Statistics Finland

Qualifications of ICT sector employees and ICT educated persons on the labour market – new research possibilities arising from register-based statistical systems

- *some examples of how register-based statistical systems can be used to monitor ICT sector employees and ICT educated persons on the labour market.*
- *longitudinal data files make it possible to study how graduated cohorts are entering the labour force.*
- *register-based statistical systems also allow us to monitor changes in the personnel (with individual characteristics: industry of workplace, education, age, gender) within an industry and which employee characteristics are linked with the rate of mobility.*

The Nordic history of register based statistics production

- work on ”register based statistics production” started in Nordic countries in 1960’s (Norway, Sweden in the front)

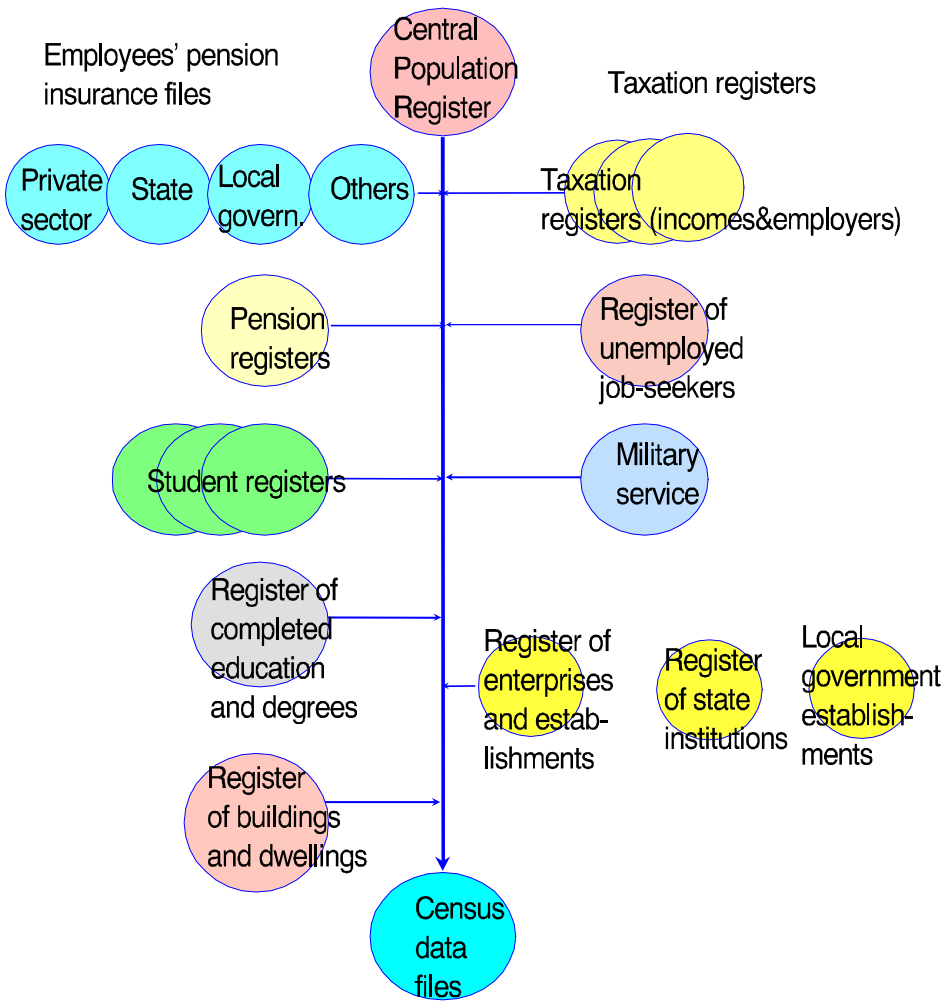
with

- computerization of administration
- Developed when relevant to administrative bodies
  - population register authorities
  - tax authorities
  - other authorities like customs, labour etc.

- population census without direct data collection from individuals

Denmark:	1980
Finland:	1990
Norway:	200?
Sweden:	200?

