

Comments on “Looking behind the financial cycle:  
the neglected role of the demographics” by  
Alessandro Ferrari

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# Introduction

## Demographics increasingly debated

- ▶ The role of demographics for macrodynamics is increasing actively discussed among academics and policymakers
- ▶ Policymakers voice concerns about the current demographic trends and their effects, in particular, on public finances
  - ▶ even to the extent that one of our MPs suggested a work party for childbirth - with the not so surprising response by the public in (social) media for choosing wrong words, if not criticising the whole idea
- ▶ This paper adds to the current stream of research papers on the macroeconomic effects of demographics
- ▶ The paper has a very interesting focus: major demographic changes - D shocks - as drivers of financial cycles
- ▶ The paper is compact and informative. I really enjoyed reading it

# Outline

- ▶ Short summary
- ▶ Comments on the model
- ▶ Comments on the policy conclusion

## Short summary

- ▶ Moti: interesting focus per se, and data displays correlation between demographics and standard financial variables
  - ▶ in particular: (some of the) cross correlations (Fig 3 and 4) are (surprisingly) high and the correlogram (Fig 6) is very telling
- ▶ Model: OLG structure particularly convenient for following the dynamics of the state of the economy (ie. the dynamics of demographics)
- ▶ Simulation results from the calibrated model are compared with survey data (on hh income and wealth) from Italy and US
- ▶ Concluding sections looks, among other things, to the future of the current low interest rate regime

# The Model

- ▶ 3-period OLG model with production
- ▶ Cohorts can differ in size
- ▶ Preferences: grand consumption aggregate is a CES aggregate of non-durable consumption and housing;  $\sigma$  control intertemporal smoothing of the grand aggregate, while  $\eta$  controls the intratemporal substitution of non-durable consumption and housing
- ▶ CES-production function of young and middle-age labour, no capital, elasticity of substitution between young and middle age labour is  $\rho$
- ▶ Borrowing/saving through bond market
- ▶ Housing stock (land) is fixed

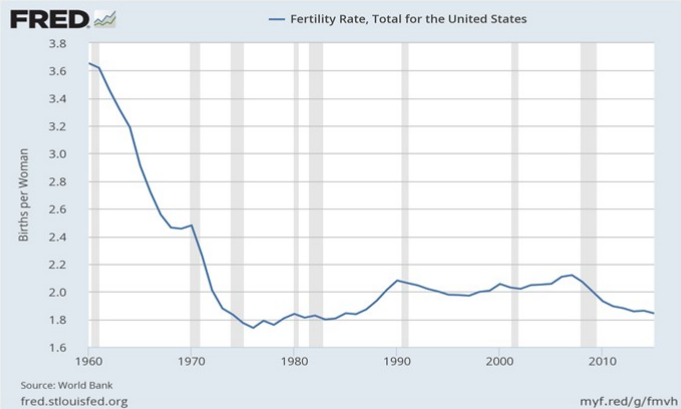
## The Model II

- ▶ Calibration fairly standard; simulating a 10% increase in the young cohort
  - ▶ Q1: Why such a large difference in the discount factors of young and middle-age agents (1.3 vs 0.5)? 1.3 would imply a slightly negative (-1.3%) annual pure rate of time preference, while 0.5 gives 3.6% p.a. (assuming a period of 20 years)
- ▶ According to Piazzesi-Schneider (2016) decomposition land is the major contributor to the housing stock. However, land that can be developed is not a constant; actually Fig 11 suggest a slight upward trend in available land and surely large deviations from that trend can emerge
  - ▶ Q2: Endogenous supply of housing?
- ▶ State vector: size of the cohorts; no capital in the production function, since no desire to increase the state space
  - ▶ However, the paper conjectures that including capital would actually strengthen some of the results (capital = risky investment), so
  - ▶ Q3: Why not include capital in the first place; the reason for not including it is fairly weak
- ▶ (NB! Some typos in the text)

## Further thoughts

- ▶ Jones - Schoonbrodt (JS, 2016): fertility rate responds to shocks in dynasty models
  - ▶ E.g. Great Depression generated a bust in fertility
- ▶ Expectations? Increase in family size as a response to perceptions of a financially brighter future?
  - ▶ JS (2016): Post WWII baby boom
- ▶ Fig 12-13: the model works fairly well for the consumption profile, less so for housing and even less so for financial assets, particularly for the US
- ▶ Hence: modelling the demographic shock as the key driver of a financial cycle is really a short-cut?

# Conclusions I





## Conclusions II

- ▶ Interesting conjecture/prediction: the financial cycle in the US will be reversed, once the retirement phase of the baby boomers comes to an end and smaller cohorts from the 1960's retire
- ▶ Indeed the above graph suggests, as the paper argues, that the financial cycle should reduce its amplitude, given the relative stability of the demographic process during the last 30+ years
  - ▶ unless big shocks in the economic environment emerge (LS, 2016)
- ▶ Let's see!
- ▶ Enjoyable paper, nice way of using the model to make predictions about the future of the financial cycle (in the US)

THANK YOU