Reply: Measuring Income Inequality: A Primer on the Debate

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This note responds to an article by Gale, Sabelhaus, and Thorpe (2023, GST) recently posted on the Brookings website that comments on Auten and Splinter (forthcoming, AS). GST discuss levels and trends of top income shares in AS and Piketty, Saez and Zucman (2018, PSZ). The GST analysis, however, fails to include relevant context and misrepresents some AS results.

In contrast to eight points raised or implied in GST, this note explains that: (1) GST misrepresent how different approaches in AS and PSZ explain top 1% gaps and fail to discuss the reasons for those different approaches, (2) the AS estimates are consistent with other high-quality inequality studies, (3) GST ignore crucial differences between survey and tax data when considering the distribution of underreporting in tax data, (4) GST ignore the results of special audit studies that find significantly higher misreporting rates among those with negative reported incomes or in the bottom 99% relative to the top 1%, (5) the suggested limitations of the audit studies are unsubstantiated or have little impact, (6) AS presented estimates with alternative allocations of government consumption, (7) the AS allocation of deficits is more consistent with historical precedent, and (8) the implication that AS estimates are inconsistent with financial wealth inequality trends is incorrect. These eight points are discussed in more detail below.

1. Up or Down?

GST claim that "almost all the choices AS have made tend to push top income share estimates down, relative to PSZ." This is incorrect. More than 40% of our different approaches relative to PSZ have a negligible effect or increase our top 1% shares in 2019 (see Table 4 in AS).

Among the other differences, many of the PSZ assumptions seem weak or indefensible. First, Saez and Zucman (2020, p. 31) acknowledged that they mistakenly treated retirement account asset rollovers as normal distributions, thereby overstating top incomes. For more details, see the AS online appendix (p. 34). Second, our half per-capita government consumption allocation better fits the data—GST correctly note that "education expenditures…are distributed closer to a per capita basis." Third, PSZ failed to reconcile tax-based reporting with national accounts in many ways, such as removing losses carried over from prior years. Fourth, the PSZ inclusion of people living in other countries is clearly wrong. We discuss other major differences below.

Regardless, the number of adjustments up or down is irrelevant. What matters is the quality of the adjustments—do the adjustments make sense given the limitations of the tax data and other data sources? This is why the AS approach takes careful account of how income reported in tax data differs from economic income and how it changed over time with policy. The additional

data used in AS allows accounting for high-income non-filers, matches IRA wealth at the micro level, and better allocates health insurance (PSZ used problematic CPS-based data). AS (p. 5) explains: "These differences are not merely differences in opinion. Each of our allocations result in a more consistent income definition over time (due to better accounting for tax policy changes and demographic changes) or use data ignored by PSZ (such as IRS audit studies used in national income aggregates)."

2. AS is consistent with other studies and shows distribution-wide inequality increased

GST imply that the Auten–Splinter estimates are inconsistent with other evidence of increasing inequalities. They failed to provide context. While our estimate of top 1% income shares after taxes and transfers changed little since the early 1960s, it increased 19% since in 1979 (1.4 percentage points) and has been mostly flat since 1988. Before taxes and transfers, our top 1% shares increased more: 24% since 1962 (2.6 points) and 47% since 1979 (4.4 points), although it has been flat since 2008.

These AS top 1% estimates are consistent with numerous studies: "Fixler, Gindelsky, and Johnson (2019) estimated a top one percent share of personal income in 2012 of 13 percent, identical to our estimate for pre-tax plus transfers income. Using Survey of Consumer Finance data, Bricker et al. (2016a) found that the top one percent share increased 3 percentage points between 1988 and 2012, compared to our estimated increase of 4 percentage points. Using tax return and Census data, the Congressional Budget Office (2022) estimated that the top one percent share of before-tax income increased from 9 to 16 percent between 1979 and 2019, compared to our pre-tax income share increase from 9 to 14 percent over this period. Using internal Census data to overcome top-coding issues, Burkhauser et al. (2012) estimated that the top one percent pre-tax income share increased only 4 percentage points from 10 to 14 percent between 1967 and 2006, similar to our estimates of 11 to 15 percent over this period." (AS, p. 5-6).

Additionally, our measures of distribution-wide inequality increased substantially. Before taxes and transfers, our Gini coefficients increased 25% since 1962 and 23% since 1979. After taxes and transfers, our Gini coefficients increased 10% since 1962 and 16% since 1979 (Figure A2 in AS). These differences highlight that market income inequality increases were substantially offset by increasing tax progressivity and transfers. Similar increases in tax progressivity and redistribution are seen in data from the Congressional Budget Offices (Splinter 2020a).

3. Tax data and Survey of Consumer Finances (SCF) distributions are not comparable

GST suggest that SCF data can be used to make inferences of the distribution of underreported business income in tax data. This is problematic because there are fundamental discrepancies between business income in tax data and the SCF.

