

Comment on “Monetary Policy and Racial Inequality”

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1 Overview

Bartscher, Kuhn, Schularick and Wachtel approach a controversial question with high-quality empirical evidence. The result is a very valuable contribution to both the literatures on monetary policy and racial inequality. To make this contribution, the authors combine household balance sheet data for black and white household since the 1950s from an impressive data-compilation effort by [Kuhn, Schularick and Steins \(2020\)](#) with time-series estimates of the response of asset prices and unemployment rates to monetary policy shocks.

The paper’s main finding is that interest rate cuts have opposite effects on racial income and wealth inequality. On the one hand, they *decrease* the racial unemployment gap and therefore the percentage gap between black and white earnings. On the other hand, they *increase* asset prices and therefore the racial wealth gap. The key to the latter result are large and very persistent estimated asset-price increases in response to interest rate cuts (the LP-IV results in their Figure 8) and that white households hold portfolios that are more concentrated in assets with rising prices such as equities. The authors’ conclude that “monetary policymakers face a trade-off: monetary accommodation widens racial wealth inequality as it reduces income inequality.”

In parts of the paper, Bartscher, Kuhn, Schularick and Wachtel compare the size of these earnings and wealth effects (see e.g. their Figure 1) and advance a more provocative version of this conclusion, namely that “the reduction in the earnings gap pales in comparison to the effects on the wealth gap” and that “our analysis therefore does not bode well for the suggestion [...] that more accommodative monetary policy helps alleviate racial inequalities.”

Much of my comment will focus on the question whether and to what extent unrealized capital gains generated by falling interest rates are comparable to earnings changes. I will

first draw on discussions of this and related issues in the last one hundred years of economic thought. I will then comment on a strategy the authors use for making this comparison, namely to translate capital gains into consumption effects. Finally, I will draw on some of my own work that is relevant to the question at hand (Fagereng et al., 2022).

2 Apples versus oranges?

At various points of the paper, Bartscher, Kuhn, Schularick and Wachtel compare the earnings gains from accommodative monetary policy with the corresponding capital gains. This is, of course, an easy comparison to make: after all, both quantities are in dollars. However, a naive comparison like that in the authors' Figure 1 risks overlooking an important fact: the capital gains calculated by the authors are *unrealized* capital gains and do not automatically yield higher cashflows, disposable income or consumption. This raises the question whether this comparison in fact amounts to a comparison of apples and oranges? Put differently: are unrealized capital gains income? In particular those generated by a decline in interest rates?

2.1 Unrealized capital gains in the history of economic thought

The question whether unrealized capital gains are income has a long tradition in economics, going back work by Haig (1921) and Simons (1938). In their work the answer is “yes”: their proposed income definition – which is now known as “Haig-Simons income” – includes unrealized capital gains. A frequent next step in this line of argument is that capital gains should be taxed on accrual rather than realization.

However, this view soon received pushback, for example in Nicholas Kaldor's 1955 classic book an “An Expenditure Tax.”¹ An excerpt is worth citing: “*We may now turn to the other type of capital appreciation which reflects a fall in interest rates rather than the expectation of higher earning power. This in a sense is in an intermediate category [...] since the rise in capital values in this case [comes] without a corresponding increase in the flow of real income accruing from that wealth.*” This has the following implication: “*For in so far as a capital gain is realized and spent [...] the benefit derived from the gain is equivalent to that of any other casual profit. If however it is not so realized, there is clearly only a smaller benefit.*”

Kaldor's message is clear: if earnings are apples, unrealized capital gains due to declining interest rates are oranges. This difficulty, along with some other ones, ends up critically

¹Also see Paish (1940) who does not reference Haig (1921) and Simons (1938) but makes a similar point.

influencing Kaldor’s thinking about taxation: he concludes that it is exceedingly difficult to define a notion of income that would form good tax base. Kaldor’s solution: an expenditure tax – hence the title of his book.

Since these early contributions a sizable and growing theoretical and quantitative literature in macroeconomics and household finance has examined the effect of asset-price changes on wealth and welfare inequality. See for example [Whalley \(1979\)](#); [Gomez \(2018\)](#); [Gomez and Gouin-Bonenfant \(2020\)](#); [Catherine, Miller and Sarin \(2020\)](#); [Imrohoroglu and Zhao \(2020\)](#); [Moll \(2020\)](#); [Greenwald et al. \(2021\)](#); [Cioffi \(2021\)](#); [Fagereng et al. \(2019, 2022\)](#). Several contributions pursue lines of argument similar to Kaldor’s, namely that unrealized capital gains, in particular those due to falling interest rates, should be treated differently from income gains. I especially recommend [Whalley \(1979\)](#) who provides a beautifully clear graphical analysis of a two-period model similar to that in [Moll \(2020\)](#) as well as the non-technical expositions by [Cochrane \(2020\)](#) and [Krugman \(2021\)](#).

