ISBN: 1646-8929

IET Working Papers Series
No. WPS07/2008

António B. Moniz
(e-mail: abm@fct.unl.pt)

The transformation of work? A quantitative evaluation of changes in work in Portugal

Grupo de Inv. "Innovation Systems"
IET
Research Centre on Enterprise and Work Innovation
Centro de Investigação em Inovação Empresarial e do Trabalho
Faculdade de Ciências e Tecnologia
Universidade Nova de Lisboa
Monte de Caparica
Portugal

The transformation of work?

WP15 - A quantitative evaluation of changes in work in Portugal

António Brandão Moniz
IET/FCT-UNL, Portugal

CIT3-CT-2005-006193

Versions:

Portuguese version: 1.3
To be sent to: HIVA
Date: 15 February 2008

1 Abstract

This report is made for the Work Package 15 of WORKS project and tries to develop more information on the Portuguese situation in the work structures changes in the recent years.

It starts with an analysis of socio-economical indicators (Macro economical indicators, Employment indicators, Consumption, Technology at the workplace, Productivity), and then approaches the situation in terms of work flexibility in its dimensions of time use and New forms of work organisation. It traces employment in business functions with a sectoral and occupational approach, and analyses the occupational change in South Europe with particular relevance to Portugal (skill utilisation and job satisfaction, occupational and industrial mobility, quantitative evaluation of the shape of employment in Europe. Finaly are analysed the globalisation indicators.

Keywords: work organisation, institutions, employment, labour markets, investment, technology modernisation

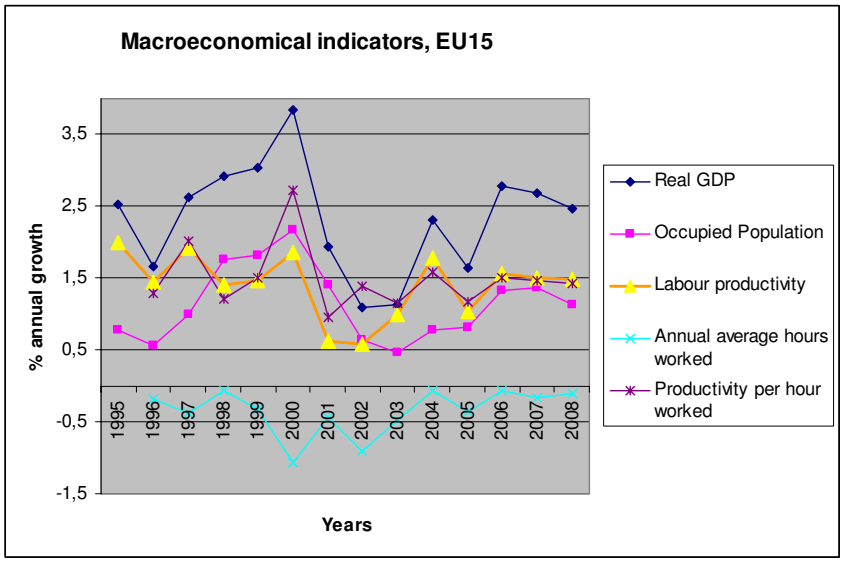
JEL classification: D24; E20; F21; J2; J80; L6; M54

2 Socio-economical indicators

In this chapter we use some macro economical indicators to present some further information on the Portuguese situation in terms of context for work structures restructuring. Further on, are presented specific employment indicators and quantitative information on consumption and wealth. Finally, there is an approach to modernisation process using indicators of application of technology at the workplace and its effects in terms of productivity.

2.1 Macro economical indicators

The indicators shown bellow refers to annual growth rates of different indicators in all 15 EU countries. With such information one can have a general outlook of the Portuguese economy environment and structures framework changes.



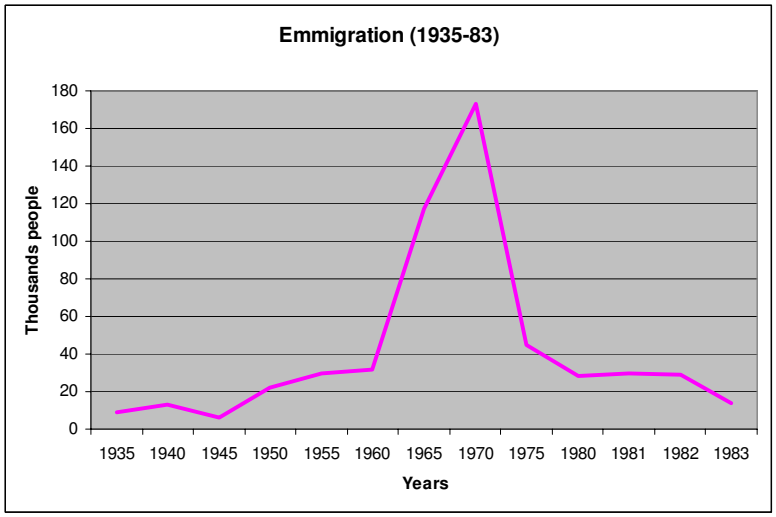
As understood with this information, a critical phase in the European economy can be perceived from 2001 on. After a period of growth (either of real GDP and productivity of labour) the 15 EU member states knew a period of strong decrease in such indicators (and in overall economical features), and have been recovering since then. But the annual growth levels of GDP, employment and productivity are still not with the same trends one knew in the late 90s.
Also the real unit labour costs are decreasing constantly since the beginning of the observed period.

2.2 Employment indicators

The Portuguese employment rate is one the highest in Europe. This is due to a high involvement of women in the labour market. It is said, in the WP9 report of Birindelli et al., that “there are important anomalies, with Portugal for instance having high female

employment and a very high proportion of women in full-time work" p. 16). What apparently is an "anomaly" means eventually regularity: in countries that suffered quick and meaningful losses in workforce, the replacement process implies an added involvement of female workers in the labour market. That happened in the US labour market during the WW2, and in Portugal was due either to the Colonial War (1961-1974) that mobilised thousands of young workers to war fronts in the African colonies, or to the clandestine emigration flows to France and Germany.

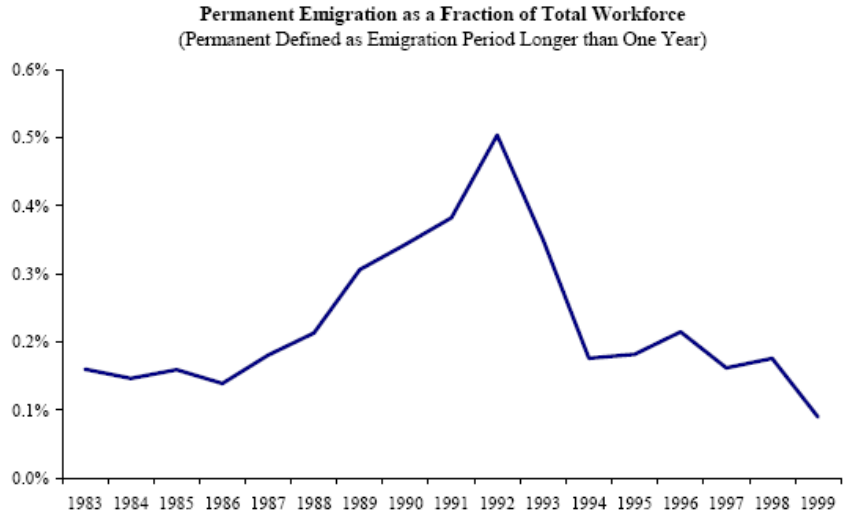
In the next figure on can have the information on the numbers of emigrants in those decades. Here are included the figures from legal emigrant flow, as well the illegal one (especially in 1970, the non-controlled emigration was almost 2/3 of the total (and about 5.5% of the total workforce!). And in 1965 and 1970, 80.3% and 65.8% respectively was emigration towards Europe (France and Germany).



This process of emigration decreased after the implementation of the democratic process in 1974 and the end of the colonial war. After the European Commission adhesion in 1986 the emigration flows were substantially lower (around 0.2% of the total workforce), although they increased during 5 years (from 1987 until 1992) due to the possibilities of free job movements in the European space, and to other circumstantial labour market features (crises in the mining sector, and in agriculture that pushed workers to work in construction in other European countries like Spain, France, Germany or UK). The free movement of workers was introduced for Greece in 1988 and for Spain and Portugal in 1992 [1].

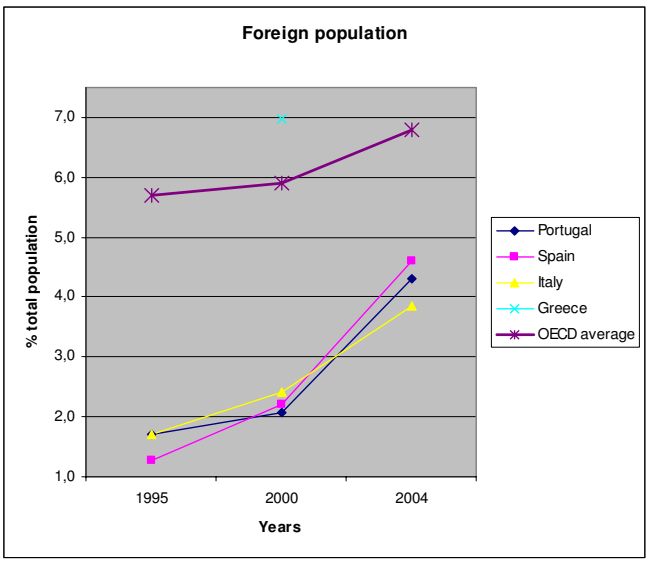
From 1992 started a new process of investment and industrial re-vitalisation with strong governmental subsidies to modernisation in the manufacturing industry. The next figure shows more explicitly these changes.

[1] The agreement allows workers to move freely within the member states of the European Union and to stay for the purpose of employment. Also "any discrimination based on nationality between workers of the Member States as regards employment, remuneration and other conditions of work and employment" is prohibited (Treaty establishing the European Community, chapter III article 48)

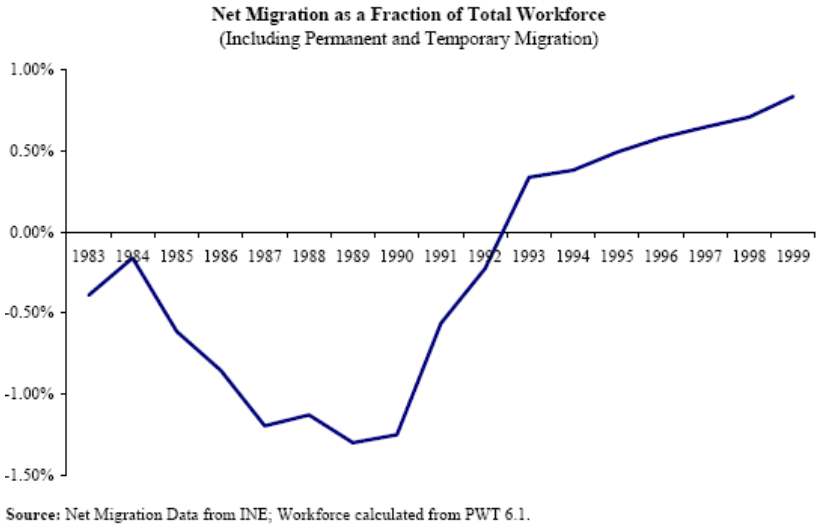


Source: Permanent Emigration Data from INE, and Estimates by Carrilho and Patricio (2003) for 1989-91; Workforce calculated from PWT 6.1.

In this figure one can understand that the emigration played no more a change factor role in the internal labour market. Batista (2007) mentions that "a striking characteristic of these emigration flows is their small magnitude relative to the total workforce. (…) there was no strong and immediate jump in emigration after 1986. There was only a gradual increase until 1992, the year in which emigration attained a peak. This is probably related to the fact that legal barriers to labor mobility were not immediately abolished when the country entered the EU: indeed, Portugal joined in January 1st, 1986, but full labor mobility was only granted after a transition period, which ended in December 31st, 1991." (p. 5). If in 1970 more than 5% of the workforce was emigrating, now this flow represents only 0.3%, and with a trend to decrease up to a 0.1% level. More recently, the migration flow is reversing: one can testimony an increase of immigration. In this respect, Batista continues: "From the 90s, the most important migratory phenomenon in the Portuguese labor market has indeed been very sizable immigration, and no longer emigration. Even though this phenomenon was not directly created by Portugal's entry in the EU (since most immigrants came and are coming from outside the EU, and do not, therefore, benefit from the European open borders), this may be regarded as its indirect consequence" (p. 5).



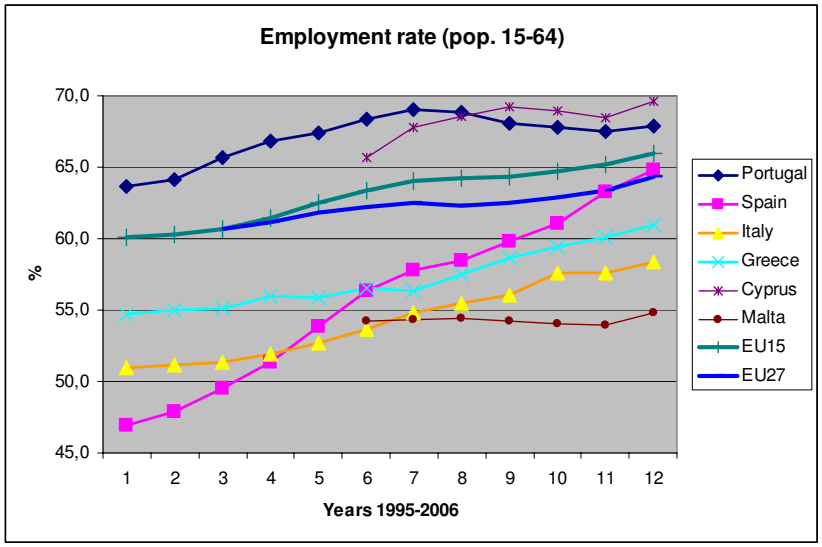
Although this movement is common to almost all "Southern" European countries, it is nevertheless not as strong as taking the OECD average. The weight of this migration movement in total population is around 5% and is still increasing very fast. The migration flow can witness in the following figure published at C. Batista, 2007, p. 6).



Source: Net Migration Data from INE; Workforce calculated from PWT 6.1.

In 2004 were working in Portugal almost 143 thousand people (4 thousand as employers and more than 138 thousand as employees). From these only 11576 were from EU25 countries. Interesting is that more than 28 thousand were from Ukraine as much as people from Brazil, and only 13846 came from Cape Verde that was in the 70s the major immigrant group [2].

In terms of entrepreneurship, the national immigrant groups with a major percentage of employers are the following: Danish (30.1%), Dutch (29.8%), British (22%), Irish (20%), and Swedish (19.1%). Among the non-European, the Chinese are the most representative in this group (15.8% are employers). Thus, after these demographic flows, the evolution of the employment rate in Europe, and particularly Portugal has been the following in the last years.

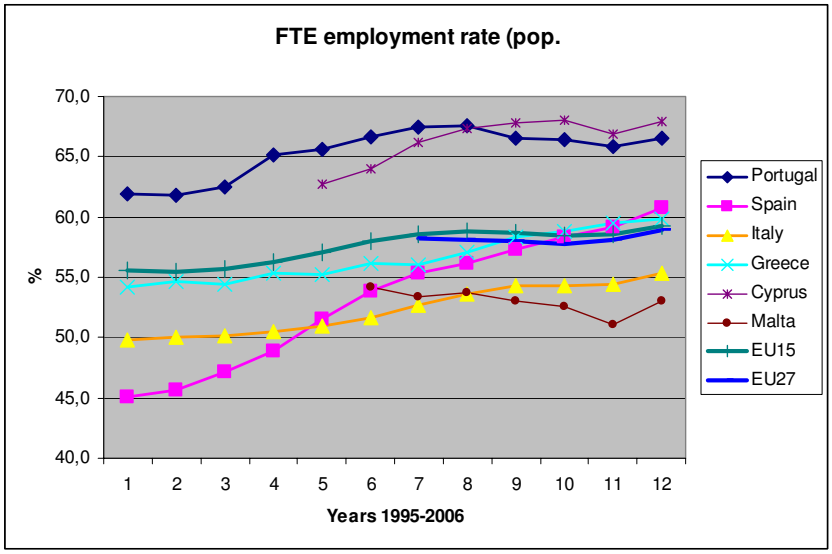


[2] Information available at *Quadros de Pessoal* of the Ministry of Labour, 2004, p. 86

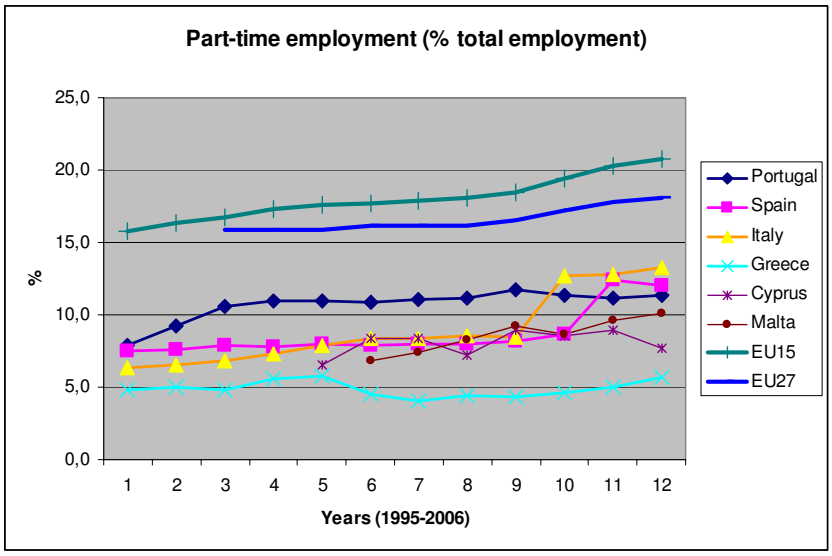
As it can be seen, Portugal has one of the highest employment rates of Europe, and always above the EU average. It is also interesting to see the fast increase of the Spanish rate in the last years that lead this country to the EU average.

The evolution is very similar with the one that is related with the full time employment (FTE) as shown in the next figure.

FTE employment rate (% population aged 15-64)



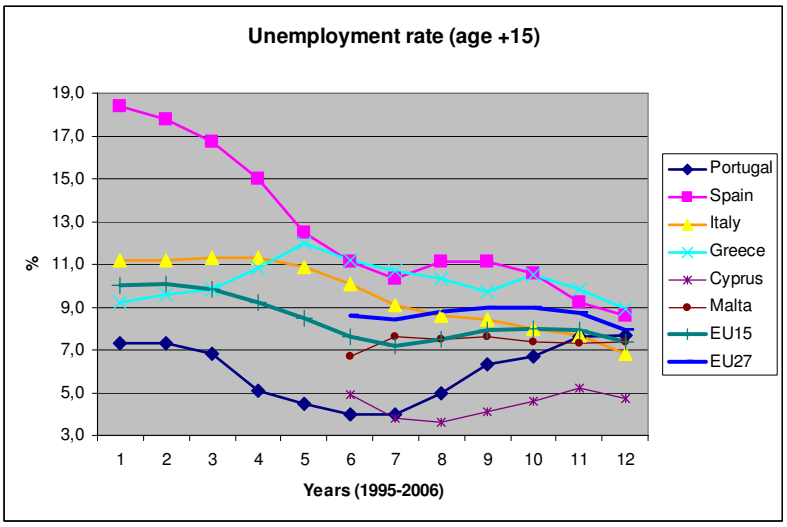
The behaviour of both rates (general and FTE employment) is very similar. When one analysis particularly the position of Portugal can conclude that this form of contract represents most of the employment bargain (almost 90%). And the same happens in the Southern countries with more evidence than the European average rate. One result of this is the fact that part-time employment still does not know a strong increase in those countries, as can be shown in the next figure.



Here one can testimony the increase of this form of employment contract (especially in the last years of the last decade), but it stagnated around 10% in the Portuguese case. In Southern countries, only Italy and Spain know a recent increase of this model. All others maintain a level lower than the 10%, when the European averages (with 15 or 27

member states) increases very fast their rates (EU15 with more than 20%, and EU27 going very close to that level).

