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Thinking ahead for Europe

Students in Work and their Impact on the Labour Market

Miroslav Beblavý & Brian Fabo

No. 410 / July 2015

Abstract

The purpose of this study is to evaluate the size and composition of the student labour force in order to consider its potential impact on labour markets in the European Union. The paper is based on an analysis of EU Labour Force Survey data from 2011, supplemented by the findings of the EUROSTUDENT project.

The structure of student labour is discussed within the framework of the so-called 'crowding-out' literature, which identifies competition for jobs between students and low educated non-students, particularly in the retail and wholesale sectors.

In contrast to these assumptions, we found that, depending on the age of the student, the profile of student workers closely matches that of non-students with medium- to-high educational attainment. In general, the retail and wholesale sectors are of importance in the employment of students under the age of 25, but students typically take positions in the middle of the occupational hierarchy, rather than in the lower-grade positions. Meanwhile, older students, often professionals furthering their education while studying, are typically located in similar jobs and sectors to university graduates.

A common trait of student work is its very high degree of flexibility compared to that of non-students. Nevertheless, the structure of student labour does not lead us to believe that student workers are particularly prone to be present in the precarious segment of the labour market.

For a more succinct version of this paper, please see the CEPS Commentary by the same authors, 17 July 2015 (www.ceps.eu/publications/are-student-workers-threat-or-solution).

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Students in Work and their Impact on the Labour Market

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Introduction

The purpose of this paper is to evaluate the size and composition of the student labour force and elaborate on its potential impact on the labour markets of the European Union. The aim is to answer the following interrelated questions:

- What is the size and composition of the tertiary-level student working population in an era of massification of higher education?
- What work is done by tertiary-level students?
- What is the importance of the gender dimension with regard to student work?
- Which groups are complemented by/compete with tertiary student labour?

A unifying aspect of the various approaches to analysing student labour is the overlap with low-skilled labour. The reasons behind this overlap include the extreme levels of flexibility of many student jobs and their localisation in certain sectors associated with low-skilled work. However, the question of what makes certain jobs 'low skilled' remains open in the literature and indeed various authors use a range of arbitrary thresholds and criteria to determine whether a specific worker or job is low-skilled or not (Kureková et al., 2013). This report aims to cover student labour as a whole, rather than focus on any arbitrary segment, and contrasts the actual distribution of working students between jobs and sectors with the assumptions about the low-skilled nature of student work.

The descriptive analysis is based on the European Union Labour Force Survey (EU-LFS) dataset. Although the EU-LFS does not aim to determine the size of the student population, it provides a sufficient sample of student and non-student workers to carry out an in-depth comparison of these two groups. For the purpose of this report, we use EU27 data. While the EU-LFS is conducted annually and allows developments to be observed over time, the extent to which this is possible is limited by the availability of historical data. For this reason, the bulk of the information presented in this report is based on the latest available data from 2011. Where possible, we analyse developments over time, with LFS data supplemented by official statistics. Where appropriate, the findings are also supplemented by the data collected within the framework of the Eurostudent project, which are available in the form of aggregated statistics on the project website. The aim of the project, which took place between 2008 and 2011, was to collect comparable data on the social dimension of student education.

While there is a student workforce in all EU countries, the scope of the phenomenon varies. Some reasons for variance include access to higher education, which is determined by factors such as the structure of higher education funding (and the associated question of fees that

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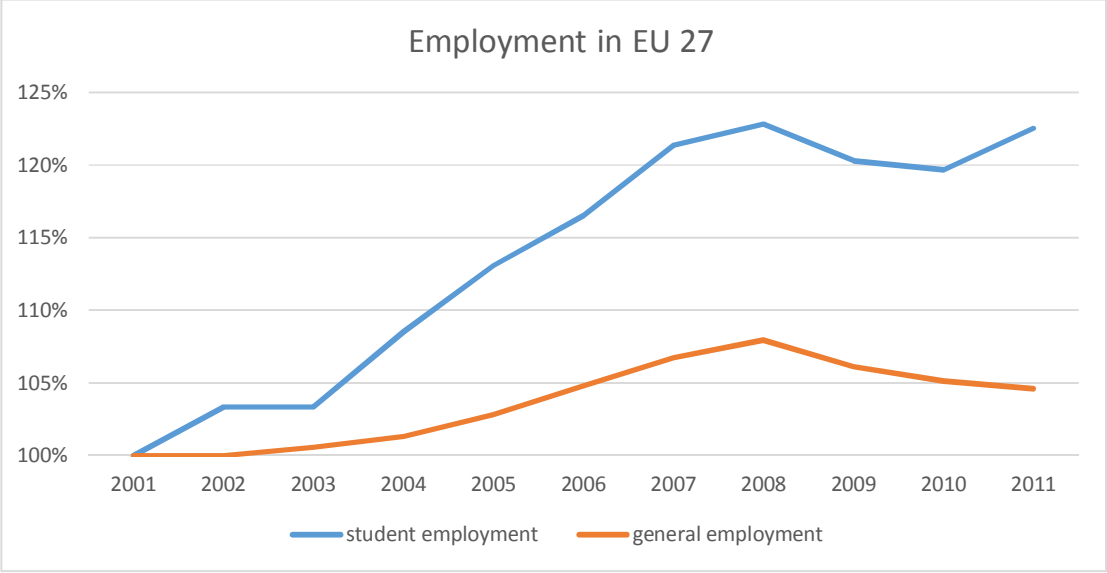
students have to cover); the capacity of universities to offer placements to prospective students; the presence and structure of apprenticeship programmes; and time constraints. All these factors differ between countries (and indeed sometimes between institutions within individual countries). Consequently, where appropriate, the analysis also captures differences between individual EU member states.

1. Who are student workers?

The supply of highly educated workers in Europe has grown rapidly over the course of the 2000s. While in 2001 on average 17% of the population aged 25-65 had completed tertiary education in the EU27, in 2011 it was already 24%. Over the same time period, the share of workers not having attained at least upper secondary education level dropped from 38% to 30%. This means that while in 2001 62% of workers had at least higher-than-secondary education, in 2011 70% had upper secondary or even tertiary-level education.

The increased participation of Europeans in tertiary education also means that there is an increased number of students living in the EU27, an increase from 16.5 million in 2001 to over 20 million in 2011 (see Appendix Part I, Table A1). The share of working students thus remained quite steady at around 30%, despite the Great Recession.

Figure 1. Relative growth of employment among students and in general population

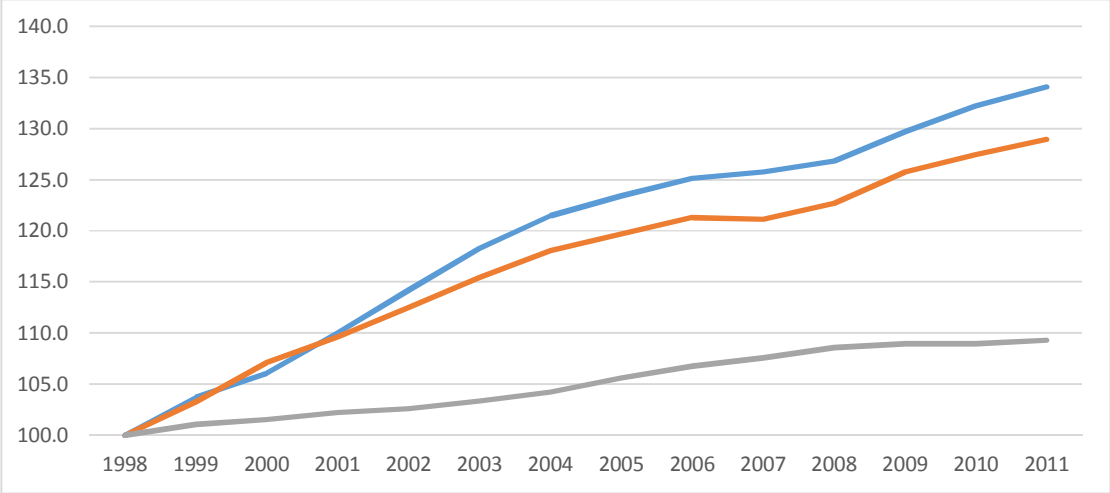


Note: Figure represents the number of workers, not a share.

Source: Own calculation based on EU LFS, Eurostat.

Figure 2 shows that the growth of students has by far outpaced any growth in the working-age population. Additionally, the number of students aged over the 25 years of age threshold associated with a move from higher education to the workforce has been growing even faster.

Figure 2. Index of growth of workforce (grey), students (blue), and students under 25 (orange) in the EU27



Source: Eurostat (1998=100).

Nonetheless, the rise in the number of students compared to the size of the labour force has not happened in all EU member states to the same degree. For example, the expansion of the student population has not kept pace with the growth of the economically active population in Spain, but has significantly outpaced it in a number of new EU member states and in the Netherlands (Table 1).