2.2 The authors’ solution: from capital gains to consumption

Bartscher, Kuhn, Schularick and Wachtel are, of course, aware of the difficulty involved in comparing earnings gains with unrealized capital gains. They therefore propose to look at the consumption effects of capital gains rather than the capital gains themselves. The idea is simple: if households realize their capital gains (i.e. if they sell the asset whose price appreciates) and consume the proceeds, this gets around the apples versus oranges problem.

Unfortunately the authors’ SCF+ data does not feature information on households’ consumption. They therefore use an estimate for the marginal propensity to consume (MPC) out of capital gains from the literature, namely a cross-regional estimate of 3.2% from [Chodorow-Reich, Nenov and Simsek \(2019\)](#), and apply this estimate to the wealth gains of both black and white households. Thus a wealth gain for white households of \$18,900 yields a consumption gain of $3.2\% \times \$18,900 = \605 and a wealth gain for black households of \$3,300 yields a consumption gain of $3.2\% \times \$3,300 = \105 , so that the relative consumption gain for white households is $\$605 - \$105 = \$500$ which is considerably larger than the accumulated relative earnings effect for black household of \$134. A practical difficulty is that the literature does not feature separate estimates of such MPCs out of capital gains by race. The authors address this shortcoming with a simple back-of-the-envelope calculation: they calculate how large differences in black and white MPCs would have to be in order to offset the relative income effect. They find that “black MPCs would have to be roughly three times larger than white MPCs for the relative consumption effect from capital gains to be as large

as the relative earnings effect” and argue that such large black-white MPC differences are implausible.

This is a very useful and convincing line of reasoning. Given the data constraints faced by the authors, in particular the absence of consumption information, it is probably also the best they can do. In my view, it is however still not fully satisfactory. My main hesitation is that the estimated consumption effect is the outcome of multiplying three numbers estimated using completely separate datasets: household balance sheet positions from the SCF+ are multiplied with time-series estimates of asset-price responses to monetary policy shocks to get the wealth gains; these are then further multiplied with an MPC estimate from the cross-regional analysis in [Chodorow-Reich, Nenov and Simsek \(2019\)](#) to get consumption effects. It is therefore unclear to what extent interest rate cuts actually translate into higher asset prices and higher consumption for those households in the SCF+.

2.3 Alternative solution: equivalent variation of asset-price changes

It is therefore worth asking: are there any alternative ways to “translate the oranges into apples”? In recent work, [Fagereng et al. \(2022\)](#), we show that the answer is “yes”: one can translate asset price changes due to interest rate cuts into a money-metric welfare measure that is comparable to income gains. More precisely, we provide a sufficient-statistics formula for the equivalent variation of asset-price changes. In the context of rising asset prices due to interest rates cuts, the formula answers the following question: what is the equivalent transfer the individual would have to receive to experience the same welfare change as from the asset-price increase?² The formula takes the following form (here for the case of one asset – the paper extends it to multiple assets in a straightforward manner):

$$\text{Welfare Gain}_i = \sum_{t=0}^T R^{-t} (\text{Sales}_{it} \times \text{Price Deviation}_t), \quad (1)$$

where i denotes the individual, T is the length of the sample period, $R > 1$ is a discount rate, Sales_{it} are the net sales of the asset by the individual in year t , and Price Deviation_t is the deviation of the asset price due to interest rate cuts. Under some additional assumptions, this price deviation can be computed as the percentage change over time of the asset’s

²Our sufficient-statistics formula is a first-order approximation to the welfare gain and so the equivalent variation also equals the compensating variation, i.e. the net revenues of a planner who must compensate the individual for the asset price deviation, bringing her back to her welfare in the baseline scenario.

price-dividend ratio:

$$\text{Price Deviation}_t = \Delta\% \left(\frac{\text{Price}}{\text{Dividend}} \right)_t.$$

Intuitively, an interest rate cut is an example of a discount-rate shock as in [Campbell and Shiller \(1988\)](#). It thus leads to an increase in the asset’s valuations as measured by its price-dividend ratio. The formula (1) follows from an application of the envelope theorem and thus holds to first order.³

