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Organisation de Coopération et de Développement Économiques
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**English - Or. English**

**DIRECTORATE FOR EMPLOYMENT, LABOUR AND SOCIAL AFFAIRS**
**EMPLOYMENT, LABOUR AND SOCIAL AFFAIRS COMMITTEE**

**DELSA/ELSA/WP5(2009)2/ANN**
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## Working Party on Employment

# CHAPTER 2 - LOOKING INSIDE THE PERPETUAL-MOTION MACHINE: HOW INDUSTRY, FIRM AND WORKER CHARACTERISTICS SHAPE JOB AND WORKER FLOWS

**ANNEXES**

**25-26 March 2009, Paris, OECD Conference Centre**

*Annexes for DELSA/ELSA/WP5(2009)2*

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**English - Or. English**

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# ANNEX 2.A1

# SOURCES AND DEFINITIONS

## Job flows and co-variates: sources and definitions

### *Industry-level data*

Data on job flows by country and industries are from Bartelsman (2008), except for four countries (Brazil, Germany, Mexico and the United Kingdom) for which they are from Haltiwanger *et al*. (2006). Data from these two sources are constructed from enterprise surveys using the same protocol and are therefore comparable (see also Bartelsman *et al*., 2009). Data refer to firms as unit of observation defined as "an organizational unit producing goods or services which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources".

Although data are in principle available on an annual basis, period averages are used in order to maintain comparability with what is done with worker flow and micro-data. Data from the above-mentioned sources include information on entry, exit and continuers. However, they exclude, in a given year, job creation and destruction from continuing firms that will exit the following year. As a consequence, job turnover of continuers is underestimated. However, using data from the Census Bureau for the United States, it is possible to evaluate this downward bias to no more than 10% in most industries in the United States. This results in an even smaller bias when the rate for all firms – startups, shutdowns and continuers – is computed – as in Section 1. The downward bias, however, appears to be far greater – up to 30% – in two industries (mining and telecommunications). These industries are therefore either excluded (mining) or aggregated with other industries (telecommunications) in all countries.

In the analysis of job creation and destruction by entry and exit, when no comparison with continuers is made, data for several countries for 2005 from the OECD Business Demographics database are added to the sample. In addition, for the United Kingdom, data for Hijzen *et al*. (2007), covering a longer period (1998-2005), are used (as these data do not exclude job turnover of "about-to-die" continuing firms, they are not comparable to other sources as regards continuers, and cannot therefore be used in the rest of the analysis).

### *Firm-level data*

1. Firm-level data are from the August 2006 edition of the Amadeus database for European countries and the August 2008 edition of the Orbis database for the non-European countries. Both databases are produced by Bureau van Dijk. Data used in this chapter refer to firms with unconsolidated publicly-available published account data. Limited financial account data are used for the United States, where there is no obligation for the firm to publish its accounts. As, in these data, it is not possible to identify firms' closures from firms that exit the sample for other reasons and very young firms are under-represented due to lags in the publication of accounts for start-ups, these data are suitable only for the analysis of continuing firms. Implausibly large (and steadily constant) employment changes are filtered out. In order to do so the sample is restricted to firms-by-year observations where employment growth data

are available for either the preceding or the following year (a minimum of three consecutive employment data is therefore required for each firm). For each country, years with too few valid observations per industry are also excluded.

2. Population weights by firm size and detailed industry – obtained from Eurostat's Structural Business Statistics for European countries, the Establishment and Enterprise Census for Japan and the OECD Firm-level database for the United States – are used to obtain aggregate turnover rates. As small firms are under-represented in these data, firms with less than 20 employees, on average, are excluded. Aggregate data are also averaged across years, in order to smooth out fluctuations that can simply be the result of measurement error.

3. The analysis of job flows uses several other covariates including labour productivity (defined as real value added per employee), multi-factor productivity (unadjusted by factor quality, see Schwellnus and Arnold, 2008), investment rate (change in capital stock in real terms minus depreciation and divided by real value added), age (observation year minus date of incorporation), detailed geographical areas (codified through dummies corresponding to the first two digits of the zip code) and industry (up to 2-digit levels of the NACE classification). Specific filters are applied to eliminate implausible values in the case of productivity and investment data (following Schwellnus and Arnold, 2008).

4. The distribution of firms in the Amadeus and Orbis datasets, however, does not match the distribution of firms in the population. This is due to the fact that large firms and specific industries (such as the banking industry in the United States) are over-represented. For this reason, following Schwellnus and Arnold (2008), the sample of each country and year is stratified by firm size classes and detailed industry, for which the actual distribution of firms is available – based again on Eurostat's Structural Business Statistics for European countries, the Establishment and Enterprise Census for Japan and the OECD Firm-level database for the United States. Then firms are randomly drawn from each stratum, with the number of observations being calibrated to ensure that the distribution of firms in the sample match the distribution of the population. In order to use the maximum available information, all available firms are drawn from the stratum that is the most under-represented in the raw data, according to the information available on the population of firms. From each other stratum, the number of firms in the sample is set at a level that keeps the ratio between the number of firms in the sample and in the population constant across strata.

**Worker flows: sources and definitions**

Data to estimate worker reallocation, hiring and separation rates among dependent employees (henceforth called employment) come from the European Labour Force Survey (EULFS) for European countries for the period 1997 to 2005, depending on countries and data availability, and the bi-annual January Displaced workers/ Job tenure supplement of the Current Population Survey (CPS), for even years from 1996 to 2004, for the United States.

Employment, Hirings and Separations are reported at the OECD-STAN industry level of disaggregation, an intermediate level between 1 and 2 digits in the ISIC rev. 3 classification, for 24 industries in the non-farm business sector. The data series on employment by industry correspond in terms of levels and annual growth rates to the EU-KLEMS employment series for the countries covered by the latter database. In Section 3, the data series are further broken down by gender, age – 15-24, 25-34, 35-44, 45-54, 55-64 years, and highest completed education levels – less than upper secondary (Low), upper secondary and some post-secondary (Medium), and tertiary level (High). At this level of disaggregation the fuel industry is excluded, due to its small size.

Annual hiring and separation rates are computed with the methodology explained below. However, in narrowly-defined industries they might vary considerably from year to year due to the small sample size (and the fact that the industry is typically not included in LFS sample designs). To filter out these, by and large, spurious movements, averages across years are calculated.

Hirings (H) reflect movements into jobs and refer to a point in time and correspond to the number of dependent employees who have been working for their current employer for no more than the past 12 months including the survey reference week. Symmetrically, job stayers (JS) are defined as those who have been working for more than one year with the same employers. Employment, excluding observations with missing tenure information (E_T), is defined as the sum of the two terms:

$$E\_T_{ijtm} = H_{ijtm} + JS_{ijtm}$$

where i refers to countries, j to industries, t to years and m to worker characteristics such as gender, age and education. Separations reflect movements out of jobs in the past 12 months and are obtained by exploiting the basic accounting identity:

$$S_{ijtm} = H_{ijtm} - \Delta E\_T_{ijtm} \qquad (1)$$

However, adjustments are necessary because *i)* missing tenure information and/or errors in the reporting of job tenure data might differ between two survey waves; and *ii)* employment movements at disaggregate industry level in LFS might differ from national account information. Let's see these adjustments in order.

First, an adjusted lagged value of E_T (called LE_T hereafter) is defined in such way that it is consistent over time with E_T and with year-to-year employment changes resulting from LFS employment data without excluding observations with missing tenure (E).

$$LE\_T_{ijtm} = E_{ij(t-1)m} \frac{E\_T_{ijtm}}{E_{ijtm}}$$

LE_T is further adjusted to account for cohort effects affecting beginning and end years of age groups to produce unbiased year-on-year employment changes by age group.

Second, the distribution of employment across worker groups is combined with industry-level employment from the March 2008 public release of EUKLEMS (denoted with E_K). More precisely, an adjusted employment level that can be used in the accounting identity (1) is derived as follows:

$$E\_corr_{ijtm} = E\_T_{ijtm} \frac{E\_K_{ijt}}{E\_T_{ijt}}$$

Similarly, one-year lagged employment is calculated as follows:

$$E\_corr_{ij(t-1)m} = LE\_T_{ijtm} \frac{E\_T_{ijt-1}}{LE\_T_{ijt}}$$

Adjusted hirings, consistent with EU-KLEMS employment, are then derived from:

$$H\_corr_{ijtm} = \frac{H_{itjm}}{E\_T_{itjm}} E\_corr_{ijtm}$$

Finally, Hiring rates are obtained from:

$$HR_{ijtm} = \frac{H\_corr_{itjm}}{½(E\_corr_{itjm} + E\_corr_{i(t-1)jm})}$$

Adjusted separations (S_corr) are derived from the following accounting identity:

$$E\_corr_{ijtm} = E\_corr_{ij(t-1)m} + H\_corr_{ijtm} - S\_corr_{ijtm}$$

Hence

$$S\_corr_{ijtm} = H\_corr_{ijtm} - \Delta E\_corr_{ijtm}$$

Finally, Separation rates are obtained from:

$$SR_{ijtm} = \frac{S\_corr_{itjm}}{½(E\_corr_{itjm} + E\_corr_{ij(t-1)m})}$$

**Dismissals: sources and definitions**

Data for dismissals come from country-specific sources:

Australia: source: Australian Bureau of Statistics (1997, 2001), covering employment in the final year and dismissals in the same year and over the two preceding years. Dismissals are annualised by dividing the total amount by three.

