Desired hours worked over the business cycle: Stylised facts for European countries

Dora Tuda

ESRI, TCD

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Desired hours in the UK

Chart 3. More and Fewer Desired Hours in the UK 2001Q2 - 2018Q1

Bell and Blanchflower (2018)
Why are desired hours important?

- Desired hours reveal true preferences on the labour market, unconstrained by the labour demand, access to childcare, labour market institutions – Tummers and Woitiez (1990), Aaberge et al. (1999), Callan et al. (2009)
- Unemployment rate does not fully capture the available labour supply in an economy – underemployment is more informative – Bell and Blanchflower (2018)
- Precautionary labour supply theory – in the presence of an income risk (wage cut or risk of losing a job), individuals would like to work more hours – Jessen et al. (2018)

We do not know how desired hours vary over the business cycle or across countries
1. How (and why) do desired hours worked vary over the business cycle?
2. What is the effect of recessions on desired hours?
Descriptive stylised facts for European countries:

1. Average desired hours are counter-cyclical in analysed European countries (1998–2017)

2. During recessions, the underemployment gap is driven by desired hours; actual hours remain fairly stable

Identify the effect of recessions on desired hours – variation in regional unemployment rates – Lazear et al. (2016)

Narrow the sample period to the beginning of the Great Recession (2007q4–2009q1) – French LFS – even larger positive effects
An exploration of the income effect mechanisms:

- Bottom income deciles increase desired hours the most
- Part-time and temporary workers increase desired hours more than the average – substantial heterogeneity between countries
Data

- 12 European countries, 1998 - 2017: Austria, Belgium, Czech Republic, Finland, Germany, Spain, France, Greece, Ireland, Poland, Portugal, the UK
- Employed individuals, who answered the question about desired hours
- 3 questions asked in the survey:
  1. Wish to work more than the current number of hours
  2. The way the individual would like to work more hours
  3. Total number of hours the individual would like to work
- Individual wages not available, income decile information start in 2009
Desired and actual hours over the business cycle

- Average desired hours worked
- Real GDP pc growth rate, 2015=100

- Desired hours
- Actual hours - right axis
Desired and actual hours over the business cycle

![Desired hours worked](chart1)

- **Average desired hours worked**
- **Real GDP pc growth rate, 2015=100**

![Mean hours](chart2)

- **Desired hours**
- **Actual hours - right axis**
Desired and actual hours over the business cycle
Why would desired hours be countercyclical?

Wealth effect – if an individual’s assets (e.g. housing or financial assets) lost value during a recession, she would like to work more hours to compensate for the wealth loss.

Precautionary motives – in high income risk situations, individuals would like to work more hours to compensate for the future (expected) income losses – Jessen et al. (2018) for Germany.

Income effect – if an individual’s labour income decreased during recessions, she would increase desired hours for the given wage rate:

- Part-time work becomes more prevalent in recessions – Borowczyk-Martins and Lale (2019) for the US and UK.
- Temporary workers.
- Income could be targeted on the household level – e.g. partner lost their job.
Identification strategy

The effect of recessions on desired hours identified using variation in regional (NUTS2) unemployment rates:

- Regional unemployment rates vary within a country
- Unemployment rates over time change at different rates between regions

Identifying assumption: regional unemployment rate is exogenous to individual desired hours

ID threat: unable to control for e.g. conscientiousness – add individual fixed effects using panel dataset for France
Empirical specification

\[ \text{hours}_{irt} = \alpha_0 + \beta_0 \text{UR}_{rt} + \beta' \text{X}_{irt} + \mu^1_r + \mu^2_t + \text{X}_{irt} \ast \mu^1_r + \mu^1_r \ast \mu^2_t + \epsilon_{irt} \] (1)

hours\textsubscript{irt} – desired hours for individual i in region r in year t
UR\textsubscript{rt} – regional unemployment rate
X\textsubscript{irt} – individual characteristics: age, education, gender, part-time and temporary contracts, sector, occupation, number of employed individuals in the household
\mu^1_r – region-fixed effects
\mu^2_t – time-fixed effects

Unable to control for individual fixed-effects – sorted later using a panel dataset from France
The effect of regional unemployment rates on desired hours $- \beta_0$
French LFS – Enquête emploi en continu

