



# Workpackage 3

## Workpackage3

### Classification of sectors and occupations in a knowledge-based economy

## the concept of the sector

- based on a traditional model of the economy which presumes
  - Stability and continuity of organisations
  - Manufacturing companies which make single products or groups of products
  - Internal division of labour within organisations
  - Relatively slow pace of technological change

## Recent trends/challenges

- large multinational corporations with cross-ownership across traditional sectoral divides
- increasing speed of change in mergers, demergers, takeovers and strategic alliances
- Convergence; emergence of new sectors
- the 'brand' replaces the product
- outsourcing of many functions previously carried out in-house
- elaboration of division of labour in value chain coexists with convergence between some functions

## The problem of business services

- Relationship of business-related services to production.
- Diversification of manufacturing companies into service provision (e.g. volvo selling financial services)
- Evolution of business service providing companies (e.g. Capita) across a range of different services
- Raising questions not only of whether activities should be classified according to the product or the service but also on what kind of classification to use within the service sector

## some issues

Where to draw the line?

- Legal separation: in-house > outsourced
- Geographical separation: head office > branch
- Functional separation: 'parent' business > function
- How is 'main' defined?
  - % of turnover?
  - no of employees?
  - historical origin of enterprise?
- Do we need catch-all categories for multifunctional establishments?

## the context

- invisibility of 'new' occupations and sectors in existing statistics
- policy-makers' need for accurate data which make it possible to track new sectors and occupations
  - longitudinally (implying continuity with past categories); and
  - Internationally (implying common classification and coding practices between Member States)

## The immediate situation

- NACE was being revised in 2003 and again in 2007
- The US has already developed NAICS
- Pressure for international convergence
- Will NAICS become the de facto global standard?
- Need for expert debate which takes into account research findings on changes taking place in the information economy

## the STILE approach

- Produce 150 fictional occupational descriptions and 150 fictional establishment descriptions typical of those to be found in the new economy
- Ask experienced coders in several contrasting Member States to code these to ISCO or NACE according to their normal practices
- Analyse the results to provide insights into classification and coding problems
- Make recommendations for improvements

## The process

- kick-off expert meeting in Rome in March 2003
- development of methodology for determining the scope of the fictional cases
- Team meeting in London in May 2003 to fine-tune methodology
- Discussions with NSOs or equivalents in Netherlands, Hungary, UK, Ireland and Germany
- Finalisation of fictional descriptions and coder instructions
- Translation into national languages

## The process (continued)

- coding exercise (mainly over the summer of 2003)
- presentation of interim results to 2<sup>nd</sup> expert meeting in Budapest in October 2003
- follow-up interviews with coders to identify tacit rules
- preliminary analysis of results and writing of national reports
- delivery of national reports (D3.1) in February 2004

## The process (continued)

- completion of 2<sup>nd</sup> coding exercise in Germany
- international comparative analysis
- production of draft final comparative reports on occupational and sector coding
- 3<sup>rd</sup> expert workshop in Leuven (May 2004)
- delivery of integrated final report (D3.2) scheduled for June 2004

## some problems encountered

- major differences in national coding practices and in the quantity and type of information normally available and degrees of automation of coding processes
- some countries have strict field size limits on descriptions
- Ireland only codes to 2-digits
- Germany does not use ISCO but DOES have differing institutional approaches to sector coding
- wide penetration of ICTs across sectors and occupations makes case selection difficult

## to address these:

- each description available in both a long and a short form
- codes analysed at both the 2-digit and 4-digit level
- Germany asked to carry out 2 sector coding exercises but no occupational coding one
- main focus on business services sector / occupations
- as a result, there are 8 separate data sets to be analysed comparatively:

## 8 separate international analyses:

1. occupation: short description, 2-digit (NE, HU, IR, UK)
2. occupation: long description, 2-digit (NE, HU, IR, UK)
3. occupation: short description, 4-digit (NE, HU, UK)
4. occupation: long description, 4-digit (NE, HU, UK)
5. sector: short description, 2-digit (NE, HU, IR, UK, DE1, DE2)
6. sector: long description, 2-digit (NE, HU, IR, UK, DE1, DE2)
7. sector: short description, 4-digit (NE, HU, UK, DE1, DE2)
8. sector: long description, 4-digit (NE, HU, UK, DE1, DE2)



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## total failure to agree (short, 2-digit)

### Key

30: manuf. office machinery & computers

64: post and telecoms

65: financial intermediation

72: computer & related acts.

74: other business acts.

75: public admin. & defence

91: membership org. acts.

92: recreation, culture & sport

93: other service acts.

95: private household w. employee/s

<i>Description of case</i>	<i>Codes allocated</i>
<b>Internet payment transaction service</b>	<b>72, 74, 65, 64 plus one failure to code</b>
<b>Financial services wholesale information provider</b>	<b>65, 72, 67, 64 plus one failure to code</b>
<b>Provision of conferencing technology (audio, video)</b>	<b>64, 72, 74/30 (multi-code) plus 2 failures to code</b>
<b>Picture researcher</b>	<b>73, 74, 92 plus 2 failures to code</b>
<b>Horse registration body</b>	<b>92,74,72,75 plus one failure to code</b>
<b>Food and drink industry research/ information service</b>	<b>73, 74, 72, 91 plus one failure to code</b>
<b>Lifestyle management and concierge service</b>	<b>92, 93, 95 plus 2 failures to code</b>

## An example at the 4-digit level

*'R&D of telecoms hardware products aimed at SOHO sector' was coded as:*

**73.10 (Research and experimental development on natural sciences and engineering),**

**32.20 (Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy),**

**52.48 (Other retail sale in specialised stores) and**

**74.13 (Market research and public opinion polling).**

## how to interpret the results?

- need for extreme caution because of experimental nature of exercise; difference of much of the material from that normally encountered by national coders
- differences between the analyses at 2/4 digit & long/short description levels. Which to privilege?
- Wide range of possible explanations of variance (tacit or explicit) e.g.:
  - individual coder
  - team
  - institute
  - country
  - translation of coding rules
  - mapping between national/international classification schemes
  - problems with the classification system itself
  - problems with international guidance

## testing hypotheses:

- matrix structure:
- e.g. 'the outsourcing problem'

The Outsourcing Problem				
<i>Extreme A</i>	<i>Intermediate tending towards A</i>	<i>'Faultline' case</i>	<i>Intermediate tending towards B</i>	<i>Extreme B</i>
Operation totally in- house, in head office	Separate cost centre but in same building	Separate cost centre; different site	Subsidiary owned by same parent company; different site	Owned by another company; different site