Margherita Borella¹ Mariacristina De Nardi² Fang Yang³

¹University of Torino and CERP-CCA ²Federal Reserve Bank of Minneapolis, UCL, CEPR, and NBER ³Louisiana State University

April 12, 2019



Motivation

• Most cohorts are better off than the previous one because of growth, but not all

Motivation

- Most cohorts are better off than the previous one because of growth, but not all
- We should be thinking more about changes in lifetime opportunities across cohorts and large groups within these cohorts

Borella, De Nardi, Yang

- Wages of men and women
 Guvenen, Kaplan, Song, Weidner (2017): Median lifetime earnings
 - Men: 12-19% lower for 1960s birth cohort than for 1940s one
 - Women: 22-33% higher for same cohorts

- Wages of men and women
 Guvenen, Kaplan, Song, Weidner (2017): Median lifetime earnings
 - Men: 12-19% lower for 1960s birth cohort than for 1940s one
 - Women: 22-33% higher for same cohorts
- Medical expenses

```
Hall, Jones (2007): Aggregate health services over consumption ↑ from 9% in 1975 to 15% in 2000
```

- Wages of men and women Guvenen, Kaplan, Song, Weidner (2017): Median lifetime earnings
 - Men: 12-19% lower for 1960s birth cohort than for 1940s one
 - Women: 22-33% higher for same cohorts
- Medical expenses
 Hall, Jones (2007): Aggregate health services over consumption
 ↑ from 9% in 1975 to 15% in 2000
- Life expectancy later in life
 Case, Deaton (2017): Mortality of white, non-college-educated age 55-59
 ↑ 22% from 1999 to 2015

Question 00

Our paper

• Focus on white, non-college-educated Americans born in the 1940s and 1960s



Our paper

- Focus on white, non-college-educated Americans born in the 1940s and 1960s
- Document new facts on how these two groups compare in terms of
 - Wages

- Medical expenses
- Life expectancies



Our paper

- Focus on white, non-college-educated Americans born in the 1940s and 1960s
- Document new facts on how these two groups compare in terms of
 - Wages

- Medical expenses
- Life expectancies
- Calibrate a structural model with married and single men and women for the 1960s cohort

Our paper

- Focus on white, non-college-educated Americans born in the 1940s and 1960s
- Document new facts on how these two groups compare in terms of
 - Wages

- Medical expenses
- Life expectancies
- Calibrate a structural model with married and single men and women for the 1960s cohort
- Give this cohort the wage schedule, medical expenses, and life expectancy of the 1940s cohort
- Evaluate effects on labor supply, savings, and welfare of the 1960 birth cohort



Model key features

- Single and married people and marital transitions
- Endogenous human capital (measured as average past earnings) affecting wages

- Single and married people and marital transitions
- Endogenous human capital (measured as average past earnings) affecting wages
- Risks during working and retirement periods
- Self-insurance: saving and labor supply
- Government taxes and transfers

Key features

• Lifecycle model, period length: one year



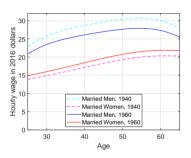
Key features

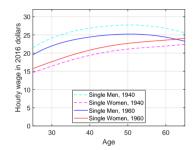
- Lifecycle model, period length: one year
- Working stage $(t_0 \text{ to } t_r)$, people
 - Alive for sure
 - Face wage shocks
 - Might get married if they are single
 - Risk divorce if they are married
 - Both spouses can work

Key features

- Lifecycle model, period length: one year
- Working stage $(t_0 \text{ to } t_r)$, people
 - Alive for sure
 - Face wage shocks
 - Might get married if they are single
 - Risk divorce if they are married
 - Both spouses can work
- Retirement stage $(t_r \text{ to } T)$, people
 - Face health shocks
 - Medical expense shocks
 - Exogenous probability of death

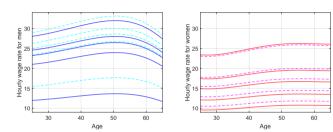
Wages





 Large decreases in the wages of men (↓ 9%) and increases in the wages of women († 7%). PSID data

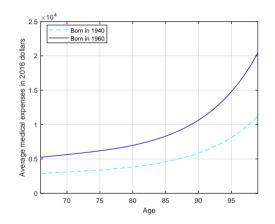
Wages conditional on human capital



- Wages as a function of human capital $(0^{th}, 25^{th}, 50^{th}, 75^{th})$ and 99^{th} percentiles of the distributions of men and women)
- Large drops in wages conditional on human capital, with largest drops for lower human capital levels, especially for men



Out-of-pocket medical expenses (OOP)



• An 80% increase in OOP medical expenses (from \$2,878 to \$5,236 at age 66).

