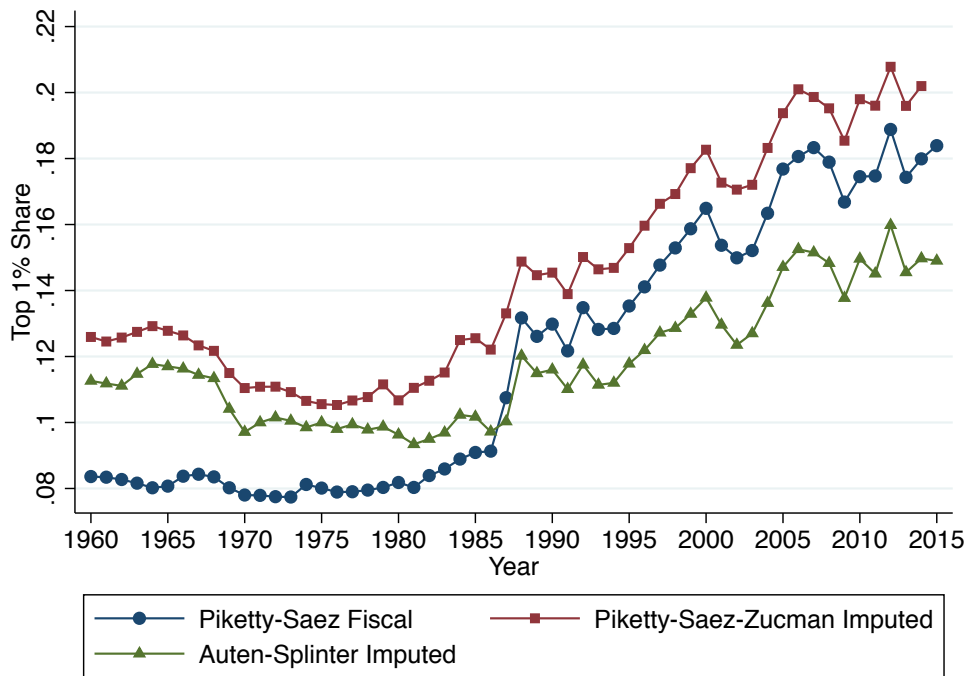


Imputed National Income in France versus America



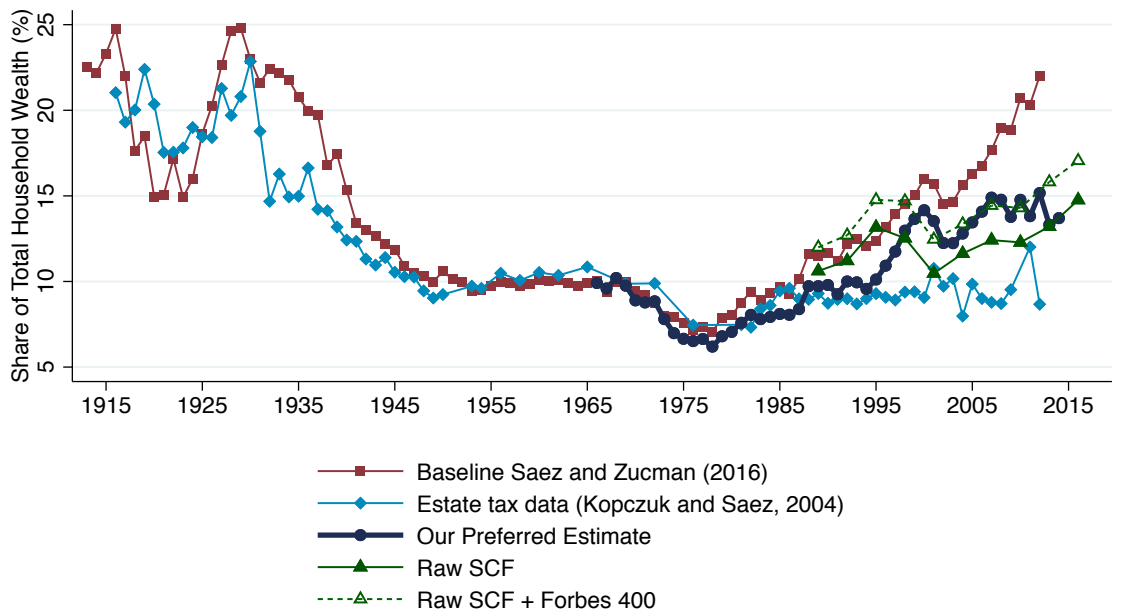
Source: U.S. data from Piketty, Saez, and Zucman (2018). France data from Garbinty, Goupille-Lebret, and Piketty (2018). Author calculations reflect an imperfect understanding of the national accounts data for France. Suggestions welcome.