Use of registers and administrative records in register-based statistics



Statistical Base registers

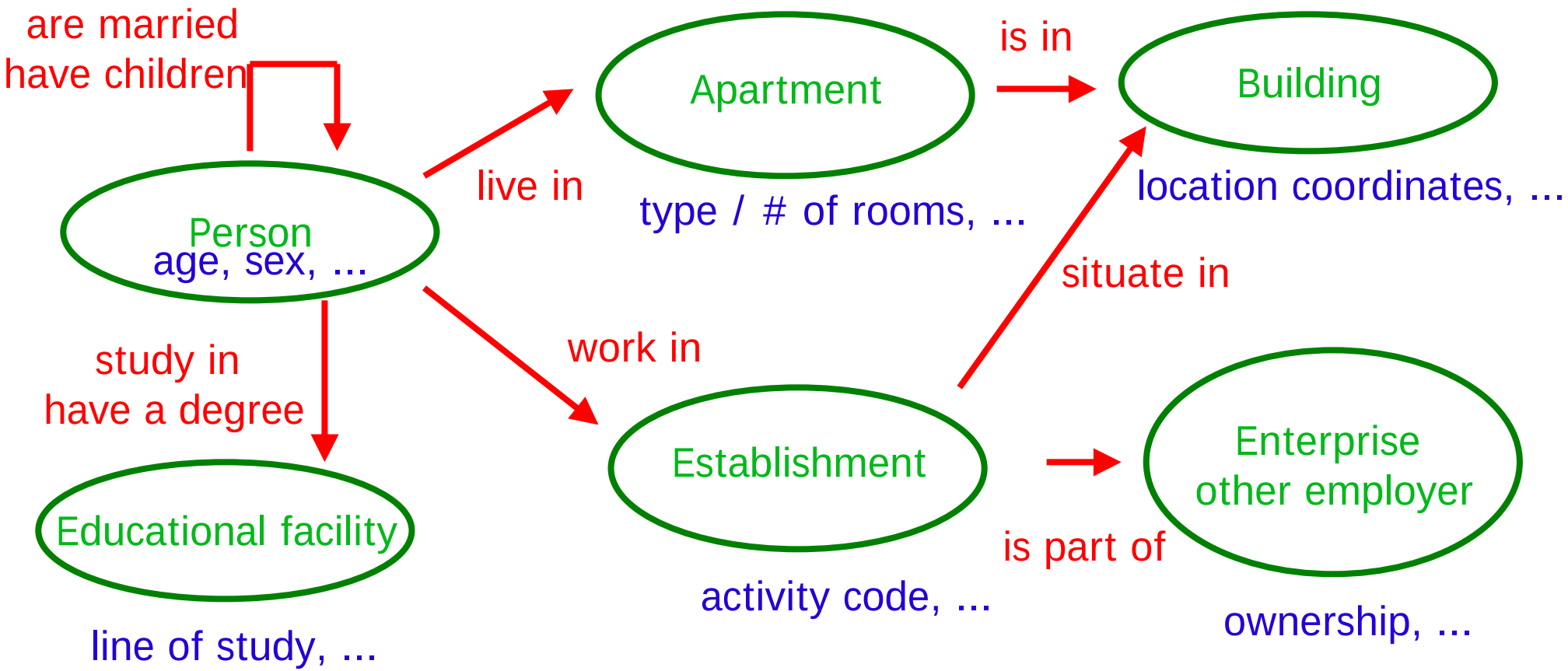
Business Register	Population Register	Buildings and Dwellings Register
Organization number Establishment code	Personal Identification number	Building / apartment number
Statistics Finland (Tax authorities)	Population register center	Population register center
ID-systems in 1990's (1980's)	ID-systems in 1960's	ID-systems in 1980's

