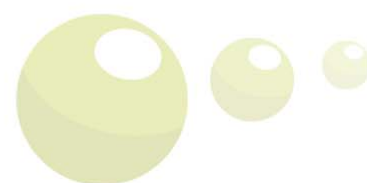




The transformation of work?

D9.2.3 - Work flexibility in Europe: a sectoral and occupational description of trends in work hours, part-time work, temporary work, and self-employment

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The transformation of work? A quantitative evaluation of the shape of employment in Europe

An introduction to the research reports from the quantitative research of WORKS

1. Introduction

The core focus of WORKS is on changes in work caused by global restructuring. These changes concern first of all shifts in employment, job growth and job decline related to the global restructuring of value chains. This restructuring implies that economic activities can be relocated from one location to another or that they can be hived off by one company to be performed by another. A major research question of the WORKS project is therefore to what extent such sectoral and geographical shifts in employment are indeed taking place in the EU.

Second, there are changes in the nature of the work, which globalisation might cause. These are not easily predictable. On the one hand, it is expected that increased competitive pressures will lead to greater technical and commercial innovation, which will in turn require a more flexible, skilled and motivated workforce. On the other, flexibility might become a tool used by employers to extract more value from their workforces. Thus, flexibility is a double-edged concept. Occupations and industries that form part of the 'knowledge society' are expected to be especially subject to these sorts of contradictory pressures, because of the huge new investments they require, because they are particularly competitive sectors, but also because knowledge can itself be used as a tool either to improve or more closely control the nature of the work people do.

The research produced in the frame of the quantitative work of WORKS, which addresses these issues through the analysis of a number of European micro-level datasets, appears in four separate reports, each produced by one research institute and each based on one dataset. In this introduction to these reports we establish the context for these through a discussion of some of the literature and then review the main findings of the reports to see what light they throw on the central issues.

There is a very substantial literature on changing work conditions and changing employment patterns. Overall it would appear that there is little evidence for a general and consistent trend on shifts in employment and on change in the nature of work, in particular of a negative nature. Further, there is no clear-cut national convergence in respect of change on a number of dimensions, nor a consistent means of grouping *types* of countries in a way which is consistent over time and across different dimensions. Rather, we mostly observe a high level of national specificity.

We test these conclusions from the quantitative literature through the linked empirical chapters, which provide new research based directly or indirectly on the key concepts. The datasets used for the research are:

1. the *EU Labour Force Survey*: this is used first to provide basic facts on sectoral and geographical shifts in employment throughout Europe and second to investigate various aspects of work flexibility, in particular to examine trends in these;
2. the *European Working Conditions Survey*: analysis of national variation in work complexity, independence in time allocation, work intensity and quality of working conditions. The analysis is cross-sectional but looks at more than one point in time;
3. the *European Household Community Panel*: as this contains panel data, it is used to look at aspects of individual-level change. The analysis focuses primarily on job skills and on occupational switching over the career.

The main results of each report can be summarised as follows.

2. Tracing employment in business functions (HIVA-K.U.Leuven)

1. The aim of this part of the analysis on the EU Labour Force Survey is to measure the effects of global value chain restructuring on employment in the European Union. In line with the qualitative research of the WORKS project, the business function is used as the main unit of analysis. A business function is defined as a unit of activity that can be categorised within a value chain: a cluster of technologically and economically distinct activities which are usually performed together. Business functions refer to both core and support activities in value chains.
2. The main conclusion that can be drawn from the analysis is that several business functions are increasingly performed within specialised service sectors. Evidence has been found of a shift of specific business functions from sectors in which they are 'peripheral' to the production process, towards sectors in which they constitute the core activity. The most obvious example of this trend has been found in IT services and logistics, but this shift can be observed also in marketing and sales, and legal and financial services.
3. In the sectors and occupations under study no evidence is found of a major shift of business activities from the old to the new member states. However, this is partly due to the limitations of the data which do not permit the tracing of a sector or country to which a business service is supplied.
4. In several sectors the core occupations were traced and the employment evolutions in these activities estimated. A growing share of employment in core activities within a sector indicates the increasing importance of these activities in the sectors, a decreasing share a growing relative importance of secondary activities. A growth in the importance of core activities is found in several sectors, for example, in the IT sector in both the old and the new member states. Evidence of a decreasing share of core activities has been found in Textile and clothing. Figures show that the huge employment decline in this sector goes together with a considerable reduction of the share of core production workers within the sector. This means that for Textile and clothing companies located in Europe, the importance of previously supporting activities has

increased in terms of employment. Most prominent in this respect is the growth of R&D related employment.

3. New forms of work organisation and time use (IRES)

1. There has been a substantial increase in temporary employment in the EU-15 over the period analysed (1997-2005). As a proportion of overall employment growth, this is especially large in Germany, Portugal and some other countries, while it has declined in Denmark and the UK.
2. In the EU-15 countries, part-time work as a percentage of total employment increased slightly from 1995 to 2005, from 16 *per cent* to 20 *per cent*, but cross-country variation is far greater than variation over time, with part-time work forming 5 *per cent* in Greece and 46 *per cent* in the Netherlands at the end of this decade.
3. The percentage of female part-time work in total employment was also fairly stable over this period on average. Though it increased considerably in some countries, for instance Austria and Belgium, in others it was stable, or in the case of Sweden, fell. In the new member states, part-time work as a percentage of total employment on average fell slightly between 1997 and 2005.
4. From 1995 to 2005 there was a roughly 50 *per cent* increase in the proportion of employees on shift-work in the EU-15. This fell in Belgium, and slightly in some other countries, but rose markedly in several others, notably Greece, Ireland and Portugal. However, countries do not vary much by the probability that workers have a fixed working schedule.
5. Self-employment is a potential indicator of insecure employment, as it might force people to find their own work. On the other hand, it can be an indicator of increasing entrepreneurship (which is one of the Lisbon goals). Although it is also possible that poor markets force people out of self-employment, here the focus is insecurity derived from changing work conditions rather than from economic downturns. However, from 1996 to 2004 self-employment as a percentage of all work was stable in the EU-15. The biggest changes occurred in countries with generally high levels, such as Greece and Spain, where it fell, but it remained stable in other countries where self-employment is high, such as Italy and Portugal. Self-employment declined as a proportion of total work over the same period, from 28 *per cent* to 24 *per cent*.

4. Trends in working conditions in the EU (CEE)

1. Mapping of the national distribution of a number of indicators (work complexity, independence in time allocation, work intensity and quality of working conditions) shows little consistency suggesting that national groupings are difficult to discern. However, two Scandinavian countries (Denmark and Sweden) and the Netherlands provide a specific pattern in terms of working environment. In these countries jobs are complex, provide learning opportunities and the quality of working conditions is

high. In contrast, some Mediterranean countries (Greece, Portugal and Spain) are characterised by low quality of working conditions and weak job complexity (routine jobs).

2. The distribution of some work features shows that there are considerable differences in work organisation between the EU-15 and the twelve candidate and acceding countries. In general, jobs in the latter countries are less complex, less intense and the quality of working conditions is lower.
3. On average in EU-15, there was a significant decrease in complexity of work between 1995 and 2000. This means that in 2000, European workers have less possibility of choosing or changing their order of tasks and methods of work; their jobs involve a lower degree of solving unforeseen problems, complex tasks or learning opportunities. Simply speaking, jobs have become more routine on average in the EU-15 during the five year period between 1995 and 2000.
4. At the same time, work in the EU-15 has become more intense. This intensification is mainly market-driven: the pace of work is more and more dependent on the direct demands of customers and clients. In contrast, technical constraints, those linked to automatic speed of a machine or numerical production targets, haven't changed significantly. The percentage of European workers whose job involves working at very high speed and to tight deadlines has slightly increased (from 56 *per cent* to 58 *per cent* and from 54 *per cent* to 57 *per cent* respectively).
5. There is no evidence of any improvement or deterioration of quality of working conditions in the EU-15 during the analysed period.
6. The determinants of work experience depend relatively little on national institutional differences but seem rather to derive from individual-level characteristics, many of which can be taken to be typical or certain types of job.

5. A study of skills and occupational switches (ISER)

1. The analysis in the report utilises household panel data in order to measure change in people's working circumstances over their career. It makes use of the European Community Household Panel, the British Household Panel Study, and the German Socio-Economic Panel.
2. The focus of the research is the widespread argument that the nature of work is changing, in particular becoming less stable, and more intense. The research adds to the more common analysis of trends in aspects of work such as unsocial working hours, job intensification, and reduced job tenure, analysis using a measure of relative skills (overqualification) and career flexibility, but also includes measures of job satisfaction. The aim is to see whether overqualification and rapid career moves are a significant part of the occupational scene in Europe, and to see whether career changes are associated with change in job satisfaction.

3. The results show no decrease in job satisfaction at the aggregate level over time in any country, with the possible exception of Italy. Factors which explain dissatisfaction with work, in virtually all countries, especially include the nature of employment contracts. People with fixed-term contracts or in casual work are especially likely to be dissatisfied with their work, but this improves if they move to other jobs. A high proportion of workers in Europe feel overqualified for the work they do. This is especially high amongst people with fixed-term contracts or in casual work.
4. There is a very high degree of occupational change in Europe in the aggregate and, on average, over people's careers. This varies enormously by country, being especially high in Belgium, especially low in France. Most of this movement is sideways or upwards but some is also downwards. The factors associated with such occupational moves, whether sideways or up or down, again in particular include being in fixed-term contract or in casual work.
5. IT workers were isolated in the final analysis because IT work is deemed by some to be the epitome of highly flexible work. This was not found to be the case in either Germany or Britain - the two countries for which this could be tested - relative to some other professions. Further, while it is possible (in Britain) to enter IT with lower than average skills for the job, suggesting some downgrading of the work these people do, this did not apply to IT workers more than to workers in some other professions.

6. Conclusions

On the basis of these analyses we can conclude that there have been some consistent changes in work caused by global restructuring. On various measures we can detect a significant change in the nature of employment in Europe over the periods of time studied. These are not very substantial but probably larger than we would expect from some of the literature. Some of these effects can be interpreted as having negative consequences for the welfare of workers.

The report on employment changes in the European Union finds that restructuring of value chains causes important sectoral and occupational shifts. Several business functions are increasingly performed within specialised service sectors. Evidence has been found of a shift of specific business functions from sectors in which they are 'peripheral' to the production process, towards sectors in which they constitute the core activity. On the other hand, in the sectors and occupations under study, no evidence has been found of a major shift of business activities from the old to the new member states. Hence, the hypothesis that the latter are becoming a 'back-office' for companies in the old member states, could not be confirmed in the frame of this research. Finally, evidence has been found of a strengthening of core businesses in several sectors, while in others there has been a shift from core to secondary activities.

While there is little evidence from the published evidence so far available of a trend within Europe towards increased job flexibility, especially of the sort that might be predicted on the assumption of a negative effect of globalisation, we do find some evidence, if not very powerful, of such effects. The report on trends in European employment finds

an increase in temporary work, shift work and part-time work in most countries. The report on European working conditions, which in common with the above also looks at aggregate trends, finds some deterioration on some indicators. The report on individual-level change using panel data finds that both dissatisfaction with work and skill mismatches are widespread, and while tending to be overcome through career switches, thereby contribute to the overall prevalence of work flexibility. People need to move in order to improve their working lives, which are under pressure.

However, even if economic and technological change is influencing the welfare of individuals, it is difficult to discern an overall trend which can be described as overwhelmingly negative. There are negative effects to change, but also signs that as long as economies continue to grow, these are to some extent and partially been compensated. Some of the indicators we have described do not necessarily entail a loss of welfare.

If the reports find evidence of increasingly flexible and uncertain work across a range of countries and dimensions, they cannot point to a single model of change or of adaptation. There seems to be no convincingly useful means of grouping countries, so that we cannot argue for national *types* of response. Rather, there are some national similarities but these are not consistent across all dimensions of change. There is no single European experience but also, even though overlaps certainly exist, no clear-cut set of experiences.

Only greater investment in adequate European-wide data with comprehensive coverage of all aspects of employment and employment conditions can fully answer some of the critical questions with which this set of reports has been concerned.

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Executive summary

The aim of the present paper is to show the basic sectoral and occupational evidences from the European Labour Force Survey relevant for WORKS project purposes, i.e. to assess the impact of organisational changes, and of the shifts in the international division of labour, on the working and living conditions of the European populations with a sectoral and occupational approach.¹

This paper has been divided in two chapters: Chapter 1 is devoted to analyse time use in general, and working time in particular in the WORKS sectoral and occupational framework; Chapter 2 is devoted to analyse the new forms of work organisation in the same sectoral and occupational framework.

Working time arrangements involves several aspects of working and life activity: length, schedule and organisation of working activities - including shift, night, Saturday and Sunday work - and also the balance between work and life activities - including child and personal care and free time. From a micro perspective, working time schedules often depend on the type of goods or services a firm produces or on the characteristics of the occupation of the worker. From a macro perspective institutional settings and social organisation play an important role in determining both legal and actual working hours.

Working time flexibility can be regarded as one of the dimensions of job flexibility. In fact, flexible working hours allows firms to cope with erratic demand patterns (a very likely outcome of outsourcing), from the daily to a yearly perspective (e.g. seasonality). Atypical working arrangements workers may in turn allow workers to better balance work and life needs.

The evidence suggests that average working time in Europe is slowly declining since the early '90s. Looking at very recent years, this trend seems to persist. In fact in EU-15, average usual weekly working hours fell from 37.6 to 37.3, while in NMS, weekly work hours declined from 41.1 to 40.9. The reduction in average working time is the result of many circumstances. A major role has been played by the growth of part-time contracts - especially in EU-15 countries -, but the decline can also be explained by the fact that the proportion of long working hours workers has decreased in most of EU-15 countries and NMS.² Together with a shortening of work hours, an increase in flexible or irregular work schedule has to be remarked: in 1999, 65 per cent of European workers had a fixed work schedule, in 2005 this percentage fell to around 50 per cent.

As already noted, part-time remarkably developed in EU-15 countries. Between 1995 and 2005, the number of part-time workers increased from 23.8 millions to 33.8 millions, and

¹ For a detailed discussion, see 'Tracing employment in business functions. A sectoral and occupational approach', by Karen Geurts, Laura Coppin & Monique Ramioul

² European Foundation for the Improvement of Living and Working Conditions (2007), *Fourth European Working Conditions Survey*, Luxembourg: Office for Official Publications of the European Communities.

the relative percentage on total employment grew from 16 to 20.2 *per cent*. It is of note that more than the half of the 18.6 millions of new jobs created in Europe in the same time span were part-time jobs. As a consequence the percent growth of part-time work employment 41.9 *per cent* vs. 5.4 *per cent* of full-time employment. If we limit our attention to 2000-2005 period, a comparison between EU-15 and NMS can be carried out. In spite of a less favourable business cycle, in the older member states employment continued to grow, and especially part-time jobs, which increased by 19.2 *per cent* (more than 5.4 millions of new jobs). In NMS overall employment slightly decreased (-3 thousands workers). Yet full-time employment grew (+618 thousands), while part-time employment remained unchanged.

In Chapter 2 new forms of work organisation has been studied. Eurostat provided WORKS-project researcher with an extended dataset, which allowed to carry out deep analysis of the evolution of employment in Europe according to professional status and temporary employment crossed with ISCO 3 digit classification and NACE 2 digit classification.

Temporary employment can be regarded as a powerful tool in enhancing system efficiency. Broadly speaking, firms use temporary workers to face demand shocks, whether they are scheduled (e.g. as a result of seasonality) or unexpected, thus adapting workforce to productive needs almost in real time (numerical flexibility). From the point of view of the workers, temporary work can be regarded as an entry contract into the labour market, which provides youngsters with the necessary skills to transit into permanent job. In the aggregate, both sides may gain if flexible work practices encourage economic growth (the 'flexicurity' concept), but there is a risk of a "temporary employment trap" exists for disadvantaged people.

However, the international comparison of statistics on temporary work presents some difficulties. Therefore, some preliminary remarks are necessary. For instance, as employment protection legislation is very different in different countries, firing costs are also variable, thus influencing firms' hiring choices. Where firing cost are low or non-existent the distinction between temporary and permanent job is less significant as there might be few real differences between the two kind of contracts. Further, in some countries, forms of self-employment strongly resemble or are used as temporary work, thus generating further complexity in international comparisons.

IN EU-15 a remarkable increment in *temporary employment* has been registered in the last decade. Between 1997 and 2005 the number of temporary workers raised from 15,221 thousands to 20,091 thousands corresponding to a crude growth rate of 32.1 *per cent*. In the same period, overall employment grew by 11.4 *per cent* and the number employees increased by 12.8 *per cent*.

Self-employment *per se* cannot be deemed a "new form of work organisation", especially in sectors where the self-employment is traditionally high (e.g. retail trade). Still, the variation of self-employment relative share can reveal important trend in restructuring of sectors, regarding both the disposal of the smaller firms or the outsourcing of previously internalised activities.

Analysing recent trends in EU-15 Member States a slight decrease of *self-employment* incidence on total employment can be observed (from 15.0 *per cent* in 1995 to 14.7 *per cent* in 2005). The most impressive changes occurred in Spain (-4.9 points between 1995 and 2005), Ireland (-4.4 points) and Greece (-3.7 *per cent*). Broadly speaking, self-employment

proportion on total employment remains very high in Mediterranean area – i.e. Greece (30.0 *per cent* in 2005), Italy (24.9 *per cent*) and Portugal (24.1 *per cent*), while hover around 10 *per cent* in the rest of EU-15 countries. Among the determinants of this gap one must necessary include the average firms size in the economy. In fact, where small and medium size firms prevails, self employment is fostered also by an high number of employers.

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1 Time use

1.1 Introduction

Working time in Europe is regulated according to 1993 Directive (93/104/EC) amended by a successive Directive in 2000. Key features of European working time regulation are the limiting of the maximum length of a working week to 48 hours in 7 days, and a minimum rest period of 11 hours in each 24 hours. Working time arrangements involves several aspects of working and life activity: length, schedule and organisation of working activities - including shift, night, Saturday and Sunday work -, balancing between work and life activities - including child and personal care, free time, etc. . At the same time, working time flexibility can be regarded as one of the different dimensions of job flexibility. On one side, scheduling working hours allows firms to cope with erratic demand patterns, from the daily to an yearly perspective (e.g. seasonality); on the other, workers may better balance work and life needs. From a micro perspective working time schedules usually depend on the type goods and services a firm produce or on the characteristics of the occupation of worker. From a macro perspective institutional settings and social organisation play an important role in determining legal and usual working hours. In the following sections we will analyse working time both from a sectoral and an occupational perspective. A general framework will be provided, then our attention will focus on selected sectors and occupations of WORKS project.

1.2 Working time: a general overview

1.2.1 Work hours and part-time work in European countries

Average working time in Europe is slowly declining since the early '90s. Looking at very recent years, this trend seems to persist. In fact in EU-15, average usual weekly working hours fell from 37.6 to 37.3, while in NMS, weekly work hours declined from 41.1 to 40.9 - see Table 1.1 and Table 1.2. The reduction in average working time is the result of many circumstances. A major role has been played by the growth of part-time contracts - especially in EU-15 countries, but the decline can also be explained by the fact that the proportion of long working hours workers has decreased in most of EU-15 countries and NMS.³ Together with a shortening of work hours, an increase in flexible or irregular work sched-

³ European Foundation for the Improvement of Living and Working Conditions (2007), *Fourth European Working Conditions Survey*, Luxembourg: Office for Official Publications of the European Communities.

ule has to be remarked: in 1999, 65 per cent of European workers had a fixed work schedule, in 2005 this percentage fell to around 50 per cent (Figure 1.1).