Rolling panel dataset – each individual interviewed for 6 quarters; each quarter 1/6 individuals replaced by new interviewees

Sample: employed individuals in 6 consecutive quarters, answered desired hours question in at least 2 quarters

Table: Descriptive statistics on desired hours worked for French panel data

<table>
<thead>
<tr>
<th></th>
<th>2006q1 - 2007q2</th>
<th>2007q4 - 2009q1</th>
<th>2009q4 - 2011q1</th>
<th>2015q1 - 2016q2</th>
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</thead>
<tbody>
<tr>
<td>Average desired hours</td>
<td>39.6</td>
<td>39.1</td>
<td>39</td>
<td>38.6</td>
</tr>
<tr>
<td>SD desired hours</td>
<td>8.5</td>
<td>10.2</td>
<td>9.3</td>
<td>9.6</td>
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<tr>
<td>Average actual hours</td>
<td>35</td>
<td>34.3</td>
<td>34.1</td>
<td>32.9</td>
</tr>
<tr>
<td>SD actual hours</td>
<td>12.2</td>
<td>12.2</td>
<td>12.2</td>
<td>13.2</td>
</tr>
<tr>
<td>N groups</td>
<td>1332</td>
<td>1254</td>
<td>1634</td>
<td>1790</td>
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<td>N</td>
<td>7992</td>
<td>7524</td>
<td>9804</td>
<td>10740</td>
</tr>
</tbody>
</table>

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Empirical specification - France

Random effects model:

$$hours_{irt} = \alpha_0 + \beta_0 UR_{rt} + \beta' X_{irt} + \alpha_i + \mu_r^1 + \mu_t^2 + X_{irt} \ast \mu_r^1 + \mu_r^1 \ast \mu_t^2 + \epsilon_{irt} \quad (2)$$

$hours_{irt}$ – desired hours for individual $i$ in region $r$ in year $t$

$UR_{rt}$ – regional unemployment rate

$X_{irt}$ – individual characteristics $\mu_r^1$ – region-fixed effects

$\mu_t^2$ – time-fixed effects

$\alpha_i$ – individual fixed effects
Desired hours and the income effect

Recessions reduce incomes and outside options for workers (Lazear et al. 2016) – vulnerable groups on the labour market could increase desired hours the most:

- individuals from the bottom of the income distribution
- part-time (Borowczyk-Martins and Lale 2019) and temporary workers

Income effect on the household level – if a partner loses their job, workers might want to work more hours
Desired hours for part-time and full-time workers

FR

Year
Mean desired hours
30.8 39.6 28.6 27.6 28.4

Full time
Part time - right axis

IE

Year
Mean desired hours
40.5 41.5 42

Full time
Part time - right axis
Desired hours for temporary and permanent workers

FR

IE

Mean desired hours

Year

Permanent Temporary

Permanent Temporary

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The effect of recessions on desired hours for temporary and permanent workers

<table>
<thead>
<tr>
<th></th>
<th>FR</th>
<th>IE</th>
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</thead>
<tbody>
<tr>
<td>Regional UR</td>
<td>-0.0374***</td>
<td>-0.129</td>
</tr>
<tr>
<td></td>
<td>(0.0105)</td>
<td>(0.0950)</td>
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<tr>
<td>Part time * UR</td>
<td>0.196***</td>
<td>0.395***</td>
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<tr>
<td></td>
<td>(0.0232)</td>
<td>(0.0366)</td>
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<tr>
<td>Temporary * UR</td>
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<td></td>
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<td>(0.0521)</td>
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<td>PT = 1</td>
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<td>-19.28***</td>
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<tr>
<td></td>
<td>(0.484)</td>
<td>(0.508)</td>
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<tr>
<td>Temporary = 1</td>
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<td></td>
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<td>(0.747)</td>
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<tr>
<td>adj. $R^2$</td>
<td>0.330</td>
<td>0.494</td>
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Concluding remarks

- Desired working hours are counter-cyclical in most European countries.
- In Ireland, the most vulnerable groups on the labour market drive the increase in desired hours – part-time workers and bottom of the income decile.
- Top of the income distribution increases desired hours – could be driven by the wealth effect in the Great Recessions.

Implications for recovery periods – labour demand starts to increase but very costly to hire new workers.
Thank you for your time!

Questions/comments: dora.tuda@esri.ie