France: source: data extracted from the 2006-2007 DMMO-EMMO surveys by the French Ministry of Labour (DARES). They include annual dismissals as well as employment at the start and end of the period. Original data collection in the DMMO-EMMO survey is, however, quarterly.

Germany: source: data extracted by IAB from the 2003-2007 waves of the IAB Establishment Panel and including dismissals over the first six month of each year and employment at the start and end of the period.

The United Kingdom: source: directly computed from UK Quarterly Labour Force (waves 1997-2005). An individual is considered to have been laid off if he/she was made redundant in the period covered by the survey (a quarter). Only wage and salary employees in the private sector are considered. Employment data are constructed accordingly. Dismissal rates are annualised by multiplying them by four.

The United States: sources: Bassanini *et al*. (2009) for 2004; updated using the same methodology and adapted industry mappings for the other years using various waves of CPS Displaced Workers Supplement. (1996-2006, even years). An individual is considered to have been laid off if he/she lost his/her job in the most recent year covered by each survey, because of plant closing or moved, insufficient work, or position or shift abolished. Only wage and salary employees in the private-for-profit sector are considered.

For countries for which total employment is not available at the start of the period (Australia and the United States), denominators are adjusted by subtracting from each industry's end-of-period employment the corresponding rate of employment change reported in EUKLEMS (March 2008 public release) for that industry and country.

**Adjustments for industry-composition (or for composition by demographic characteristics)**

When indicated in the text, country-level indicators are adjusted for industry-composition using the following procedure: first, employment shares of each industry are computed for each country and then averaged across countries; second a weighted regression the given indicator on industry and country dummies is estimated using frequency weights proportional to employment shares and imposing the constraint that the average of the coefficients of country dummies is equal to the global sample. Estimated coefficients of country dummies will then correspond to the adjusted indicators.

In Section 3 adjustments are made for both industry-composition and composition effects due to other demographic characteristics. The procedure, in this case is the same as above except that dummies by chosen characteristic and country (for example gender and country in Panel A of Figure 15) are used instead of country dummies and dummies by other characteristics and industry (for example age, educational attainment and industry) in Panel A of Figure 15) replace industry dummies.

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Hijzen, A., R. Upward, and P. Wright (2007), "Job Creation, Job Destruction and the Role of Small Firms: Firm-Level Evidence for the UK", GEP Discussion Papers 07/01, University of Nottingham.

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**ANNEX 2.A2**

**ADDITIONAL TABLES AND FIGURES**

Figure 2.A2.1 **Country-specific and average job and worker reallocation**

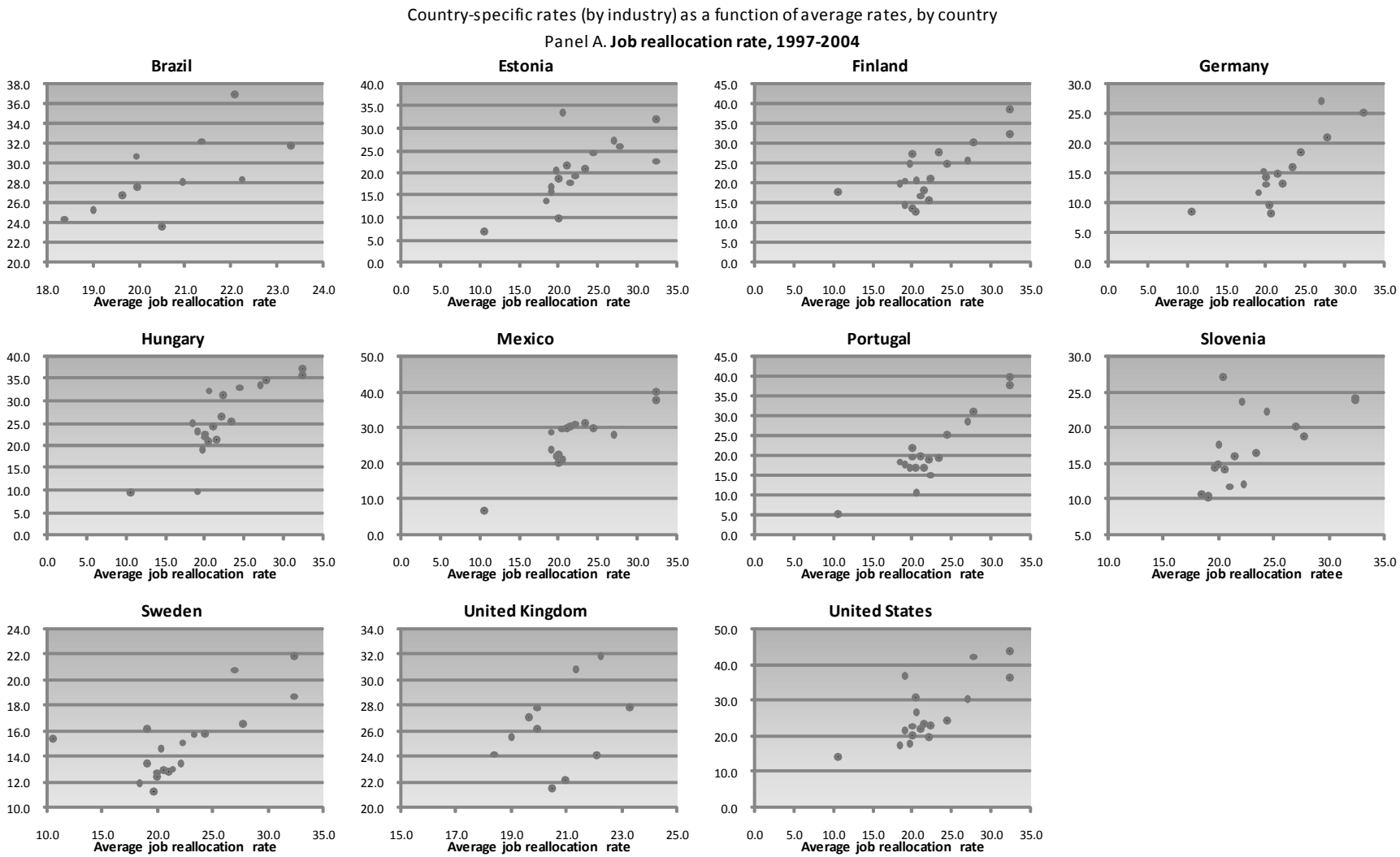


Figure 2.A2.1 **Country-specific and average job and worker reallocation** *(cont.)*

