

**Worker mobility from social security registers and household surveys:
a comparative assessment and updated analyses**

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Very preliminary and incomplete. Please, do not quote.

Worker mobility from social security registers and household surveys: a comparative assessment and updated analyses¹

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1. Introduction and summary

In the last two decades the literature on labour mobility has experienced remarkable developments, as regard both measures of worker and job flows and empirical analyses on the level and patterns of mobility in several developed countries (see, e.g., Davis, Haltiwanger, 1999). Methods and results are interwoven with the data used, either from surveys or from a variety of administrative sources.

In Italy most of the research on worker and job mobility has been carried out on social security (Inps) administrative databases, particularly on an employer-employee linked panel database developed from them by a team of researchers now at LABORatorio R. Revelli, Center from Employment Studies (Contini, 2002). This panel database – INPS in the sequel – provides detailed information, on a monthly basis, about all employment spells of a 1/90 systematic sample of the relevant population of workers. The population consists of those workers who pay compulsory contributions to Inps: essentially, employees in the private non-agricultural sector. Thus its coverage is partial, though large. Besides, INPS is updated irregularly and with some delay.

This paper has two main aims. First, we investigate the possibility of using the Italian Quarterly Labour Force Survey (RTFL) as an additional source for currently measuring worker mobility.

In principle, the motivation for using RTFL is twofold:

- it covers (almost) *total employment*, while INPS is restricted to dependent employment in the private non-agricultural sector;
- it is *timely*, while INPS is available with a lag of 3-4 years.

The RTFL suffers, however, from a serious hindrance: the observation plan of the questionnaire provides fragmentary information on work histories.

We try to overcome part of these deficiencies by exploiting the rotating panel design of RTFL. We check the information content on worker mobility we are able to get from RTFL against the extent of worker mobility documented by INPS – taken as the benchmark, for the years 1995 and 1998. Some preliminary results restricted to 1995 (with ‘old’ INPS data) are fairly satisfactory. They suggest that RTFL might provide sensible (though incomplete) information on worker mobility.

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Second, based on the conclusion above, we carry out some updated analyses on worker mobility in Italy, for the years 1995 and 1998-2002.

While the focus is still on employees in the private non-agricultural sector, attention is extended also to the entire set of resident non-institutional employed.

Just some preliminary evidence is presented and briefly commented. Some results are not as expected. Among these, the most noticeable is perhaps a slight decline of worker mobility in the last three-four years.

2. Worker mobility from INPS and RTFL: the design for a comparative assessment

As already noted, the observation plan of the RTFL's questionnaire provides a rather fragmentary description of work histories. At *each survey wave*, information is collected on:

- current state – employed, unemployed or inactive, and
- (i) when the current spell of employment begun (year and month), for the employed, or (ii) when the last employment spell ended (year and month again), for the unemployed or inactive with previous working experience.

For each spell of employment, occupation (dependent *vs.* self-employed, plus a more detailed sub-classification) and industry are also recorded.

By contrast, INPS documents the employment spells on a monthly basis. In addition to the observation plan, RTFL and INPS differ in several other respects, among which the reference population. A synopsis of the main differences is in Table 1.

The aims of our comparative exercise are essentially two:

- to identify the main reasons of discrepancy of worker mobility indicators from the two sources;
- to ascertain if an approach can be developed, taking advantage of the rotating panel design of RTFL, which is capable of largely reconcile the evidence about worker mobility from the two sources.

The exercise goes through four main steps.

First, we introduce a new approach for extracting as much information as possible on employment spells from the RTFL.

The basic idea is to exploit the rotating panel design of RTFL – a 2-2-2 one – in order to link the records pertaining to the same individual over three subsequent waves within a calendar year. We will call it the 'three-waves linkage method'.

- We use a record linkage procedure that closely mimics the one adopted by Istat (2002) for estimating labour market gross flows. As a result, we generate *three-waves panels from the sequence of RTFL surveys of a given year*, for the (not equally spaced) occasions of
 - January t , April t , January $t+1$, and
 - January t , October t , January $t+1$, respectively.

We combine current state information and retrospective information from each of the three waves. The resulting observation plan allows one to detect up to two engagements and two separations (and three employment spells) for each individual.

See Figure 1.

- Furthermore, as the two three-waves panels are disjoint and independent samples from the same population, we aggregate them. We get a *pooled sample* whose size is roughly doubled, with an appreciable gain in the precision of worker mobility estimates.

Second, we use a simple refinement to the usual indicators of worker mobility.

Let denote by A_i and S_i the number of engagements and separations, respectively, of individual i in a given time interval – typically a calendar year, and by R_i an indicator variable which is 1 if individual i experiences at least one transition within the time interval.

It is appropriate to compute the mobility indicators – engagement rate (a), separation rate (s), gross worker turnover (t) and reallocation rate (r) – as the ratio of the total number of relevant transitions (or individuals) to the *population at risk*, which we denote by N_f .

In the simplest case of head counting – i.e., without weighting individuals for their exposure time within the calendar year, (which is our case), N_f is the number of individuals that, at any moment in the year, have shown as employed (\equiv initial stock of employed + individuals who entered employment during the year and were still employed at the end of it + individuals who entered employment temporarily during the year – i.e., neither part of the initial stock nor of the final).

Thus, our worker mobility indicators will be the following:

$$a_f = \frac{1}{N_f} \sum_{i=1}^{N_f} A_i, \quad s_f = \frac{1}{N_f} \sum_{i=1}^{N_f} S_i, \quad t_f = a_f + s_f, \quad r_f = \frac{1}{N_f} \sum_{i=1}^{N_f} R_i. \quad (1)$$

Note that, in general, N_f differs from a measure of the stock of employed, such as $N_s = (N_{si} + N_{sf}) / 2$, i.e., the mean stock of employed at the beginning and at the end of the year. N_s is commonly used in the literature, which results in the parallel indicators a_s, s_s, t_s and r_s .

(If we consider just engagements and separations pertaining to those employment spells which are ongoing at the beginning and at the end of the year, we get the corresponding indicators ${}_w a_s, {}_w s_s, {}_w t_s$ and ${}_w r_s$.)

Third, in order to carry out an informative comparative analysis on worker mobility measures from the two sources – INPS vs. the RTFL three-waves linked sample – we design a procedure that allows us to control for the two crucial factors of divergence: the reference population and the observation plan. To that purpose, we proceed to two interconnected operations.

- We identify a *common reference aggregate*, thus getting rid of (most of) the systematic difference in mobility measures due to differences in population coverage and composition. We will refer to such aggregate as the ‘*standardized population*’. (For details, see Baretta and Trivellato, 2003, Appendix 1).
- We simulate the RTFL three-way linkage method onto the INPS databases, thus getting an *INPS simulated three-waves observation plan*. As a result, we get worker mobility estimates from the two sources comparable also from the point of view of the observation plan.

Based on these operations, we can compare the results on worker mobility from each of the two sources, based on different reference populations and/or different observation plans.

Fourth, we introduce a decomposition of the discrepancy of mobility indicators from the two sources, which focuses on the relative importance of the two main factors of

divergence – *population coverage* and *observation plan* – and on their overall capacity to account for the discrepancy.

Let denote by:

y_p and ${}_d y_p$ the estimates of a given mobility indicator from INPS using the original monthly-based observation plan (p), computed on the overall sample and on the sample from the standardized population (d), respectively;

x_m and ${}_d x_m$ the estimates of the same mobility indicator from the pooled RTFL data-set resulting from the three-waves linkage method (m), computed on the overall sample and on the sample from the standardized population (d), respectively;

y_m and ${}_d y_m$ the estimates of the same mobility indicator from the INPS data-set resulting from the simulation of the three-waves linkage method (m), computed on the overall sample and on the sample from the standardized population (d), respectively.

The following differences are of interest:

- overall difference : $\alpha = y_p - x_m$;
- difference holding the population constant: $\beta = {}_d y_p - {}_d x_m$;
- difference holding the observation plan (m) constant: $\gamma = y_m - x_m$;
- difference holding constant both the population and the observation plan: $\delta = {}_d y_m - {}_d x_m$.

Based on them, one can derive a sensible *relative decomposition of the overall difference α* into: (i) a marginal effect of population composition: $1 - \beta/\alpha$; (ii) a marginal effect of the observation plan: $1 - \gamma/\alpha$; (iii) the joint effect of population composition and observation plan: $1 - \delta/\alpha$.

See Table 4, upper section.

As for the reading of the results, the more:

- the joint effect is close to 1,
 - the marginal effect of the observation plan is close to 0 and, on the contrary, the marginal effect of population composition is close to 1,
- the better (i.e., worker mobility indicators from the RTFL three-waves linked sample are consistent with original INPS indicators).

NB: Additional information comes from *inspection of the distribution of spells (transitions) – by number of spells (transitions) per worker – lost in INPS* when using the simulated three-waves observation plan, instead of the original monthly-based plan.

Finally, we complement the point estimates of mobility indicators with 95% bootstrap bias-corrected confidence intervals (Efron and Tibshirani, 1986). They are especially useful for a straightforward assessment of the ‘closeness’ of mobility measures from the two sources, based on the overlapping/non-overlapping of the intervals themselves.

3. Selected results from the comparative exercise

Our plan is to carry out the comparative assessment for two years, 1995 and 1998, and using updated databases from the two sources.

- The motivation for utilizing updated databases is straightforward: they are more reliable. Thus: (i) for INPS we will use of the new 1987-1998 panel, presently under

construction by the LABORatorio R. Revelli; (ii) for the RTFL, in addition to sample for 1995 taken from Baretta and Trivellato (2003), we will build up the series of three-waves linked samples for the years 1998-2002 by means of a procedure that closely follows the one implemented by Istat (2002) for estimating yearly gross flows.

- The motivation for expanding the analysis to 1998 (with respect to the previous assessment by Baretta and Trivellato, 2003, restricted to 1995) is to ascertain if the relationships between mobility measures from the two sources found for 1995 extend to more recent years, characterized by (supposedly) increasing mobility.

Results presented here are limited to 1995 and definitely preliminary, as they are based on the 'old' INPS panel. Thus, they have to be interpreted with due caution.

Sample sizes are in Table 2.

Table 3 provides aggregate descriptive evidence about worker mobility indicators from the two sources. We get first insights on the importance of population coverage and of the observation plan in determining worker mobility measures.

Table 4 presents decomposition measures of the difference between indicators of worker mobility from INPS and the RTFL three-wave linked sample.

Results are satisfactory, especially for the reallocation rate. The joint effect of population composition and observation plan is around 1; the marginal effect of the former factor is also close to 1, while the latter has almost no effect.

Table 5 summarizes the main aggregate results.

- Crude, raw analyses on the two sources, which do not take into account any factor of divergence between them and do not make any use of the panel dimension of RTFL, produce mobility measures from INPS and RTFL which are far apart (first row).
- On the contrary, after accounting for the two main factors of divergence we get estimates of both gross worker turnover and reallocation rate pretty close: 46.5 vs. 47.8% and 32.6 vs. 32.9%, respectively (third row). For both indicators the estimates from the two sources do not differ significantly.
- Clearly, the most interesting exercise consists of comparing the two sources on the standardized population, but using each of them at its best as regard the observation plan: that based on monthly information for INPS and the three-waves linked sample for RTFL. In this case too mobility estimates turn out to be reasonably similar:
 - 51.1 vs. 47.8% for gross worker turnover, and
 - 33.0 vs. 32.9 % for the reallocation rate (fourth row).

The reallocation rate estimates are hardly distinguishable (the corresponding confidence intervals largely overlap). This is not the case for gross worker turnover estimates, whose difference is statistically significant, though substantively moderate: RTFL underestimates the benchmark turnover resulting from INPS by 3.3 percentage points, around 6.5% in relative terms.

Figures 2 and 3 confirm and elucidate the point, with reference to the fraction of employment spells (transitions) lost when moving from the INPS original observation plan to the simulated three-waves one. Their inspection shows that:

- just an even number of transitions is lost, i.e. completed spells, short, falling within the three-and nine-month windows into which the calendar year is split-up by the three-waves simulated observation plan;
- the greater the number of spells per worker, the higher the fraction of them which is lost.

Summing up, the simulated three-waves observation plan does not capture short completed spells of employment within eventful work histories (which, by the way, in 1995 were a small fraction: 92% of workers reported just one spell).

Table 6 documents the main patterns of distribution of mobility indicators from the two sources, by geographic area, gender and age-group. Discrepancies between INPS and RTFL appear to grow up appreciably for some groups. Worker mobility is higher from RTFL:

- in the South;
- for females, especially in the age-groups above 45 (and in the South).

The overall, preliminary evidence (note: we are dealing just with 1995, and using the ‘old’ INPS database!) is that the three-waves linkage captures large part of the worker mobility documented by INPS:

- entirely as worker reallocation measures are concerned;
- with a significant, but moderate under-estimation with respect to gross worker turnover.

The tentative conclusion is that longitudinal datasets from RTFL might be used for satisfactorily estimating worker mobility on the entire RTFL sample. This would entail two not negligible advantages: worker mobility measures would refer to the entire set of resident non-institutional employed; they could be produced timely and updated quarterly.

4. Worker mobility dynamics from RTFL, 1995 and 1998-2002

Preliminaries.