ID number schemes essential

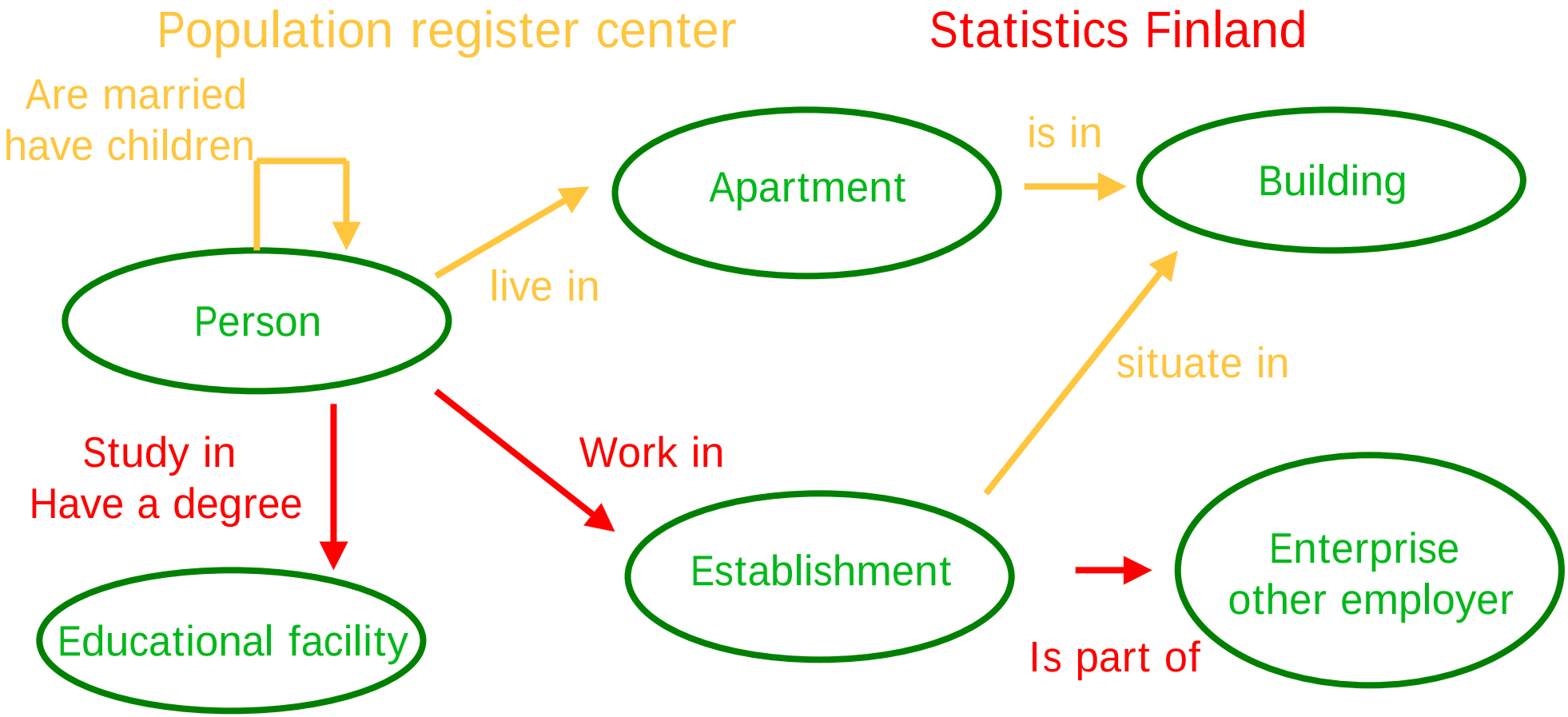
- Unique numbering scheme
- Wide usage in administration
- Some kind of BASIC register (mother register) for assigning ID-numbers

- Without unique ID's use of administrative data difficult or impossible:
  - definite identification impossible
  - double counting

Statistical units and relationships and attributes



Registration of relationships is crucial



2d

Authorities delivering administrative data :

Population register centre

Police

Tax authorities

Ministry of Justice

School and education authorities and institutions

Social security administration

Audit office of financial institutions

Vehicle administration centre

etc.

2e

Private / semiprivate bodies delivering "administrative" data :

- *Pension institutions (incl. insurance companies)*
- *Employers onganizations (wage and salary data)*
- *Real estate brokers (prices of flats)*
- *Business organizations (various --> volume index)*

etc.