Table 1.1 Average usual weekly working hours, EU-15 2001-2005

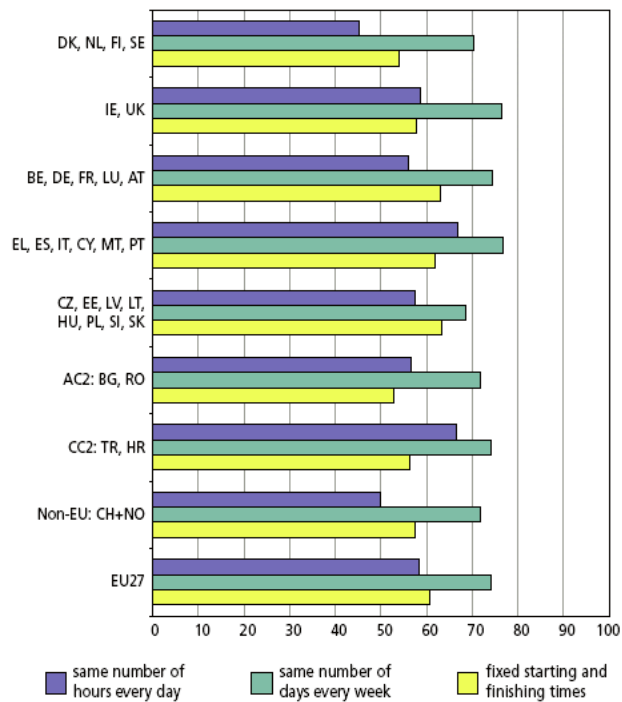
	2001	2002	2003	2004	2005
AT	38.3	37.9	37.9	39.9	39.3
BE	37.5	37.5	37.4	36.9	37.0
DE	36.7	36.5	35.9	36.0	35.7
DK	36.2	35.8	35.9	35.6	35.6
ES	40.1	39.9	39.7	39.6	39.4
FI	38.4	38.2	38.0	37.9	37.7
FR	36.8	36.3	37.9	37.9	38.0
GR	43.3	43.2	43.4	43.0	43.1
IE	37.7	37.5	37.0	36.9	36.8
IT	39.1	39.1	39.0	38.8	38.6
LU	38.2	38.0	38.1	37.7	37.5
NL	31.6	31.1	30.9	30.8	30.7
PT	39.5	39.5	39.1	39.3	39.2
SE	36.7	36.7	36.5	36.4	36.5
UK	37.7	37.4	37.2	37.0	37.0
EU-15	37.6	37.4	37.4	37.4	37.3

Source: Eurostat

Table 1.2 Average usual weekly working hours, NMS 2001-2005

	2001	2002	2003	2004	2005
CY	40.0	40.2	40.1	40.6	40.4
CZ	41.6	41.8	42.1	42.0	41.9
EE	40.5	40.2	39.9	40.1	39.7
HU	40.9	40.8	40.6	40.5	40.3
LT	38.3	37.8	37.9	38.1	38.4
LV	42.6	42.3	42.0	41.3	41.2
MT	39.1	39.7	39.9	39.8	39.4
PL	40.9	41.2	41.3	41.1	40.9
SI	41.8	41.5	41.1	40.6	40.7
SK	42.2	41.9	40.5	40.7	40.9
NMS	41.1	41.2	41.1	40.9	40.9
Bulgaria	41.1	41.1	40.8	41.3	41.1
Romania	40.3	41.3	41.4	40.9	40.8

Source: Eurostat

Figure 1.1 Regularity of work schedules, by country group (*per cent*)

Source: Eurofound, 2007

As already mentioned, part-time remarkably developed in EU-15 countries. Between 1995 and 2005, the number of part-time workers increased from 23.8 millions to 33.8 millions (see Table 1.3), and the relative percentage on total employment grew from 16 to 20.2 *per cent*. It is of note that more than the half of the 18.6 millions of new jobs created in Europe in the same time span were part-time jobs. As a consequence the perceptual growth of part-time work employment 41.9 *per cent* vs. 5.4 *per cent* of full-time employment. If we limit our attention to 2000-2005 period, a comparison between EU-15 and NMS can be carried out. In spite of a less favourable business cycle, in the older member states employment continued to grow, and especially part-time jobs, which increased by 19.2 *per cent* (more than 5.4 millions of new jobs). In NMS overall employment slightly decreased (-3 thousands workers). Yet full-time employment grew (+618 thousands), while part-time employment remained unchanged.⁴

⁴ Figures are inconsistent because of the fact that a third category of unclassified workers is taken into account in the calculation of total employment. This last category amounted to 623 thousands in 2000 and only to 1 thousand in 2005.

Table 1.3 Evolution of employment in EU-15 and NMS, 1995-2005

			EU-15	NMS
Part time employment	1995	N (.000)	23795	..
		% of total empl.	16.0	..
	2000	N (.000)	28324	2305
		% of total empl.	17.8	7.9
	2005	N (.000)	33766	2306
		% of total empl.	20.2	7.9
Employment growth 1995-2005*		Full time	5.4	..
		Part-time	41.9	..
		Total	12.5	..
Employment growth 2000-2005*		Full time	1.5	2.3
		Part-time	19.2	0.0
		Total	5.4	0.0

* Data on total employment growth include jobs that are classified nor in part-time or full time.

Source: Eurostat

Between 1995 and 2005, part-time grew almost everywhere in EU-15. Noticeable exception are represented by Denmark, Sweden and UK – where, however, part-time incidence is above EU-15 average – and by Greece, the country with the by far lowest percentage of part-time workers (Table 1.4). As broadly reckoned, women activity rate is one of the main determinants of part-time diffusion – and therefore of cross-country differences. As a consequences, the countries characterised by lower female activity rates – e.g. Southern Europe countries – show the lower part-time incidence in the labour market. The causal nexus between female participation and part-time diffusion may be obviously twofold: on one hand, as part-time is more spread among female workers, the more women participate in the labour market the higher the percentage of total part-time contracts; on the other hand, the more employers demand part-time job the higher the participation rate of women willing to work part-time. Looking at Table 1.5 one infers that both mechanism are at work: female part-time incidence is everywhere higher than average, nonetheless it remains well higher in Continental and Scandinavian countries. For what concerns working schedule, while in many Northern countries working time arrangements are generally more flexible, Mediterranean countries are characterised by an higher incidence of regular-schedule workers (Figure 1.1).

Table 1.4 Part-time workers as percentage of total employment, EU-15 countries 1995-2005

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
AT	13.9	14.9	14.9	15.8	16.8	17.0	17.2	19.0	18.6	20.2	21.0
BE	13.6	14.0	14.7	15.7	19.8	20.7	18.5	19.4	20.6	21.6	21.9
DE	16.3	16.5	17.5	18.3	19.0	19.4	20.3	20.8	21.7	22.3	24.1
DK	21.6	21.5	22.3	22.3	20.8	21.7	20.1	20.6	20.9	22.5	22.0
ES	7.4	7.9	8.2	7.9	8.2	8.1	8.1	8.1	8.3	8.9	12.8
FI	11.8	11.6	11.4	11.7	12.2	12.2	12.0	12.4	12.9	13.1	13.6
FR	15.6	16.0	16.8	17.2	17.3	16.9	16.4	16.2	16.7	16.6	17.4
GR	4.8	5.3	4.6	6.0	6.1	4.6	4.1	4.4	4.1	4.6	4.8
IE	12.1	11.6	12.3	16.7	16.8	16.8	16.6	16.6	17.0	16.9	-
IT	6.6	6.6	7.0	7.4	7.9	8.8	9.1	8.6	8.6	12.7	12.8
LU	7.9	7.7	8.2	9.5	10.7	11.3	11.3	11.7	13.4	16.4	17.4
NL	37.3	38.1	38.0	38.8	39.4	41.2	42.2	43.8	45.0	45.6	46.2
PT	7.5	8.7	9.9	11.2	11.1	10.8	11.3	11.4	11.8	11.2	11.5
SE	26.2	24.5	24.5	23.9	23.8	22.8	21.0	21.4	22.9	23.9	25.0
UK	24.1	24.6	24.9	24.9	25.2	25.3	25.2	25.5	26.0	26.2	25.7
EU-15	16.0	16.3	16.9	17.3	17.7	17.9	18.0	18.2	18.6	19.5	20.4

Source: Eurostat

Table 1.5 Female part-time workers as percentage of total female employment, in EU-15 countries 1995-2005

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
AT	26.9	28.8	29.0	30.3	32.5	33.0	33.6	35.9	35.4	38.6	38.9
BE	29.8	30.5	31.4	33.3	39.9	39.9	36.8	37.7	39.7	41.0	40.7
DE	33.8	33.6	35.1	36.4	37.2	37.9	39.3	39.5	40.8	41.6	44.3
DK	35.5	34.5	34.5	35.8	33.9	35.2	31.6	31.4	32.0	33.9	32.7
ES	16.5	17.0	17.4	17.1	17.6	17.1	17.3	17.1	17.4	18.3	24.9
FI	15.8	15.6	15.6	17.0	17.0	16.9	16.7	17.1	17.8	17.8	18.5
FR	28.9	29.4	30.9	31.5	31.6	31.0	30.4	29.7	29.9	30.0	30.9
GR	8.4	9.0	8.1	10.5	10.2	8.0	7.2	8.0	7.4	8.6	9.1
IE	23.1	22.1	23.2	30.3	30.7	30.9	31.3	30.7	31.3	31.9	-
IT	13.1	13.0	13.9	14.4	15.7	17.4	17.8	16.7	17.2	24.8	25.7
LU	20.3	18.4	20.2	22.5	24.6	26.0	25.6	26.4	30.7	36.3	38.2
NL	67.3	68.5	67.9	67.9	68.6	70.6	71.3	72.8	74.2	74.8	75.3
PT	11.6	13.0	15.0	17.3	16.8	16.5	16.7	16.5	17.3	16.1	16.6
SE	43.4	41.8	41.4	40.7	40.0	36.3	32.7	32.9	35.4	36.4	39.9
UK	44.3	44.8	44.9	44.8	44.3	44.4	44.3	43.9	44.2	44.2	43.1
EU-15	31.3	31.6	32.4	33.0	33.4	33.6	33.6	33.4	34.0	35.2	36.6

Source: Eurostat, CLFS

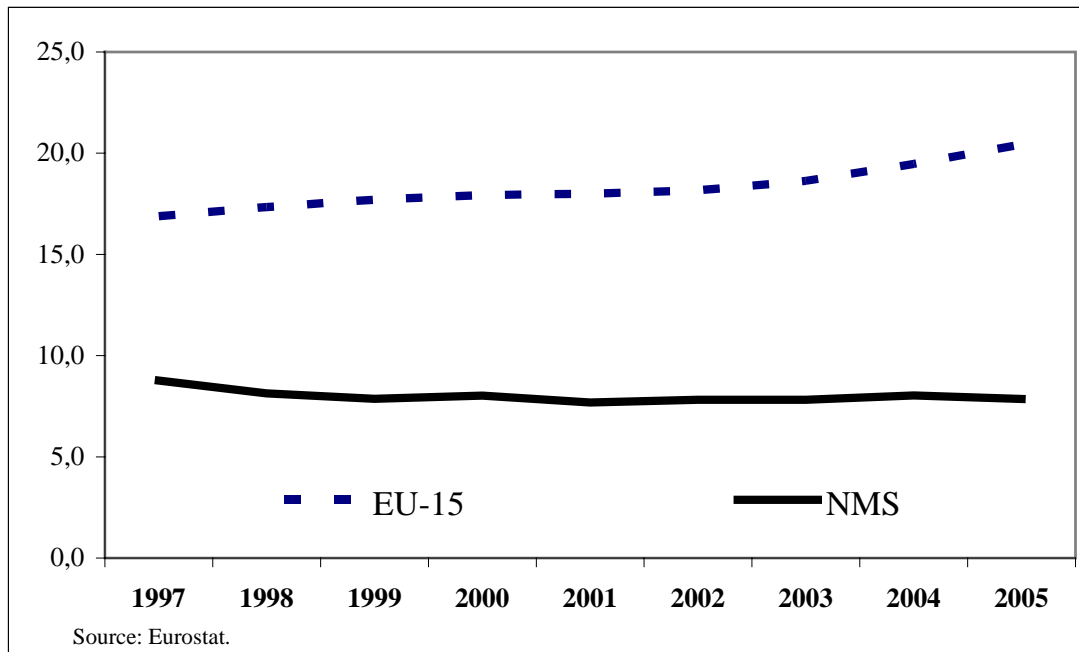
In NMS part-time incidence is generally lower than EU-15 countries. Part-time workers represents more than 10 *per cent* of total employment only in Romania – where part-time incidence fell from 15.2 *per cent* of 1997 to 10.7 *per cent* in 2005 – and in Poland (Table 1.6).

Table 1.6 Part-time workers as percentage of total employment, NMS countries 1997-2005

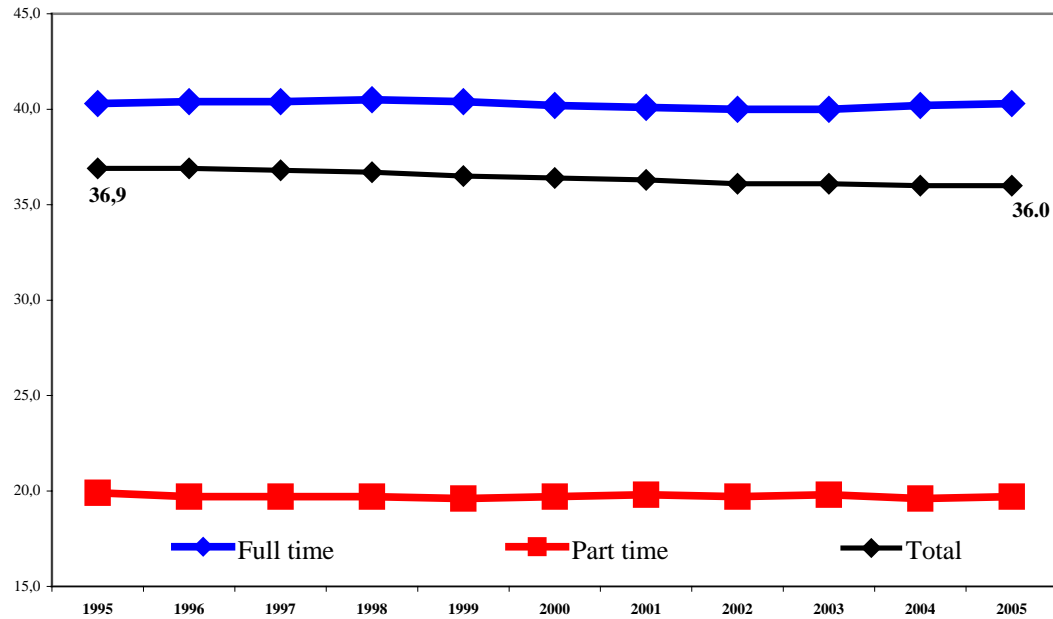
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
CY	-	-	-	-	6.5	8.4	8.4	7.2	8.9	8.7	8.9
CZ	-	-	6.1	5.9	5.7	5.4	5.0	4.8	5.0	5.0	4.8
EE	-	-	10.2	7.4	7.2	6.8	7.5	6.7	8.0	7.8	7.7
HU	-	3.2	3.7	3.8	3.9	3.6	3.5	3.6	4.4	4.6	4.4
LT	-	-	-	8.5	-	9.1	8.8	9.8	9.1	8.6	6.5
LV	-	-	-	12.5	12.0	11.1	10.0	9.3	10.0	10.5	9.6
MT	-	-	-	-	-	6.5	7.7	8.8	9.3	8.1	9.2
PL	-	-	10.7	10.4	10.2	10.6	10.2	10.7	10.3	10.5	10.6
SI	-	6.8	8.2	7.6	6.6	6.1	6.1	6.6	6.6	9.6	8.9
SK	-	-	-	2.3	2.1	1.9	2.4	1.9	2.4	2.7	2.4
NMS	-	3.9	8.8	8.1	7.9	8.0	7.7	7.8	7.8	8.0	7.9
<i>Bulgaria</i>	-	-	-	-	-	-	3.5	3.1	2.4	3.1	2.5
<i>Romania</i>	-	-	15.2	16.3	16.5	16.4	16.8	11.4	12.0	10.2	10.7

Source: Eurostat

Moreover, as in the last decade part-time continued to grow in EU-15 (+4.4 *per cent*) while in remained quite stable in NMS, the relative gap enlarged - Figure 1.2.

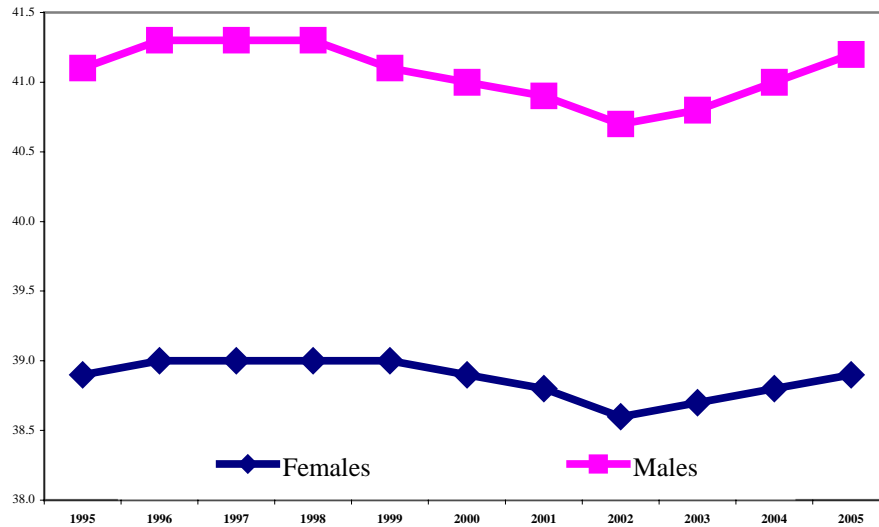
Figure 1.2 Part-time workers as percentage of total employment, EU-15 and NMS 1997-2005

Although average working hours EU-15 fell, working hours of both salaried full-time and part-time workers remained quite stable during this time span – around 40.3 for the former and 19.8 for the latter (Figure 1.3). Therefore the observed reduction in working hours has to be ascribed to a workforce composition effect. Besides, the observed variation among countries is by far narrowed, as part-time percentage is different across countries.

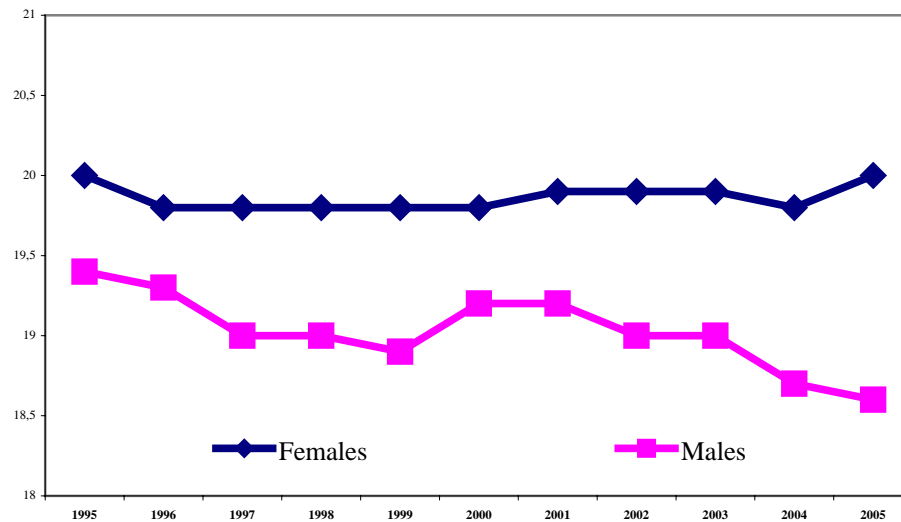
Figure 1.3 Average usual weekly working hours - salaried workers in EU-15

Source: Eurostat

Moreover, when analysing working hours trends according to sex it's possible to notice that while no gender differences emerges concerning full time workers - working hours declined until 2002 and then start to increase again (Figure 1.4); in the last decade working hours of male part-time workers sharply decreased from 19.4 in 1995 to 18.6 in 2005, while female part-time workers working hours average remained around 20.0 (Figure 1.4).

Figure 1.4 Average usual weekly working hours according to sex - salaried full time in EU-15

Source: Eurostat

Figure 1.5 Average usual weekly working hours according to sex - salaried part time in EU-15

Source: Eurostat

It's worth noting that while average weekly working hours of full-time workers is quite uniform all over EU-15 countries – the lower value being the 40.3 in Denmark, the higher the 44.3 of Austria (Table 1.7) – a more volatile indicator is provided by part-time workers' working time: in Germany the average weekly working hours of a part-time workers are 17.4, in Sweden they're 24.8. In NMS, weekly working hours are on average higher than in EU-15. In Poland a full time employee works on average 43.2 hours per week, in Lithuania 39.4. For what concerns part-time work, the higher average weekly working hours value is found in Romania (26.2), the lowest in Slovenia (18.6) – see Table 1.8.

