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Losers amongst the losers: the welfare effects of the Great Recession across cohorts

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On the contrary, the effects of unemployment on labour income and especially on human wealth are the most important factors in explaining the difference in welfare loss among cohorts. In particular, as a consequence of the Great Recession households' in their 20s experienced a loss in human wealth 25% higher than those of any other cohort in the model. These are the first-round losses, i.e. those arising directly from the calibration of the model.

The second effect is induced by the behaviour of individuals: the loss in human wealth suffered by young households increases their degree of risk-aversion and as a result they buy a lower share of risky assets and they are less leveraged than a counterfactual cohort born in normal times. This implication explain the difference between our result and the existing literature. Indeed, we show that their results depends crucially on the absence of long-term effects from unemployment.

Then we test the external validity of results by comparing predictions on consumption and portfolio choice of the model with actual data. Consumption data disaggregated by age groups show a reduction in consumption share of households in their twenties between 2007 and 2010 of a magnitude in line with model predictions. With respect to portfolio choices the model predicts that during a downturn young households, compared with their counterparts in normal times, have a lower share of risky asset and a lower leverage. Portfolio data for households exhibits the predicted pattern.

From a policy perspective our work has two main implications. Firstly, since labour market disruption is the main driver of welfare losses during a recessionary episode any policy intervention should be focused on reduction of unemployment and particularly on youth unemployment. Secondly, since our analysis reveals that future cohorts have a small welfare gain from the negative shock that hits living cohorts it is optimal to increase the debt burden to alleviate the welfare losses of those cohorts that were alive during the recessionary episode.

"The actual, unacceptable level of youth unemployment [...] con icts with any notion of fairness, is the greatest waste of resources, in icts damage on human capital, affects the potential of economies, pushing down growth for years to come."

— Mario Draghi, November 12th 2014

"The legacies of the Great Recession are many and multifaceted; they not only affect current cyclical developments, but may also have permanent bearings on our economies. [...] Higher unemployment (or under-employment) may have had an impact extending well beyond the current cycle."

— Ignazio Visco, September 23rd 2014

1 Introduction

Since the Great Financial Crisis there has been an increasing debate on which are the segments of the population that are most severely affected by deep recessions. The answer to this question is becoming more and more compelling. Indeed the elevated public debt burden has reduced the scal policy space in many western countries and the available resources should be concentrated to alleviate the welfare costs of those that suffer the most. This paper studies the welfare effects of an aggregate shock on households at different life-cycle phases.

Individuals at the beginning of their lives do not have nancial wealth but only "human wealth" (Figure 1, left panel), i.e. the present discounted value (PDV) of the stream of future labour incomes. As a consequence, they can be negatively affected by a fall in employment (Figure 1, right panel) and the long-term effects associated to youth unemployment. On the other hand, older cohorts have accumulated assets throughout their lives but their human wealth is almost nil. They can be affected by the fall in asset prices (Figure 2). How these two channels affect different cohorts? Who are the "losers amongst the losers"? This paper studies the welfare effects of an aggregate shock on households at different life-cycle phases.

Kiyotaki et al. (2011) have highlighted that a recession creates a window of opportunity for young cohorts that can buy assets at a low price from older cohorts by leveraging with cheap credit and, in turn, they can enjoy a strong increase in their wealth in the future. Glover et al. (2020) use a calibrated OLG model to assess the intergenerational redistribution that took place during the Great Recession episode and found that higher labour income losses suffered by young generations would have been partially offset by " nancial gains" while older households suffered the most from the recession. According to estimates in Glover et al. (2020) households, where the head is above 70 years old, experience signi cant losses from the

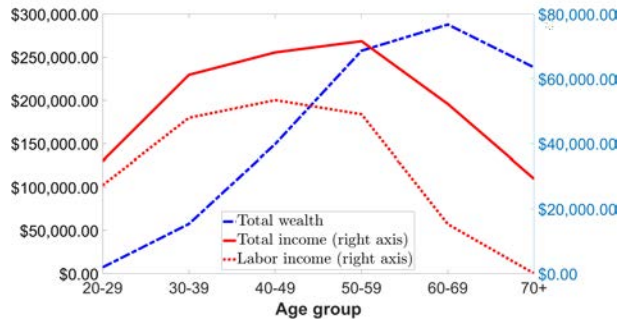

Figure 1: Life cycle pro le of total wealth, labour income (right axis) and total income (right axis) computed with intra-cohort median values (left panel, source: Survey of Consumer Finances, 2007) and employment-population ratio change by age group 2007:2-2010:2 (right panel, source: author's elaboration of U.S. Bureau of Labor Statistics and Census Bureau data)