Table 1. Growth of students and population in the EU27, 2001-2011

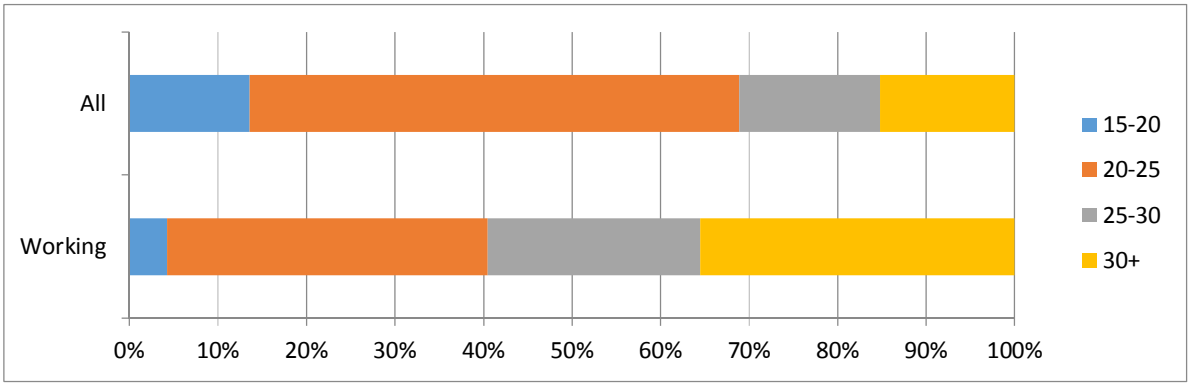
Country	Students growth	Population growth	Difference
Cyprus	169%	20%	149%
Luxembourg	112%	17%	96%
Romania	64%	-10%	73%
Czech Republic	72%	2%	69%
Slovakia	57%	0%	57%
Netherlands	55%	4%	51%
Lithuania	38%	-12%	50%
Malta	55%	6%	49%
European Union	**38%**	**3%**	**35%**
Germany	33%	-1%	33%
Denmark	36%	4%	32%
Bulgaria	15%	-10%	25%
Estonia	20%	-5%	24%
Sweden	29%	6%	23%
Belgium	29%	7%	22%
Poland	17%	0%	18%
Hungary	16%	-2%	18%
Slovenia	17%	3%	14%
United Kingdom	21%	7%	14%
Latvia	1%	-12%	13%

Austria	12%	4%	8%
Finland	10%	4%	7%
Italy	9%	4%	4%
Portugal	2%	2%	0%
Ireland	18%	19%	-1%
Spain	6%	15%	-9%

Sources: Own calculations based on Eurostat data.

The growth in the number of older students is important to understanding the dynamics of students as workers, because students above the age of 25 are especially likely to work.

Figure 3. Average share of students in general/working students per age group in EU27 member states, 2011



Source: Own calculations based on EU-LFS 2011 dataset average of EU 27.

A look at the self-reported main status of the respondent shows another dimension – while younger students consider themselves primarily as students who work 'on the side', older students are more likely to be workers who study on the side (Table 2).

Table 2. Main status of students per age group

		15-20	20-25	25-30	30+
Main Status of all students	Student	95.40%	87.02%	56.27%	19.20%
	Worker	3.37%	10.76%	37.76%	70.09%
	Unemployed	0.70%	1.50%	4.37%	5.72%
	Other	0.53%	0.72%	1.60%	4.98%
Main Status of student workers	Student	68.90%	50.92%	22.83%	6.91%
	Worker	31.00%	48.50%	71.67%	91.41%
	Unemployed	0.01%	0.12%	3.13%	0.31%
	Other	0.09%	0.46%	0.60%	1.38%

Note: Data unavailable for the main status (variable maintstat) of students in the UK and Germany, data insufficient for main status of student workers in Bulgaria, the Baltic countries, Slovakia and Spain.

Source: Own calculations based on EU LFS 2011 dataset average of EU member states.

2. Overview of student workers

The gender aspect of student work is an under-researched topic. The LFS data show that in all countries except Germany, where the gender ratio is about equal, there are more females than males in the student population. Slovakia is a particularly pronounced case with over 60% of university students being female. The share of female working students is approximately the same as the share of women in the entire student population when taking all students into account, but higher when only students under the age of 25 are considered (Table 3).

In this respect the student working population differs greatly from the general population of workers. While women are more likely to study and typically make up the majority of student workers, most member states fall behind the EU 2020 goal of achieving the equal participation of men and women in the labour force due to the lagging participation of women (Mills et al., 2014).

Table 3. Share of women in the student population, working students in general, under 25yrs

	Students	Working students	Working students under 25
AT	55.02	55.02	60.98
BE	55.51	55.51	60.73
BG	54.58	54.58	57.33
CY	56.10	56.10	58.78
CZ	58.35	58.35	63.55
DE	49.63	49.63	56.88
DK	58.00	58.00	62.67
EE	57.15	57.15	63.94
ES	54.24	54.24	60.23
FI	53.42	53.42	52.37
FR	53.99	53.99	53.36
GR	53.24	53.24	50.31
HU	53.79	53.79	59.34
IE	52.15	52.15	58.9
IT	57.55	57.55	61.16
LT	56.02	56.02	53.02
LU	52.90	52.90	66.67
LV	56.99	56.99	51.02
MT	58.34	58.34	67.8
NL	51.23	51.23	55.22
PL	59.76	59.76	57.59
PT	55.58	55.58	51.66
RO	53.83	53.83	52.89
SE	56.55	56.55	60.10
SI	55.03	55.03	57.71
SK	60.76	60.76	57.84
UK	55.22	55.22	58.65
EU27	**55.37**	**55.37**	**58.17**

Source: Own calculations based on EU-LFS 2011 dataset.

The share of working students differs greatly between individual member states. The data show that the share of working students is 75% in the Netherlands and over 60% in Finland and in Denmark. Meanwhile, in Romania and Greece the share is just over 10% (Table 4).

Table 4. Study fees on undergraduate students' budget, tertiary students participating in a training programme, youth unemployment and share of working students in general and under the age of 25

	Share of fees	Share of paid training programmes	Youth unemployment	Share of working students	Share of working students<25
AT	2	4.2	8.8	50.6	33.0
BE		3.3	22.4	16.0	8.4
BG		1.5	23.2	15.5	10.9
CY		5.5	17.2	30.9	13.8
CZ	4	0.6	18.3	22.3	8.9
DE		17.1	13.8	40.3	29.5
DK	0	10.6	13.8	60.6	58.2
EE	15	1.8	32.9	38.5	22.9
ES	10	8.7	41.6	24.5	11.3
FI	0	5.2	21.4	63.2	49.2
FR	6	34.4	23.7	18.4	16.0
GR		7.3	32.9	10.7	4.7
HU		1.6	26.6	15.7	5.0
IE	22	1.7	27.7	35.6	28.5
IT		6.2	27.8	16.4	6.5
LT	41	1.8	35.1	30.4	18.5
LU		12.3	15.6	15.7	5.2
LV	19	1.0	34.5	39.1	24.3
MT	4	4.5	13.1	39.2	23.2
NL	15	2.0	8.7	75.4	68.0
PL	8	7.3	23.7	34.5	21.7
PT	14	3.8	27.7	27.3	9.7
RO		0.7	22.1	10.8	5.8
SE	0	0.3	25.2	46.0	34.6
SI		0.0	14.7	46.6	33.3
SK	9	1.1	33.6	15.9	5.4
UK		1.0	19.6	46.0	30.8
EU 27	11	5.4	23.2	32.8	21.8

Note: The 'training' category entails all temporary working arrangements, which include a learning component as long as they are paid. The LFS dataset has no data on unpaid internships.

Source: Training programmes, share of working students – own calculations based on EU-LFS 2011 dataset average of EU member states, share of fees on the budget of an undergraduate student – EUROSTUDENT, youth unemployment – Eurostat.

While this number is in line with the OECD data (Quintini, 2014), international comparison might be biased due to the existence of irregular studying arrangements, such as the 'external'

study practice in Slovakia or the 'combined' one in the Czech Republic, which allows individuals, often workers, to attain tertiary education without the need to participate in regular education activities, which has relevance when considering the age structure of student workers. The difference between the shares of working students in general and in the under 25 category is very pronounced in Hungary, Slovakia, the Czech Republic, Italy or Portugal, and minimal in the Scandinavian countries, Netherlands, France or Ireland.

Study fees are a commonly cited factor driving students to seek employment (Hall, 2010). The EU countries differ strongly in the burden the study fees place on students' budget. This burden is very high in the Baltic states and in Ireland (and probably also in the UK, although EUROSTUDENT does not have data on this country) and no burden whatsoever in the Scandinavian countries.

Another possibly important factor is the work-based training programmes that allow students to gain work experience without interrupting their education. Regardless of whether they take the form of internships, traineeships, apprenticeships, or research assistantships, they are an important source of work for students (Quintini and Manfredi, 2009; Quintini and Martin, 2006). In some countries, these programmes are paid (for example in Scandinavia and in France) and contribute to high rates of student employment. In others, particularly in the Anglo-Saxon context, these programmes are often unpaid and therefore not seen as employment for the purposes of this paper.

Finally, youth unemployment is a factor. While it has already been established that not all students are necessarily young people, low youth unemployment often goes hand in hand with a high share of working students. Austria, the Netherlands and the Scandinavian countries are a good example. Meanwhile, the east European countries, which often suffer high youth unemployment rates, also tend to have a low rate of student work. This might suggest the 'postponed unemployment' effect, when participation in higher education serves to shelter young people from the ailing labour market.

A simple correlation shows that paid training programmes are not an important determinant of student employment. There is, however, a somewhat strong and statistically significant correlation between the size of education fees and youth unemployment. This suggests that high fees prevent young unemployed individuals from escaping the labour market through enrolling in tertiary education. High levels of youth unemployment in turn have a medium-sized negative effect on student employment, possibly due to stronger competition for jobs. There is, nonetheless, no significant direct correlation between fees and student employment itself (Table 5).