Tax vs. SCF discrepancies are not necessarily due to evasion, but instead result from many differences in how people report income for tax purposes and in surveys. For example, differences in total business income between the two data sources appear to partly result from reclassification between labor and business income, as the SCF has almost $200 billion less in labor income. Also, the special audit studies show that a large share (about 40%) of detected business underreporting is among tax returns reporting business losses (Auten and Langetieg 2020). But these negative business incomes, which are prevalent in tax data, are largely missing in the SCF. This means business income underreporting should not be inferred by comparisons between tax data and the SCF.

Bhandari et al. (2019) explain: "Many businesses that report net losses to the IRS but few in the survey data, possibly because the respondents answered that they had no net income rather than a negative net income. These issues affect cross-sectional statistics, which are key inputs for studies of income and wealth inequality." (p. 445) They continue, "For pass-through businesses, the SCF overstates the income per return for profitable businesses by an average of 278 percent…The SCF understates the losses per return for businesses with negative net incomes by an average of 82 percent…Part of the problem may be in the framing of questions about business incomes. For example, the question 'what is your net income?' could be misinterpreted as being a question about positive net income." (p. 453)

4. Distribution of Underreporting

Our distribution of underreporting is consistent with the audit studies that are used to add this income to national accounts. The audits studies suggest business misreporting rates are around four or five times higher for the bottom 99% relative to the top 1% (ranked by reported income). Sole proprietor business misreporting rates were 101% for those with negative reported incomes but only 19% for those with incomes over $2 million (Table B3 in AS online appendix).

The top 1% by reported income has about half of all reported passthrough business income. Meanwhile, those with business losses have about four-tenths of underreported passthrough business income. To simplify, the top 1% is in the top 1% in tax data because they **report** a lot of business income. Negative incomes are often negative in tax data because they **underreport** a lot of business income.

Additionally, we account for the re-ranking implied by the audit data. As discussed in Splinter (2023), this results in our allocation of underreporting having a small effect on top 1% income shares (the normal finding with audit data). In contrast, the PSZ allocation by positive reported business income shifts underreporting from those with business losses (as seen in the audit data) to those much higher in the income distribution. This dramatically increases the PSZ top 1% share and is inconsistent with the audit data. For more discussion, see Splinter (2020b).

5. Distribution of misreporting not detected in audits

Other than missing offshore income, the argument that the audit studies disproportionately miss income at the top of the distribution is unsubstantiated. Auten and Splinter (2021, p. 11) discussed empirical evidence against this argument: "Larger businesses are likely to have more professional management and may have lower underreporting rates, as found by the 2003/2004 S-corporation audit study (IRS, 2008b). This study found that underreporting rates were much higher among S corporations with fewer assets than for those with more assets: 28% underreporting for those with assets under $0.2 million vs. 11% for those with assets of $10 million or more. In addition,…large investment partnerships have a strong incentive to report high earnings to attract investors."

For offshore income, the audits did miss this income, but recent policy changes with the Foreign Account Compliance Act appear to have dramatically increased reporting of offshore income (Johannesen et al. 2023). In AS (p. 38), we discussed possible effects of offshore income: "How would including unreported income from offshore wealth affect top income shares? Saez and Zucman (2016) argued that unreported offshore wealth would increase top one percent wealth in 2013 by about $1.2 trillion. Assuming a 5-percent return and ownership by the same individuals in the top of the income distribution would increase top one percent pre-tax income shares by only one-third of a percentage point. In addition, reporting of foreign accounts and income to U.S. tax authorities has increased significantly with new information-sharing and enforcement efforts. This has likely resulted in higher reported top income shares in recent years but understated top income shares in earlier years (Auten and Splinter 2021; Johannesen et al. 2023)."

6. Government consumption (i.e., non-transfer government spending)

It's unclear how to allocate government consumption. However, recent evidence tends to support our baseline assumption of one half per-capita. Riedel and Stichnoth (2022) presented evidence supporting a per capita allocation for public education spending. This education spending represents more than one-third of government consumption.

The AS online spreadsheet presents robustness checks for alternative government consumption allocations (see Table 5). These show that while alternative assumptions for government consumption change levels a bit, they have minor impacts on trends (compare the bottom three rows to the top row).

Government Consumption (after-tax income)	1962	1979	2019	1979–2019 Change	1962–2019 Change
50% per capita/50% after-tax inc. (baseline)	8.6	7.4	8.8	1.4	0.2
25% per capita/75% after-tax income	9.0	7.7	9.2	1.5	0.2
75% per capita/25% after-tax income	8.3	7.0	8.4	1.4	0.2
100% per capita/0% after-tax income	7.9	6.7	8.0	1.3	0.1

7. Deficits

There is uncertainty in how to allocate government deficits. In AS (p. 31), we explained why we view our allocation of deficits by federal income and payroll taxes as consistent with historical precedent: "Ferriere and Navarro (2020) explain that historical government spending shocks were financed with higher tax progressivity; and Auten and Splinter (2020, p. 135) note that 'federal surpluses have been followed by tax cuts (e.g., 1964 and 2001) and large federal deficits have preceded tax increases (e.g., 1982, 1984, and 1991).' In contrast, the PSZ approach implies that deficits result in cuts to Social Security benefits, Medicare and Medicaid, and refundable tax credits, which is inconsistent with historical experience."