Figure 6: Comparing Fiscal and Alternative Distributional Accounts Series

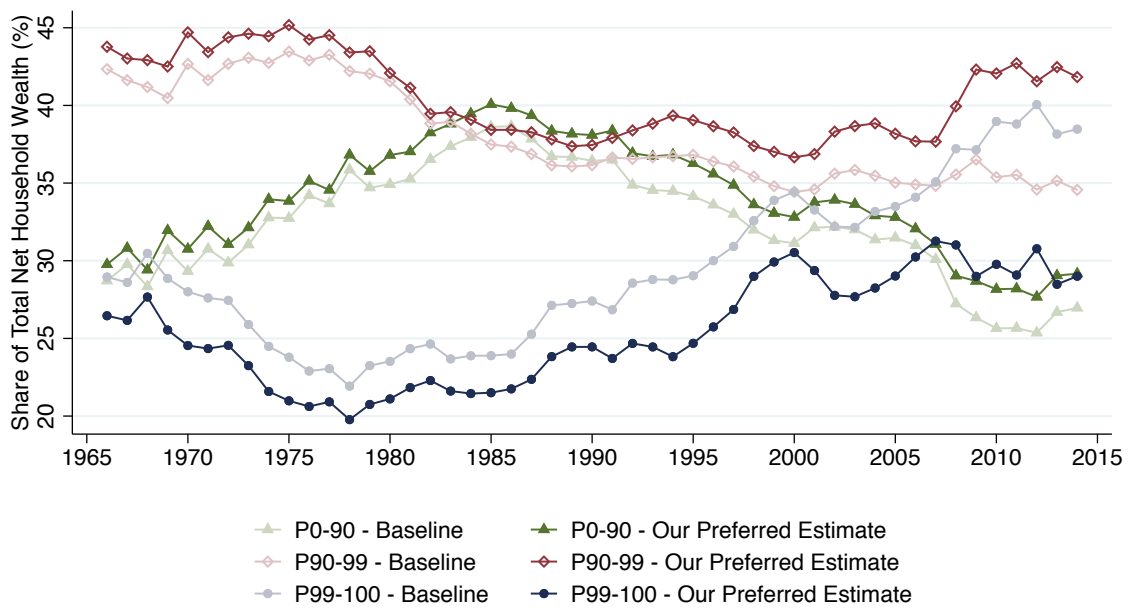


Source: Piketty and Saez (2003, updated to 2014); Piketty, Saez, and Zucman (2018); Auten and Splinter (2019).

Figure 7: Wealth Concentration in the United States
 Top 0.1% Share of Total Wealth

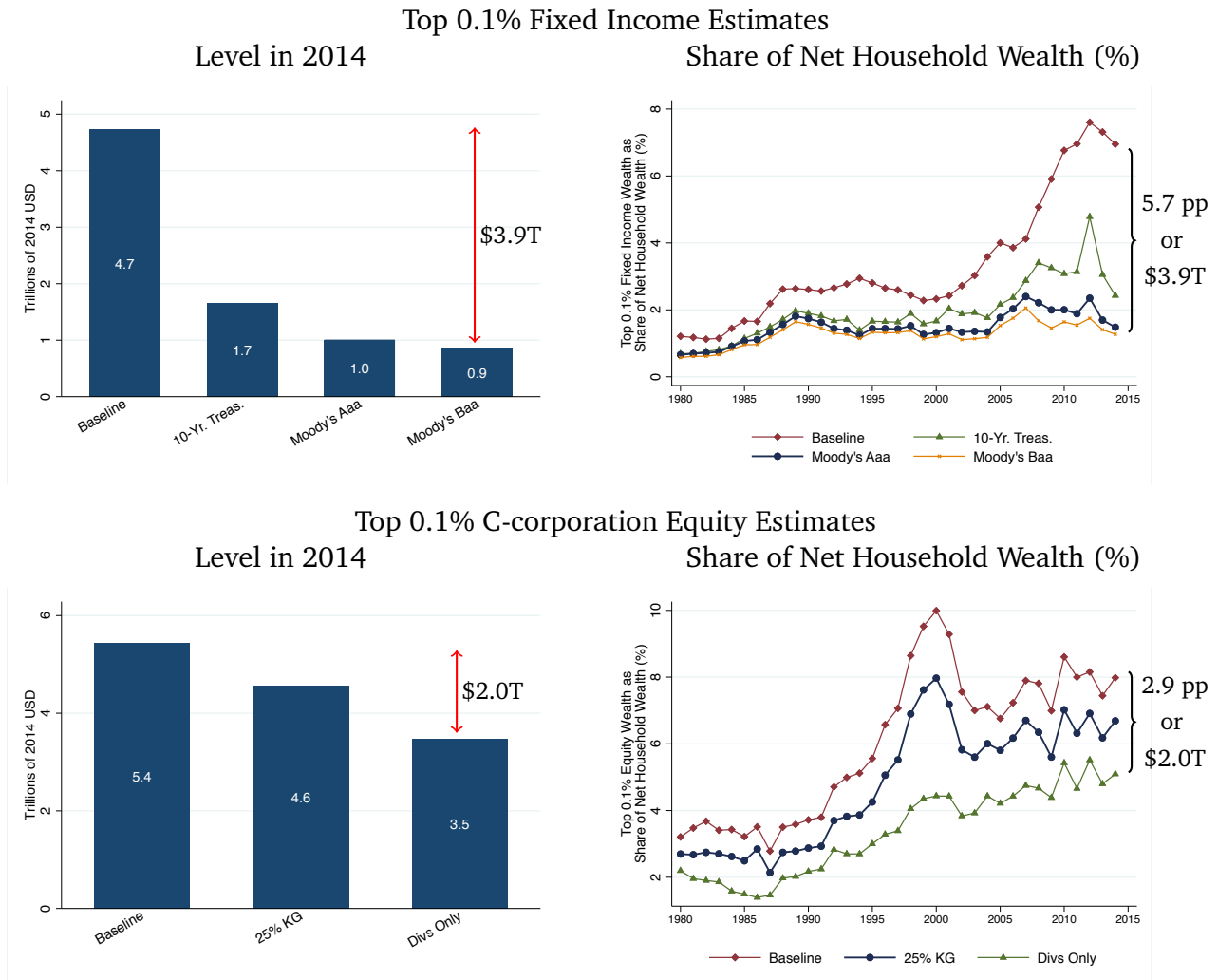


Wealth Shares of the Bottom 90%, P90-99, and Top 1%



Source: Smith, Zidar, and Zwick (2019, preliminary working paper).

Figure 8: Sensitivity of Top Wealth Estimates to Assumptions



Source: Smith, Zidar, and Zwick (2019, preliminary working paper).

Figure 9: Link between Wealth, Income, and Tax Distribution Estimates