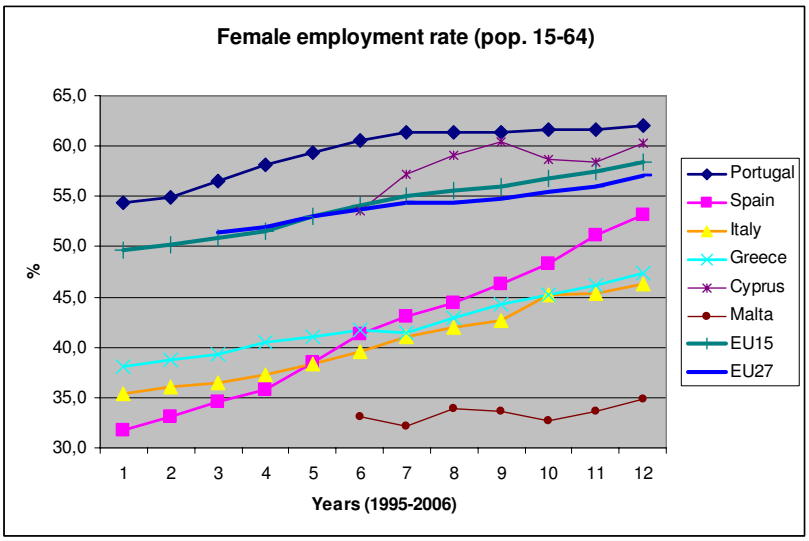
The unemployment rate also knows a severe change in the last years. Portugal knew a strong decrease of its unemployment level until 2001. from then unemployment is growing and the rate is now very similar to the one of the rest of European countries.



In spite the relatively lower unemployment levels, the Long Term Unemployment (LTU) is particularly high in Portugal. Reaching in 1998, 44,6% of the total unemployment figure, the very long-term unemployment being extremely high. The LTU is particularly high among the low schooled employed and mainly affects the young adults (25-44 years of age) especially women. The national priorities for the fight against LTU run along three main vectors: a) to consolidate the basic qualification of the unemployed so as to increase their professional reinsertion capacity; b) to develop the qualifying training bringing them closer to working environments and inserting, when appropriate, logics of professional re-conversion retraining; to promote job creation mainly focusing on the development of the capacity to create self-employment (self-employment, employment in micro-units, employment in the cooperative sector); d) to intensify the initiatives for professional insertion and reinsertion of the long term unemployed; and e) to combat long term unemployment among women (cf. Moniz, 2002, p. 12).

2.3 Gender issues

Situation of women in the labour must be taken with attention. The Portuguese case is rather an exception in the context of Southern countries (although closely followed by Cyprus), once the female employment rate is always higher than the European average. And the growth rate is very similar to the average, and that means that it will maintain with such proportion for the next years.



Is worth of attention also the Spanish change process, once in mid-90 this country had one of the lowest rates in Europe, and since then its growth has been so strong that is by now very close to the European average. Also Italy and Greece know increase of their rates, but is not that similar at all. In any case, these countries have rates lower than the European average one.

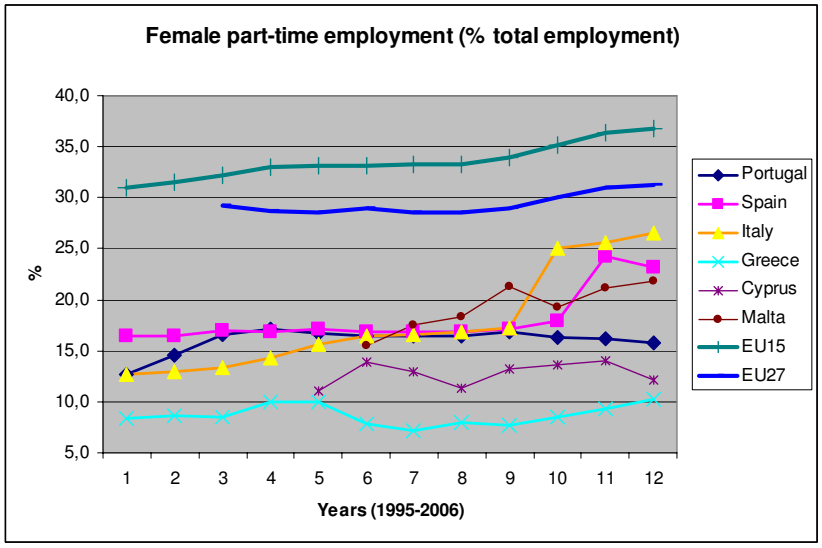
The next table focus a gender issue related to the relative evolution of workers number *per* qualification group.

CONTINENTE %

ANOS / NÍVEIS DE QUALIFICAÇÃO	OUTUBRO 2000		OUTUBRO 2001		OUTUBRO 2002		OUTUBRO 2003		OUTUBRO 2004	
	Homens	Mulheres	Homens	Mulheres	Homens	Mulheres	Homens	Mulheres	Homens	Mulheres
TOTAL	100.0	100.0	n.d.	n.d.	100,0	100,0	100,0	100,0	100,0	100,0
QUADROS SUPERIORES	6,1	3,6	n.d.	n.d.	5,4	3,4	6,6	4,5	6,8	4,8
QUADROS MÉDIOS	3,2	2,7	n.d.	n.d.	3,4	3,0	4,3	3,7	4,7	4,0
ENCARREGADOS CONT. CHEFES EQUIPA	5,1	1,9	n.d.	n.d.	4,8	2,0	4,9	2,1	4,9	2,2
PROFISSIONAIS ALTAMENTE QUALIFICADOS	6,2	5,7	n.d.	n.d.	5,6	5,8	6,3	6,7	6,2	6,7
PROFISSIONAIS QUALIFICADOS	48,7	36,9	n.d.	n.d.	47,0	35,3	47,3	36,4	45,8	34,8
PROFISSIONAIS SEMI-QUALIFICADOS	11,8	22,4	n.d.	n.d.	10,8	21,3	11,4	22,0	11,3	22,1
PROFISSIONAIS NÃO QUALIFICADOS	10,8	16,1	n.d.	n.d.	11,1	15,0	11,0	15,5	11,2	15,7
PRATICANTES E APRENDIZES	6,1	9,1	n.d.	n.d.	5,4	7,7	4,9	6,8	4,6	6,1
NÍVEL DESCONHECIDO	2,0	1,6	n.d.	n.d.	6,5	6,5	3,3	2,3	4,5	3,6

As one can observe, the number less qualified workers have been always higher in the women group (always more than 22% in the semi-qualified women, when men present a different figure: around 11%. However is worth of notice that the relative weight of very highly qualified women is increasing more quickly than the same indicator for men (in the managers/engineers group was 9.3% for men in 2000, while women were only 6.3%. In the same group in 2004, men had 11.5% and women 8.8%). If this trend is still there, one can expect that in next 30 years the positions could reverse if one maintains the same growth rate.

Interesting is also the information on the female part-time employment in these countries as can be seen in the next figure.



The evolution of the European averages is relatively stable, but nevertheless in a growing process. All the Southern countries have rates lower than the European ones. The Portuguese situation is somehow an average of this group of countries, with a slight trend to get their rate to become even lower (with 15.8% in 2006).

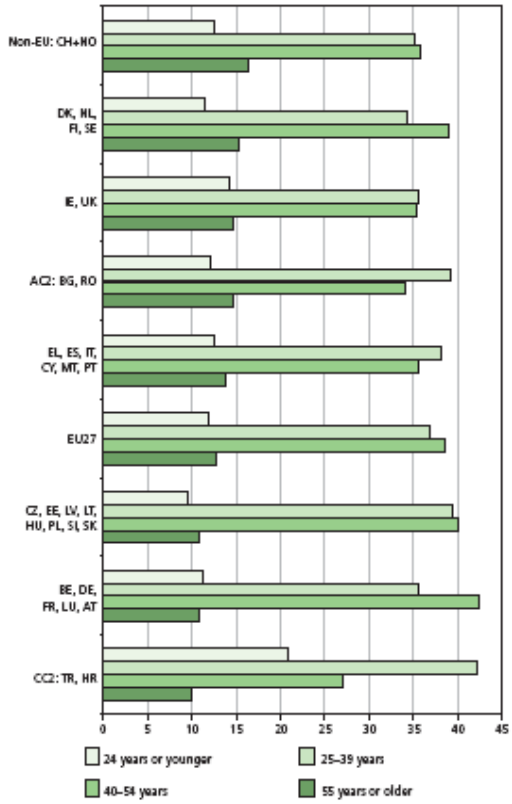
This means that in spite the tendency in North and Central European countries, the growth of part-time forms of employment in Portugal among women is note clear. Even tends to maintain around a 15% level which tends to differ even more from the European average (once Italy and Spain have their rates closer to that average).

But, if the unemployment rate is increasing in the recent years, at the same time as the female employment rate, and the percentage of part-time employment of women is even lowering, is this group of the labour market additionally suffering with the unemployment process? As we can acknowledge from the next figure, the behaviour of the curves is very similar to the global unemployment evolution in the recent years.

In fact, either in Portugal or in the other Southern countries, the weight of female unemployment is always 1% higher than the total one. This means that women tend to become more influenced by the working conditions and more involved in the re-structuring effects.

The following figure presents the different groups of countries according to the age distribution of workers. Portugal is presented together with the Southern countries, and this group can be characterised as having a high rate of young workers (from 25 to 39 years old).

Figure 1.11: Age distribution of workers, by country group (%)



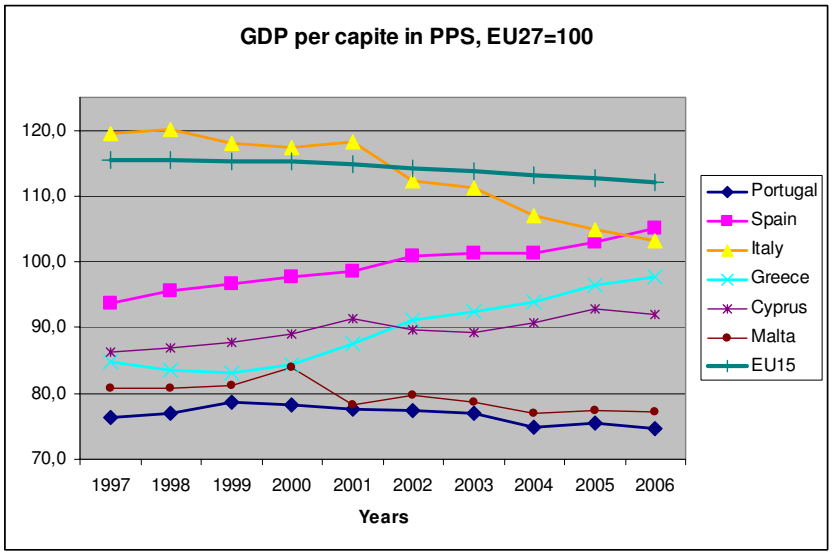
Source: European Foundation for the Improvement of Living and Working Conditions, *Fourth European Working Conditions Survey,* Luxembourg: Office for Official Publications of the European Communities, 2007 – VIII, p. 10

This fact (relatively young workforce) can be an advantage in terms of increased adaptation to technology change and of higher qualifications or schooling levels. That is, at least, the case for Portugal.

2.4 Consumption

Consumption is also an interesting and possible indicator to understand the macroeconomic factors that determine the changes in the work structures and the framework of those changes. The following data is relative to the GDP-Gross Domestic Product per capita in PPS- Purchasing Power Standards using the average of 27 EU members states as reference (EU-27 = 100). This gives an idea of the wealth of each country in relation to the EU27 average.

"*Per capita* GDP in the southern European countries varies between 67.3% and 100%, and social expenditure between 56.9% and 96.6% of EU 15 average. Portugal presents the lower scores in these indicators, but it is worth mentioning the fast growth of social expenditures in the last decade, corresponding to the expansion of social protection and the development of new areas of policy" (Ferreira, 2005, p. 5). The comparative situation of Portugal in these recent years can be more explicitly observed with the next figure.



Observing this figure, the situation of Portugal seems to be relatively stable, but it has two features:

a) in this decade this indicator show a trend for a continuous decrease;
b) the relative position of Portugal is very low, i.e., is the lowest among the Southern countries.

This decrease movement of the Portuguese value for the same indicator although not very strong, is pushing to a further distant position comparing with the other countries of the same group [3]. The wealth of countries like Spain and even Greece is growing fast and very close to the Italian one, that in the same period knew a severe decrease in its position during the Berlusconi government rule.

"The degree of redistribution in a society is determined by both the social protection system and the taxation system", says Ferreira. And this author continues underlying that "data related to taxes in the southern countries are difficult to estimate. However, several studies have highlighted the weight of the shadow economy, the size of tax evasion and fraud, and the relative tax burden on salaried workers and middle classes. (…)The estimated size of shadow economy in 2001 ranges from 22,5% in Portugal and Spain to 27% in Italy and 28,5% in Greece, which correspond to the highest values in EU 15 (…).Recent harmonized data on tax systems of the EU 15 (Eurostat, 2004) revealed that tax structures of Greece and Portugal rely heavily in indirect taxation, which introduces relative regressivity in their tax systems" (Ferreira, 2005, p. 8).

According to Cardoso and Soukiazis (2004) "the employment rate shows a negative contribution to growth during the nineties, while in Portugal the participation rate also contributed negatively to the growth of GDP per head" (p. 7). These authors continue

[3] There is an exception with the case of Malta, which situation is very similar to the Portuguese one.

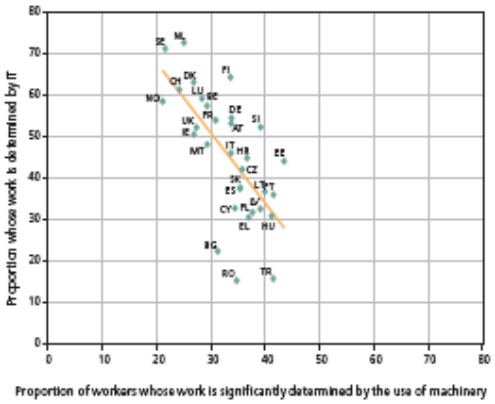
assuming that “the higher employment rates in Portugal can be the explanation for low unemployment but also low productivity levels in this country” (p.9).

Finally, they observe that “the long-run per capita income elasticity of Portugal with respect to the EU average is higher (greater than one).(…) If EU per capita income increases by 1% this induces 1.3% increase in Portugal and only 0.54% in Greece, in terms of the same variable. (...) This confirms our previous observation that Portugal adapted faster to the integration rules than Greece” (p. 20).

2.5 Technology at the workplace

The usage of technology at the workplace is an indicator of restructuring process (through its modernisation). “The results seem to show that the composite indicator of use of technology at work is indeed capturing what it intends to capture, as the country differences are consistent with what could be expected, according to previous literature and other similar indicators” (Parent-Thirion et al., 2007, p. 44).

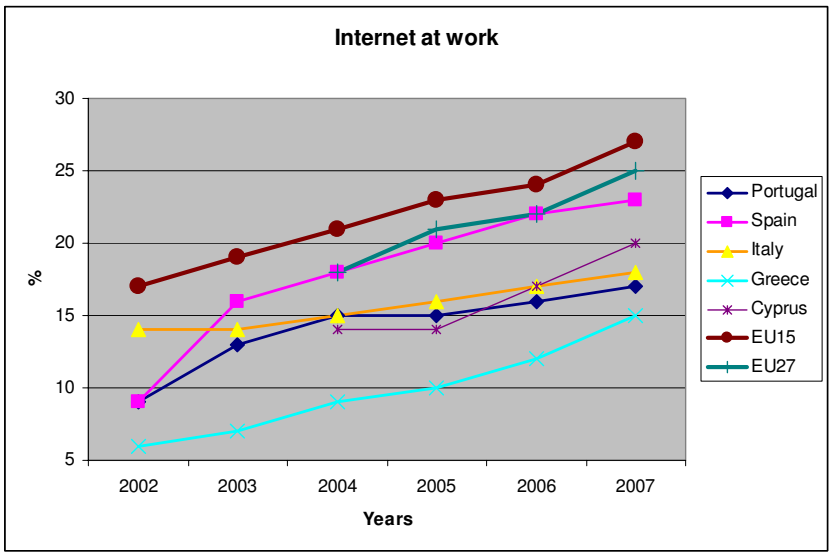
Figure 5.7: Use of technology at work, by country (%)



Source: European Foundation for the Improvement of Living and Working Conditions, 2007, p. 44

From this figure taken from the European Working Conditions Survey (2007), the position of Portugal is clearly in the right-low quarter of the matrix, where more than 40% of workers have their work significantly determined by the use of machinery, and the proportion whose work is determined by IT is more than 35%. As mentioned there, “there is a strong negative correlation at the country level between the use of IT and the use of machine technologies: those countries with a higher proportion of workers using IT are also the countries with less use of machinery, and vice versa [as it is the Portuguese case – ABM]. This may suggest a trade-off, an international technological specialisation or simply the substitution of old technologies by new – one of the characteristics of a technological revolution (which would mean that those countries that are higher in the graph are more advanced in this revolution)” (Parent-Thirion et al., 2007, p. 44).

Another indicator can be given from the percentage of individuals who accessed internet at place of work (other than home).



As it can be seen from this figure there is a continuous growth of number of people that access to internet at their workplace in Europe. Nevertheless the figures related to Southern countries seem to demonstrate that this growth is similar to the European average, although the starting point was much lower than other countries. For example, in 2002 Portugal had only 9% of individuals that could access internet at the workplace, and in 2007 that number was almost the double (17%). In spite of that, the European average is much higher (EU15 is 27% and EU27 is 25%).

The economic branch concerning real estate, renting and business activities is the economic branch more represented in the cyberspace [4], since these activities represent almost 28% of all Portuguese economic activities with .pt domains. The opposite situation is offered by the construction sector, that is the third economic sector in Portugal, with 12.8% of all firms, but it only have 4.2% of all .pt domain names

As Greenan, Kalugina and Walkowiak point out in their report on the results from the European Working Conditions Survey, "evolutions are heterogeneous through Europe. A significant decrease in intensity of technical constraints is observed in Denmark, Austria, Netherlands and Portugal" also "Portugal did the market constraints become less intense" (both quotations in Greenan, Kalugina and Walkowiak, 2007, p. 65). To resume, these authors say that "we find that in Portugal there was a significant decrease in the intensity both of technical and market constraints" (p. 66).

Some authors also found a relation between technology investment companies and their skill levels, when they mention that, "without controlling for other variables, skill and education intensity are negatively and significantly linearly related to size, age and export intensity, and positively (and significantly) linearly related to skill intensity. Thus, smaller, younger, export-led and technology-intensive firms tend to be more strongly associated with high levels of human capital intensity" (Tavares and Teixeira, 2005, p. 12).

And these Portuguese authors continue about their findings: "Using brand new evidence gathered through a purposefully-designed and representative large-scale survey of TBFs [Technology-Based Firms] located in Portugal (with a usable sample of 475 firms, 61% response rate to the comprehensive survey undertaken), we found that foreign ownership had a positive relationship with the human capital intensity of these TBFs, directly, and

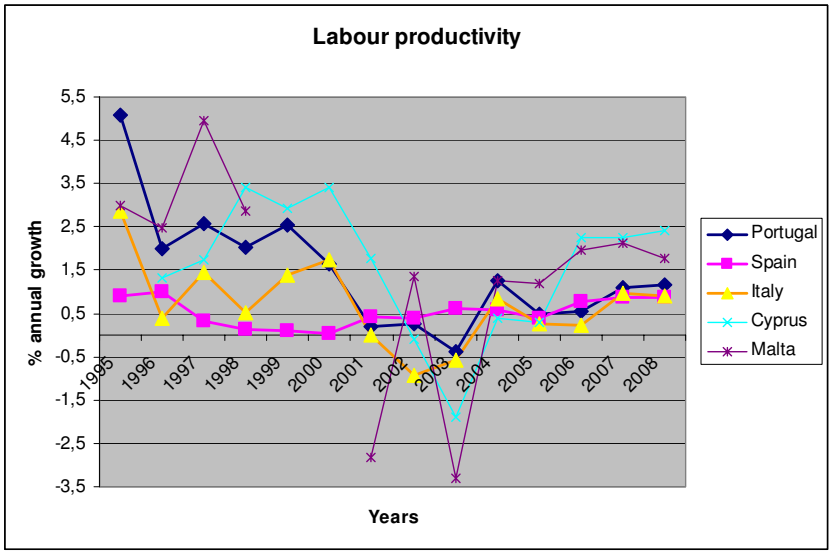
[4] Although it represents only 8,9% of all Portuguese firms,

indirectly when foreign ownership was considered jointly with R&D intensity and the frequency of contacts with Universities" (p. 16).

2.6 Productivity

In the Brynin and Longhi report is underlined that in "some Mediterranean countries (Greece, Portugal and Spain) are characterised by low quality of working conditions and weak job complexity (routine jobs)" (p. 5). Also in another WORKS report is mentioned that "the 'Taylorist organisation' and the 'simple organisation' which could be interpreted as involving routine tasks are common in Mediterranean countries" where Portugal is included (Greenan, Kalugina, and Walkowiak, 2007, p. 50). But these authors also say that "Austria, Finland, Portugal, France and Slovakia are the countries where the highest degree of independence in time allocation is observed" (idem).

Having this into account, productivity can be also an indicator of the socio-economical wealth of a country. And in the next figure one can observe the annual growth of these indicators for the recent years in the Southern countries.