In the sequel, in addition to total employment, we will focus on ‘*employees in the industrial and the private service sectors*’ (EIPS): a population that slightly differs from the ‘standardized population’ considered above². We do that for two reasons: the domain of EIPS is based on classification by industry which is deemed to be highly reliable (Istat, 2003, p. 2); besides, it has neat boundaries, thus a clear interpretation.

(Note that worker mobility indicators show a moderate decline when moving from the standardized population to the EIPS population – e.g., t_f drops from 47.8 to 45.7 in 1995, and from 46.3 to 44.1 in 2002; r_f from 32.9 to 31.4 in 1995, and from 30.7 to 28.9 in 2002 –, with a fair stability across the main classifications.)

As it is well known, the interpretation of worker mobility indicators *per se* is problematic, because of the complex, not univocal links between flexibility, employment and growth (see Sestito, 2002, pp. 9-17, for a brief discussion with reference to the Italian context). We will take a *descriptive approach*, and we will investigate two basic aspects: the *variability* of worker mobility across various dimensions – geographic area, occupation and industry, the demographics of the workers (education included) –; the *recent dynamics* of worker mobility, starting from 1995 and then looking at the short series 1998-2002.

Just *initial, sketchy evidence* will be presented and briefly commented.

² It comprises employees in the sectors 02-09 of the classification used by Istat for labour force data (see Istat, 2003, p. 2). Thus, besides agriculture (01) and the public sector *stricto sensu* (10), it excludes education, health and all social services (11 and 12).

It differs from the standardized population because: (i) it comprises some divisions of the industrial sector (ground transports (60), post and telecommunications (64), equipment hiring (71), and research and development (73)); (ii) it does not include two divisions of social and personal services (activities of associations not classified elsewhere (91) and other service activities (93)).

Table 7 presents the basic worker mobility indicators (engagement rate (a_f), separation rate (s_f), gross worker turnover (t_f) and reallocation rate (r_f)) computed on two populations – total employment and EIPS – for three selected years – 1995, 1998 and 2002 –, with a breakdown by geographic area, gender and age of the worker. Table 8 completes the picture by presenting the indicators (just t_s and r_s) by education and gender of the worker.

Let us look first at the *EIPS population*. Some noticeable features are as follows.

- With reference to total employees, all indicators show a moderate, but fairly systematic, in various cases significant decline starting from 1998. The engagement rate has a more pronounced pro-cyclical behaviour and a variability higher than the separation rate, as expected. The gross worker turnover (gwt) goes down from 49.4 to 44.1 from 1998 to 2002; the reallocation rate moves accordingly from 33.3 to 28.9. (More on the dynamics later, when commenting Figures 4).
- The geographic pattern of mobility documented by the studies on INPS data (Contini, 2002, Ch. IV) is neatly confirmed. Worker mobility stays higher in the South, likely because of the concomitant effect of composition by industry and small firm size (and possibly a more extended underground economy?). Mobility is also comparatively high in the North-East, where firm size is on average small.
- Moving to a breakdown by worker characteristics, at least three aspects deserve attention: (i) mobility tends to be higher for women (an evidence that does not match that from INPS); (ii) the ‘natural’ pattern of high engagements (and, to a lesser extent, separations) for young workers and high separations for old workers is clearly found, but for the latter also associations are remarkably, somewhat surprisingly high (close to 40 for worker aged 60 years or more); (iii) differences in mobility by gender get somehow wider with age.
- As for the variability of mobility with respect to education, it is not striking at the aggregate level: just note that workers with a high school diploma are clearly less mobile. More pronounced differences emerge when we cross-classify workers by education and age: workers with a university degree have the highest t_s and r_s in the age-group 14-29, while workers with at most a compulsory school diploma are the more mobile among the age-group ≥ 50 .

If we move to the *entire set of employed*, overall mobility indicators show a remarkable drop, by roughly one third: in 2002 gwt is 30.7 (vs. 44.1 in EIPS), while the reallocation rate is 18.8 (vs. 28.9 in EIPS).

Besides, there are modifications in the patterns of mobility across groups:

- geographic differences stay appreciably high, but are somewhat attenuated;
- the reduction in mobility affects mainly the old age-groups;
- mobility reduces dramatically for workers with high levels of education (there is a composition effect at work here: workers with a university degree are highly concentrated in the less mobile sectors, such as the public sector, education and health).

(More on differences in mobility by occupation and industry later.)

Table 9 gives a breakdown of worker mobility indicators by state of the worker at January.t: the categories of the initial state are ‘Employed’, ‘Not employed with previous working experience’ and ‘Not employed with no previous working experience’, respectively.

In order to read this table sensibly, one should consider that a worker from the last two categories must have experienced at least one engagement. Thus, his/her gwt is no less than 100, while his/her reallocation rate is 100 by definition.

Two points deserve attention.

- There is an obvious splitting between those who were employed at the beginning of the year and the new entrants into employment: e.g., in 2002 their gwt is 17.9 and 158.2 respectively.
- Less obvious, thus more interesting, is the different pattern of mobility shown by the new entrants into employment (during the year) with or without previous working experience, respectively. The former have consistently high mobility indicators than the latter, across age-groups and gender. Even in the central age-group, 30-49, their gwt never goes below 155. The 'Not employed with previous working experience' amount to some 6% of total employment. The evidence points to a fairly small group of workers with highly intermittent working experience (seasonal workers are included).

A further documentation of worker mobility indicators by occupation and industry is given in Tables 10 and 11. Table 10 refers to total employment and presents the indicators for two broad classes of workers – employees and self-employed. Table 11 is restricted to the sub-set of workers who were employed at January.*t* (only for them information on the initial occupation/industry is available), and gives indicators of mobility suitably disaggregated by industry and by occupation.

- Somewhat surprisingly, *worker mobility indicators between self-employed and employees (note: total!) do not differ that much*. In 2002, the gwt is 26.2 vs. 31.1 (remember: it is 44.1 for EIPS), while the reallocation rate is 19.9 vs. 18.7 (remember: it is 28.9 for EIPS).

Inspection of the results by gender and age reveals three additional features.

- (i) Differences in mobility between self-employed and employees are lower for women. Indeed, for them the expected pattern of lower mobility among the self-employed is neatly reversed as far as reallocation is concerned: in 2002 it is 27.0 vs. 21.1 (remember: it is 32.8 for EIPS).
 - (ii) The different pattern of mobility within the age group 30-49 is almost entirely responsible for the higher gwt among employees: in 2002, in the 'central' age-group it is 21.5 for employees vs. 16.4 for self-employed (remember: it is 32.5 in EIPS).
 - (iii) The divergence between a larger gwt for employees and quite similar reallocation rates is largely due to the pattern of mobility in the age-group 14-29. Reallocation is definitely higher among the young self-employed; each of them, however, experiences much less transitions, on average, than a young employee.
- More informative results are given in Table 11, though *restricted to the population of 'Employed at January.t'* (some 90% of total employment, but pretty selected in terms of mobility, as we learned from Table 9). We stress just three points.
 - (i) As for the classification by occupation/industry, mobility is definitely low in the public sector, as expected (but possibly slightly increasing). The other discrepancies are confined to the dichotomy 'Employees in other sectors'/'Self-employed': they differ in terms of gwt (some 21% vs. some 16%), but are pretty close in terms of reallocation rate (around 10-11%).
 - (ii) When we restrict to the pool of employees at January.*t*, the main divide is between executives and white-collars on the one side, and blue-collars and apprentices on the other: on average, the latter have mobility indicators almost twice than the former (with an obvious peak for the apprentices).
 - (iii) Still within the employees at January.*t*, a particularly interesting distinction is between workers with a full-time permanent job and others (part-time and/or temporary workers). The fraction of the latter grew substantially over the last years,

partly because of some new piece of legislation (notably Act No. 196/1997, known as “*pacchetto Treu*”): from less than 10% in 1995 to 15% in 2002. Remarkably enough, worker mobility indicators show a clear decline also within the group of part-time and/or temporary workers.

Figures 4-11 present the graphs of the time-series of t_f and r_f , years 1995 and 1998-2002, for some main aggregates of workers:

- EIPS by geographic area, gender, age and education (Figures 4-7);
- total employment by occupation – employees vs. self-employed – and by state at January. t (Figures 8-9);
- employees at January. t by detailed occupation and by type of labour contract (Figures 10-11).

There is appreciable variation across groups. But the graphs show also a fairly neat, common pattern: worker mobility declines starting from 1998-99. *Prima facie*, this pattern is at odds with (largely anecdotal) evidence about a growth in mobility induced by labour market reforms.

First, we want to stress that our results should be regarded as very preliminary. Further analyses are needed.

Second, two comments are appropriate.

- The credibility of our results rests on the assumption that the capacity of RTFL (more precisely, of the RTFL three-waves linkage method) to capture worker mobility did not decline with time. For now, this is a maintained assumption. We will carry out a partial check on it, when we will get INPS data for 1998 (in addition to those for 1995).
- The result of an overall slight decline in worker mobility is not contradictory with a possible increase in mobility in some segments of the labour force, such as those identified by the new labour contracts introduced by the “*pacchetto Treu*” (and by some active labour market programmes). In fact, one should consider that:
 - (i) those reforms and measures share the common trait of being ‘marginal’, not structural – otherwise stated, they affect fairly small segments of workers;
 - (ii) their effects on the treated might be transitory, and furthermore compensated by other effects of an opposite sign (effects on the not-treated; dynamic general equilibrium effects).

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Table 1: *Main differences between the two data sources: a synopsis*

Factors	Data sources		Differences and their expected effects ^a
	INPS	RTFL (three-wave linked sample)	
<i>Differences which can be (partly) controlled</i>			
<i>Reference population</i>	Domestic employees mainly from private non-agricultural firms (as they appear in the social security archives according to legislation)	Employed from the resident non-institutionalized population	Domestic employed vs. employed from the resident non-institutionalized population [<i>s</i> ; >] Partial (i.e., restricted to employees in some sectors) vs. (almost) total coverage of employment [<i>G</i> ; <]
<i>Observation plan</i>	Work history, with the month as time unit	Observation plan from a sequence of three survey waves, each of them collecting (i) information on the current state plus (ii) some very limited retrospective information (see Figure 1)	The observation plan from the RTFL is incomplete with respect to the one from INPS (see Figures 2 and 3) [<i>s</i> ; >]
<i>Differences one cannot get rid of (but reasonably minor)</i>			
<i>Definition of employment</i>	At least one day of work during the month	A person identifies her/himself as employed or reports she/he did at least one hour of work during the reference week.	1 day within a month vs. 1 hour within a week [<i>s</i> ; >]
<i>Characteristics of the source</i>	Random sample from a dynamic population	Sample from the initial population interviewed across three waves (with no follow-up in the case of migration from the municipality)	RTFL underestimates mobility (by design and because of attrition) [<i>s</i> ; >]
	Administrative data, resulting from social security regulations, and associated sources of error (among which, possibly elusion or under-reporting)	Survey data, possibly affected by total non-response, proxy respondent effects, response errors (among which those due to memory), etc.	Various sources of error, largely different [<i>s</i> ; > / <]

^a Size: *G* ≡ great, *s* ≡ small. Direction : INPS > or < RTFL.

Table 2: *Sample size of the INPS (full sample and simulated three-wave sample) and RTFL three-waves linked sample, year 1995*

Reference population	INPS		RTFL three-waves linked sample
	Full sample	Simulated three-waves sample	
Employed total	-	-	27,624
- self-employed	129,710	129,710	20,316
- ATECO 01,10	115,473	115,412	17,230
- ATECO 11,12 ^a	108,365	108,276	13,270
Standardized population	104,162	104,052	12,290

^a Except for divisions 91 and 93 (see Appendix).

Table 3: *Worker mobility indicators (%) from INPS (original observation plan and simulated three-wave observation plan) and RTFL three-wave linked sample, year 1995 (95% coefficient intervals in italics)*

Reference population	INPS				RTFL			
	<i>a_f</i>	<i>s_f</i>	<i>t_f</i>	<i>r_f</i>	<i>a_f</i>	<i>s_f</i>	<i>t_f</i>	<i>r_f</i>
<i>Original observation plan</i>								
Employed total	-	-	-	-				
- self-employed	26.6 <i>26.3;26.9</i>	25.8 <i>25.5;26.1</i>	52.4 <i>51.9;52.9</i>	32.8 <i>32.5;33.1</i>				
Standardized pop.	26.2 <i>25.8;26.5</i>	24.9 <i>24.6;25.2</i>	51.1 <i>50.5;51.7</i>	33.0 <i>32.7;33.3</i>				
<i>Simulated three-wave obs. plan</i>				<i>Three-wave linked sample</i>				
Employed total	-	-	-	-	17.2 <i>16.7;17.7</i>	16.3 <i>15.8;16.8</i>	33.4 <i>32.5;34.5</i>	21.0 <i>20.5;21.5</i>
- self-employed	24.4 <i>24.2;24.6</i>	22.7 <i>22.5;22.9</i>	47.1 <i>46.8;47.5</i>	32.3 <i>32.1;32.4</i>	20.3 <i>19.7;21.0</i>	19.2 <i>18.5;19.9</i>	39.6 <i>38.2;40.7</i>	25.2 <i>24.4;25.8</i>
Standardized pop.	24.3 <i>24.1;24.6</i>	22.2 <i>22.0;22.5</i>	46.5 <i>46.1;46.8</i>	32.6 <i>32.4;32.7</i>	24.8 <i>23.9;25.5</i>	23.0 <i>21.9;23.9</i>	47.8 <i>46.1;49.2</i>	32.9 <i>32.0;33.7</i>

Table 4: *Decomposition of the difference between indicators of worker mobility (%) from INPS and RTFL three-wave linked sample: decomposition scheme and decomposition measures (%), year 1995*^a

<i>Overall difference:</i> α	Marginal effect of the observation plan: $1 - \gamma / \alpha$
Marginal effect of population composition: $1 - \beta / \alpha$	Joint effect: $1 - \delta / \alpha$

<i>Gross worker turnover t_f</i>		<i>Reallocation rate r_f</i>	
INPS: 52.4	RTFL: 33.4	INPS: 32.8	RTFL: 21.0
<i>19.0</i>	0.278	<i>11.8</i>	0.038
0.825	1.068	0.995	1.032

^a Indicators are computed on the reference population and the observation plan which are specific to each data source.