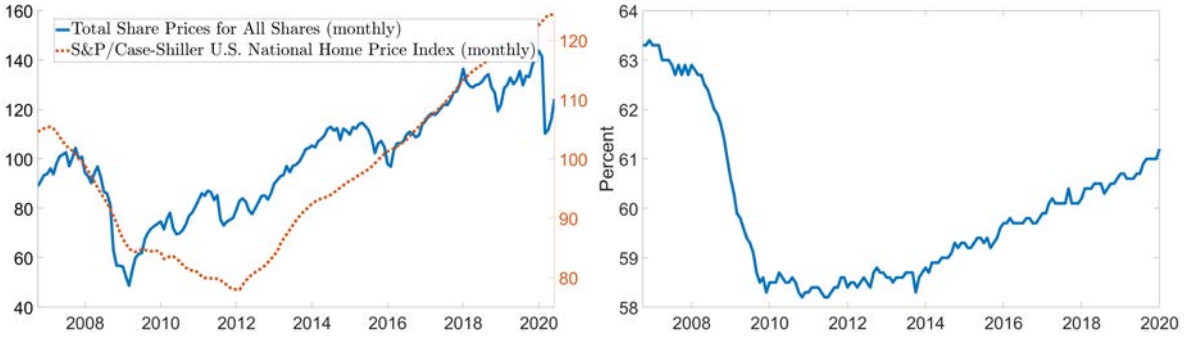

Figure 2: Theeffects of the Great Recession on stocks, housing prices (left panel, index scale, normalized to 100 on November 2007, source: FRED, Federal Reserve Bank of St. Louis) and civilian Employment-Population Ratio (right panel, source: U.S. Bureau of Labor Statistic).

Great Recession. By contrast, younger households who become active during a downturn suffer relatively less and, under some speci c conditions, they may even enjoy net welfare gains if compared with those that become active in normal times.

Nonetheless, a crucial hypothesis for the above results is that the loss in labour income arising from the recession episode is temporary. In particular, they assume that unemployment impacts human wealth only through labour income missed during the recession and that it has no effect on the future stream of wages and employment. However, several empirical works (Ellwood, 1979; Jacobson et al., 1993; Gregg and Tominey, 2005; Bell and Blanch ower, 2011; Davis and von Wachter, 2011; Jarosch, 2014 among the others) have shown that earning losses from unemployment are persistent: a worker that suffers layoff and/or unemployment has, ceteris paribus, lower labour income even after decades. Theory suggests that the “permanent scar” on the stream of future labour income can be explained by different factors, including less experience and on-the-job training, and loss in rm speci c human capital caused by the displacement.

In this respect, the positive correlation between unemployment, and especially youth unemployment, and future poor labour market performances is highly documented. While this evidence could be associated with the presence of “bad type” workers who, due to their low productivity, suffer the most the effects of a crisis and permanently earn lower wages, there is an abundant literature which points to a direct exogenous negative impact from unemployment or layoff to low future earnings.

The first attempt to quantitatively measure this effect has been done by Ellwood (1979). Using the National Longitudinal Survey of Youth (1979) he finds that the impact of youth unemployment on the probability of future employment exists but fades away in few years while the effects on future wages are persistent and significant.

Jacobson et al. (1993) study the effect of displacement on “high tenure” workers (six or more years), those that are more likely to have long-term losses in labour earnings. In order to do so they construct a longitudinal data set by merging several administrative records. They found that displaced workers' earning losses are around 25% per year, which are independent from age and sex and inversely correlated to employment growth in the local labour market.

Gregg and Tominey (2005) study the effect of youth unemployment on future wages in UK using a dataset that contains data on family background and skill characteristics they control for unobservable heterogeneity. Furthermore, the authors use an IV approach based on the rate of youth unemployment in the area of residence when the individual is 16 years old and has a low mobility. They found that one year of youth unemployment (i.e. when aged between 16 and 23 as in the ILO definition) implies a decrease by 13-21% in earnings at 41. The fall is lower if unemployment is experienced only once.