Table 5. Correlation between the share of study fees on the undergraduate student's budget, tertiary students participating in internships, youth unemployment and the share of working students, under 25

	Fees	**Training**	**Unemployment**	**Work<25**
Fees	1			
Training	-0.2329	1		
Unemployment	0.5*	-0.0661	1	
Work<25	-0.2099	-0.0667	-0.6099***	1

Note: The 'training' category entails all temporary working arrangements, which include a learning component as long as they are paid. Significance levels *<0.05 **<0.01 ***<0.001

Source: Training programmes, share of working students – own calculation based on EU-LFS 2011 dataset average of EU member states, share of fees on the budget of an undergraduate student – EUROSTUDENT, youth unemployment – Eurostat.

Individual European countries differ greatly in terms of how undergraduate students divide their time between study work and leisure. While the relative size of fees compared to the budget of undergraduate students is negatively correlated with the hours they spend studying and positively with hours spent working, it is not statistically significant. There appears to be no correlation between the share of working students and the distribution of hours between working and studying (Table 7).

Table 6. Time allocation (hours per week) of students in EU27

	Taught studies	Personal study time	Paid jobs	Total
AT	12.9	16.9	6.6	36.4
CZ	21.2	11.9	10.9	44.0
DE	19.0	16.2	8.0	43.2
DK	17.1	15.4	3.6	36.1
EE	18.1	14.0	12.1	44.2
ES	19.4	17.2	6.5	43.1
FI	20.1	12.8	1.9	34.8
FR	18.2	17.6	2.3	38.1
IE	19.0	13.0	9.0	41.0
IT	17.5	20.7	8.2	46.4
LT	16.7	9.7	11.9	38.3
LV	18.1	12.4	10.6	41.1
MT	16.9	20.4	6.6	43.9
NL	19.0	16.0	8.0	43.0
PL	19.6	10.3	17.1	47.0
PT	26.6	16.1	9.8	52.4
RO	22.5	8.4	4.1	35.0
SE	13.6	19.0	5.9	38.5
SI	21.4	14.3	16.6	52.3
SK	16.0	8.7	9.8	34.5
EU	18.7	14.6	8.5	41.7

Source: Eurostudent.

Table 7. Correlations between weekly undergraduate study time, the number of hours they work, the share of working students in the population of students <25 and the share of fees on student budget

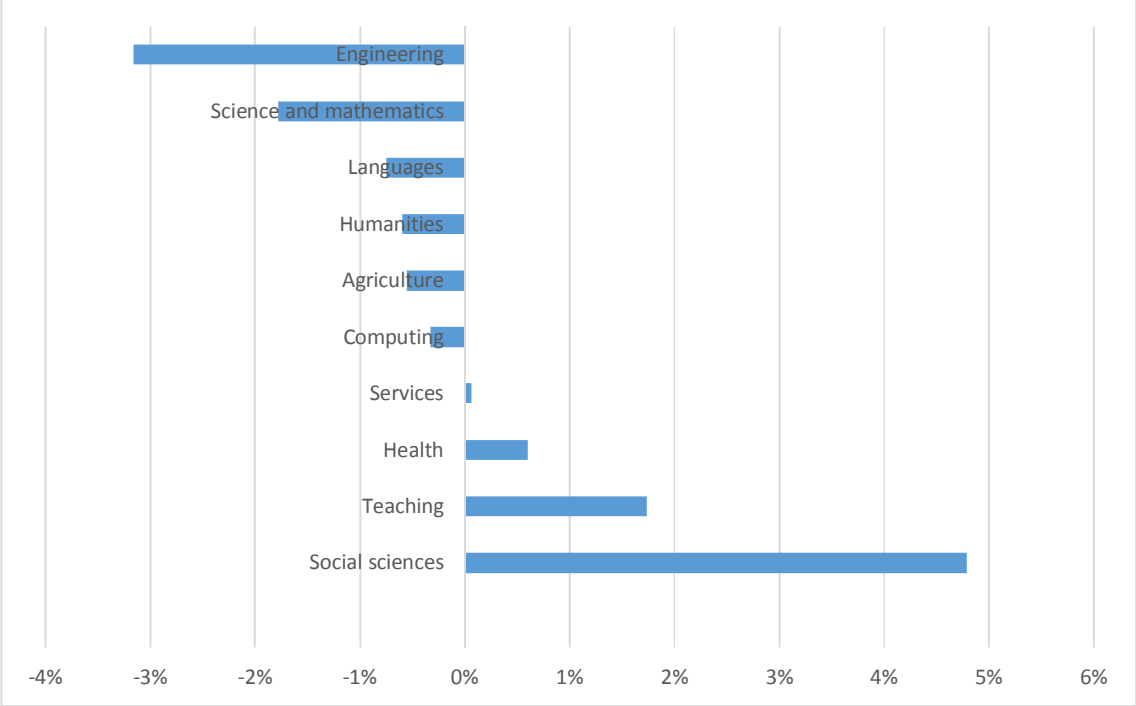
	Study hours	Work hours	Work<25	Fees
Study hours	1			
Work hours	-0.1614	1		
Work<25	-0.002	-0.2072	1	
Fees	-0.3495	0.3507	0.1378	1

Note: Study hours represent total hours spent learning in class and studying at home.

Source: Eurostudent, except for share of working students, which is based on own calculation using the 2011 EU LFS data.

Finally, the study field also determines the likelihood of working: the share of social science, law, business, teaching, and health and welfare students among working students is higher than among students in general. Social science, business and law students are particularly likely to work – their share among working students is more than 5% higher than their share in the general student population. Meanwhile, STEM, humanities, languages and agriculture students are underrepresented in the labour market. The share of services students among working students is about the same as in the general student population, (*Figure 3*). The differences are even more pronounced among students under the age of 25.

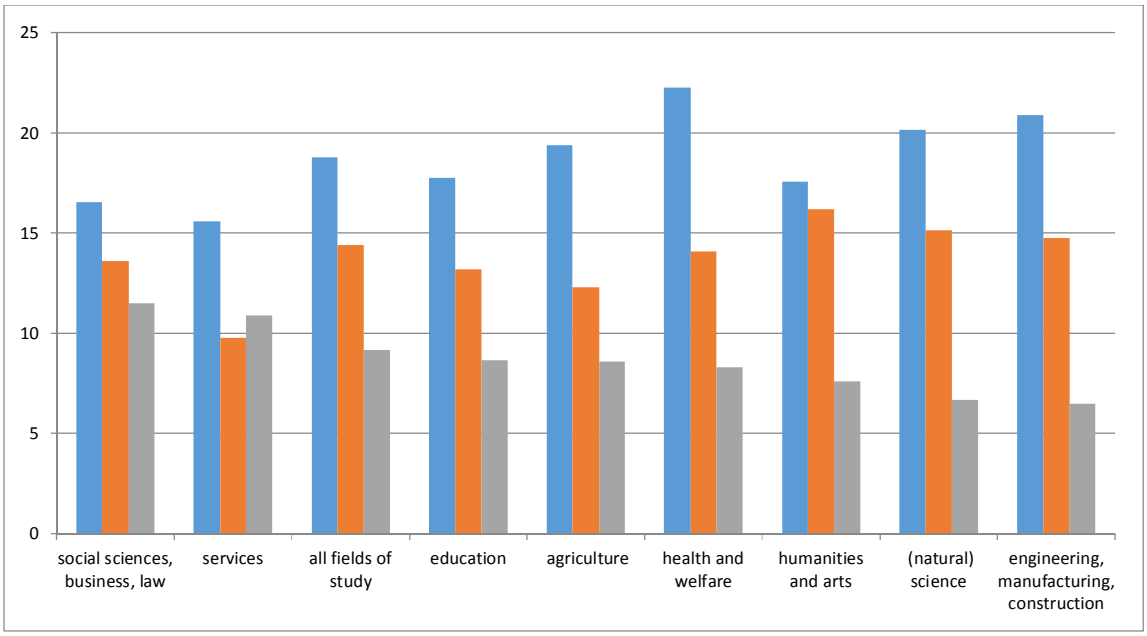
Figure 4. Difference between share of study fields on population of students and working students



Source: Own calculations based on EU-LFS 2011 dataset average of EU member states.

As noted by Beblavý et al. (2013), fewer hours are spent studying in the 'soft' disciplines, such as humanities and social sciences, and more in the STEM disciplines, which allows students in these disciplines to spend more time working. Nonetheless, the data are not clear on whether this actually takes place. The EUROSTUDENT data show that STEM students indeed spend more than 35 hours studying and less than 7 hours working, while students of social sciences, business and law spend less than 30 hours studying and over 11 hours working per week. Nonetheless, such a trade-off does not apply to all fields; health- and welfare-field students spend even more hours studying, particularly in taught studies, than STEM students, but also work slightly more hours. Meanwhile, humanities and arts students work fewer hours than expected based on the time they spend studying (*Figure 5*).

Figure 5. Average number of hours spent on taught studies (blue), personal study time (orange) and paid work (grey) in previous 4 weeks in 2011



Source: Own calculations based on EUROSTUDENT data.

Consequentially, rather than the number of hours worked, the work-study balance might be determined by the study field in a different way. For example, Duru-Bellat et al. (2008) argue that in the context of the massification of tertiary education, the selection of study field reflects the social background of the student and thus students between fields might differ in their need to engage in paid work on the side. Another factor might be demand for different skills associated with individual study fields. Orr et al. (2008) have discovered significant variances between countries in the extent to which students of different fields of study work, which is also visible in the EUROSTUDENT data (Table 8). The average number of working hours in countries thus sometimes increased by very high number of hours worked by students in a particular field, such as health and welfare in Estonia, education in Slovakia and Lithuania or services in Malta and Portugal.