Figure 3. Flows between different activity groups: STUDENTS 1997-1998.*

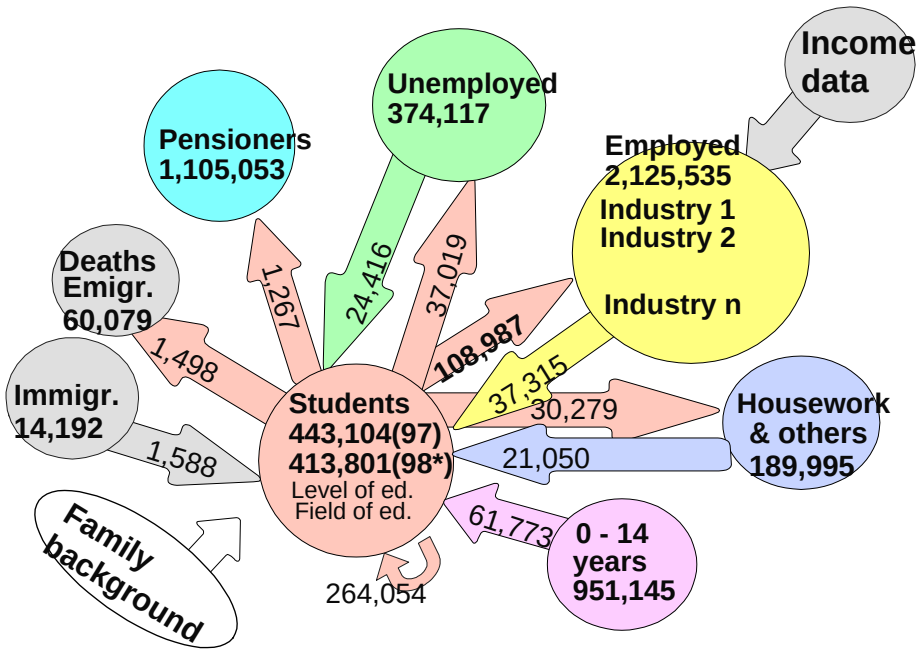
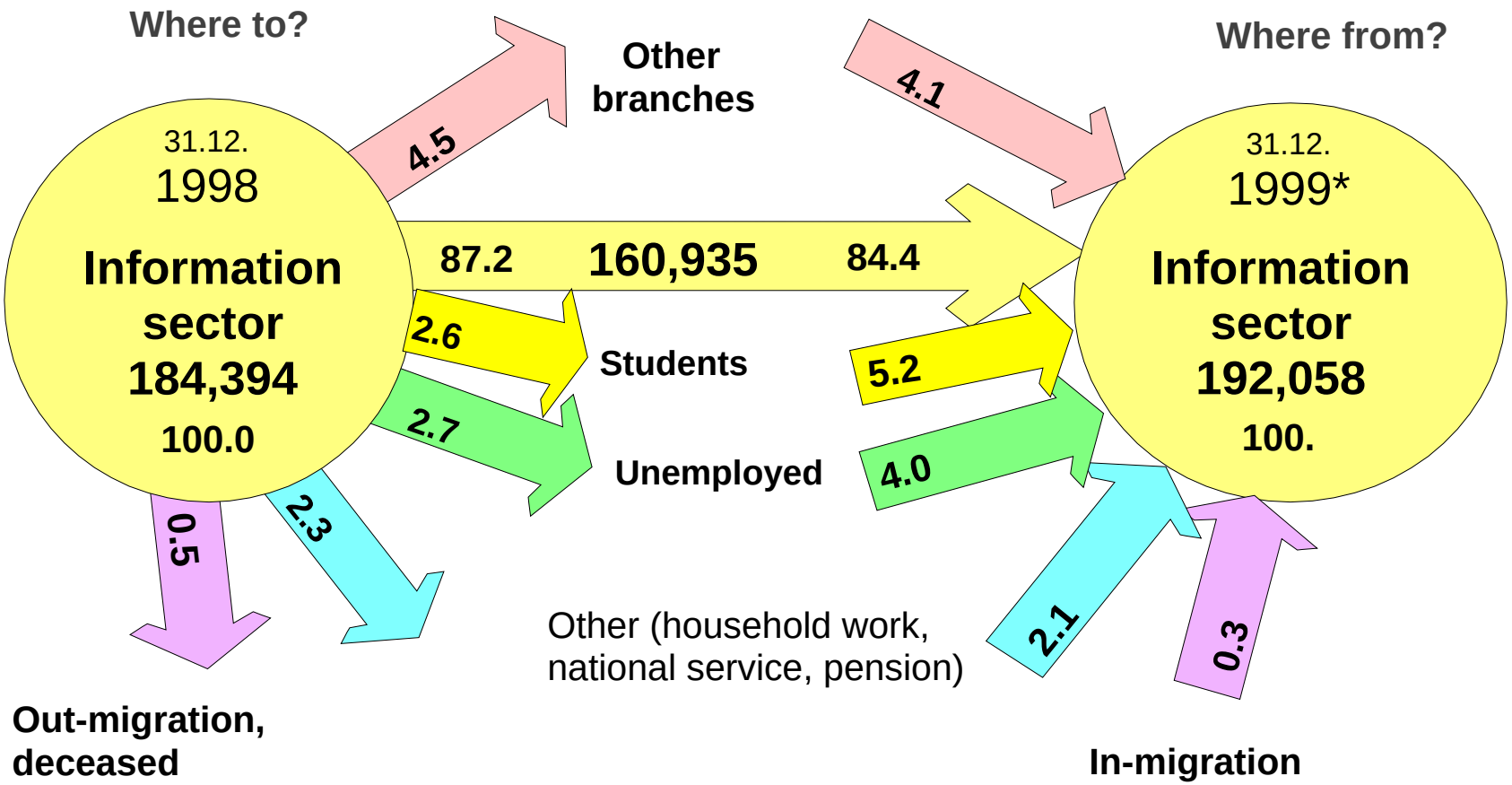


