Flexible Work Time in Germany: Do Workers Like It and How Have Employers Exploited It Over the Cycle?

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Outline

1. Qualitative description of flexibility practices
2. Empirical analysis using SOEP
3. Questions
   - who controls workers’ hours,
   - (and do workers like flexibility?)
   - how did employers use flexibility over the 2005–9 cycle?
Various types of flexibility in working time in Germany

Categorize: flexibility for whom?
- worker convenience
- employer efficiency
Worker convenience

Workers may want to ...

1. Work non–standard hours regularly
2. Respond to unexpected events at home
3. Have leisure at whim
4. Rearrange hours over lifetime
   - including early or gradual retirement
5. Avoid other workers in commuting rush
Employer efficiency

1. Employers want to align production and product demand
   - seasonal or business cycle swings in demand
   - especially manufacturing, construction, hospitality

2. Employers want to accommodate customer needs
   - customers want long or flexible opening hours
   - customer demand may fluctuate over day
   - especially in services
“Gleitzeit” (flexitime) introduced 1960s

2 Basic version
- core time during which all workers present
- but within limits, choose start, end, lunch times
- length of day fixed
- agree hours with supervisor

3 Flexible version (more recent)
- can accumulate extra hours and use as days off
- core time relaxed, applied to group
- no need to consult supervisor

4 Mainly used in office settings
Emergence of flexibility for employer efficiency

1. Union campaign to reduce work week, early 1980s
   - with no reduction in monthly wage
   - led by manufacturing

2. Campaign successful

3. But unions made concessions in work practices
Employer efficiency: Jahresarbeitszeit – yearly working time

1. Aim: allow employers to adjust hours cheaply
2. Define window of 3 months to a year or more
   - Ausgleichszeitraum
3. Calculate average work hours over window
   - if average to standard, no overtime payments made
   - if average too high, extra hours must be paid, at overtime rate (usually 125%)
4. Note: traditional window is one day (not one week)
5. Other features
   - limits on daily and weekly hours (ceiling, floor)
   - limits on cumulative overtime or undertime during window
   - if exceed ceiling: paid, at overtime rate
Implementation of yearly working time

1. Most common: union contracts permit but do not impose
2. Works council, firm decide whether/how to implement
3. If no works council (small establishments), agreement between workers, management
4. Rarer: rules laid out in union contract
Implementation of yearly working time

4 ISO/sfs surveys: often not all elements present
   • e.g. no floor or no ceiling on cumulated hours
   • or even no formal rules (small establishments)

5 And rules often “broken"
   • e.g. ceiling on cumulated hours exceeded
   • if extra hours paid off, not really a violation
   • surveys found hours sometimes unpaid and just lost
   • or carried over into next window
     but even this sometimes permitted:
     construction hourly–paid: can carry over into next window if worker agrees (so what is meaning of window?)
Spread of yearly working time

1. System has continued to spread since 1995
   - line between flexitime and yearly working time has blurred as flexitime has come to resemble yearly working time

2. Why spreading now no lower work hours in return?
   - motivation often employment stabilization or increase
   - sometimes employer commits to no layoffs in certain period

3. Have workers/unions come to like flexibility per se?
   - sometimes claimed system is “family friendly"
   - inherent tension worker convenience–employer efficiency
Economic analysis of yearly working time

1. Marginal cost of extra hour per worker reduced

2. Affects labor demand
   - substitute from workers to hours per worker
   - substitute from capital to labor
   - positive scale effect
   - net: demand for hours worked rises, demand for workers ambiguous
   - employment smoothed over the cycle

3. Useful for industries with seasonal or cyclical demand
Who benefits from this flexibility?

1. Who benefits depends on who controls the work schedule
   - flexitime was explicitly controlled by worker
   - yearly working time was conceived as controlled by firm

2. Could be beneficial to firm to cede some control
   - to make workers happier and hence productive
   - possible trade-off with wage

3. In practice, sometimes worker/firm share control
   - firm determines peak times when overtime must be worked
   - worker has some power to decide when to take the time off
   - varies by establishment, industry, type of worker
Most recent flexibility – lifetime working time

1. Build up hours surplus over years
2. Use for sabbatical, elder care, early retirement
3. WSI survey: 2% establishments (but higher share of employment)
So what is a working time account?

