

Response to: “Private business wealth and rates of return in the United States” by Bricker, Moore, and Volz

Background Bhandari, Birinci, McGrattan, and See (2020, hereafter BBMS20) compared survey responses of business owners with data from the IRS and concluded that they are currently unreliable for studies of wealth inequality and entrepreneurial activity but suggested improvements. These improvements exploited the unique design of the SCF which make it possible to validate the SCF responses to aggregated (and publicly available) IRS data. Bricker, Moore, and Volz (2022, hereafter BMV22) take issue with the SCF-IRS comparison in BBMS20. In this report, we respond to their claims, starting first with an analysis of business incomes and then with business valuations.

Business Incomes With respect to the SCF-IRS comparison of business incomes, BMV22 take issue with the following statement from BBMS20:

“The SCF is the best survey design for our analysis; it asks households with actively managed businesses to report both the legal form of their business and amounts on specific lines from the relevant business tax forms—thus providing a valuable test of the survey regardless of whether misreporting of taxable income occurs.”

They claim that BBMS20 made “conceptual mistakes” and “misunderstand” the SCF codebook because the details about lines on tax forms are visible only to the interviewer and communicated to the respondents only if there is confusion about the survey question. BMV22 argue that respondents might have included income from assets issued by other businesses and the government and thus view a broader notion of income—ordinary business income (OBI) plus portfolio income—as more “appropriate.”

There are five main responses to this claim (with further details provided below).

1. The intent of the survey framers is clear from Figure 1 below, which is a screenshot from the SCF codebook. Not only did survey framers provide the interviewers with specific lines on tax forms, but they also were clear that X3132 (net income) should not be larger than X3131 (gross receipts). If the framers’ intent for X3132 was a broad-based measure including portfolio income—dividends, net interest, capital gains—then

Figure 1: SCF codebook for X3132

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X3132(#1)      What was the business's total pre-tax net income in 2018?
X3232(#2)      READ ONLY IF NECESSARY: What was the pre-tax profit of the
                business in 2018?

                TO ENTER A LOSS, ENTER THE MINUS SIGN (HYPHEN) FOLLOWED BY
                THE NUMBER.

                PARTNERSHIP: ORDINARY INCOME/LOSS: IRS FORM 1065, LINE 22
                SOLE-PROPRIETORSHIP: NET PROFIT/LOSS: IRS FORM 1040, SCH. C,
                LINE 31
                S-CORPORATION: NET INCOME: IRS FORM 1120S, LINE 21
                OTHER CORPORATION: TAXABLE INCOME BEFORE NET OPERATING LOSS
                DEDUCTION: IRS FORM 1120 LINE 30

                $ AMOUNT:
                -1.      Nothing
                0.      Inap. (no businesses: X3103^=1; no actively managed
                        businesses: X3104^=1/fewer than 2 actively managed
                        businesses: X3105<2)
                *****
                ORIGINALLY ALLOWED VALUES: [-9999999999,...,9999999999]
                *****
                EDIT CHECK:
                If net income is greater than gross receipts:

                IF X3132>X3131

                CAPI text displayed:
                ATTENTION:
                REPORTED NET INCOME IS GREATER THAN
                REPORTED GROSS INCOME. GENERALLY, NET INCOME
                IS LESS THAN GROSS INCOME, BUT SOMETIMES
                THE REVERSE IS POSSIBLE.
                IF POSSIBLE, PLEASE PROBE/CONFIRM.

                CONFIRM LATER
                CONFIRM NOW
                *****

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there would be no reason to warn the interviewer. Furthermore, if a broader measure was intended, it is not clear how one would design the questionnaire or validate the responses. This is especially relevant for small business owners who hold financial assets in business as well as personal accounts. These owners represent a majority of the SCF business sample.

2. *Even if* one agreed with BMV22 that the “appropriate comparison to income tax aggregates” (page 3) is net income plus portfolio income, BBMS20’s main conclusions do not change. First, the differences between the SCF and the broader notion of capital income from the IRS are still too economically large and volatile to be useful. This is evident in Figure 1 of either BBMS20 or BMV22. Take, for example, the estimate for sole proprietorships. The SCF reports a more than doubling of aggregate income between 1994 and 2000, while the IRS counterparts grow by merely 27% over the same period. Such patterns repeat over time and across legal form. These differences are large economically.