Table 1.7 Average weekly working hours, EU-15, 2005

	Full time	Part time
AT	44.3	20.5
BE	41.1	23.1
DE	41.5	17.4
DK	40.3	18.6
ES	42.3	19.2
FI	40.5	20.0
FR	41.0	23.2
GR	44.2	21.2
IE	40.6	18.6
IT	41.2	21.1
LU	40.9	21.2
NL	40.7	19.0
PT	41.6	19.4
SE	41.1	24.8
UK	43.2	18.8
EU-15	41.8	19.6

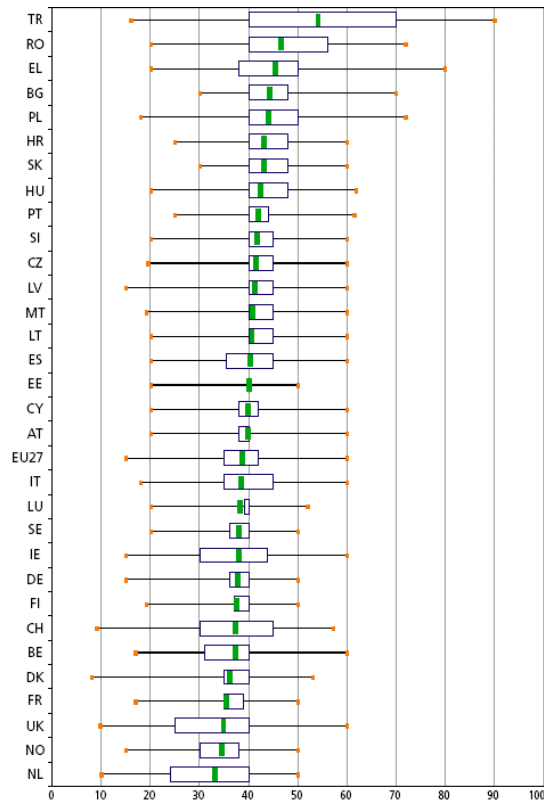
Source: Eurostat

Table 1.8 Average weekly working hours, NMS, 2005

	Full time	Part time
CY	42.3	20.7
CZ	42.8	23.4
EE	41.3	20.5
HU	41.0	23.0
LT	39.4	21.5
LV	42.7	22.5
MT	41.5	19.9
PL	43.2	22.0
SI	42.9	18.6
SK	41.5	21.0
NMS	42.5	22.0
Bulgaria	41.5	20.1
Romania	41.4	26.6

Source: Eurostat

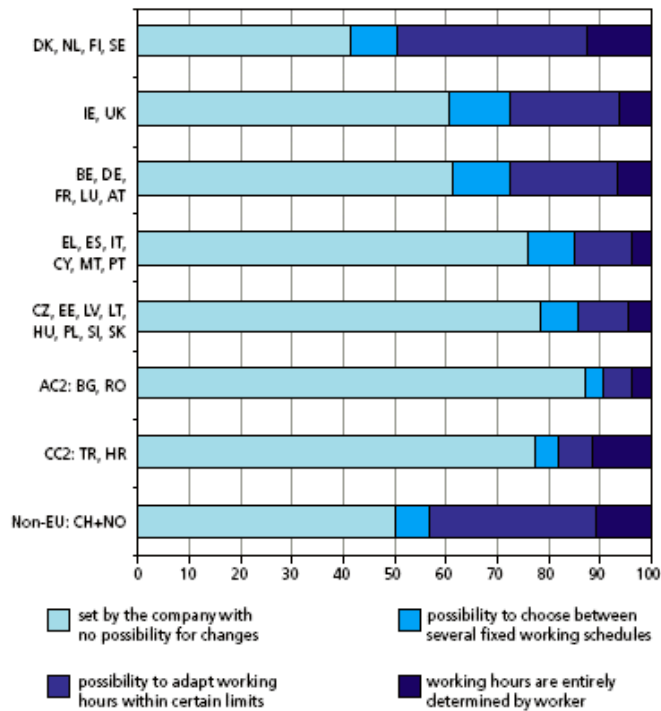
Figure 1.6 shows average weekly working hours in 31 European countries. The green vertical lines represents the average working time, the white box represents the interquartile range (i.e. 50 per cent of workers fall within the two outliers of the box) and the longer line represents the 5th and 95th percentiles of distribution. Broadly speaking there is a strong correlation between average working time and its variation within each country. Lower average working hours and larger variation of working time arrangements can be obviously found in that countries where part-time employment is particularly developed – e.g. Netherlands, where average working time is 33 hours per week and the variation is among the largest in Europe.

Figure 1.6 Average weekly working hours, by country

Source: Eurobond, 2007

Another interesting aspect regarding working time is the autonomy of workers over working time schedules and arrangements. According to Eurofund survey, while in Northern countries workers can choose to adapt working time to their needs to a large extent, in Southern and Eastern countries more than 75 per cent of employees have no possibility to decide on the organisation of their working time (Figure 1.7).

Figure 1.7 Autonomy over working time, by group of countries (*per cent*)



Source: Eurofund, 2007

1.2.2 Not-standard working hours

Not-standard working schedules usually respond to specific sectoral needs, according to the characteristics of good and services produced. For example, shift work allow many manufacturing industries to lower the impact of the fixed cost of plants usage, while weekend work allow many wholesale and retail firms to face the peaks of household demand. Shift work in Europe is quite developed, especially in Scandinavian countries and in most of NMS (Table 1.9 and Table 1.10). In the last decade, on the average, the proportion of employees working on shift work has increased in EU-15 (15.0 *per cent* in 2005 vs. 12.2 *per cent* in 1995) and decreased in NMS (28.9 *per cent* in 2005 vs. 31.6 *per cent* in 2001).

Table 1.9 Employees working on shift work as a percentage of the total of employees, EU-15

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
AT	15.6	16.3	17.0	15.3	16.5	16.2	19.3	18.4	17.5	18.7	17.8
BE	15.7	15.9	16.2	16.5	8.8	9.0	10.3	9.6	9.6	10.0	8.8
DE	10.1	11.2	11.9	-	-	-	15.0	14.8	15.5	15.2	15.8
DK	7.3	8.0	7.8	7.9	7.2	6.0	6.1	5.0	3.8	5.7	4.9
ES	6.7	7.2	7.4	7.4	-	-	17.4	-	-	17.8	-
FI	23.7	22.5	22.9	24.5	23.1	23.9	23.9	24.4	24.1	23.5	24.4
FR	8.6	8.8	8.9	9.0	9.4	9.7	-	9.6	9.1	8.8	8.5
GR	12.6	13.8	12.5	13.5	13.5	13.5	19.2	19.0	19.6	18.7	18.9
IE	11.8	12.3	11.9	-	-	-	17.7	17.4	17.0	16.5	16.5
IT	17.9	18.0	18.3	18.6	18.9	18.3	21.0	21.8	21.6	18.6	18.3
LU	11.5	9.4	11.1	10.8	-	-	10.7	10.9	9.0	10.8	9.1
NL	8.0	8.3	8.7	9.0	8.5	-	-	-	-	-	-
PT	7.9	8.0	8.5	8.0	7.9	8.1	17.0	17.9	17.6	16.8	17.7
SE	25.0	26.5	24.8	25.2	25.0	24.4	21.8	24.4	22.3	20.6	24.4
UK	15.6	15.9	16.1	16.2	16.4	16.6	19.0	19.1	19.5	19.4	19.0
EU-15	12.2	12.7	13.0	13.4	14.1	14.5	17.4	16.1	16.1	15.8	15.0

Source: Eurostat

Table 1.10 Employees working on shift work as a percentage of the total of employees, NMS

	2000	2001	2002	2003	2004	2005
CY	8.6	10.1	9.8	9.3	9.3	8.8
CZ	-	26.7	28.2	29.4	28.9	29.2
EE	20.4	19.7	22.2	21.5	19.7	16.4
HU	18.5	22.2	22.2	19.1	19.6	19.1
LT	19.6	16.2	12.3	13.3	11.9	12.2
LV	-	-	24.8	23.0	22.5	22.4
MT	23.0	22.1	21.2	20.7	29.3	21.2
PL	-	38.8	36.8	36.9	34.3	35.9
SI	29.6	33.1	31.9	31.7	30.8	32.0
SK	-	34.5	31.2	26.3	27.0	27.4
NMS	20.0	31.6	30.2	29.4	28.3	28.9
<i>Bulgaria</i>	-	-	-	-	22.3	-
<i>Romania</i>	-	27.1	27.2	24.8	22.0	24.2

Source: Eurostat

Table 1.11 and Table 1.12 show not-standard working hours patterns in Europe for 2000 and 2005. The most widespread form of asocial schedule is Saturday work, which, in 2005, concerned 26.1 *per cent* of EU-15 workers and 22.5 *per cent* of NMS workers. While, on the average, the incidence of both night and Saturday work slightly decreased in the last five years, Sunday work increased in EU-15.

Table 1.11 Population in employment working on night, Saturday and Sunday as a percentage of the total employment, EU-15 2000-2005

	2000			2005		
	Night	Saturday	Sunday	Night	Saturday	Sunday
AT	10.3	27.4	15.3	7.8	32.6	18.7
BE	5.0	17.6	9.3	4.6	20.1	10.8
DE	-	-	-	-	-	-
DK	7.1	25.4	19.5	7.4	22.5	18.0
ES	-	-	-	-	-	-
FI	8.4	25.2	17.6	9.1	23.3	16.1
FR	4.6	24.8	9.2	7.1	31.3	14.0
GR	4.2	42.4	14.7	4.4	39.6	13.0
IE	-	-	-	6.7	23.2	13.9
IT	5.3	36.2	8.0	8.4	39.7	13.2
LU	-	-	-	6.0	21.4	12.7
NL	-	-	-	-	-	-
PT	8.3	29.7	11.7	7.6	24.8	11.1
SE	7.6	19.9	18.0	5.6	12.7	10.8
UK	12.5	25.9	13.3	11.5	22.5	12.0
EU-15	7.3	27.5	13.6	7.2	26.1	13.7

Source: Eurostat

Table 1.12 Population in employment working on night, Saturday and Sunday as a percentage of the total employment, NMS 2000-2005

	2000			2005		
	Night	Saturday	Sunday	Night	Saturday	Sunday
CY	1.6	26.8	8.3	0.9	28.3	6.3
CZ	-	-	-	6.1	11.1	8.4
EE	9.4	26.2	18.5	6.1	20.2	14.2
HU	7.3	15.2	9.7	5.8	12.5	8.1
LT	2.9	18.1	12.3	3.0	17.4	13.2
LV	-	-	-	5.4	26.2	16.0
MT	13.9	41.6	23.3	11.2	33.5	16.6
PL	-	-	-	5.5	25.5	13.1
SI	8.4	26.8	15.3	8.0	25.6	15.1
SK	-	-	-	15.5	24.9	19.1
NMS	7.2	25.8	14.6	6.8	22.5	13.0
<i>Bulgaria</i>	-	-	-	-	-	-
<i>Romania</i>	-	-	-	6.0	42.1	20.1

Source: Eurostat

1.3 A sectoral and occupational perspective

1.3.1 Work hours

1.3.1.1 Trends in sectoral subdivisions

When carrying out the analysis of work hours at sectoral level, it's convenient to distinguish among full-time and part-time workers, as a general overview of working hours may be biased by different incidences of part-time work across sectors. In Table 1.13 average usual weekly working hours for full time and part time workers according to sector in EU-15 are depicted. For what concern full time job, in 2005, work hours are very high in Hotel and Restaurants (47.7), Agriculture (49.5), Mining and Quarrying (43.9) and, on the average, do not exceed 40 only in Electricity, Gas and Water Supply (39.9), Public Administration and Defence (39.4), Education (37.1) and Health and Social Work (39.9). Part-timers average working time hovers around 20 hours, being remarkably low in Private Household Activities (16.2), Other Community, Social and Personal Services (17.7) and Hotels and Restaurants (17.8). As far as recent changes are concerned, it is of note that between 2001 and 2005, weekly working hours of full timers increased almost in every sector - with the exception of Other Community, Social and Personal Services and Private Household Activities - and especially in Agriculture (+1.0) and Mining and quarrying (+1.0). On the contrary, part-time work hours decreased in Agriculture, Manufacturing, Construction, Wholesale and retail trade, Transport, storage and communications, Other community, social and personal services, Private household activities, whereas increased in Financial Intermediation, Real estate, renting and business activities and Education.

In NMS - Table 1.14 - work hours are generally higher when compared to EU-15 for both full and part time workers, and especially for the latter. At sectoral level, in 2005 full time working time are the longest in Agriculture (46.9), Construction (44.9), Hotel and Restaurants (44.0), Transport, Storage and Communications (44.0). With the exception of Private Household Activities and Education sectors, part-timers work on average more than 20 hours. The highest values can be found in Transport, Storage and Communications (24.3) and Manufacturing (23.9), especially if the comparison is carried out with old Member States figures. Analysing the recent trend in working time, full timers average work hours increased especially in Agriculture (+1.1), Transport, storage and communications (+0.7), Private Household Activities (+0.7). On the contrary in Hotels and restaurant a remarkable there has been a remarkable reduction in full time workers average weekly hours (-1.0). For what concern part time employment, work hours decreased almost in all sectors and especially in Construction (-2.5), Private household activities (-2.4) and Other community, social and personal services (-2.0).

Table 1.13 Usual weekly working hours according to activity sectors and type of contract, EU-15 2001-2005

Sector	Full time					Part time				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
A & B Agriculture, hunting, forestry and fishing	48.5	48.2	48.7	49.4	49.5	21.2	20.5	20.6	19.0	19.0
C Mining and quarrying	42.9	42.8	43.0	43.1	43.9	20.9	20.5	20.8	20.9	..
D Manufacturing	40.7	40.6	40.7	40.8	41.0	20.2	20.1	20.2	19.8	19.8
E Electricity, gas and water supply	39.5	39.5	39.4	39.7	39.9	23.9	23.2	23.5	23.7	23.9
F Construction	42.3	42.2	42.2	42.4	42.6	20.3	20.1	20.0	18.8	19.4
G Wholesale and retail trade	43.1	42.9	42.9	43.1	43.1	19.1	18.9	19.0	18.8	18.9
H Hotels and restaurants	47.2	46.7	46.6	47.4	47.7	17.9	17.6	17.4	17.6	17.8
I Transport, storage and communications	42.5	42.3	42.3	42.6	42.7	20.7	20.5	20.3	20.0	20.4
J Financial intermediation	40.6	40.4	40.5	41.0	41.0	21.1	21.0	21.4	21.6	21.6
K Real estate, renting and business activities	42.5	42.1	42.1	42.4	42.6	18.8	18.9	18.9	18.7	19.0
L Public administration and defence	39.1	38.9	39.1	39.3	39.4	22.4	22.2	22.2	22.4	22.5
M Education	36.6	36.5	36.8	36.8	37.1	19.0	19.0	19.1	19.1	19.4
N Health and social work	40.0	39.8	39.8	39.8	39.9	21.6	21.5	21.4	21.4	21.7
O Other community, social and personal service	41.8	41.5	41.3	41.6	41.6	18.1	18.1	18.0	17.5	17.7
P Activities of private households as employers	41.6	41.5	40.5	40.8	41.5	16.6	16.3	16.5	15.9	16.2
Q Extraterritorial organisations and bodies	40.6	40.7	40.5	40.8	41.0	21.8	..	18.5	19.4	..
Total	41.6	41.4	41.5	41.7	41.8	19.7	19.6	19.6	19.4	19.6

Source: Eurostat

Table 1.14 Usual weekly working hours according to activity sectors and type of contract, NMS 2001-2005

Sector	Full time					Part time				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
A & B Agriculture, hunting, forestry and fishing	45.8	46.6	47.0	47.6	46.9	22.5	21.9	22.1	21.2	21.0
C Mining and quarrying	40.7	40.8	40.7	40.7	41.1	..	..	..	..	..
D Manufacturing	42.0	42.0	41.8	41.9	41.9	25.0	24.2	23.9	23.7	23.9
E Electricity, gas and water supply	40.8	40.8	40.9	40.7	40.8	23.1	22.7	22.7	24.6	22.3
F Construction	44.7	44.8	45.0	44.8	44.9	26.3	25.2	25.4	24.8	23.8
G Wholesale and retail trade	44.3	44.5	44.4	44.2	43.8	23.6	23.8	24.3	23.6	23.7
H Hotels and restaurants	45.0	44.4	44.7	44.2	44.0	23.7	22.6	22.7	22.6	22.7
I Transport, storage and communications	43.3	43.7	44.1	44.0	44.0	25.2	23.4	24.2	25.5	24.3
J Financial intermediation	41.7	41.7	42.0	41.8	41.8	21.0	22.7	20.7	22.1	23.4
K Real estate, renting and business activities	43.4	43.5	43.3	43.5	43.2	23.5	23.1	23.3	21.2	22.3
L Public administration and defence	41.3	41.3	41.2	41.1	41.0	22.8	22.6	22.6	21.5	21.9
M Education	35.5	35.7	35.2	34.9	35.0	19.5	19.4	19.3	19.1	19.8
N Health and social work	40.8	40.9	41.1	40.9	41.1	22.3	23.0	22.5	21.9	21.2
O Other community, social and personal service	42.4	42.5	42.4	41.8	41.7	23.1	22.0	21.7	20.9	21.1
P Activities of private households as employers	42.2	43.1	43.0	42.1	42.9	21.2	21.0	21.9	20.5	18.8
Q Extraterritorial organisations and bodies	..	41.5	40.0	40.0	..	..	..	..	..	..
Total	42.6	42.7	42.7	42.6	42.5	23.0	22.5	22.6	22.0	22.0

Source: Eurostat

1.3.1.2 Trends in occupational subdivisions

Table 1.15 and Table 1.16 illustrates average usual weekly working hours according to occupation in EU-15 and NMS respectively. For what concern the former area, work hours of full time workers are quite variable across different occupations. In particular, Legislators, senior officials and managers (48.0) and Skilled agricultural and fishery workers (50.1) state a very long average weekly working time whereas Clerks work on average 38.9 hours per week and Technicians and Associate Professionals work 40.2 hours. As far as part time employment data are analysed, one could infer that, within the common subdivision among white and blue collar, the lowest the skill of the labourer the lower the average weekly working hours. Therefore while the work hours for part-time Services, shop and market sales workers are 19.3, part-time Legislators, senior officials and managers work on average 21.5 hours per week. For what concern part-time blue collar, workers in elementary occupations work 16.6 hours per week, whereas Craft and related trade workers and Plant and machine operators and assemblers work 20.4 hours per week. The most remarkable changes in working time involved Skilled agricultural and fishery workers, whose weekly working time between 2001 and 2005 grew by 1 hour for full time workers and decreased by 1.3 hours for part-time workers and part-time Craft and related trade workers whose working time decreased by 1.5 hours per week.

Also in NMS, among full time workers, Legislators, senior officials and managers (45.6) and Skilled agricultural and fishery workers (48.0) state the higher average weekly working time, while full time Professionals work on average 38.6 hours per week. Part-time employment working time has remarkably decreased in many categories: Plant and machine operators and assemblers (from 26.5 hours in 2001 to 24.9 in 2005), Skilled agricultural and fishery workers (from 22.3 to 20.9), Technicians and associate professionals (from 22.5 to 21.4). Though part time workers' working time remains high especially among Plant and machine operators and assemblers, Craft and related trade workers (24.0) and Service and shop and market sales workers (23.9).