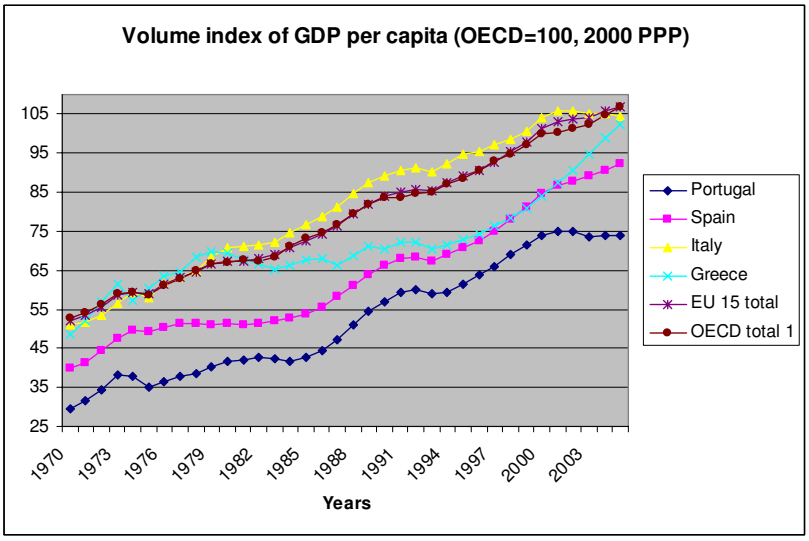
Here is possible to conclude that from 1995 the Portuguese labour productivity have continuously a decrease in its annual growth of this indicator. The evolution is very similar to the other Southern European countries. And with some surprise one can observe that labour productivity annual growth has been slightly higher in Portugal than in Spain or Italy.

In terms of sectoral differencies, "Portugal had lower labour productivity in 'Agriculture', as well as in 'Scientific instruments', and 'Construction'. On the other hand, Portugal had higher levels of labour productivity in industries such as 'Motor vehicles', 'Electricity', 'Communications', and 'Financial intermediation'. Productivity differential are thus not clustered in industries that could be classified as modern or intensive in the use of ICT" (cf. Lains, 2006, p. 13).

In another study from Carreira and Teixeira they "found that the productivity of entering firms is higher than that of exiting firms. Our decomposition of industry productivity growth also shows that external restructuring has its largest share in economic slowdowns, while internal restructuring makes its largest contribution in

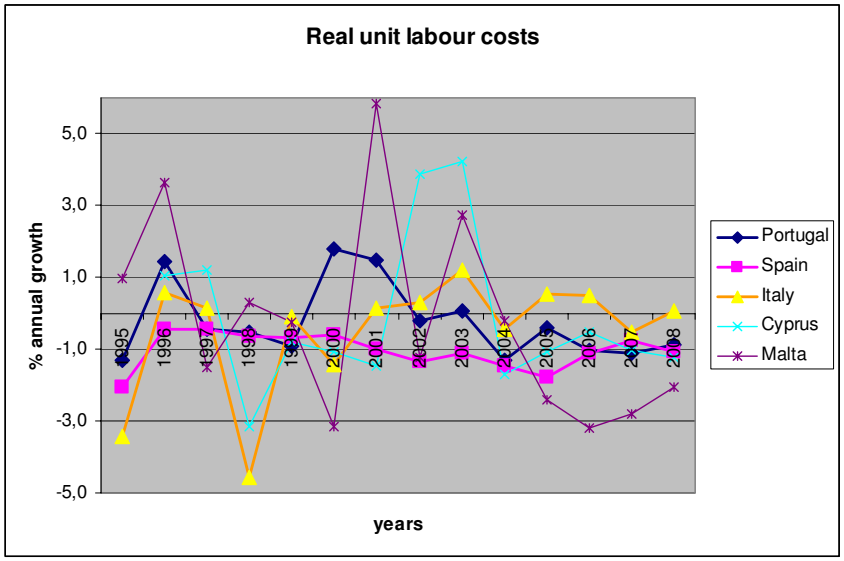
economic upturns" (Carreira and Teixeira, 2007, pp. 21 – 22). Also they add that in the working paper "we have provided a detailed view of the process of industrial restructuring in the Portuguese manufacturing sector in the 1990s, a period in which the rate of productivity growth has been clearly decreasing. Aside the fact that 10 years is perhaps too short a period to draw definitive conclusions about the impact of restructuring – internal and external – on productivity growth, especially in relation with the economic cycle, there is clear evidence in favour of the hypothesis that cleansing is countercyclical, while active learning seems to be pro-cyclical" (p. 22)

But if one takes in consideration the volume index of GDP per capita (having the reference the average of OECD as 100 in 2000, at 2000 price levels and PPPs) than is clear that the "starting point" is different. In the 70 this productivity indicator showed a very low position for Portugal, while Italy was above the EU and OECD averages, and Spain was always with higher index rate than Portugal).



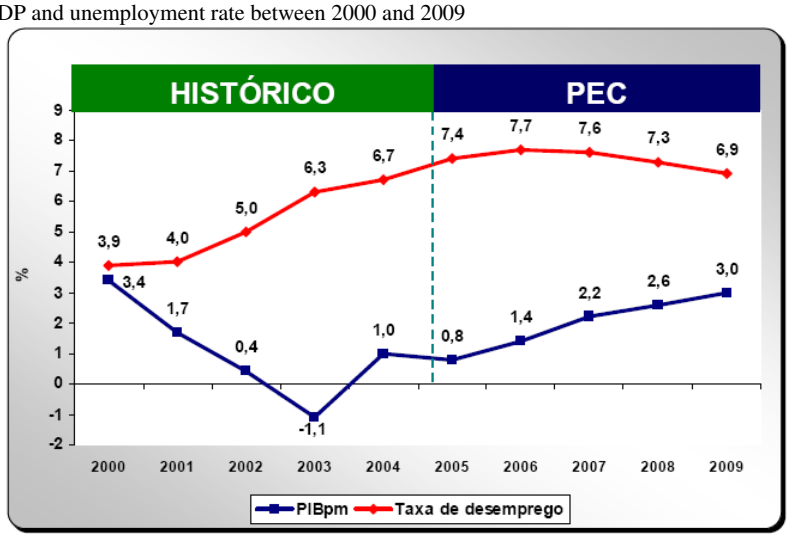
1 - OECD total, excluding Czech Republic, Hungary, Poland and Slovak Republic.

At the same time one can have as a reference the evolution of the annual growth of real unit labour costs. Using again the comparative situation with the Southern European countries one can understand the position of Portugal through the next figure.



The annual growth of the real unit labour costs although positive in some years (1996, 2000 and 2001) have been negative in the all recent years. The evolution in the other Southern countries has been also not so positive, and this means that the labour costs are lowering as a possible trend. This can have side effects, as possible increase of foreign investment (due to comparative cost analysis) and possible degradation of quality of working life. The following figure gives us an interesting insight on this.

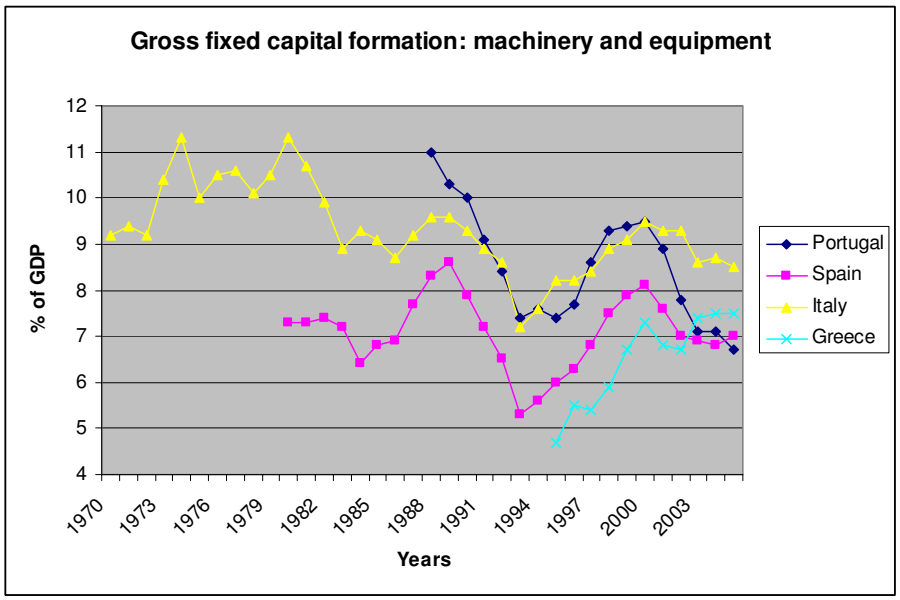
Evolution of GDP and unemployment rate between 2000 and 2009



Fonte: INE, Contas Nacionais Trimestrais, Inquérito ao Emprego e Programa de Estabilidade e Crescimento (PEC).

Here one can observe a possible relation between the growth rate of GDP and the unemployment rate. It seems that when the GDP tends to lower (as from 2000 until 2003) the unemployment is growing fast (from 3.9% until 6.3%). And when the GDP is increasing (as from 2006 on) the unemployment rate can decrease (from 7.7% until 6.9%). This means a clear relation between wealth creation and employment.

The gross fixed capital formation in proportion to the GDP is another indicator for productivity of capital. In the next figure one presents this evolution rate taken for the sector of machinery and equipment and the Southern European countries.



There is general trend for a decrease process (except in the Greek case). This trend is especially clear from 2001 further on, but has been not as low as in mid-90. The behaviour of the Portuguese rate has been similar to the other mentioned countries but shows a clear process of loosing this sector to other sectors. If production of machinery and equipment represented in Portugal 11% of the GDP in 1988 in 2005 was only 6.7%.

But in general, Portugal has weakest technical constraints, which can indicate a lack of industrial development (it has also a significant decrease in intensity of technical constraints). Also, the intensity of market constraints are not very developed either in this country. As a consequence the degree of complexity of jobs has decreased also in Portugal. As is mentioned in the WORKS report, "we find that in Portugal there was a significant decrease in the intensity both of technical and market constraints while in Luxembourg and Italy both types of constraints intensified" (Greenan, Kalugina, and Walkowiak, 2007, p. 66).

"The automatic speed of a machine, by contrast, is a major determinant of the pace of work in manufacturing (41%), and is also important in construction (24%), transport and communications (23%) and agriculture (22%); in sectoral terms it is a very important determinant of pace of work among machine operators (50%) and skilled workers (33%). However, it is almost negligible in education, health, and other services, and in professional and service occupations" (Parent-Thirion et al., 2007, p. 54).

3 Work flexibility

The first important issue analysed within the WORKS project concerns work flexibility. A sectoral and occupational description of trends in work hours, part-time work, temporary work and self-employment is provided by L. Brindelli and E. Rustichelli on the basis of *EU Labour Force Survey*. Work flexibility is at the heart of public and academic debates on changes in work and labour market reforms.

Is mentioned in the European Foundation report on *Working time and work–life balance in European companies* that "significant differences exist in the overall incidence of flexible working time arrangements practised in the 21 countries. While in Cyprus, Portugal and Greece, less than one third of establishments offer some flexibility with regard to working hours, about two thirds of all establishments in Sweden, Latvia and Finland do so" (Riedmann et al., 2006, p. 5). In the same publication is also said that "countries with a low proportion of establishments with flexible working time arrangements also tend to have comparatively smaller shares of employees within these establishments, who are entitled to make use of such arrangements. This is the case, for example, in Cyprus, Greece, Hungary and, albeit to a smaller extent, in Portugal" (p. 6).

3.1 Time use

Overall the report shows that average working time in Europe is slowly declining since the early 90s and this trend seems to persist. According to the authors a major role has been played by the growth of part-time contracts on average in EU-15.

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

Portugal and the other Southern European countries are those that have higher average usual weekly working hours in the group of EU-15 (only Austria is in this same group. All have more usual working hour than the European average.

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

According to this table (1.7) the average weekly working hours in Portugal is very similar to the EU-15 average. Either in the situation of full-time jobs (41,6h/week) or with part-time jobs (19,4h/week).

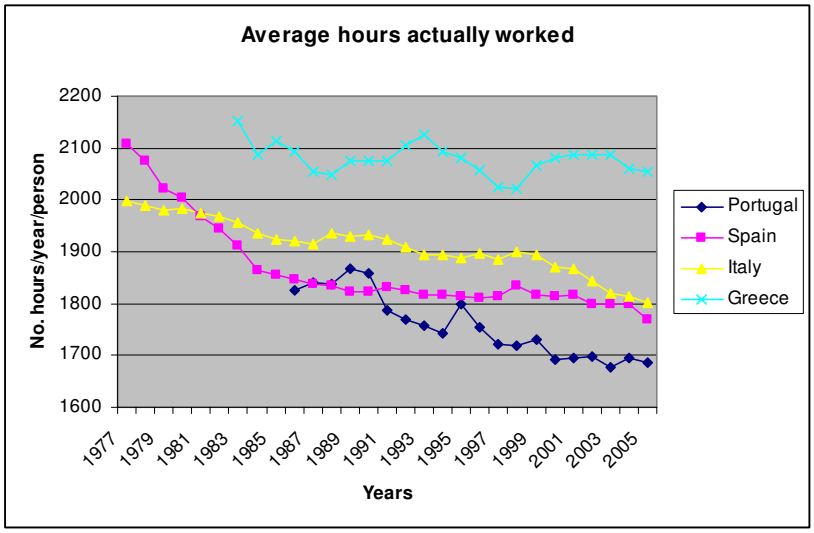
Table 1.4 Part-time workers as percentage of total employment, EU-15 countries 1995-2005

	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

As it can be demonstrated with this table, the relative weight of the number of part-time workers is always much inferior to the European average. In Portugal is almost the half. But there is also an exception (Netherlands) where the rate is very high (almost the double of the EU-15 average). In fact, "while in the Netherlands, almost nine in 10 establishments have experience of part-time work, in Greece and Portugal only around two in 10 establishments employ part-time workers. (…) In Portugal, Greece and Cyprus, in particular, a relatively small proportion of establishments have up-to-date experience of employing part-time workers" (Riedmann et al., 2006, p. 20). In Portugal, among the workers with part-time contracts, around 70% are women (in 2004, according to the Ministry of Labour data). This is also gendered issue.

The next figure presents the recent evolution of the average number of hours actually worked in the Southern European countries.



As it can be seen, the number of actually worked hours is decreasing in this group of countries, being Portugal the one with lowest average number (almost 1700hours/year). This includes the several different types of work.

3.2 New forms of work

As a starting point one can have a better idea on the size of firms (in terms of number of workers) and number of enterprises in each size group in the last years (knowing that the last employment statistics relate only to 2004).

CONTINENTE

DIMENSÃO	OUTUBRO 2000		OUTUBRO 2001		OUTUBRO 2002		OUTUBRO 2003		OUTUBRO 2004	
	Empresas	Med. Pes.	Empresas	Med. Pes.	Empresas	Med. Pes.	Empresas	Med. Pes.	Empresas	Med. Pes.
TOTAL	258519	10	273484	10	288678	9	294949	9	300850	9
1 A 4 PESSOAS	162367	2	170662	2	182983	2	189942	2	196298	2
5 A 9 PESSOAS	52161	6	55705	6	58158	6	58085	6	57740	6
10 A 49 PESSOAS	37323	19	40089	19	41104	19	40182	19	39866	19
50 A 99 PESSOAS	3927	69	4118	69	3752	69	3993	68	4077	68
100 A 249 PESSOAS	1937	151	2045	149	1886	151	1935	150	2020	150
250 A 499 PESSOAS	497	341	544	341	495	339	508	341	522	339
500 E MAIS PESSOAS	307	1515	321	1492	300	1498	304	1503	327	1459

Source: Quadros de Pessoal, MTSS, 2004, p. 42

There are not strong changes in the last years, but average number of workers *per* company is very low (9 workers). And the average number of workers in larger companies (500 or more) is also decreasing (1515 in 2000 and 1459 in 2004) although the number of this type of companies have been increasing.

This characteristic of the entrepreneurial structure can define the possibilities for implementation of different forms of work: more difficult to implement in very small companies and wider alternatives in larger sized ones.

3.2.1 Shift work and anti-social working hours

Meaningful information is due to the usage of shift work in Europe, and especially in Portugal. As Loudoun recently pointed out, "it is widely accepted that the negative effects of shift work arise from the mismatch between altered sleep-wake schedules, internal timing mechanisms, and community rhythms of business, social, recreational, and domestic activity (Costa, 2003). In essence, shiftworkers are required to work and sleep at times that conflict with normal social and biological patterns" (Loudoun, 2008). Thus, the next table shows evidence on the evolution of shift work in EU15.

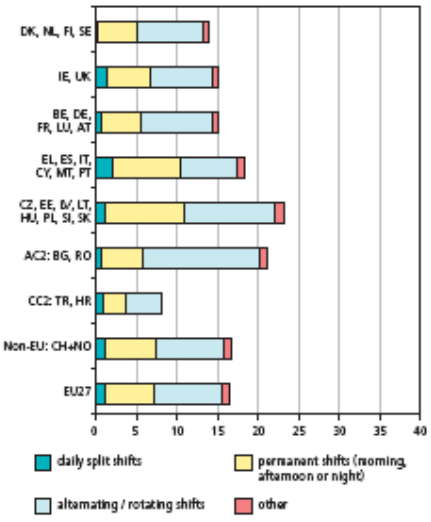
Table 1.9 Employees working on shift work as a percentage of the total of employees, EU-15

	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

In this table one can understand that the number of workers using shift work is increasing rapidly in Portugal for the recent years (7.9% in 1999 towards 17.7% in 2005), while the number are slightly decreasing in EU15. The next figure from the European Foundation survey shows that Portugal is in the group of countries with a very high incidence of shift work in total employment.

Figure 2.13: Incidence of shift work, by country group (%)



Source: European Foundation for the Improvement of Living and Working Conditions, 2007, p. 22

Besides the groups from Eastern European countries, Portugal is in the 3rd group of countries (Southern Europe) that have almost 20% of their employment in shift work form. Also the so-called "anti-social working hours" [5] had a strong change in the last years, either in EU15, or in Portugal, as the following table can show. For some authors "shiftworkers are needed in order to meet society's needs for 24-h services and emergency cover, for maintaining continuing process industries and to offset the economic effects of industrial plant shutdown. Shiftwork is no longer restricted to heavy industry but is now more common in 'E-commerce' and call-centre occupations in order to meet the demands for round-the-clock retail, service and banking industries" (Atkinson and Davenne, 2007, p. 231).

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

In spite the fact that shift work is increasing in Portugal (in terms of percentage of employment that use this form of work), the relative number of employees that have to work on night, Saturdays and Sunday has been decreasing recently, perhaps more evident than the EU15 average that didn't change significantly in the years under analysis. "In most Mediterranean countries, few establishments employ people to work on Sundays (8% in Portugal, 15% in Italy, 17% in Spain, and 18% in Greece)" [6] (Riedmann et al., 2006, p. 31).

In a recent review of studies that have used the Standard Shiftwork Index [7] was concluded that "a large body of evidence supported the hypothesis that shift-system features impact upon outcomes relating to biological rhythms, sleep and life outside work (…).Similarly, the majority of relevant studies supported the association between disturbances caused by shift-system features and physical health" (Tucker, P., Knowles, S.R., 2008). Thus, it seems that such forms of work have important side effects that should me studied and measured in further analysis.

[5] Work on night, Saturdays and Sunday

[6] Due to the presumable under-representation of NACE M (education) and/or NACE N (health and social work), the share of establishments with night work and Sunday work is underestimated by up to 3% in the figures presented for Italy, Greece, Portugal and Spain.

[7] The SSI is a battery of questionnaires for assessing a variety of shiftwork-related problems.

3.2.2 Evolution of temporary employment in Europe

As mentioned in the report of Birindelli and Rustichelli, "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 Portugal" (p. 5). This form of work (temporary) is characterized by a limited time horizon for employment in an organization and therefore it can provide flexibility and independence for both the employer and the employee.

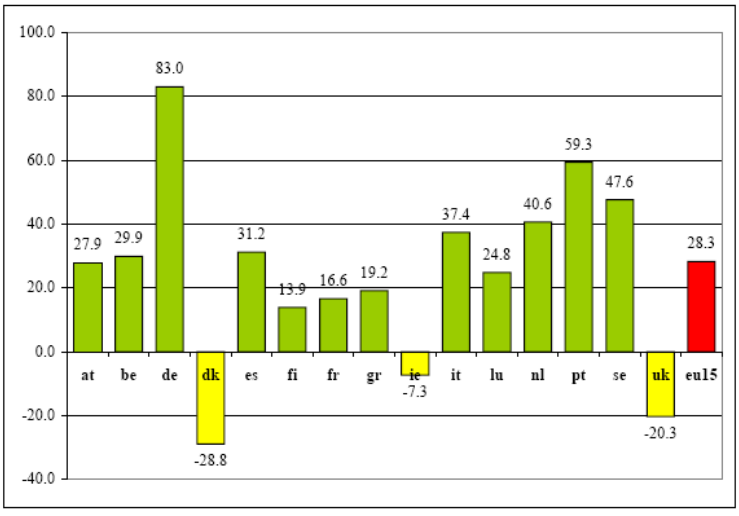
Table 2.1 Recent trends in employment, EU-15 1997-2005

	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

In the same report they mention that, "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 has been by far higher than overall employment growth rate" (pp. 57-58). And is underlines even that "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", as can be witnessed in the next figure.