Figure 2 Changes in employment (%) in the broadly defined information sector 1998–1999.*



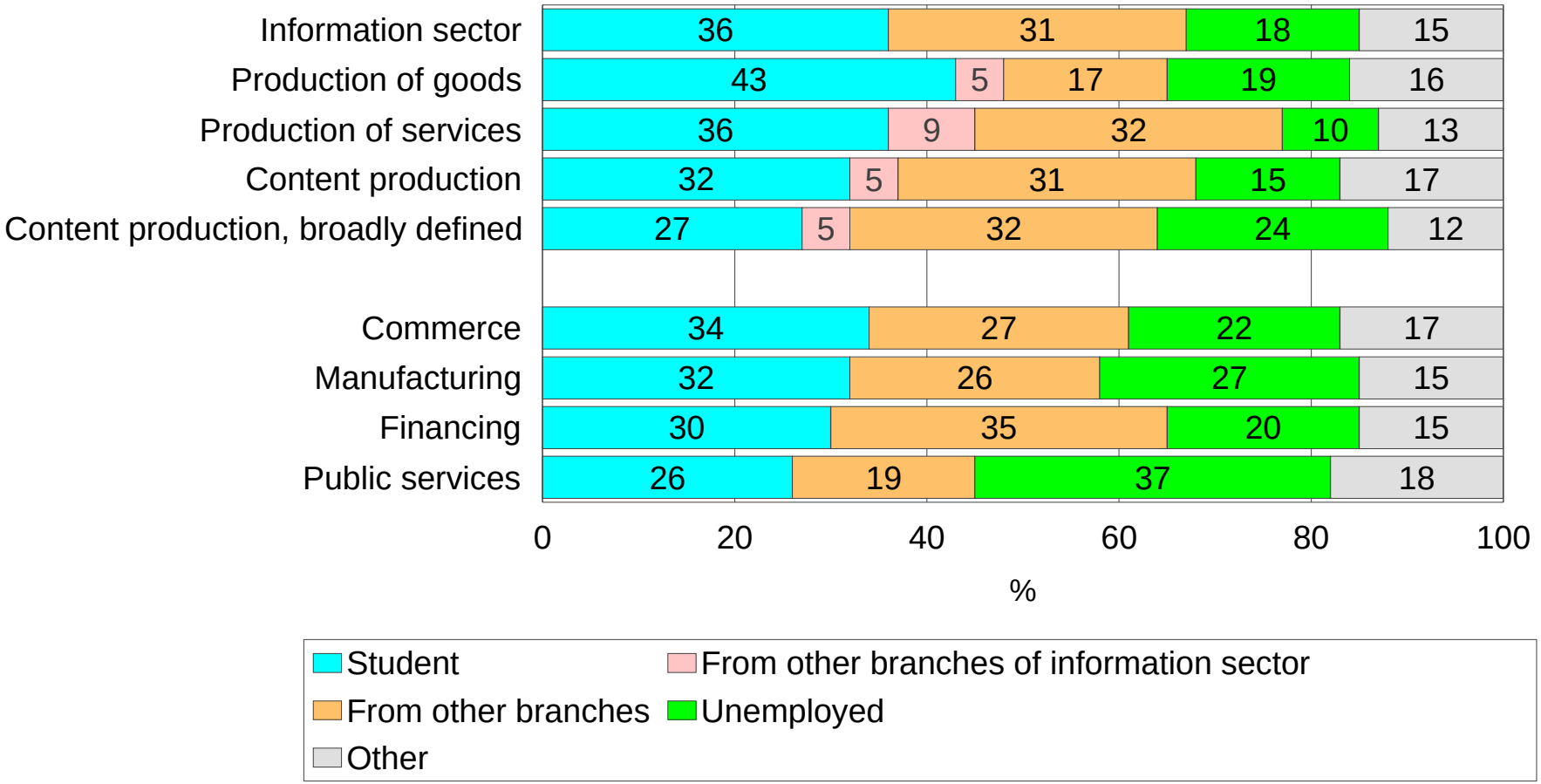


Figure 4 People newly employed in 1999 by previous activity (%).

Preconditions

Universal ID-systems
-Persons
-Organisations
-Buildings, apartments

→ WIDE use →

Well developed IT infrastructure in administration

↓

Possibility (obligation) to use in statistics, also to COMBINE

↗

Acceptance by the population, businesses and administration

↑

Strict confidentiality in statistics

↑

Up-to-date legislation
- statistical law
- personal information protection

- In addition to basic philosophy (presented above) main reasons are
  - reduction of response burden
  - reduction of costs of statistics
  - to have total populations
    ---> more detailed classifications are possible

- The national statistical law:
  It is compulsory to use existing data if available
  State government is obliged to deliver data they have

Problems and advantages of administrative sources

Problems

Concepts --> administrative

Data contents -->
- only those relevant to the authority in question

Slow (typically)

Not under our own control
--> strong dependence
--> need for co-operation

Advantages

Total populations
--> representative
--> detailed classification of units
--> also small area statistics

Only marginal costs

No response burden

Is deemed rational by the society

3a

Coordination, co-operation

Meetings at DG level with ministries and other authorities

Register pool

Co-ordination officers at Statistics Finland

3b

Coordination, co-operation

Meetings at DG level with relevant ministries and other state / local authorities

- regularly at 1-2 years interval
- users, customers, data providers

- statistical authorities

3c

Co-operation

Register pool

- *permanent committee*
- *focuses on use of registers in the society generally*
- *"avoid un-necessary duplication of effort and response burden"*

- *Population register centre*
- *Board of Patents and Trademarks*
- *Board of Taxation*
- *National Land Survey*
- *Municipalities*
- *Ministry of justice*
- *Statistics Finland*

Future

Problems

Administrative simplification efforts
--> reduce data contents
--> reduce periodicity

Final VAT, Intrastat, ...