Table 5: *Worker mobility indicators (%) from INPS and RTFL, according to variation in the reference population and the observation plan*

Reference population, observation plan, and type of mobility indicator	Gross worker turnover		Reallocation rate	
	INPS	RTFL	INPS	RTFL
‘Raw’ indicators ^a	65.5	17.6	41.0	17.6
‘Optimal’ observation plan & type of indicator ^b	52.4	—	32.8	—
Fully normalized comparisons ^c	46.5	47.8	32.6	32.9
Standardized population only ^d	51.1	47.8	33.0	32.9
Normalized observation plan only ^e	47.1	33.4	32.3	21.0

^a Different reference population and different observation plan (for RTFL the plan uses just information from a single cross-section); measures are t_s and r_s (for RTFL we have $t_s \equiv r_s \equiv {}_w t_s \equiv {}_w r_s$).

^b Original observation plan of INPS, based on monthly information (panel method); measures are t_f and r_f .

^c Standardized population, three-wave linked sample s matching method; mean INPS and pooled RTFL; measures are t_f and r_f .

^d Standardized population, different observation plan (the best for each source: panel method for INPS, three-waves matching method for RTFL); pooled RTFL; measures are t_f and r_f .

^e Different population; three-waves matching method; mean INPS and pooled RTFL; measures are t_f and r_f .

Table 6: *Worker mobility indicators (%) from INPS and RTFL, by geographic area, gender and age-group (95% confidence intervals in italics)*

	INPS, standardized population				RTFL <i>pooled</i>				
	Original obs. plan		3-wave obs. plan		Standard. pop.		Employed total		
	<i>t_f</i>	<i>r_f</i>	<i>t_f</i>	<i>r_f</i>	<i>t_f</i>	<i>r_f</i>	<i>t_f</i>	<i>r_f</i>	
Total	51.1	33.0	46.5	32.6	47.8	32.9	33.4	21.0	
	<i>50.5;51.6</i>	<i>32.7;33.3</i>	<i>46.1;46.8</i>	<i>32.4;32.7</i>	<i>46.1;49.1</i>	<i>31.8;33.8</i>	<i>32.5;34.4</i>	<i>20.5;21.6</i>	
<i>Geographic area</i>									
North	50.2	31.5	44.2	30.5	42.8	29.1	31.0	19.5	
	<i>49.5;50.9</i>	<i>31.1;31.9</i>	<i>43.8;44.6</i>	<i>30.3;30.7</i>	<i>40.5;44.8</i>	<i>27.8;30.5</i>	<i>29.6;32.2</i>	<i>18.7;20.3</i>	
Centre	48.0	32.6	45.7	33.1	45.5	31.9	28.8	18.5	
	<i>46.8;49.1</i>	<i>32.0;33.2</i>	<i>45.0;46.3</i>	<i>32.7;33.6</i>	<i>42.3;48.6</i>	<i>30.0;33.9</i>	<i>27.1;30.9</i>	<i>17.6;19.6</i>	
South	55.8	39.9	53.4	39.2	62.5	43.7	40.9	25.3	
	<i>54.6;57.2</i>	<i>39.3;40.8</i>	<i>52.9;54.0</i>	<i>38.9;39.7</i>	<i>59.0;65.0</i>	<i>41.5;45.3</i>	<i>39.2;42.9</i>	<i>24.3;26.2</i>	
<i>Gender</i>									
Males	52.0	32.8	47.0	32.6	46.0	31.9	29.8	18.7	
	<i>51.3;52.7</i>	<i>32.4;33.2</i>	<i>46.6;47.4</i>	<i>32.4;32.8</i>	<i>44.1;47.5</i>	<i>30.7;32.8</i>	<i>28.7;30.9</i>	<i>18.1;19.4</i>	
Females	49.3	33.4	45.4	32.4	51.4	35.1	39.7	25.1	
	<i>48.3;50.3</i>	<i>32.8;33.9</i>	<i>44.9;45.9</i>	<i>32.1;32.7</i>	<i>48.7;54.1</i>	<i>33.6;36.9</i>	<i>38.0;41.5</i>	<i>24.2;26.1</i>	
<i>Age group</i>									
14-19	117.4	77.0	98.1	64.5	91.3	61.7	96.2	66.0	
	<i>114.7;120.1</i>	<i>75.5;78.3</i>	<i>96.5;99.8</i>	<i>63.5;65.4</i>	<i>83.4;98.3</i>	<i>57.7;65.8</i>	<i>90.7;101.9</i>	<i>62.8;69.5</i>	
20-24	86.1	55.2	72.9	49.0	69.1	46.9	67.7	43.1	
	<i>84.3;87.7</i>	<i>54.2;56.0</i>	<i>71.9;74.0</i>	<i>48.4;49.5</i>	<i>62.7;73.9</i>	<i>43.8;49.8</i>	<i>63.5;71.6</i>	<i>41.1;45.5</i>	
25-34	50.9	32.5	46.3	32.2	41.9	29.3	33.4	20.5	
	<i>50.0;51.8</i>	<i>32.0;33.0</i>	<i>45.8;46.8</i>	<i>31.8;32.5</i>	<i>39.4;43.8</i>	<i>27.8;30.6</i>	<i>31.5;35.0</i>	<i>19.4;21.5</i>	
35-44	36.0	22.9	34.7	24.8	38.0	26.8	21.1	12.8	
	<i>35.0;36.9</i>	<i>22.3;23.4</i>	<i>34.1;35.2</i>	<i>24.4;25.1</i>	<i>35.3;41.2</i>	<i>25.1;28.8</i>	<i>19.6;22.5</i>	<i>11.9;13.6</i>	
45-54	28.7	18.6	29.2	21.8	36.0	26.8	19.9	13.2	
	<i>27.7;29.7</i>	<i>18.0;19.3</i>	<i>28.7;29.9</i>	<i>21.4;22.2</i>	<i>32.9;38.8</i>	<i>24.5;28.6</i>	<i>18.5;21.6</i>	<i>12.3;14.1</i>	
55+	40.0	29.6	39.5	32.6	64.5	48.1	40.0	28.8	
	<i>37.8;41.9</i>	<i>28.2;31.3</i>	<i>38.4;40.7</i>	<i>31.8;33.5</i>	<i>59.9;69.6</i>	<i>44.2;52.3</i>	<i>37.6;42.3</i>	<i>27.2;30.3</i>	
<i>Gender & age group (≥25)</i>									
Males	25-34	53.8	33.2	48.3	32.9	40.4	28.5	29.4	17.7
		<i>52.5;55.0</i>	<i>32.6;33.8</i>	<i>47.7;49.0</i>	<i>32.5;33.4</i>	<i>37.7;43.4</i>	<i>26.7;30.3</i>	<i>27.1;31.6</i>	<i>16.4;18.9</i>
	35-44	37.1	22.8	35.6	25.0	36.4	25.6	17.3	10.1
		<i>35.8;38.3</i>	<i>22.1;23.5</i>	<i>34.9;36.3</i>	<i>24.6;25.4</i>	<i>33.4;39.9</i>	<i>23.7;27.6</i>	<i>15.7;19.0</i>	<i>9.2;11.1</i>
	45-54	28.8	18.3	29.3	21.8	33.4	24.4	17.5	11.8
		<i>27.6;30.2</i>	<i>17.6;19.0</i>	<i>28.7;30.0</i>	<i>21.4;22.3</i>	<i>30.2;37.1</i>	<i>22.1;27.0</i>	<i>15.8;19.2</i>	<i>10.7;12.8</i>
	55+	40.1	29.1	39.5	32.5	63.8	47.3	37.2	26.7
		<i>37.8;42.3</i>	<i>27.7;30.7</i>	<i>38.0;40.8</i>	<i>31.4;33.3</i>	<i>58.1;70.8</i>	<i>43.8;51.3</i>	<i>34.6;40.5</i>	<i>24.7;28.8</i>
Females	25-34	46.0	31.4	43.1	31.0	44.5	30.9	39.6	25.1
		<i>44.4;47.4</i>	<i>30.6;32.4</i>	<i>42.3;43.8</i>	<i>30.5;31.5</i>	<i>39.6;48.8</i>	<i>28.2;33.6</i>	<i>36.9;42.6</i>	<i>23.5;26.6</i>
	35-44	33.6	23.0	32.7	24.3	41.4	29.4	27.4	17.3
		<i>32.1;35.3</i>	<i>22.1;23.9</i>	<i>31.8;33.7</i>	<i>23.6;25.0</i>	<i>37.0;46.8</i>	<i>26.6;32.8</i>	<i>25.2;30.1</i>	<i>15.8;18.7</i>
	45-54	28.4	19.5	29.2	21.9	43.1	33.2	24.5	16.1
		<i>27.0;30.5</i>	<i>18.5;20.8</i>	<i>28.1;30.4</i>	<i>21.2;22.7</i>	<i>37.1;48.3</i>	<i>28.7;36.9</i>	<i>21.8;27.1</i>	<i>14.4;17.5</i>
	55+	39.6	31.5	39.4	33.3	69.5	53.4	48.3	35.1
		<i>34.7;44.2</i>	<i>28.4;35.3</i>	<i>36.9;41.9</i>	<i>31.5;35.2</i>	<i>56.4;82.6</i>	<i>45.4;62.0</i>	<i>42.8;54.1</i>	<i>31.8;38.7</i>

Table 7a: Indicators a_f and s_f for total employment and EIPS, by geographic area, gender and age - years 1995, 1998, 2002 (RTFL three-waves linked sample)

	a_f , total employment			a_f , EIPS				s_f , total employment			s_f , EIPS		
	1995	1998	2002	1995	1998	2002		1995	1998	2002	1995	1998	2002
Total	17.2	17.7	15.7	23.7	25.3	22.3		16.3	16.4	15.0	22.0	24.1	21.8
	16.6 17.8	17.2 18.3	15.3 16.2	24.4	24.5 26.1	21.4 22.9		15.7 16.7	15.9 16.8	14.6 15.6	21.0 22.8	23.5 25.0	21.1 22.5
North-east	15.2	15.8	13.7	20.7	22.9	19.3		14.1	15.4	12.7	18.9	22.4	19.1
	14.4 16.0	15.0 16.9	12.9 14.4	21.9	21.7 23.9	18.2 20.6		13.1 15.0	14.3 16.2	12.1 13.5	17.6 20.1	21.2 23.7	17.9 20.3
North-west	17.9	17.3	16.4	23.7	23.9	22.4		18.0	15.9	16.2	23.3	23.5	23.2
	16.5 19.7	15.9 18.6	15.2 17.8	25.8	21.8 26.0	20.5 24.6		16.5 19.6	14.7 16.9	14.9 17.7	21.1 25.6	21.1 25.1	21.0 25.2
Center	14.7	14.5	13.4	22.4	22.4	20.5		14.1	13.9	13.0	21.3	21.8	20.0
	13.8 15.9	13.7 15.4	12.5 14.6	24.3	20.9 23.7	18.8 22.5		13.2 15.1	13.0 14.6	12.1 13.9	19.2 22.8	20.2 23.2	18.5 21.6
South	21.1	22.4	19.5	30.5	33.3	28.5		19.8	19.6	18.9	27.6	29.8	27.1
	20.0 22.2	21.6 23.3	18.5 20.4	32.3	31.8 34.8	27.0 29.7		18.9 20.9	18.7 20.4	17.9 19.7	26.0 29.4	28.1 31.4	25.6 28.6
Males	15.2	15.3	13.7	22.4	23.6	20.6		14.6	14.7	13.4	21.2	22.6	20.2
	14.6 15.8	14.8 15.8	13.3 14.3	23.3	22.5 24.4	19.4 21.4		14.0 15.1	14.1 15.3	12.8 13.8	20.2 22.0	21.8 23.6	19.2 21.1
Females	20.6	21.7	18.8	26.6	29.1	25.4		19.1	19.3	17.7	23.8	27.2	24.9
	19.6 21.6	20.9 22.6	18.0 19.6	28.3	27.2 30.4	24.0 27.1		18.3 20.0	18.6 20.1	17.0 18.5	22.3 25.6	25.6 28.5	23.6 26.2
Age 14—24	44.7	47.2	44.9	43.8	47.8	44.9		33.4	34.9	36.3	33.3	36.1	36.4
	42.5 46.5	45.1 49.5	42.5 47.2	46.1	45.8 50.2	43.0 47.7		31.4 35.2	33.0 37.3	34.3 38.5	31.2 36.1	33.9 38.5	34.0 38.9
Age 25—29	22.0	25.7	23.1	22.8	28.8	26.5		18.3	20.1	19.0	20.9	25.5	24.1
	19.8 23.4	24.1 27.3	21.3 24.7	24.9	26.4 30.9	24.5 28.6		16.3 20.0	18.7 21.4	17.6 20.8	19.2 23.3	23.2 28.0	22.3 26.2
Age 30—49	10.9	11.5	10.4	17.8	18.4	16.0		10.4	10.2	9.9	16.2	18.0	16.6
	10.3 11.5	10.9 12.0	10.0 10.9	18.8	17.5 19.3	14.9 16.7		9.8 11.0	9.7 10.8	9.4 10.4	15.3 17.2	17.2 18.9	15.5 17.4
Age 50—59	11.1	10.9	10.1	18.0	19.3	18.2		16.1	16.9	13.5	27.0	29.3	23.2
	9.8 12.0	9.8 11.6	9.3 10.9	19.6	17.9 21.4	16.5 20.2		14.9 17.4	15.7 18.0	12.5 14.5	24.9 29.4	26.7 31.7	21.4 25.4
Age 60+	19.3	20.5	18.6	35.6	32.7	36.7		30.3	32.4	27.6	45.9	50.5	45.1
	17.1 21.7	18.0 22.8	16.6 20.6	28.1 41.3	25.3 38.4	29.1 42.5		27.5 32.4	29.7 35.1	25.3 30.6	37.8 51.5	42.5 57.5	38.3 51.6