Table 1.15 Usual weekly working hours according to activity sectors and occupation, EU-15 2001-2005

		Full time					Part-time				
		2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
0	Armed forces	41.2	41.2	41.7	42.1	42.1	-	-	18.4	-	-
1	Legislators, senior officials and managers	48.0	47.5	47.3	48.0	48.0	21.5	21.2	21.9	21.2	21.5
2	Professionals	40.8	40.6	40.6	41.0	41.3	20.4	20.4	20.5	20.4	20.8
3	Technicians and associate professionals	40.2	40.0	40.0	40.2	40.2	21.4	21.3	21.4	21.2	21.3
4	Clerks	38.9	38.7	38.7	38.9	38.9	20.7	20.5	20.4	20.5	20.7
5	Service workers and shop and market sales workers	41.7	41.5	41.4	41.2	41.3	19.3	19.1	19.2	18.9	19.3
6	Skilled agricultural and fishery workers	49.1	48.7	49.4	49.8	50.1	20.7	20.0	20.2	19.1	19.4
7	Craft and related trade workers	41.4	41.3	41.4	41.5	41.7	21.9	21.7	21.3	20.4	20.4
8	Plant and machine operators and assemblers	41.5	41.3	41.3	41.5	41.6	20.7	20.7	20.9	20.2	20.4
9	Elementary occupations	40.5	40.4	40.2	40.2	40.3	16.9	16.7	16.6	16.4	16.6
Total		41.6	41.4	41.5	41.7	41.8	19.7	19.6	19.6	19.4	19.6

Source: Eurostat

Table 1.16 Usual weekly working hours according to activity sectors and occupation, EU-15 2001-2005

		Full time					Part-time				
		2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
0	Armed forces	42.6	42.2	43.3	43.0	42.3	-	-	-	-	-
1	Legislators, senior officials and managers	46.0	45.8	46.1	46.1	45.6	23.3	22.5	23.9	21.3	22.5
2	Professionals	38.5	38.7	38.5	38.4	38.6	18.1	17.9	18.4	17.7	18.4
3	Technicians and associate professionals	41.7	41.8	41.6	41.5	41.5	22.5	22.8	21.8	21.4	21.4
4	Clerks	40.9	40.9	40.8	40.8	40.8	24.0	23.3	23.7	23.4	23.6
5	Service workers and shop and market sales workers	43.8	43.9	43.9	43.5	43.4	24.5	24.7	24.5	23.5	23.9
6	Skilled agricultural and fishery workers	46.3	47.3	48.0	48.7	48.0	22.3	21.6	22.0	21.2	20.9
7	Craft and related trade workers	42.7	42.8	42.7	42.7	43.0	25.6	24.5	24.1	24.5	24.0
8	Plant and machine operators and assemblers	42.8	43.0	43.0	42.9	42.9	26.5	24.0	25.0	24.9	24.9
9	Elementary occupations	41.8	41.7	41.6	41.5	41.5	23.4	23.4	23.0	22.6	22.7
Total		42.6	42.7	42.7	42.6	42.5	23.0	22.5	22.6	22.0	22.0

Source: Eurostat

1.3.2 Part-time

1.3.2.1 Trends in sectoral subdivisions

Analysing the situation and the evolution of full time and part time employment in the old Member states between 2000 and 2005 (see Table 1.17), many considerations can be drawn. First of all, as commonly known, part-time incidence on total employment is particularly high in many of the Service sectors: Health and social works (33.6 *per cent* in 2005), Hotels and Restaurants (30.3 *per cent*), Community, social and personal services (29.8 *per cent*), Education (27.8 *per cent*). Analysing the evolution between 2000 and 2005, it emerges that part-time employment grew almost in every sector – the only exception being Agriculture. Part time employment increased also in Manufacturing, despite the sector suffered a severe job loss (-6.4 *per cent* in total employment *vs.* +9.6 *per cent* in part time jobs). While in absolute terms part-time developed especially in Real estate, renting and business activities (+34.3 *per cent*), a remarkable gap between full time and part time employment growth involved Construction, Electricity, gas and water supply and Financial intermediation. While the overall share of part-time workers expanded from 17.8 *per cent* to 20.1 *per cent*, in Hotels and Restaurant (+2.9 *per cent*), Education (+2.4 *per cent*) and Health and Social Work (+2.4 *per cent*) the increment was well above the average value.

In NMS, the picture is by far more varied. Part time is quite spread only in Agriculture (23.0 *per cent* in 2005), Community, social and personal services (12.8 *per cent*) and Real estate, renting and business activities (10.2 *per cent*). In this latter sector, a remarkable increase in total employment (+40.5 *per cent*) involved also part-time jobs (+36.6 *per cent*). Between 2000 and 2005 part time employment noticeably increased also in Hotels and Restaurants (+25.7 *per cent*) and in Public Administration (+12.1 *per cent*), while declined in Manufacturing (-13.5 *per cent*), Transport, storage and communications (-15.6 *per cent*) and Education (-10.1 *per cent*).

Table 1.17 Evolution of full-time and part-time employment according to sector, EU-15 and NMS 2000-2005

	EU-15						NMS				
	Part time as % of total employment		2000-2005 empl. growth			Part time as % of total employment		2000-2005 empl. growth			
	2000	2005	Full time	Part-time	Total	2000	2005	Full time	Part-time	Total	
A & B Agriculture, hunting, forestry and fishing	17.1	18.3	-10.5	-2.4	-8.6	19.9	23.0	-14.3	0.9	-12.8	
C Mining and quarrying	3.1	-	-13.0	-	-11.3	1.1	-	-26.7	-	-27.1	
D Manufacturing	7.6	8.9	-8.2	9.6	-6.4	3.8	3.2	1.8	-13.5	-0.2	
E Electricity, gas and water supply	5.5	6.5	-0.6	19.8	1.3	-	-	-9.0	-5.9	-10.1	
F Construction	5.3	6.3	5.6	26.6	7.7	3.2	3.1	3.5	-4.1	-0.4	
G Wholesale and retail trade	22.5	24.8	1.4	15.5	4.6	8.2	8.5	5.5	7.1	2.5	
H Hotels and restaurants	27.4	30.3	8.4	25.5	13.5	8.1	8.9	18.1	25.7	14.4	
I Transport, storage and communications	10.9	12.2	2.2	17.2	4.6	4.1	3.6	-0.9	-15.6	-4.5	
J Financial intermediation	13.1	15.1	-2.0	17.0	1.3	5.8	6.1	-6.8	-3.7	-8.2	
K Real estate, renting and business activities	20.0	21.9	19.4	34.3	22.7	10.5	10.2	48.1	36.6	40.5	
L Public administration and defence	13.1	14.6	0.3	14.5	2.8	3.3	3.4	11.9	12.1	10.5	
M Education	25.4	27.8	6.6	22.3	11.4	10.7	9.1	8.7	-10.1	6.0	
N Health and social work	32.5	33.6	14.1	20.4	16.7	6.4	6.2	0.4	-3.9	-1.3	
O Other community, social and personal service	27.5	29.8	7.2	20.9	11.4	12.1	12.8	4.5	7.1	1.3	
P Activities of private households as employers	57.9	58.6	25.8	30.2	28.7	-	-	-	-	-	
Q Extraterritorial organisations and bodies	8.8	-	-9.2	-	1.5	0.0	-	-	-	-	
Total	17.8	20.1	2.3	19.1	5.8	7.9		3.0	1.5	0.7	

Source: Eurostat

1.3.2.2 Trends in occupational subdivisions

In Eu-15 part time employment is by far more spread among white collars (22.5 *per cent* – see Table 1.18) than among blue collars (15.8 *per cent*). Among the latter, part-time percentage on total employment does not exceed 7 *per cent* for Craft and related trade workers and Plant and machine operators and assemblers, while reaches 36.9 *per cent* in Elementary occupations. Among white collars part time incidence ranges from 7.5 *per cent* in Legislators, senior officials and managers to 36.9 *per cent* in Service, shop and market sales workers. The analysis of recent trends in employment shed light on a very interesting phenomenon: while in many categories both full time and part time employment is growing, part time jobs are replacing full time jobs in some specific occupations. It's the case of Clerks, Service, shop and market sales worker, Craft and related trade workers, Plant and machine operators and assemblers. On the overall, among blue collar part time employment growth amounted to 20 *per cent* while full time employment decreased by 2.2 *per cent*. A remarkable growth in part-time employment was registered among Technicians and associate professionals (+33.7), which contributed to an increase in the percentage of part-time jobs in the category (from 17.1 to 19.4).

Contrary to old member states, in NMS part-time employment is more spread among blue collars (9.6 *per cent* vs. 6.5 *per cent* among white collars). However if the recent trend in growth rate is maintained an homogeneous context will soon be reached (+5.0 *per cent* for white collars, -1.2 *per cent* for blue collars). Compared to average, a remarkable percentage of part-time employment is found among Skilled agricultural and fishery workers (26.0 *per cent* in 2005) and among Elementary occupations (15.1 *per cent*). However, in the last years, part-time has grown especially in clerical occupations (+20.9 *per cent*) and among Service, shop and market sales workers (+14.3 *per cent*).

Table 1.18 Evolution of full-time and part-time employment according to occupation, EU-15 and NMS 2000-2005

Isco	EU-15						NMS				
	Part time as % of total employment		2000-2005 empl. growth			Part time as % of total employment		2000-2005 empl. growth			
	2000	2005	Full time	Part-time	Total	2000	2005	Full time	Part-time	Total	
0 Armed forces	0.0	0.0	30.7	-	31.2	0.0	0.0	113.8	-	91.9	
1 Legislators, senior officials and managers	6.7	7.5	10.1	23.6	10.7	2.9	2.2	8.1	-24.3	2.3	
2 Professionals	15.2	16.7	8.8	22.5	11.5	7.6	5.8	29.7	-4.5	24.3	
3 Technicians and associate professionals	17.1	19.4	14.2	33.7	17.6	5.5	5.5	1.4	-0.6	-0.4	
4 Clerks	24.4	27.8	-9.0	10.2	-3.5	6.7	8.3	-4.5	20.9	-3.6	
5 Service workers and shop and market sales workers	33.6	36.9	-1.4	15.7	5.3	9.0	9.8	7.2	14.3	4.8	
1-5 White Collar	20.4	22.5	4.9	19.3	8.4	6.6	6.5	8.8	5.0	6.1	
6 Skilled agricultural and fishery workers	16.7	18.6	-10.4	1.3	-9.2	22.2	26.0	-15.7	1.7	-13.0	
7 Craft and related trade workers	4.2	5.1	-5.4	17.9	-3.9	3.2	3.1	-4.9	-12.2	-7.3	
8 Plant and machine operators and assemblers	5.9	6.9	-3.6	15.9	-1.7	2.3	2.2	11.3	6.7	8.6	
9 Elementary occupations	34.7	36.9	11.6	24.5	17.1	14.4	15.1	-7.3	-3.2	-7.9	
6-9 Blue Collar	13.4	15.8	-2.2	20.0	1.3	9.2	9.6	-3.5	-1.2	-5.2	
Total	17.8	20.1	2.3	19.1	5.8	7.9	7.9	3.0	1.5	0.7	

Source: Eurostat

1.3.2.3 Textile and clothing sector (NACE 17+18)

The incidence of part-time employment in Textile and clothing sector in 2004 amounted to 12.4 *per cent* in EU-15 and to 6.5 *per cent* in NMS. Table 1.19 also reports data relating to Bulgaria and Romania, but figures are too small and therefore unreliable. It is of note that both in EU-15 and NMS part-time share in employment in Textile and Clothing sector is higher than Manufacturing average and that between 2000 and 2004 it has increased by 2.1 points in old member states and by 1.5 points in NMS. Analysing the three business function selected as case-studies of the WORKS-project in this sector, it emerges that part-time work is relatively more spread among production workers than in R&D or Logistics Functions (Table 1.20). Unfortunately figures are too small (tiny figures – less than 20,000 individuals in LFS estimates) are highlighted with grey colour) to draw any conclusion about changes in the last decade, except for production functions in EU-15 where an increase in part-time employment has been registered.

1.3.2.4 Food Industry (NACE 15)

In EU-15 Food industry resort to part-time job has steadily grown in the last decade: while in 1996 its percentage on total employment amounted to 11.2 *per cent*, in 2004 it represented 13.0 *per cent* of total workforce – Table 1.19. When focussing on WORKS-project selected functions, it emerges that both in production and logistics occupations, the inci-

dence of part-time workers is remarkably lower than sectoral average (Table 1.20). In the former it grew from 7.0 *per cent* of 1996 to 7.4 *per cent* of 2004; in the latter it increased from 6.9 *per cent* to 7.9 *per cent*.

In NMS, the incidence of part-time workers in Food industry is by far lower, being 4.9 *per cent* in 2004. Having regard to production functions, part-time share in employment corresponds to sectoral average (5.0 *per cent*).

1.3.2.5 IT (NACE 72)

In the old member states, part-time employment in IT sector is not particularly widespread (its incidence on total employment amounted to 9.6 *per cent* in 2004), although an increasing trend was registered in the last decade for which part time workers' percentage on total workforce grew by 1.5 points - Table 1.19. Among WORKS-project selected occupations, namely Computing professionals, Architects, engineers and related professional and Computer associate professionals (ISCO codes 213, 214 & 312), part-time jobs are even more infrequent than sectoral average (6.5 *per cent* in 2004 - Table 1.20). For what concern NMS data, figures are too small even at sectoral level to be analysed. Beside the limited dimension of IT sector itself, it's straightforward to conclude that IT sector resort to part-time employment is definitively poor.

1.3.2.6 Public Administration (NACE 75)

As already noted, in the old member states an increasing percentage of workers in Public Administration are part-time workers. The three-year averages in Table 1.19 confirms this trend, as part-time incidence grew from 11.8 *per cent* in 1996 to 14.2 *per cent* in 2004. It's worth noting that in the Customer service functions resort to part-time employment has remarkably grown - Table 1.20. In 2004, more than one out of five workers in this occupation had a part-time contract, whereas in 1996 the number of part-time workers amounted to 17.6 *per cent* of total employment in such business function.

Contrary to EU-15, in NMS Public Administration does not massively utilise part-time employment, nor at sectoral level (3.3 *per cent* in 2004 - Table 1.19) or in Customer service functions.

1.3.2.7 Railways and Postal services (NACE 60.1+64.1)

Although lower than overall average (it's useful to remind that part-time average incidence on total employment in EU-15 is about 20 *per cent*), the resort to part-time workers in Railways and Postal services is fairly high (16.4 *per cent* in 2004 - Table 1.19). Moreover, between 2000 and 2004 this share has grown by 1.7 percentage points. As far as activities connected to direct contact with customers are concerned, it is of note that part-time workers percentage on total employment has reached 21.0 *per cent* in 2004, having increased by 4.6 points from 2000.

In NMS the incidence of part-time is instead very low (4.8 *per cent* in 2004). However, in WORKS-project selected functions this share slightly increase to 6.2 *per cent*.

Table 1.19 Part-time workers as percentage of total employment, WORKS selected sectors

		1996	2000	2004
EU-15	Textile and Clothing Sector (NACE 17+18)	10.7	10.3	12.4
	Food Industry (NACE 15)	11.2	12.2	13.0
	IT (NACE 72)	8.1	8.7	9.6
	Public Administration (NACE 75)	11.8	13.1	14.2
	Railways and Postal services (NACE 60.1+64.1)	-	14.7	16.4
NMS	Textile and Clothing Sector (NACE 17+18)	6.1	5.0	6.5
	Food Industry (NACE 15)	3.4	3.2	4.9
	IT (NACE 72)	4.3	4.4	4.4
	Public Administration (NACE 75)	4.3	3.4	3.3
	Railways and Postal services (NACE 60.1+64.1)	-	3.9	4.8
Bulgaria	Textile and Clothing Sector (NACE 17+18)	-	1.2	0.5
	Food Industry (NACE 15)	-	2.6	1.3
	IT (NACE 72)	-	4.4	4.1
	Public Administration (NACE 75)	-	1.6	1.4
	Railways and Postal services (NACE 60.1+64.1)	-	-	-
Romania	Textile and Clothing Sector (NACE 17+18)	3.6	1.6	0.9
	Food Industry (NACE 15)	1.6	2.2	1.6
	IT (NACE 72)	3.8	0.6	1.1
	Public Administration (NACE 75)	0.4	0.9	1.4
	Railways and Postal services (NACE 60.1+64.1)	-	-	0.2

Source: Eurostat

Table 1.20 Part-time workers as percentage of total employment, WORKS selected business functions

	1996	2000	2004	
EU-15	Textile and Clothing Sector: Production	11.0	10.2	12.8
	Textile and Clothing Sector: R&D	8.3	8.6	8.0
	Textile and Clothing Sector: Logistics	5.4	6.0	7.2
	Food Industry: Production	7.0	7.0	7.4
	Food Industry: Logistics	6.3	8.1	7.9
	IT: Core Activities	5.2	6.2	6.5
	Public Administration: Customer Services	17.1	19.2	22.5
	Railways and Postal services: Core activities connected to direct contact with customers	-	16.4	21.0
NMS	Textile and Clothing Sector: Production	6.8	5.3	6.4
	Textile and Clothing Sector: R&D	0.8	2.2	4.5
	Textile and Clothing Sector: Logistics	7.2	3.3	5.8
	Food Industry: Production	3.1	2.5	5.0
	Food Industry: Logistics	0.9	2.1	3.4
	IT: Core Activities	5.1	3.1	4.2
	Public Administration: Customer Services	10.1	4.2	5.3
	Railways and Postal services: Core activities connected to direct contact with customers	-	5.9	6.2
Bulgaria	Textile and Clothing Sector: Production	-	1.0	0.5
	Textile and Clothing Sector: R&D	-	0.0	0.0
	Textile and Clothing Sector: Logistics	-	3.0	1.1
	Food Industry: Production	-	2.8	1.5
	Food Industry: Logistics	-	3.9	1.2
	IT: Core Activities	-	6.8	3.7
	Public Administration: Customer Services	-	0.0	4.4
	Railways and Postal services: Core activities connected to direct contact with customers	-	-	-
Romania	Textile and Clothing Sector: Production	4.7	-	0.4
	Textile and Clothing Sector: R&D	2.5	-	0.0
	Textile and Clothing Sector: Logistics	0.0	-	0.0
	Food Industry: Production	1.2	-	1.2
	Food Industry: Logistics	1.7	-	0.0
	IT: Core Activities	2.8	-	0.0
	Public Administration: Customer Services	0.0	-	0.0
	Railways and Postal services: Core activities connected to direct contact with customers	-	-	0.4

Source: Eurostat

1.3.2.8 Part-time employment in WORKS-project selected occupations

Following the general trend which characterised EU-15 labour market, part-time employment has increased in all of the WORKS-project selected occupations, namely Logistics, IT and Customer Service activities. However, while in the latter average incidence of part-time workers on total employment is by far higher than average (37.4 per cent in 2004 – see Table 1.21), among Logistics and IT functions part-time jobs are relatively infrequent. In Logistics occupations, the share of part-time employment grew from 9.4 per cent to 12.5 per cent, while in IT it increased from 5.9 per cent to 7.4 per cent.

When considering NMS, it emerges that part-time has a significant impact only among Customer Service occupations (9.6 *per cent*), while both in Logistics and IT functions its percentage on total workforce does not exceed five percentage points.

Table 1.21 Part-time workers as percentage of total employment, WORKS selected occupations

		1996	2000	2004
EU-15	Logistics	9.4	11.3	12.5
	IT	5.9	7.2	7.4
	Customer Services	33.1	35.9	37.4
NMS	Logistics	5.0	4.4	4.0
	IT	5.0	4.8	4.5
	Customer Services	5.1	7.6	9.6
Bulgaria	Logistics	-	2.8	2.1
	IT	-	3.2	3.1
	Customer Services	-	3.5	1.8
Romania	Logistics	8.4	-	4.2
	IT	2.2	-	0.7
	Customer Services	1.6	-	0.6

Source: Eurostat

1.3.3 Shift work

1.3.3.1 Trends in sectoral subdivisions

Shift work assumes different shapes and responds to different scopes according to sectoral specific characteristics. Some activities, such as Health, require the constant presence of the majority of the personnel in order to guarantee a 24-hours service to customers. It's worth noting that in such circumstances part-time work may represent a complementary or alternative choice to shift working. In other cases, shift work allows firms to increase production intensity in order to cope with good demand and to optimise plants usage – i.e. manufacturing. EU-15 picture, depicted in Table 1.22, well represents the variety of shift work in the economy. On one hand, it's worth noting that the proportion of shift workers is high in Health and social work (30.6 *per cent* in 2004), Hotel and restaurants (26.7 *per cent*), Transport Storage and Communications (24.2) which usually demand a non-stop customer service. On the other hand, shift work is widespread also in traditional sectors such as Mining and Quarrying (28.7 *per cent*) and Manufacturing (23.2 *per cent*), where continuous production cycles are often scheduled. While in Electricity, gas and water supply, Wholesale and retail trade, Public Administration and Other community and social service the proportion of employees working on shift work range from 10.0 to 20.0, having remarkably increased in the last decade, a poor or null resort to this working arrangement is registered in Construction (3.1 *per cent*), Financial Intermediation (3.1 *per cent*) and Education (3.7 *per cent*).

