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The Impact of the Global Decline in Interest Rates on the Inequality of Wealth

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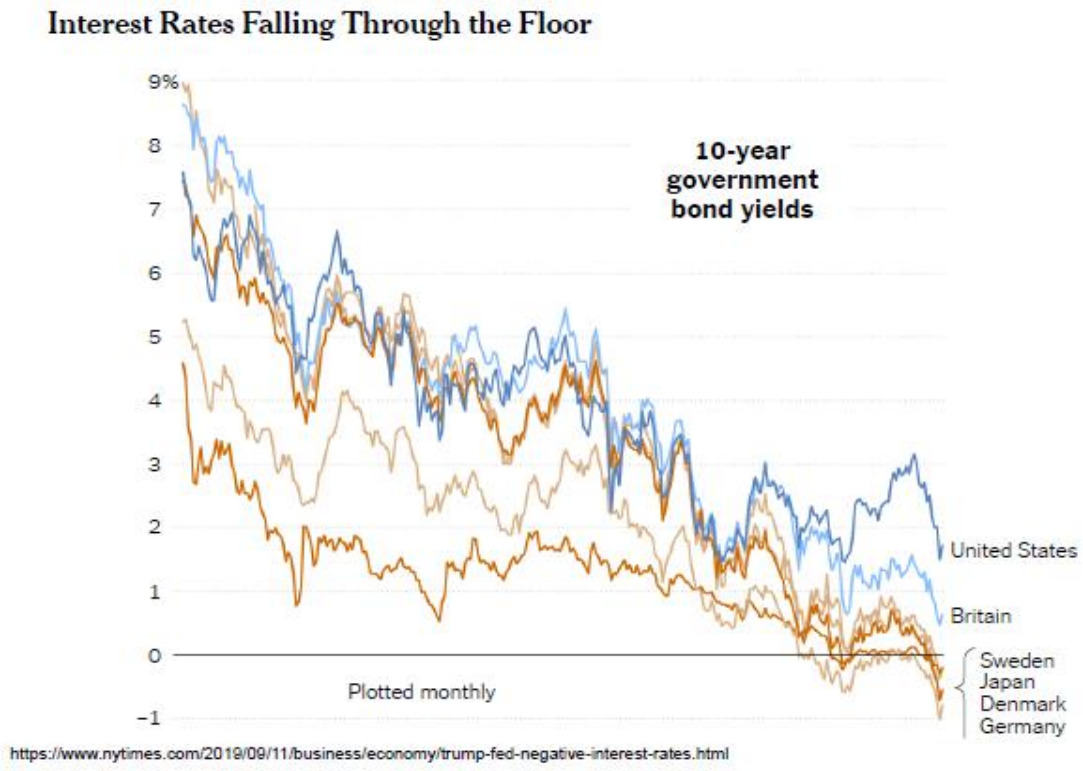
As Figure 1 illustrates, the last 25 years have seen a dramatic decline in interest rates, and the fact that these declines are a word-wide phenomenon can be seen as evidence of the globalization of capital markets. This paper asks to what extent the decline in interest rates can explain the rise in wealth inequality over the same period.



Wolff (2017), among others, has documented the sharp growth in U.S. wealth inequality over the same period, particularly since 2007. Other studies which have already addressed the connection between inequality and monetary policy include Lenza and Slacalek (2018) (who find

that quantitative easing compressed the income distribution in the euro area but that monetary policy had a negligible effect on wealth inequality) and Ampudia et.al. (2018) (who report that quantitative easing reduced income inequality in euro countries. Davtyan (2016) concluded that contractionary monetary policy decreased income inequality in the U.S.

This paper uses a simulation model to examine the impact of interest rate changes on wealth inequality in the U.S. . We focus on the 2007 Survey of Consumer Finances (SCF) as the base year, and replicate using the 2016 SCF. Since the price that an asset A will command on capital markets is determined by the net present value of expected receipts from that asset ($\sum_{t=0}^{T} \frac{Y_{tA}}{(1+r)^t}$), asset values move inversely to interest rate changes but since the net present value of any alternate asset B ($\sum_{t=0}^{T} \frac{Y_{tB}}{(1+r)^t}$) which has a different time pattern and/or duration of future receipts ($\frac{Y_{tA}}{Y_{tB}} \neq k$) will not move proportionately with that of asset A, interest rate changes differentially affect the relative values of different asset types. Therefore, since the composition of wealth holdings varies with wealth levels, as shown in Wolff (2017) (e.g. the wealth of middle deciles of the wealth distribution is almost entirely in residential real estate while financial assets dominate the portfolios of the top 1%), changes in interest rates affect both the level and the inequality of wealth.

A key issue is the change in capital value of each asset type for a given change in the level of nominal interest rates (proxied by the change in the nominal interest rate on one-year government debt). Writing this as an elasticity, one can call it Zi = ((d(Ai)/d(r))/Ai)/(d(r)) /r) – the percentage change in the value of asset type i for a percentage change in general interest rates. We expect Zi to vary a bit by asset type because the duration and timing of returns on asset types differs, and because their liquidity and the tax treatment of returns differs (e.g. capital gains on stocks vs. owner occupied housing). Lenza and Slacalek (2018), Ampudia et.al. (2018), and Davtyan (2016), among others have provided estimates of the elasticities Zi.

As in Wolff (1979), which simulated the effects of the 1969-1975 inflation on household wealth inequality in the U.S., we assume that the portfolio composition in real terms in the base year remains fixed over time. In particular, we assume that households do *not* adjust their portfolio composition in response to changes in relative asset prices (that is, there is no substitution effect and no behavioral response).

There are various channels through which a change in the interest rate affects asset values. The share price of stocks will depend on the reaction function of stock prices to change in the interest rate – generally, stock prices rise when interest rates fall, but other information also matters. For financial securities the relationship is tighter - bond values fall when the interest rate rises and can be calculated directly. House prices and other real estate values depend on both capital gains expectations and how much their value reacts to changes in mortgage carrying costs. Liquid assets like money market funds take a capital loss when interest rates decline since the income flow is reduced. The value of unincorporated business tends to follow the stock market so that a fall in interest rates should lead to a similar rise in their value. On the liability side, for variable rate mortgages and loans (which we can identify in the SCF data), there is an effective capital gain when interest rates decline, even though the face value of the loan remains the same.

Preliminary results indicate that the fall in interest rates after 2007 accounted for about 15-20 percent of the rise in wealth inequality from 2007 to 2016.

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