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



Source: Eurostat

As one can observe from the next table, Portugal is one of the countries where temporary employment is mostly spread (19.5% in 2005), and with the highest increase (+ 7.5% points from 1997 to 2005).

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

This trend in terms of usage of temporary employment form is in Portugal is due to an increase of alternative forms of bargaining and to a decrease in the working conditions. Companies tend to use a minimum workforce among their permanent contracted workers, and they use temporary employment to be able to decrease their labour costs as well to improve flexibility. This internal labour market should be adapted to variations in the demand of products that could origin production picks, which in some cases are even seasonal picks.

3.2.3 The evolution of self-employment

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.

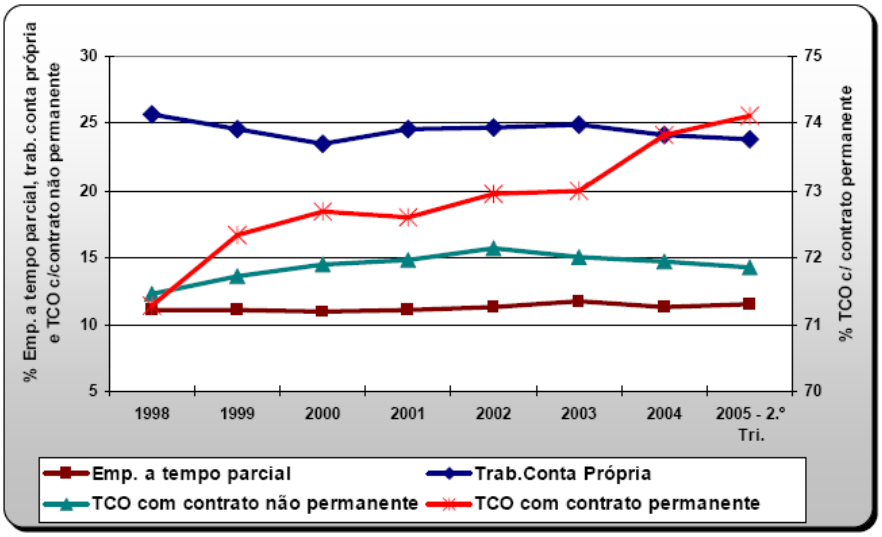
Table 2.15 Self-employed as percentage of total employment, EU-15 1995-2005

	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

In terms of evolution of this indicator one can observe that, for Portugal, the percentage of self-employed people is decreasing almost in the same proportion as for the EU15 average. In the *EU Labour Force Survey* 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 (summary report, p. 4). The next figure presents the recent evolution of part-time employment in comparison with different other forms of bargained jobs.

Evolution of part-time jobs, of self-employment and contracted employees (permanent or non-permanent), according to the different types of contracts, between 1998 and the 2nd trimester 2005



Fonte: INE – Inquérito ao Emprego.

Here is more visible the fact above mentioned that the self-employed workers are slightly decreasing in percentage of total employment forms, and at the same time increased the permanent contracted jobs (from 11% in 1998 up to 26% in mid-2005). The non-permanent jobs and the part-time ones are still not a major form of bargaining.

3.2.4 Job autonomy

The new forms of work organisation that are understood in this report are related to new forms of work (with different usage of working time) and to the autonomy at work possibilities. A key difference between the 'traditional' and the 'new' forms of work organisation is the importance attached in the latter forms to functional flexibility and teamwork.

"The survey questionnaire used follow-up questions to assess the degree of autonomy associated with these two forms of work organisation. In the case of functional flexibility, different skills are required in almost 78% of cases; however, it was usually the boss or manager who decided the division of tasks (in around 72% of cases), while the team participated in the division of tasks in around 50% of cases" (Parent-Thirion et al., 2007, p. 52). This apparently is quite suitable to the Portuguese case.

Figure 6.2: 'Basic' functional flexibility and teamwork, by country (%)

Note: Figures apply to employees only.

Source: European Foundation for the Improvement of Living and Working Conditions, 2007, p. 52

In the above figure one can certify that, for teamwork, while it is prevalent as a form of work organisation, the levels of autonomy and decentralisation of decision-making in the teams is much lower than for task rotation. The position of Portugal in this matrix shows clearly that a minority of employees work in teams forms, and also they even don't rotate their tasks with other colleagues. This means the existence of typical Tayloristic forms of work organisation prevailing in Portugal.

The next figure tries to present the situation of the different European countries according to the advanced forms of both types of work organisation.

Figure 6.3: 'Advanced' functional flexibility and teamwork, by country (%)

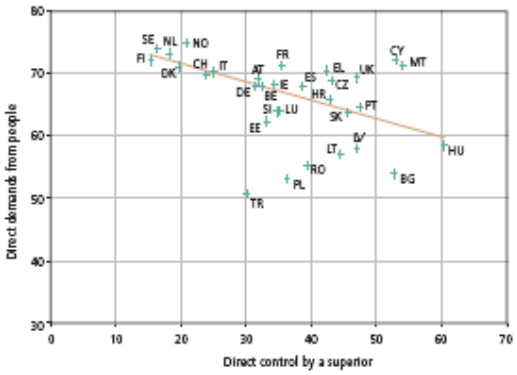
Note: Figures apply to employees only.

Source: European Foundation for the Improvement of Living and Working Conditions, 2007, p. 53

As clearly shown, these 'advanced' forms of work organisation (autonomous working teams and different skilled tasks rotation) are considerably more prevalent in the northern European countries, while they are least prevalent in the southern and eastern European countries. A special attention can be given to the Portuguese case where it can be found in one of the lowest position in respect to the rotation of different skill-tasks among employees. At the same time is also one of the countries with very low percentage of workers performing their tasks in autonomous teams.

The next figure presents the types of demands as determinants of pace of work using the determinants of direct demands from people, and direct control by a superior.

Figure 6.7: Types of demands as determinants of pace of work, by country (%)



Source: European Foundation for the Improvement of Living and Working Conditions, 2007, p. 57

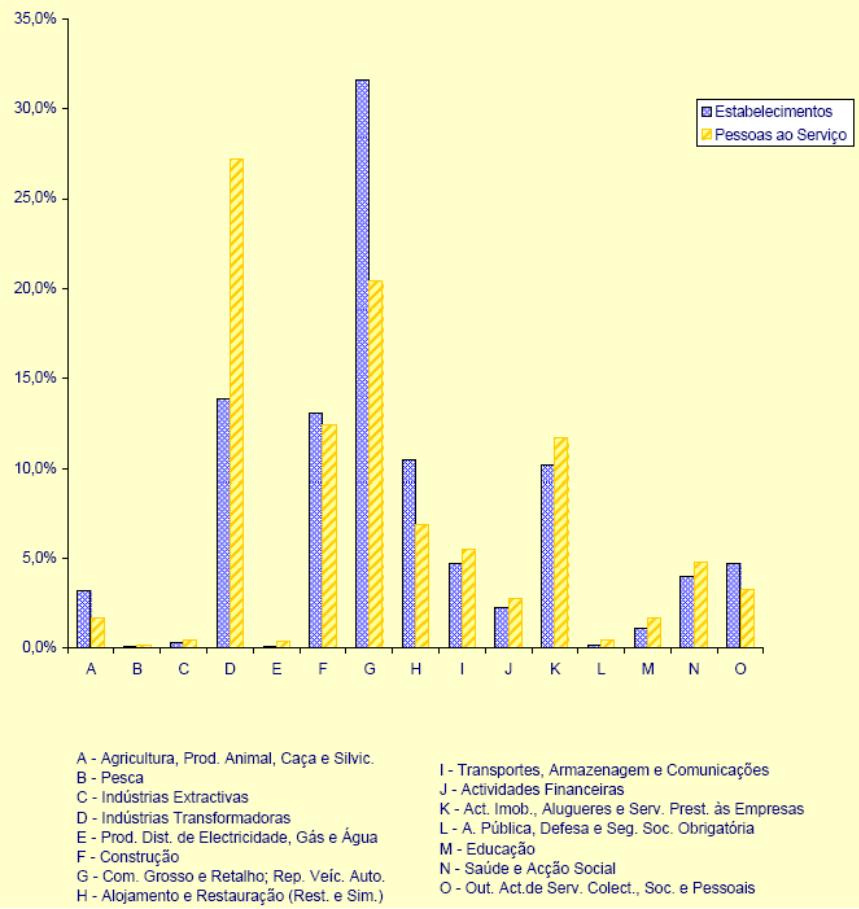
A clear negative correlation is once again apparent, as is an even clearer differentiation of countries. In the case of Portugal the direct control by a superior is still very important, and in comparison with the other countries, the direct demand from people is not so determinant.

Workers whose pace of work is determined by the automatic speed of a machine or by numerical production targets are more likely to be affected by physical health problems, to perceive work as more intense and stressful, and to enjoy less autonomy at work. Workers whose pace of work is determined by direct demands from people report higher levels of negative psychological health outcomes (Parent-Thirion et al., 2007, pp. 55 – 57).

4 Tracing employment in business functions. A sectoral and occupational approach

At the end of 90, in Portugal 12% of the labour force was employed in agriculture, 30% in industry (and construction) and 58% in services in contrast to 1985 where the shares were 22%, 33% and 45%, respectively.

The next figure presents the distribution of employment through the different sectors in Portugal, as well the number of establishments (company units).



Most of company units in Portugal are in the trade sector (more than 30%), but most employment is still in the manufacturing sector (around 27%). Construction (F) and Services to companies, renting and building services (K) are in the next positions in terms of employment distribution.

In the employment evolution in the textile and clothing sector (NACE 17+18), Portugal acknowledged a strong decrease in the period 1996-2004 of about less 15%, while there was an increase of total employment of 2.1% in the same period. This sector represented in 1996 about 6% of total employment, while in 2004 it was only 5%. "The only country that has been able to retain a relatively high share of employment in the sector is Portugal. In 2004, still 5 *per cent* of the Portuguese workforce has a job in textile or clothing (254 000 employed)" (Coppin, Geurts and Ramioul, 2007, p. 113). During these years, 44 thousand jobs were lost in the sector.

In a interesting assessment on the Portuguese situation in this same sector, the above mentioned authors say that "Portugal is the only EU-15 country that has retained a relatively high number of jobs in the sector (5 *per cent* of total employment). The figures by occupational group show that these are mainly jobs for production workers, who make up 78 *per cent* of the employed in the Portuguese textile and clothing industry. This 78 *per cent* is a considerably larger proportion than in the other EU-15 countries, where the share of production workers in textile and clothing was significantly lower already in the mid-nineties, and was further reduced between 1996 and 2004. Two thirds of Portuguese production workers are skilled craft workers (weavers, tailors, sewers, ...), one third skilled and unskilled factory workers" (p. 119).

In the food industry (NACE 15) the situation is different. In Portugal there was an increase of 2% of the employment in the sector. Nevertheless, the share of NACE 15 in total employment decreased (from 2.4% in 1996 to 2.2% in 2004).

Another case is the IT sector, and the employment in this sector (NACE 72) has soared [8] between 1996 and 2004. In Portugal that means an increase of 51% in the sectoral employment volume. However it was the lowest increase in the European countries analysed! The weight of the employment of this sector in the overall situation of the country is only 0.4%.

Employment in Public administration (NACE 75) had also a positive evolution: in the considered period there was a employment growth of about 8% (26 thousand jobs). However, the relative weight in the labour market decreased about 0.4%, and in 2004 represents 6.6% of total employment.

In another sector, Railway and Postal services (NACE 60.1 & 64.2), represent a high share in the total national employment: together with Portugal, Spain is the country with the lowest share of Railway and Postal services in total employment (0.8 *per cent*). In Portugal, even there was a recent decrease in total number of jobs (less 4 thousand jobs, i.e, -10%). As mentioned in the Coppin, Geurts and Ramioul report "a first conclusion is that employment in the Railway and Postal services is in decline (…).The decline moreover is stronger in the Railway than in the Postal sector" (p. 149).

In the study of logistics were considered tow occupational groups: Logistic clerks (ISCO 413), that refer to employees concerned with production, stock, and transport, and logistic labourers (ISCO 933) that are the transport labourers and freight handlers. "The finded overall trends in the twelve member states do not occur in each country in the same evident manner. Only in Germany the described changes in the sectoral distribution of logistic employment, fully take place in line with the west-European average. In some countries, Belgium, Sweden and Italy, figures show a more pronounced shift of logistic jobs towards trade and transport companies (…). Three countries, Portugal, the Netherlands and Austria, even saw a slight shift in the opposite direction in the considered period" (Coppin, Geurts and Ramioul, 2007, p. 155-156).

4.1 Temporary employment

In the article of Meyer and Wallette on absenteeism and overtime work they say that these indicators "might in some cases be bad predictors of worker productivity and motivation. For example, overtime work might be a demand-related factor. Likewise, there might be situations in which a worker cannot choose between work and

[8] Expression of Coppin, Geurts and Ramioul, 2007.

absenteeism. (…) However, it is not unlikely that temporary jobholders have more to gain from minimising absenteeism and maximising the amount of overtime than permanent jobholders" (Meyer and Wallette, 2005, pp. 3 - 4).

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
White collars	*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
Blue collars	*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 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*). As is mentioned in the same article on temporary employment, "an employer may have different reasons to offer temporary jobs. One such reason is that temporary jobs can be used to screen the worker before offering him/her a permanent job. Another reason might be to enhance workplace flexibility" (Meyer and Wallette, 2005, pp. 4 - 5).

However, "firms have to justify the hiring of temporary workers and a narrow set of reasons is permitted: to replace workers on leave; for seasonal work; in case of a temporary increase in product demand; to bridge recruitment gaps, while the process to fill a vacancy is taking place" (Böheim and Cardoso, 2007, pp. 6).

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

If one uses the specific information on Portugal for this type of employment the results are the following:

TAW and workers in Portugal, 1995_2000.

	Firms	Workers
	(percent of all private sector)	
1995	148	7,637
	(0.10)	(0.46)
1996	158	9,415
	(0.10)	(0.57)
1997	184	13,072
	(0.11)	(0.74)
1998	203	15,634
	(0.11)	(0.86)
1999	223	17,179
	(0.11)	(0.89)
2000	243	20,085
	(0.11)	(1.00)

Note: Böheim and Cardoso, 2007 calculations based on MTSS, 1995-2000, Portugal.

As one can observe the relative weight of this form of employment is in Portugal very low compared with the EU15 and NMS figures. Then this is not an alternative in terms of job contract to improve work flexibility in Portugal.

Because there are rules that aim at providing equal treatment for regular and TAW workers, one would expect to see no, or a moderate, pay differential between TAW and regular workers. Also one knows that over 90% of the TAW workers are covered by a collective bargaining contract, signed between trade unions and employer representatives. But in a study made in Portugal on temporary agency workers (TAW) revealed that "TAW workers earn about one per cent less than similar workers in other firms, once their observable and unobservable attributes are controlled for. However, disaggregation of the sample by age and gender reveals interesting differences across groups of workers. Younger workers, both men and women, earn higher wages in TAW than their peers in other firms. Prime-age workers, in particular men, earn a lower wage in TAW than similar workers in other firms" (Böheim and Cardoso, 2007, pp. 3 – 4).

4.1.1 Self employment

Galego (2006) mentions in her working paper that most studies conclude that higher earnings in self-employment relatively to paid-employment positively influence the decision to become self-employed. Some others have considered the importance of liquidity constraints, and most found evidence that individuals with greater assets and with more access to financial capital are more likely to move into self-employment (p. 3). Also the labour market discrimination has been also considered as determinant of self-employment.

The same author underlines also that "the choice of self-employment might be a response to poor labour market opportunities, particularly in the case of women. In fact, there is a higher percentage of women making a transition into self-employment that originate on no-employment. Moreover, the results show that women who experienced longer spells in no-employment are more likely to become self-employed in comparison with paid-employment. On the other hand, for those who are in paidemployment, one can conclude that both men and women with more job instability display a higher probability to move into self-employment" (Galego, 2006, p. 13 – 14).

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)	%
Agriculture, hunting, forestry and fishing	*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
Industry	*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
Services	*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

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.

For Portugal, not much is known about self-employment and in particular about female self-employment. But, the importance of self employment in the Portuguese case seems to be more important than in the EU15 context as the next table can show.

Share of Self-employment in Portugal and EU (Galego, 2006, p. 2)

		1986	1990	1995	2000	2004
Total Self-employment(a)	*Pt*	26.2	25.8	25.8	23.6	24.4
	EU-15(*)	15.5	15.7	15	14.1	14.7
Self- Emp. Industry and Services(b)	*Pt*	15.5	16.2	19.1	17.0	17.2
	EU-15(*)	12.5	13.1	12.9	12.5	13.2

Source: Author's calculations based on data from Eurostat
(a) % of total employment
(b) % Total employment in Industry and services
(*) 1986 and 1990 refers to EU-12

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
NMS	**Textile and Clothing Sector (NACE 17+18)**	**10.1**	**7.0**	**8.6**
	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

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 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
	IT	7.6	7.9	9.1
	Customer Services	2.2	2.0	2.5
NMS	Logistics	2.2	2.0	1.8
	IT	8.8	7.5	11.5
	Customer Services	2.6	2.4	2.9

Source: Eurostat

"The expected difference in earnings between paid-employment and self-employment is also not significant for women. For men the variable is significant and positive which suggests that male individuals that choose self-employment have higher expected earnings in paid-employment than in self-employment. It seems therefore that both men and women previously in paid-employed decide to become self-employed for other reasons than higher expected earnings" (Galego, 2006, p. 9).

The data for Portugal demonstrates that "another important difference between men and women is the influence of the expected earnings differential in the probability of becoming self-employed. The variable is negative and significant for women and negative but not significant for men. This indicates that higher expected earnings in self-employment in relation to paid-employment are important to women, which are not working, to decide to set up their own business. There is much less evidence for men in the same situation" (Galego, 2006, p. 11).

One important conclusion from this author mentions that "particularly in the case of Portugal if it is true that unfavourable economic conditions are driving individuals into self-employment, then it is possible those individuals to have less success in their

business. Hence, policies should focus on reducing the probability of business failure and on improving the quality of self-employment" (Galego, 2006, p. 14)

4.1.2 Working hours

In Portugal the average normal weekly working time in 2004 for full-time workers as set by collective bargaining, across the whole economy, was 38.4 hours. Portugal has set the maximum weekly hours at 40 hours. However, weekly hours may be increased by agreement, if maximum is maintained on average over a reference period. The statutory maximum working day in Portugal is 8 hours, however, daily hours may be increased to 13 under hours-averaging schemes (cf. Moniz and Woll, 2007).

Sector	**Working hours/weekly (1998)** ***(Periodo normal de trabalho)***	**Working hours (2002)** ***(Periodo normal de trabalho)***	**Working hours (2004)** ***(Periodo normal de trabalho)***
Textile industry *(Indústria têxtil)*	39.0	39.4	39.9
Food industry *(Indústria alimentares, das bebidas e do tabaco)*	39.2	39.2	39.8
Information & Communication Technology; Software *(Actividades informáticas e conexas)*	38.5	38.7	39.5
Public administration; Information; Services for citizens			
- Public administration *(Administração pública, defesa e seg. soc. obrigatória)*	37.6	36.4	36.1
- Education *(educação)*	35.0	32.7	35.4
- Health; Social Service *(Saúde e acção social)*	38.0	37.3	38.4
- Other services *(outros serv.)*	37.8	37.1	38.6
Postal services *(Correios e telecomunicações)*	38.3	38.5	37.9
Average working hours Portugal (all sectors)	38.7	38.3	39.4

Looking to this table one can conclude also that the full-time workers have a higher duration of average normal weekly working time, once which includes also those that are not in the collective bargaining, which make a difference in terms of total working hours. The supplementary hours are higher in the Transport and warehousing sector (6.7h), Oil refineries (6.2h) and Agriculture (6.2h).

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. 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).

In Portugal the part-time work in the textile industry had in 2004 a high average of working hours: 20.7h. In all manufacturing industry it was 18.4h. Part-time work in the ICT sector was also as high (20h), and in Public administration was only 18h.

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.

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

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

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

If compared to Manufacturing sector as a whole, Textile and Clothing sector is characterised by a lower incidence of asocial working hour's 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.