In NMS, including Bulgaria and Romania, shift work is by far more widespread than in old member states. A very high proportion of shift workers characterise Mining and quarrying (61.1 *per cent* in 2004) and Manufacturing (39.2 *per cent*), thus suggesting the prevalence of *labour intensive* production over capital intensive or innovating activities. In

service sectors the percentage of employees working on shift work exceed 30 *per cent* in many industries: Wholesale and retail trade (30.1 *per cent*), Hotels and restaurants (44.0 *per cent*), Transport, storage and communications (34.1 *per cent*), Health and social work (39.1 *per cent*). Moreover, in all sectors but Education shift working continues to grow, especially when comparison is carried out with 2000.⁵

1.3.3.2 Trends in occupational subdivisions

Looking at Table 1.23 it clearly emerges that shift working is by far more frequent among blue collars – with the exception of skilled agricultural and fishery workers whose activities mainly depend on daily cycle. However, also among white collars, a remarkable proportion of Service, shop and market sales employees work on shift work. Looking at old member states, the higher proportion of shift worker in 2004 was registered among Plant and machine operators and assemblers (34.8 *per cent*) and just among Service, shop and market sales (26.4 *per cent*). On the whole one out of five blue collars works on shift work against 13.3 *per cent* of white collars. Among the latter a fairly high incidence of shift working is found among Technicians and associate professionals (14.5 *per cent*). Turning our attention to NMS, a similar context may be drawn – 35.6 *per cent* of blue collar work on shift work against 23.6 *per cent* of white collar. However, with respect to EU-15, the incidence of shift work among Service, shop and market sales workers is relatively higher (48.3 *per cent*), slightly exceeding also the proportion registered among Plant and machine operators and assemblers (48.1 *per cent*).

⁵ It should also be taken into account that the comparison with 1996 suffers from many inconsistencies because of the fact that data for many countries are missing.

Table 1.22 Employees working on shift work as a percentage of the total of employees according to sector of activity.

	EU-15			NMS			Bulgaria	Romania	
	1996	2000	2004	1996	2000	2004	2004	2000	2004
n.a.	2.3	4.9	9.6	45.6	38.7	36.8	54.1	-	-
A & B Agriculture, hunting, forestry and fishing	1.8	5.5	5.3	29.3	14.6	14.1	11.2	9.7	8.7
C Mining and quarrying	25.4	29.3	28.7	59.2	47.1	61.1	52.2	50.9	50.6
D Manufacturing	17.5	22.2	23.2	31.4	34.4	39.2	24.5	39.5	28.3
E Electricity, gas and water supply	11.0	12.9	13.2	18.7	19.9	24.3	21.7	31.4	26.6
F Construction	1.7	3.0	3.1	7.1	6.4	6.3	4.0	7.2	4.2
G Wholesale and retail trade	5.4	10.6	12.4	22.4	23.2	30.1	20.5	17.5	20.4
H Hotels and restaurants	16.1	25.9	26.7	45.3	38.7	44.0	49.9	41.5	43.4
I Transport, storage and communications	21.1	25.7	24.2	29.8	28.6	34.1	32.0	31.8	31.8
J Financial intermediation	1.9	3.4	3.1	7.1	5.6	10.9	4.7	8.0	6.0
K Real estate, renting and business activities	4.4	6.6	7.4	10.1	12.9	19.9	24.1	19.9	22.4
L Public administration and defence	12.4	15.9	14.7	13.9	15.9	18.2	15.4	14.1	16.3
M Education	3.1	4.1	3.7	10.3	7.5	7.2	12.6	7.2	5.6
N Health and social work	26.4	32.3	30.6	35.0	34.4	39.1	40.3	41.0	41.2
O Other community, social and personal service	7.4	11.9	11.9	20.7	16.4	19.2	10.7	19.8	16.4
P Activities of private households as employers	1.7	2.3	1.6	37.8	4.8	3.2	0.0	21.7	5.4
Q Extraterritorial organisations and bodies	7.7	8.9	8.4	27.0	13.7	19.8	0.0	-	53.4
Total	11.1	15.7	15.8	(24.5)	(28.3)	(28.7)	22.3	27.1	23.4

Source: Eurostat

Table 1.23 Employees working on shift work as a percentage of the total of employees according to occupation

	EU-15			NMS			Bulgaria	Romania	
	1996	2000	2004	1996	2000	2004	2004	2000	2004
Armed forces	18.5	25.9	25.9	25.5	20.7	31.8	10.0	-	22.8
Legislators, senior officials and managers	3.4	6.6	7.7	10.6	12.2	10.4	3.9	-	2.5
Professionals	5.9	8.1	5.7	8.7	10.8	10.3	8.5	7.6	5.1
Technicians and associate professionals	10.7	14.3	14.5	19.2	24.4	21.2	22.3	18.4	17.5
Clerks	5.8	8.1	8.0	11.1	17.5	21.3	13.1	17.0	14.0
Service workers and shop and market sales workers	17.6	26.6	26.4	39.8	44.4	48.3	42.7	35.0	39.3
White collar	9.1	13.5	13.3	19.4	23.2	23.6	21.9	19.6	19.2
Skilled agricultural and fishery workers	1.3	4.5	5.0	38.2	21.6	19.4	4.4	12.7	8.8
Craft and related trade workers	9.5	13.9	14.8	23.6	31.9	31.3	18.0	34.6	25.2
Plant and machine operators and assemblers	28.1	34.3	34.8	40.1	44.9	48.1	30.6	34.5	33.5
Elementary occupations	10.8	15.0	16.2	24.1	28.9	28.3	21.8	34.4	26.9
Blue collar	13.3	19.6	20.3	30.5	34.9	35.6	23.1	34.2	27.7
Total	10.8	15.7	15.8	(24.4)	(28.3)	(28.8)	22.3	27.6	23.7

Source: Eurostat

1.3.3.3 Textile and clothing sector (NACE 17+18)

In EU-15 the proportion of employees working on shift work in Textile and Clothing Sector is lower than manufacturing average (in 2004 it was 18.9 *per cent* vs. 23.2 *per cent* – see Table 1.24 and Table 1.22). However, looking at past decade, shift working is increasing

and involves especially production functions: the proportion of shift workers grew from 15.5 *per cent* in 1996 to 22.8 *per cent* in 2004 - Table 1.25. Figures for R&D and Logistics occupations are unreliable, but suggest an increasing resort to shift work also for such functions.

Also in NMS shift working in Textile and Clothing sector is slightly less spread if comparison is carried out with Manufacturing sector as a whole (34.0 *per cent* in 2004 against 39.2 *per cent* in Manufacturing as a whole - see Table 1.24 and Table 1.22). As a matter of fact, the gap in the proportion of shift workers between Manufacturing macro-sector and Textile and Clothing industry is the result of a different increasing trend, which is going on from 1996 for the former (Table 1.22) and stopped in 2000 for the latter (Table 1.24). However, when considering WORKS-project selected business functions, it emerges that shift working in the production activities is more widespread than sectoral average and involves more than 35 *per cent* of employees (37.1 *per cent* in 2004 - Table 1.25).

1.3.3.4 Food Industry (NACE 15)

In Food Industry a massive resort to shift work is registered, both in old and New Member States. In the former the proportion of employees working on shift work reached 26.1 *per cent* in 2004, in the latter it grew up to 44.9 *per cent* (Table 1.24). It's worth noting that shift working in production functions involves almost 60 *per cent* workers in NMS and 35.0 *per cent* in EU-15 - Table 1.25. Moreover, shift work is widespread among Logistics occupations: 27.8 *per cent* in EU-15 and 37.7 *per cent* in NMS.

1.3.3.5 IT (NACE 72)

In IT shift work does not respond to any particular motive, and in fact this working arrangement is practically non-existent. In old member states it involves 4.2 *per cent* of employees and in NMS less than 20 thousands workers - Table 1.24. Similar consideration can be made when analysing Core Activities of this sector, among which shift workers proportion on the total of employees does not exceed 4.2 *per cent* in EU-15 - see Table 1.25.

1.3.3.6 Public Administration

The general picture of Public Administration was already given in Table 1.22, which shows a moderate use of shift work both in EU-15 (14.7 *per cent* in 2004) and NMS (18.9 *per cent*). In the Customer Service activities the proportion of shift workers is well below sectoral average (15.3 *per cent* in EU-15 - Table 1.25), in spite of the fact that such functions should in many cases cover more than the average daily working hour.

1.3.3.7 Railway and Postal Services

When looking inside Railways and Postal Services, Table 1.24 depict a divergent context. The percentage of employees working on shift work in fact increasing in NMS (from 39.5 *per cent* in 2000 to 44.5 *per cent* in 2004) and decreasing in EU-15 (from 29.9 *per cent* to 22.5 *per cent*). As far as only the activities connected to direct contact with customers are taken

into account, it emerges that shift works involves 23.4 *per cent* of employees in EU-15 and 54.9 *per cent* in NMS.

Table 1.24 Employees working on shift work as a percentage of the total of employees, WORKS selected sectors

		1996	2000	2004
EU-15	Textile and Clothing Sector (NACE 17+18)	13.0	17.8	18.9
	Food Industry (NACE 15)	17.6	25.6	26.1
	IT (NACE 72)	2.5	3.5	4.2
	Public Administration (NACE 75)	12.4	15.9	14.7
	Railways and Postal services (NACE 60.1+64.1)	-	29.9	22.5
NMS	Textile and Clothing Sector (NACE 17+18)	30.2	33.3	34.0
	Food Industry (NACE 15)	36.2	35.5	44.9
	IT (NACE 72)	5.0	2.7	5.9
	Public Administration (NACE 75)	13.9	15.9	18.9
	Railways and Postal services (NACE 60.1+64.1)	-	39.0	44.5
Bulgaria	Textile and Clothing Sector (NACE 17+18)	-	-	23.3
	Food Industry (NACE 15)	-	-	29.2
	IT (NACE 72)	-	-	7.4
	Public Administration (NACE 75)	-	-	15.4
	Railways and Postal services (NACE 60.1+64.1)	-	-	-
Romania	Textile and Clothing Sector (NACE 17+18)	-	47.8	30.8
	Food Industry (NACE 15)	-	33.2	29.2
	IT (NACE 72)	-	5.6	4.7
	Public Administration (NACE 75)	-	14.1	16.3
	Railways and Postal services (NACE 60.1+64.1)	-	-	37.9

Source: Eurostat

Table 1.25 Employees working on shift work as a percentage of the total of employees, WORKS selected business functions

		1996	2000	2004
EU-15	Textile and Clothing Sector: Production	15.5	20.8	22.8
	Textile and Clothing Sector: R&D	9.4	11.2	14.4
	Textile and Clothing Sector: Logistics	8.8	14.2	12.9
	Food Industry: Production	23.0	33.8	35.0
	Food Industry: Logistics	21.0	29.2	27.8
	IT: Core Activities	2.1	2.7	4.1
	Public Administration: Customer Services	8.7	14.2	15.3
	Railways and Postal services: Core activities connected to direct contact with customers	-	31.4	23.4
	NMS	Textile and Clothing Sector: Production	33.1	36.6	37.1
Textile and Clothing Sector: R&D		24.4	26.1	20.8
Textile and Clothing Sector: Logistics		14.2	28.2	32.2
Food Industry: Production		51.2	48.3	59.2
Food Industry: Logistics		27.4	29.9	37.7
IT: Core Activities		3.4	1.6	6.2
Public Administration: Customer Services		18.1	8.8	11.0
Railways and Postal services: Core activities connected to direct contact with customers		-	45.4	54.9
Bulgaria		Textile and Clothing Sector: Production	-	-	23.9
	Textile and Clothing Sector: R&D	-	-	14.3
	Textile and Clothing Sector: Logistics	-	-	0.0
	Food Industry: Production	-	-	38.4
	Food Industry: Logistics	-	-	13.3
	IT: Core Activities	-	-	6.6
	Public Administration: Customer Services	-	-	22.1
	Railways and Postal services: Core activities connected to direct contact with customers	-	-	-
Romania	Textile and Clothing Sector: Production	-	-	30.3
	Textile and Clothing Sector: R&D	-	-	20.0
	Textile and Clothing Sector: Logistics	-	-	8.2
	Food Industry: Production	-	-	43.2
	Food Industry: Logistics	-	-	16.6
	IT: Core Activities	-	-	5.2
	Public Administration: Customer Services	-	-	7.4
	Railways and Postal services: Core activities connected to direct contact with customers	-	-	47.5

Source: Eurostat

1.3.3.8 *Shift work in WORKS-project selected occupations***Table 1.26** Employees working on shift work as a percentage of the total of employees, WORKS selected occupations

		1996	2000	2004
EU-15	Logistics	14.4	19.8	18.8
	IT	3.9	4.6	5.5
	Customer Services	12.9	17.4	20.6
NMS	Logistics	22.2	29.1	32.5
	IT	10.9	13.3	12.9
	Customer Services	32.0	38.7	46.2
Bulgaria	Logistics	-	-	9.8
	IT	-	-	2.6
	Customer Services	-	-	32.5
Romania	Logistics	-	-	16.0
	IT	-	-	4.1
	Customer Services	-	-	32.8

Source: Eurostat

1.3.4 A social working hours

1.3.4.1 Trends in sectoral subdivisions

Table 1.27 Population in employment usually working on night, Saturday and Sunday as a percentage of the total employment according to activity sector, EU-15 1996-2004

	1996			2000			2004		
	Night work	Saturday work	Sunday work	Night work	Saturday work	Sunday work	Night work	Saturday work	Sunday work
n.a.	1.9	15.0	7.4	3.4	13.8	7.9	8.2	19.5	10.0
A & B Agriculture, hunting, forestry and fishing	2.8	62.1	36.1	3.7	56.2	29.3	3.8	56.7	34.1
C Mining and quarrying	11.7	21.0	11.3	13.5	20.8	8.8	12.7	18.7	7.0
D Manufacturing	7.1	15.1	5.5	9.0	15.2	6.0	10.3	16.2	6.5
E Electricity, gas and water supply	5.0	10.9	7.2	6.3	10.1	5.6	7.2	10.9	7.2
F Construction	0.7	13.6	2.1	1.7	16.5	1.9	1.6	15.3	1.7
G Wholesale and retail trade	2.0	48.5	7.9	3.2	49.7	10.0	3.3	50.1	11.4
H Hotels and restaurants	18.1	66.9	52.7	18.8	65.5	49.1	21.1	67.8	51.3
I Transport, storage and communications	12.0	33.1	16.0	14.8	32.1	15.3	16.3	33.8	16.7
J Financial intermediation	0.7	10.2	1.2	1.3	10.7	1.4	1.4	11.0	1.4
K Real estate, renting and business activities	3.0	17.0	6.3	4.4	16.3	5.8	4.9	17.4	6.5
L Public administration and defence	5.6	17.8	9.0	8.1	17.6	8.9	9.5	17.5	10.8
M Education	1.1	18.5	4.4	1.8	19.4	3.9	2.0	19.2	4.7
N Health and social work	11.0	31.2	24.0	14.0	29.5	22.5	14.9	31.6	24.3
O Other community, social and personal service	5.2	40.0	16.8	7.2	41.9	16.4	7.8	43.2	17.3
P Activities of private households as employers	1.7	24.0	5.8	2.2	22.0	5.4	2.8	25.8	7.9
Q Extraterritorial organisations and bodies	2.6	12.3	6.9	4.7	9.8	5.6	3.6	10.0	5.7
Total	5.5	28.5	12.0	7.2	28.4	11.6	7.8	29.3	12.9

Source: Eurostat

Table 1.28 Population in employment usually working on night, Saturday and Sunday as a percentage of the total employment according to activity sector, NMS 1996-2004

	1996			2000			2004		
	Night work	Satur-day work	Sun-day work	Night work	Satur-day work	Sun-day work	Night work	Satur-day work	Sun-day work
n.a.	7.5	21.3	14.5	3.6	22.4	12.3	5.1	25.2	13.3
A & B Agriculture, hunting, forestry and fishing	4.8	50.6	36.7	3.6	42.4	32.8	1.9	52.7	38.5
C Mining and quarrying	32.6	17.9	12.5	22.3	12.1	8.8	26.3	15.5	11.5
D Manufacturing	10.1	12.6	6.5	9.9	10.3	6.0	9.2	11.5	6.3
E Electricity, gas and water supply	14.9	15.6	10.3	8.0	10.1	8.9	8.7	10.0	8.8
F Construction	1.4	17.0	5.3	1.3	10.6	3.5	0.9	13.8	3.2
G Wholesale and retail trade	2.8	38.3	11.5	1.8	30.1	9.8	2.1	29.1	9.6
H Hotels and restaurants	13.5	55.1	42.0	10.9	45.8	37.4	10.9	38.3	31.7
I Transport, storage and communications	15.8	28.6	18.8	12.6	21.4	15.1	12.9	20.7	14.2
J Financial intermediation	1.2	9.9	3.0	0.8	7.0	2.3	1.1	6.5	2.4
K Real estate, renting and business activities	7.9	17.7	10.3	7.5	13.5	8.9	7.1	12.9	8.8
L Public administration and defence	10.6	14.3	11.3	8.8	10.1	9.3	7.2	8.7	7.7
M Education	1.1	5.5	3.8	1.2	2.8	1.7	1.2	3.2	2.2
N Health and social work	14.8	22.3	16.9	13.3	17.8	15.1	12.8	18.4	16.2
O Other community, social and personal service	6.9	31.2	18.0	4.7	23.2	12.4	5.0	22.9	12.0
P Activities of private households as employers	0.0	16.1	7.1	1.0	45.8	4.7	1.1	41.1	7.7
Q Extraterritorial organisations and bodies	11.1	27.3	21.6	7.9	10.8	8.8	2.0	4.4	3.2
Total	8.2	23.7	13.5	5.5	20.0	11.7	6.1	20.9	12.3

Source: Eurostat

1.3.4.2 Trends in occupational subdivisions

Analysing asocial working hours in EU-15 according to occupational categories – see Table 1.29 – it is first of all interesting to note that while the percentage of night workers is higher among blue collar, the opposite applies for Saturday and Sunday work. However, as far as Saturday work is concerned, the percentage of white collars working on Saturday is stable around 30.0 *per cent* since 1996 while the analogous percentage among blue collars grew from 26.9 *per cent* to 28.1 *per cent*. Going into details, night work has grown in every occupation, and is especially widespread among Plant and machine operators and assemblers (18.4 *per cent*) and Service workers and shop and market sales workers (12.9 *per cent*). As mentioned Saturday work incidence has decreased among white collars, but remains very high among Service workers and shop and market sales workers (55.5 *per cent*) and Legislators, senior officials and managers (38.7 *per cent*); on the contrary, among blue collars, Saturday workers are increasing, especially among Elementary occupations (30.2 *per cent*) and, obviously, among Skilled agricultural and fishery works (56.6 *per cent*). Among the latter, a noticeable proportion of workers work on Sunday (35.4 *per cent*), a working arrangement that involve also 28.5 *per cent* of Service workers and shop and market sales workers and 14.8 *per cent* of Legislators, senior officials and managers.

In NMS asocial work arrangements frequency has slightly increased between 2000 and 2004. Contrary to EU-15, asocial hours work are more spread among blue collars and no noticeable convergence process is going on. Night work mainly involves Plant and machine operators and assemblers (14.1 *per cent* – see Table 1.30) and Service workers and

shop and market sales workers (8.8 *per cent*); Saturday and Sunday work is more frequent among Skilled agricultural and fishery workers (61.2 *per cent* and 44.9 *per cent*, respectively) and Service workers and shop and market sales workers (37.9 *per cent* and 19.4 *per cent*).