Table 7b: Indicators t_f and r_f for total employment and EIPS, by geographic area, gender and age - years 1995, 1998, 2002 (RTFL three-waves linked sample)

	t_f , total employment			t_f , EIPS			r_f , total employment			r_f , EIPS			% distrib. (1998)	
	1995	1998	2002	1995	1998	2002	1995	1998	2002	1995	1998	2002	Total empl.	EIPS
Total	33.4	34.1	30.7	45.7	49.4	44.1	21.0	21.2	18.8	31.4	33.3	28.9		
	32.5 34.2	33.2 35.0	30.0 31.7	46.9	48.1 50.7	42.6 45.2	20.5 21.5	20.7 21.6	18.3 19.2	30.5 32.3	32.6 34.2	28.1 29.7		
North-east	29.3	31.2	26.4	39.6	45.2	38.4	18.8	19.3	16.0	27.3	30.3	25.0	37.7	43.0
	27.6 30.8	29.4 32.8	25.0 27.8	42.0	43.0 47.2	36.3 40.8	17.7 19.6	18.4 20.1	15.3 16.8	25.8 28.8	28.8 31.5	23.9 26.1		
North-west	35.9	33.2	32.6	46.9	47.4	45.5	21.7	20.0	19.0	30.4	30.3	27.9	12.9	14.9
	33.5 39.0	30.8 35.5	30.2 35.4	50.6	42.8 51.0	41.9 49.2	20.3 23.2	18.9 21.1	17.7 20.4	28.4 32.7	28.2 32.4	26.0 29.8		
Center	28.8	28.5	26.3	43.7	44.2	40.6	18.5	18.3	16.3	30.4	30.9	27.1	20.0	19.1
	27.0 30.6	26.9 30.0	24.7 28.4	46.9	41.7 46.8	37.8 43.2	17.5 19.5	17.2 19.1	15.3 17.4	28.5 32.2	29.2 32.5	25.3 28.5		
South	40.9	42.0	38.4	58.1	63.0	55.6	25.3	26.2	23.9	40.7	43.1	37.6	29.4	23.0
	38.8 42.8	40.6 43.6	36.8 40.1	61.1	60.5 66.0	53.3 58.0	24.4 26.4	25.3 27.0	22.9 24.6	39.1 42.6	41.8 44.9	36.3 39.2		
Males	29.8	30.0	27.1	43.6	46.2	40.7	18.7	18.5	16.5	30.1	31.3	26.9	62.9	67.9
	28.7 30.8	28.9 31.1	26.1 28.0	45.0	44.5 47.5	39.1 42.4	18.2 19.3	18.0 19.0	16.0 17.1	29.2 31.1	30.4 32.1	26.0 28.0		
Females	39.7	41.1	36.5	50.4	56.3	50.3	25.1	25.8	22.4	34.3	37.6	32.8	37.1	32.1
	38.0 41.5	39.5 42.5	35.1 38.1	53.5	53.2 58.7	48.3 52.9	24.0 25.9	25.0 26.5	21.6 23.2	32.8 36.1	36.0 39.0	31.4 34.0		
Age 14—24	78.1	82.1	81.2	77.1	83.9	81.3	49.1	51.0	48.7	50.9	53.0	49.6	11.3	16.6
	74.8 81.6	78.6 86.4	77.0 85.6	81.4	80.3 88.1	77.2 86.2	47.5 50.9	49.2 53.0	46.7 50.5	49.0 53.6	51.5 55.2	47.2 52.4		
Age 25—29	40.2	45.8	42.1	43.8	54.3	50.6	24.3	27.6	25.2	29.6	35.7	31.6	12.4	15.8
	36.1 42.8	43.4 48.7	39.1 45.3	47.3	49.8 58.4	47.1 53.9	22.6 25.6	26.2 29.2	23.6 26.6	27.7 31.6	33.0 37.7	30.0 33.8		
Age 30—49	21.3	21.7	20.3	34.0	36.4	32.5	12.6	13.0	11.9	23.6	25.5	22.2	56.1	53.8
	20.2 22.3	20.6 22.7	19.4 21.2	35.8	35.0 38.0	30.8 33.9	12.0 13.1	12.4 13.5	11.5 12.4	22.6 25.0	24.6 26.4	21.2 23.2		
Age 50—59	27.2	27.8	23.5	45.0	48.7	41.4	18.7	18.5	15.2	33.4	34.9	29.1	15.6	12.2
	25.1 29.2	25.6 29.5	22.0 25.0	48.3	45.4 52.2	38.3 44.6	17.5 20.0	17.6 19.8	14.3 16.2	31.2 36.1	33.0 37.1	26.8 30.7		
Age 60+	49.6	52.8	46.3	81.4	83.3	81.8	36.3	37.1	33.0	58.5	57.1	55.1	4.6	1.7
	45.2 53.2	48.2 57.0	41.9 50.5	89.9	70.6 93.8	69.9 90.8	33.7 38.8	34.3 39.7	30.5 35.3	50.7 63.7	50.0 62.2	47.2 60.7		

Table 8: *Indicators t_f and r_f for total employment and EIPS, by education and gender - years 1995, 1998, 2002 (RTFL three-waves linked sample)*

	t_f , total employment			t_f , EIPS			r_f , total employment			r_f , EIPS			% distrib. (1998)	
	1995	1998	2002	1995	1998	2002	1995	1998	2002	1995	1998	2002	Total empl.	EIPS
Compulsory ed.	38.5	38.3	36.5	46.9	50.5	47.5	24.5	23.9	22.4	32.2	33.8	30.9	52.7	56.7
	37.1 39.7	37.2 39.3	35.3 37.9	45.1 48.8	48.8 52.4	45.5 48.9	23.8 25.2	23.1 24.4	21.8 23.2	31.0 33.3	32.8 34.8	29.8 31.8		
High school	28.5	31.2	26.7	43.2	47.2	39.8	17.5	19.4	16.1	29.7	31.9	26.0	36.4	37.4
	27.1 30.2	30.1 33.2	25.4 28.0	41.0 45.6	44.8 49.4	37.9 41.8	16.7 18.2	18.7 20.3	15.5 16.8	28.4 31.3	30.5 33.5	24.8 27.0		
Univ. degree	20.0	23.5	21.6	48.2	53.5	44.8	12.5	14.3	13.2	34.6	37.9	32.2	10.9	5.9
	17.4 21.9	21.3 25.6	19.7 24.2	42.4 54.1	47.4 58.9	40.5 49.7	11.2 13.7	13.1 15.3	12.3 14.5	30.6 38.3	34.7 41.6	29.4 35.2		
<i>Males:</i> Compulsory ed.	34.4	33.9	32.0	45.4	48.4	44.0	21.5	20.9	19.3	31.1	32.4	28.6	35.9	40.8
	33.0 35.9	32.4 35.0	30.8 33.4	43.3 47.7	46.0 50.4	41.8 46.1	20.7 22.4	20.0 21.5	18.5 20.0	29.9 32.3	31.2 33.5	27.4 29.9		
High school	24.1	26.2	23.1	39.7	41.9	36.1	15.0	16.3	14.1	27.8	28.7	24.0	20.9	23.2
	22.3 25.7	24.7 28.0	21.3 24.6	37.7 42.8	39.3 44.9	33.4 38.4	13.9 15.9	15.4 17.4	13.1 14.9	26.3 29.8	27.2 30.6	22.3 25.5		
Univ. degree	17.4	19.7	17.4	41.9	48.4	40.9	11.2	12.3	10.9	30.8	36.0	29.1	6.1	3.9
	14.4 20.7	16.4 21.9	15.4 20.1	36.3 49.4	41.0 54.7	36.3 47.6	9.5 13.1	10.4 13.8	9.8 12.4	27.4 35.6	31.2 39.6	25.7 32.5		
<i>Females:</i> Compulsory ed.	47.4	47.6	45.8	50.7	55.9	55.8	30.8	30.2	28.8	35.0	37.6	36.1	16.9	16.0
	44.9 50.3	45.7 49.4	43.7 48.6	47.4 54.0	51.8 59.2	52.2 60.1	29.7 32.4	28.7 31.2	27.5 30.3	33.0 37.1	35.5 39.3	33.7 38.4		
High school	34.5	37.9	31.6	49.2	55.7	45.4	20.9	23.7	18.8	32.9	37.0	29.1	15.5	14.2
	31.6 37.9	35.5 40.1	29.9 33.8	44.0 54.3	51.1 59.1	42.6 48.7	19.5 22.5	22.4 25.0	17.8 20.0	30.1 35.5	35.0 39.3	27.3 30.8		
Univ. degree	23.7	28.4	26.1	63.3	63.9	50.3	14.4	16.9	15.7	43.7	41.6	36.6	4.8	1.9
	20.1 27.7	22.9 31.5	23.3 30.5	48.1 77.5	51.3 75.7	42.5 57.2	12.1 16.1	14.6 18.9	14.1 17.8	34.2 51.2	35.4 47.8	31.1 41.1		

Table 9: *Indicators t_f and r_f conditional on the state of the worker at the January.t, by gender and age - years 1995, 1998, 2002 (RTFL three-waves linked sample)*

State at January.t	t_f			r_f			% distribution		
	1995	1998	2002	1995	1998	2002	1995	1998	2002
Employed	18.7	19.5	17.9	11.5	11.7	10.6	89.5	89.2	90.9
Not employed with working exp.	164.8	163.9	167.6	100.0	100.0	100.0	6.4	6.0	5.6
Not employed with no experience	142.6	143.1	143.4	100.0	100.0	100.0	4.1	4.8	3.6
<i>Males:</i> Employed	17.8	18.2	16.6	10.7	10.7	9.6	58.3	57.4	56.6
Not empl. with exp.	161.5	159.9	165.1	100.0	100.0	100.0	3.7	3.4	2.9
Not empl. no exp.	139.3	143.7	139.2	100.0	100.0	100.0	1.9	2.1	1.7
<i>Females:</i> Employed	20.5	22.0	20.1	12.9	13.4	12.2	31.2	31.8	34.2
Not empl. with exp.	169.2	169.0	170.4	100.0	100.0	100.0	2.7	2.6	2.7
Not empl. no exp.	145.3	142.5	147.3	100.0	100.0	100.0	2.2	2.7	1.8
<i>14-29:</i> Employed	32.7	36.1	35.5	18.9	20.2	19.7	20.3	18.2	17.8
Not empl. with exp.	166.7	164.2	167.9	100.0	100.0	100.0	2.3	2.0	1.8
Not empl. no exp.	142.9	146.3	147.6	100.0	100.0	100.0	3.1	3.5	2.5
<i>30-49:</i> Employed	12.9	13.6	12.9	7.3	7.5	7.1	50.4	52.8	53.8
Not empl. with exp.	162.3	157.2	165.6	100.0	100.0	100.0	2.5	2.3	2.2
Not empl. no exp.	140.2	132.4	130.8	100.0	100.0	100.0	0.6	1.0	0.7
<i>50+:</i> Employed	18.8	19.9	15.4	14.6	15.0	11.4	18.9	18.3	19.3
Not empl. with exp.	166.1	173.5	172.9	100.0	100.0	100.0	1.6	1.6	1.5
Not empl. no exp.	141.2	141.6	133.8	100.0	100.0	100.0	0.3	0.3	0.3