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 drawing 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			
		Textile and Clothing Sector (NACE 17+18)	Textile and Clothing Sector: Produc-tion	Textile and Clothing Sector: R&D	Textile and Clothing Sector: Logistics
1996	Night work	4.0	4.6	2.8	2.1
	Saturday work	12.8	12.2	9.9	7.1
	Sunday work	2.4	2.2	2.9	1.4
2000	Night work	5.2	6.0	6.4	3.8
	Saturday work	12.3	11.5	14.2	6.4
	Sunday work	2.6	2.4	5.8	2.2
2004	Night work	6.1	7.8	5.0	3.8
	Saturday work	13.4	12.3	15.0	7.4
	Sunday work	3.1	3.3	3.0	2.6

Source: Eurostat

5 Occupational change in South Europe

One of the main features of the occupational change is related with the changes in the quality of working conditions (intensity of work, skill utilisation, mobility and flexibility)

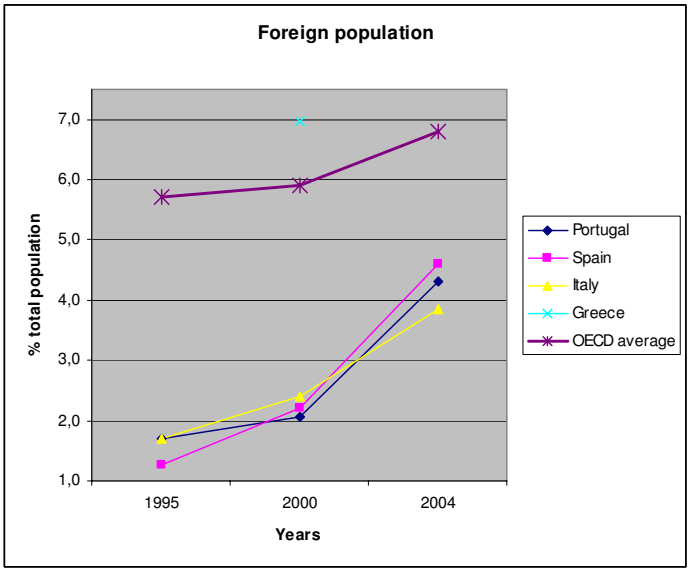
As mentioned in the WORKS report by the French team, "in Portugal there is now a significant increase in quality of working conditions" (Greenan, Kalugina, and Walkowiak, 2007, p. 68). Also, "econometric analysis of the impact of the different determinants of pace of work on working conditions was carried out to show that the impact is quite significant in most areas. Workers whose pace of work is determined by the automatic speed of a machine or by numerical production targets are more likely to be affected by physical health problems, to perceive work as more intense and stressful, and to enjoy less autonomy at work. Workers whose pace of work is determined by direct demands from people report higher levels of negative psychological health outcomes" (Parent-Thirion et al., 2007, p. 55-57).

In fact, "the most direct impact of the pace of work on working conditions is via the perception of intensity of work. In the fourth *European Working Conditions Survey*, there are three indicators for work intensity: 'working at a very high speed', 'working to tight deadlines' and 'not having enough time to get the job done'. In order to simplify the analysis, a composite index has been constructed, using the two indicators 'working at a very high speed' and 'working to tight deadlines' (the inclusion of the third indicator is not possible because of the different construction of the scale and because of its change in the last wave of the survey)" [9] (Parent-Thirion et al., 2007, p. 57-58). In this classification Portugal has one of the lowest positions in the index (around 36%).

Another characteristic of this occupational change in Portugal is the one related with the migration. Although there are not many studies on migration towards Portugal, some figures can be presented to give an idea on possible influences in the change of occupational structures.

"An increase of the GDP per capita in the home country is followed by less migration, probably because of the better living situation. The unemployment rate of the home country does not affect migration flows significantly. Furthermore this variable does not show the expected positive influence. Existing networks as well as the population size of the receiving country have a strong positive impact on migration. The free-movement dummy has a positive sign, but is insignificant. A possible explanation for this is that almost 3% of the population of the southern accession countries had already migrated when the countries joined the European Union. Thus, the introduction of free movement for workers could not have a substantial impact on migration patterns any more" (Bruder, 2003, p. 17). However, Portugal is acknowledging an increase of immigration flows from Eastern countries, as well from Brasil.

[9] This *index* assigns a value of 0 to 'never', 10 to 'almost never', 25 to 'a quarter of the time', etc. The composite index is the average of the two indicators of work intensity



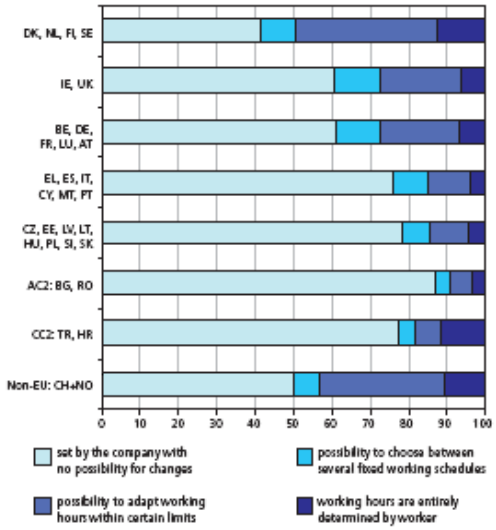
This figure can present the actual situation related to Southern European countries that are receiving foreign population, although the OECD average is higher than the percentage of foreign population among the resident one. In Portugal the data for 2004 represents 4.3% of this population group. The immigrants in recent years are mostly from Eastern Europe (Ukraine, Moldavia, Romania and Russia) and Brazil.

5.1 Skill utilisation and job satisfaction

"As economies embark in technological and structural changes, it is likely that the demand for capital and skills increases while the demand for unskilled labor decreases. Hence, at the early stages of economic development, there is positive relationship between economic development and inequality, which is reversed as economic growth proceeds (this is labeled as the Kuznets' hypothesis" (Jimeno et al., 2000, p. 11).

The autonomy over working life can be analysed with the next figure that indicates the extent to which the company or the worker has control over the organisation of working time across groups of countries.

Figure 2.17: Autonomy over working time, by group of countries (%)



Source: European Foundation for the Improvement of Living and Working Conditions, 2007, p. 23

In northern European countries, workers can choose to adapt working time to their needs to a large extent (around half of employees say they can do so, with or without certain limits), which is in sharp contrast to southern and eastern European countries, where more than 75% of employees have no possibility whatsoever of adapting their work schedules, as they are set by the company. This indicator reveals a ground factor for job dissatisfaction. The next table present the comparative situation related with this issue.

Table 2.2 Percentage of workers dissatisfied with different aspects of their job

Country	Earnings		Job security		Type of work		Hours worked		Working times		Work environment		Overall	
	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001	1996	2001
Denmark	23	23	19	14	10	9	13	12	13	11	14	11	8	7
Netherlands	19	14	21	11	9	10	14	14	11	10	20	20	7	8
Belgium	30	28	23	18	15	14	17	18	16	16	21	20	17	16
France	47	39	29	21	12	11	25a	22	20	20	22	22	17	14
UK	28	26*	27	20	18	18	27	25					20	18
Ireland	35	23	22	15	12	11	17	11	13	9	13	11	16	13
Italy	53	54	30	33	27	31	31	35	29	33	31	34	33	33
Greece	61	52	40	35	37	32	37	33	35	34	40	33	45	36
Spain	59	51	34	29	26	22	35	35	28	27	27	29	28	25
Portugal	65	54	30	21	20	17	27	21	22	16	18	14	29	21
Austria	23	19	14	10	6	4	12	10	10	7	9	6	7	6
Finland	31	26	26	20	17	14	19	17	16	16	20	17	13	12
Mean	40	34	26	21	17	16	23	21	18	17	20	18	20	17

* 1997.

As it can be assessed, the levels of dissatisfaction are overall decreasing in Portugal (from 1996 until 2001), and it is so in all the different aspect of job. But the earnings is considered by the workers as the main factor for dissatisfaction (54% in 2004). As mentioned in the Brynin and Longhi report "an increase in the wage (in percentage terms) has a statistically significant impact only in Greece and Portugal, while moving to a permanent position seems to have a rather large impact in almost all countries" (Brynin and Longhi, 2007b, p. 82). And on the conclusion these authors made in their report, we can find that it applies clearly to the Portuguese case, as "overall, therefore, we observe no trend towards decreased job satisfaction over this short period, but insecure contracts are certainly associated with low job satisfaction, which is likely to improve considerably if people move to better (more permanent) contracts. There can be little doubt that jobs which are not permanent cause unhappiness at work" (idem).

Table 2.6 Percentage of workers who feel overqualified, by country and wave

	1996	2001
Denmark	62	60
Netherlands	41	40
Belgium	65	66
France	54	50
Ireland	57	49
Italy	53	46
Greece	62	51
Spain	57	63
Portugal	55	37
Austria	63	54
Finland	66	63

The proportion of workers who feel overqualified seems to decrease in Portugal (55% in 1996 to 37% five years later). This means that in Portugal workers feel that their skills are adequate to the job. If the job content in this country is, in general, poor, the tasks performed are adequate to the existent low skill levels, which is also a problem. The

solution to such issue should be the improvement of work organisation (more participative and autonomous) that would allow the possibility for learning at the workplace to increase the possibilities for a better usage of the installed equipment, to apply quality control systems, to perform methods of participative innovation systems.

5.2 Occupational and industrial mobility

Here are examined switches between occupations and industries (therefore excluding all moves out of the labour force, and, except through the use of longitudinal weights we also do not take account of the possibility that people in different occupations are liable to contribute to survey attrition differentially).

Table 3.1a Percentages of workers remaining in same occupations wave1-wave 3

	Germany	Denmark	Nether-lands	Belgium	France	UK	Ireland	Italy	Greece	Spain	Portugal
Senior manager	89.3	90.0	92.6	93.2	95.2	84.2	92.8	96.2	91.2	93.6	99.2
Professional	93.8	95.5	94.5	95.5	96.3	86.6	97.6	96.2	98.3	97.8	96.3
Technical	92.4	91.8	92.5	94.7	96.6	77.1	91.6	97.2	94.4	92.3	97.7
Clerical	93.2	92.8	94.1	96.7	96.6	82.2	88.8	96.8	97.3	93.9	93.7
Service	93.2	86.6	91.8	94.0	97.1	85.1	84.3	94.4	92.2	89.3	92.1
Skilled	95.5	88.8	93.7	89.6	96.0	82.8	90.1	94.2	93.9	93.3	93.0
Less skilled	95.3	83.1	92.0	89.1	94.6	84.0	90.7	94.7	90.9	92.5	94.7
Elementary	89.2	76.5	88.8	92.0	94.9	76.3	84.8	86.8	91.7	86.6	89.9

Table 3.1b Percentages of workers remaining in same occupations wave1-wave 8

	Germany	Denmark	Nether-lands	Belgium	France	UK	Ireland	Italy	Greece	Spain	Portugal
Senior manager	44.6	77.0	52.9	50.3	82.1	63.8	71.2	43.0	49.2	52.4	38.3
Professional	79.2	80.4	68.0	53.9	80.7	63.0	81.1	78.8	81.8	81.4	81.6
Technical	73.7	76.1	56.5	39.5	78.4	52.2	52.9	43.4	44.2	59.2	41.7
Clerical	67.5	77.6	54.8	62.9	82.4	61.9	64.1	75.4	69.6	43.9	66.3
Service	63.2	70.8	45.0	48.6	78.7	60.6	54.8	54.9	62.8	62.2	52.8
Skilled	74.8	74.8	67.1	37.5	82.7	63.8	59.7	61.7	74.8	65.5	74.2
Less skilled	67.3	70.2	67.5	40.3	77.5	57.4	60.7	47.1	68.3	58.8	57.2
Elementary	54.7	58.2	38.2	20.0	73.6	37.0	43.5	35.2	51.4	48.5	44.4

This shows considerable stability, little difference across occupations (in particular, the "senior managers" or "technical" positions in Portugal) with the exception of elementary occupations which reveal greater upward mobility. This picture of stability changes when we examine change over seven years (waves 1-8), say Brynin and Longhi in the WORKS report. "Not only has there by now been a great deal of change but this varies far more by both occupation and country than previously" (p. 33).

In the case of the former, only professional people show a high level of stability (81.6% in Portugal remain). The least stable are those in elementary jobs (44.4%). Those remaining in work are likely to have migrated to somewhat more demanding jobs. Other average percentages range from 41.7% (technical) to 74,2% (skilled workers).

In the next Table is showed the degree of switching across industries. Again there is a high level of stability by country over this short timescale. In the Portuguese case are specifically relevant the cases of "Finance" (99.8%), "Public Administration" and "Education"(each with 98.3% remaining in the sector), "Transport" (96%), "Health" (95.4%) and "Construction" (93.4%).

Table 3.1c Percentages of workers remaining in same industries wave1-wave 3

	Germany	Denmark	Nether-lands	Belgium	France	UK	Ireland	Italy	Greece	Spain	Portugal
Farming/mines	84.6	82.2	94.4	85.6	96.2	87.4	87.1	96.9	97.3	85.9	88.2
Food industry	82.4	93.9	96.6	90.0	92.4	79.9	90.0	92.6	84.8	92.2	87.6
Textiles	80.8	100.0	100.0	92.2	92.0	82.4	91.8	96.3	94.6	93.8	90.0
Wood/paper	92.0	86.1	93.8	87.4	96.9	82.3	91.4	91.7	81.7	95.0	92.7
Chemicals	92.2	79.0	82.0	98.1	96.5	87.6	94.0	93.5	87.7	90.1	91.9
Machinery	94.9	89.9	92.1	92.6	95.3	79.1	75.7	90.6	93.5	90.2	92.4
Construction	91.8	91.8	94.7	83.8	93.4	73.0	88.1	94.1	94.2	87.7	93.4
Retail	89.3	83.4	92.8	87.0	95.9	82.8	82.4	92.3	89.4	83.2	92.4
Hotels	79.4	80.7	77.9	88.4	95.4	73.8	87.2	91.5	86.2	89.3	82.9
Transport	94.5	85.0	95.0	96.3	97.6	86.6	93.5	95.8	96.1	94.5	96.0
Finance	97.5	95.5	94.4	98.6	99.0	88.8	95.1	99.0	98.1	95.0	99.8
Property	84.9	83.1	88.3	85.6	94.1	73.5	77.6	86.0	84.7	85.8	79.4
Public admin.	95.2	86.2	96.0	98.0	98.1	88.2	98.7	97.8	99.1	97.6	98.3
Education	94.2	93.2	96.5	96.6	96.5	94.4	96.2	99.4	97.9	97.7	98.3
Health	97.1	94.2	97.6	97.4	98.9	90.5	97.7	97.3	97.7	97.1	95.4

The lowest stability can be perceived in “Property” sector (79.4%), “Food industry” (87.6%) and “Farming/mines” (88.2%).

In the same Brynin and Longhi report is said that “the position over the longer period, shown in Table 3.1d, is again much more varied, with big differences between sectors. Industries dominated by the private sector show much more change than the public sector service industries such as education and health. However, finance is also relatively stable. All these of course require a high level of job-specific skills for many of the occupations they typically contain” (p.34).

Table 3.1d Percentages of workers remaining in same industries wave1-wave 8

	Germany	Denmark	Nether-lands	Belgium	France	UK	Ireland	Italy	Greece	Spain	Portugal
Farming/mines	67.0	68.3	80.3	60.7	88.8	44.8	46.1	69.0	82.3	59.2	74.5
Food industry	60.7	66.0	78.7	38.7	76.7	52.9	57.7	54.2	64.2	71.4	77.0
Textiles	48.3	72.5	45.7	48.6	79.4	35.4	46.8	71.8	67.7	76.1	75.5
Wood/paper	71.5	62.9	87.0	41.4	75.8	50.7	63.9	40.6	67.4	62.9	64.8
Chemicals	62.6	63.4	69.0	59.7	89.3	55.3	51.8	53.9	64.5	54.6	61.6
Machinery	72.0	55.7	55.0	50.0	85.3	50.3	21.6	55.6	72.0	67.6	63.3
Construction	66.4	83.8	96.3	55.4	84.0	49.0	51.0	62.6	73.6	75.2	75.5
Retail	65.3	67.7	62.6	51.8	84.2	54.9	45.8	54.2	68.9	63.5	66.2
Hotels	34.2	45.6	52.0	56.0	79.8	39.8	48.7	74.7	74.6	69.4	64.3
Transport	68.0	70.9	74.2	73.5	93.2	73.6	77.4	73.6	80.1	73.6	67.5
Finance	86.1	77.0	81.8	92.8	89.6	70.3	95.1	82.9	90.7	96.6	78.3
Property	49.7	70.8	66.5	25.3	79.2	47.5	44.5	33.9	57.5	57.0	43.1
Public admin.	81.6	73.9	77.3	65.4	90.9	71.7	85.1	75.6	84.3	71.6	85.6
Education	83.1	82.0	91.3	87.0	86.9	80.4	85.9	91.1	91.4	86.1	85.5
Health	92.9	74.8	88.7	82.4	92.8	78.2	89.5	71.4	91.5	84.7	81.2

It can be seen that the more stable sectors are again the same, but in different positions: “Public Administration” (85,6% remaining in the sector), “Education”(85,5%), “Health” (81,2%), and “Finance” (78,3%).

Brynin and Longhi argue that “it is obvious that some career flexibility is the sort of upward movement one would expect over a career, whereas we argue that pressures of occupational change could encourage switches over occupational boundaries which are potentially downward. Many women might be forced into this situation through family responsibilities, but if the pressure is partly external, then it should apply to men too” (p. 38). Here they try to measure of upward and downward mobility (e.g. clerical to associate professional, elementary to semi-skilled, both count as upward).

Table 3.2a Percentages of men moving up, down, or staying the same occupationally wave1-wave 8

	Germany	Denmark	Nether-lands	Belgium	France	UK	Ireland	Italy	Greece	Spain	Portugal
Down	7.5	6.6	11.5	16.2	6.2	12.2	7.7	11.7	10.3	9.9	9.2
Same	80.5	82.5	71.7	66.0	85.1	70.6	84.1	77.7	78.2	77.2	79.4
Up	12.0	10.9	16.8	17.8	8.7	17.2	8.1	10.6	11.5	12.9	11.4

Table 3.2b Percentages of women moving up, down, or staying the same occupationally wave1-wave 8

	Germany	Denmark	Nether-lands	Belgium	France	UK	Ireland	Italy	Greece	Spain	Portugal
Down	7.0	4.9	9.5	14.9	4.1	10.3	7.9	6.2	6.5	5.1	8.3
Same	82.8	85.6	69.9	75.9	90.5	72.8	80.3	81.8	84.0	83.2	78.4
Up	10.2	9.4	20.6	9.2	5.4	16.9	11.7	11.9	9.4	11.7	13.3

Upward mobility is always greater than downward mobility (11.4>9.2 for the case of men, and 13.3>8.3 for the case of women).

As Brynin and Longhi mentions, "also of note is that upward mobility is higher for men than for women in seven countries but higher for women in four, so career progression, at least as defined here, is not always greater for men" (p. 38). In Portugal upward mobility is higher for women (13.3>11.4). More striking, though, is that downward mobility is greater for men than for women in most countries (Portugal included, 9.2>8.3).

As the mentioned authors underline, "it appears that career loss is far more likely amongst men *where some sort of occupational change occurs*, than it is amongst women. Men might progress higher in their chosen professions than women, but if they change it might be for negative rather than for positive reasons" (p. 38). Most probably this can be concluded also for the Portuguese case, where the social importance of highly ranked positions are meaningful in mostly male jobs.

5.3 A quantitative evaluation of the shape of employment in Europe

When using the information on the evolution in sectoral and occupational subdivision of the European working population to find the most prominent trends [10], one can acknowledge an overall employment in the EU-25 has increased by 2.4% between 2001 and 2004 (three-year averages). This means that between 2001 and 2004, almost 4.5 million jobs have been created, resulting in a total of ca. 195 million employed in the European Union in 2004. This increase can be attributed to the EU-15 countries: total employment has increased by 2.8% in these countries whereas total employment in the new member states remains stable over the same period in time. But in terms of sectors changes one can acknowledge differences between sectors.

Along with this evolution of unemployment, there have been significant changes in the sectoral composition of employment. In Portugal this composition diverges quite markedly from the EU average. However, the last decade has witnessed a rapid decline in agricultural employment and a sustained expansion in the service sector. In fact, the NACE sectors A&B (Agriculture and fishing) have lost 7% of their workers between 2001 and 2004 in all European countries. This decline has been more prominent in NMS-10 countries than in EU-15 countries. Notably in Portugal there are high shares of

[10] Information at the Annex 5 of Birindelli et al., 2007 (pp. 177 – 219).

this sector in total employment (12% of the Portuguese work force is employed in the sector in 2004), and there was a positive evolution of employment in the primary sector between 1996 and 2004.

"The evolution of the Manufacturing sector (NACE D) on the other hand is more interesting, with almost one fifth (18.7%) of all EU-25 workers holding a job in it in 2004" (p. 178). In Portugal no jobs are lost in the manufacturing sector between 1996 and 2004.

The Construction sector (NACE F) is responsible for 7.8% of European employment in 2004. In Portugal there was an increase in the construction employment of 47.1% between 1996 and 2004.

In Portugal more than one quarter (25.7%) of the jobs in financial services (NACE J) is lost between 1996 and 2004. this sector is accountable for 3.1% of total employment in the EU-25 in 2004. But also the employment in the sector has been in decline in recent years; it dropped by 1.5% on average in the EU-25.

"In 2004, 7.1% of the EU-25 working population is active in the education sector [NACE M]. We find a steep increase in the number of people working in the sector between 2001 and 2004" (p. 183), and there were low growth rates found in Portugal (-0.7%).