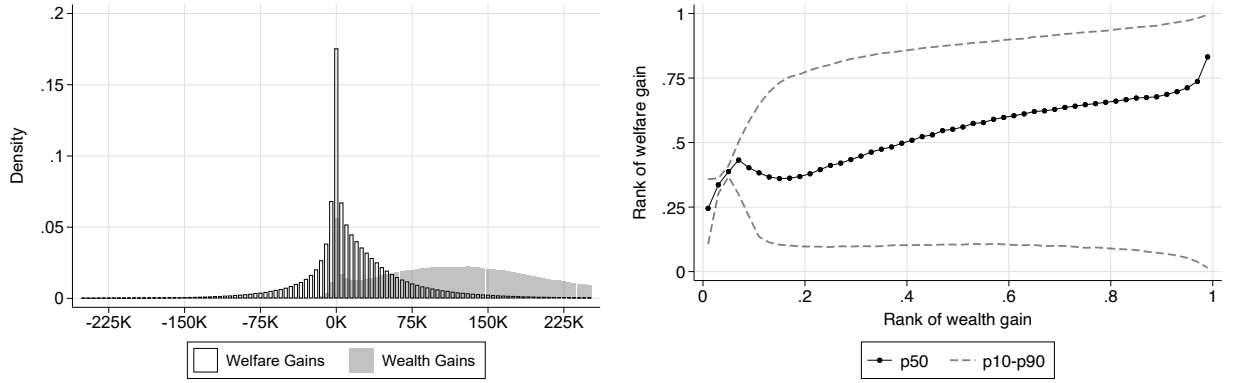
The formula for welfare gains in (1) generates two main insights. First, what matters are asset *transactions*, not asset holdings. Intuitively, higher valuations are good news for prospective sellers (those with $\text{Sales}_{it} > 0$) and bad news for prospective buyers (those with $\text{Sales}_{it} < 0$). A particularly interesting case is an individual who owns assets but does not plan to buy or sell ($\text{Sales}_{it} = 0$). For such an individual, rising asset prices are merely “paper gains”, with no corresponding welfare implications. Second, asset price changes are *purely redistributive*. When asset prices rise, there is a redistribution of welfare from sellers to buyers. But since for every seller there is a buyer, summing formula (1) across all parties and counterparties of financial transactions in the economy implies that the welfare gains aggregate to zero.⁴

In [Fagereng et al. \(2022\)](#) we operationalize this approach using Norwegian administrative panel data on asset transactions for the time period 1994 to 2015 so as to identify the winners and losers of historical asset price changes over this time period (all asset-price changes, not just those due to monetary policy). The result is the white histogram labeled “welfare gains” in Figure 1(a). As expected, the figure shows substantial dispersion, i.e. there are some large winners and some large loser, reflecting large sales and purchases; at the same time, the welfare gains and losses are centered around zero, reflecting the purely redistributive role of asset-price changes.

An important question is: how do these welfare gains compare to wealth gains from rising asset prices, i.e. the unrealized capital gains emphasized by Bartscher, Kuhn, Schularick and Wachtel? The second, grey histogram in Figure 1(a) plots exactly this quantity. The main observation is that, while welfare gains are centered around zero, wealth gains are centered about a large positive value. This reflects the fact that wealth gains accrue to all asset

³The formula (1) omits an effect that may be important in practice: that rising asset prices loosen collateral constraints thereby allowing for more borrowing and consumption. The formula can be extended to take this effect into account.

⁴However, since there are financial transactions between sectors of the economy (i.e., between households, the government and foreigners), we can have that the household sector as a whole benefits, but necessarily at the expense of another sector. In our empirical implementation, we find that the welfare gains of the Norwegian household sector approximately aggregate to zero.



(a) Density of welfare gains versus wealth gains (b) Rank of welfare gain versus rank of wealth gains

Figure 1: Comparing welfare gain (equivalent variation) and wealth gains

holders while welfare gains only accrue to asset sellers.

While this exercise shows that welfare and wealth gains have different densities, it is silent on the correlation between the two variables. To focus on this question, Figure 1(b) plots the average rank of welfare gains versus the rank of wealth gains. If welfare gains are perfectly correlated with wealth gain, the result should be a 45° line from 0 to 1. Conversely, if welfare gains are unrelated to wealth gain, the result should be a horizontal line at 0.5. Reality is somewhere in-between: empirically some individuals with large asset positions buy and hence lose in welfare terms; conversely, others with small positions sell and hence win. This finding also shows up in the wide bands for the 10th and 90th percentile welfare gains: within any given wealth gain rank, some individuals experience a very low welfare gain and others experience a very high one.

3 Conclusion

The implications of these considerations for the work of Bartscher, Kuhn, Schularick and Wachtel are clear: care is needed when comparing earnings gains and unrealized capital gains. In my view, a fully satisfactory comparison would require either a dataset with all of (i) household income, (ii) wealth, and (iii) *consumption* (as emphasized in Section 2.2) or a dataset with all of (i) household income, (ii) wealth, and (iii) *asset transactions* (as emphasized in Section 2.3). Unfortunately, neither is available in the United States.⁵

⁵The Panel Study of Income Dynamics (PSID) does feature information on all of household income, wealth, and consumption. However, it has a number of other downsides, including that it surveys households only every two years, potential issues with the reliability of the consumption data, and that it does not

Given the difficulty of comparing earnings gains and unrealized capital gains as well as the data limitations in the United States, the authors' provocative conclusion that accommodative monetary policy hurts overall racial inequality should be taken with a grain of salt. At the same time, the less provocative version of the conclusion stands: monetary policy seems to face a trade-off with respect to racial inequality in that interest rate cuts widen racial wealth inequality as they reduce earnings inequality. This is an important finding and constitutes a very valuable contribution in itself.

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accurately capture the very top of the income and wealth distributions.

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