Table 8. Average hours spent working for undergraduate students per country and study field

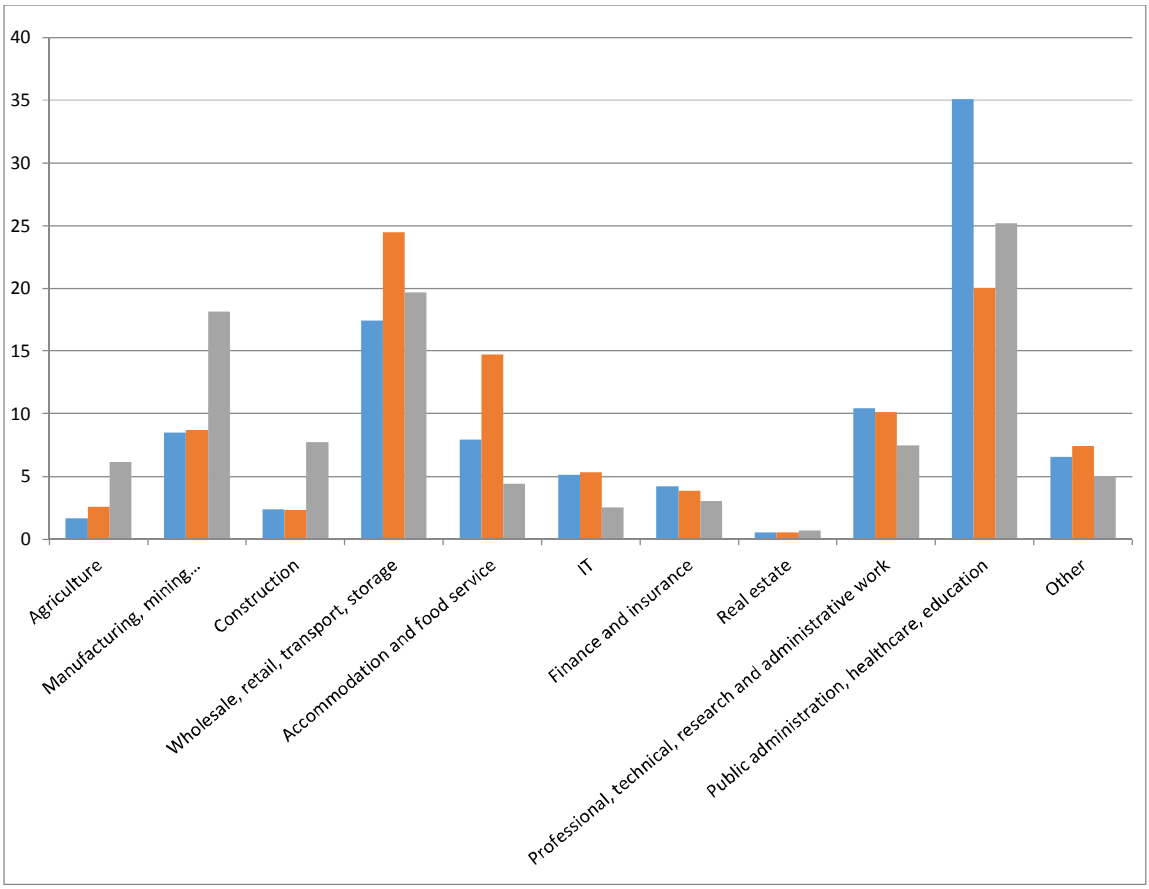
	Avg.	Education	Humanities	Social science	Science	Engineering	Agriculture	Health	Services
AT	9	8.5	7.7	11.2	8.3	8.7	6.4	4.7	6.7
CZ	15.4	17.3	13.1	19.6	8.8	10.3	16	19.3	16.6
DE	6.9	7.3	7.2	7.5	6.1	6	5.3	9	
DK	6	5.8	7	7.3	7	3.7		4.8	
EE	14.5	14.8	10	23.1	5.7	7.2	20.2	28.3	8.4
ES	6	9.5	6.9	5.9	2.9	6.9		7.1	5.5
FI	5	5.7	4.4	7.5	4.6	3.6	4.9	4.3	6.4
FR	2.3		2.5	2.3	1.5				
IE	8	7	7	11	6	7	5	6	21
IT	8.9	12	8.6	11.7	6.8	5.6	6.6	6.1	10.5
LT	9.9	16.7	9.5	10.9	6	7	2.7	1.3	10.5
LV	8.1	8.9	5.2	10.5	4.9	9.4	4.8	3.3	3.4
MT	4.5	2.9	7.3	3.6	3	0.9		7	19.8
NL	9	10	8	10	4	8	8	7	
PL	16.4		10.9	19.2	5.5	14.2	3	19.4	
PT	14.3	12.7	11.2	15.9	16.3	14.2	6.2	5.7	28.8
RO	4.8	2.2	2.5	8.2	3.2	3	25.6	1.8	4.9
SE	7.3	9.8	7.6	8.5	5.3	4.6		5.8	
SI	17.1	5.4	10.3	24.3	18.5	7	12.2	17.5	21.6
SK	9.9	16.5	4.6	11.8	9.6	2.2	19	8	10.2

Source: EUROSTUDENTS.

3. The structure of student work

The distribution of labour across the economy shows that working students are heavily underrepresented in sectors such as agriculture, manufacturing and construction. Wholesale and retail, accommodation and catering services are the fields most often connected with student labour, particularly for younger students. Twenty-five percent of working students under 25 work in wholesale and retail and another 15% in accommodation and catering. Another important sector for student employment is public administration, healthcare and education, where about 35% of all students (but only about 20% of students aged under 25) work. The IT and professional, technical, research and administration sectors are also favourable to student workers (Table 6). Overall, while some of the 'student-heavy' sectors (like retail or food and accommodation) are often associated with low-skilled jobs (Kureková et al., 2012), many students also work in fields typically linked with skilled labour such as professional services, research, healthcare and education.

Figure 6. Average share of industrial sectors in student labour for those aged under 25 (orange), all students (blue) and non-students in 2011 (grey)



Source: Own calculations based on LFS data, average of EU member states.

Furthermore, the relative importance of individual economic sectors for student labour differs in individual countries (Table 9). In manufacturing centres such as the Czech Republic and Germany, 1-in-10 working students work in the manufacturing, mining and quarrying sectors. Meanwhile, in Greece or Bulgaria the share is just about 1% and student workers are mostly concentrated in accommodation and food services (particularly in Greece, where the share of the sector is 37%). In Ireland, Netherlands and the UK, the wholesale, retail and warehousing sector is very important.

Table 9. Share of students under 25 years among workers in ISCO levels 9, 6-8 and 5 in 2011

	Manufacturing	Wholesale, retail	Accommodation, food service	Professional, tech research	Public sector, health, education
AT	11.4	17.4	10.5	19.9	8.3
BE	8.7	22.2	15.6	26.2	6.9
BG	1.3	29.3	28.0	8.0	4.0
CY	5.3	27.5	13.0	17.6	3.8
CZ	16.8	10.3	9.4	22.4	13.1
DE	13.8	17.1	10.0	30.1	7.4
DK	4.6	22.4	11.8	30.6	9.6
EE	11.5	26.4	13.5	20.7	10.6
ES	7.5	20.8	18.7	21.9	13.0
FI	11.7	29.1	6.7	17.1	8.9
FR	11.8	27.7	9.1	18.5	7.4
GR	1.9	23.3	36.7	11.5	7.5
HU	10.7	24.2	11.3	20.6	4.4
IE	2.6	41.1	26.6	10.3	7.6
IT	8.7	20.0	21.8	18.5	12.5
LT	10.5	29.3	11.0	16.8	4.9
LU	11.5	15.4	19.2	26.9	3.9
LV	7.8	24.9	9.0	19.2	6.9
MT	1.7	11.0	20.3	30.5	3.4
NL	3.6	35.9	14.8	21.6	5.9
PL	14.0	26.0	7.6	18.9	4.0
PT	9.7	25.3	16.1	18.4	6.4
RO	10.4	29.5	3.8	10.4	9.0
SE	6.1	29.2	7.5	26.7	7.6
SI	15.9	21.8	13.3	13.8	8.4
SK	9.7	17.3	11.9	28.7	5.4
UK	4.6	36.6	20.3	15.9	9.5
EU27	8.7	24.5	14.7	20.1	7.4

The general distribution of student labour shows that most student workers tend to work in the top half of the ISCO job hierarchy, which seems to contradict assumptions connecting student work with low-skilled labour.