In addition, comparisons of broader income measures in the SCF and IRS have been discussed extensively in BBMS20 (see section entitled “Owners misclassify...” and Appendix Figures 13, 14, and 15). As such, relevant data and comparisons relating to

Figure 2: SCF codebook for X3104

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ACTIVELY MANAGED BUSINESSES
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X3104      Do you (or anyone in your family living here) have an active
           management role in any of these businesses?

           INTERVIEWER:  INCLUDE THE GENERAL PARTNERS IN A LIMITED
           PARTNERSHIP, BUT NOT THE LIMITED PARTNERS.

           1.      *YES
           5.      *NO
           0.      Inap. (no businesses: X3103^=1)

           (value set to YES when R reported having a farm business:
           X3101=YES)

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broader measures of business income are already made available to readers by BBMS20. BMV22’s replication of these findings does not offer new insights. Finally, BBMS20 highlights even wider discrepancies between the SCF and IRS when looking at broad business income on a *per-return basis*, a more economically-relevant measure.

3. Continuing with the presumption that the SCF intended to capture business plus portfolio income, the only significant disagreement between BBMS20 and BMV22 in terms of the IRS income measures is in partnerships. In using a broader-based measure of income, BMV22 again ignore the intent of the survey framers. Figure 2 is a screenshot of the SCF codebook that instructs interviewers to include incomes of general partners—people that would be actively managing a business—but not incomes of limited partners—people that are investing in, but not running, a business. BMV22 compare this SCF measure with the IRS individual partnership income that includes incomes for *both* general and limited partners. As we show below, in recent years almost all of the income is made by the limited partners that are not included by design in SCF measures (specifically, variable X3132).
4. Finally, *even if* one were to pretend that aggregates line up, there are other issues raised by BBMS20 that are unaddressed by BMV22:
 - (a) issues with undercounted returns (and thus income per return estimates) remain even if a broader measure of business income is used;
 - (b) issues with business receipts remain;
 - (c) issues with internal consistency between the Form 1040 and the Schedule C incomes remain;
 - (d) issues with the cross-sectional moments remain, specifically, large errors when comparing business incomes across AGIs, large errors in return counts by legal form, overstatements of profits, and understatements of losses.

5. Finally, a key point from BBMS20 is that empirical moments supplied by surveys are only useful to the extent they guide and discipline theories. By mixing sources of income, the data are no longer useful to researchers interested in distinguishing returns on entrepreneurial activities and returns from financial assets such as stocks and bonds. It does need emphasizing that any reasonable quantitative model of entrepreneurship would distinguish between these sources of income. Furthermore, BMV22's results, which cherry-pick a subset of aggregate comparisons, are not only unconvincing, but are also very narrow in scope and contribution because researchers using the SCF rely heavily on the cross-sectional data for business owners.

Business Valuations In the context of business valuations and rates of returns, the contribution of BMV22 is to extend Moskowitz and Vissing-Jorgenson (2002, hereafter MVJ02), or more recently Kartashova (2014, hereafter Kartashova14) who analyzed data over the period 1989–2010. BMV22 provide *three extra values*, that is, returns to private equity for the years 2010–13, 2013–16, and 2016–19.

There are four main comments on the BMV22 return calculations (with further details provided below).

1. The first relates to internal consistency. BMV22 argue that the measure of business income in the SCF is not just income from business activity but a broad-based measure of capital income that the owner derives from business. In the second part of their paper, BMV22 construct income-valuation ratios from the SCF, where the value in SCF is a self-reported hypothetical price at which the owner would sell his/her business. For these calculations to be internally consistent, the value of the business must include business assets as well as non-business financial assets.

A priori it is not clear that respondents would include the price of financial assets in the self-reported value of business (except maybe for businesses in financial sector). For instance, consider an owner of a consulting firm, who has a client list and parks some of the income from consulting in government bonds. When asked—“At what price would you sell your consulting firm”—it could very well be the case that the owner only reports the value of the client list (on the logical presumption that there are no gains from trade from selling cash or cash-like liquid financial securities).