Table 10: Indicators t_f and r_f for spells of dependent employment and self-employment, by gender and age - years 1995, 1998, 2002(RTFL three-waves linked sample)

	t_f			r_f			% distribution		
	1995	1998	2002	1995	1998	2002	1995	1998	2002
Employee	34.4	34.6	31.1	21.5	21.7	18.7	71.7	71.6	72.8
Self-employed	28.5	29.2	26.2	21.8	21.5	19.9	28.3	28.4	27.2
<i>Males:</i> Employee	31.4	31.8	28.2	19.9	19.9	17.0	44.1	43.3	42.4
Self-employed	24.3	23.5	22.5	18.4	17.4	16.8	19.9	19.7	19.0
<i>Females:</i> Employee	39.1	38.9	35.2	24.0	24.4	21.1	27.6	28.3	30.3
Self-employed	38.5	41.8	34.9	30.0	30.9	27.0	8.4	8.7	8.3
<i>14-29:</i> Employee	56.4	60.2	55.4	35.6	38.2	33.5	20.3	18.8	17.8
Self-employed	52.4	53.2	53.2	40.4	39.5	41.3	5.3	4.7	4.1
<i>30-49:</i> Employee	23.2	23.1	21.5	14.0	14.3	12.8	39.4	41.4	42.2
Self-employed	16.7	18.1	16.4	12.6	13.7	12.2	14.1	15.0	14.8
<i>50+:</i> Employee	33.2	33.5	28.5	23.2	22.7	18.5	12.2	11.6	13.0
Self-employed	31.3	33.1	27.9	24.1	24.3	21.2	8.6	8.6	8.1

Table 11: *Indicators t_f and r_f for workers employed at January.t, by occupation and industry, by occupation (detailed) and by type of labour contract - years 1995, 1998, 2002 (RTFL three-waves linked sample)*

	t_f			r_f			% distribution		
	1995	1998	2002	1995	1998	2002	1995	1998	2002
<i>Employed total at January.t:</i>									
Employee IPS	20.1	22.0	19.2	11.9	12.7	10.8	44.6	44.9	47.1
Employee public administration	8.5	10.7	11.0	5.4	6.5	6.5	8.8	8.5	8.6
Employee other sectors	22.8	22.8	21.8	12.9	12.6	11.7	18.3	18.3	17.3
Self-employed	17.1	16.1	15.4	11.9	11.0	10.7	28.3	28.2	27.0
<i>Employees at January.t:</i>									
Executives	10.7	12.1	9.7	6.8	6.5	6.0	6.0	5.9	6.5
White-collars	12.6	14.9	14.7	7.4	8.9	8.2	30.6	31.2	33.4
Blue-collars	25.7	27.0	24.0	14.9	15.2	13.3	34.2	34.0	32.3
Apprentices	70.3	64.4	57.7	41.3	35.6	31.7	0.9	0.7	0.8
<i>Employees at January.t:</i>									
Full-time permanent employment	14.1	14.7	13.2	8.7	8.9	7.7	90.1	87.5	85.0
Other	66.6	63.9	51.0	35.6	33.2	26.6	9.9	12.5	15.0

Figure 1: *Employment spells and labour market transitions which can be identified from a RTFL three-wave linked sample: employed (E) and Not-employed (N)*

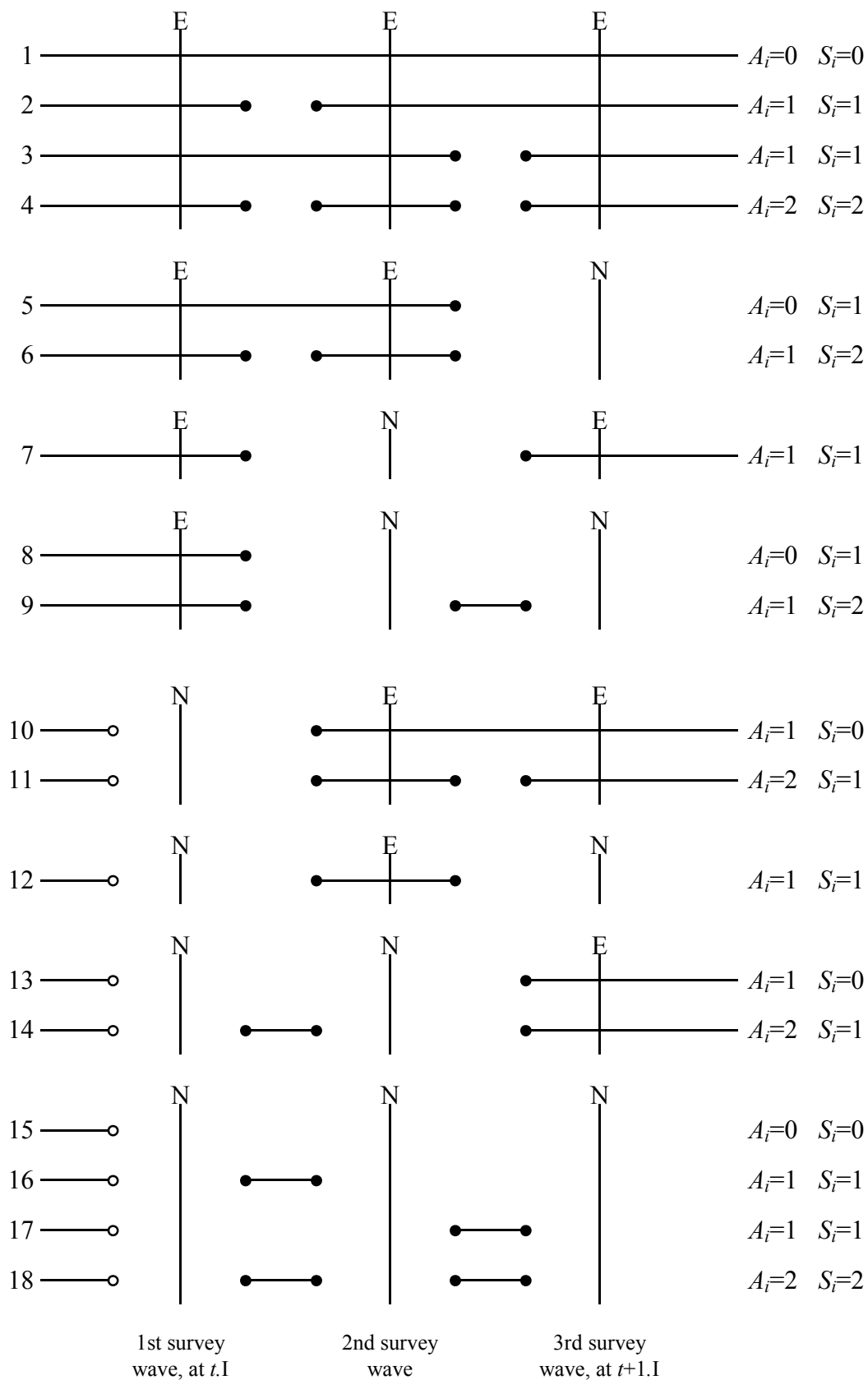


Figure 2: *Fraction of employment spells (%) from the INPS data-set not picked up by the three-wave linked observation plan, by number of spells per worker*
(year 1995; standardized population; No. of workers = 104,162)

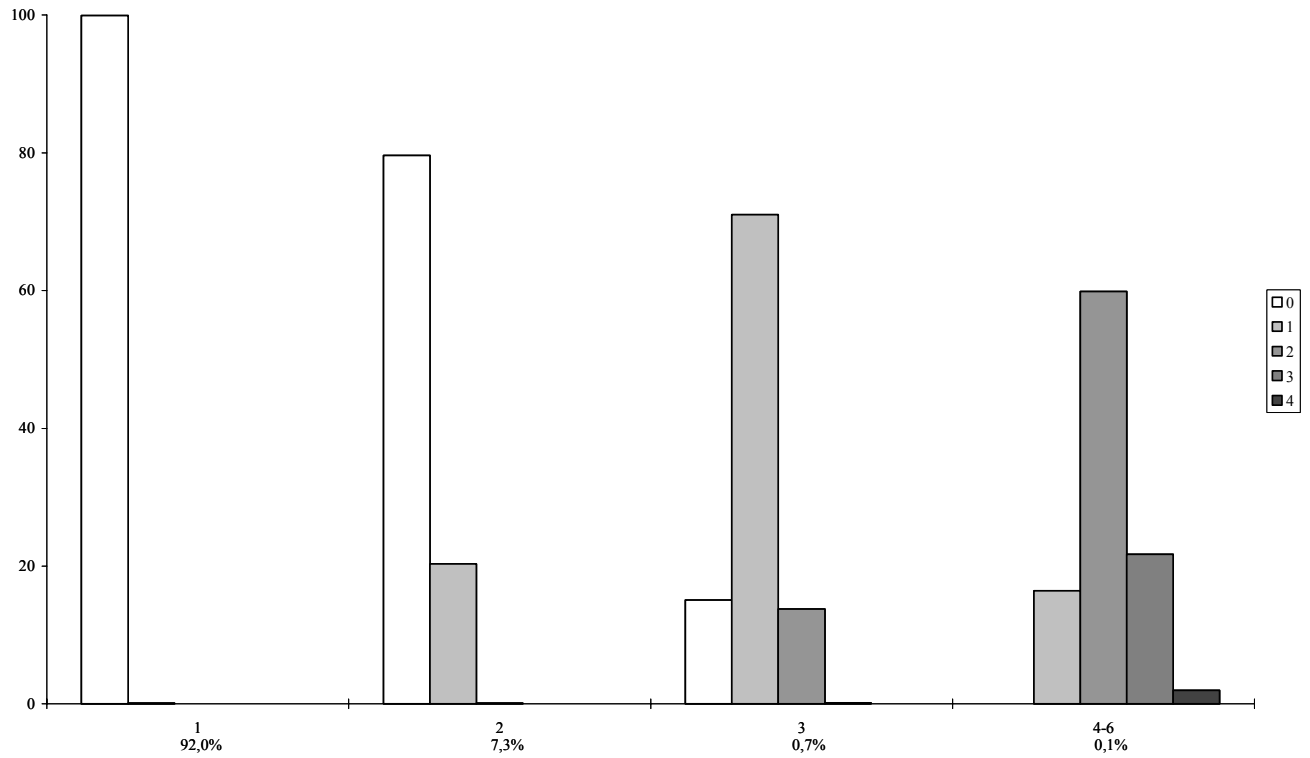


Figure 3: *Fraction of labour market transitions (%) from the INPS data-set not picked up by the three-wave linked observation plan, by number of transitions per worker (year 1995; standardized population; No. of workers with transitions = 37,315)*

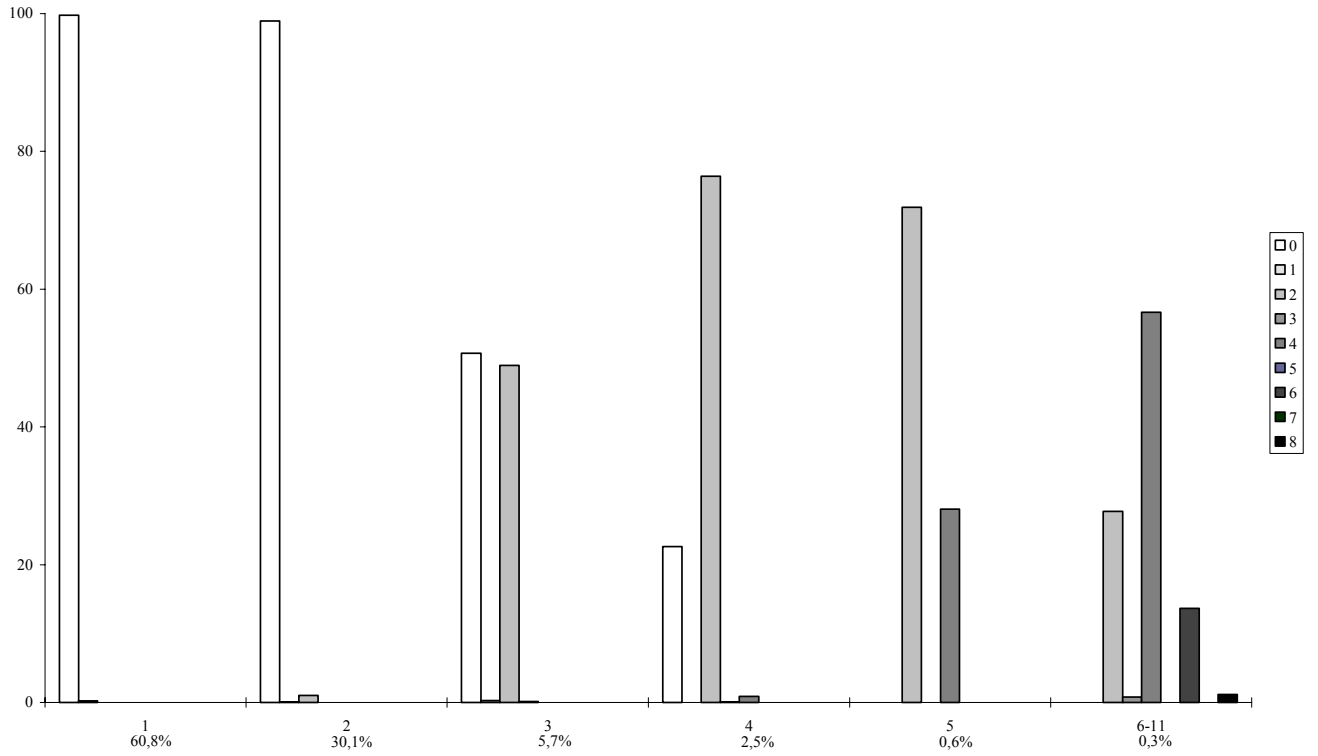


Figure 4: *Turnover and reallocation rates: population of EIPS workers by gender, years 1995 and 1998-2002 (RTFL three-waves linked sample)*