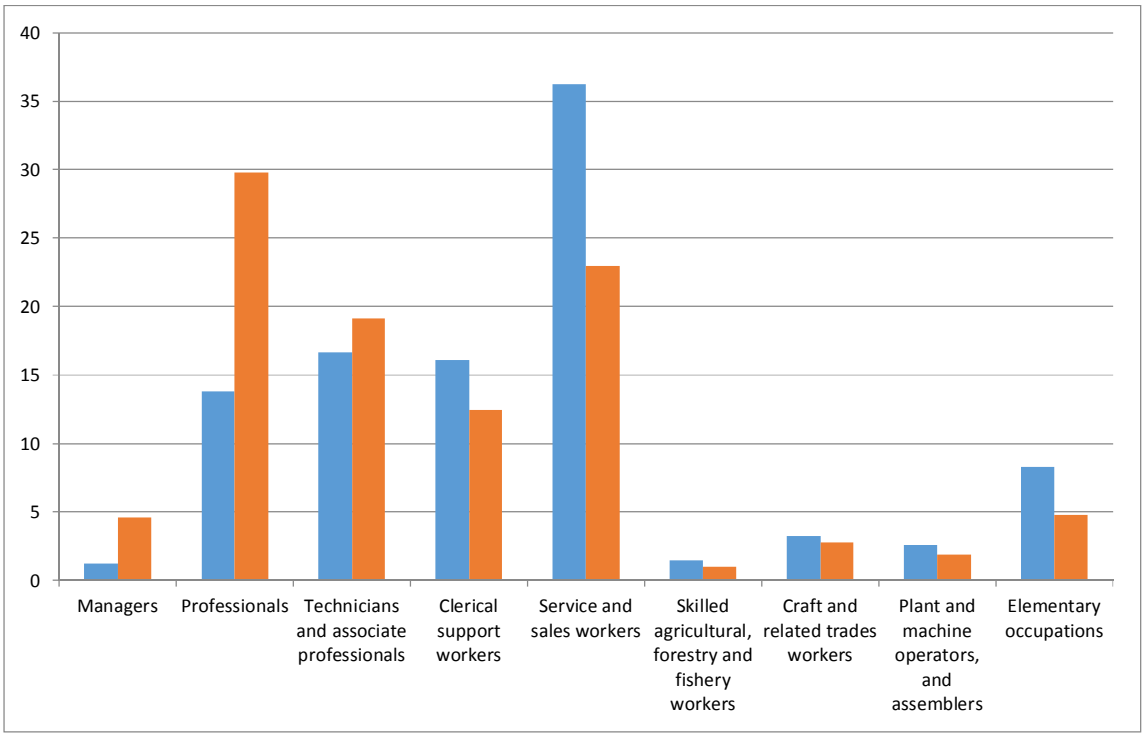
The situation is rather complex, however. Firstly, the massification trend in higher education has also been present at the PhD. level. Doctoral students often participate in highly complex work in fields such as education, healthcare and research. Nonetheless, the share of PhD. students in the entire population of student workers is rather marginal and skill distribution remains largely the same, even after excluding PhD. students.

The age of students is nevertheless an important variable. When considering only students under the age of 25, we see a major concentration of student workers in services and sales jobs, followed by clerical support, and technical and associated professionals. Meanwhile, older

students are more active in professional positions. The share of elementary occupations among younger students is nonetheless still relatively low (about 8%, see Figure 7).

The relatively modest importance of low-skilled jobs for student employment contrasts with the general overrepresentation of young workers in low-skilled jobs due to their lack of experience, as noted by the literature (Kureková et al., 2012). Nonetheless, the share of students among young workers in elementary occupations is typically much lower than in the services and sales categories (although Austria and Denmark are notable exceptions).

Figure 7. Distribution of student (orange - all, blue - under 25) workers among ISCO skill levels in 2011

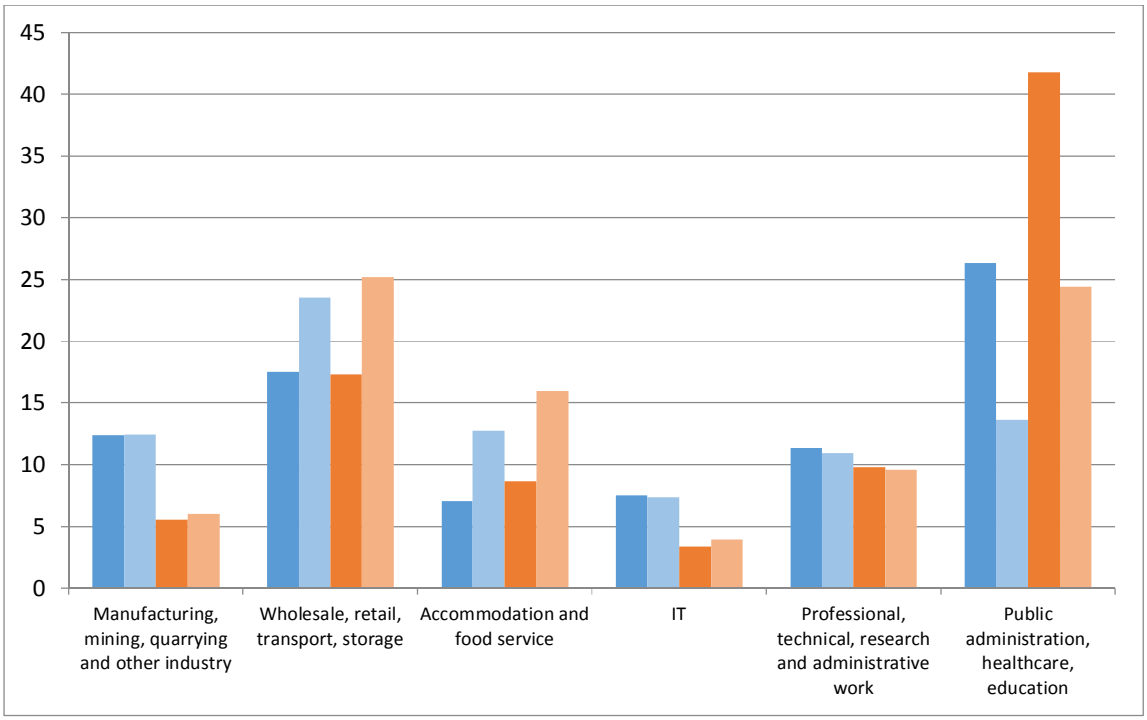


Note: Excluding occupations in the armed forces.

Source: Own calculation based on LFS data, average of EU member states.

The gender aspect strongly influences the presence of student workers across sectors. Women predominate in the public services, including in healthcare and education. This category is also dominated by students over 25 years. Meanwhile, sectors such as retail, accommodation and catering mostly employ younger students and their share in female student employment is slightly higher than the share in male student employment. Manufacturing and related jobs, as well as IT, are mostly the domain of male workers. Neither gender nor age seems to have a marked impact on the share of working students in professional, technical, research and administrative positions (*Figure 8*).

Figure 8. Share of selected industrial sectors in employment of male (blue) and female (orange) working students



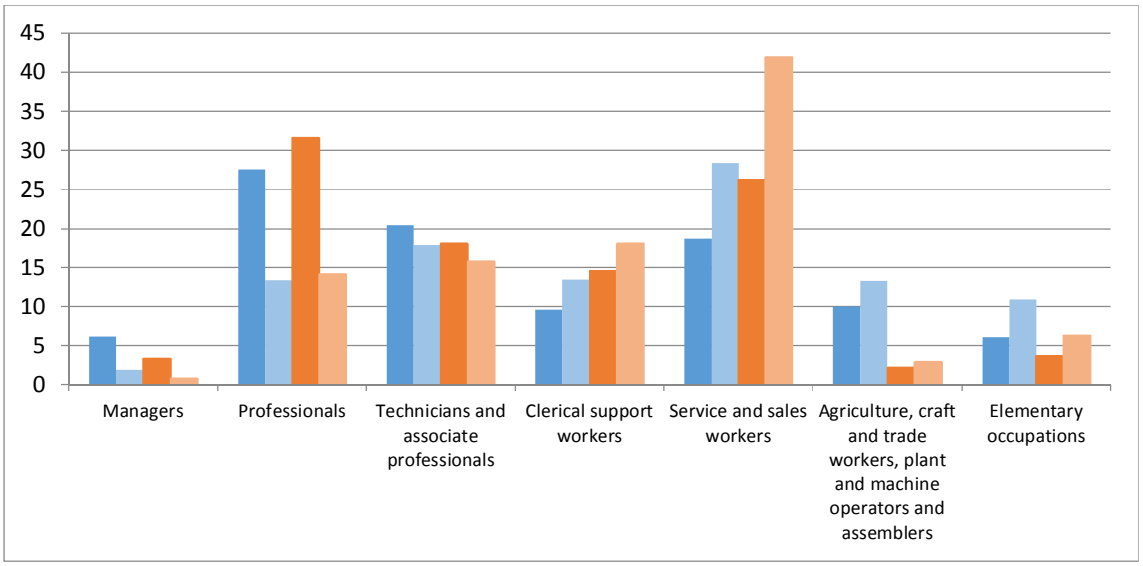
Note: Lighter colours denote the under-25 age category. Excluded are the sectors that have less than 5% share of student employment.

Source: Own calculations based on EU LFS 2011 dataset.

About 30% of working students are employed in management and professional jobs (but the share is approximately 15% for students under the age of 25). An additional one-third of students work in technical, associated professional and clerical jobs. In this segment, service and sales jobs are very common, particularly for younger students; 42% of female working students aged under 25 and 28% of their male counterparts work in a service or sales job. The jobs in ISCO categories 5, 6 and 7 only employ male students, particularly younger ones. Finally, the elementary occupations are mainly performed by younger male students, but even in this demographic group, only 10% of student workers are present in these low-skilled positions (Figure 9).

There is a research gap in the literature regarding the role of gender in student work; nonetheless the notion that women enjoy an advantage in the jobs for which an emotional connection with clients is important has been advanced in contemporary gender studies literature. McDowell (2002), for example, argues that certain 'masculine identity' traits push men towards fields that are in decline in developed countries and thus lead them on the path of downward social mobility. Nonetheless, students already in management positions are more often male, in spite of female dominance in the professional positions as well as among university students as a whole.

Figure 9. Share of selected ISCO skill levels in employment of male (blue) and female (orange) working students



Note: Lighter colours denote under 25 age category. Occupations in the armed forces are excluded and ISCO levels 5-7 merged in one group.

Source: Own calculations based on EU LFS 2011 dataset.