In any case, if BMV22 are to argue that portfolio income should be included with business income—and that it makes a big difference whether one adds it or not—then they need to also validate that self-reported business valuations in the SCF correspond to a broad-based notion of capital. No such validation is offered in the current submission.

Another issue concerns taxable capital gains. In the first part of the article, BMV22 insist such capital gains must be added in business income (which then would be included in the numerator of the income-valuation ratio). Doing this conflates basic concepts such flows and stocks, especially in cases in which taxable capital gains reflect the market value of self-created intangibles. To see this more clearly, consider again an owner who started the consulting firm from scratch and sells a part of that practice later. For tax purposes, the basis for capital gains tax would equal the market value of the consulting firm. Using such capital gains as "income" for computing any for return, either the income yields or total holding period return is clearly misguided.

2. The second comment relates to the correction for labor income of owners. BMV22 emphasize that it should be subtracted from business income before computing income-valuation ratios. Given that labor input of the owners is not measured, there are three ways one can conceptually proceed:
 - (a) Model-based correction: For instance, in Bhandari and McGrattan (2021), the authors estimate a structural model of owner input and compute returns to a hypothetical mutual that receives income from a private business after compensating for the owner input.
 - (b) Focus on comparable firms: One can compare small firms in Compustat to relatively bigger firms in SCF. These firms typically have many employees and the correction for the owner's labor cost is not that essential. Alternatively, one can compare to brokered private firms (such as Pratts) that are more typical of businesses in the SCF. BBMS20 take both these approaches and find that income-valuation ratios are right-skewed in the SCF with large upward bias in the mean.
 - (c) Atheoretical (ad hoc) corrections: BMV22 do not follow either (a) or (b) but proceed to adjust SCF based measures of broad-based capital income with arbitrary estimates of owner labor costs. They report a wide latitude of these corrections ranging up to 75% of total business income as labor income. We are unable to verify the validity of such corrections, especially when applied unconditionally. For instance, consider again an unlisted C-corp that has many employees and compare it to a sole proprietorship with no employees. Treating them similarly and deducting 75% of business income as labor compensation of owners produces two sets of unusable income/valuation ratios.
3. The third comment relates to the potential contribution of BMV22. There are reasons to be skeptical about the return estimates in Table 1 over and above the issues reported

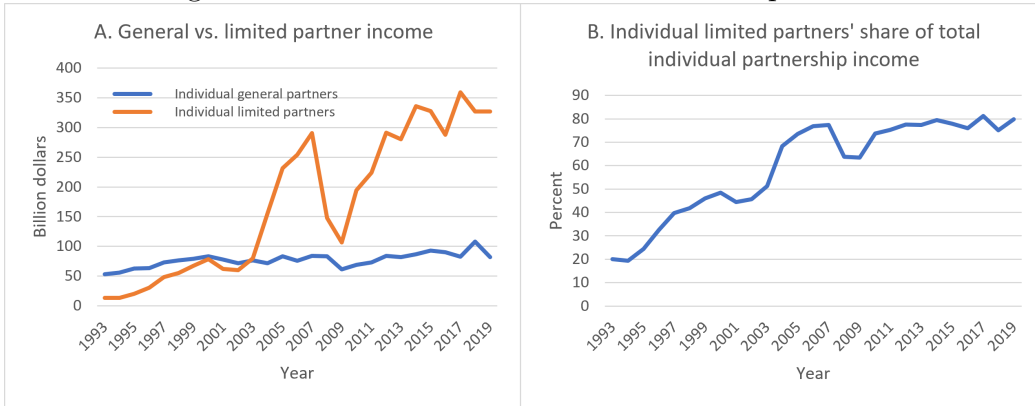
in points 1 and 2. First, for the earlier years, namely, 1989–2010, their estimates do not line up with the corresponding values reported in MVJ02 and Kartashova14. Presumably BMV22 departed from MVJ02/Kartashova14 but the specifics are not clearly discussed in the main text. Second, the range of values across different assumptions for labor income of owners is so wide that it renders the calculations useless. For instance, for years 2010–2013 the return on private business could be anywhere between 3.5% (column 4) to 17% (column 1) depending on the ad-hoc correction one makes. For years 2013–16 and 2016–19, the range is equally wide.