1. Merely a way of administering any of the flexible systems
   - Arbeitszeitkonto
   - Langzeitkonto
     (long term - for sabbatical, early retirement)

2. Hours are banked (in units of hours)
   - balance can be positive or negative

3. Larger establishments more likely to have formal accounts
   - small more likely to administer on *ad hoc* basis
Key SOEP question

1. Wenn Sie Überstunden leisten, werden die in der Regel abgefeiert oder bezahlt oder gar nicht abgegolten? 
   If you work overtime hours, are they as a rule compensated with time off or paid or not compensated at all?
   - abgefeiert, teils–teils, bezahlt, gar nicht abgegolten, TNZ
   - compensated with time off, a combination, paid, uncompensated, N/A

2. Asked every year of SOEP since inception 1984
What does it mean to be compensated in both pay and time off?

1. May be paid at end of window for excess overtime
2. May be limit to hours can bank in account
   - limit per day, week, window
   - overtime beyond this limit must be paid immediately
3. I will call the mixture of pay and time off “hybrid"
4. Definition: flexibility= time off or hybrid compensation
Können diese Überstunden auch in ein sogenanntes Arbeitszeitkonto fließen, das Sie innerhalb eines Jahres oder länger mit Freizeit ausgleichen können?

Can these overtime hours flow into a so–called working time account, that you can equalize within a year or more with time off?

- can’t tell purpose of account
- crude information about window length
- asked from 2002
Additional questions

2 Which of the following best applies to your work?
   a fixed beginning and end of daily work time
   b sometimes varying daily work hours determined by firm
   c choose own working time, no formal working time rules
   d “Gleitzeit mit Arbeitszeitkonto" and a certain control over daily work time within this framework

   • asked odd years 2003–2009

3 No information on
   • undertime
   • short–time work
Sample

1. 1984–2009
2. Employed
   - drop self-employed
   - drop others without fixed work hours
   - drop apprentices
3. Age 20–54 (to avoid early retirement)
4. Full time
   - as defined by respondent
5. Living in west
6. Not all variables exist in all years
### Table 1: Who controls varying hours?

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>Hourly-paid</th>
<th>Salaried</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Manuf</td>
<td>Service</td>
</tr>
<tr>
<td>Fixed hours</td>
<td>45.2</td>
<td>67.7</td>
<td>60.1</td>
</tr>
<tr>
<td>Varying hours, firm controls</td>
<td>18.6</td>
<td>18.4</td>
<td>30.0</td>
</tr>
<tr>
<td>Worker controls hours</td>
<td>9.4</td>
<td>2.6</td>
<td>3.7</td>
</tr>
<tr>
<td>Shared control: WTA</td>
<td>26.8</td>
<td>11.3</td>
<td>6.1</td>
</tr>
<tr>
<td>Obs</td>
<td>12,864</td>
<td>3015</td>
<td>1167</td>
</tr>
</tbody>
</table>

No trend over time 2003–2009
Caveats

1. Use of “Gleitzeit” deters hourly–paid from choosing option?

2. Fixed daily hours can still involve flexibility
   - e.g. work 8 hour shifts each day work, 35 hour week
   - implies overtime if work 5 days per week
   - accumulate overtime which take as days off

3. Can’t easily split responses into worker vs firm control
   - e.g. daily hours could be fixed, but chosen by worker
### Figure 2: Trends in Overtime Hours Last Month

<table>
<thead>
<tr>
<th>Year</th>
<th>Any Overtime Last Month</th>
<th>Overtime Hours Last Month</th>
<th>Hours per Overtime Worker</th>
<th>Share Working Overtime Last Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td></td>
<td></td>
<td></td>
<td>0.45</td>
</tr>
<tr>
<td>1990</td>
<td></td>
<td></td>
<td></td>
<td>0.5</td>
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<tr>
<td>1995</td>
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<td></td>
<td></td>
<td>0.55</td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td></td>
<td>0.6</td>
</tr>
<tr>
<td>2005</td>
<td></td>
<td></td>
<td></td>
<td>0.65</td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td>0.7</td>
</tr>
</tbody>
</table>

- **Hours per Overtime Worker**
- **Any Overtime Last Month**
- **Hours per Worker**
Figure 3A: Overtime compensation types – share of workers
Figure 3B: Overtime compensation types – share of hours

The diagram shows the share of overtime hours for different compensation types from 1985 to 2010. The types include:

- **Paid**
- **Uncompensated**
- **Time off**
- **Account**
- **Hybrid**

The x-axis represents the years from 1985 to 2010, while the y-axis represents the share of overtime hours, ranging from 0 to 0.6. Each type of compensation shows a distinct trend over the years.
Link between time off and working time accounts

1 Share of workers with account:
   - 88% time off only
   - 79% hybrid
   - 27% paid only
   - 8% uncompensated
Figure 4a: Working time account windows – share of workers
Figure 4b: Working time account windows – share of hours

- Longer window
- Year-long window
- Shorter window

Graph shows the share of overtime hours last month over the years 2002 to 2010 for different window lengths.
Figure 5: Shares of hours of overtime

- Salaried, services: 44.31%
- Salaried, manufacturing: 22.83%
- Hourly-paid, manufacturing: 23.41%
- Hourly-paid, services: 8.541%
- Other: 0.9039%
Figure 6A: Flexibility – share of workers; manufacturing hourly