Country-specific rates (by industry) as a function of average rates, by country

Panel B. **Worker reallocation rate, 2000-2005**

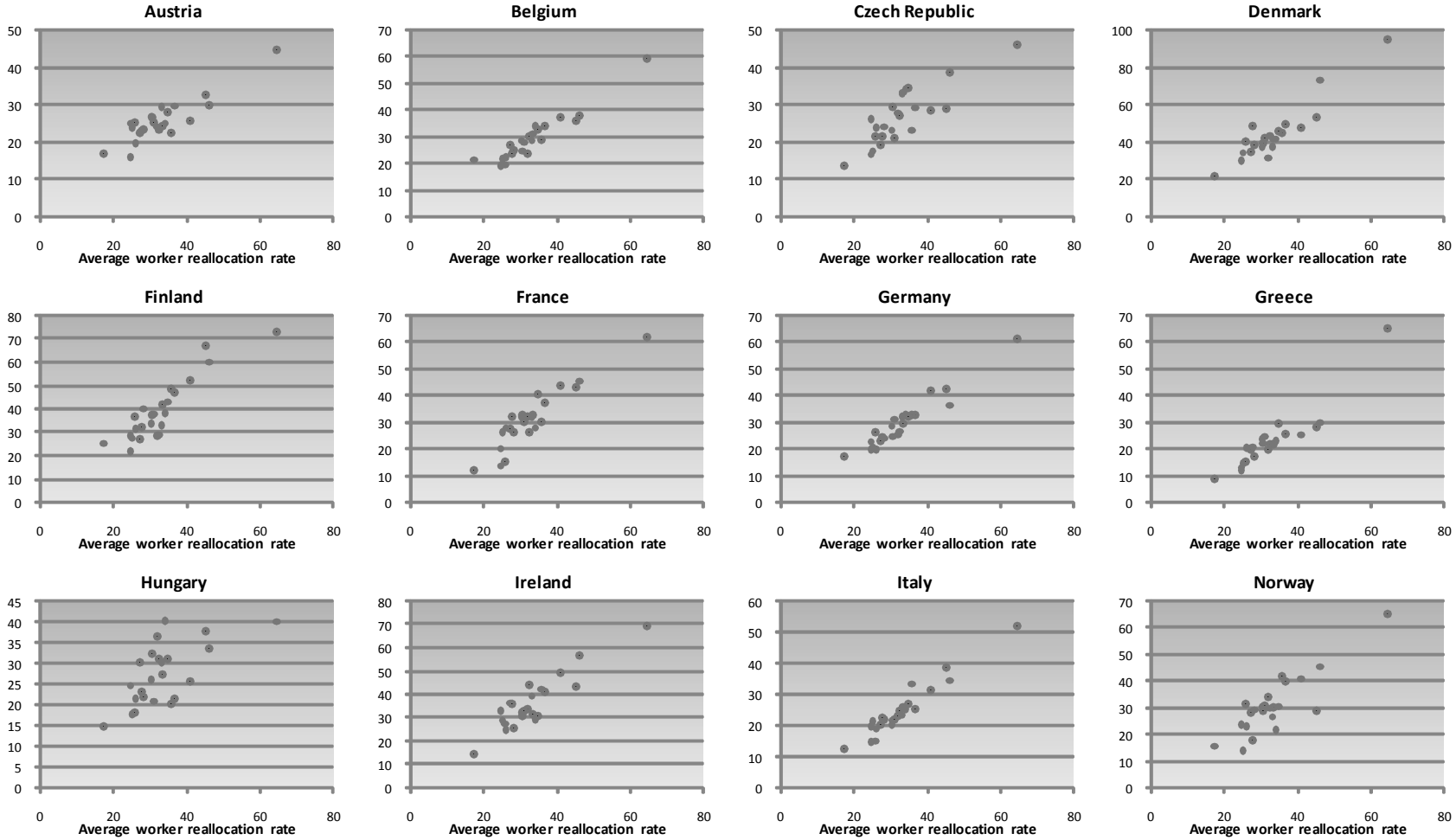
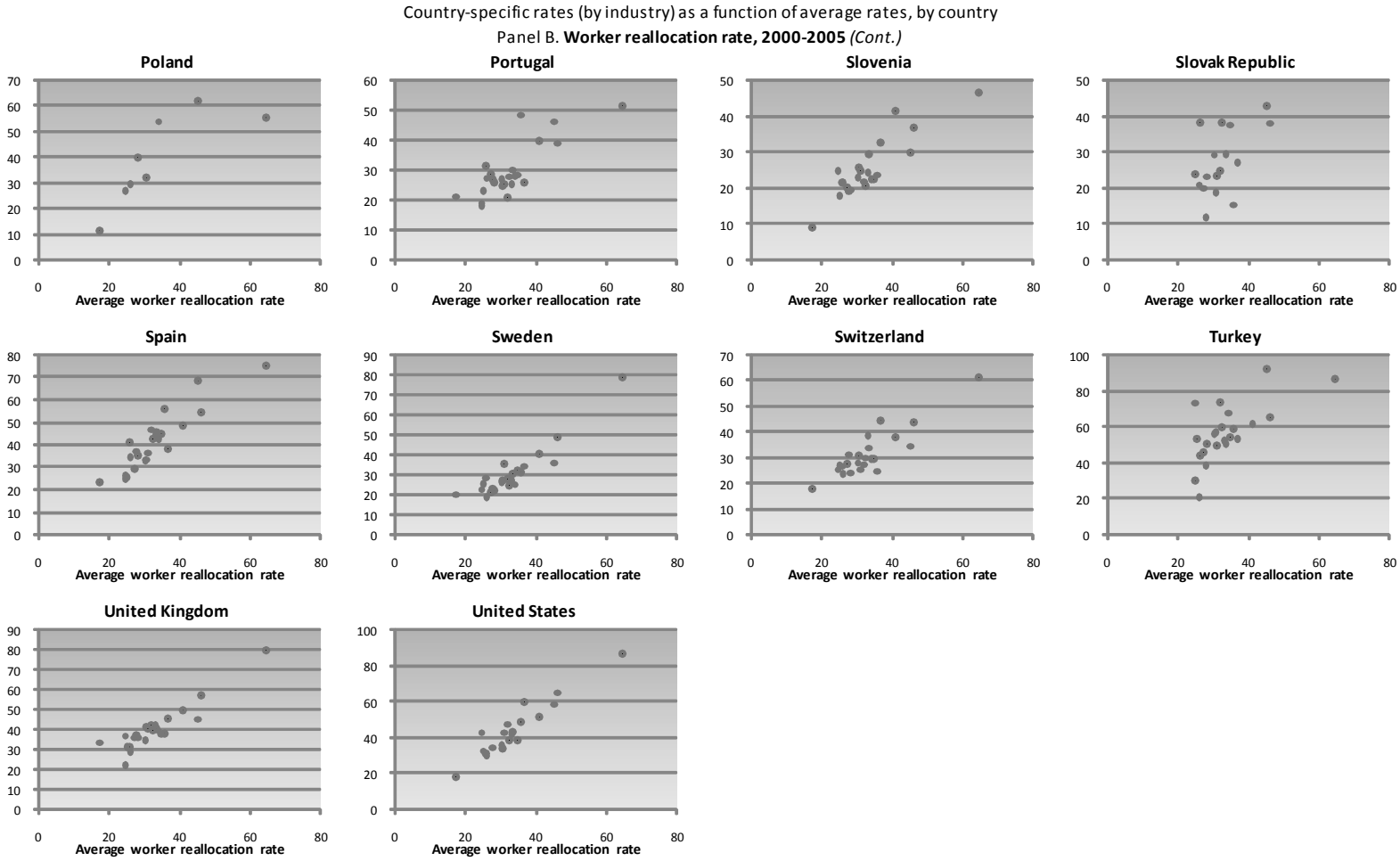


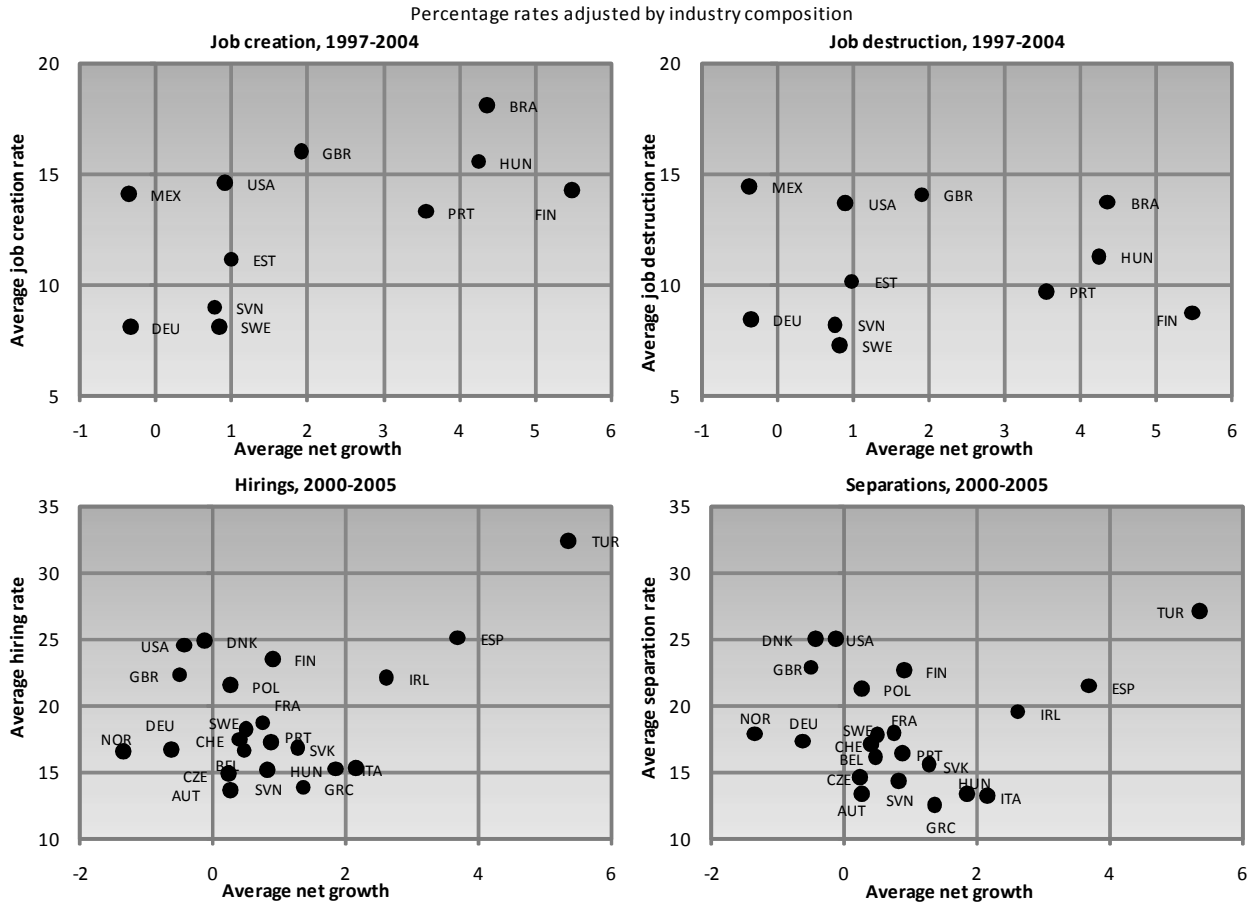
Figure 2.A2.1 **Country-specific and average job and worker reallocation** *(cont.)*




