Exploring the determinants of becoming an Economic Short-Time Worker in Europe

Massimiliano Mascherini. Donald Storrie and Irene Mandl
Eurofound, Dublin
Massimiliano.Mascherini@eurofound.europa.eu

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The economic crisis which hit most of the European countries from the third quarter of 2008 has had major effects on labour markets. Starting from a level of 7.1% in 2008, the EU27 unemployment rate increased approx up to 10% in the first quarter of 2010.

Similarly, in 2009 the EU27 GDP decreased by 4.2% compared to 2008 which constituted an unprecedented figure in the history of the European Union and we have to refer to the Great Depression of 1930s in order to have a similar continent-wide output loss of this order of magnitude.
Although almost all Member States have suffered a decrease of their GDP and an increase in unemployment, the extent of these losses strongly varies among countries.

Estonia, Lithuania, Ireland, Denmark, Spain, Czech Republic and Cyprus have achieved a particularly poor labour market performance.

Germany, Luxembourg, Slovenia, Finland, Hungary, Italy and Belgium have recorded an increase of the level of unemployment lower than expected.
The uneven impact of the crisis in terms of increase of unemployment rate among the EU27 countries may be explained by the different welfare states and policies, such as short-time working schemes and active labour market policies.

In this framework the reduction of the actual worked hours has played an important role in Germany, Luxembourg, Italy and Belgium in smoothing the impact of the output loss.

Relative change in total hours, broken down into average hours and head-count changes, 2007–2009
Although significant reductions in hours have been achieved with company-initiated initiatives it is indubitable that also short-time working/temporary lay-off (with or without public support) has played a fundamental role in preserving jobs during the crisis.

With the reductions in average hours, which absorbed the total adjustment in labour input, the increase in unemployment has been limited in many countries, compared with what would have been expected given the size of the decline of the output and many MSs have introduce or broaden public short time working schemes.
The use of public short time schemes has been massive since the beginning of the crises in those countries that have a long tradition with this instrument.
The lack of a common indicators for measuring the participation in public short-time working scheme strongly hampers the possibility of using the administrative data for a cross-country comparison also in the countries where such schemes exist.

However, in order to better understand the short-time working phenomenon in time of crisis and to assess the extent and the characteristics of such phenomenon a country comparison across Europe is fundamental.
In this framework the European Labour Force Survey provides a valuable tool for performing such comparison.

The analysis was performed with 2008 microdata and repeated with 2009 microdata. Results presented here are from 2009 LFS microdata.
Economic Short Time Worker (ESTW):
Accordingly to the OECD definition, the ESTW are those workers who have worked less than usual (or not worked at all but still maintaining a formal attachment with his/her job) for slack of work for economic or technical reasons.
The population of Economic Short Time workers is identified with the variables HOURREAS and NOWKREAS.

In particular with HOURREAS the population of those who worked less for slack of work for technical or economical reasons in the week of reference is captured (HOURREAS=4 “Working less for slack of work for technical or economic reasons”).

Then with the variable NOWKREAS the population of those workers who haven’t worked at all for slack of work for technical or economical reasons in the week of reference but still having a formal attachment to his/her job is captured. (NOWRKREAS=1 –“Not worked for slack of work for technical or economic reasons”).
The European Labour Force Survey permits to measure the population of ESTW, to analyse its characteristics and to compare it across Member States.

- Almost 2 millions in the whole Europe
- Approx. 60% are in Italy and Germany
• Max % of ESTW: **2.6% in Italy**, 1.87 Estonia, 1.76 Germany... 0.38 UK, Greece and Hungary, 0.19 Sweden

• Most of them works in the **manufacturing sector**

• The increase of ESTW in the period 08/09 is dramatic in several countries: Slovakia +1079%; Germany +760%; Czech Republic +750%...
• Considerable gender polarization: 3:1 are men.