"On average, 4.7% of the EU-25 employed work in the 'Other community, social and personal service activities' sector [NACE O]. The EU-25 increase of 4.7% in employment is again primarily attributable to the EU-15 countries. Between 2001 and 2004, employment in this sector has increased by 5.2% in these countries. (…) A remarkable result however is found in Portugal where employment in the sector has decreased by 18.2% between 1996 and 2004, and the resulting share in total employment is also the lowest of the EU-15 countries, *i.e.* 3.1%." (p. 184).

In terms of occupations, "a first important distinction that will help to put the following figures into perspective, is that between white- (ISCO 1-5) and blue- (ISCO 6-9) collar workers. In the EU-25, 62.5% of the employed work as white-collar workers in 2004. (…) Southern European countries, headed by Portugal (the only EU-15 country with more blue- than white- (48.4%) collar workers) and Spain (54.4%) tend to have lower shares of white-collar workers." (p. 185).

"The ISCO major group 3, *Technicians and associate professionals*, consists of the same sub groups as the ISCO 2 group, with the difference that it are not professionals but associate professionals that make up this category. In 2004, 16% of all European employed can be classified in the group of *Technicians and associate professionals*, making this the most important ISCO 1-digit category in terms of number of employed. (…)Very low shares of ISCO 3 jobs are found in Ireland, Greece and Portugal (all lower than 10%), with the last country being the only one in the EU-15 where employment in the considered category has declined between 1996 and 2004 with no less than 8%" (p. 186).

"Portugal is the only EU-15 country in which the number of *Skilled agricultural and fishery workers* [ISCO 6] has increased between 1996 and 2004. The number of jobs increased by no less than 18.5% to reach a level of 11.1% of total employment. This however does not make Portugal the EU-15 member state with the largest share of *Skilled agricultural and fishery workers"* [11](p. 187).

[11] Greece has 13.0% of all employed work as *Skilled agricultural and fishery workers*.

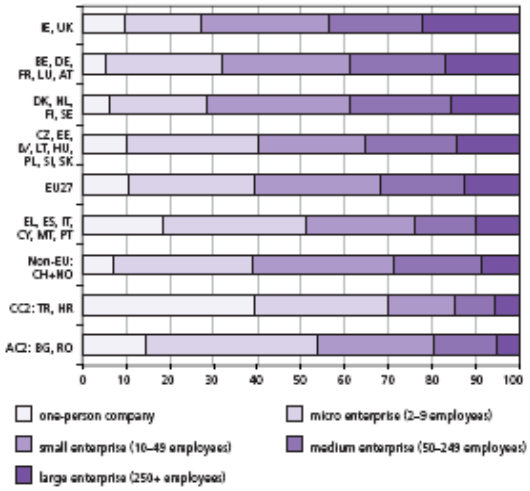
"The ISCO major group 8 consists of *Plant and machine operators and assemblers*, and is responsible for 8.6% of EU-25 employed in 2004. This is a decrease by 0.4 percentage points compared to 1999. (…) The highest shifts in the share in total employment are found in Austria on the low end where the share decreased by 2.3 percentage points and Portugal on the high end where it increased by 1.1 percentage points" (p. 188).

The last major group in the ISCO classification is that of unskilled labourers, the *Elementary Occupations* [ISCO 9]. Portugal has a high (12.4%) and increasing share (2.2%) in this occupational group.

Thus, in Portugal international trade contributed to sustain the wages and the employment shares of low-wage, low-skilled workers, driving part of the compression which took place at the bottom half of the wage distribution and generating low unemployment levels. Also some institutional arrangements, such as the minimum wage, and the action of collective bargaining, also contributed to such compression. However, this effect did not counterbalance the increasing wage premium for high-skilled workers resulting from modernization and technological upgrading and, as a result, wage inequality increased since the early 1980s (cf. Jimeno et al., 2000, pp. 61-62).

When using the *European Working Conditions Survey* is possible to know in groups of countries the distribution of employment by company size, as shown in the next figure.

Figure 1.4: Distribution of employment, by company size and country group (%)



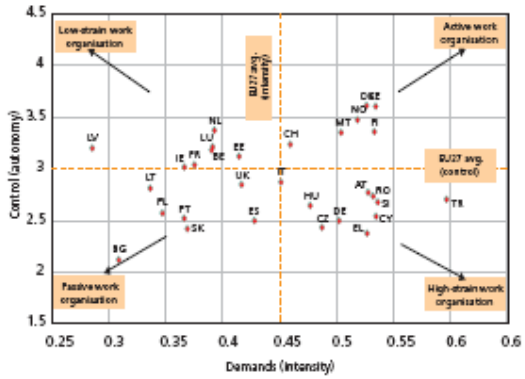
Source: European Foundation for the Improvement of Living and Working Conditions, 2007, p. 6

It was already analysed in more detail this situation, but here is clearly shown that Portugal is among the group where most workers are employed in the very small sized companies (less than 9 workers) [12]. And here the proportion of companies with less than 50 workers is around 75%, that means the possible existence of a lack of critical mass of human capital to sustain processes of innovation.

[12] The exception is for the countries in the group of the two candidate countries for membership of the EU: Croatia and Turkey (CC2), where the proportion is much higher.

The next figure shows into which category of work organisation each country falls; it also indicates how they are positioned in relation to the EU27 average (shown by the dotted lines).

Figure 6.12: Job demands and control, by country



Note: Figures apply to employees only.

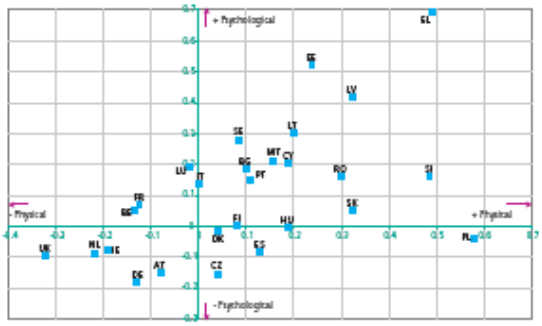
Source: European Foundation for the Improvement of Living and Working Conditions, 2007, p. 60.

As mentioned in this European Foundation study, the "Nordic countries included in the survey most closely approach the 'active work organisation' category, which has been identified as being most conducive to performance (without negative consequences for working conditions): greater demands on the worker are counterbalanced by greater control over the content of work, diminishing the negative impact of work intensity. Cyprus, the Czech Republic, Germany and Greece approach most closely the category of 'high-strain work organisation': workers in these countries face levels of job demands that cause stress, but have relatively low levels of autonomy; such a form of work organisation has the most negative impact on working conditions. Belgium, Luxembourg and the Netherlands approach most closely the low-strain category, with low levels of demands but high autonomy. (These three countries are characterised by very high productivity levels, which indicates that 'low-strain' does not mean low performance). Finally, Bulgaria, Poland, Portugal and Slovakia approach most closely the passive work organisation category; according to Karasek, this model has the most negative implications for performance" (Parent-Thirion et al., 2007, p. 60).

The position of Portugal is in the "Passive work organisation" quadrant where the intensity of work is relatively low (0.37 for a maximum 0.6) and the control and autonomy also low (2.5 for a maximum of 4.5). The EU27 average is 0.45 for the intensity and 3 for the control. Also, on average in EU-15, there was a significant decrease in complexity of work between 1995 and 2000. At the same time, work in the EU-15 has become more intense.

"The mapping of routine/complex jobs partially confirms the idea advanced by Lundvall and the results of Lorenz and Valeyre. Generally speaking, it is in Scandinavian countries where workers frequently perform complex tasks, but other countries also offer high learning opportunities and complex tasks. (…) Not surprisingly, in other Baltic countries (Latvia and Lithuania) and some other acceding countries (Poland, Bulgaria) routine jobs are more frequent. It is also the case in some Mediterranean countries (Portugal and Greece)" (Greenan, Kalugina, and Walkowiak, 2007, p. 50).

Figure 7.6: Physical and psychological health factors, by country, EU27 (%)



Source: European Foundation for the Improvement of Living and Working Conditions, 2007, p. 64

In parallel with job complexity one can find interesting information on the physical and psychological health factors, as in the figure above. Here one can see that Portugal is among the countries where are found most of reported physical and psychological work-related health problems. In both dimensions (physical and psychological) is above the EU27 average.

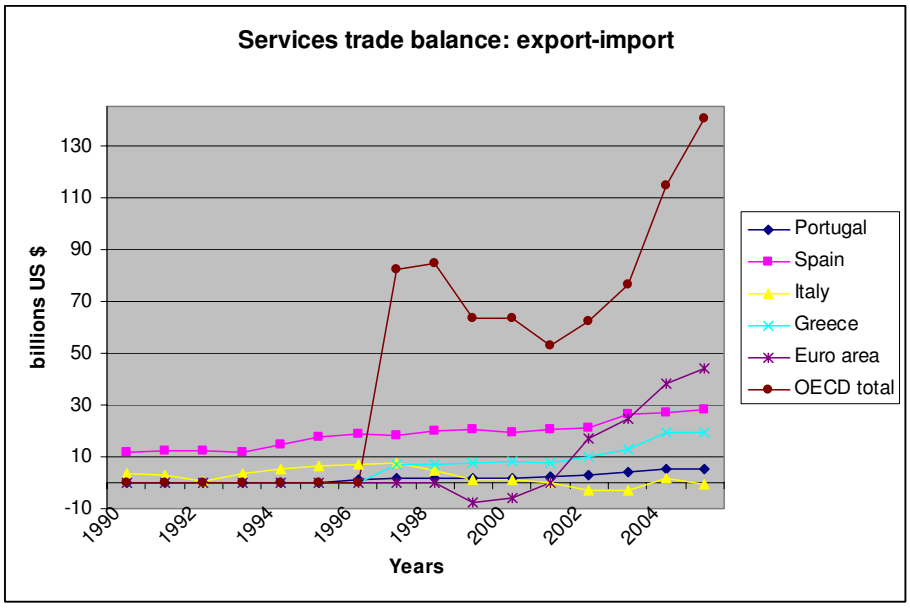
Finally, in terms of gender issues, "since 1995, the *European Working Conditions Survey* has asked respondents whether their immediate superior is a man or a woman. From the answer given, a slight, gradual increase in the percentage of women superiors has been visible: from 20% in 1995, to 23% in 2000, to 25% in 2005. (…) Differences between countries in this respect are substantial. The highest proportions of women in supervisory and managerial positions are in northern and eastern European countries (reaching nearly 40% in Finland and Estonia); by contrast, southern European countries, and some continental countries, have the lowest proportions – less than 20% in Germany and Italy" (Parent-Thirion et al., 2007, p. 68). But what is interesting is that the Portuguese position is also corresponding to its particular situation in terms of participation of women in the labour market. Here also, women with higher hierarchical positions are around 27%, which is higher than countries like Belgium, France, Austria, Netherlands, Germany or Switzerland…

6 Globalisation indicators

In terms of globalisation process, Portugal is a country that can be considered as open to international trade. The evolution of the ratio of total exports and imports to GDP can show such openness. “For Portugal, this ratio increased from about 40% to almost 70% in the 1960-86 period, to remain fluctuating around this level afterwards. (…)As for geographical patterns of trade of goods, there is an increasing concentration of exports and imports to and from the EU” (Jimeno et al., 2000, p. 18).

In fact, exports to the EU have more than doubled in the last decade and Portuguese exports of goods to the EU increased mostly in second half of the eighties. There was also a strong rise of the Portuguese imports from EU in the second half of the eighties. These above mentioned authors underline that “As regards specific sectors with a strong export orientation and, therefore subject to stronger specialization, one should emphasize the role of textiles in Portuguese manufacturing, which still contributes 30% of export earnings, whereas there are other sectors (like food and beverage and electrical engineering) where FDI flows have strengthened their comparative advantage. Thus, while food stuffs gradually lost ground, durable consumer goods (cars exported to the EU and capital goods to Latin-American countries) have seen a steep rise in importance. Overall, it seems that international trade should have increased the demand for low-skill and semi-skill products and, hence, contributed to lower wage inequality” (Jimeno et al., 2000, p. 19-20).

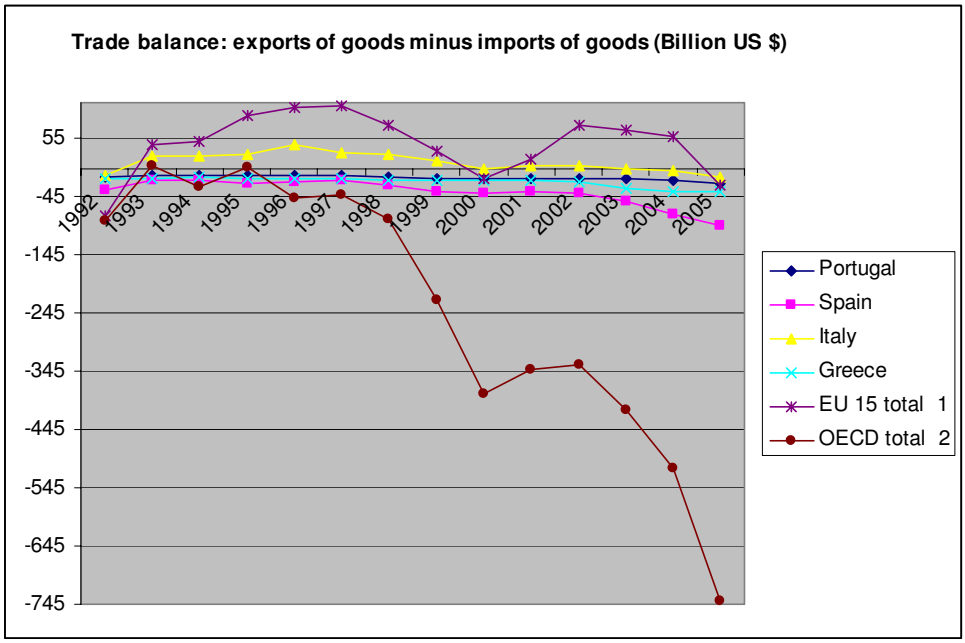
The next figure presents the information on the services trade balance (in Billion US dollars). This indicator is found on the base of the calculation of exports of services minus imports of services.



Source: OECD

Although with information only from 1996, Portugal presents a regular and continuous positive evolution within this indicator. Is clear that such evolution is, however, much lower than the one found for the Euro group countries, and even less in relation to the OECD countries.

If one takes into consideration the goods trade balance (as exports of goods minus imports of goods in billion US dollars), the results appear in the next figure.

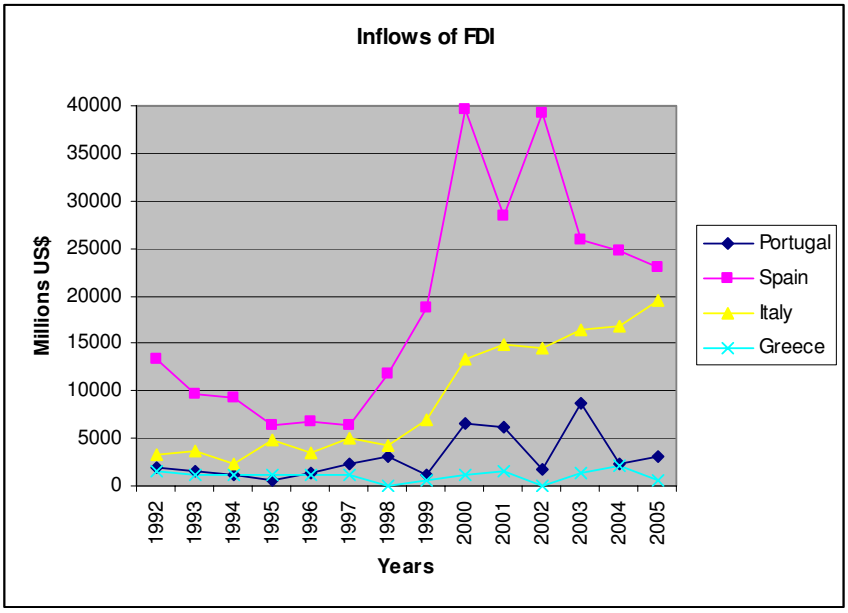


1 - Source: national statistical offices or customs of the European Union Member countries
2 – Includes Japan from 1962, Australia form 1963, Finland from 1964, Mexico from 1990, Hungary and Poland from 1992, the Czech Republic from 1993, Korea from 1994 and the Slovak Republic from 1997

Here is clear that the evolution is negative, especially in the case of overall OECD countries, and more recently in the EU15 case. Portugal show a position relatively balanced, with a continuous negative evolution (i.e., with more imports of goods. As a conclusion it could be said that, although very balanced in comparison with other countries, Portugal becomes more clearly an exporter and producer of services rather than goods.

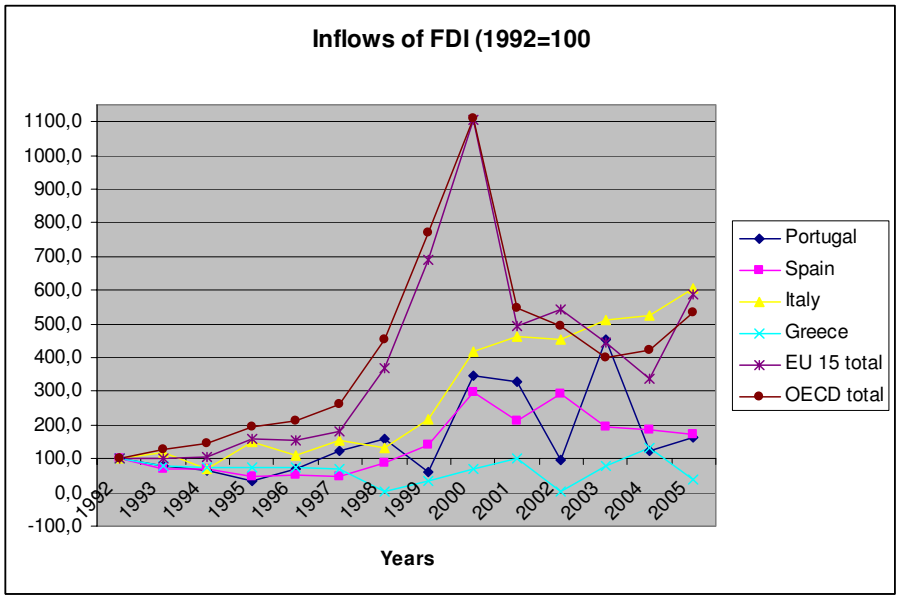
6.1 Foreign direct investment

Foreign Direct Investment (FDI) displays a rather irregular pattern over time. After an explosive increase, unprecedented in the Portuguese history, FDI fell sharply around 1992. According to Lopes (1999) this should be attributed to the recession that affected Europe at that time, as well as to the Portuguese escudo real appreciation. As is mentioned by C. there are “two distinct periods, which are distinct not only in terms of skilled wage growth (first increasing, then stagnated), but also in terms of approximately contemporaneous comovements in stocks and prices of equipment, and skilled labor-equipment ratio. Note that the sharp growth of FDI and transfers from the EU until 1992 helps explaining why total investment growth was so fast in that period, since in addition to their direct effect, domestic investment (both private and public) likely increased to complement foreign investment” (p. 9). The next figure presents the information on the inflows of foreign direct investment (in Millions of US dollars).



In this figure one recognises the evident growth of the FDI value especially since the last years of the 90 decade in Spain. The growing process was also clear in Portugal, but not so strong as in Spain or in Italy.

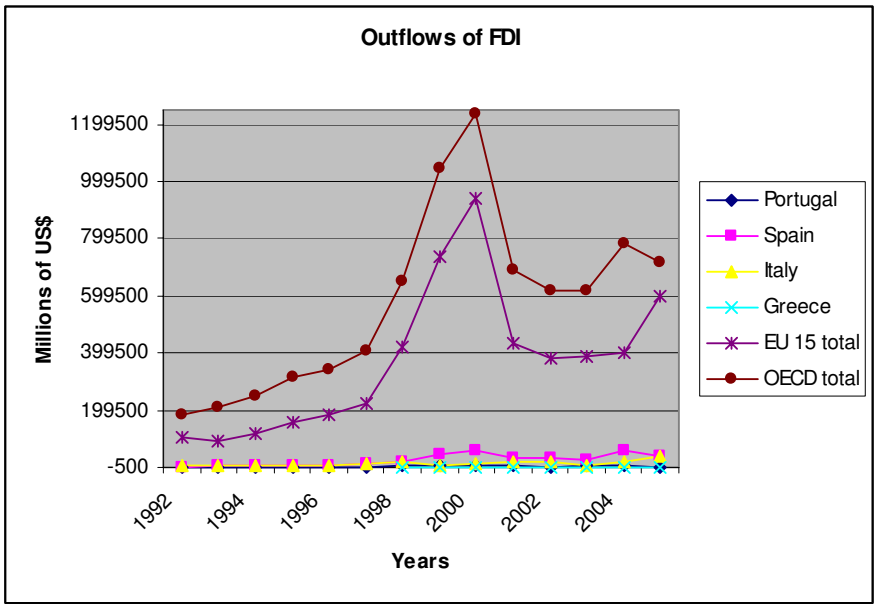
FDI inflows significantly increased in the eighties (mostly in the second half of this decade). This increase reflects an overall increase in FDI which have taken place across the world since the mid-eighties together with accession to the EU. The liberalization and structural reforms of the eighties and nineties, together with the implementation of more orthodox fiscal and monetary policies, surely contributed to the rise of FDI flows (cf. Jimeno et al., 2000, p. 21-22). Using the relative data, where the value of 1992 is the reference (100), and the next figure presents the relative evolution of this indicator of globalisation.