*Notes:* percentage rates. Panel A: Brazil: 1998-2000; Estonia: 2003; Germany: 1997-1998; Finland: 1997; Hungary: 1998-2000; Portugal: 1997; Mexico: 2000; Slovenia: 2002-2003; Sweden: 1997-2003; United Kingdom: 1997-1998; United States: 2001-2004. Panel B: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Portugal, Slovenia, Spain, Sweden and the United Kingdom: 2000-2005; Czech Republic: 2002-2005; Ireland: 2000-2003; Norway: 2000-2004; Poland: 2004-2005; Slovak Republic: 2003-2005; Switzerland: 2002-2007; Turkey: 2007, United States, 2000, 2002 and 2004.

*Source:* OECD estimations. See Annex2.A1.

Figure 2.A2.2. **Reallocation and net employment growth by country**

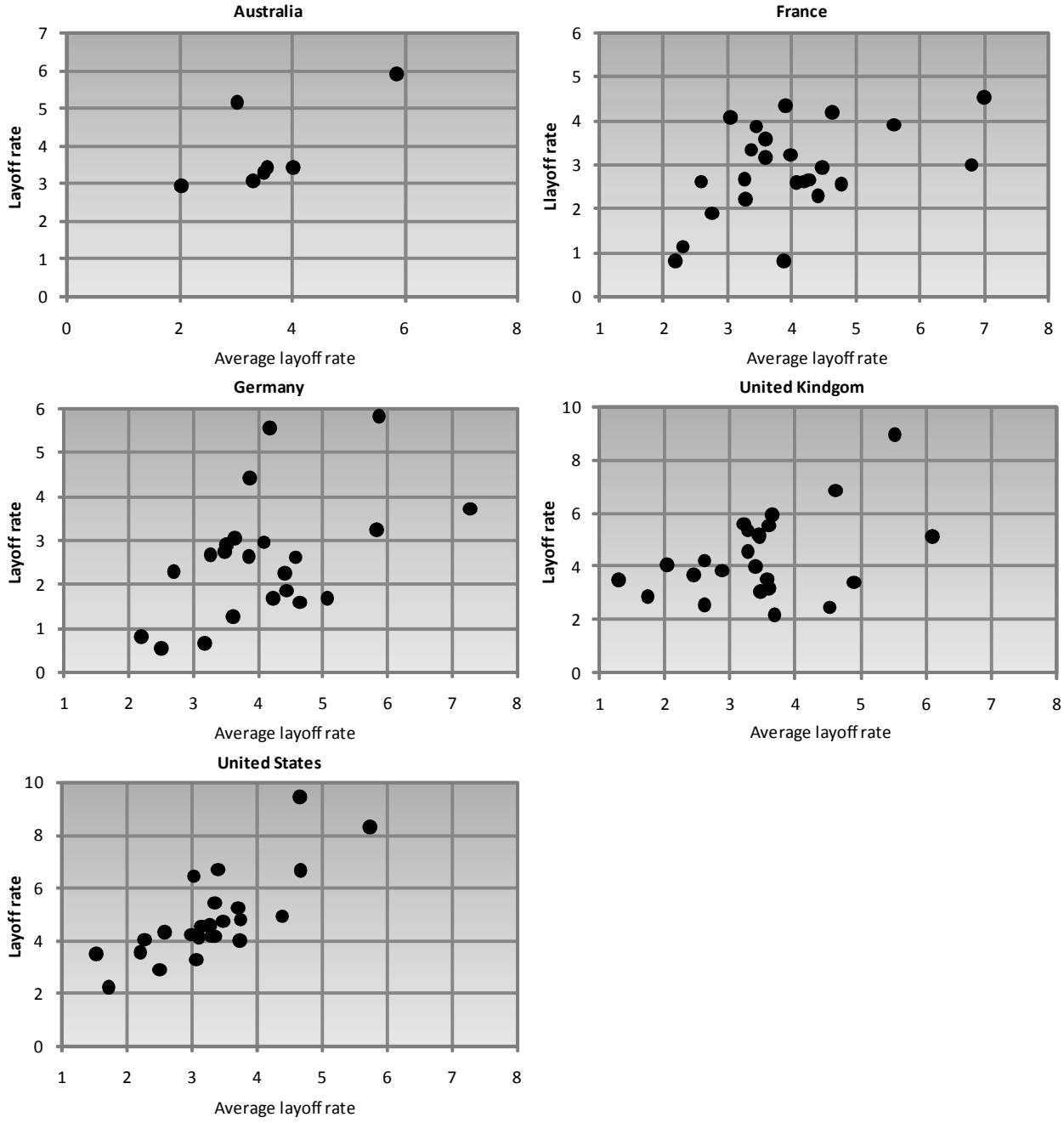



*Notes:* estimated average rates that would be observed in each country if it had the same industry composition as the average country. Job flows: Brazil: 1998-2000; Estonia: 2003; Germany: 1997-1998; Finland: 1997; Hungary: 1998-2000; Portugal: 1997; Mexico: 2000; Slovenia: 2002-2003; Sweden: 1997-2003; United Kingdom: 1997-1998; United States: 2001-2004. Worker flows: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Portugal, Slovenia, Spain, Sweden and the United Kingdom: 2000-2005; Czech Republic: 2002-2005; Ireland: 2000-2003; Norway: 2000-2004; Poland: 2004-2005; Slovak Republic: 2003-2005; Switzerland: 2002-2007; Turkey: 2007, United States, 2000, 2002 and 2004.

*Source:* OECD estimations. See Annex 2.A1.

Figure 2.A2.3 **Layoff rates and average layoff rates**

Percentage rates, by industry, 1995-2006

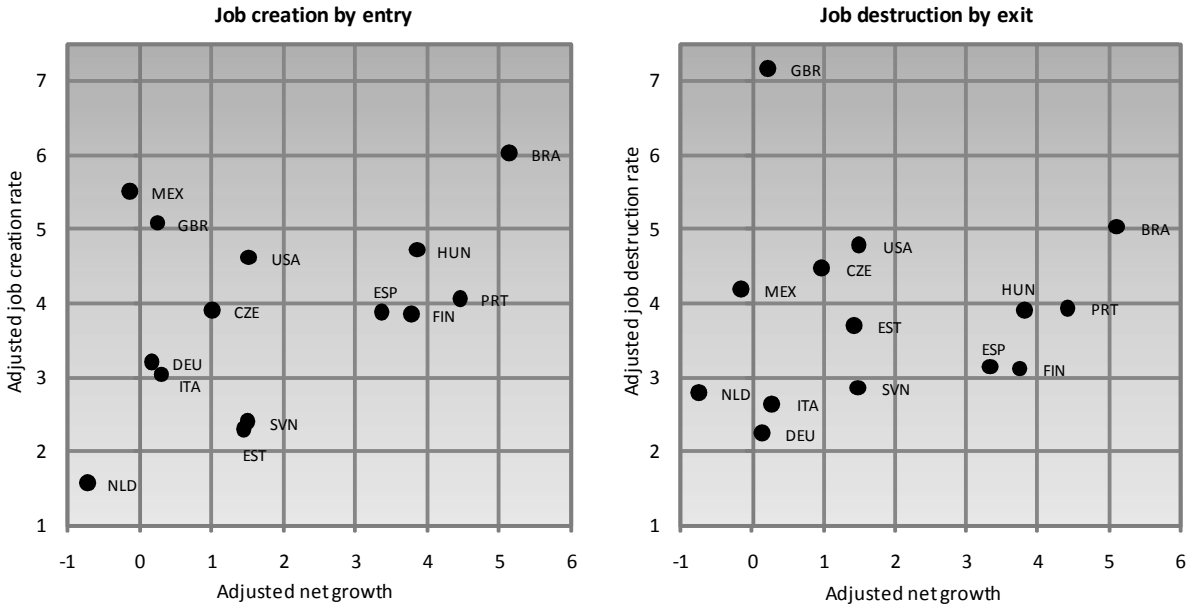



For each industry, the average layoff rate is the cross-country average rate, excluding the country, which each panel is referred to. Australia, 1995-2001 France, 2006-2007, Germany, 2003-2007, the United Kingdom, 1997-2005, the United States, 1996-2006 (even years only). Australia is excluded from average rates.

*Source:* OECD estimations. See Annex 2.A1.