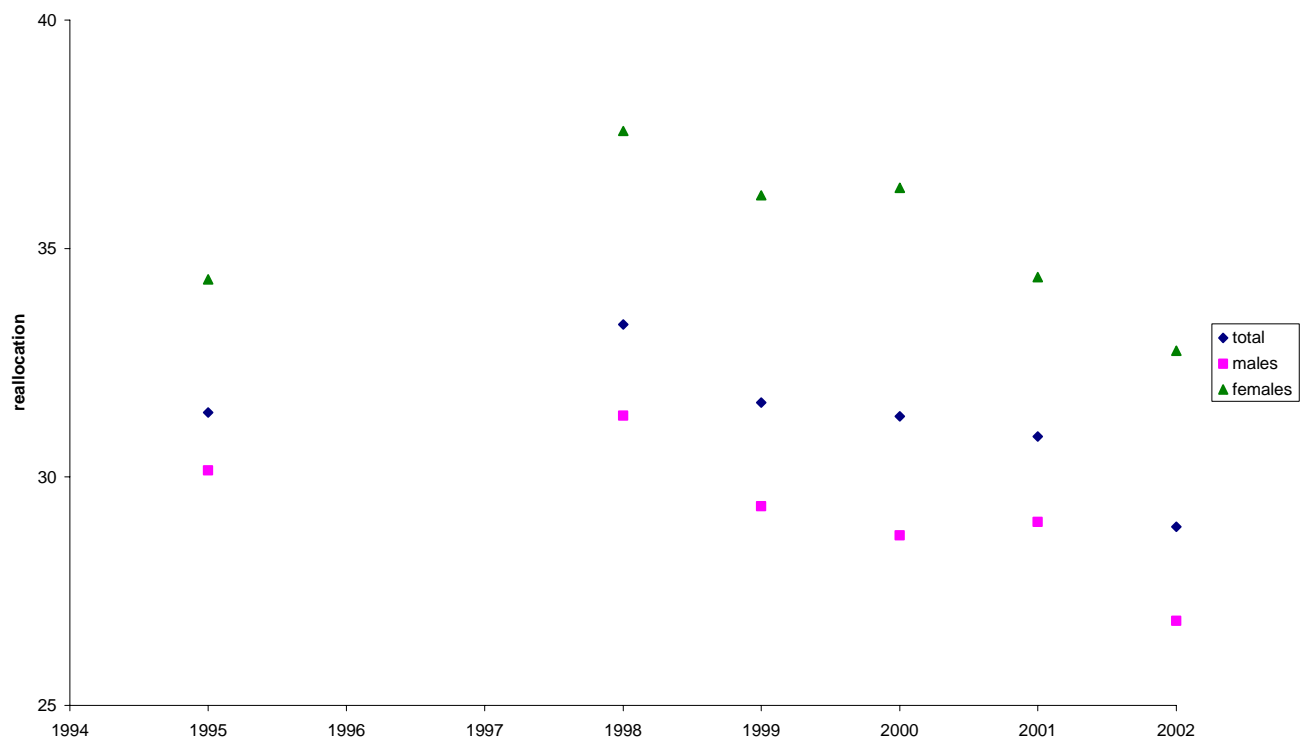
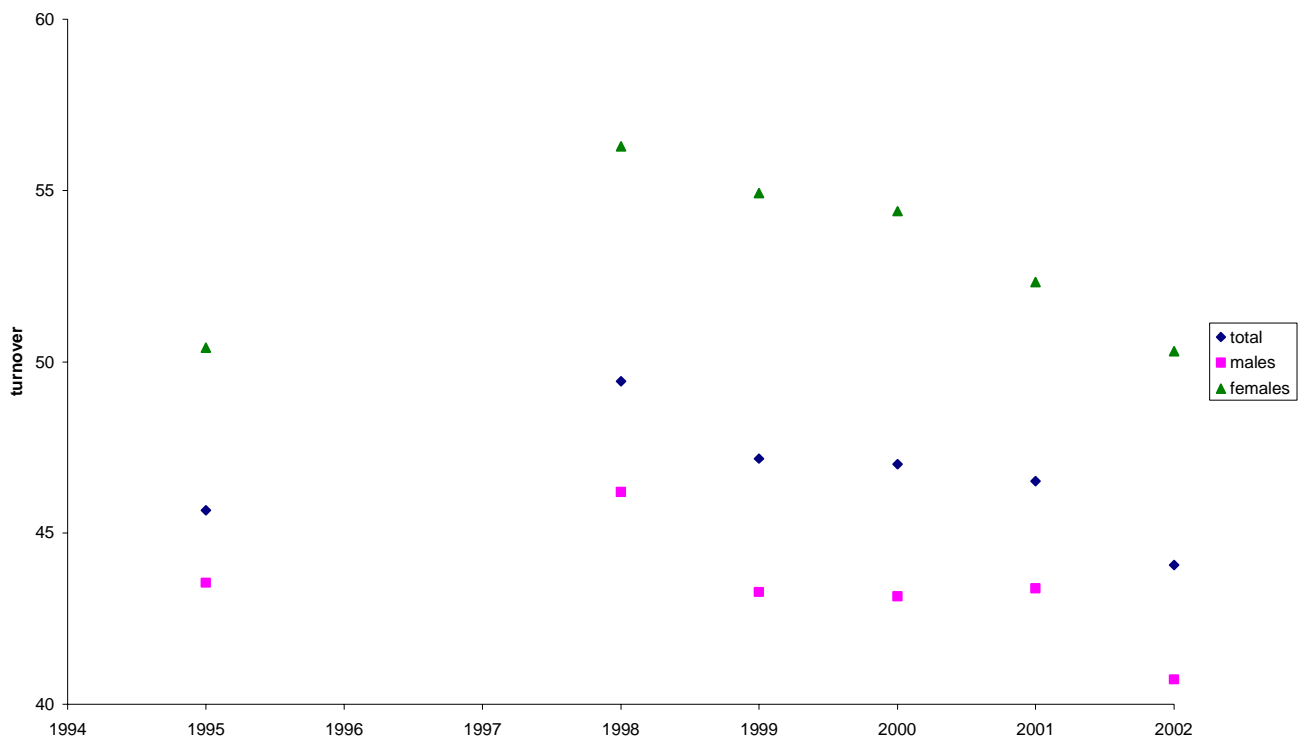


Figure 5: *Turnover and reallocation rates: population of EIPS workers by geographic area, years 1995 and 1998-2002 (RTFL three-waves linked sample)*

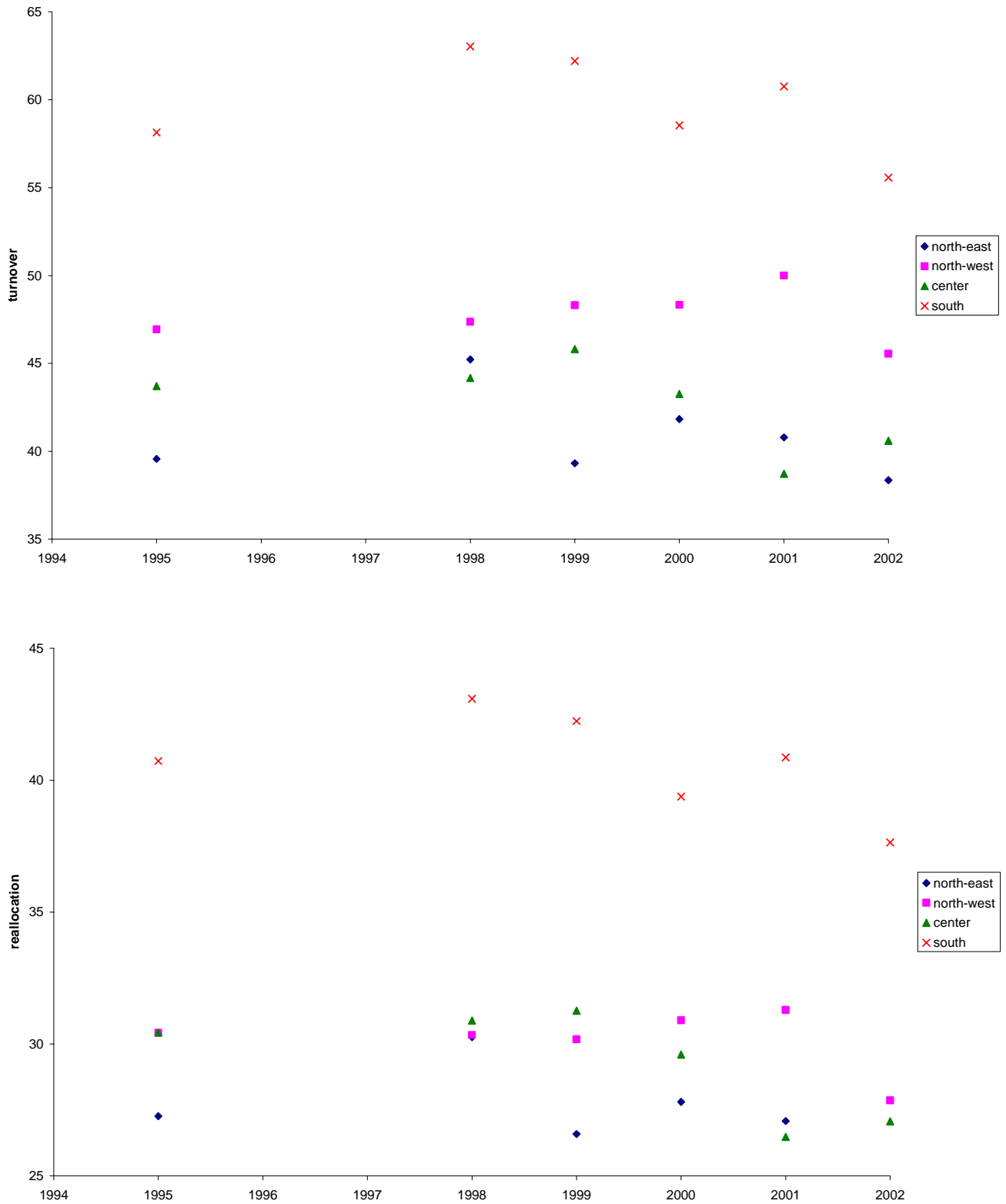


Figure 6: *Turnover and reallocation rates: population of EIPS workers by age, years 1995 and 1998-2002 (RTFL three-waves linked sample)*

