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The lost generation of the Great Recession ☆

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ABSTRACT

This paper analyzes the effects of the Great Recession on different generations. While older generations suffered the largest decline in wealth due to the collapse in asset prices, younger generations suffered the largest decline in labor income. Potentially, some households may have benefited from the purchase of cheaper assets. To analyze the impact of these channels, I construct an overlapping-generations model with borrowing constraints in which households choose a portfolio of risky and risk-free assets. In response to shocks to labor income and asset markets resembling the Great Recession, young risky asset holders suffer the largest welfare losses, equivalent to a 33 percent reduction in one-period consumption.

1. Introduction

The Great Recession of 2007–2009 was the largest contraction in the United States since the Great Depression. However, the Recession did not impact all households equally, as documented in this paper and in Glover et al. (2011). On the one hand, older generations suffered the largest absolute decline in wealth due to the collapse in asset prices. On the other hand, younger generations suffered the largest decline in labor income. Potentially, some households who purchased cheaper assets during the Recession may have benefited in the long run. This paper provides a quantitative evaluation of the welfare effects of the changes in the labor and asset markets that took place during the Recession.

I construct an overlapping-generations model with borrowing constraints in which households choose a portfolio of risk-free and risky assets. Households are heterogeneous in portfolio, income, and wealth, both across and within age cohorts. The calibrated model fits the data well along the relevant dimensions, such as the age profiles of wealth, risky assets, risky asset participation, and household leverage (debt-to-risky-asset ratios), as well as the distributions of wealth and household leverage.

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Several features of the Great Recession such as the decline in labor income, the decline in risky asset prices, the increase in uncertainty regarding the return on risky assets, and the decline in interest rates are introduced into the calibrated model exogenously. The welfare effects vary widely along two dimensions: age and risky asset participation prior to the Recession. On the age dimension, households between the ages of 30 and 38 suffered the largest welfare losses, equivalent to a 24 percent reduction in one-period consumption, while households between the ages of 84 and 92 suffered the smallest welfare losses, equivalent to an 11 percent decline in consumption.

On the risky asset participation dimension, households who owned risky assets prior to the Recession suffered significantly larger welfare losses, equivalent to a 23 percent reduction in consumption, compared to the 8 percent welfare loss for households who did not own risky assets. When jointly considering these factors, young risky asset participants (ages 21–29) suffered the largest welfare losses, equivalent to a 33 percent decline in consumption. This is because young households experience the largest decline in labor income and the largest relative decline in wealth since they are more leveraged than older households, as in the data. By contrast, pre-retirement households (ages 57–65) who did not own risky assets had the largest welfare gains, equivalent to a 6 percent increase in consumption. This is due to two reasons. The first is that, compared to older nonparticipants, pre-retirement households are still accumulating assets for retirement, and therefore are more likely to purchase risky assets. The second is that, compared to younger nonparticipants, they have more wealth, and thus are in a better position to take advantage of cheaper asset prices.

This paper is closely related to Glover et al. (2011), who also study the distributional consequences of the Great Recession, but find that older generations suffer the largest decline in welfare, while younger generations are close to welfare neutral, because of their ability to take advantage of depressed asset prices. This paper departs from Glover et al. (2011) along three dimensions. First, it considers borrowing constraints that may limit the extent to which households can benefit from cheaper asset prices. Second, it considers within-age heterogeneity. This allows further decomposing the welfare losses along other dimensions, such as risky asset participation and household leverage, in addition to age. Third, the features of the Great Recession are introduced into the model as an unanticipated shock. This is due to two reasons: the first is computational tractability and the second is that one can argue that the magnitude of the Recession was indeed unanticipated, given the focus on the Great Moderation by academics and policy-makers in the lead-up to the Recession.[1]

This paper is related to the literature on the welfare consequences of asset price declines, including Li and Yao (2007) who use a life-cycle model to show that housing price declines benefit young households, and Kiyotaki et al. (2011) who find a similar result if the housing price decline is driven by productivity shocks and not by interest rate shocks. It is also related to other studies that consider the distributional consequences of the Great Recession, such as Bell and Blanchflower (2011) and Elsby et al. (2010) who focus on labor outcomes, emphasizing the high unemployment among the young generation, Peterman and Sommer (2014) and Krueger et al. (2016b) who consider the role of Social Security and Unemployment insurance, respectively, in mitigating the adverse effects of the Great Recession, and Menno and Oliviero (2014) who find that the collapse in housing prices during the Great Recession resulted in a large welfare loss for borrowers and a small welfare gain for savers.

This paper is structured as follows. Section 2 documents the changes in the labor and asset markets during the Great Recession which are used to model the Recession in the quantitative analysis. Section 3 presents a model economy that is used to formally analyze the lifetime welfare implications of the Recession. The calibration strategy and model fitness are discussed in Section 4. Section 5 presents the quantitative results and the welfare implications of the Great Recession. Section 6 concludes.

2. Empirical analysis

This section documents the changes in the labor and asset markets over the Great Recession that are introduced into the model in subsequent sections. The statistics documenting changes in disposable labor income are computed using the Current Population Survey (CPS) March supplements (2008 and 2011). The changes in earnings risk are computed using the Panel Study of Income Dynamics (PSID). The changes in asset prices, expected asset volatility, and interest rates are downloaded from the Federal Reserve Economic Data (FRED).

2.1. Disposable labor income

In this section, I document the changes in aggregate disposable labor income by age during the Great Recession. Disposable labor income is defined as the sum of wages, salaries, and two-thirds of self-employment income plus transfers minus tax liabilities.[2] Table 1 reports the percent changes in real disposable labor income, linearly detrended at 2 percent per year, from 2007 to 2010. Young households, defined as households whose head is between the ages of 21 and 29, suffered the largest decline in disposable labor income during the Great Recession, followed by households aged 30–38.

[1] See, for example, Arias et al. (2007), Bernanke (2004), Blanchard and Simon (2001), Galí and Gambetti (2009), and Stock and Watson (2003).

[2] Since the model abstracts from taxes, transfers, and unemployment, disposable labor income is the relevant variable of interest. Tax liabilities are computed for each household using TAXSIM (v9).