8. Wealth vs. Income Inequality

The GST implication that our results are inconsistent with financial wealth inequality patterns lacks context. In Splinter (2023), I explained why top capital income share and wealth shares should diverge: "PSZ suggest that top wealth and capital income shares should run parallel over the long run. This is a problematic assumption. Economic changes can push down capital income shares relative to wealth shares. Most importantly, interest rates fell dramatically between 1989 and 2019—the federal funds effective rate fell from 9 to 2 percent. This decreased the ratio of interest-income to bond-wealth and therefore falling interest rates likely increased the gap between top income and wealth shares.…When fully including passthrough business, the Auten–Splinter top 1% non-housing "capital" income share increased by 5 percentage points between 1989 to 2019, about two-thirds the Federal Reserve's estimated increase in top 1% wealth shares. Therefore, the Auten-Splinter estimates are broadly consistent with increasing top wealth shares."

For more discussions on how wealth-to-income ratios can be driven up by declines in interest rates, see Moll (2020), Cochrane (2020), and Greenwald et al. (2023).

References

Auten, Gerald, and Patrick Langetieg. 2020. "The Distribution of Underreported Income: What We Can Learn from the NRP." Working paper.

Auten, Gerald, and David Splinter. 2020. "Top Income Shares and the Difficulties of Using Tax Data." In Furchtgott-Roth, Diana (ed.), 125–152. *United States Income, Wealth, Consumption, and Inequality*. Oxford: Oxford University Press.

Auten, Gerald, and David Splinter. 2021. "Comment: Tax Evasion at the Top of the Income Distribution: Theory and Evidence." Working paper. www.davidsplinter.com/AutenSplinter-TaxEvasion.pdf.

Auten, Gerald, and David Splinter. Forthcoming. "Income Inequality in the United States: Using Tax Data to Measure Long-Term Trends." *Journal of Political Economy*.

Bricker, Jesse, Alice Henriques, Jacob Krimmel, and John Sabelhaus. 2016a. "Measuring Income and Wealth at the Top Using Administrative and Survey Data." *Brookings Papers on Economic Activity*, Spring: 261–312.

Burkhauser, Richard V., Shuaizhang Feng, Stephen P. Jenkins, and Jeff Larrimore. 2012. "Recent Trends in Top Income Shares in the United States: Reconciling Estimates from March CPS and IRS Tax Return Data*." Review of Economics and Statistics* 44(2): 371–388.

Cochrane, John. 2020. "Wealth and Taxes, part II." Blog post at https://johnhcochrane.blogspot.com/2020/01/wealth-and-taxes-part-ii.html

Congressional Budget Office. 2022. "The Distribution of Household Income and Federal Taxes, 2019." (supplemental tables) Congressional Budget Office.

Fixler, Dennis, Marina Gindelsky, and David Johnson. 2019. "Improving the Measure of the Distribution of Personal Income." *AEA Papers and Proceedings* 109: 302–306.

Gale, William G., John Sabelhaus, and Samuel I. Thorpe. 2023. "Measuring Income Inequality: A Primer on the Debate." Brookings Institution Commentary. December 21. Available at https://www.brookings.edu/articles/measuring-income-inequality-a-primer-on-the-debate/

Greenwald, Daniel, Matteo Leombroni, Hanno N. Lustig, and Stijn Van Nieuwerburgh. 2023. "Financial and Total Wealth Inequality with Declining Interest Rates." SSRN working paper. Available at https://ssrn.com/abstract=3789220

Johannesen, Niels, Daniel Reck, Max Risch, Joel Slemrod, John Guyton and Patrick Langetieg. 2023. "The Offshore World According to FATCA: New Evidence on the Foreign Wealth of U.S. Households." in Tax Policy and the Economy.

Moll, Benjamin. 2020. "Comment on "Sources of U.S. Wealth Inequality: Past, Present, and Future." Available at https://benjaminmoll.com/wp-content/uploads/2020/06/HKS_comment.pdf

Piketty, Thomas, Emmanuel Saez, and Gabriel Zucman. 2018. "Distributional National Accounts: Methods and Estimates for the United States." *Quarterly Journal of Economics* 133(2): 553–609.

Riedel, Lukas, and Holger Stichnoth. 2022. "Government Expenditure in the DINA Framework: Allocation Methods and Consequences for Post-Tax Income Inequality." ZEW working paper. Available at https://ftp.zew.de/pub/zew-docs/dp/dp22004.pdf

Saez, Emmanuel, and Gabriel Zucman. 2020. "Trends in US Income and Wealth Inequality: Revising After the Revisionists." NBER working paper no. 27921.

Splinter, David. 2020a. "U.S. Tax Progressivity and Redistribution." *National Tax Journal* 73(4): 1005–1024.

Splinter, David. 2020b. "Reply: Trends in US Income and Wealth Inequality: Revising After the Revisionists." Working paper.

Splinter, David. 2023. "Short Reply: Comment on Auten and Splinter (2023)." Working paper.