• Occupational profiles: mostly Craft and Trade workers and Plant and Machine operators.
In order to examine the **probability of becoming an ESTW** and to investigate whether the differences observed with descriptive statistics persist when controlling for other important socio-demographic and job-related characteristics, a **logit model** is applied.

The model for the entire Europe is not presented as the 60% of observations are in Germany and Italy; rather the **analysis is performed individually for 24 Member States**.

Cyprus, Malta and Luxembourg are excluded due to a lack of data.
## Dependent variable: ESTW (yes/no)

### Regressors:

<table>
<thead>
<tr>
<th>Name and categories</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE: Age of the Respondent (17-65)</td>
<td>Categorical</td>
</tr>
<tr>
<td>SEX: gender of the respondent (0=M, 1=F)</td>
<td>Categorical</td>
</tr>
<tr>
<td>NATIONAL: Nationality of the respondent: 0 National; 1 Non EU; 2; EU27</td>
<td>Categorical</td>
</tr>
<tr>
<td>EDUCATION: Educational level of the respondent: 0 ISCED1; 1 ISCED2; 2: ISCED 3-4 ; 3: ISCED5-6</td>
<td>Categorical</td>
</tr>
<tr>
<td>ISCO1D: Isco code 1 digit (0= Armed Force and 6=skilled agricultural excluded)</td>
<td>Categorical</td>
</tr>
<tr>
<td>NACE REC: Nace code rev 2 1Digit</td>
<td>Categorical</td>
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<tr>
<td>2NDJOB: Existence of a 2nd Job (0=No; 1=Yes)</td>
<td>Categorical</td>
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<tr>
<td>PART_TIME: Part/Full Time (0=Full Time; 1=Part Time)</td>
<td>Categorical</td>
</tr>
<tr>
<td>SUPERVISORY: Supervisor role (0=No; 1=Yes)</td>
<td>Categorical</td>
</tr>
<tr>
<td>TEMPORARY: Temporary/Permanent position (0=Permanent; 1=Temporary)</td>
<td>Categorical</td>
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<tr>
<td>SIZE: size of the firm: 0= Micro (&lt;10 empl.) 1=small (10-19 empl.) 2=Medium-Large (&gt;20); 3= unknown.</td>
<td>Categorical</td>
</tr>
<tr>
<td>TRAINING: Participation to Training (0=No; 1=Yes)</td>
<td>Categorical</td>
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</table>