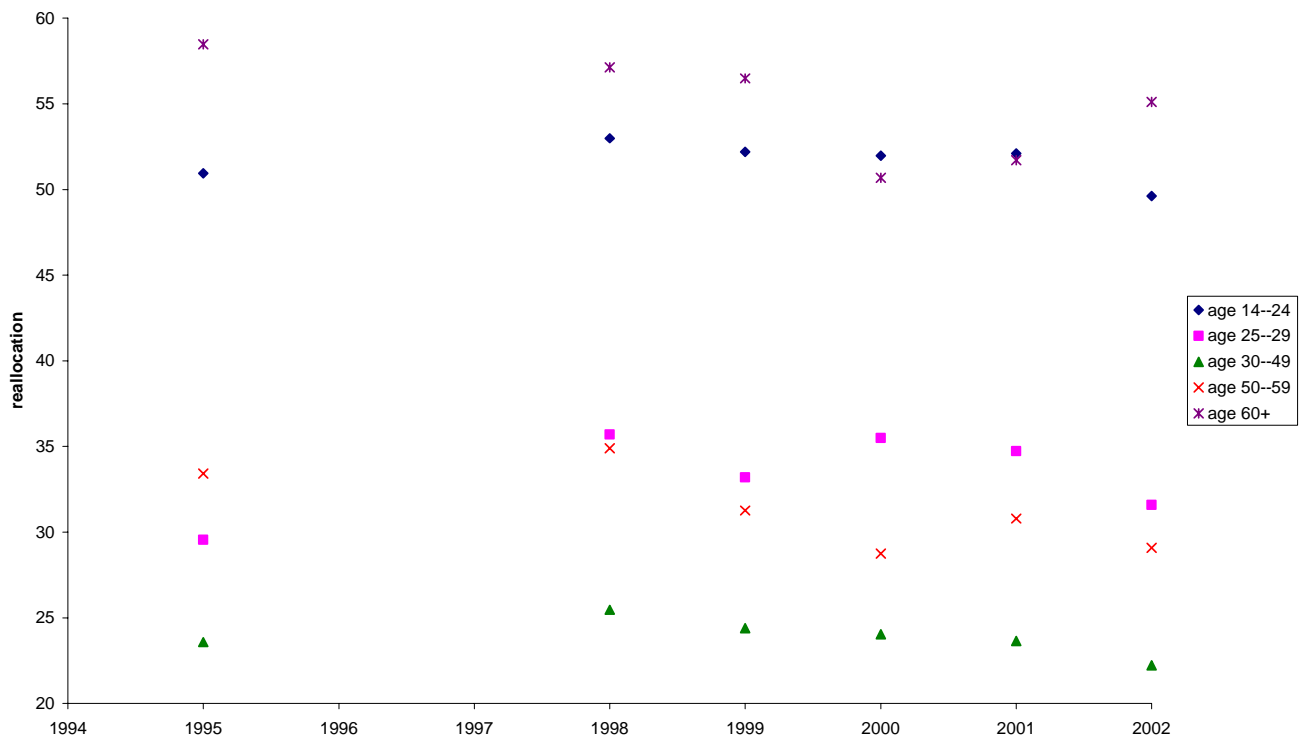
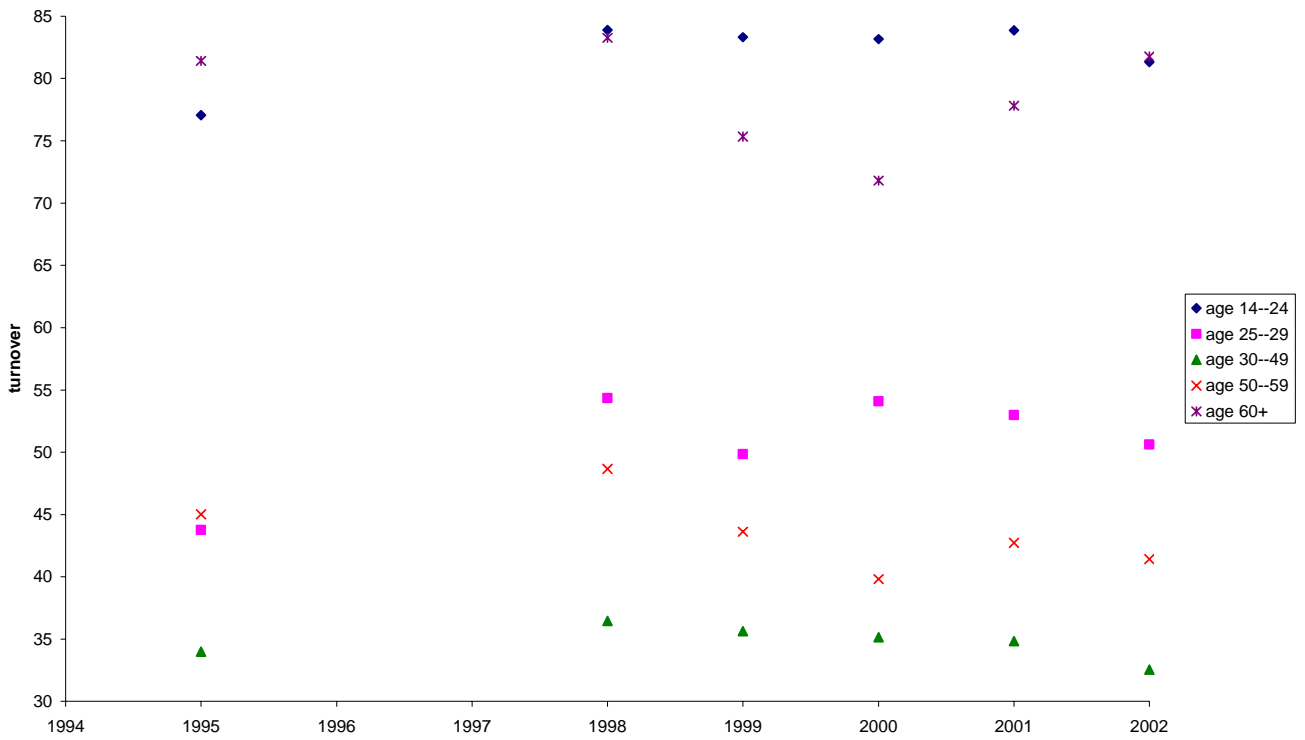


Figure 7: *Turnover and reallocation rates: population of EIPS workers by level of education, years 1995 and 1998-2002 (RTFL three-waves linked sample)*

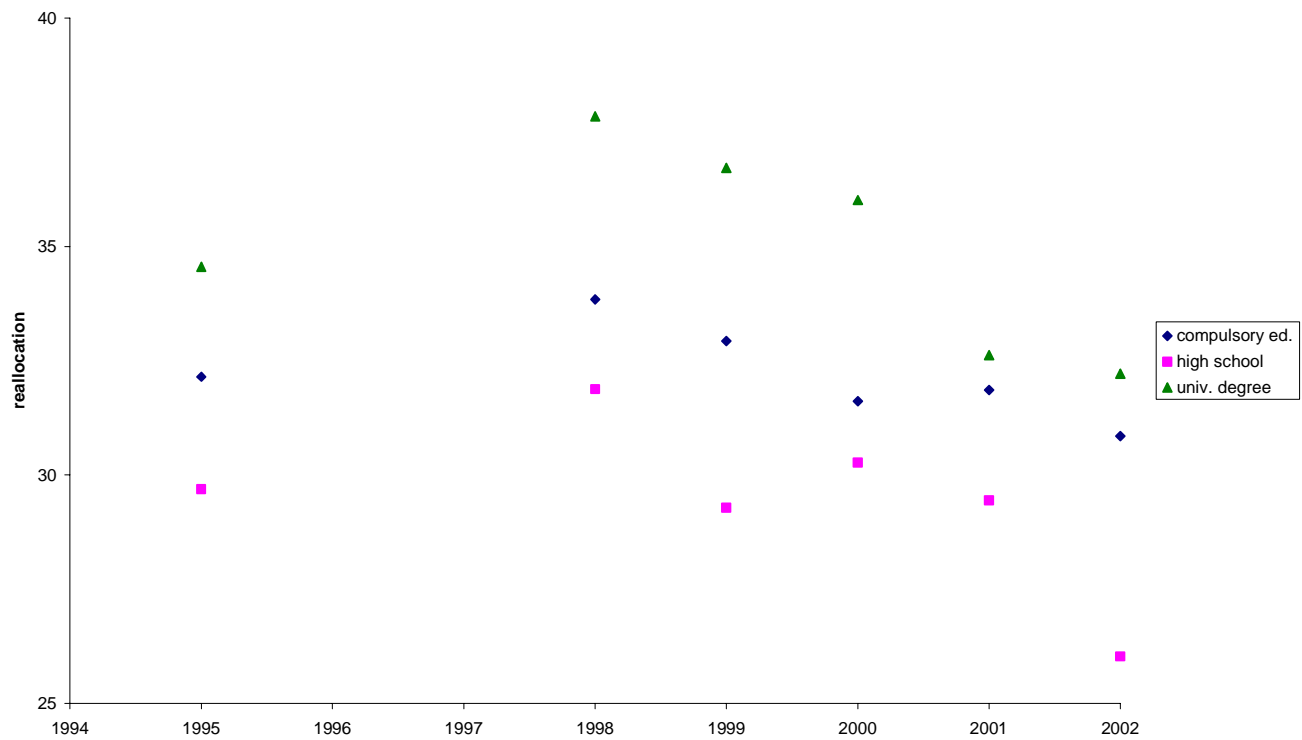
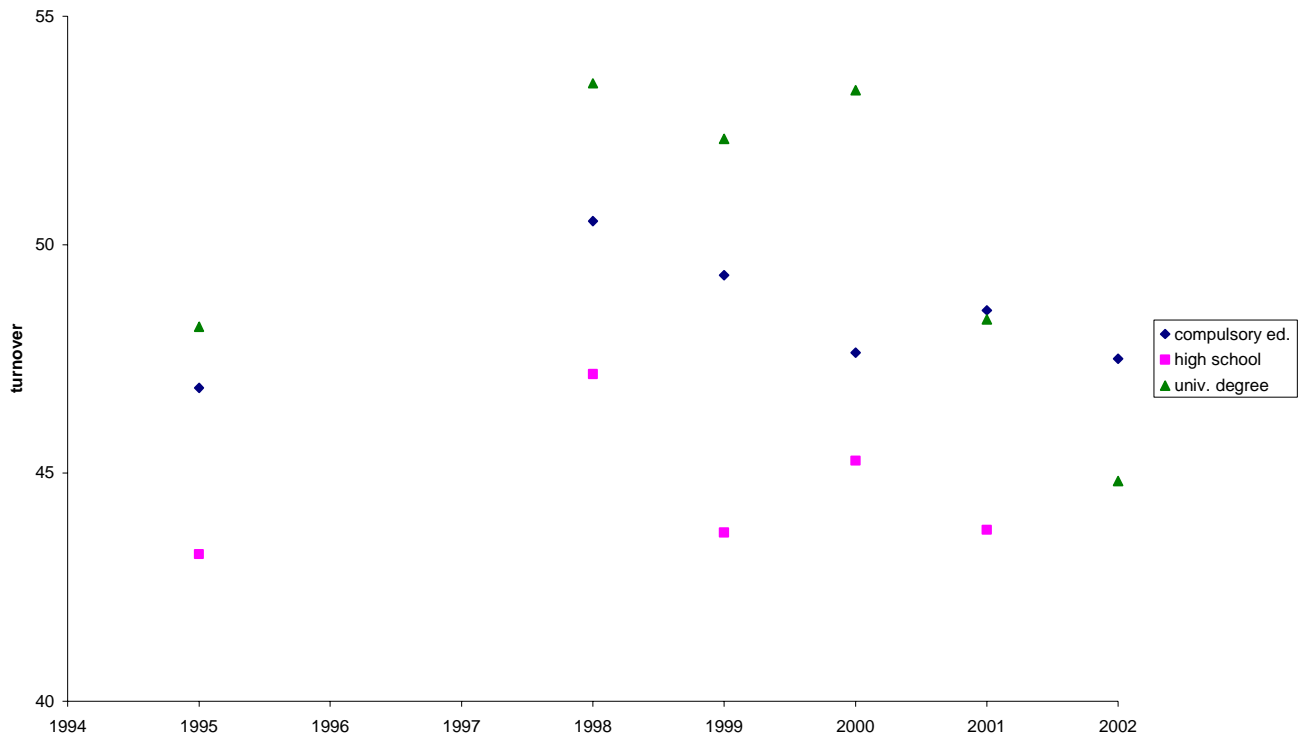


Figure 8: *Turnover and reallocation rates: total employment by occupation – employees vs. self-employed, years 1995 and 1998-2002 (RTFL three-waves linked sample)*

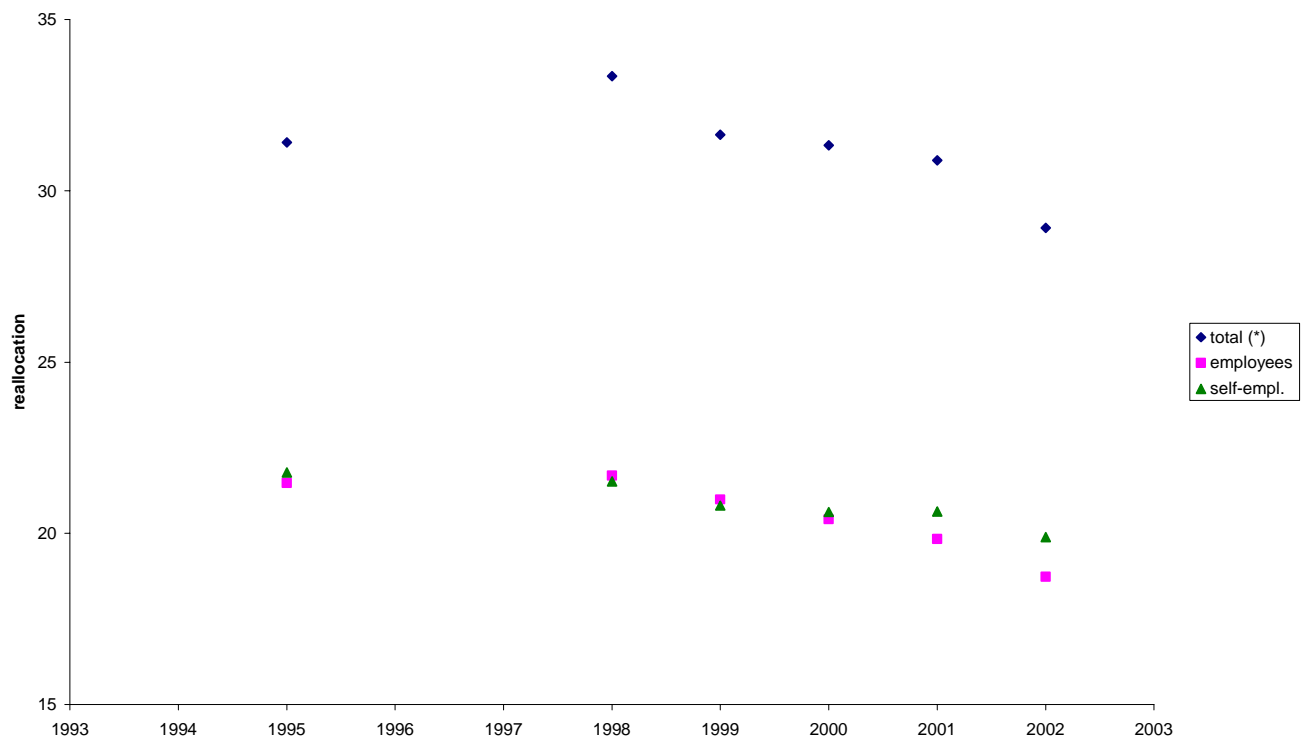
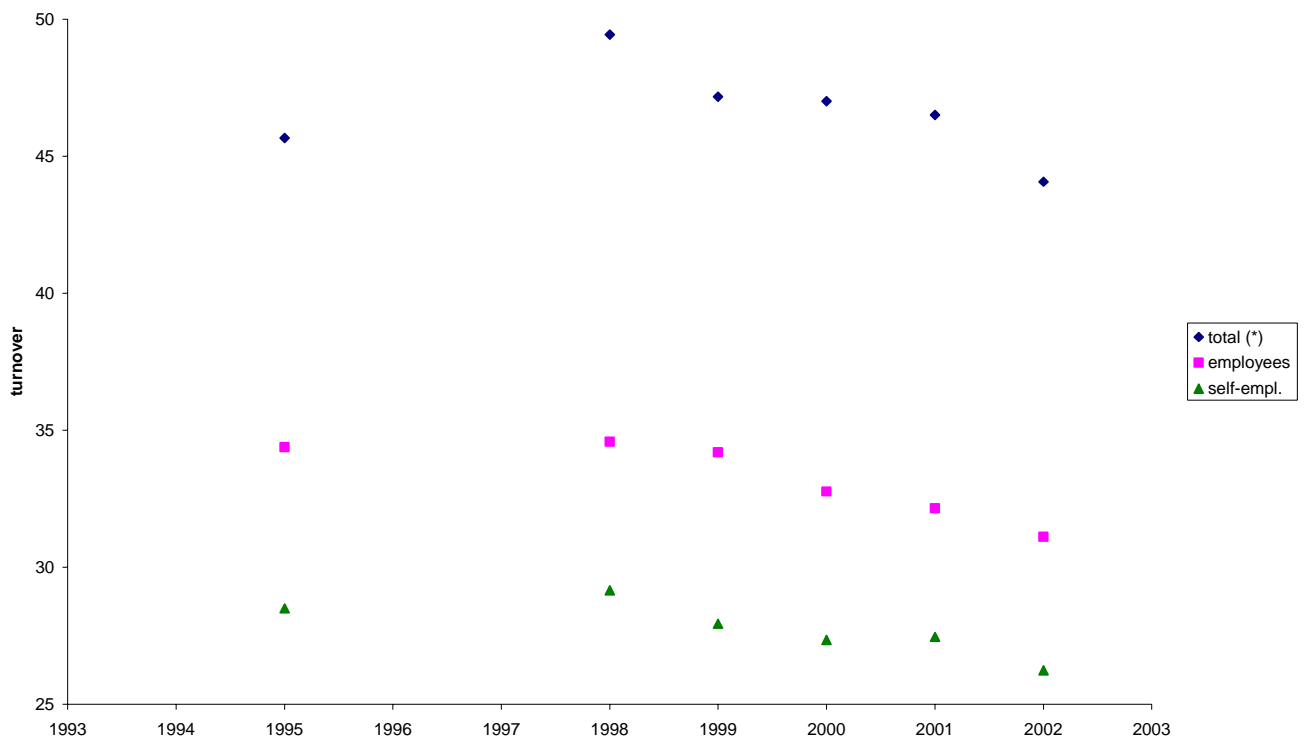