Life expectancy

	Men, 1940	Men, 1960	Women, 1940	Women, 1960
Age 50	77.6	76.1	79.8	78.7
Age 66	82.5	80.9	85.7	84.0

• Large drops in life expectancy (1.1 to 1.7 years). HRS data

How do we do the counterfactuals?

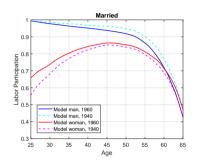
Give the 1960s calibrated cohort, the 1940s

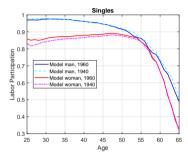
- Wage function
- Medical expenses
- Life expectancies
- Wage function, medical expenses, and life expectancies

We then look at outcomes and welfare

Borella, De Nardi, Yang

1940s vs. 1960s wages: participation



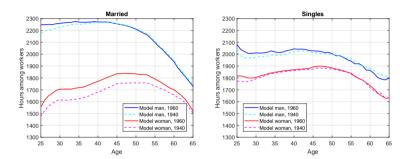


Under the 1960s wage schedule

- Participation of married women 8 percentage points higher at age 25
- Participation of married men 4 percentage points lower at age 55

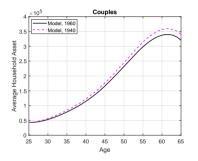


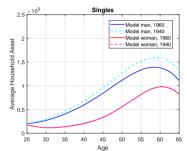
1940s vs. 1960s wages: hours



 Hours worked by young married women 100 hours a year higher under the 1960s wage schedule

1940s vs. 1960s wages: savings





• Assets at age 66 are lower under the 1960s wage schedule: 21% for single men, 1.1% for single women, and 6.1% for couples

Borella, De Nardi, Yang

1940s vs. 1960s wages: welfare

1940s vs. 1960s wages: welfare

- Everyone loses welfare under the 1960s wage schedule
- One-time asset compensations
 - Single men: 7.3% of present discounted value of their lifetime income
 - Couples: 4.5% of the present discounted value of their lifetime income
 - Single women: 3.4% of present discounted value of their lifetime income



15 / 19

Borella, De Nardi, Yang

1940s vs. 1960s medical expenses

- Savings go up
- Smaller changes in participation and hours
- ⇒ Everyone loses welfare under the 1960s medical expenses
- One-time asset compensations
 - Single men: 1.4% of present discounted value of their lifetime income
 - Single women: 1.0% of present discounted value of their lifetime income
 - Couples: 0.9% of the present discounted value of their lifetime income

1940s vs. 1960s life expectancy

- Savings go down
- Almost no changes in participation and hours
- Everyone loses welfare under the 1960s life expectancy
- One-time asset compensations
 - Single men: 3.2% of present discounted value of their lifetime income
 - Single women: 2.4% of present discounted value of their lifetime income
 - Couples: 2.2% of the present discounted value of their lifetime income



Borella, De Nardi, Yang

1940s vs. 1960s life expectancy, medical expenses, and wages

- · Changes in participation and hours driven by changes in wages
- Savings go up slightly because increased medical expenses dominate
- ullet \Rightarrow Everyone loses welfare in the 1960s cohort due to these changes
- Asset compensations for welfare losses:
 - Single men: 12.5% of present discounted value of their lifetime income
 - Couples: 8.1% of present discounted value of their lifetime income
 - Single women: 7.2% of present discounted value of their lifetime income



Borella, De Nardi, Yang

18 / 19

Conclusions

• The non-college-educated, white Americans born in 1960s compared with those born in 1940s



Conclusions

- The non-college-educated, white Americans born in 1960s compared with those born in 1940s
 - Experienced much lower wages over all of their life cycle
 - Expect much higher medical expenses during retirement
 - Expect lower life expectancy at retirement time
 - Experienced large welfare losses as a result
- Thinking about the changes experienced by various cohorts and education levels over time is worth studying more.

Conclusions

- The non-college-educated, white Americans born in 1960s compared with those born in 1940s
 - Experienced much lower wages over all of their life cycle
 - Expect much higher medical expenses during retirement
 - Expect lower life expectancy at retirement time
 - Experienced large welfare losses as a result
- Thinking about the changes experienced by various cohorts and education levels over time is worth studying more.
 - To what extend did government policies attenuate these changes?
 - Should the government have done something different?
 - What and at what stages of their life cycle?