Figure 2.A2.4 **Entry, exit and net employment growth**

by country, 1997-2005, rates adjusted by industry composition

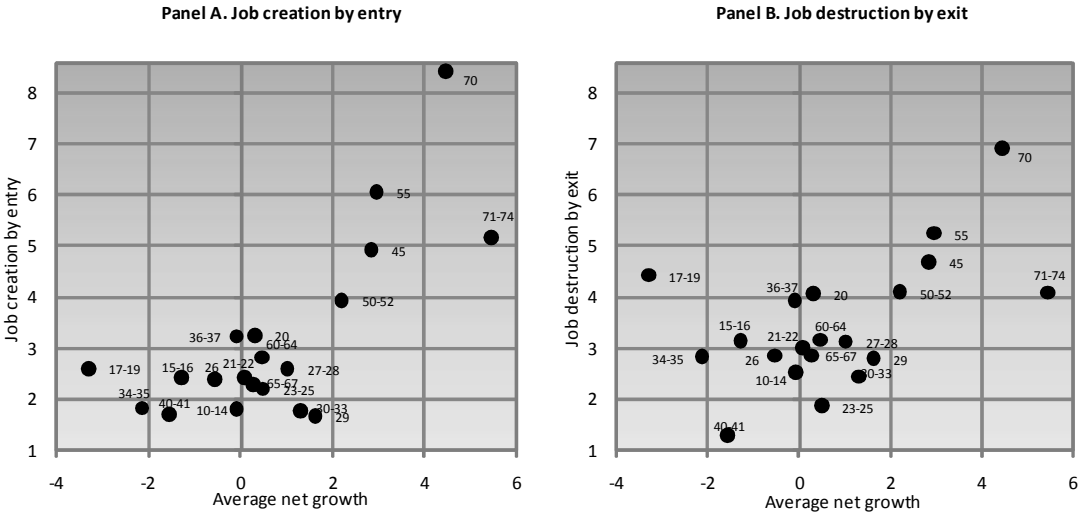



*Notes:* adjusted reallocation rates are estimated average ratios of job creation and destruction by entry and exit to total dependent employment that would be observed in each country if it had the same industry composition of the average country. Brazil: 1998-2000; Czech republic: 2005; Estonia: 2003 and 2005; Finland: 1997 and 2005; Germany: 1997-1998; Hungary: 1998-2000 and 2005; Italy: 2005; Portugal: 1997; Mexico: 2000; Netherlands: 2005; Slovenia: 2002-2003; Spain: 2005; United Kingdom: 1998-2005; United States: 2001-2004.

*Source:* OECD estimations. See Annex 2.A1.

Figure 2.A2.5. **Entry, exit and net employment growth**

by industry, average percentage rates, 1997-2005

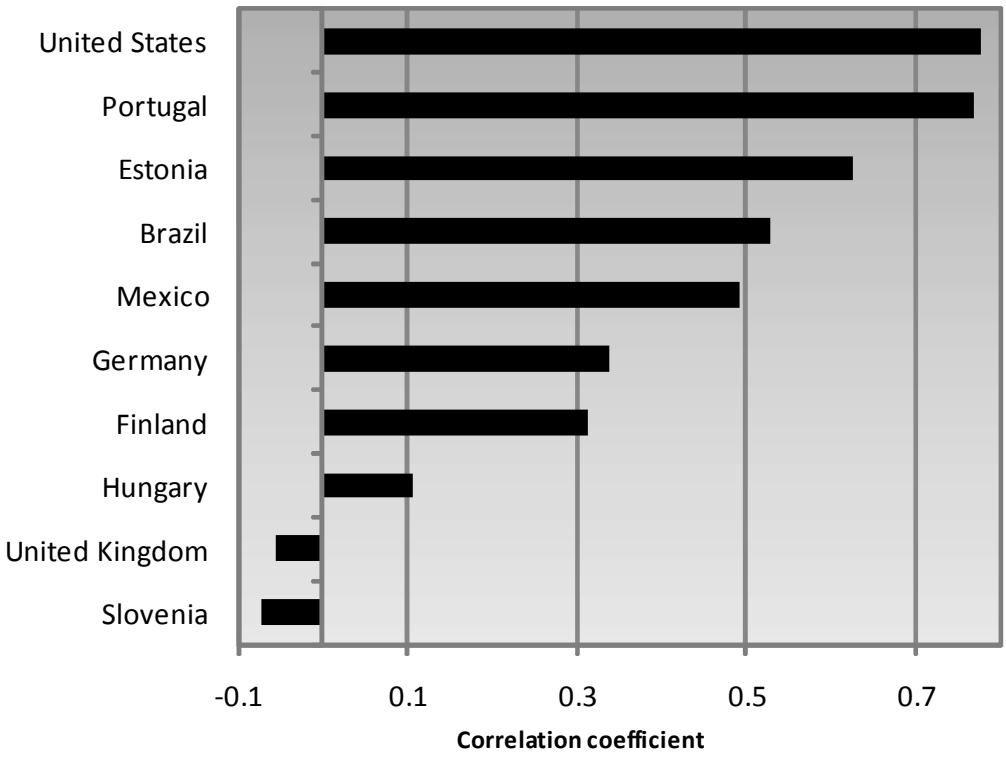



| | |
|---|---|
| 15-16 | Food , beverages and tobacco |
| 17-19 | Textiles, leather and footwear |
| 20 | Wood and manufacturing of wood and cork |
| 21-22 | Pulp, paper, printing and publishing |
| 23-25 | Chemical, rubber, plastics and fuel |
| 23 | Coke, refined petroleum and nuclear fuel |
| 24 | Chemicals and chemical products |
| 25 | Rubber and plastics |
| 26 | Other non-metallic mineral products |
| 27-28 | Basic metals and fabricated metal |
| 29 | Machinery, not elsewhere classified |
| 30-33 | Electrical and optical equipment |
| 34-35 | Transport equipment |
| 36-37 | Other manufacturing; Recycling |
| 40-41 | Electricity, gas and water supply |
| 45 | Construction |
| 50-52 | Wholesale and retail trade |
| 50 | Motor vehicles: sales and repair |
| 51 | Wholesale trade, except of motor vehicles |
| 52 | Retail Trade, except of motor vehicles |
| 55 | Hotels and restaurants |
| 60-64 | Transport, storage and communications |
| 60-63 | Transport and storage |
| 64 | Post and telecommunications |
| 65-67 | Financial intermediation |
| 70 | Real estate activities |
| 71-74 | Other business services |

*Notes:* ISIC rev. 3 codes for industries. Brazil: 1998-2000; Czech republic: 2005; Estonia: 2003 and 2005; Finland: 1997 and 2005; Germany: 1997-1998; Hungary: 1998-2000 and 2005; Italy: 2005; Portugal: 1997; Mexico: 2000; Netherlands: 2005; Slovenia: 2002-2003; Spain: 2005; United Kingdom: 1998-2005; United States: 2001-2004.
*Source:* OECD estimations. See Annex 2.A1.

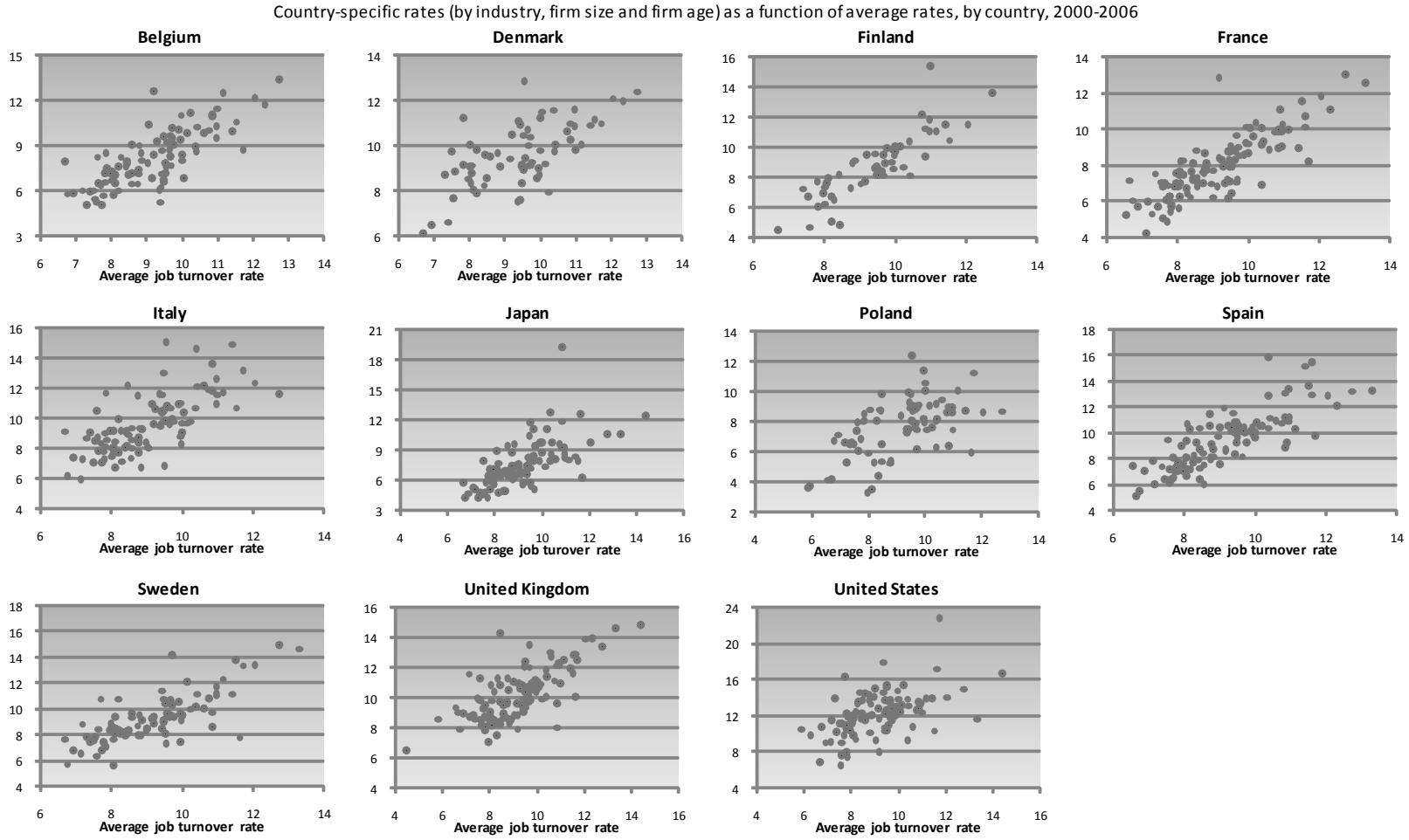
Figure 2.A2.6. **Correlation between job creation and destruction, continuers, 1997-2004**