Accommodation and food services, along with wholesale and retail, employ students across study fields, but particularly in the study field without a connection to specific jobs, such as social sciences and humanities (Table 10). One explanation for this phenomenon might be that the choice of study field often reflects the socio-economic background of the student (Duru-Bellat et al., 2008) and costs associated with humanities and social science education are lower than those associated with studies in STEM (Beblavý et al., 2013). Students who supplement their income with work in the retail or accommodation sectors might not be able to commit to the significantly higher number of working hours required to study STEM subjects.

Table 10. Share of selected industries in student workers per study field

	Wholesale, retail, transport, storage		**Accommodation and food service**	
	All	<25	All	<25
Education	**29.5**	**16.1**	**10.9**	**5.6**
Humanities and art	**31.4**	21.1	18.4	12.1
Foreign languages	**25.0**	17.0	18.2	11.9
Social sciences, business and law	**38.8**	27.6	11.2	7.8
Science, mathematics	**23.0**	16.7	15.4	9.7
Computer science	**26.5**	20.8	11.4	6.4
Engineering, manufacturing, construction	**22.0**	20.1	5.3	4.7
Agriculture and veterinary	**9.3**	9.3	6.7	7.0
Health and welfare	**25.1**	14.8	11.2	6.1
Services	**18.8**	18.4	34.3	27.7

Source: Own calculations based on LFS data, average of EU member states.

Nonetheless, the high presence of the 'soft fields' students in the two service-oriented sectors does not support public concerns about 'useless degrees' leading to low-skilled work. The humanities and social sciences students seem to be particularly concentrated in the service and sales occupations, rather than on the bottom of the ISCO hierarchy. Meanwhile, compared to the students of these 'soft' disciplines, the share of STEM students in elementary occupations is slightly higher, although still relatively modest. In agricultural positions, trade and crafts and machine operators and assemblers, students of 'hard' fields are far more common (Table 11).

Table 11. Share of ISCO skill levels in student workers aged under 25 per study field

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Education	1	19	11	9	47	2	2	1	8
Humanities and art	0	13	11	10	46	2	5	2	11
Foreign languages	0	18	9	18	43	0	1	1	9
Social sciences, business and law	1	6	15	20	41	2	2	2	10
Science, mathematics	1	18	15	9	34	4	2	4	13
Computer science	1	15	20	12	25	4	7	5	11
Engineering, manufacturing, construction	1	4	12	3	10	4	52	4	11
Agriculture and veterinary	1	2	5	4	13	55	2	4	16
Health and welfare	0	14	18	6	50	1	1	1	9
Services	1	2	6	7	62	3	3	3	12

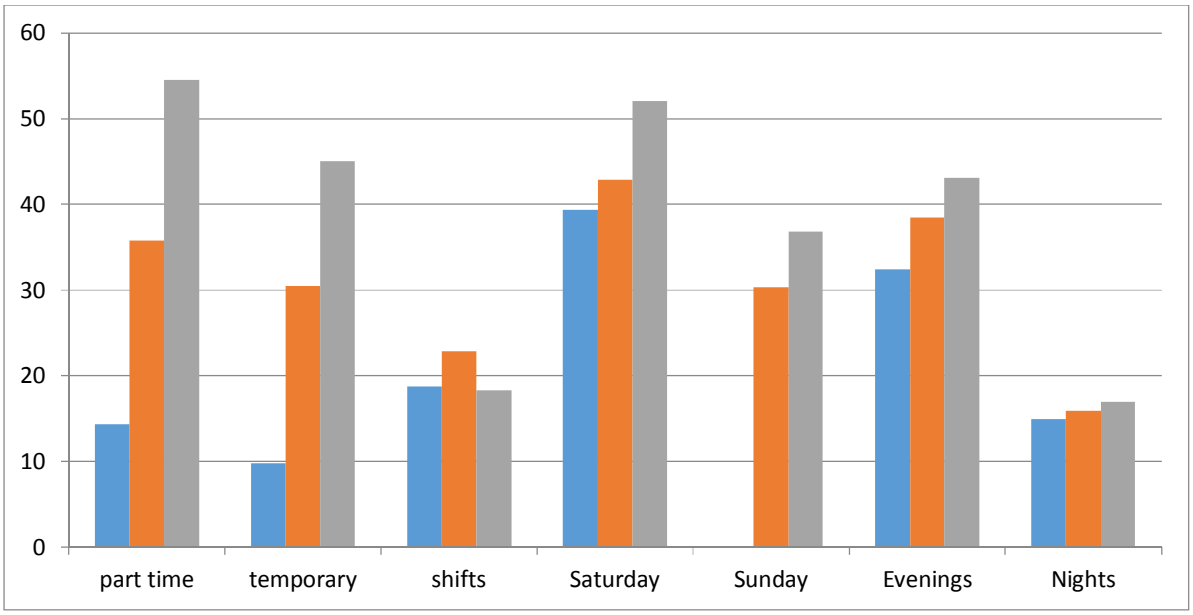
Note: Occupations are ranked per complexity 1=managers, 9=elementary occupations.

Source: Own calculations based on EU LFS 2011 dataset, excluding occupations in the armed forces.

Overall, while students of fields with a clear application are less likely to work in general skills fields such as retail, accommodation or food services, the skills developed in social sciences and humanities departments are in demand for sales and service-type jobs, which enables the students of these fields to avoid low-skilled work.

The aggregated data on student occupations support the strong connection between student work and part-time/casual labour (Curtis and Lucas 2001). Students, particularly young students, are much more likely to work part-time (55% vs. 14% for non-students), on temporary contracts (45% compared to 10% of non-student workers) and also to work during weekends and evenings (but this correlation is not clearly visible in shift and night work) (*Figure 10*).

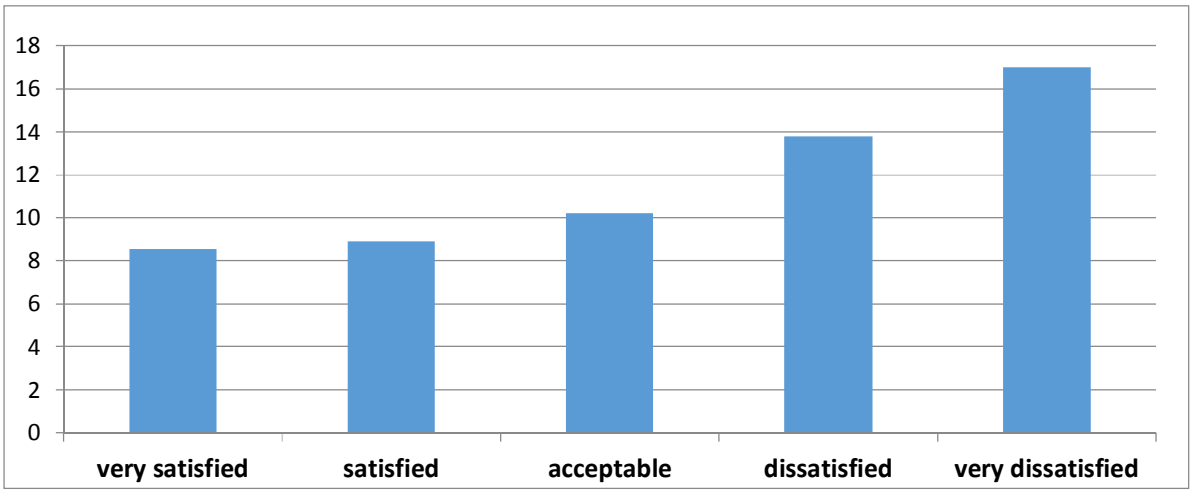
Figure 10. Share of workers in part-time, temporary and unusual contracts among students under 25 (grey), students in general (orange) and non-students (blue)



Source: Own calculations based on EU LFS 2011 dataset average of EU member states.

Across industries students working under these very flexible contracts display little desire to work more hours. Typically, only about 10% of students would like to work more hours than they already do. Indeed, EUROSTUDENT data show that students in the EU generally consider it acceptable to work about 10 hours per week and quickly become dissatisfied if they are asked to work more (Figure 11).

Figure 11. Satisfaction levels per average number of working hours, all university students



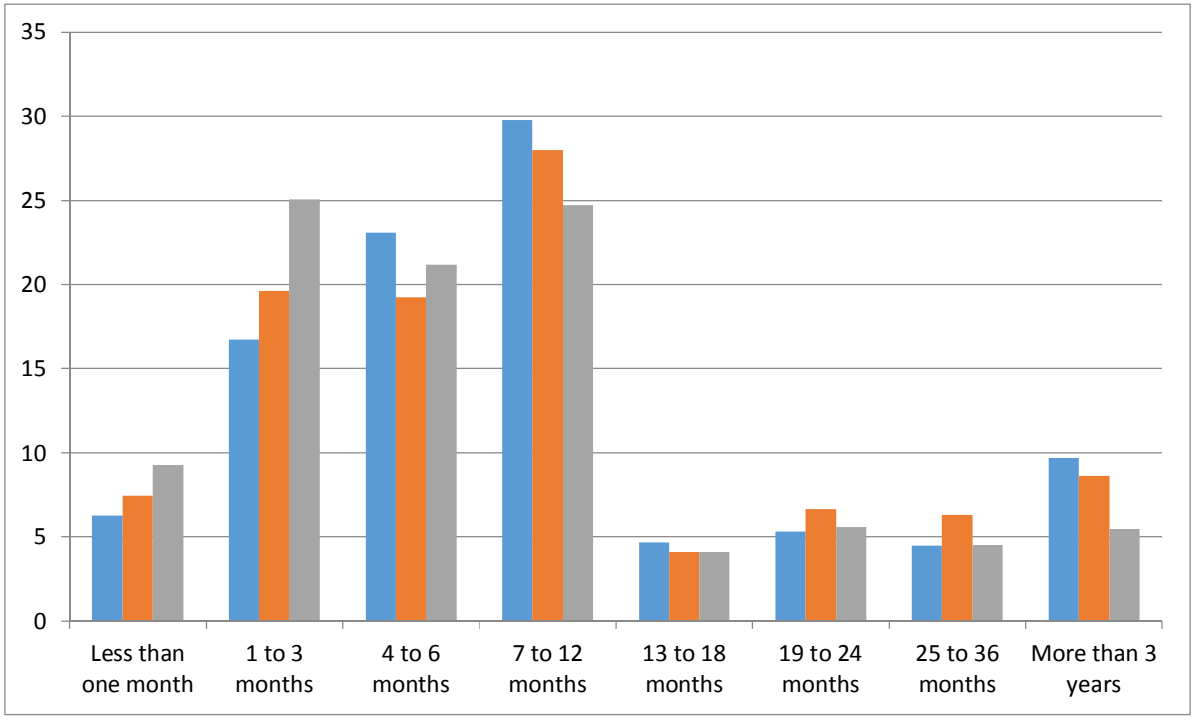
Source: Own calculations based on EUROSTUDENT data.

