

# Hours of work polarisation?

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## Summary

Based on EULFS microdata for EU15 countries, the authors

- ▶ reproduce the relation between routine, non-routine, cognitive, manual tasks and the occupational wage rank
- ▶ show a declining trend in the hours worked for individuals who work in (non-)routine manual task intense jobs
- ▶ show an increasing trend in the hours worked for individuals who work in non-routine analytical and manual personal task intense
- ▶ also show evidence of a more linearly increasing relationship between initial mean wages and hours-worked

## Summary

The authors conduct robustness checks where they test their results for confounding factors:

- ▶ demographics: changing age structure, increasing female participation and educational attainment
- ▶ offshorability
- ▶ structural change across industries

The results are:

- ▶ broadly consistent across EU15 countries
- ▶ different from the U.S.A.

## Comments

1. Methodology: clarification and comparison to previous literature needed
2. Economics: what's going on?

## Clarification of methodology

Polarization in share of hours worked was included in the original literature

- ▶ Autor et al. (2006) use total hours worked
- ▶ Goos and Manning (2007) use both employment and hours [table](#)
- ▶ Autor and Dorn (2013) use weeks worked times usual number of hours per week
- ▶ Goos et al. (2014) use weekly hours worked (although state that results are not affected by using persons employed)

## Clarification of methodology

My understanding of the paper:

- ▶ Section 4 looks at differences in hours worked **conditional** on being employed: intensive only
- ▶ Section 6 shows changes in employment (by head-count) and hours for separate occupational quartiles and deciles: extensive and intensive

But how does this connect job polarization to overall decline in hours?

- ▶ How can the decline in hours worked by routine manual task workers explain overall decline if they represent a declining share of the economy?
- ▶ How much does the change in hours worked by non-routine manual physical task workers counteract their increase in extensive employment shares?
- ▶ Difficult to compare the main tables in Section 4: task indicators are not exclusive.

## Clarification of methodology

Or is this paper about comparing extensive and intensive margin of job polarization?

- ▶ Conclusions in section 4 (somewhat exacerbating) differ from 6 (hours are falling more at the bottom)
- ▶ Analysis by deciles remains opaque without knowing which occupational categories are where.

Alternatively, go back to previous specifications at occupational level:

- ▶ show the non-linear relationship between median wages and hours-worked/head-count in regression
- ▶ chart/table employment share changes and initial share of occupations ranked by median wage with and without intensive margin

## What's happening to hours worked?

Declining hours worked is an interesting phenomenon!

- ▶ But, is the average hours worked by all the right metric?
- ▶ Is the overall distribution contracting or expanding at the same time?
- ▶ More evidence is needed here



Table 1: Hours Worked in Belgium

	mean hours	part- time	mean hours, full- time	mean hours, part- time	p10th	p50th	p90th
2004	36.81	0.22	40.85	22.88	20	38	50
2005	36.93	0.22	40.97	23.18	20	38	50
2006	36.71	0.22	40.73	23.41	20	38	48
2007	36.96	0.22	40.98	23.59	20	38	50
2008	36.67	0.23	40.72	23.59	20	38	48
2009	36.68	0.23	40.84	23.82	20	38	47
2010	36.79	0.24	41.04	23.90	20	38	49
2011	36.71	0.25	41.16	23.71	20	38	50
2012	36.81	0.25	41.22	23.96	20	38	50
2013	37.11	0.25	41.48	23.97	20	38	50
<b>Total</b>	36.82	0.23	41.00	23.60	20	38	49

Source: EULFS microdata 2004- 2013

## What's happening to hours worked?

Declining hours worked is an interesting phenomenon! Why?

- ▶ Seems like the manual/physical dimension may be more important?
- ▶ Quantile analysis rather than explaining changes at the mean?
- ▶ Great Recession?
  - ▶ Evidence that loss of routine jobs took place during recession (Hershbein and Kahn, 2018)
  - ▶ Evidence of "work-sharing" policies (in some countries)
  - ▶ year dummies!
- ▶ Suggestive evidence from survey questions on why this person is working fewer hours?

## Minor Suggestions I

- ▶ More care is needed when extrapolating to results on wage polarization. Consistent evidence for European countries has not been found.
- ▶ the literature review on job polarization could be clarified. ALM (2003) first posited the routine task hypothesis, however, the connection to the phenomenon of job polarization only came later. Goos and Manning (2007) documented this for the UK. More structural connections between biased technological change and job polarization then came with Autor and Dorn (2013) and Goos et al. (2014)
- ▶ Vandenbroucke (2009) only present evidence for the U.S., correct? Institutional patterns may play a bigger role in European countries which are the focus of the paper.

## Minor Suggestions II

- ▶ examples of page 5 on hours liberalization contains examples of both routine manual and non-routine services, difficult to understand whether this means it is more correlated with automation
- ▶ repeating the conceptual framework of Autor and Dorn (2013) doesn't add anything to what you put forward as your main contribution: the intensive margin.
- ▶ strange to say that clerical work in has only been automated more recently given the time frame of the data: 1998 - 2016. Goos et al. (2014) reports that the largest %-point declined during 1993-2010 has been for clerical occupations
- ▶ I think country differences are large enough to warrant further investigation: if institutional differences matter, you may be worried that this is driven by a shock to e.g. Germany

## References I

- Autor, D. H. and Dorn, D. (2013). The Growth of Low-Skill Service Jobs and the Polarization of the US Labor Market. *American Economic Review*, 103(5):1553–97.
- Autor, D. H., Katz, L. F., and Kearney, M. S. (2006). The Polarization of the U.S. Labor Market. *American Economic Review*, 96(2):189–194.
- Goos, M. and Manning, A. (2007). Lousy and Lovely Jobs: The Rising Polarization of Work in Britain. *The Review of Economics and Statistics*, 89(1):118–133.
- Goos, M., Manning, A., and Salomons, A. (2014). Explaining Job Polarization: Routine-Biased Technological Change and Offshoring. *American Economic Review*, 104(8):2509–26.

## References II

Hershbein, B. and Kahn, L. B. (2018). Do Recessions Accelerate Routine-Biased Technological Change? Evidence from Vacancy Postings. *American Economic Review*, 108(7):1737–1772.

TABLE 2A.—THE RELATIONSHIP BETWEEN EMPLOYMENT GROWTH AND INITIAL MEDIAN WAGE: MEN AND WOMEN TOGETHER

Sample	Sample Period	Data	Employment Measure	$\beta_1$	$\beta_2$	Fraction in Declining Section
Men + Women	1979–99	LFS (occ)	Employment	–4.541 (0.700)	2.107 (0.297)	52.93
Men + Women	1976–95	NES (occ)	Employment	–3.412 (0.664)	1.373 (0.267)	72.57
Men + Women	1979–99	LFS (occXind)	Employment	–4.804 (0.472)	2.109 (0.198)	62.80
Men + Women	1976–95	NES (occXind)	Employment	–3.957 (0.378)	1.581 (0.151)	74.69
Men + Women	1979–99	LFS (occ)	Hours	–4.218 (0.785)	2.047 (0.327)	28.42
Men + Women	1976–95	NES (occ)	Hours	–3.603 (0.775)	1.576 (0.319)	56.85
Men + Women	1979–99	LFS (occXind)	Hours	–4.331 (0.514)	1.969 (0.213)	49.67
Men + Women	1976–95	NES (occXind)	Hours	–4.145 (0.435)	1.748 (0.178)	62.22

Notes: Regressions are weighted by job cell size in the initial period. Occupation uses three-digit SOC90 codes. Industry uses one-digit SIC80 codes.

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