Table 1.29 Population in employment usually working on night, Saturday and Sunday as a percentage of the total employment according to occupation, EU-15 1996-2004

	1996			2000			2004		
	Night work	Saturday work	Sunday work	Night work	Saturday work	Sunday work	Night work	Saturday work	Sunday work
Armed forces	10.1	20.1	13.6	16.3	21.0	15.3	25.2	30.4	25.1
Legislators, senior officials and managers	4.7	42.2	16.8	5.7	35.3	13.1	6.2	38.7	14.8
Professionals	3.5	19.3	9.0	5.3	18.2	8.0	4.6	18.5	7.6
Technicians and associate professionals	5.1	21.5	10.3	6.3	20.8	9.0	7.1	21.9	10.0
Clerks	2.0	16.3	3.7	2.7	16.0	4.2	2.7	16.1	4.8
Service workers and shop and market sales workers	8.7	55.3	23.3	11.7	55.7	25.9	12.9	55.5	28.5
<i>White collar</i>	4.8	30.0	12.2	6.5	29.1	12.2	6.9	29.9	13.3
Skilled agricultural and fishery workers	2.8	63.3	37.1	3.5	56.9	31.7	3.7	56.6	35.4
Craft and related trade workers	4.4	19.2	4.4	5.6	21.7	4.7	5.6	21.8	4.9
Plant and machine operators and assemblers	12.8	22.5	11.4	15.8	21.9	10.9	18.4	23.8	12.1
Elementary occupations	5.2	29.1	11.4	6.8	29.3	10.6	7.9	30.2	12.4
<i>Blue collar</i>	6.4	26.9	11.1	8.2	27.4	10.6	9.2	28.1	11.8
Total	5.5	28.7	11.8	7.2	28.4	11.6	7.8	29.3	12.9

Source: Eurostat

Table 1.30 Population in employment usually working on night, Saturday and Sunday as a percentage of the total employment according to occupation, NMS 1996-2004

	1996			2000			2004		
	Night work	Saturday work	Sunday work	Night work	Saturday work	Sunday work	Night work	Saturday work	Sunday work
Armed forces	23.0	24.7	18.8	13.5	17.3	14.3	7.8	9.2	7.7
Legislators, senior officials and managers	3.3	22.1	9.1	2.3	16.1	6.0	2.6	18.5	7.0
Professionals	2.0	8.9	5.9	1.5	5.4	3.3	2.2	6.5	4.0
Technicians and associate professionals	8.7	15.2	10.5	6.4	11.0	7.4	6.0	10.7	7.3
Clerks	2.8	12.4	4.9	2.9	9.4	4.3	3.6	10.6	5.2
Service workers and shop and market sales workers	11.3	52.1	25.0	7.8	38.7	18.3	8.8	37.9	19.4
<i>White collar</i>	6.2	23.3	12.0	4.5	16.8	8.4	5.0	17.0	9.0
Skilled agricultural and fishery workers	4.1	66.8	49.3	1.2	58.0	44.3	1.2	61.2	44.9
Craft and related trade workers	8.1	14.6	6.3	5.6	11.4	4.1	6.1	13.4	4.7
Plant and machine operators and assemblers	15.8	20.7	13.3	12.2	16.5	10.4	14.1	18.4	11.8
Elementary occupations	10.8	20.5	13.9	7.5	15.6	9.1	8.0	18.3	11.1
<i>Blue collar</i>	10.3	24.1	15.2	6.5	23.4	15.1	7.4	25.6	16.0
Total	8.2	23.7	13.5	5.5	20.0	11.7	6.1	20.9	12.3

Source: Eurostat

1.3.4.3 Textile and clothing sector (NACE 17+18)

If compared to Manufacturing sector as a whole, Textile and Clothing sector is characterised by a lower incidence of asocial working hours arrangements. However, in the last decade, in EU-15 a weak increasing trend has been registered in the percentage of workers engaged in night, Saturday and Sunday work. In 2004, such percentages amounted to 6.1 *per cent*, 13.4 *per cent* and 3.1 *per cent*, respectively - Table 1.31. A look to NMS data, when reliable, suggests that work in asocial hours in Textile and Clothing sector is infrequent, not only if compared to EU-15, but especially if NMS Manufacturing sector figures are kept in mind (Table 1.28). For what concerns WORKS-project selected business functions, the number of employed involved in R&D and Logistics occupations is generally too small to allow to draw any inference. When focussing on production activities one can observe that night workers percentage is slightly higher than sectoral average whereas Saturday and Sunday work incidence does not depart from it.

Table 1.31 Population in employment usually working on night, Saturday and Sunday as a percentage of the total employment in Textile and Clothing sector, 1996-2004

		EU-15				NMS			
		Textile and Clothing Sector (NACE 17+18)	Textile and Clothing Sector: Production	Textile and Clothing Sector: R&D	Textile and Clothing Sector: Logistics	Textile and Clothing Sector (NACE 17+18)	Textile and Clothing Sector: Production	Textile and Clothing Sector: R&D	Textile and Clothing Sector: Logistics
1996	Night work	4.0	4.6	2.8	2.1	5.4	5.4	2.9	4.7
	Saturday work	12.8	12.2	9.9	7.1	9.6	9.8	9.8	0.6
	Sunday work	2.4	2.2	2.9	1.4	4.4	4.2	5.2	0.6
2000	Night work	5.2	6.0	6.4	3.8	4.8	4.1	2.3	2.5
	Saturday work	12.3	11.5	14.2	6.4	7.0	6.7	5.0	2.7
	Sunday work	2.6	2.4	5.8	2.2	2.7	2.4	2.6	1.6
2004	Night work	6.1	7.8	5.0	3.8	4.3	4.4	1.6	5.9
	Saturday work	13.4	12.3	15.0	7.4	10.3	10.6	3.4	4.9
	Sunday work	3.1	3.3	3.0	2.6	3.0	2.9	0.6	3.3

Source: Eurostat

1.3.4.4 Food Industry (NACE 15)

In Food industry a massive resort to atypical work arrangements is registered, especially when Manufacturing sector figures are used as benchmark. In 2004, in EU-15, the percentage of employed working on night, Saturday and Sunday amounted to 18.8 *per cent*, 33.0 *per cent* and 17.1 *per cent* respectively; in NMS the analogous figures reached 13.8 *per cent*, 17.2 *per cent* and 10.7 *per cent* - Table 1.32. It is of note that in production functions, night worker percentage is higher than sectoral average, especially in EU-15, while among Logistics workers asocial working arrangements, though still frequent, are less spread.

Table 1.32 Population in employment usually working on night, Saturday and Sunday as a percentage of the total employment in Food industry, 1996-2004

	EU-15			NMS			
	Food Industry (NACE 15)	Food Industry: Production	Food Industry: Logistics	Food Industry (NACE 15)	Food Industry: Production	Food Industry: Logistics	
1996	Night work	14.2	23.1	10.8	15.3	23.4	11.5
	Saturday work	33.7	36.9	21.0	21.4	23.4	23.5
	Sunday work	12.8	15.9	6.6	11.8	13.2	11.1
2000	Night work	17.2	25.2	15.2	13.8	19.5	13.1
	Saturday work	32.4	36.3	23.4	15.7	16.3	17.4
	Sunday work	16.9	20.2	10.2	10.0	12.5	8.6
2004	Night work	18.8	26.9	16.9	13.8	18.5	13.2
	Saturday work	33.0	37.3	24.4	17.2	17.7	22.1
	Sunday work	17.1	20.4	10.5	10.7	13.7	7.3

Source: Eurostat

1.3.4.5 IT (NACE 72)

In IT sector no remarkable use of asocial working arrangements is found. Moreover, if Core activities are taken into account, percentages of workers involved in such working schedules is even lower than sectoral average - Table 1.33.

Table 1.33 Population in employment usually working on night, Saturday and Sunday as a percentage of the total employment in IT, 1996-2004

	EU-15		NMS		
	IT (NACE 72)	IT: Core Activities	IT (NACE 72)	IT: Core Activities	
1996	Night work	1.4	1.2	3.8	5.9
	Saturday work	8.5	7.7	18.6	15.6
	Sunday work	3.0	3.2	10.1	5.8
2000	Night work	2.7	2.4	2.4	3.0
	Saturday work	7.0	6.0	8.4	6.9
	Sunday work	3.2	2.8	5.3	4.8
2004	Night work	3.6	3.5	2.5	2.4
	Saturday work	7.5	6.5	5.5	6.3
	Sunday work	3.3	3.1	2.7	2.5

Source: Eurostat

1.3.4.6 Public Administration (NACE 75)

When considering Public Administration, a divergent trend is observed between EU-15 and NMS. In the former the percentage of workers working in asocial hours is generally increasing, but in Saturday work; in the latter is decreasing - Table 1.34. It is however worth noting that in EU-15, in Customer service occupations the percentage of workers working on Saturday has remarkably declined from 18.5 *per cent* in 1996 to 13.4 *per cent* in 2004.

Table 1.34 Population in employment usually working on night, Saturday and Sunday as a percentage of the total employment in Public Administration, 1996-2004

		EU-15		NMS	
		Public Administration (NACE 75)	Public Administration: Customer Services	Public Administration (NACE 75)	Public Administration: Customer Services
1996	Night work	5.6	1.8	10.6	6.2
	Saturday work	17.8	18.5	14.3	15.8
	Sunday work	9.0	4.8	11.3	15.8
2000	Night work	8.1	5.6	8.8	5.1
	Saturday work	17.6	15.9	10.1	7.7
	Sunday work	8.9	4.5	9.3	5.9
2004	Night work	9.5	8.2	6.9	3.5
	Saturday work	17.5	13.4	8.4	6.1
	Sunday work	10.8	6.8	7.3	6.1

Source: Eurostat

1.3.4.7 Railways and Postal services (NACE 60.1+64.1)

In Table 1.35 asocial working arrangements are depicted for Railways and Postal services. A striking difference emerges for which Saturday work is by far more common in EU-15, whereas percentages of night and Sunday workers is almost similar among the two areas. This visible difference replicates also when attention is paid to Core activities connected to direct contact to customers, in which a percentage of 59.5 *per cent* of Saturday worker is registered in EU-15 against the 18.9 *per cent* registered in NMS.

Table 1.35 Population in employment usually working on night, Saturday and Sunday as a percentage of the total employment in Railways and Postal services, 1996-2004

		EU-15		NMS	
		Railways and Postal services (NACE 60.1+64.1)	Railways and Postal services: Core activities connected to direct contact with customers	Railways and Postal services (NACE 60.1+64.1)	Railways and Postal services: Core activities connected to direct contact with customers
2000	Night work	11.3	12.6	17.7	19.5
	Saturday work	33.3	44.1	23.9	30.4
	Sunday work	10.4	10.8	18.1	20.8
2004	Night work	14.9	16.1	14.3	17.2
	Saturday work	46.1	59.5	18.9	23.7
	Sunday work	13.9	13.8	13.9	16.4

Source: Eurostat

2 New forms of work organisation

2.1 Evolution of temporary employment in Europe

2.1.1 Introduction

Temporary employment can be regarded as a powerful tool in enhancing system efficiency. Broadly speaking, firms use temporary workers to face demand shocks, both they are scheduled (e.g. seasonality) or unexpected, thus adapting workforce to productive needs almost in real time (*numerical flexibility*). From the point of view of the workers, temporary work can be regarded as an entry contract into the labour market, which provides youngsters with the necessary skills to transit into permanent job. On its turn, temporary employment implicates the concept of flexicurity, as the risk of a “temporary employment trap” exists for disadvantaged people in the labour market in many European countries. When international comparison on temporary work are carried out, some preliminary remarks are though necessary, as data may severely mislead the analysis of labour market conditions. In fact, as employment protection legislation are very different,⁶ firing cost on permanent job are very variable thus influencing firms’ choice concerning hirings. In other words, where firing cost are low or nonexistent the distinction between temporary and permanent job lose significance and there are few or no differences in the choice among the two kind of contracts. Besides, in some countries, some peculiar forms of self-employment strongly resemble or are used as temporary work (e.g. the so called economically dependent workers), thus generating a source of further bias in international comparisons.

2.1.2 A general overview

IN EU-15 a remarkable increment in temporary employment has been registered in the last decade. Between 1997 and 2005 the number of temporary workers raised from 15,221 thousands to 20,091 thousands (see Table 2.1), corresponding to a crude growth rate of 32.1 *per cent*. In the same period, overall employment grew by 11.4 *per cent* and the number employees increased by 12.8 *per cent*.

The most remarkable changes in temporary employment has been registered in Belgium (+59.6 *per cent*), Spain (+52.4 *per cent*), Italy (+78.3 *per cent*), Netherlands (+52.4 *per cent*), Portugal (+91.7 *per cent*), Sweden (+49.4 *per cent*). It is of note that among the countries cited above, with the exception of Spain, the growth rate of temporary employment

⁶ See for example: OECD (2004), *Employment Outlook 2004*, OECD, Paris.

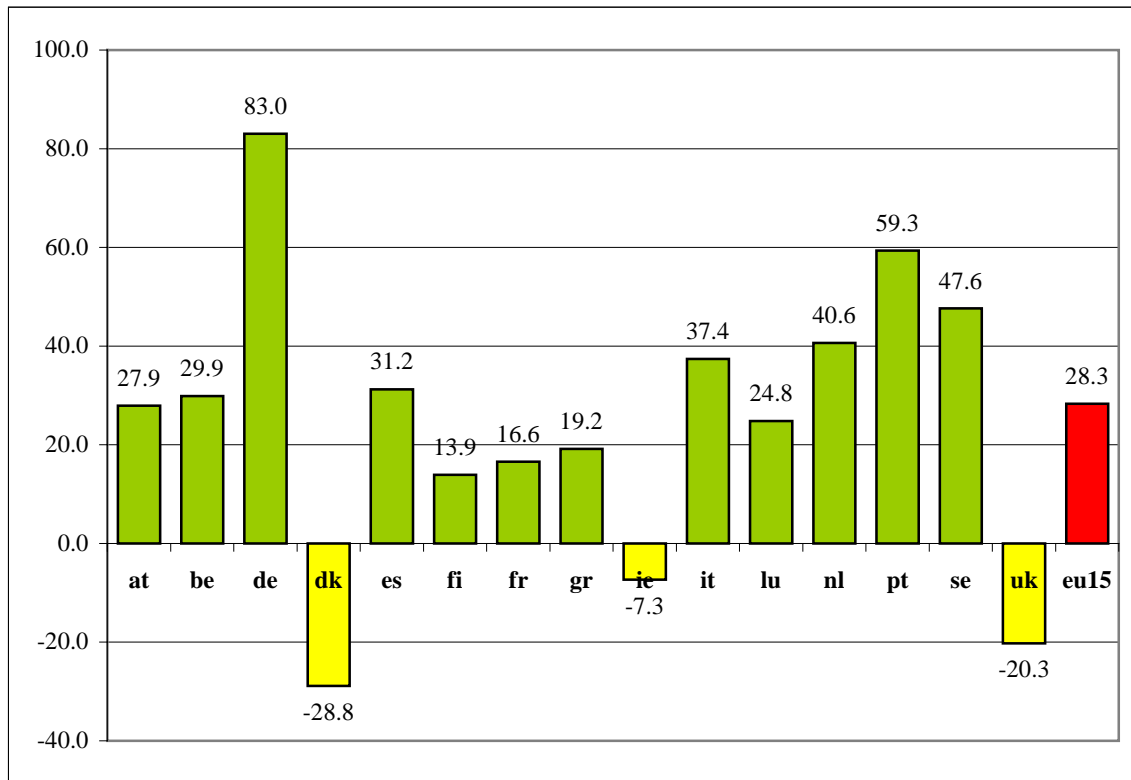
has been by far higher than overall employment growth rate. However, if a simple index of contribution to overall employment growth is calculated – dividing temporary employment growth by overall employment growth – it is found that the higher impact of temporary employment has been registered in Germany, Portugal and Sweden (see Figure 2.1). Temporary employment has instead decreased in Denmark, Ireland and UK.

Table 2.1 Recent trends in employment, EU-15 1997-2005

	All in employment				Employees				Temporary			
	1997	2005	Diff.	% growth	1997	2005	Diff.	% growth	1997	2005	Diff.	% growth
AT	3609	3824	216	6.0	3109	3317	208	6.7	241	302	60	24.9
BE	3838	4235	398	10.4	3177	3590	413	13.0	199	318	119	59.6
DE	35299	36354	1055	3.0	31448	31859	411	1.3	3652	4527	876	24.0
DK	2675	2752	77	2.9	2423	2507	85	3.5	269	246	-22	-8.3
ES	13276	18973	5698	42.9	10114	15502	5388	53.3	3391	5169	1778	52.4
FI	2120	2401	281	13.2	1792	2097	305	17.0	306	345	39	12.7
FR	21958	24579	2621	11.9	19114	21906	2792	14.6	2473	2908	435	17.6
GR	3853	4369	516	13.4	2111	2779	667	31.6	230	329	99	43.1
IE	1373	1952	579	42.2	1088	1619	532	48.9	102	59	-42	-41.6
IT	20184	22563	2379	11.8	14365	16534	2169	15.1	1137	2026	890	78.3
LU	169	194	25	14.6	153	178	25	16.0	3	9	6	184.8
NL	7186	8111	925	12.9	6296	7105	809	12.8	717	1093	376	52.4
PT	4523	5123	599	13.2	3239	3814	575	17.7	388	743	356	91.7
SE	3917	4347	430	11.0	3457	3887	430	12.4	415	619	205	49.4
UK	26744	28187	1443	5.4	23216	24467	1251	5.4	1689	1396	-292	-17.3
EU-15	150724	167964	17240	11.4	125100	141160	16060	12.8	15211	20091	4880	32.1

Source: Eurostat

A better indicator of the impact of temporary work on labour market is provided by the percentage of temporary employment with respect to employees. Looking at Table 2.2, it emerges that Spain (33.3 *per cent*), Portugal (19.5 *per cent*), Netherlands (15.4 *per cent*) are the countries where temporary employment is mostly spread. In 2005 the countries with lower incidence of temporary workers on dependant employment were Ireland (3.6 *per cent*), Luxembourg (5.1 *per cent*) and UK (5.7 *per cent*). Considering EU-15 as a whole, the percentage of temporary employment increased by 2.1 points, reaching 14.2 *per cent* in 2005. Between 1997 and 2005, the incidence of temporary workers has remarkably increased in Portugal (+7.5 *per cent*), Italy (+4.3 *per cent*), Netherlands (+4.0 *per cent*) and Sweden (+3.9 *per cent*).

Figure 2.1 Contribution of temporary work to overall employment growth in EU-15, 1997-2005

Source: Eurostat

Table 2.2 Temporary employment as percentage of total employees, EU-15 1997-2005

	1997	2005	Diff.
AT	7.8	9.1	1.4
BE	6.3	8.9	2.6
DE	11.6	14.2	2.6
DK	11.1	9.8	-1.3
ES	33.5	33.3	-0.2
FI	17.1	16.5	-0.6
FR	12.9	13.3	0.3
GR	10.9	11.8	0.9
IE	9.4	3.6	-5.7
IT	7.9	12.3	4.3
LU	2.0	5.1	3.1
NL	11.4	15.4	4.0
PT	12.0	19.5	7.5
SE	12.0	15.9	3.9
UK	7.3	5.7	-1.6
EU-15	12.2	14.2	2.1

Source: Eurostat

Also in NMS as a whole, temporary employment noticeably increased in the recent years. However, most of the 2,170 thousands of new temporary jobs has been created in Poland

– see Table 2.3. This latter represents a very peculiar case, as temporary employment more than doubled in five years, while overall employment decreased by one percentage point and dependant employment (including temporary employment) increased only by 2.1 *per cent*. In Czech Republic temporary employment increased by 6.8 *per cent*, whereas total employment grew by 1.9 *per cent*. A noticeable contraction in temporary employment has instead characterised Slovakia, where the number of temporary workers decreased by almost 60 thousands units in five years. In the other NMS countries figures are generally too small to be analysed, however a general increasing trend characterise all the NMS countries.