Furthermore, the LFS data show that only about 5-7% student workers in part-time jobs are looking to change jobs, suggesting that such arrangements are actually in line with students' preferences. Nonetheless, the share of part-timers differs radically across industries and skill

levels. Part-time work is very common in elementary occupations and sales and service jobs in the wholesale and retail accommodation and food service sectors, while in professional and technical positions, particularly IT or professional occupations, the share of part-time workers among students is around 30%.

Not only are the students more often employed on temporary assignments than non-students, but students under 25 years of age more commonly work with very flexible contracts of less than 3 months (Figure 12).

Figure 12. Share of contracts divided by length among working students under 25 (grey), students in general (red) and non-students (blue)



Source: Own calculations based on 2011 EU-LFS data, average of EU member states.

Over time, the average ISCO level of student jobs has remained largely the same in Europe. But in countries like Luxembourg, where the average ISCO of student jobs in 2004 was very high, there was some decline. Meanwhile, in countries like Denmark, where students were more likely to hold less complex jobs, the mean ISCO level has actually grown, suggesting that student jobs tend to appear in the middle of the ISCO hierarchy (Table 12). Meanwhile, student jobs do not appear to become more diverse; the standard deviation being quite stable at 1.9.

Table 12. Arithmetical mean value of the ISCO classification skill of under 25 student job-holders, per country

	2004	2005	2006	2007	2008	2009	2010	2011
AT	4.2	4.4	4.4	4.4	4.3	4.4	4.2	4.2
BE	4.0	4.6	4.5	4.5	4.3	4.3	4.5	4.5
BG	4.8	4.7	4.4	4.5	4.5	4.6	4.5	4.7
CY	4.1	3.7	3.9	4.3	4.7	4.4	4.2	4.7
CZ			3.9	3.7	3.8	4.0	4.2	4.0

DE	4.3	4.3	4.6	4.2	4.3	4.3	4.4	4.5
DK	5.0	4.9	4.8	4.9	4.8	4.9	4.8	4.7
EE	3.9	3.7	3.9	3.9	4.2	4.1	4.0	4.4
ES	4.6	4.6	4.5	4.5	4.4	4.4	4.7	4.5
FI	5.0	5.1	5.1	5.1	5.0	4.8	5.1	4.9
FR	4.0	4.1	4.2	4.3	4.2	4.2	4.2	4.4
GR	4.3	4.6	4.4	4.5	4.5	4.6	4.6	4.6
HU	3.6	3.7	3.7	4.3	3.9	3.7	3.9	4.2
IE	4.8	4.7	4.9	4.6	4.7	4.7	4.9	5.0
IT	4.5	4.4	4.4	4.4	4.5	4.5	4.5	4.4
LT	3.7	3.7	4.2	4.2	4.3	4.2	4.6	4.4
LU	3.0	3.0	3.3	2.0	3.0	3.6	3.6	4.4
LV	4.3	3.8	3.8	4.1	4.0	4.0	4.2	4.4
MT						3.2	3.6	3.8
NL	5.1	5.2	5.2	5.0	4.9	4.9	5.0	5.1
PL	4.7	4.7	4.8	4.7	4.6	4.6	4.5	4.6
PT	3.9	4.2	4.1	4.1	4.2	4.3	4.5	4.4
RO	4.2	4.5	4.6	4.7	4.4	4.4	4.4	4.4
SE	4.8	4.9	5.0	4.9	4.9	4.8	4.9	4.9
SI	4.9	5.0	5.1	5.2	5.1	5.1	5.2	5.3
SK	3.5	3.7	3.8	3.7	3.8	3.9	4.1	4.2
UK	4.9	4.9	4.9	4.9	4.8	4.9	4.9	4.9
EU 27	4.3	4.4	4.4	4.4	4.4	4.4	4.4	4.5

Source: Own calculations based on 2011 EU-LFS.

The structure of jobs that attract a large share of young student workers is most similar to the job structure of medium-educated workers in terms of ISCO skill classification of occupations. Students are far less present in the low- skilled jobs than are low-educated non-students (Figure 13).

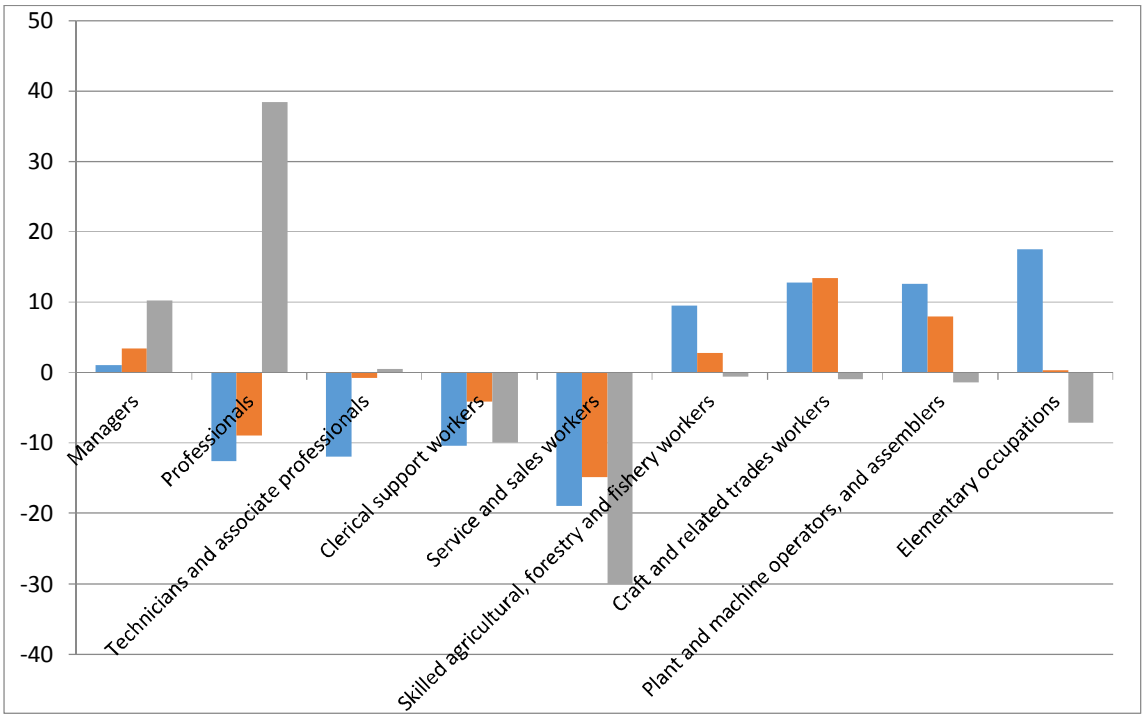
Students are particularly present in service and sales jobs (ISCO 5). The share of these jobs in the student worker population is higher by more than 15 percentage points than among secondary educated non-students. The difference is even greater when non-students with high and low educational attainment are considered. This is also the case for clerical and support workers (ISCO 4), although to a lesser degree.

More complex tasks are increasingly filled by highly educated workers. The technician and associate professional jobs (ISCO 3) have an equal share among highly educated non-student workers and student workers and the share of professional jobs (ISCO 2) is higher by nearly 40 percentage points among highly educated non-students than among student workers.

Jobs on the low side of the skill hierarchy are not particularly significant for student employment. In skilled agricultural, craft and trade and plant and machine operator jobs, (ISCO 6-8) the share of student workers is about as low as the share of highly educated workers. The share of low-skilled elementary occupations (ISCO 9) is higher by 7 percentage points for students than for highly educated non-students; however these positions are as important for the medium-educated non-students and more important for the poorly educated non-students than for students.

Meanwhile, older students typically hold similar positions to highly educated non-students. This suggests that the main pressure caused by the increased number of student workers lies not in low-skill jobs, but rather in the medium-skill occupations, particularly service and sales positions.

Figure 13. Percentage difference between the share of ISCO aggregated occupation groups (excluding armed forces) in the low (blue), medium (red) and highly (grey) educated non-student workforce and in the EU27 student workforce



Note: Positive values mean the ISCO category employs higher share of all workers in the particular education group, while negative values mean that the share of student workers employed in this category is higher than share of non-student workers with the associated educational attainment.