Figure 9: *Turnover and reallocation rates: total employment by state of January.t, years 1995 and 1998-2002 (RTFL three-waves linked sample)*

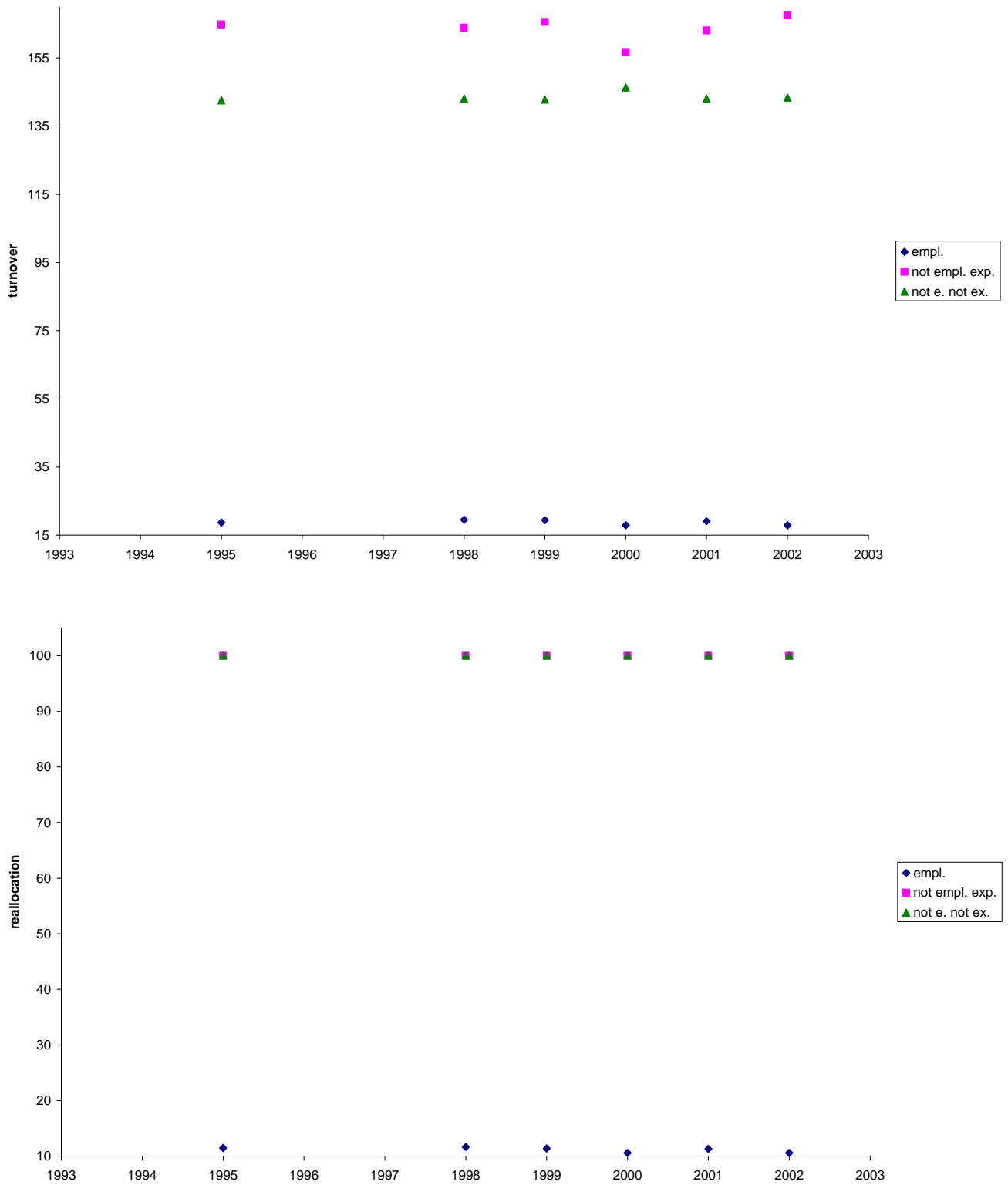


Figure 10: *Turnover and reallocation rates for employees at January.t by occupation (detailed), years 1995 and 1998-2002 (RTFL three-waves linked sample)*

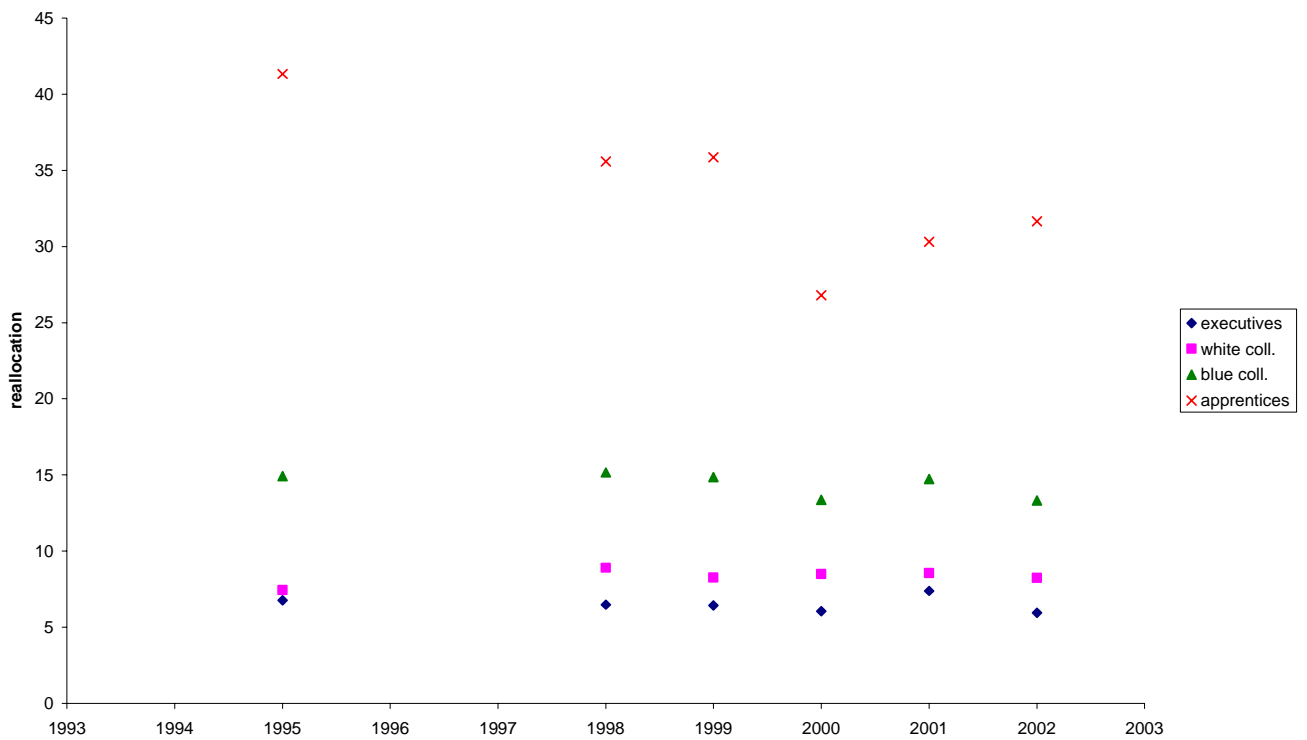
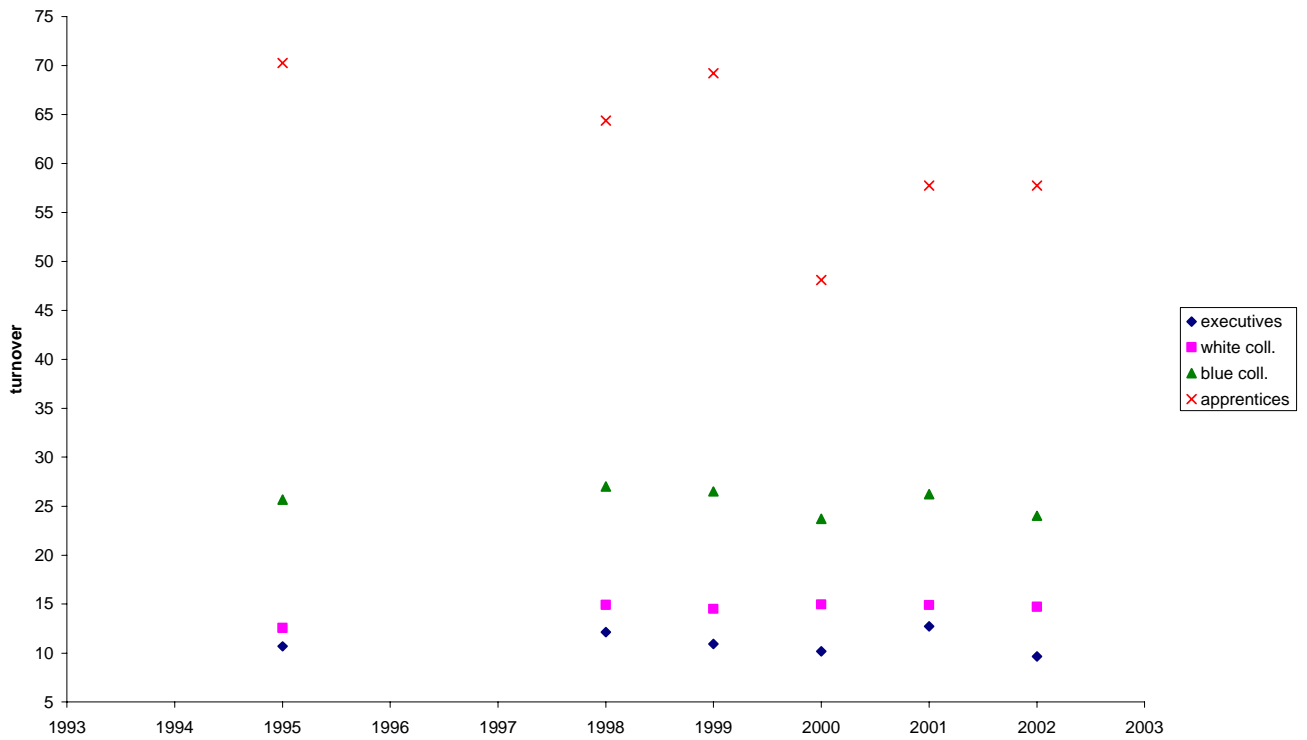


Figure 11: *Turnover and reallocation rates for employees at January.t by type of labour contract, years 1995 and 1998-2002 (RTFL three-waves linked sample)*