Within country/cross indrustry correlations




*Notes:* correlations between country-specific industry rates. Brazil: 1998-2000; Estonia: 2003; Germany: 1997-1998; Finland: 1997; Hungary: 1998-2000; Portugal: 1997; Mexico: 2000; Slovenia: 2002-2003; United Kingdom: 1997-1998; United States: 2001-2004.
*Source:* OECD estimations. See Annex2.A1.

Figure 2.A2.7 **Country-specific and average job reallocation rates**

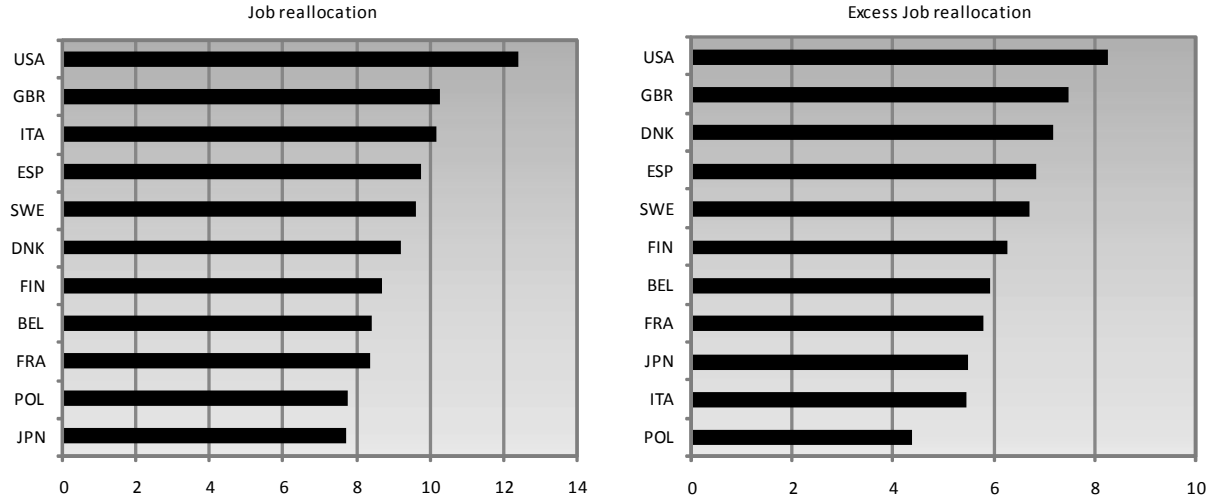



*Notes:* percentage rates. Data-points refer to average job reallocation rates by industry, firm size classes and firm age classes. 21 industries partitioning the non-farm business sector are considered. Firm size is divided in three classes: 20-49 employees, 50-99 employees and 100 employees or more; firm age is divided in 2 classes: less than 20 years and 20 years or more. Firms with less than 20 employees are excluded. Data refer to continuing firms with published accounting data. Belgium, 2000-2004, Denmark, 2001-2005, Finland, 2002-2004, France, 2000-2004, Italy, 2002-2003, Japan, 2004-2006, Poland, 2001-2004, Spain, 2001-2004, Sweden, 2000-2005, the United Kingdom, 2000-2004, and the United States , 2005-2006.

*Source:* OECD estimations. See Annex 2.A1.

Figure 2.A2.8. **Country averages of job reallocation, medium and large continuers**

Percentage rates adjusted by industry, firm-size and firm-age composition, business sector (excluding agriculture), 2000-2006




*Notes:* estimated average rates that would be observed in each country if it had the same industry composition as the average country. Firm-level data are grouped by cells according to twenty-one industry characteristics, three firm-size classes and two firm-age classes. Firms with less than 20 employees are excluded. Belgium, 2000-2004,, Denmark, 2001-2005, Finland, 2002-2004, France, 2000-2004, Italy, 2002-2003, Japan , 2004-2006, Poland , 2001-2004, Spain , 2001-2004, Sweden , 2000-2005, the United Kingdom , 2000-2004 and the United States , 2005-2006.
*Source:* OECD estimates. See Annex 2.A1.