Source: Own calculations based on LFS data, average of EU member states.

Meanwhile, sector-wise there is a strong correlation between the distribution of the workforce among sectors between all students (but not just students under the age of 25) and non-students with high educational attainment. Younger students tend to work in similar sectors to the secondary educated workers, however the correlation is not significant (Table 13). The correlations between sectors where low-educated workers and students find employment is very low and not statistically significant. This underlines the notion that the barrier between student and (professional) worker is becoming rather thin, particularly among older students.

Table 13. Correlation coefficients between share of workers in sectors among student and non-students of low, medium and high educational attainment

	Low	Medium	High
Students	.174	.352	.830*
Students <25	.213	.405	.281

Source: Own calculations based on 2011 EU LFS data, averages of EU member states. *-significant at 0.01

Based on the findings above, it is clear that it is mainly middle-educated workers and workers in wholesale, retail, accommodation and food service sectors that are the ones who typically work alongside students. Nevertheless, there is no sign of student workers pushing the middle-educated non-students out of these sectors or towards low-skilled jobs. There is no evidence of the number of students influencing the presence of medium-educated workers in either wholesale and retail or accommodation and food sectors. Furthermore, there is actually a positive correlation between the share of medium-skilled jobs in services and sales and the number of students and negative for the elementary occupations. Neither of these correlations is significant, however. The situation remains the same if the analysis is limited to under 25 middle-educated non-student workers (Table 14).

Table 14. Correlation coefficients between the number of working students and shares of selected sectors and ISCO skill levels in the medium-educated non-student labour force

	All medium educated non-students	Medium educated non-students <25
Service and sales	0.253	0.3257
Elementary occupations	-0.3337	-0.0123
Wholesale and retail	-0.3116	0.0796
Accommodation and food	-0.021	-0.0622

Source: Own calculations based on 2011 EU LFS data, averages of EU member states.

Another possible effect could be that student workers are actually crowding out workers with low education to low-skilled work and out of certain sectors, such as retail, accommodation and food services. Nonetheless, the correlations are positive and significant for both industries and for the share of service and sales jobs, and slightly negative and non-significant for elementary occupations (Table 15).

Table 15. Correlation coefficients between the number of working students and shares of selected sectors and ISCO skill levels in the low educated non-student labour force

	All low educated non-students	Low educated non-students <25
Service and sales	0.5632*	0.2549**
Elementary occupations	-0.321	-0.09
Wholesale and retail	0.5825**	0.6024***
Accommodation and food	0.4133*	0.4114**

Source: Own calculations based on 2011 EU LFS data, averages of EU member states. Significance * <0.05, ** <0.01, *** <0.001

Finally, a look at employment rates in Europe (Table 16) shows that many countries indeed suffer from very low employment rates among low-educated people, particularly younger ones, and that eastern European countries commonly suffer from lower employment rates of medium-educated workers than in western Europe. However, there is no negative correlation (and indeed very strong and highly significant positive correlations) between the labour activity of students and non-students. The Scandinavian countries and Austria do a very good job at creating an inclusive labour market that includes a decent share of working students.

Meanwhile, particularly in east European countries, the low employment rate goes hand-in-hand with the low share of working students on the labour market.

Table 16. Share of students on the labour market and employment rate of low and medium skilled non-students

	Share of student workers	Low	Low<25	Medium	Medium<25
AT	4.2	49.8	39.8	80.8	78.1
BE	1.5	38.1	12.4	60.7	72.3
BG	1.3	28.5	4.4	51.0	67.3
CY	2.3	49.6	11.6	37.9	70.4
CZ	1.9	20.8	3.6	66.8	72.6
DE	2.6	52.5	45.6	81.6	77.8
DK	5.4	56.3	50.3	72.4	80.3
EE	3.9	26.6	10.8	50.8	70.7
ES	3.3	46.1	19.1	41.9	66.9
FI	5.3	38.0	19.3	57.9	74.4
FR	1.5	43.8	13.0	57.1	71.3
GR	1.2	46.5	10.3	38.8	60.3
HU	1.3	24.1	5.2	49.4	63.0
IE	3.2	35.2	7.3	49.4	63.7
IT	1.5	41.8	10.3	47.9	69.8
LT	2.4	11.9	3.1	42.6	65.2
LU	2.0	43.5	10.8	76.1	70.5
LV	0.9	28.0	9.0	47.6	64.7
MT	4.0	46.2	36.6	72.0	78.2
NL	4.9	62.9	57.9	83.3	81.7
PL	3.1	22.4	6.1	48.7	61.1
PT	3.3	56.8	20.4	59.3	76.0
RO	0.8	39.5	13.4	43.4	64.6
SE	4.1	53.0	22.6	69.9	81.5
SI	4.3	34.7	13.6	60.5	68.2
SK	1.7	15.2	2.3	59.2	67.2
UK	3.9	52.7	32.7	54.9	72.4
EU 27	2.8	39.4	18.2	57.8	70.7

Source: Own calculations based on 2011 EU LFS data.

4. Conclusion

As the massification of tertiary education progresses, the share of tertiary students in the workforce continues to rise. Even at the time of the Great Recession, which resulted in a massive destruction of jobs that affected young people in particular, the student employment rate does not appear to have been hit particularly hard.

A likely reason is that students are extremely flexible in terms of ability (and often even preference) to do part-time jobs on temporary contracts and are available at times when non-student labour availability is limited, such as weekends or evenings. Another reason is that

students tend to be concentrated in the growing service sectors rather than sectors such as manufacturing or agriculture, which are in decline in Europe.

It would be a mistake to associate student workers exclusively with young people, however. In many EU member states, it is common that individuals participate in tertiary education well into their 30s. Students over the age of 25 are often workers rather than students. They work in healthcare, education, professional, technical, and research fields, often on a professional level. This makes this group similar to the tertiary-educated non-students, with whom they commonly share workplaces.

Younger students tend to predominate in fields such as accommodation and food services, and wholesale and retail in which there is a relatively low barrier to entry and a high demand for general skills and flexibility. Even the younger students do not typically work in the so-called 'low-skill' jobs, however, but rather in the medium-skill positions, such as services and sales.

As far as the gender aspect is concerned, the majority of college and university students in Europe are now women. Female students are also more likely to work in the service sectors and less likely to do low-skilled work than their male counterparts. Nonetheless, the rare management positions available for students and jobs in the IT sector are predominantly filled by male students.

As for the study field, the individual specialisations clearly differ in terms of the extent of student work and the average time students spend working. The study field also tends to influence the sector of work, in particular for older students. Nonetheless, there is quite some degree of variance between the fields, both in terms of working time and the nature of the work.

Given their position on the labour market, student workers tend to be present in the occupations typically held by workers with secondary (mainly younger students) to tertiary (predominantly older students) workers. The low-skill jobs which employ low-educated workers do not seem to employ particularly high numbers of students.

No crowding out effect between the presence of students and opportunities available for medium- and low-skilled workers has been identified. In spite of the significant presence of student workers in sales and service jobs in sectors such as retail, accommodation and food services, there is no evidence that medium-educated workers, who dominate the non-student workforce in this segment of the labour market are being pushed out to low-skill jobs. Meanwhile, the low-educated workers, who typically work in low-skill positions, encounter very limited competition from student workers and there is no significant negative effect either.

Overall, even enrolling in higher education has an important labour market consequence as it helps escape low-skill, precarious job positions. European policies to improve access to higher education are, therefore, reasonable. The suspected negative impact of student work on low educated workers has not been confirmed.

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APPENDIX

Table a.1. Number of students in the EU 27 (in thousands)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
AT	265	224	230	239	244	253	261	285	308	350	362
BE	359	367	375	386	390	394	394	402	425	445	462
BG	247	228	231	229	238	244	259	265	274	287	285
CY	12	14	18	21	20	21	22	26	31	32	32
CZ	260	285	287	319	336	337	363	393	417	437	446
DE	2084	2160	2242	2331	2269	2290	2279	2245	2439	2556	2763
DK	191	195	202	217	232	229	232	231	235	241	259
EE	58	61	64	66	68	68	69	68	68	69	69
GR	478	529	562	597	646.6 d	653	603	638	:	642	661
ES	1834	1833	1841	1840	1809	1789	1778	1781	1801	1879	1951
EU 27	16517	17139	17762	18233	18530	18783	18884	19037	19470	19841	20129
FI	280	284	292	300	306	309	309	310	297	304	308
FR	2032	2029	2119	2160	2187	2201	2180	2165	2173	2245	2259
HU	331	354	391	422	436	439	432	414	398	389	382
IE	167	176	182	188	187	186	190	179	183	194	196
IT	1812	1854	1913	1987	2015	2029	2034	2014	2012	1980	1968
LT	136	149	168	183	195	199	200	205	211	201	187
LU	3	3	3	:	:	3	:	:	:	:	5
LV	103	111	119	128	131	131	130	128	125	113	104
MT	7	7	9	8	9	9	10	10	10	11	12
NL	504	517	527	543	565	580	590	602	619	651	780
PL	1775	1906	1983	2044	2118	2146	2147	2166	2150	2149	2080
PT	388	397	401	395	381	367	367	377	373	384	396
RO	533	582	644	686	739	835	928	1057	1098	1000	872
SE	358	383	415	430	427	423	414	407	423	455	464
SI	92	99	102	104	112	115	116	115	114	115	107
SK	144	152	158	165	181	198	218	230	235	235	226
UK	2067	2241	2288	2247	2288	2336	2363	2330	2415	2479	2492

Source: Eurostat

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