

Labour Force Participation in the Euro Area: A Cohort Based Analysis

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Motivation

- Increase in euro area labour supply (that has accelerated since the mid-1990s) has significantly reduced the gap in the use of labour input between the euro area and the United States
- Important contribution to output growth and welfare in the Euro Area.
- However, the aging of the population begins to put downward pressure on aggregate labor supply, marking the start of what is likely to be a sharp deceleration in labor input.
- Need to understand the underlying determinants of changes in aggregate labour supply to assess the potential impact of this structural change.

The EU-LFS Data

- Detailed data for age (**single age!!!**) and gender groups for euro area countries is the European Community Labour Force Survey (LFS)
 - Value added compared to Fallick and Pingle (2007) who use 14 age-groups.
 - However, no distinction by measures for human capital.
- Indicators for **business cycle** (output gap) and **time-varying institutions** (union density, labour taxes, implicit tax for older workers, unemployment benefit replacement rate, share of youth in education, average number of children, marriage rate and a measure of life expectancy).

The Cohort Based Model

- Closely follows Fallick and Pingle (2007).
- System of constrained least squares regressions for single ages.
- Identification achieved by constraining cohort effects to be the same across ages. (**Cohort fixed effects**)
 - Assume that each birth-year cohort has a fixed propensity to participate in the labor force that is determined by various unmeasured factors.
 - Assume a **constant common baseline age profile**
- Effect of institutions is identified by within-country time variation.

Findings

- Results suggest that age and cohort effects explain a substantial part of the recent increase in labour force participation rates in the euro area.
- Cohort effects are particularly relevant for women, with those born in the 1920s and 1930s less likely and those born in the late 1960s and early 1970s more likely to participate in the labour market over the life-cycle.
- Cohort effects continue to provide some upward support to participation rates of women in the euro area, positive cohort effects are not large enough to compensate for the downward impact of population ageing on labour force participation rates in the euro area.

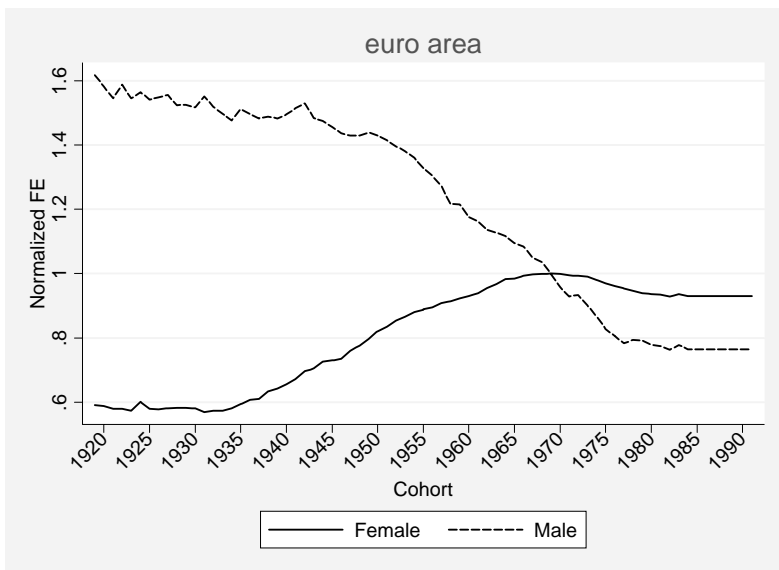
Some (nice) remarks

- Well written, interesting paper that contains value-added for the literature on labour supply.
- The methodology has been used before, but the application with detailed data for the Euro Area is novel.
- First paper that accurately estimates trends in labour force participation based on both observed determinants as well as unobserved age and cohort effects in the Euro Area.
- The pattern of the estimated cohort effects leave room for speculation about the underlying determinants and provide food for thought for future research.

Some thoughts

- What drives changes in cohort effects?
Cultural attitudes? Institutional factors? Choices made early in life?
- What about human capital investment?
Use post 1992 data with educational levels as additional distinction?
Enhance the model with indicators for human capital investments(e.g. returns to education)?
- Would it make sense (it be technically feasible) to allow for some flexibility of cohort effect?
E.g. different effects for early, prime or old ages?
- It would be interesting to see some comparison with findings for the US.
- Don't observe cohorts over the entire life-cycle. (Figure 6)

Figure 6: Estimated cohort effects (EA12)



Further thoughts

- Looking ahead, it is a bit unsatisfactory to identify an important but unobserved determinant of labour supply.
- Fixed cohort effects for last 8 cohorts.
- What about increasing retirement age?
Is it an age or distance to retirement effect?
- How would effects need to change (evolve) for labour supply to remain constant?