General attitudes
--> against registration of persons

EU / harmonisation may lead to changes in administration --> changes in data systems AND lines of action in administration

Actions

Increasing co-operation with administration

Probably increasing direct data collection (speed, data contents)

Increasing methodological work (like imputation for missing variables)

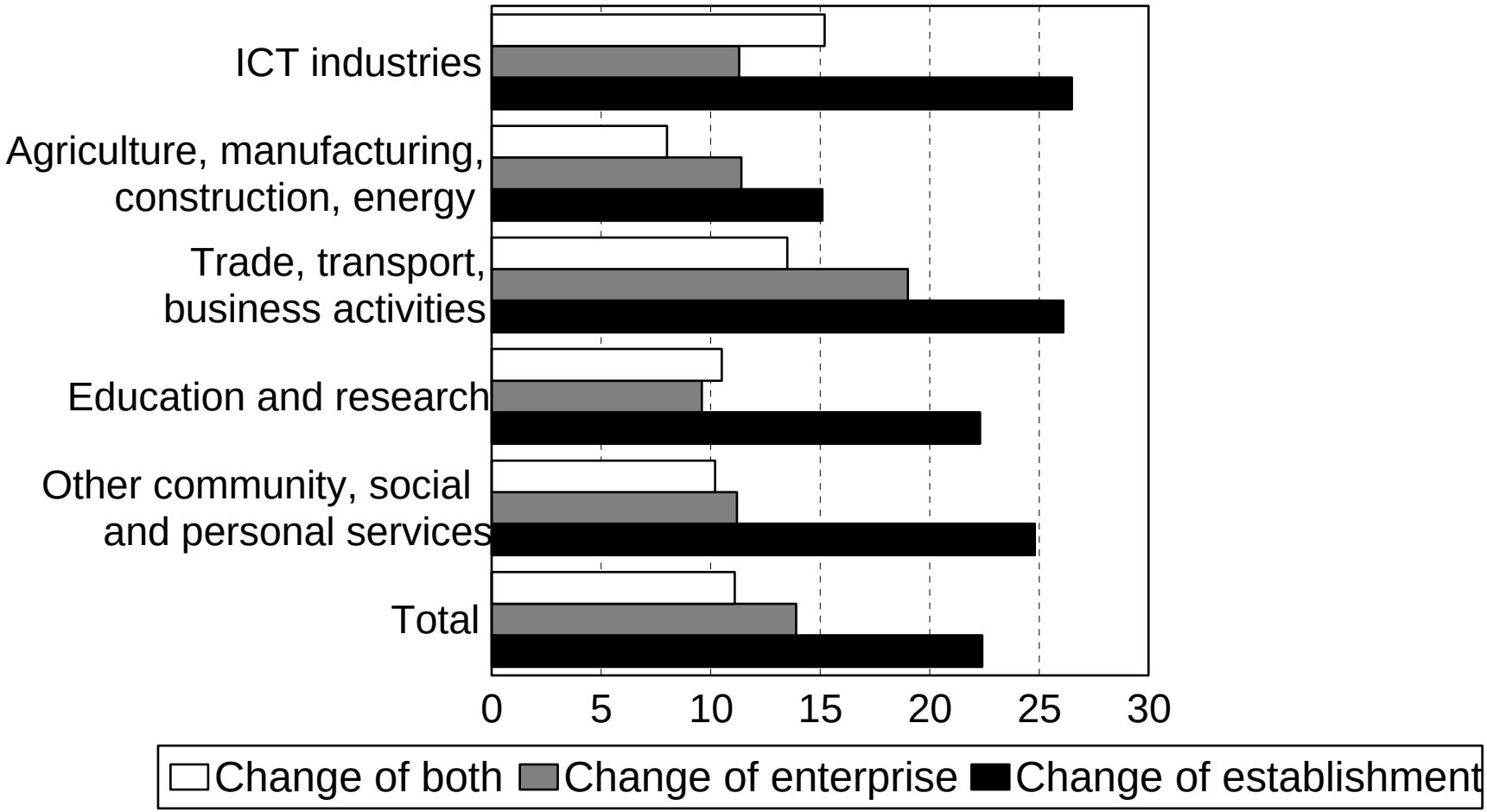


Figure 5. Mobility rates by industry, Finland 1998.