Regressor added incrementaly and the same model applied for all MSs
| AGE_CAT | AT | BE | BG | CZ | DE | DK | EE | ES | FI | FR | DEU | HU | IE | IT | LT | LV | NL | PL | PT | RO | SE | SI | SK | UK |
|--------|----|----|----|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 20-24  | 0.55 | 0.59 | 1.18 | 0.29 | 0.24 | 0.32 | 0.55 | 0.26 | 0.34 | 0.06 | 0.78 | 0.23 | 0.34 | 0.06 | 0.78 | 0.23 | 0.34 | 0.06 | 0.78 | 0.23 | 0.34 | 0.06 | 0.78 |
| 25-39  | 0.21 | 0.39 | 0.06 | 0.39 | 0.19 | 0.22 | 0.06 | 0.21 | 0.18 | 0.22 | 0.06 | 0.21 | 0.18 | 0.22 | 0.06 | 0.21 | 0.18 | 0.22 | 0.06 | 0.21 | 0.18 | 0.22 |
| 30-44  | 0.24 | 0.39 | 0.11 | 0.24 | 0.39 | 0.11 | 0.24 | 0.39 | 0.11 | 0.24 | 0.39 | 0.11 | 0.24 | 0.39 | 0.11 | 0.24 | 0.39 | 0.11 | 0.24 | 0.39 | 0.11 | 0.24 |
| 35-49  | 0.47 | 0.55 | 0.43 | 0.20 | 0.24 | 0.61 | 0.03 | 0.61 | 0.03 | 0.61 | 0.03 | 0.61 | 0.03 | 0.61 | 0.03 | 0.61 | 0.03 | 0.61 | 0.03 | 0.61 | 0.03 | 0.61 |
| 40-49  | 0.35 | 0.19 | 0.26 | 0.20 | 0.14 | 0.26 | 0.14 | 0.26 | 0.14 | 0.26 | 0.14 | 0.26 | 0.14 | 0.26 | 0.14 | 0.26 | 0.14 | 0.26 | 0.14 | 0.26 | 0.14 | 0.26 |
| 45-49  | 0.56 | 0.50 | 0.03 | 0.34 | 0.13 | 0.28 | 0.02 | 0.34 | 0.13 | 0.28 | 0.02 | 0.34 | 0.13 | 0.28 | 0.02 | 0.34 | 0.13 | 0.28 | 0.02 | 0.34 | 0.13 | 0.28 |
| 50-54  | 0.24 | 0.50 | -0.10 | 0.11 | 0.24 | 0.47 | -0.01 | 0.12 | 0.24 | 0.47 | -0.01 | 0.12 | 0.24 | 0.47 | -0.01 | 0.12 | 0.24 | 0.47 | -0.01 | 0.12 | 0.24 | 0.47 |
| 55-59  | 0.01 | 0.54 | 0.02 | 0.21 | 0.08 | 0.54 | 0.02 | 0.21 | 0.08 | 0.54 | 0.02 | 0.21 | 0.08 | 0.54 | 0.02 | 0.21 | 0.08 | 0.54 | 0.02 | 0.21 | 0.08 | 0.54 |
| 60-64  | 0.24 | 0.39 | 0.08 | 0.55 | 0.02 | 0.55 | 0.08 | 0.55 | 0.02 | 0.55 | 0.02 | 0.55 | 0.02 | 0.55 | 0.02 | 0.55 | 0.02 | 0.55 | 0.02 | 0.55 | 0.02 | 0.55 |

**Note:** No data available for indicators marked with an "X."
Countries have been clusterized in 3 groups on the basis of their affinities in the relationship found!

...And in the following slides these clusters are discussed.
Based on the investigation of the probability of becoming a ESTW three different profiles have been identified and Member States have clustered accordingly.

- Traditional (in red)
- Unconventional (in blue)
- Hybrid (in yellow)
The Traditional cluster → is the most coherent!

Germany, Italy, Austria, Belgium, Slovenia and Slovakia

countries with long tradition of STW schemes and countries that are geographically, culturally contiguous to them.

- Permanent Contract
- Full Time
- Subordinate
- Medium/Large companies
- Productive sectors
- Machine/plant operators and Craft and other Trade Workers
- Men
- Primary educational level
- More Training
The unconventional cluster

... is the most unlike the traditional cluster

Denmark, Netherlands, UK, Ireland, Poland, Estonia

... the more economically liberal countries in Europe and generally score highly on flexicurity indicators.

- Temporary Contract
- Part Time
- Mainly Subordinate
- Micro companies
- Mainly private services sectors
- Machine/plant operators and Craft and other Trade Workers
- Men
- Mainly lower secondary
- Mainly less training
The hybrid cluster → … is the most heterogeneous!

Portugal, Spain, Greece and France
Finland and Sweden
Lithuania, Latvia,
Romania, Hungary, Bulgaria

Subgroups of geographically and culturally contiguous countries

- Temporary Contract
- Part Time
- Mainly Subordinate
- Small and medium/large companies
- Mainly productive sectors
- Machine/plant operators and Craft and other Trade Workers
- Men
- Mainly primary educational level
- Mainly more training
In this paper we examined the probability of becoming a ESTW through the development of logit regression models estimated for each country.

Based on the results of this analysis, three broad groups of ESTW can be identified in Europe in terms of socioeconomic and job characteristics.

The profiles depicted for these groups are clearly differentiated by the type of contract, the length of working day, the size of the company, the economic sectors and the occupation.
Interested in this study?
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http://www.eurofound.europa.eu/publications/htmlfiles/ef1071.htm