Here is shown that either the OECD or the EU15 averages are relatively higher than the ones mentioned to the Southern countries (except in the Italian case, that from 2003 is

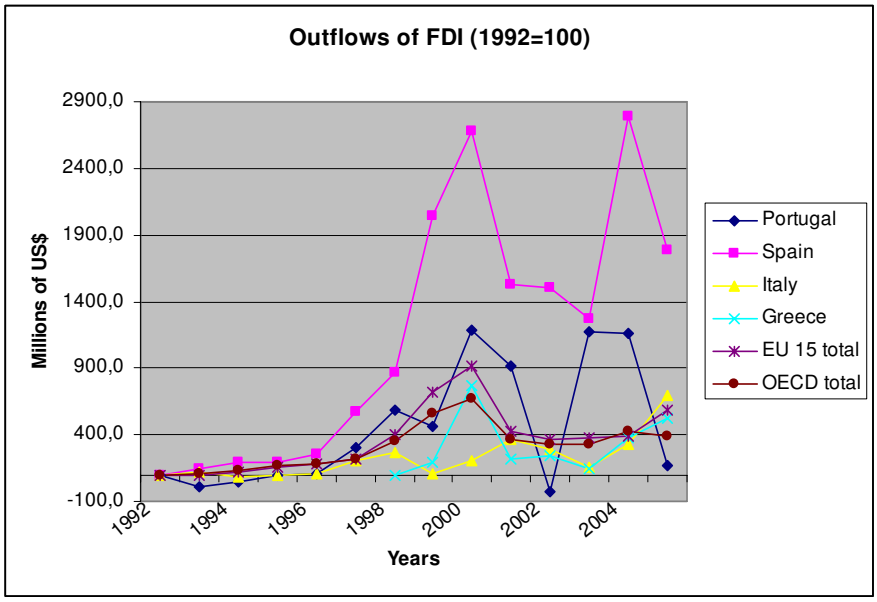
even higher to those averages). The relative position of Portugal is not constant and does not show a clear improvement of this indicator (inflow of FDI).

2000 represented also a year where the there were special inflows of FDI, also in the Southern European countries, and especially in Portugal. Only Italy shows a continuous increase in almost all the period studied. In terms of outflows (national capital investment in foreign countries, the information is also clear in the next figures.



The outflows of foreign direct investment (in millions of US dollars) were growing very fast in OECD and EU15 countries until 2001. After a strong decrease on such capital movements until 2003, in the most recent years these groups of countries could acknowledge an increase (particularly for the EU15 case). In comparison, the Portuguese dimension of this FDI flow is very week (always below 10 thousand millions USD).

If one takes into consideration a relative evolution (1992=100 except for Greece where 1998=100) the position of the different countries changes more clearly.

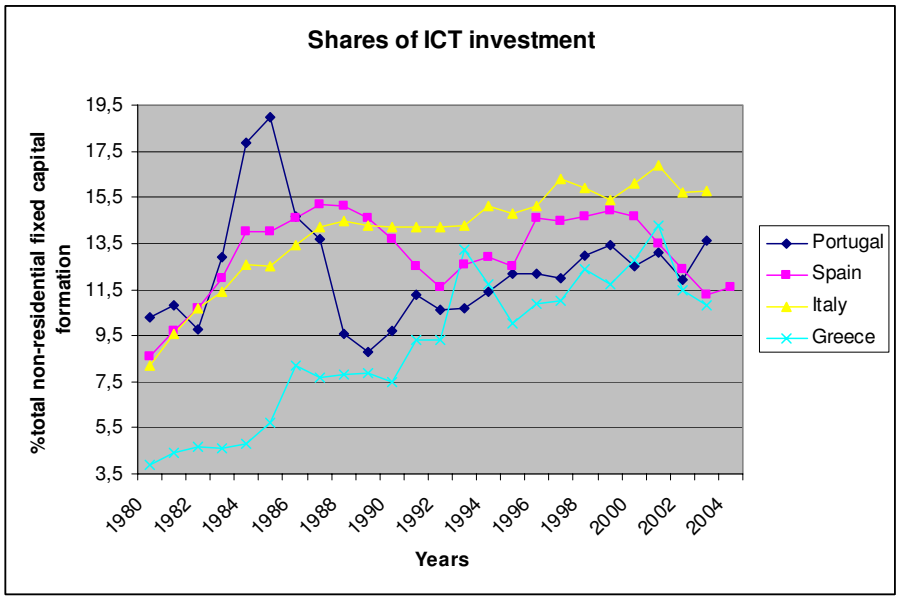


In these recent years the Portuguese outflow of FDI have been increasing less than Spain, but more than other countries. But that evolution is not balanced, neither so strong as the Spanish that have a parallel standard.

6.2 ICT investment

ICT investment is also another dimension of the globalisation process and modernisation of the working structures and infra-structures. As Leitão and Ferreira underlines, "in the case of Portugal, a feedback causality relationship between the Gross Domestic Product and the investment in ICT is ratified, although different signals of causality weights are detected. On the one hand, the level of investment in ICT presents a negative impact on the Gross Domestic Product. This fact may be justified by the investment effort made by the State, that is, the owner of the incumbent telecommunications operator, in expanding and upgrading the copper and the cable networks, during the decades of 80's and 90's. On the other hand, the Gross Domestic Product precedes increasing levels in ICT. This is justifiable by the public policies that were supported by European funding, which was conducted to public spending in telecommunications infrastructures, along the last two decades of the 20th century" (Leitão and Ferreira, 2007, p. 25).

The next figure presents the shares of ICT investment in non-residential fixed capital formation as a percentage of total non-residential fixed capital formation in the total economy in the period from 1980 until 2003 [13]. This means the weight of ICT investment in the total basic structural elements of the economy (the fixed capital formation), or a measure of the net new investment by enterprises in the domestic economy in fixed capital assets during an accounting period [14].



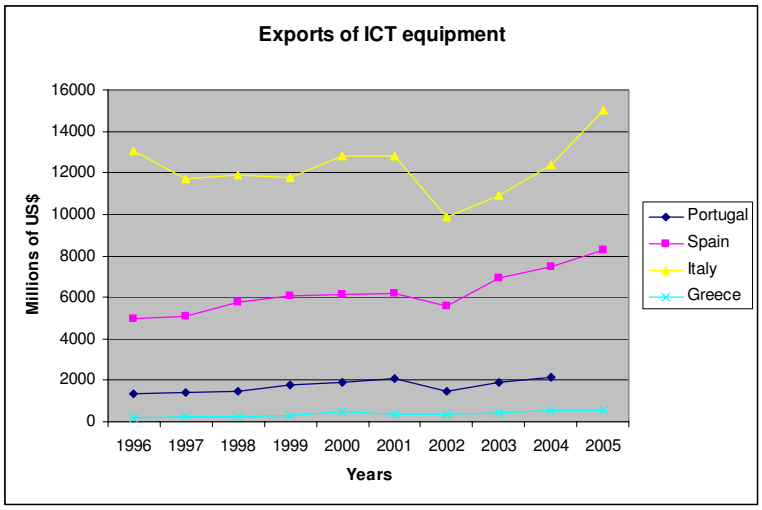
[13] 2004 in the case of Spain.

[14] It is usually defined as the total value of additions to fixed assets by residential producer enterprises (for example, manufacturing companies). Normally these assets are tangible assets, but in some cases they are intangible intellectual property (including software). There is a debate about the exact boundaries. The main asset types are, however, plant and machinery, equipment, vehicles, land-improvements and buildings.

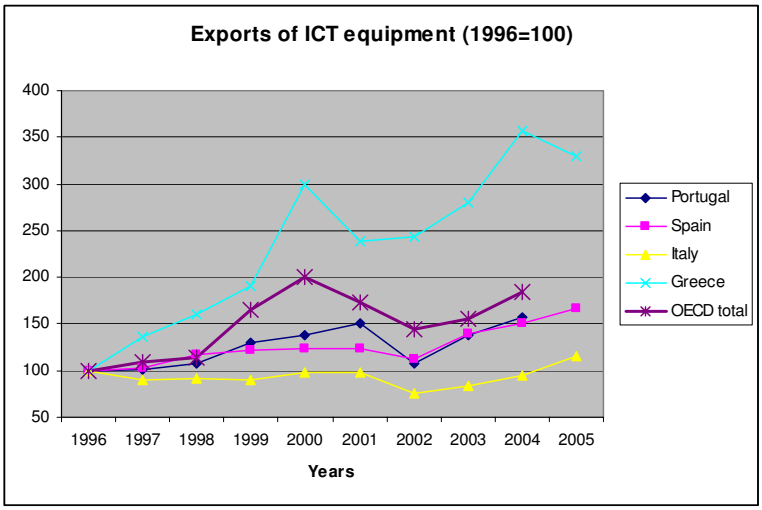
Analysing this figure one can acknowledge very strong increase in the Portuguese ICT investment in the 80s due the strong investments made through the industrial policy programmes (like PEDIP) that focused strongly in the modernisation of manufacturing industry, and that pushed a strong investment in the ICT equipment. This growth process was also clear in the other Southern countries.

Some divergent trend can be understood only in the very recent years, where the share of ICT investment in non-residential fixed capital formation is decreasing in this group of countries, with an exception: Portugal. Again this is due to new industrial policy programmes (like "Plano Tecnológico") that again means specific modernisation policy tool. In 2003 that ICT investment share was 13.6% of total non-residential fixed capital formation in the total economy.

The indicator of exports of ICT equipment gives information on the size of market (in Millions of US dollars). The next figure presents the evolution of this market in the southern European countries.



As it can be verified, since 2002 there was a strong increase of this export activity. Especially in Italy the value of the exports increased dramatically. But the same increase could be acknowledged either in Spain and less in Portugal [15]. The next figure presents the same information but with the relative growth indicator, where to 1996 value is attributed 100.



[15] Greece has almost no export activity in the ICT equipment.

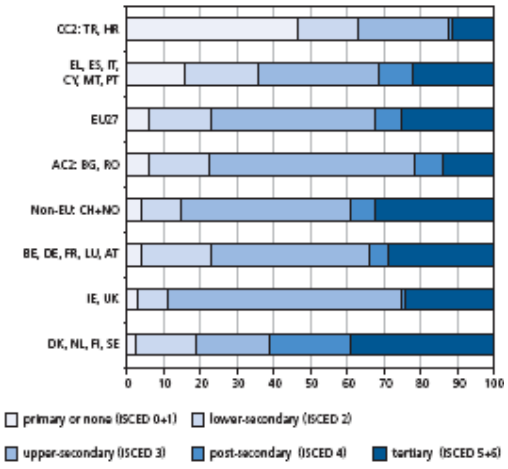
Here one can see the strong annual increase of the Greek value (except in 2001), but as said before, the value of this type of export is very low. Thus, is meaningful the fact that Italy also had a strong growth since 2003, as the other southern countries. Portugal had a growth rate in 2004 similar to the OECD average, and slightly above the Spanish rate.

In a study of Lopes and Godinho, is mentioned that "Innovation effort intensity has an obviously expected positive and significant effect on innovation output. If firms spend more on innovation activities they have a higher probability of introducing a service innovation" (Lopes and Godinho, p. 12). And also they say that company "size is a control variable and, as expected, has a relevant role although in an unexpected way. In fact it has a positive impact on innovation output but a large negative effect on innovation effort intensity and no impact on labor productivity. Larger firms would innovate more than smaller ones with less effort (i.e. they are more efficient in innovation activities). (…) Also, government support does not have a significant effect neither on the effort intensity nor on innovation output or even on labor productivity. This may seem a surprising result but in the services context government support is less frequent than in the manufacturing context. In our sample only 4% of the firms report having received government support" (p. 14).

6.3 Education

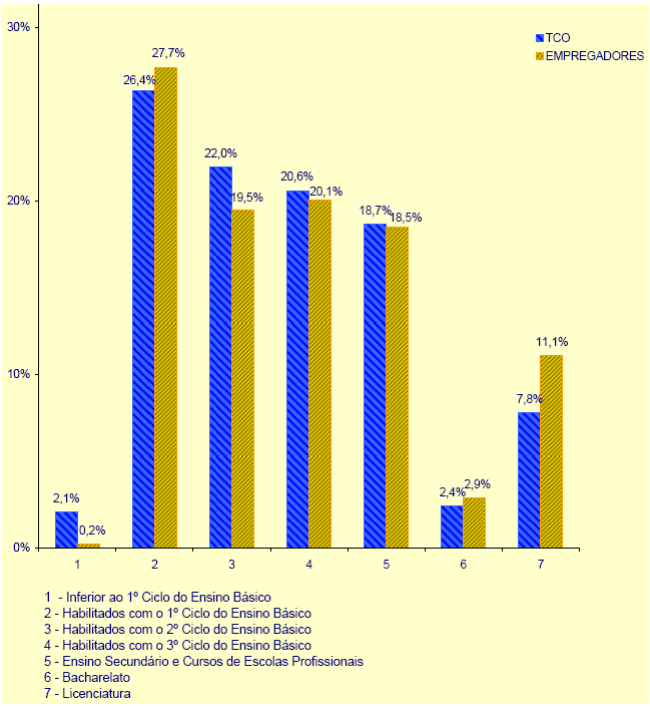
The distribution of educational levels through the country groups reveal that the Southern European countries offer the lowest levels of schooling.

Figure 1.10: Educational level, by country group (%)



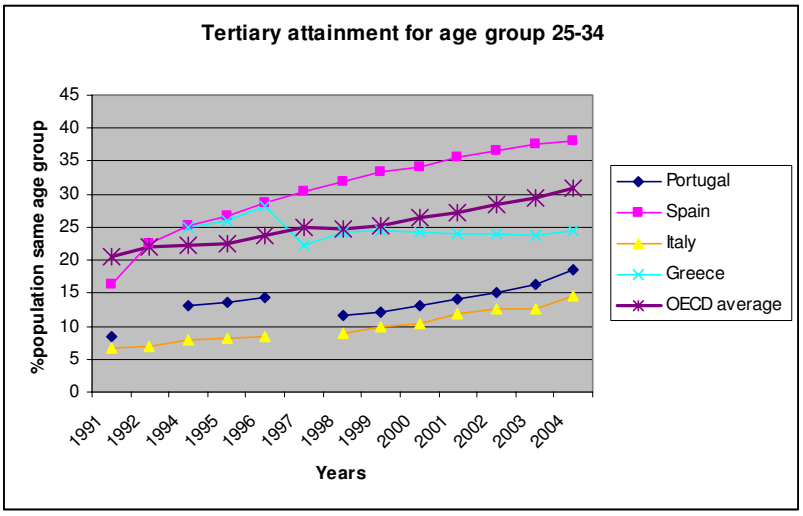
Source: European Foundation for the Improvement of Living and Working Conditions, *Fourth European Working Conditions Survey,* Luxembourg: Office for Official Publications of the European Communities, 2007, p. 9

But the specific situation of Portugal can be even worse if one considers the several education groups and compare even the two working groups: employers and employees.



After several decades of education reform that introduced the compulsory schooling for 9 years of attendance, still the larger group is the one that have only 4 years of schooling[16]. And the attention can be focused in the fact that in this group, the majority are employers and not employees. This means that if the levels of schooling are very low in terms of workforce (26.4% have only 4 years of compulsory schooling, 22% have 6 years and 20.6% have 9 years), 27.7% of employers have only 4 years of schooling! This has been a strong factor of obstacle for innovation and productivity increase, as well for the implementation of social dialogue in companies.

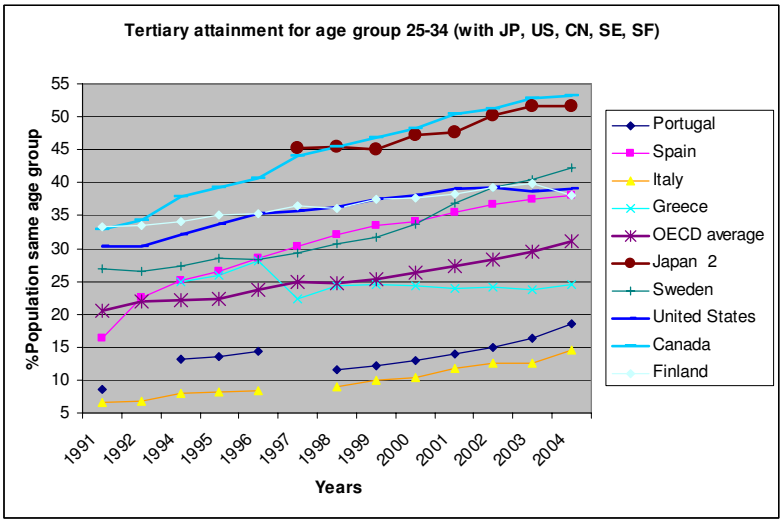
Of course, the younger generations have already much higher levels of schooling, but they are simply not the majority in the workforce. Than this problem is also a generational one. For example, the tertiary attainment for age group 25-34 (as a percentage of the population of that age group) is an indicator of the process of improvement of the workforce education levels, as well of the capacity of a country to take with success the main tasks for modernisation of economy.



[16] Information from the Quadros de Pessoal, MTSS, 2004, p. 88.

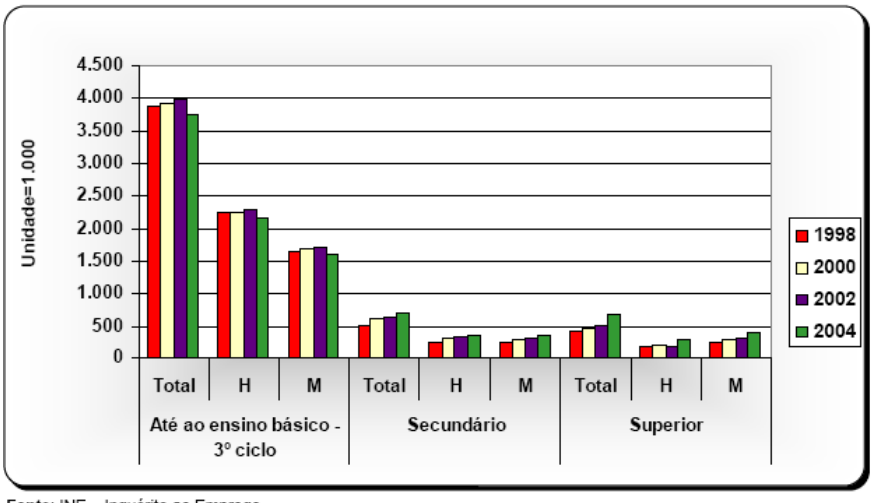
All the Southern European countries follow basically the OECD average evolution. But again the Portuguese position is not comfortable, and cannot increase more than the OECD average, which means that comparatively will maintain its relative position for the next years, although improving internally its situation.

It is also interesting to use the information on other OECD and European countries for a comparative situation (like Japan, US, Canada, Sweden and Finland). That can improve the understanding of the Portuguese case that has been under analysis in this report.



The tertiary education level attainment (in comparison with the population in the same age group) in Portugal has been growing constantly, and is only higher than the Italian evolution and position in the considered group of countries. But this figure shows also the tremendous difference that exists between these countries and the most successful cases in terms of education. Japan and Canada continue to be the countries with the highest rates of tertiary education attainments, and in Europe Sweden had a very quick and consistent growth that overcame even the Finnish position. Only Spain shows a similar behaviour to the Swedish case. Interesting to verify that US situation have been also very similar to the Finnish case, and both have a similar relative position in respect to this indicator.

In relation to the particular situation of Portugal, we can see the evolution of employed population between 1998 and 2004, according to the highest achieved schooling level and gender, in the next figure.



Fonte: INE – Inquérito ao Emprego.

H-Men; M-Women; Básico-Basic (until 9th grade); Secundário-Secondary (10th-12th grade); Superior-High education/University

Here is clear that most of the workforce have only the basic schooling level (9 years). The secondary and the tertiary education levels are increasing but have still very low dimension in absolute (and relative) terms. This has also different implications, as for example on job mobility. As is mentioned in Brynen and Longhi report, having high and medium level education pays the most in Portugal (p. 17). Also they conclude that "people with some or no education seem to be more likely to move to worse occupations, with the exception of Portugal, where workers with some education seem more likely to move to better occupations" (p. 47).

