New approaches to modelling the demand for skills

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Outline

- Focus on expansion demand
- Improved Data: Alphametrics (in two phases)
- Coverage (Eur27 + Norway & Switzerland)
- Modelling: New approaches will be tested
- Including more behavioural elements
- More detailed ISCED: 7 levels, ISCO 3digit
Core LFS Data

- 1995-2007
- NACE, Rev 1, 2-digit sector of Activity
- ISCO-88, 2-digit Occupational Group
- Broad Educational Attainment Level (High/Medium/Low)
- ISCO-88, 3 digit will also be explored
Other Data Available

• E3ME economic indicators

• Micro-data from the EU-LFS
Modelling Occupational & Qualification Structure

- Aggregate Data from Alphametrics
- Shares broken down by: Country, Year, Sector, Occupation, Education
- Analysis for each category separately
- Extension for ISCED 0-6
- More detailed occupations
Logit transformation of Y
A Method for linearizing the sigmoid distribution of proportions

\[ y^* = \log \left( \frac{y}{1 - y} \right) = X\beta + \epsilon \]

\( y = \text{proportion of occupational level } i \)

The predictions are then expressed in units of \( y \)
Looking for common patterns

• The data available effectively form a panel

• Purpose: to identify common patterns in occupational structure across countries and sectors.
Determinants of Occupational Change

• Sectoral structure (E3ME)
• Technology
• International Trade
• Levels of economic activity
• Impact of the recession
E3ME Data

- Exports
- Imports
- Value added
- ICT investment

These indicators vary by sector and all Units are millions of Euros at 2000-based prices
Indicators

- Sectoral value added (this may be estimated as sectoral VA/VA trend)
- Export volume share (exports as a percentage of domestic value-added)
- Import volume share (exports as a percentage of domestic value-added)
- ICT investment as a % of GDP as a proxy of technological change
Conclusions

- Better quality data
- Exploration of alternative methods
- Further work to try to establish behavioural relationships
- Greater level of detail
- Impact of the crisis