Figure 2.A2.9. **Average job creation/destuction by firm size, 2000-2006**

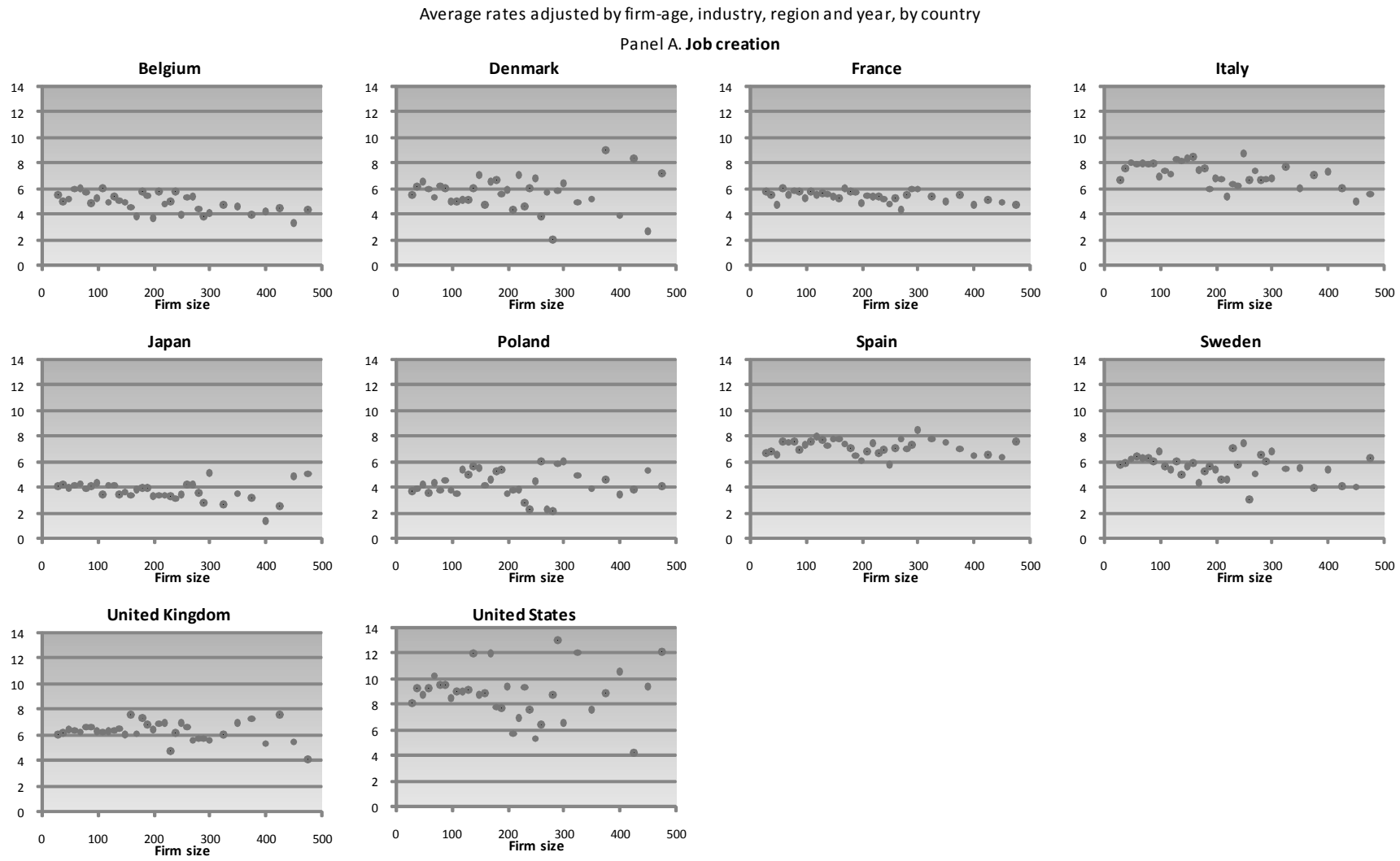
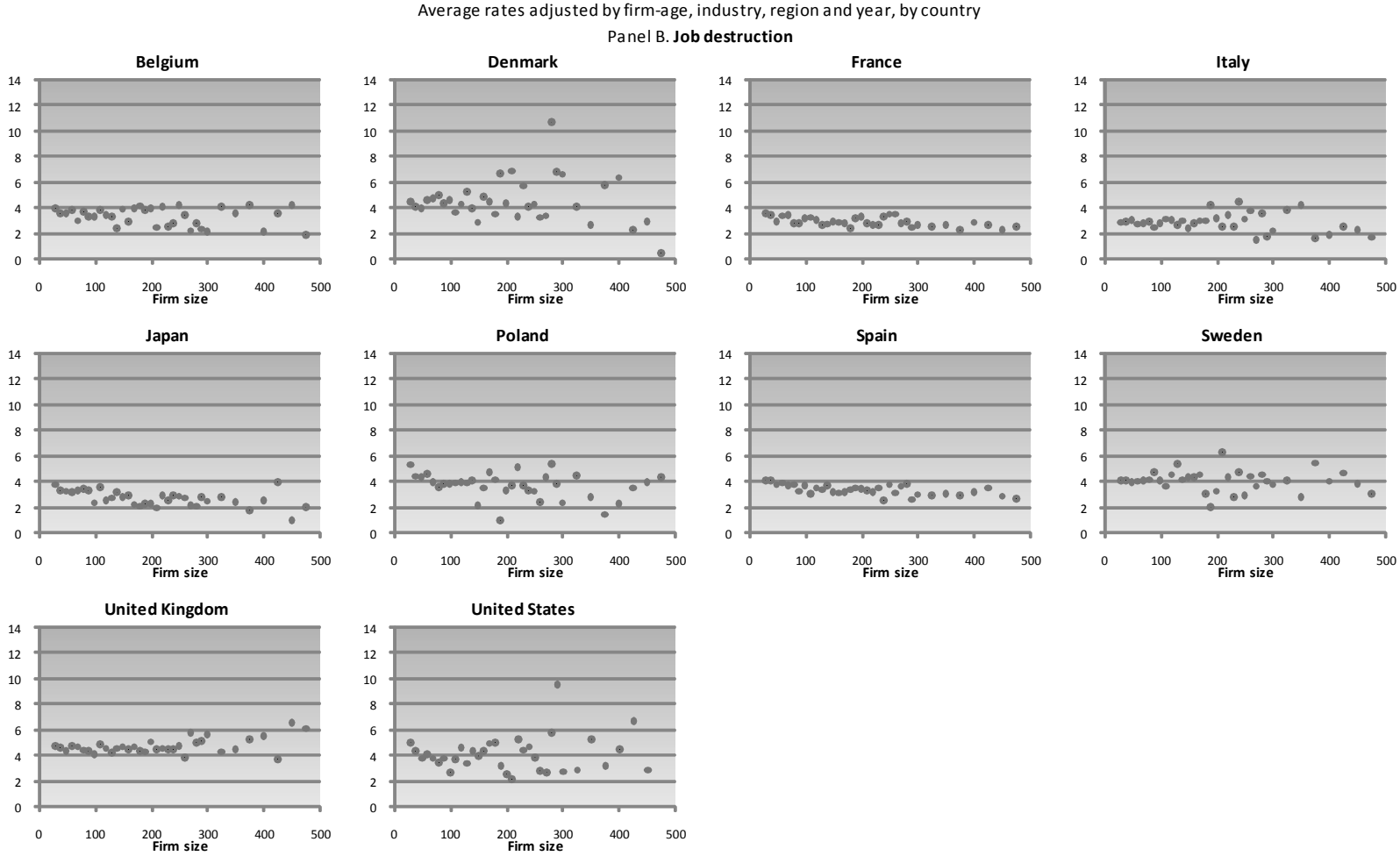


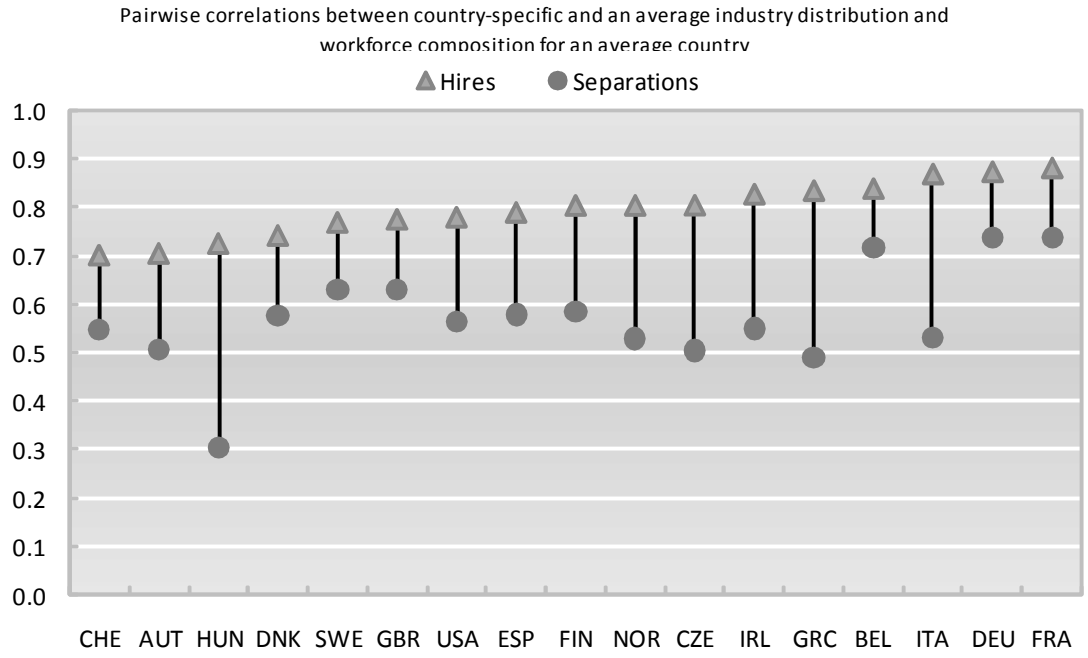
Figure 2.A2.9. **Average job creation/destuction by firm size, 2000-2006** *(cont.)*




*Notes:* Firms with less than 20 employees are excluded and aged less than 2 years are excluded. Estimated adjusted rates are obtained on the basis of the procedure described in Box 3, and their precision, for each country varies as a function of the size of the sample. Precision also declines with firm size; therefore, rates for firms with more than 500 employees are not shown. Sample size by country (calendar years in parenthes): Belgium: 33867 (2000-2004); Denmark: 14673 (2001-2005); France: 116152 (2000-2004); Italy: 28281 (2002-2003); Japan: 26669 (2004-2006); Poland: 8726 (2001-2004); Spain: 93306 (2001-2004), Sweden: 31700 (2000-2005); the United Kingdom: 40968 (2000-2004); the United States: 14482 (2005-2006).

*Source:* OECD estimates. See Annex2.A1.