Table 2.3 Recent trends in employment, NMS 1997-2005

	All in employment				Employee				Temporary			
	2000	2005	Diff.	% growth	2000	2005	Diff.	% growth	2000	2005	Diff.	% growth
CY	294	348	54	18.5	222.5	267.2	45	20.1	24	37	14	57.4
CZ	4675	4764	89	1.9	3973.4	4000.8	27	0.7	323	346	22	6.8
EE	568	607	39	6.9	519.3	558.2	39	7.5	12	15	3	28.4
HU	3807	3902	95	2.5	3227	3367.2	140	4.3	223	237	14	6.5
LT	1419	1474	55	3.8	1140.1	1224.1	84	7.4	41	68	27	64.8
LV	942	1034	92	9.8	800.1	915	115	14.4	54	77	23	42.4
MT	143	149	5	3.7	125.9	128.2	2	1.8	5	6	1	11.5
PL	14252	14116	-136	-1.0	10268	10480.3	212	2.1	607	2689	2082	342.8
SI	894	949	56	6.2	750.1	805.5	55	7.4	97	140	43	44.7
SK	2083	2215	132	6.3	1916.1	1928.1	12	0.6	155	96	-59	-38.0
NMS10	29343	29557	214	0.7	23217	23675	458	2.0	1541	3711	2170	140.8

Source: Eurostat

The employment trend registered in Poland strongly influences also the statistics related to the incidence of temporary work on subordinate employment. Between 2000 and 2005 it grew by 9 percentage point, reaching 15.7 in 2005. As a matter of fact, however, this percentage exceed 10.0 *per cent* only in Poland (25.7 *per cent*), Slovenia (17.4 *per cent*) and Cyprus (13.8 *per cent*).

Table 2.4 Temporary employment as percentage of total employees, NMS 2000-2005

	2000	2005	Diff.
CY	10.7	14.0	3.3
CZ	8.1	8.6	0.5
EE	2.2	2.7	0.4
HU	6.9	7.0	0.1
LT	3.6	5.5	1.9
LV	6.8	8.4	1.7
MT	4.1	4.5	0.4
PL	5.9	25.7	19.7
SI	12.9	17.4	4.5
SK	8.1	5.0	-3.1
NMS10	6.6	15.7	9.0

Source: Eurostat

2.1.3 Trends in sectoral subdivisions

Analysing temporary employment according to activity sector, it is first of all interesting to note that in EU-15 the percentage of temporary workers on the total of employee is almost the same in Industry (13.3 *per cent* in 2005) and Services (14.1 *per cent*) - Table 2.5, even if between 1997 and 2005 temporary work has increased more in services sector (+38.6 *per cent*). Among traditional sectors, temporary work is widespread in Agriculture (36.7 *per cent* of employees) and Construction (21.0 *per cent*). In tertiary activities temporary employment is particularly developed in Hotels and restaurants (23.9 *per cent*), Private household activities (24.1 *per cent*) and Other Community, social and personal services (19.1 *per cent*). In the last decade a remarkable growth of temporary employment has been registered in Hotels and restaurants (+56.9 *per cent*), Real estate, renting and business activities (+59.9 *per cent*) and Private household activities (+123.0 *per cent*). It is besides interesting to note that 249 thousands out of 595 new subordinate jobs in Public Administration were fixed-term contract.

Table 2.5 Temporary employment in EU-15 according to activity sector, 1997-2005

	Temporary workers				1997-2005 growth			
	1997		2005		Temporary		Employees	
	Abs. Value (.000)	as % of employees	Abs. Value (.000)	as % of employees	Abs. Value (.000)	%	Abs. Value (.000)	%
<i>Agriculture, hunting, forestry and fishing</i>	667	28.9	840	36.7	172	25.8	-20	-0.9
Mining and quarrying	43	7.6	43	9.8	0	-0.5	-131	-23.1
Manufacturing	2555	9.1	2893	10.7	338	13.2	-1159	-4.1
Electricity, gas and water supply	82	6.5	91	7.6	9	10.6	-74	-5.9
Construction	1596	18.0	2093	21.0	497	31.1	1084	12.2
Industry	4276	11.0	5120	13.3	844	19.7	-280	-0.7
Wholesale and retail trade	1800	10.8	2434	12.6	634	35.2	2655	16.0
Hotels and restaurants	851	20.0	1335	23.9	484	56.9	1333	31.3
Transport, storage and communications	623	7.9	889	9.9	266	42.8	1090	13.8
Financial intermediation	289	5.9	330	6.6	40	13.9	125	2.6
Real estate, renting and business activities	1124	12.8	1798	13.9	673	59.9	4142	47.2
Public administration and defence	1183	10.1	1432	11.7	249	21.0	595	5.1
Education	1496	15.4	1933	17.1	437	29.2	1570	16.1
Health and social work	1648	12.7	2184	13.6	535	32.5	3131	24.2
Other community, social and personal service	882	16.8	1197	19.1	316	35.8	1016	19.3
Activities of private households as employers	220	16.0	491	24.1	271	123.0	665	48.4
Extraterritorial organisations and bodies	19	15.4	21	14.4	2	11.2	24	19.3
Services	10134	12.1	14043	14.1	3908	38.6	16343	19.6
N.A.	133	35.0	89	22.3	-44	-33.4	17	4.4
Total	15211	12.2	20091	14.2	4880	32.1	16060	12.8

Source: Eurostat

In the previous paragraph, we noted that data for NMS are strongly influenced by a dramatic growth of temporary employment in Poland. Therefore temporary employment growth rates in some sectors are really impressive: +237.7 *per cent* in Financial Intermediation, +212.4 *per cent* in Wholesale and retail trade, +203.4 *per cent* in Manufacturing, +202.5 *per cent* in Real estate, renting and business activities (see Table 2.6). Analysing temporary employment incidence in 2005, it's worth noting that, with respect to EU-15, Agriculture sector in NMS resorts much less to such a contract. On the contrary, in Industry as a whole, temporary employment is more spread than in Services (17.2 *per cent* vs. 14.6 *per cent*). Leaving aside the very small sector of Private household activities, temporary work is particularly developed in Construction (23.1 *per cent*), Wholesale and retail trade (20.5 *per cent*) and Hotels and restaurants (20.2 *per cent*).

Table 2.6 Temporary employment in NMS according to activity sector, 2000-2005

	Temporary workers				2000-2005 growth			
	2000		2005		Temporary		Employees	
	Abs. Value (.000)	as % of employees	Abs. Value (.000)	as % of employees	Abs. Value (.000)	%	Abs. Value (.000)	%
<i>Agriculture, hunting, forestry and fishing</i>	120	13.8	139	18.9	19	16.2	-134	-15.4
Mining and quarrying	7	1.6	20	6.3	13	178.1	-121	-27.3
Manufacturing	343	5.7	1041	17.2	698	203.4	-24	-0.4
Electricity, gas and water supply	13	2.4	16	3.4	3	24.8	-55	-10.4
Construction	204	11.7	390	23.1	186	91.1	-57	-3.3
Industry	568	6.5	1468	17.2	900	158.6	-258	-2.9
Wholesale and retail trade	211	7.1	658	20.5	447	212.4	239	8.0
Hotels and restaurants	72	11.9	144	20.2	72	100.4	111	18.4
Transport, storage and communications	74	4.0	172	10.0	98	133.5	-98	-5.4
Financial intermediation	18	2.9	59	11.1	42	237.7	-65	-10.9
Real estate, renting and business activities	85	8.8	258	19.0	173	202.5	390	40.1
Public administration and defence	103	5.9	224	11.5	121	116.7	192	10.9
Education	118	5.6	226	10.1	108	91.1	119	5.6
Health and social work	66	3.7	171	10.0	105	158.5	-59	-3.3
Other community, social and personal service	88	9.8	154	17.3	66	75.1	-8	-0.9
Activities of private households as employers	16	74.2	33	74.7	17	111.0	23	109.6
Extraterritorial organisations and bodies	0	0.0	0	-	0	-	-6	-100.0
Services	851	6.3	2100	14.6	1249	146.9	838	6.2
N.A.	-	-	-	-	-	-	5	60.9
Total	1541	6.6	3711	15.7	2170	140.8	458	2.0

Source: Eurostat

2.1.4 Trends in occupational subdivisions

In EU-15 temporary employment is more spread among blue collar (17.6 *per cent* of the total of employee in 2005) than among white collars (12.2 *per cent*) – see Table 2.7). Even if between 1997 and 2005, temporary employment grew by 34.0 *per cent* among the latter and by 32.3 among the former, the gap in the incidence of temporary employment was amplified by a differentiated growth rate of dependant employment (+16.1 *per cent* for white collars, +7.9 *per cent* for blue collars). Analysing the changes according to each category, a noticeable growth of temporary workers has been registered among Technicians and associate professionals (+53.6 *per cent*), Service workers and shop and market sales workers (+43.1 *per cent*), Elementary occupations (53.9 *per cent*). It's among the latter (22.5 *per cent*) and among Skilled agricultural and fishery workers (28.1 *per cent*) that the percentage of temporary workers was the highest in 2005.

Table 2.7 Recent trends in temporary employment according to occupations, EU-15 1997-2005

	Temporary workers				1997-2005 growth			
	1997		2005		Temporary		Employees	
	Abs. Value (.000)	% of employees	Abs. Value (.000)	% of employees	Abs. Value (.000)	%	Abs. Value (.000)	%
Armed forces	205	19.0	257	21.9	52	25.3	92	8.5
Legislators, senior officials and managers	221	3.1	259	3.2	38	17.1	1036	14.7
Professionals	1921	12.0	2426	12.9	505	26.3	2841	17.8
Technicians and associate professionals	1785	9.3	2741	11.2	956	53.6	5340	27.8
Clerks	1966	10.0	2270	11.6	304	15.4	-133	-0.7
Service workers and shop and market sales workers	2448	14.4	3504	17.0	1056	43.1	3600	21.1
<i>White collars</i>	8341	10.6	11199	12.2	2910	34.0	12684	16.1
Skilled agricultural and fishery workers	354	24.9	425	28.1	71	20.2	92	6.5
Craft and related trade workers	2571	13.5	3054	16.7	483	18.8	-785	-4.1
Plant and machine operators and assemblers	1163	9.8	1438	11.6	275	23.6	537	4.5
Elementary occupations	2276	19.0	3502	22.5	1226	53.9	3638	30.4
<i>Blue collars</i>	6364	14.4	8418	17.6	2055	32.3	3483	7.9
N.a.	301	38.3	216	36.9	-84	-28.0	-199	-25.3
Total	15211	12.2	20091	14.2	4880	32.1	16060	12.8

Source: Eurostat

In NMS, almost one out of five dependant blue collars had a temporary contract in 2005 (19.6 *per cent* – see Table 2.8), whereas the percentage of temporary workers on the total of employee was 12.9 *per cent* among white collars. Temporary employment is especially widespread among Elementary occupations (29.1 *per cent*), Skilled agricultural and fishery workers (23.3 *per cent*) and Service workers and shop and market sales workers (22.3 *per cent*). Between 2000 and 2005, a noticeable increment of fixed-term workers has been registered among Clerks (+196.2 *per cent*) and Plant and machine operators and assemblers (+212.5 *per cent*).

Table 2.8 Recent trends in temporary employment according to occupations, NMS 2000-2005

	Temporary workers				2000-2005 growth			
	2000		2005		Temporary		Employees	
	Abs. Value (.000)	% of employees	Abs. Value (.000)	% of employees	Abs. Value (.000)	%	Abs. Value (.000)	%
Armed forces	6	7.3	19	13.1	14	242.9	70	91.7
Legislators, senior officials and managers	24	2.1	62	5.0	38	153.7	65	5.6
Professionals	124	4.2	353	9.7	229	184.9	685	23.1
Technicians and associate professionals	140	3.7	339	9.3	200	143.1	-88	-2.4
Clerks	109	5.1	323	15.6	214	196.2	-79	-3.7
Service workers and shop and market sales workers	244	8.8	671	22.3	426	174.7	245	8.9
<i>White collars</i>	641	5.0	1747	12.9	1107	172.6	829	6.5
Skilled agricultural and fishery workers	55	20.2	51	23.3	-4	-6.6	-52	-19.0
Craft and related trade workers	303	6.4	773	18.0	470	154.9	-434	-9.2
Plant and machine operators and assemblers	151	5.2	472	14.8	321	212.5	289	10.0
Elementary occupations	384	15.8	642	29.1	258	67.1	-216	-8.9
<i>Blue collars</i>	893	8.7	1938	19.6	1044	116.9	-413	-4.0
N.a.	0	0.0	7	18.6	7	-	-28	-41.7
Total	1541	6.6	3711	15.7	2170	140.8	458	2.0

Source: Eurostat

2.1.5 Textile and Clothing Sector (NACE 17+18)

Despite a slight growth, in EU-15 the percentage of temporary workers on the total of employee in Textile and clothing sector is well below industry average. In 2004 it amounted to 9.3 *per cent* against 13.3 *per cent* registered in Industry as a whole in 2005 (see Table 2.9 and Table 2.5). In the production activities the percentage of temporary workers does not depart from sectoral average, while in R&D and Logistics it does not exceed 10 *per cent*. Considering NMS, it emerges that sectoral resort to temporary workers is in line with industry average as a whole. Moreover it is of note that one out of five production workers in production activities is a temporary worker.

Table 2.9 Temporary employment as percentage of total employees, Textile and clothing sector, EU-15 and NMS, 1996-2004 (three-yearly average)

		1996	2000	2004
Textile and Clothing Sector (NACE 17+18)		8.9	9.6	9.3
EU-15	Textile and Clothing Sector: Production	9.8	10.5	10.3
	Textile and Clothing Sector: R&D	4.3	6.3	6.4
	Textile and Clothing Sector: Logistics	7.8	8.4	9.1
Textile and Clothing Sector (NACE 17+18)		5.9	5.7	17.6
NMS	Textile and Clothing Sector: Production	6.2	6.0	19.3
	Textile and Clothing Sector: R&D	3.9	3.8	16.8
	Textile and Clothing Sector: Logistics	6.9	5.8	11.7

Source: Eurostat

2.1.6 Food Industry (NACE 15)

Both in EU-15 and NMS, temporary employment is quite developed in Food Industry (13.3 *per cent* and 19.2 *per cent* of the total of employees in 2004, respectively – see Table 2.10). In the production activities temporary employment incidence is generally higher than sectoral average – mostly in NMS, where it amounts to 24.0 *per cent*; in logistics activities is 13.8 *per cent* in EU-15 and 15.4 *per cent* in NMS.

Table 2.10 Temporary employment as percentage of total employees, Food industry, EU-15 and NMS, 1996-2004 (three-yearly average)

		1996	2000	2004
Food Industry (NACE 15)		11.6	13.8	13.3
EU-15	Food Industry: Production	14.3	17.3	15.9
	Food Industry: Logistics	12.1	14.9	13.8
Food Industry (NACE 15)		8.1	6.1	19.2
NMS	Food Industry: Production	10.3	7.9	24.0
	Food Industry: Logistics	3.4	4.4	15.4

Source: Eurostat

2.1.7 IT (NACE 72)

IT sector in NMS results very small, thus it is impossible to provide reliable estimates on temporary employment trend in such activities. In EU-15, IT sector rarely resort to temporary employment and no remarkable changes has been registered in the recent years. In 2004 the percentage of temporary workers on the total of employees amounted to 8.4 *per cent* (see Table 2.11).

Table 2.11 Temporary employment as percentage of total employees, IT, EU-15 and NMS, 1996-2004 (three-yearly average)

		1996	2000	2004
EU-15	IT (NACE 72)	7.9	9.1	8.4
	IT: Core Activities	6.9	8.8	7.9
NMS	IT (NACE 72)	3.5	3.9	10.0
	IT: Core Activities	4.6	3.8	10.0

Source: Eurostat

2.1.8 Public administration (NACE 75)

As previously noticed, temporary employment in Public administration in EU-15 has remarkably increased. However while the peak in its usage has been registered around 2000, afterwards a slight decline can be observed - Table 2.12. On the contrary, in NMS, the incidence of temporary public employees decreased between 1996 and 2000 and then increased up to 10.8 *per cent*, in line with EU.15 data.

Table 2.12 Temporary employment as percentage of total employees, Public Administration, EU-15 and NMS, 1996-2004 (three-yearly average)

		1996	2000	2004
EU-15	Public Administration (NACE 75)	9.8	11.5	10.9
	Public Administration: Customer Services	6.9	8.9	8.1
NMS	Public Administration (NACE 75)	8.7	7.6	10.8
	Public Administration: Customer Services	15.3	6.3	12.6

Source: Eurostat

2.1.9 Railways and Postal services (NACE 60.1+64.1)

For what concerns Railways and Postal services, data start from 2000 and are illustrated in Table 2.13. It's straightforward to note that temporary employment in such sector is declining in EU-15 (from 9.1 *per cent* to 6.9 *per cent*) and is almost nonexistent in NMS (4.6 *per cent*). Also in the activities connected to direct contact with customers, temporary employment is decreasing, having its percentage fallen from 10.6 *per cent* to 8.4 *per cent* in EU-15.

Table 2.13 Temporary employment as percentage of total employees, Railways and Postal services, EU-15 and NMS, 1996-2004 (three-yearly average)

		1996	2000	2004
Railways and Postal services (NACE 60.1+64.1)		-	9.1	6.9
EU-15	Railways and Postal services: Core activities connected to direct contact with customers	-	10.6	8.4
Railways and Postal services (NACE 60.1+64.1)		-	2.5	4.6
NMS	Railways and Postal services: Core activities connected to direct contact with customers	-	3.1	4.7

Source: Eurostat

2.1.10 Trends in WORKS-project selected occupations

In EU-15 a general increasing trend in temporary employment has been already noticed. As far as Works-project selected occupations are analysed, it emerges that in EU-15 no remarkable deviations from this trend are registered. In Logistics the percentage of temporary workers on the total of employee grew from 11.9 *per cent* in 1996 to 14.3 *per cent* in 2004, in IT it grew from 7.1 *per cent* to 8.7 *per cent*, in Customer Services activities it grew from 9.9 *per cent* to 13.8 *per cent*. Given poor their reliability, NMS data allow limited consideration. In 2004 the percentage of temporary workers in the three selected occupational groups was lower than NMS average, especially in IT.

Table 2.14 Temporary employment as percentage of total employees, WORKS-project selected occupations, EU-15 and NMS, 1996-2004 (three-yearly average)

		1996	2000	2004
EU-15	Logistics	11.9	14.9	14.3
	IT	7.1	9.1	8.7
	Customer Services	9.9	12.5	13.8
NMS	Logistics	6.1	6.4	14.8
	IT	5.7	4.9	10.3
	Customer Services	4.9	6.9	14.8

Source: Eurostat

2.2 The evolution of self-employment in Europe

Self-employment *per se* cannot be deemed a “new form of work organisation”, especially in sectors where the self-employment is traditionally high (e.g. retail trade). Still, the variation of self-employment relative share can reveal important trend in restructuring of sectors, regarding both the disposal of the smaller firms or the outsourcing of previously internalised activities.

Analysing recent trends in EU-15 Member States (Table 2.15) a slight decrease of self-employment incidence on total employment can be observed (from 15.0 *per cent* in 1995 to

14.7 *per cent* in 2005). The most impressive changes occurred in Spain (-4.9 points between 1995 and 2005), Ireland (-4.4 points) and Greece (-3.7 *per cent*). Broadly speaking, self-employment proportion on total employment remains very high in Mediterranean area – i.e. Greece (30.0 *per cent* in 2005), Italy (24.9 *per cent*) and Portugal (24.1 *per cent*), while hover around 10 *per cent* in the rest of EU-15 countries. Among the determinants of this gap one must necessary include the average firms size in the economy. In fact, where small and medium size firms prevails, self employment is fostered also by a high number of employers.