4. The fourth comment relates to the substantive economic take-away of BMV22. In the conclusion, they say “*We find qualitatively similar results to the earlier analysis, and show a slight favoring of public over private equity returns from 2010 to 2019.*” Finding two out of the three values for returns on private business that are slightly larger than some measure of returns on public firms does not constitute evidence in favor or against the private equity puzzle hypothesis. Elementary knowledge of standard errors should be enough to conclude that given the volatility of returns in the time-series (at roughly 20% per year) means that differences of a few percentage points in a couple years are not statistically significant.

Other Details

1. BMV22 criticize BBMS20’s measure of IRS partnership income, which assumes that 32 percent of total ordinary business income in IRS partnership returns is attributed to individuals. They instead start with a broad-based income measure that includes portfolio incomes.
 - (a) As we noted above, in recent years, almost all of the individual partnership income is earned by the limited partners that are not included by design in SCF measures (specifically, variable X3132). In Figure 3, we plot partnership incomes paid to individual general partners and limited partners. Panel A shows the IRS data (before adjusting for tax underreporting) in dollars from various issues of Partnership Statistics (specifically, “Table 5: Partnerships with Income (Loss) Allocated to Partners, by Industrial Group”). As the figure shows, individual limited partners earn over 0.3 trillion dollars by the end of the sample—which is a similar magnitude as the difference between BMV22 and BBMS20. Panel B shows the ratio of individual limited partner income relative to the total paid to individuals. This ratio rises from 20 percent in 1993 to about 80 percent in 2007 and remains high thereafter.

Figure 3: IRS Data on Individual Partnership Income



- (b) Much of the growth in partnership income is due to new investment products structured to operate as partnerships. As an example, Figure 4 shows a screenshot of proshares.com that markets exchange traded funds that operate as partnerships and issue Schedule K-1s to their investors. The income received by these investors—individuals that have no role in running the underlying businesses—would show up in IRS data under limited partner income.
- (c) Even if we increase our estimate of this fraction (and thus adjust the IRS estimates upward as BMV22 do), the errors between SCF and IRS are still too economically large to be useful.
- (d) When describing the partnership incomes appearing in their Figure 1 Panel B, BMV22 note that the IRS data are now close to the confidence bands of the SCF. The 95% confidence bands are so large to be useful for researchers. For example, in 2006, BMV22 report an SCF estimate of 1 trillion and an error bound between 0.4 trillion and 1.6 trillion. They report two IRS broad-based and audit-adjusted series at roughly 0.5 trillion, very close to the lower bound. From this, they claim success despite the fact that the upper bound of the error band is more than a factor of 3 larger.
2. In describing Figure 1 Panel A, BMV22 state that “Starting in 2001, the SCF began collecting all of Schedule C income later in the survey; this amount is plotted in green.” It is unclear why combining Section F and Section T income on one plot is correct (as opposed to plotting a consistent measure). The explanation given in the text is also unclear as the SCF has been collecting all Schedule C income even prior to 2001. There is no indication in the codebook that a change occurred.

Figure 4: Proshares ETF Funds

RESOURCES / TAX & FILING DOCUMENTS

K-1s (Form 1065)

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UVXY	Ultra VIX Short-Term Futures ETF	Volatility
SVXY	Short VIX Short-Term Futures ETF	Volatility
UCO	Ultra Bloomberg Crude Oil	Commodity
BOIL	Ultra Bloomberg Natural Gas	Commodity
UGL	Ultra Gold	Commodity
AGQ	Ultra Silver	Commodity
SCO	UltraShort Bloomberg Crude Oil	Commodity
KOLD	UltraShort Bloomberg Natural Gas	Commodity
GLL	UltraShort Gold	Commodity
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EUO	UltraShort Euro	Currency
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