Vocational education also tends to be limited. In the southern countries - Greece, Italy, Portugal and Spain - significantly larger proportions of people have low levels of education, while vocational education is very limited (Birindelli et al., p. 17). Some policies could be designed to face these problems. "A target would be to increase by 25% the importance of professional training aimed at the unemployed so as to reach 20% of the unemployed attending training actions by the end of the lifespan of the Plan. (…) In the period 1998-2002 were created new instruments, such as: a) launching of a new framework for the "employment clubs" and for UNIVA and b) implementation of the new unemployment protection scheme, intended to reduce the factors that discourage people from working" (Moniz, 2002, p. 13). However, the results of such policies take decades to show visible targets achieved. And for that reason are difficult to be assessed.

7 Some conclusions

Portugal is a country that faced strong changes in the recent decades. First, in the 70s with the political changes that introduced new democratic mechanisms and enabled the possibility for an international economical, social and political integration.

After that, in the 80s, the internal economical reconstruction was done with a strong control from the IMF policies and with the policy tools that enabled the EC integration in 1986, with all the structural implications. The next decade had the main characteristic of a modernisation process. That means strong investments in infra-structures (road communications and telecommunications) and modern technologies in the manufacturing sector.

During the present decade, several economical reforms took place together a continuous process of restructuring. But the main hindering factors of a better quality for working and living conditions remained the same: maintenance of social inequality, low levels of education in the labour market, weak working conditions in the manufacturing sector. This, allied to management deficiencies, induced low productivity and an even greater distance towards the other European countries in terms of economical growth and innovation capacities.

The positive issues can relay on the high participation levels of women in the labour market, on the growth of labour force (that includes a negative side, which is an increase of unemployment), integration in the globalisation process and a decisive process of technology development and investment. This leads to new needs in the innovation system but it faces the problems of shortage of technical skills among the workforce, as well of highly skill workers.

Bibliography:

Atkinson, Greg and Davenne, Damien: "Relationships between sleep, physical activity and human health", *Physiology & Behavior* 90 (2007) 229–235

Batista, Cátia: "Joining the EU: Capital Flows, Migration and Wages", *Economics Series Working Papers*, University of Oxford, Department of Economics series, No. 342, 2007.

Birindelli, Lorenzo et al.: *The transformation of work? A quantitative evaluation of the shape of employment in Europe Introduction and executive summaries*, WORKS report D9.2.5, 2007.

Birindelli, Lorenzo and Rustichelli, Emiliano: *The transformation of work? Work flexibility in Europe: a sectoral and occupational description of trends in work hours, part-time work, temporary work, and self-employment*, WORKS report D9.2.3, 2007.

Böheim, René and Cardoso, Ana Rute: "Temporary Agency Work in Portugal, 1995–2000", *IZA Discussion Paper* No. 3144, Bonn, Nov. 2007, 33 pp.

Bruder, Jana: "East-West Migration in Europe, 2004 – 2015", *Thünen-Series of Applied Economic Theory Working Paper* No. 40, Universität Rostock, 2003

Brynin, M. and Longhi, S.: *The transformation of work? Occupational change in Europe*, WORKS report D9.2.4, 2007a.

Brynin, M. and Longhi, S.: "Occupational change – A study of skills and occupational switches in Europe" in Birindelli, Lorenzo et al.: *The transformation of work? A quantitative evaluation of the shape of employment in Europe Introduction and executive summaries*, WORKS report D9.2.5, 2007b, pp. 73 – 102.

Cardoso, Catarina and Soukiazis, Elias: "What can Portugal learn from Ireland and to a less extent from Greece? An empirical approach searching for the sources of growth", *ERSA conference papers*, No. ersa04p21, 2004, European Regional Science Association.

Carreira, Carlos; Teixeira, Paulino: "Internal and External Restructuring over the Cycle: A Firm-Based Analysis of Gross Flows and Productivity Growth in Portugal", *GEMF Working Papers*, No. 2007-01, GEMF - Faculdade de Economia, Universidade de Coimbra, 34 pp.

Coppin, L.; Geurts, K. and Ramioul, M.: "Tracing employment in business functions – A sectoral and occupational approach" in Birindelli, Lorenzo et al.: *The transformation of work? A quantitative evaluation of the shape of employment in Europe Introduction and executive summaries*, WORKS report D9.2.5, 2007, pp. 105 – 161.

Ferreira, Leonor Vasconcelos: "Social Protection and Chronic Poverty: Portugal and the Southern European Welfare Regime", *FEP Working Papers* No. 168, Universidade do Porto, Faculdade de Economia, 2005

Flecker, J. et al.: „Restructuring across value chains and changes in work and employment: Case study evidence from the Clothing, Food, IT and Public Sector", *WORKS Deliverable 10.1: WP 10 Organisational Case Studies – Synthesis Report*, 2007, 153 pp.

Galego, Aurora: "Self-Employment Choice in Portugal: How Different are Women from Men", *Documento de Trabalho Departamento de Economia* nº 2006/03, Universidade de Évora, 20 pp.

Greenan, Nathalie; Kalugina, Ekaterina; Walkowiak, Emmanuelle: "European Working Conditions Survey (ESCW)" in Birindelli, Lorenzo et al.: *The transformation of work? A quantitative evaluation of the shape of employment in Europe Introduction and executive summaries*, WORKS report D9.2.5, 2007, pp. 43 - 71.

Jimeno, Juan F.; Cantó, Olga; Cardoso, Ana Rute; Izquierdo, Mario; Rodrigues, Carlos Farinha: "Integration and Inequality: Lessons from the Accessions of Portugal and Spain to the EU", *FEDEA series Working Papers,* No. 2000-10.

Lains, Pedro: "Growth in the 'Cohesion Countries': the Irish tortoise and the Portuguese hare, 1979-2002", *Working Papers in Economics*, E/nº 37/2006, Universidade de Aveiro, 37 pp.

Leitão, João and Ferreira, João: "Liberalization of European Telecommunications and Entrepreneurship: Why German and Portuguese Experiences are so Equal and so Different?", *MPRA Paper* No. 5801, University Library of Munich, 2007, 36 pp. [http://ideas.repec.org/p/pra/mprapa/5728.html]

Lopes, José da Silva (1999). *A Economia Portuguesa desde 1960*. Lisbon, Portugal: Gradiva.

Lopes, Luisa Ferreira; Godinho, Manuel Mira: "Services Innovation and Economic Performance: An analysis at the firm level", *DRUID Working Paper* No. 05-08, 2005, Copenhagen Business School, Department of Industrial Economics and Strategy/Aalborg University, 22 pp. [http://ideas.repec.org/p/aal/abbswp/05-08.html]

Loudoun, R., "Balancing shiftwork and life outside work: Do 12-h shifts make a difference?", *Applied Ergonomics* (2008), doi:10.1016/j.apergo.2007.12.004

Meyer, Anna; Wallette, Mårten: "Absence of Absenteeism and Overtime work – Signaling Factors for Temporary Workers?", *Department of Economics Working Papers series*, No. 2005:15, Lund University,

Moniz, A. B. and Woll, T.: "Main features of the labour policy in Portugal", *IET Working Papers Series,* No. WPS02/2007, Monte de Caparica, IET.

Moniz, António: Labour Market Policy in Portugal. *MPRA Paper* No. 6588, University Library of Munich, 2002a [http://ideas.repec.org/p/pra/mprapa/6588.html].

Moniz, António: Productivity growth and organisation of work: Discussion of some factors, *MPRA Paper* No. 6515, University Library of Munich, 2002b [http://ideas.repec.org/p/pra/mprapa/6515.html]

Parent-Thirion, Agnès; Fernández Macías, Enrique; Hurley, John; Vermeylen, Greet (European Foundation for the Improvement of Living and Working Conditions), *Fourth European Working Conditions Survey,* Luxembourg: Office for Official Publications of the European Communities, 2007.

Riedmann, Arnold, et al: *Working time and work–life balance in European companies,* Luxembourg: Office for Official Publications of the European Communities, 2006 – VIII, 70 pp.

Tavares, Ana T.; Teixeira, Aurora A. C.: "Human Capital Intensity in Technology-Based Firms Located in Portugal: Do Foreign Multinationals Make a Difference?", *FEP Working Papers* No. 187, 2005, CEMPRE, Faculdade de Economia, Universidade do Porto, 33 pp.

Tucker, P., Knowles, S.R., "Review of studies that have used the Standard Shiftwork Index: Evidence for the underlying model of shiftwork and health", *Applied Ergonomics* (2008), doi:10.1016/j.apergo.2008.02.001

Valenduc, G. et al.: "Occupational case studies: Synthesis report and comparative analysis", *WORKS Final report of WP11,* 2007, 196 pp.

8 Annex

Indicators (OECD)

European Union 15	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Real GDP	2,5	1,7	2,6	2,9	3,0	3,8	1,9	1,1	1,1	2,3	1,6	2,8	2,7	2,5
Occupied Population	0,8	0,6	1,0	1,8	1,8	2,2	1,4	0,6	0,5	0,8	0,8	1,3	1,4	1,1
Labour productivity	2,0	1,4	1,9	1,4	1,5	1,9	0,6	0,6	1,0	1,8	1,0	1,6	1,5	1,5
Annual average hours worked		-0,2	-0,4	-0,1	-0,3	-1,1	-0,4	-0,9	-0,5	-0,1	-0,4	-0,1	-0,2	-0,1
Productivity per hour worked		1,3	2,0	1,2	1,5	2,7	1,0	1,4	1,1	1,6	1,2	1,5	1,5	1,4
Harmonized CPI	2,8	2,4	1,7	1,3	1,2	1,9	2,2	2,1	2,0	2,0	2,1	2,2	2,0	2,0
Price deflator GDP	2,7	2,1	1,6	1,7	1,1	1,4	2,4	2,6	2,3	2,0	1,9	1,9	2,2	2,0
Nominal compensation per employee	3,5	3,0	2,6	2,4	2,7	3,5	3,3	2,9	3,2	2,9	2,6	2,7	3,0	3,3
Real compensation per employee (GDP deflator)	0,8	0,9	1,0	0,7	1,5	2,0	0,9	0,2	0,9	0,9	0,6	0,8	0,8	1,3
Real compensation per employee (private consumption deflator)	0,8	0,8	0,8	1,1	1,6	1,2	1,0	1,1	1,2	0,9	0,5	0,5	1,1	1,4
Nominal unit labour costs	1,5	1,6	0,7	1,0	1,2	1,6	2,7	2,3	2,2	1,1	1,5	1,1	1,5	1,7
Real unit labour costs	-1,2	-0,5	-0,9	-0,7	0,1	0,1	0,3	-0,3	-0,1	-0,9	-0,4	-0,8	-0,7	-0,2

Source: OECD

GDP per capita in Purchasing Power Standards (PPS) (EU-27 = 100)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Portugal	76,4	76,9	78,6	78,3	77,6	77,3	77,0	74,9	75,5	74,6
Spain	93,6	95,7	96,7	97,7	98,5	100,9	101,4	101,4	103,1	105,2
Italy	119,5	120,2	118,0	117,3	118,3	112,4	111,2	107,0	105,0	103,3
Greece	84,9	83,6	83,1	84,4	87,5	91,1	92,4	94,0	96,5	97,8
Cyprus	86,2	87,0	87,7	89,1	91,3	89,6	89,3	90,7	92,8	92,1
Malta	80,8	80,8	81,3	84,0	78,2	79,8	78,7	77,0	77,5	77,1
EU15	115,5	115,4	115,3	115,2	114,8	114,2	113,7	113,1	112,7	112,1

5. Employment rate (% population aged 15-64)

All	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Portugal	63,7	64,1	65,7	66,8	67,4	68,4	69,0	68,8	68,1	67,8	67,5	67,9
Spain	46,9	47,9	49,5	51,3	53,8	56,3	57,8	58,5	59,8	61,1	63,3	64,8
Italy	51,0	51,2	51,3	51,9	52,7	53,7	54,8	55,5	56,1	57,6	57,6	58,4
Greece	54,7	55,0	55,1	56,0	55,9	56,5	56,3	57,5	58,7	59,4	60,1	61,0
Cyprus						65,7	67,8	68,6	69,2	68,9	68,5	69,6
Malta						54,2	54,3	54,4	54,2	54,0	53,9	54,8
EU15	60,1	60,3	60,7	61,4	62,5	63,4	64,0	64,2	64,3	64,7	65,2	66,0
EU27			60,7	61,2	61,8	62,2	62,5	62,3	62,5	62,9	63,4	64,3

9. FTE employment rate (% population aged 15-64)

All	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Portugal	61,9	61,8	62,5	65,1	65,6	66,7	67,5	67,6	66,5	66,4	65,9	66,5
Spain	45,1	45,7	47,2	48,9	51,5	53,9	55,4	56,2	57,3	58,3	59,2	60,8
Italy	49,8	50,0	50,1	50,5	51,0	51,7	52,7	53,6	54,3	54,3	54,4	55,4
Greece	54,2	54,6	54,4	55,4	55,2	56,1	56,0	57,1	58,4	58,8	59,5	59,9
Cyprus					62,7	64,0	66,2	67,4	67,8	68,0	66,9	67,9
Malta						54,2	53,4	53,7	53,0	52,6	51,1	53,0
EU15	55,6	55,5	55,7	56,3	57,1	58,0	58,6	58,8	58,7	58,5	58,6	59,3
EU27							58,2	58,1	58,0	57,8	58,1	58,9

11. Part-time employment (% total employment)

All	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006

Portugal	7,9	9,2	10,6	11,0	11,0	10,9	11,1	11,2	11,7	11,3	11,2	11,3
Spain	7,5	7,6	7,9	7,8	8,0	7,9	8,0	8,0	8,2	8,7	12,4	12,0
Italy	6,3	6,5	6,8	7,3	7,9	8,4	8,4	8,6	8,5	12,7	12,8	13,3
Greece	4,8	5,0	4,8	5,6	5,8	4,5	4,0	4,4	4,3	4,6	5,0	5,7
Cyprus					6,5	8,4	8,4	7,2	8,9	8,6	8,9	7,7
Malta						6,8	7,4	8,3	9,2	8,7	9,6	10,1
EU15	15,8	16,3	16,7	17,3	17,6	17,7	17,9	18,1	18,5	19,4	20,3	20,8
EU27			15,9	15,9	15,9	16,2	16,2	16,2	16,5	17,2	17,8	18,1

21. Unemployment rate (% labour force 15+)

All	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Portugal	7,3	7,3	6,8	5,1	4,5	4,0	4,0	5,0	6,3	6,7	7,6	7,7
Spain	18,4	17,8	16,7	15,0	12,5	11,1	10,3	11,1	11,1	10,6	9,2	8,6
Italy	11,2	11,2	11,3	11,3	10,9	10,1	9,1	8,6	8,4	8,0	7,7	6,8
Greece	9,2	9,6	9,8	10,8	12,0	11,2	10,7	10,3	9,7	10,5	9,8	8,9
Cyprus						4,9	3,8	3,6	4,1	4,6	5,2	4,7
Malta						6,7	7,6	7,5	7,6	7,4	7,3	7,4
EU15	10,0	10,1	9,8	9,2	8,5	7,6	7,2	7,5	7,9	8,0	7,9	7,4
EU27						8,6	8,4	8,8	9,0	9,0	8,7	7,9

5. Employment rate (% population aged 15-64)

Female	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Portugal	54,4	54,9	56,5	58,2	59,4	60,5	61,3	61,4	61,4	61,7	61,7	62,0
Spain	31,7	33,1	34,6	35,8	38,5	41,3	43,1	44,4	46,3	48,3	51,2	53,2
Italy	35,4	36,0	36,4	37,3	38,3	39,6	41,1	42,0	42,7	45,2	45,3	46,3
Greece	38,1	38,7	39,3	40,5	41,0	41,7	41,5	42,9	44,3	45,2	46,1	47,4
Cyprus						53,5	57,2	59,1	60,4	58,7	58,4	60,3
Malta						33,1	32,1	33,9	33,6	32,7	33,7	34,9
EU15	49,7	50,2	50,8	51,6	53,0	54,1	55,0	55,6	56,0	56,8	57,4	58,4
EU27			51,4	52,0	53,0	53,7	54,3	54,4	54,8	55,4	56,0	57,1

11. Part-time employment (% total employment)

Female	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Portugal	12,7	14,5	16,6	17,1	16,7	16,4	16,4	16,4	16,9	16,3	16,2	15,8
Spain	16,4	16,5	17,0	16,8	17,1	16,8	16,8	16,8	17,1	17,9	24,2	23,2
Italy	12,7	12,9	13,4	14,3	15,6	16,5	16,6	16,9	17,3	25,0	25,6	26,5
Greece	8,4	8,7	8,5	10,0	10,0	7,8	7,2	8,0	7,7	8,5	9,3	10,2
Cyprus					11,1	13,9	12,9	11,3	13,2	13,6	14,0	12,1
Malta						15,5	17,5	18,3	21,3	19,3	21,1	21,8
EU15	31,0	31,5	32,2	33,0	33,2	33,2	33,3	33,3	33,9	35,1	36,3	36,8
EU27			29,2	28,7	28,5	28,9	28,6	28,5	29,0	30,0	31,0	31,2

21. Unemployment rate (% labour force 15+)

Female	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Portugal	8,2	8,2	7,6	6,3	5,2	4,9	5,0	6,0	7,2	7,6	8,7	9,0
Spain	24,6	23,8	22,6	21,1	18,0	16,0	14,8	15,7	15,3	14,3	12,2	11,6
Italy	15,4	15,2	15,3	15,4	14,8	13,6	12,2	11,5	11,3	10,5	10,1	8,8
Greece	14,1	15,2	15,2	16,7	18,1	17,1	16,1	15,6	15,0	16,2	15,3	13,6
Cyprus						7,2	5,3	4,5	4,8	6,0	6,5	5,5
Malta						7,4	9,3	9,3	9,1	9,0	9,0	9,2
EU15	11,9	11,9	11,7	11,2	10,3	9,2	8,6	8,8	9,1	9,2	8,9	8,4
EU27						10,0	9,7	10,0	10,0	10,0	9,7	8,8

Individuals who accessed Internet at place of work (other than home) - (as % of individuals aged 16 to 74)

	2002	2003	2004	2005	2006	2007
Portugal	9	13	15	15	16	17
Spain	9	16	18	20	22	23
Italy	14	14	15	16	17	18
Greece	6	7	9	10	12	15
Cyprus			14	14	17	20
EU15	17	19	21	23	24	27
EU27			18	21	22	25

Labour productivity

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Portugal	5,1	2,0	2,6	2,0	2,5	1,6	0,2	0,3	-0,4	1,2	0,5	0,5	1,1	1,2
Spain	0,9	1,0	0,3	0,1	0,1	0,0	0,4	0,4	0,6	0,6	0,4	0,8	0,9	0,9
Italy	2,9	0,4	1,5	0,5	1,4	1,7	0,0	-0,9	-0,6	0,8	0,3	0,2	1,0	0,9
Cyprus		1,3	1,7	3,4	2,9	3,4	1,8	-0,1	-1,9	0,4	0,3	2,3	2,3	2,4
Malta	3,0	2,5	5,0	2,9			-2,8	1,4	-3,3	1,2	1,2	2,0	2,1	1,8

Real unit labour costs

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Portugal	-1,3	1,4	-0,5	-0,5	-0,9	1,8	1,5	-0,2	0,1	-1,3	-0,4	-1,0	-1,1	-0,9
Spain	-2,0	-0,5	-0,4	-0,6	-0,7	-0,6	-1,0	-1,4	-1,1	-1,5	-1,8	-1,1	-0,8	-1,1
Italy	-3,4	0,6	0,1	-4,6	-0,1	-1,4	0,2	0,3	1,2	-0,4	0,5	0,5	-0,5	0,1
Cyprus		1,0	1,2	-3,2	-0,8	-1,1	-1,5	3,9	4,2	-1,7	-1,1	-0,5	-1,0	-1,2
Malta	1,0	3,6	-1,5	0,3	-0,3	-3,1	5,8	-1,2	2,8	-0,2	-2,4	-3,2	-2,8	-2,1

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

		EU-15				
		Part time as % of total employment		2000-2005 empl. growth		
		2000	2005	Full time	Part-time	Total
A & B	Agriculture, hunting, forestry and fishing	17.1	18.3	-10.5	-2.4	-8.6
C	Mining and quarrying	3.1	-	-13.0	-	-11.3
D	Manufacturing	7.6	8.9	-8.2	9.6	-6.4
E	Electricity, gas and water supply	5.5	6.5	-0.6	19.8	1.3
F	Construction	5.3	6.3	5.6	26.6	7.7
G	Wholesale and retail trade	22.5	24.8	1.4	15.5	4.6
H	Hotels and restaurants	27.4	30.3	8.4	25.5	13.5
I	Transport, storage and communications	10.9	12.2	2.2	17.2	4.6
J	Financial intermediation	13.1	15.1	-2.0	17.0	1.3
K	Real estate, renting and business activities	20.0	21.9	19.4	34.3	22.7
L	Public administration and defence	13.1	14.6	0.3	14.5	2.8
M	Education	25.4	27.8	6.6	22.3	11.4
N	Health and social work	32.5	33.6	14.1	20.4	16.7
O	Other community, social and personal service	27.5	29.8	7.2	20.9	11.4
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
Total		17.8	20.1	2.3	19.1	5.8

Source: Eurostat