A. Hourly-paid workers, manufacturing
Figure 6D: Flexibility – share of workers; salaried services

D. Salaried workers, services
Figure 6B: Flexibility – share of workers; hourly–paid services
Figure 6C: Flexibility – share of workers; salaried manufacturing
Figure 7A: Flexibility – share of workers; manufacturing hourly

A. Hourly-paid workers, manufacturing
Figure 7D: Flexibility – share of workers; salaried services

Paid
Hybrid
Uncompensated
Time off
Account

Year

D. Salaried workers, services
Figure 7B: Flexibility – share of workers; hourly–paid services

B. Hourly-paid workers, services
Figure 7C: Flexibility – share of workers; salaried manufacturing
Background

1. Flexibility should smooth employment over cycle
2. Use of time off prevented employment falling in recession?
   - much of flexibility already existed in 2001–2005 recession
   - Burda/Hunt: time off crowded out short–time work, leaving hours flexibility same
   - rather, firms unusually pessimistic in boom, so hired less, had less need to fire when recession came
3. Is this testable?
   - hard in absence of info on undertime, short time in SOEP
   - but can get fuller picture of how time off used over cycle
How do employers use time off over the cycle?

1. Focus on overtime last month to get cyclicality
   - in recent years, can split into paid/unpaid overtime
   - unpaid = time off or uncompensated

2. Queries
   - is adjustment on intensive or extensive margin?
   - which type of overtime is more cyclical, paid or unpaid?
   - is paid or unpaid overtime adjusted first?
   - what are constraints in use of flexibility?
How do employers use time off over the cycle?

3. Focus on manufacturing
   - recent boom and bust occurred there

4. Focus on hourly–paid workers
   - who are most cyclical
Figure 9A: Overtime hours per worker

- **All**
- **Paid**
- **Unpaid**

Year:
- 1985
- 1990
- 1995
- 2000
- 2005
- 2010
Is adjustment at the extensive or intensive margin?

1. Oaxaca decomposition of change in overtime per worker
2. Hourly–paid manufacturing workers
   - 73% share workers with overtime
   - 27% overtime hours per overtime worker
4. Bust 2008–2009 similar: 71%, 29%
5. ⇒ adjustment is at extensive margin
Figure 10A: Share workers with overtime (extensive margin)
Implications

1. Switch from unpaid to paid during boom suggests
   - time–off preferred to paid overtime for adjustment
   - but can’t weather whole business cycle using time–off

2. Time–off workers must only be paid at end of window
   - not on frequent basis as exceed weekly maxima
   - since hybrid last month low, but high in general
**Why must employers turn to paid overtime?**

1. Is the constraint on time off
   - the window length?
   - the maximum positive account balance?

2. If window too short in boom
   - switch workers: unpaid–only $\rightarrow$ no overtime (undertime)

3. If hit maximum cumulated overtime hours
   - switch workers: unpaid–only $\rightarrow$ paid–only overtime
   - then when window constraint binds in turn:
     - paid–only $\rightarrow$ no overtime (undertime)

4. Use longitudinal data to distinguish
Figure 12B: Exits from unpaid overtime

- **Unpaid → unpaid**
- **Unpaid → none**
- **Unpaid → paid**
- **Unpaid → hybrid**
Interpretation of constraints

1. Constraints
   - early: ceiling on cumulated hours
   - later: window length

2. Can’t happen sequentially to same firm
   - else would see window constraint as PN transitions, not UN

3. Firm composition effect?
   - industries/firms recovering later may have had shorter windows and/or no ceilings, so hit window constraint before ceiling constraint

4. Worker composition effect?
   - later in boom, firms rotate into OT workers with contracts requiring paid OT
Implications

1. Relaxation of the constraints an obvious improvement?
   - longer windows
   - higher ceiling on cumulated hours

2. Problems
   - would increase insolvency problem
   - make worker turnover more of an issue
   - could come up against government working time constraints
Conclusions – control over varying daily hours

1. About \( \frac{1}{2} \) workers have varying daily hours

2. About \( \frac{1}{2} \) of these: worker/firm share control

3. Of rest: firm twice as likely to control

4. Hourly–paid:
   have less variable hours, less control when do vary
Conclusions – trends, worker utility

1. Trends in flexibility, measured as time off for overtime
   - huge increase in flexibility for hourly–paid since 1984
   - less clear increase for salaried, except thru rising overtime; since 1999 story is shift towards uncompensated overtime

2. Do workers like flexibility? Weak evidence leads to:
   - lower satisfaction with work
   - greater satisfaction with leisure
   - no evidence flexibility is family friendly
Conclusions – employer use of flexibility over business cycle

1. Employers prefer to use time off to paid overtime
   - only use hybrid to settle at end of window

2. But had to switch to paid only at height of boom

3. Constraints on use of flexibility:
   - maximum cumulated overtime hours
   - window length