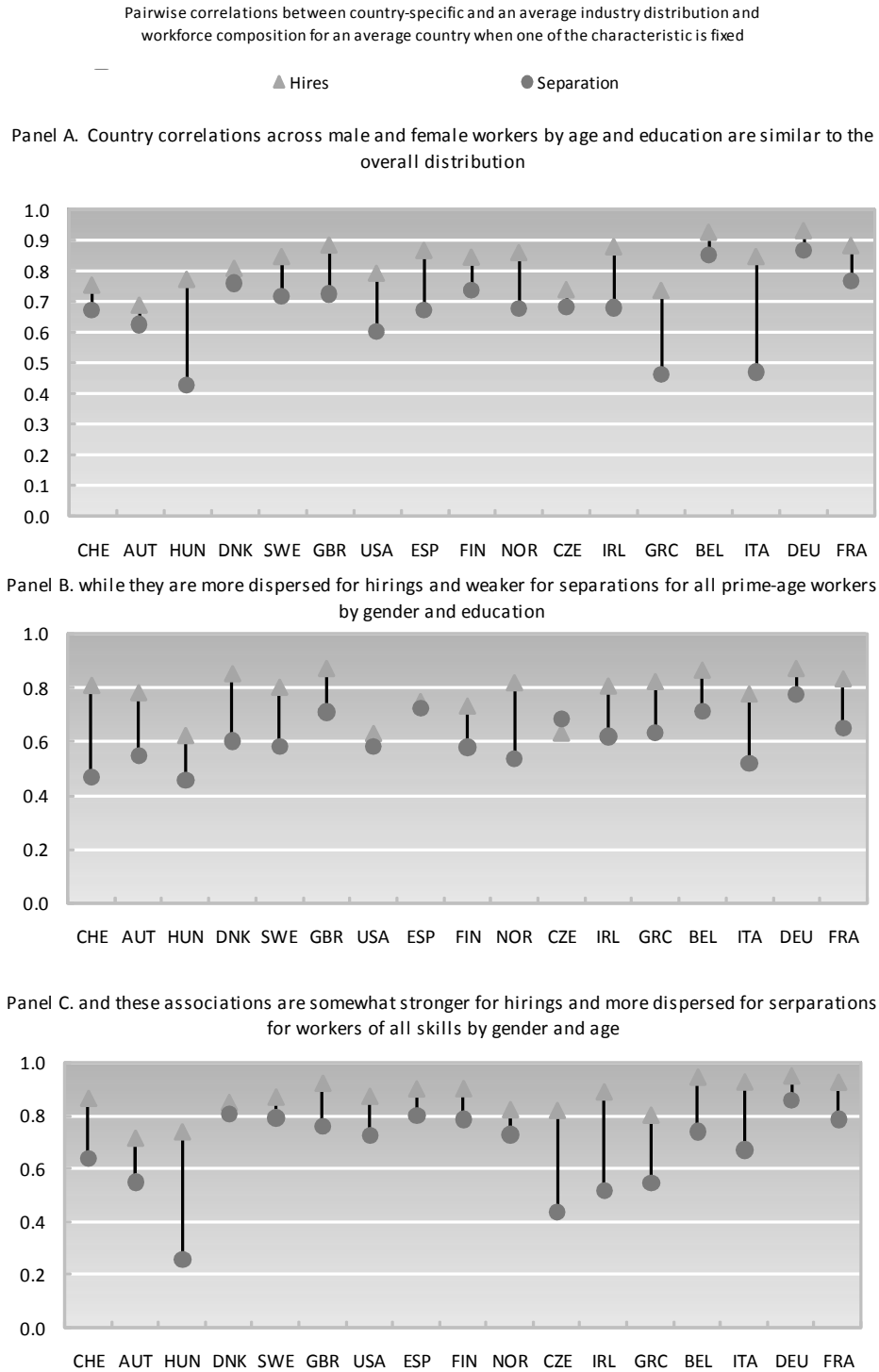
Annex Figure 2.A2.10. **More similarities in hiring patterns than in job separations between countries across industry and workforce composition by gender, age and education**




*Note:* Individual country correlations with an average country of workers flows across industries and gender, age and educational attainment. Countries ranked by ascending of correlation coefficients of hiring rates.

*Source:* OECD estimates based on the European Labour Force Survey and the U.S. Current Population Survey (CPS).

Annex Figure 2.A2.11. **More similarities in hiring patterns of prime-age workers than in job separations between countries across industry and adult workforce composition by gender, age and education**




Note: Individual country correlations with an average country of workers flows across industries and gender, age and educational attainment. Countries ranked by ascending order of correlation coefficients of hiring rates for an average industry distribution and workforce composition (See Figure 2.A2.10).

Source: OECD estimates based on the European Labour Force Survey and the U.S. Current Population Survey (CPS).

## Table 2.A2.1. **Comparison of cross-country distributions of aggregate worker flows**

Correlation coefficients among cross-country distributions for different years

Panel A. **Hiring rate**

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|
| 2000 | 1 | | | | | |
| 2001 | 0.9627* | 1 | | | | |
| 2002 | 0.9370* | 0.9400* | 1 | | | |
| 2003 | 0.8925* | 0.8900* | 0.9442* | 1 | | |
| 2004 | 0.8681* | 0.8237* | 0.9169* | 0.9342* | 1 | |
| 2005 | 0.8186* | 0.8154* | 0.8660* | 0.9293* | 0.9425* | 1 |

Panel B. **Separation rate**

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|
| 2000 | 1 | | | | | |
| 2001 | 0.9245* | 1 | | | | |
| 2002 | 0.9140* | 0.8852* | 1 | | | |
| 2003 | 0.8821* | 0.8905* | 0.9157* | 1 | | |
| 2004 | 0.8368* | 0.8063* | 0.8497* | 0.8715* | 1 | |
| 2005 | 0.7845* | 0.7979* | 0.8334* | 0.8898* | 0.9356* | 1 |

Panel C. **Employment growth**

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|
| 2000 | 1 | | | | | |
| 2001 | 0.8263* | 1 | | | | |
| 2002 | 0.7064* | 0.7165* | 1 | | | |
| 2003 | 0.5972* | 0.6801* | 0.4729* | 1 | | |
| 2004 | 0.2744 | 0.3205 | 0.0318 | 0.3303 | 1 | |
| 2005 | 0.5927* | 0.7187* | 0.5601* | 0.4825* | 0.5155* | 1 |

Notes: based on Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Portugal, Slovenia, Spain, Sweden and the United Kingdom: 2000-2005; Czech Republic: 2002-2005; Ireland: 2000-2003; Norway: 2000-2004; Poland: 2004-2005; Slovak Republic: 2003-2005; Switzerland: 2002-2005; United States, 2000, 2002 and 2004

*Source:* OECD estimations. See Annex 2.A1.

Table 2.A2.2. **Analysis of variance of cross-country/cross-industry data on job creation and job destruction for startups, shutdowns and continuers**

| | Country | Industry | Model |
|---|---|---|---|
| **Entry and exit** | | | |
| Job creation | 18.2 | 46.9 | 62.2 |
| | *7.97 (13)* | *14.04 (19)* | *11.04 (32)* |
| Job destruction | 26.4 | 24.6 | 50.7 |
| | *8.87 (13)* | *5.65 (19)* | *6.9 (32)* |
| **Continuers** | | | |
| Job creation | 23.6 | 40.8 | 61.9 |
| | *9.62 (9)* | *7.88 (19)* | *8.11 (28)* |
| Job destruction | 43.1 | 21.7 | 63.8 |
| | *18.51 (9)* | *4.42 (19)* | *8.79 (28)* |

Notes: The table reports the percentage of the overall variance accounted for by countries, industries or the overall model (that is, the percentage explained by the whole regression). F-statistics in italics (with degrees of freedom in parentheses). All components are significant at the 1% statistical level. As the percentage of the variance explained by each dimension depends on the number of its categories, F-statistics and the ratio of explained variance to the number of degrees of freedom provide information on the relative importance of each dimension. Total number of observations is 248 for entry and exit and 169 for continuers.
*Sources* : OECD estimates

Table 2.A2.3. **Analysis of variance of adult worker flows across countries, industries, gender, age, education**

| | Country | Industry | Sex | Age | Education | Model |
|---|---|---|---|---|---|---|
| Worker reallocation | 11.1 | 14.6 | 1.9 | 19.1 | 5.0 | 51.6 |
| | *44.37 (16)* | *42.54 (22)* | *122.95 (1)* | *610.91 (2)* | *160.5 (2)* | *77.02 (43)* |
| Hiring | 9.6 | 16.1 | 1.8 | 28.1 | 2.2 | 57.8 |
| | *44.13 (16)* | *53.73 (22)* | *130.1 (1)* | *1033.34 (2)* | *81 (2)* | *98.77 (43)* |
| Separation | 9.8 | 10.3 | 1.3 | 7.4 | 7.6 | 36.4 |
| | *30.03 (16)* | *22.87 (22)* | *64.9 (1)* | *179.94 (2)* | *184.15 (2)* | *41.32 (43)* |

*Notes:* Underlying data are aggregated in cells by country, industry, gender, age and educational attainment. The table reports the percentage of the overall variance accounted for by country, industry, gender, age, education. Model refers to the variance explained by the whole regression. F-statistics in italics (with degrees of freedom in parentheses). All components are significant at the 1% statistical level. As the percentage of the variance explained by each dimension depends on the number of its categories, F-statistics and the ratio of explained variance to the number of degrees of freedom provide information on the relative importance of each dimension. Age refers to adults (25-54 years) separated in three ten year age bands: 25-34, 35-44, 45-54; Education is is divided in 3 classes: below upper secondary, upper secondary, and tertiary education; industries cover 23 non-farm and non-mining business sectors. There are 17 countries retained in the analysis . Total number of observations is 3145.

*Source:* OECD estimations. See Annex 2.A1.