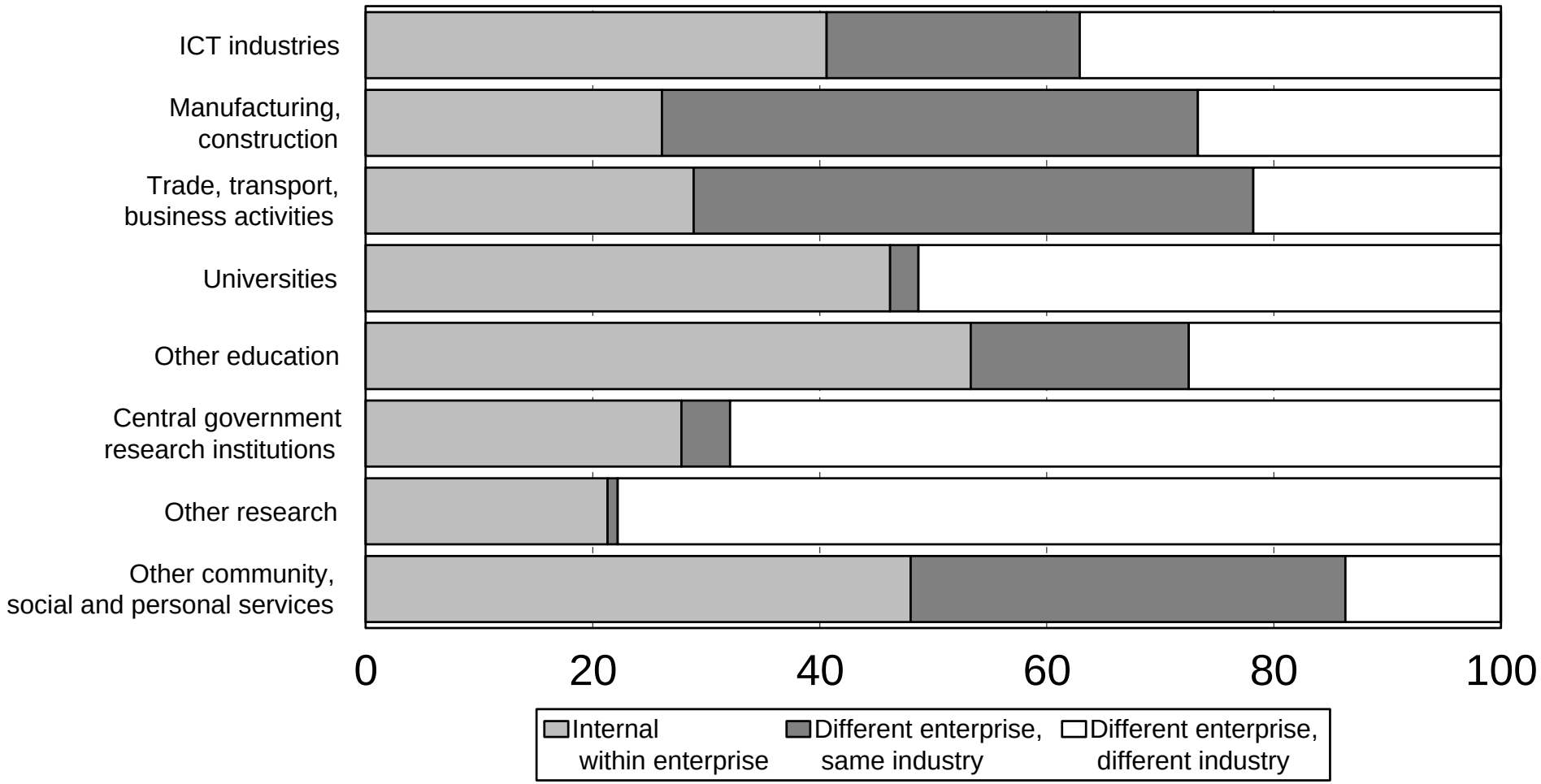


Figure 8 Components of the mobility of highly educated population, 1998.