Davis and von Wachter (2011) address the endogeneity issue focusing on mass layoff events. According to their definition a mass layoff is a reduction of employees in a firm of at least 30%. Moreover they focus on cases in which the reduction of activity is caused by “bad times” and, as a consequence, the probability of becoming unemployed is orthogonal to skills and other unobservable individual characteristics. They exploit a long panel dataset that allows to estimate the effects on earnings twenty years after. As it can be seen in Figure 4 older workers tend to have larger immediate losses than younger workers, nonetheless younger displaced workers have non-negligible negative effects that persist in all periods considered. What is more, if the layoff happened during a recession wage fall is considerably larger for those below 40 and especially for those in their twenties, suggesting that a correlation exists between labour market conditions and the magnitude of future earning loss. Finally, they try to use some variations of Diamond-Mortensen-Pissarides search and matching labour market model to explain numerical data but they couldn't replicate

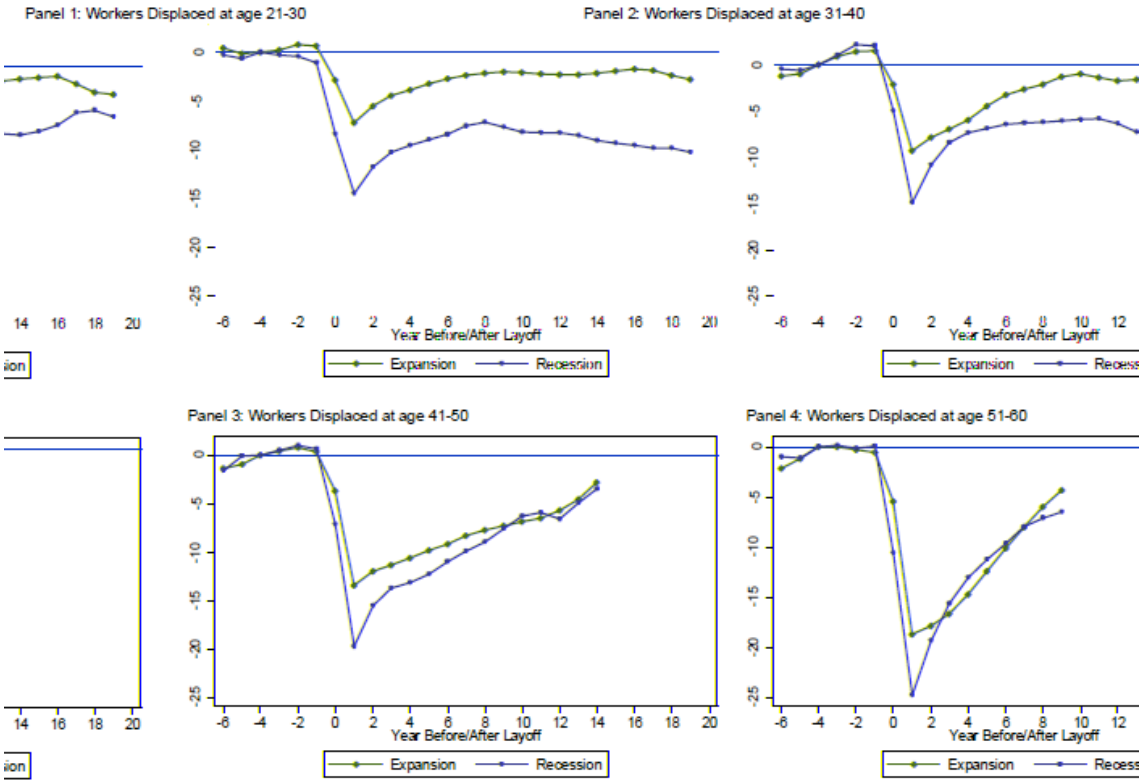

Figure 4: Effects on earnings of displacement during mass layoff. Expansions and recessions are determined using NBER de nition. Source: Davis and von Wachter (2011).

the persistency of the losses suffered by the young. Their analysis does not allow to disentangle the effects of time spent unemployed from those associated with a layoff.

Jarosch (2014) uses the same identi cation strategy of Davis and von Wachter (2011) on German data and nds similar results: workers who suffered a layoff due to exogenous factors have a permanent decrease in earnings (effects are signi cant even 20 years after the unemployment spell). He estimates a fall in the present discounted value by 21.2%. He uses a search model with two dimensions (productivity and job security) to study the effects of unemployment bene ts on labour market ef ciency.

Overall the available evidence suggests that unemployment has a negative effect on future wages. There are no estimates on the effect of labour market tightness on human wealth loss, however the works of Jacobson et al. (1993), Davis and von Wachter (2011) and Jarosch (2014) suggest that losses are greater in magnitude for those being displaced during a recession. Therefore, it could be the case that bad labour market conditions determine a longer period of unemployment and therefore an higher deterioration (or less opportunity of accumulation) of human capital and in the end to higher losses in the future. Therefore, the deepness and the duration of the Great Recession suggests that a complete analysis on welfare effects can