Table 2.15 Self-employed as percentage of total employment, EU-15 1995-2005

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Austria	10.8	10.8	10.8	11.0	10.9	10.8	10.8	10.9	10.9	12.0	11.8
Belgium	15.4	15.4	14.9	15.4	14.8	14.0	13.2	13.6	13.5	13.0	13.5
Germany	9.4	9.6	9.9	10.0	10.0	10.1	9.9	10.0	10.4	10.9	11.2
Denmark	8.4	8.3	8.3	8.4	8.3	8.2	8.0	8.0	8.4	7.9	8.1
Spain	21.4	21.3	20.6	19.9	19.0	18.0	18.0	17.3	16.6	16.7	16.5
Finland	14.3	15.1	14.5	14.0	13.0	12.9	12.3	12.3	12.3	12.0	12.1
France	11.6	11.3	11.2	10.9	10.7	10.1	9.8	9.7	10.2	9.9	9.9
Greece	33.8	33.7	33.3	32.3	32.1	32.3	31.5	31.3	31.0	30.2	30.0
Ireland	20.7	19.8	19.5	19.0	18.0	17.8	17.3	17.1	16.7	17.2	16.3
Italy	24.6	24.7	24.6	24.4	24.4	24.2	23.7	23.4	23.2	25.5	24.9
Luxembourg	10.0	9.0	8.5	8.8	8.4	8.9	6.7	7.3	7.7	7.9	7.7
Netherlands	11.5	11.2	11.3	10.8	10.7	10.3	10.8	11.1	10.9	11.6	11.8
Portugal	25.8	26.8	26.9	25.9	24.8	23.6	25.5	25.6	25.6	24.4	24.1
Sweden	11.7	11.7	11.2	10.9	10.9	10.6	10.2	10.2	10.0	10.1	10.3
United Kingdom	12.9	12.6	12.5	12.1	12.2	11.9	11.8	12.0	12.5	12.8	12.7
EU-15	15.0	15.0	15.0	14.7	14.6	14.3	14.1	14.1	14.3	14.7	14.7

Source: Eurostat

Self employment has diminished also in New Member States. In particular, while in 2000 the average quota of self-employed on total employment amounted to 17.8 *per cent* (Table 2.16), in 2005 the ratio reduced to 16.8 *per cent*. This cut has particularly involved Lithuania (-2.7 *per cent*), and Poland (-2.0 *per cent*). On the contrary, self employment remarkably expanded in Slovakia (+4.8 *per cent*). The case of Romania also deserve attention: the percentage of self-employed declined from 25.4 *per cent* in 2000 to 21.5 *per cent* in 2005.

Table 2.16 Self-employed as percentage of total employment, NMS-10, Romania and Bulgaria 2000-2005

	2000	2001	2002	2003	2004	2005
Cyprus	21.1	20.4	19.8	20.2	20.3	20.5
Czech Republic	14.5	14.6	15.3	16.7	16.3	15.3
Estonia	7.9	6.6	6.5	8.1	9.3	7.9
Hungary	14.5	14.0	13.2	12.8	14.0	13.3
Lithuania	16.7	16.7	17.1	17.1	15.8	14.0
Latvia	10.8	10.3	9.2	9.5	9.9	9.3
Malta	12.0	12.0	14.4	13.8	14.1	13.7
Poland	22.5	22.5	22.5	21.6	21.1	20.5
Slovenia	11.2	11.8	11.7	9.8	10.2	10.2
Slovakia	7.8	8.4	8.3	9.4	11.9	12.5
NMS10	17.8	17.7	17.6	17.4	17.4	16.8
Bulgaria	14.6	13.6	13.4	13.8	13.7	12.5
Romania	25.4	25.7	24.4	23.5	20.3	21.5

Source: Eurostat

2.2.1 Trends in sectoral subdivisions

Self-employment in EU-15 has however grown in the last decade. Between 1997 and 2005 the number of self employed grew by 9.4 *per cent*, raising from 22,545 thousands to 24,662 thousands (+2,117) - Table 2.17. Its declining share in employment is explained by the fact that in the same period, total employment grew by 11.4 *per cent*. When sectors are considered it is first of all interesting to note that in 2005 self employment was very frequent in Agriculture (52.2 *per cent*), while the percentage of self-employed in Industry (12.7 *per cent*) and Services (13.3 *per cent*) is almost similar. Going into detail, sectors with higher percentages of self-employed are Construction (24.8 *per cent*), Other community, social and personal services (23.1 *per cent*), Real estate, renting and business activities (22.6 *per cent*). In the latter sector a dramatic grew of self-employed was registered between 1997 and 2005 (+1,269 thousands units corresponding to 49.9 *per cent*), though employment as a whole grew by 47.4 *per cent*. The case of Wholesale and retail trade is more interesting as self-employment declined by 5.2 percentage points whereas total employment grew by 9.4 *per cent*. Self-employment growth rate was higher than total employment - thus determining an increase in relative percentage - in many sectors: Electricity, gas and water supply (+4.1 *per cent* vs. -5.7 *per cent*), Construction (+22.8 *per cent* vs. +14.5 *per cent*), Financial intermediation (+28.7 *per cent* vs. +4.1 *per cent*), Real estate, renting and business activities (+49.9 *per cent* vs. +47.4 *per cent*), Public administration and defence (+86.2 *per cent* vs. +5.3 *per cent*, but in this case the self-employment figures are very small), Education (+39.7 *per cent* vs. +16.8 *per cent*) and Other community, social and personal services (+30.1 *per cent* vs. +21.1 *per cent*).

Table 2.17 Self employment trends according to activity sector, EU-15 1997-2005

	Self-employed				1997-2005 growth			
	1997		2005		Self-employed		All in employment	
	N (.000)	% of total employment	N (.000)	% of total employment	Abs. (.000)	%	Abs. (.000)	%
<i>Agriculture, hunting, forestry and fishing</i>	3891	53.2	3265	52.2	-627	-16.1	-1064	-14.5
Mining and quarrying	21	3.6	21	4.6	0	0.0	-131	-22.3
Manufacturing	2337	7.6	2309	7.8	-28	-1.2	-1284	-4.2
Electricity, gas and water supply	20	1.5	20	1.7	1	4.1	-73	-5.7
Construction	2703	23.1	3321	24.8	618	22.8	1696	14.5
<i>Industry</i>	5081	11.4	5672	12.7	591	11.6	208	0.5
Wholesale and retail trade	5047	22.5	4787	19.5	-260	-5.2	2110	9.4
Hotels and restaurants	1376	23.1	1469	20.1	93	6.8	1365	22.9
Transport, storage and communications	1010	11.3	1087	10.8	78	7.7	1164	13.0
Financial intermediation	345	6.6	444	8.1	99	28.7	212	4.1
Real estate, renting and business activities	2544	22.3	3813	22.6	1269	49.9	5413	47.4
Public administration and defence	30	0.3	56	0.5	26	86.2	620	5.3
Education	317	3.1	443	3.8	126	39.7	1689	16.8
Health and social work	1196	8.4	1476	8.4	280	23.4	3410	24.0
Other community, social and personal service	1462	21.5	1901	23.1	440	30.1	1434	21.1
Activities of private households as employers	149	9.7	125	5.8	-24	-15.9	636	41.4
Extraterritorial organisations and bodies	-	-	-	-	-	-	14	2.5
<i>Services</i>	13476	13.6	15605	13.3	2129	15.8	18066	18.3
N.A.	97	78.3	121	78.6	24	24.3	30	23.9
Total	22545	15.0	24662	14.7	2117	9.4	17240	11.4

Source: Eurostat

In NMS self-employment reaches 55.5 per cent of total employment in Agriculture, 12.7 per cent in Services and 9.9 per cent in Industry (see Table 2.18), even though, between 2000 and 2005 it has especially grown in the latter (+7.3 per cent, vs. +2.3 per cent in Services and -16.8 in Agriculture). Similarly to old member states, self employment is widespread in Construction (23.0 per cent of total employment in 2005), Real estate, renting and business activities (22.5 per cent), Wholesale and retail trade (21.4 per cent) and Other community and social services (20.3 per cent). Between 2000 and 2005, against a decline in total employment, self employed grew in all industry sectors, and especially in Construction (11.1 per cent). Divergent trends was also registered in Financial intermediation (+15.0 per cent vs. -82. per cent in total employment), Health and social work (+39.4 per cent vs. -1.3 per cent). Remarkable growth in self employment characterised also Real estate, renting and business activities (+41.5 per cent) and Education (+29.9 per cent). On the contrary in Wholesale and retail trade, Hotels and restaurants and Public administration and defence (in this latter case the self-employment figures are indeed very small) self-employment, against an overall employment increment, the number of self-employed declined.

Table 2.18 Self employment trends according to activity sector, NMS 2000-2005

	Self-employed				2000-2005 growth			
	2000		2005		Self-employed		All in employment	
	N (.000)	% of total em- ploy- ment	N (.000)	% of total employ- ment	Abs. (.000)	%	Abs. (.000)	%
Agriculture, hunting, forestry and fishing	2270	58.2	1889	55.5	-381	-16.8	-498	-12.8
Mining and quarrying	-	-	-	-	-	-	-121	-27.1
Manufacturing	415	6.4	427	6.6	12	2.9	-12	-0.2
Electricity, gas and water supply	7	1.4	8	1.6	0	5.4	-55	-10.1
Construction	458	20.6	509	23.0	51	11.1	-8	-0.4
Industry	882	9.1	947	9.9	64	7.3	-195	-2.0
Wholesale and retail trade	1020	25.2	891	21.4	-130	-12.7	103	2.5
Hotels and restaurants	123	16.7	116	13.7	-7	-6.0	106	14.4
Transport, storage and communications	248	11.9	248	12.5	0	0.0	-95	-4.5
Financial intermediation	66	9.9	75	12.4	10	15.0	-55	-8.2
Real estate, renting and business activities	280	22.3	397	22.5	116	41.5	509	40.5
Public administration and defence	13	0.7	7	0.4	-6	-43.7	187	10.5
Education	29	1.3	37	1.6	9	29.9	128	6.0
Health and social work	84	4.5	117	6.4	33	39.4	-24	-1.3
Other community, social and personal service	206	18.6	229	20.3	22	10.9	15	1.3
Activities of private households as employers	-	-	-	-	-	-	28	117.4
Extraterritorial organisations and bodies	-	-	-	-	-	-	-7	-100.0
Services	2070	13.2	2118	12.7	47	2.3	896	5.7
N.A.	-	-	-	-	-	-	6	54.4
Total	5224	17.8	4955	16.8	-269	-5.2	214	0.7

Source: Eurostat

2.2.2 Trends in occupational subdivisions

In Eu-15 the percentage of self-employed on total employment in 2005 was quite similar between white collars (14.4 *per cent*) and blue collars (15.6 *per cent*) – see Table 2.19. These current figures are though the result of two divergent tendencies: among white collars self employment grew by 20.4 *per cent* whereas declined by 5.5 *per cent* among blue collars. Among the formers, the number of self-employed declined only in Service workers and shop and market sales workers (-25.4 *per cent*), while among the latter self employment declined by 19.0 *per cent* in Skilled agricultural and fishery workers (a category in which job loss was however remarkable) and Plant and machine operators and assemblers. Self-employment characterise Legislators, senior officials and managers category (44.1 *per cent*), Professionals (16.9 *per cent*), Skilled agricultural and fishery workers (58.5 *per cent*) and Craft and related trade workers (19.4 *per cent*) and may be therefore associated with high skilled workers and very small activities like craft shops.

Table 2.19 Self employment trends according to occupation, EU-15 1997-2005

	Self-employed				1997-2005 growth			
	1997		2005		Self-employed		All in employment	
	N (.000)	% of total employment	N (.000)	% of total employment	Abs. (.000)	%	Abs. (.000)	%
Armed forces	0	0.0	0	0.0	0	-	92	8.5
Legislators, senior officials and managers	5200	41.9	6528	44.1	1328	25.5	2408	19.4
Professionals	2903	15.3	3842	16.9	939	32.3	3779	19.9
Technicians and associate professionals	2326	10.7	3158	11.4	832	35.8	6173	28.5
Clerks	335	1.7	421	2.1	86	25.7	-59	-0.3
Service workers and shop and market sales workers	2171	10.8	1620	7.1	-551	-25.4	2655	13.2
White collars	12934	13.9	15568	14.4	2634	20.4	14955	16.0
Skilled agricultural and fishery workers	3535	60.5	2864	58.5	-670	-19.0	-941	-16.1
Craft and related trade workers	4312	18.3	4445	19.4	132	3.1	-736	-3.1
Plant and machine operators and assemblers	1046	8.0	980	7.3	-66	-6.3	450	3.5
Elementary occupations	682	5.3	759	4.6	78	11.4	3632	28.1
Blue collars	9575	17.3	9048	15.6	-527	-5.5	2406	4.3
N.a.	36	4.0	46	6.6	10	27.4	-213	-23.5
Total	22545	15.0	24662	14.7	2117	9.4	17240	11.4

Source: Eurostat

In NMS self-employment characterises especially blue collars (20.8 *per cent* of total employment in 2005 vs. 13.5 *per cent* among white collars – see Table 2.20), but most of this gap may be explained by the fact that 65.6 *per cent* of Skilled agricultural and fishery workers are self-employed. If comparison is carried out with respect to old member states, the most striking difference emerges in the relatively high presence of self-employed among Service workers and shop and market sales workers (15.6 *per cent*) even though, between 2000 and 2005, the percentage of self-employed on total employment in this category fell from 18.6 *per cent* to 15.6 *per cent*. On the contrary this incidence grew among Professionals (from 9.0 *per cent* to 9.8 *per cent*), Technicians and associate professionals (from 7.8 *per cent* to 9.4 *per cent*), Craft and related trade workers (from 11.7 *per cent* to 13.5 *per cent*) and Elementary occupations (from 2.7 *per cent* to 3.2 *per cent*).

Table 2.20 Self employment trends according to occupation, NMS 2000-2005

	Self-employed				2000-2005 growth			
	2000		2005		Self-employed		All in employment	
	N (.000)	% of total employment	N (.000)	% of total employment	Abs. (.000)	%	Abs. (.000)	%
Armed forces	0	0.0	0	0.0	0	-	71	91.9
Legislators, senior officials and managers	772	39.8	750	37.8	-23	-2.9	44	2.3
Professionals	292	9.0	399	9.8	106	36.4	792	24.3
Technicians and associate professionals	317	7.8	379	9.4	62	19.4	-17	-0.4
Clerks	48	2.2	46	2.1	-2	-4.2	-80	-3.6
Service workers and shop and market sales workers	647	18.6	569	15.6	-78	-12.1	167	4.8
White collars	2076	13.9	2142	13.5	65	3.1	907	6.1
Skilled agricultural and fishery workers	2193	68.7	1822	65.6	-371	-16.9	-416	-13.0
Craft and related trade workers	629	11.7	674	13.5	46	7.2	-391	-7.3
Plant and machine operators and assemblers	256	8.1	239	7.0	-17	-6.7	271	8.6
Elementary occupations	69	2.7	75	3.2	6	8.5	-200	-7.9
Blue collars	3147	22.1	2811	20.8	-337	-10.7	-736	-5.2
N.a.	0	0.0	0	0.0	0	-	-27	-39.5
Total	5224	17.8	4955	16.8	-269	-5.2	214	0.7

Source: Eurostat

2.2.3 Textile and Clothing Sector (NACE 17+18)

Self-employment can be regarded both as an indication of very high skilled activities and as an indication of very small craft firms, therefore it's very difficult to infer any conclusion from data analysis. However it's possible to argue that the lower the incidence of self-employment the higher the likelihood of labour intensive large scale production cycle.

Analysing the incidence of self-employment in Textile and Clothing sector, it emerges that in EU-15 it is slightly higher than manufacturing average - 14.4 *per cent* in 2004, see Table 2.21. However, in production activities, the proportion reduces to 12.9 *per cent*, thus confirming that dependant work better suit to such occupations. In NMS, the proportion of self-employed is generally lower than old member states - 8.6 *per cent*. Moreover, Textile and clothing firms rarely resort to self employment to fill jobs in production occupations.

Table 2.21 Self employment as percentage of total employment, Textile and Clothing sector, EU-15 and NMS, 1996-2004

		1996	2000	2004
EU-15	Textile and Clothing Sector (NACE 17+18)	13.3	13.5	14.4
	Textile and Clothing Sector: Production	12.6	12.4	12.9
	Textile and Clothing Sector: R&D	13.4	12.6	11.4
	Textile and Clothing Sector: Logistics	2.1	1.7	2.6
	Textile and Clothing Sector (NACE 17+18)	10.1	7.0	8.6
NMS	Textile and Clothing Sector: Production	10.3	7.2	6.8
	Textile and Clothing Sector: R&D	4.2	4.3	1.8
	Textile and Clothing Sector: Logistics	0.4	1.7	3.2

Source: Eurostat

2.2.4 Food Industry (NACE 15)

In Food Industry proportion of self-employment in EU-15 declined from 11.9 *per cent* to 10.4 *per cent* between 1996 and 2004 - Table 2.22. However, in production activities, the percentage of self-employed on total employment is higher than sectoral average and amounted to 13.5 *per cent* in 2004. In NMS, on the contrary, self-employment is practically nonexistent and weight 4.1 *per cent* in total employment of the sector.

Table 2.22 Self employment as percentage of total employment, Food Industry, EU-15 and NMS, 1996-2004

		1996	2000	2004
EU-15	Food Industry (NACE 15)	11.9	11.0	10.4
	Food Industry: Production	15.3	13.6	13.5
	Food Industry: Logistics	1.1	1.4	1.7
NMS	Food Industry (NACE 15)	5.3	3.8	4.1
	Food Industry: Production	5.3	3.5	2.3
	Food Industry: Logistics	1.7	1.2	0.9

Source: Eurostat

2.2.5 IT (NACE 72)

IT is on its turn characterised by a remarkable resort to self-employment. In EU-15 it reaches 16.5 (Table 2.23) *per cent* of total workforce and in NMS it amounts to 21.9 of total employment in 2004. Also in WORKS-project selected functions within the sector self-employment is noticeably spread: 16.6 *per cent* in EU-15 and 22.5 *per cent* in NMS.

Table 2.23 Self employment as percentage of total employment, IT, EU-15 and NMS, 1996-2004

		1996	2000	2004
EU-15	IT (NACE 72)	15.7	14.1	16.5
	IT: Core Activities	16.4	14.1	16.6
NMS	IT (NACE 72)	28.9	22.1	21.9
	IT: Core Activities	30.1	19.2	22.5

Source: Eurostat

2.2.6 Public Administration (NACE 75)

For what concern Public Administration we can only observe that in EU-15 a slight increase in self-employment proportion has been registered in the last decade. However this percentage remains well below one *per cent* - Table 2.24.

Table 2.24 Self employment as percentage of total employment, Public Administration, EU-15 and NMS, 1996-2004

		1996	2000	2004
EU-15	Public Administration (NACE 75)	0.3	0.4	0.5
	Public Administration: Customer Services	0.1	0.1	0.3
NMS	Public Administration (NACE 75)	-	0.3	0.0
	Public Administration: Customer Services	0.0	0.7	0.0

Source: Eurostat

2.2.7 Railways and Postal services (NACE 60.1+64.1)

Also in Railways and Postal Services self employment figures are too small to provide any reliable estimate on the phenomenon. In 2004, sectoral average proportion of self-employment in EU-15 was 1.9 *per cent* - Table 2.25.

Table 2.25 Self employment as percentage of total employment, Railways and Postal services, EU-15 and NMS, 1996-2004

		2000	2004
EU-15	Railways and Postal services (NACE 60.1+64.1)	1.4	1.9
	Railways and Postal services: Core activities connected to direct contact with customers	1.6	2.1
NMS	Railways and Postal services (NACE 60.1+64.1)	0.2	0.5
	Railways and Postal services: Core activities connected to direct contact with customers	0.2	0.7

Source: Eurostat

2.2.8 Self-employment in WORKS-project selected occupations

For what concerns EU-15, some more reliable data can be obtained analysing the evolution of self-employment in WORKS-project selected occupations. However, with the exception of IT activities, Table 2.26 shows that both in Logistics and Customer Services self-employed are relatively infrequent. An increasing share of IT workers works as self-employed. In 1996 they were 7.6 of total workforce of the category, in 2004 they amounted to 9.1 *per cent* of total workforce - Table 2.26.

Table 2.26 Self employment as percentage of total employment, WORKS-project selected occupations, EU-15 and NMS, 1996-2004

	1996	2000	2004
EU-15 Logistics	2.2	1.8	1.7
EU-15 IT	7.6	7.9	9.1
EU-15 Customer Services	2.2	2.0	2.5
NMS Logistics	2.2	2.0	1.8
NMS IT	8.8	7.5	11.5
NMS Customer Services	2.6	2.4	2.9

Source: Eurostat