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Workforce adjustment in Spain: Are working hours a choice variable?*

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Abstract

This paper provides background information on the legal constraints affecting short-time working, and on the observed incidence of short-time working schemes in Spain. After reviewing job security regulation in regards to permanent and temporary dismissals and to working hours reduction, we provide some indexes of the rate of utilization of internal workforce adjustment by Spanish firms. We conclude that this type of adjustment is scarcely frequent and heavily concentrated among particular manufacturing industries with specific technological characteristics. We discuss the theoretical arguments available in the literature about the determinants of the incidence of internal workforce adjustment, and suggest that further research is needed to fully understand the relative importance of legal, technological and economic constraints to short-time working, and to justify a public policy oriented towards work-sharing by reducing working hours.

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1. Introduction

Spain is the country with the highest and stubborn unemployment rate among OECD countries. Its performance on employment creation and the evolution of the employment rate in the two recent decades are also rather disappointing. The Spanish economy has suffered two very intense employment crises in the last two decades. First, from the mid-seventies up to the mid-eighties, employment decreased at an annual rate of -1.7%. Then, employment surged during the second half of the eighties (the average annual growth rate of employment was 3.5% in the 1986-90 period). During the recent recession, employment fell by -1.9% in 1992 and by -4.3% in 1993. Thus, mass and persistent unemployment coexist with wide swings in total employment.

On the other hand, annual working hours, despite a very rapid and continuous decrease during the eighties, are high, for European standards. Thus, while employment is highly correlated with economic activity, working hours have followed a decreasing trend with not noticeable reaction to temporary or permanent falls in activity. In spite of supposedly restrictive job protection legislation, firms use firings as the main instrument to adjust to declines in activity. Moreover, since fixed-term employment was liberalized in 1984, the proportion of fixed-term employment has surpassed 30% and workers on these contracts have suffered a great deal of the burden of workforce adjustment.

Why are dismissals the main workforce adjustment measure? Why are short-time working schemes and work sharing programs not observed more often as instruments to mitigate the incidence of unemployment? Is the job protection regulation biased against short-time working? Is short-time working a better outcome from an economic and social point of view? Should Spanish job protection regulation lead toward a higher punishment of firings and to provide incentives for short-time working? Should distinctions be made between the use of short-time working for adjustment to transitory and permanent falls in demand?

The main goal of this paper is to provide information from the Spanish experience on workforce adjustment. The analysis of this information should be the first step to address the questions above. In Spain, workforce adjustment is mainly external, through dismissals and firings, and, to a lesser extent, internal by means of temporary layoffs. Short-time working, as a measure of internal workforce adjustment to declines in activity, is almost nonexistent.¹

¹However, this lack of short-time working programs should not be interpreted as an indication that work-sharing, has not taken place in Spain. In fact, fixed-term employment has been the Spanish way of filling the same jobs with different people. Given the high firing costs implied by permanent employment contracts, firms have mostly used fixed-term contracts that require workers to be promoted to permanent workers after at most three years or being dismissed. As a result, there has been a high turnover rate between employment and unemployment. In fact, it would be very difficult to grasp the reasons for the rather low incidence of internal workforce adjustment measures, without the understanding of firing regulations and some characteristics of fixed-term employment contracts.

The structure of the paper is as follows. In section 2, we describe the main institutional characteristics of the Spanish labor market, regarding internal and external workforce adjustment, with a special attention to the regulation of short-time working schemes. As a general comment, it can be said that short-time working is not differently regulated than temporary layoffs. This fact and the high incidence of fixed-time employment are the main reasons for working hours not being a variable that employers and workers want to adjust after declines in economic activity. In section 3, we turn to provide the main facts on internal workforce adjustment in Spain during the last decade. Since the Spanish regulation in this regard has not particularly strong incentives to the use of short-time working schemes, it is not surprising that they have become rather unusual and that firings and, to a lesser extent, temporary layoffs are the almost exclusive channels through which workforce adjustment takes place. Finally, in section 4, we discuss the theoretical arguments which may explain the incidence of short-time working. Lacking government intervention, there are several reasons by which firms (and even workers) prefer firings to short-time working, as the way to adjust to declines in firms' demand. These reasons are mostly related to the nature of bargaining, technical restrictions and dynamic effects of the two alternatives above, and imply that short-time working requires the intervention of a "third party" that subsidizes such schemes and penalizes firings². A full assessment of these restrictions need to be made before any policy recommendations on work-sharing by short-time working can be derived.

2. Workforce adjustment in Spain: Institutional aspects

In Spain, a change in the employment relationship implying short-time working requires prior administrative approval. Up to 1994, and since the years of the Franco dictatorship, any action taken by firms about workforce adjustment grounds was to be preceded, at least on legal grounds³ by a procedure initially called "crisis process", later "employment regulation process" (*Expediente de regulación de empleo*, from now on ERE). This procedure basically considers three possible courses of action: Permanent dismissal of workers, temporary layoff of workers and temporary reduction of working time (i.e., short-time working) for some or all workers.

Although these regulations existed before, as already mentioned, their clearest formulation dates from 1980, when the Workers' Statute (*Ley del Estatuto de los Trabajadores*, hereafter quoted as LET) was passed in Parliament. The LET established a common procedure for all types of ERE, the only difference being that, in case of layoffs or short-time working, the time allowed to the labor market authorities to decide on an ERE were half of those allowed in the case of dismissals. As a matter of fact,

²Another question is whether there are either efficiency or distribution arguments that rationalize such subsidies.

³Needless to say, many firms have used other ways of adjusting their workforce for economic reasons, mainly through what the so-called "dismissals on objective grounds", the possibility of which was established in 1980. More information on dismissals in Spain may be found in Jimeno and Toharia (1994a).

the law does not make any specific distinction between layoffs and short-time working, the two apparently belonging to the same category ("employment suspension").

The precise procedure was as follows. To initiate an ERE, the employer had to open a 30-day-period of consultation with workers' representatives, in order to agree with them. At the end of this period, the following possibilities existed:

- an agreement was reached. In this case, it was so notified to the labor authority,⁴ which normally certified it. This was the most frequent case: Some 75% of the total number of ERE were agreed and then accepted.⁵
- an agreement was not reached. In this case, the employer had to provide information on the situation of the firm to the labor authority, who had to decide, before 30 days, whether to accept or reject the ERE. If the ERE was rejected (this being so if no answer was given within the established period), the firm could go to the central Ministry, who had another 15 days to decide the case. At this stage, if no answer was given, the ERE was accepted. If the ERE was rejected, it was sent back to the firm with the recommendation that an agreement be reached with the workers. The percentage of ERE accepted by the labor authority was approximately 80% of the ERE not agreed, equivalent to 20% of the total number of ERE.

It should be added that the delays were half of those mentioned in the case of firms with less than 50 employees and when the ERE involved less than 5% of the current workforce of the establishment. The times were also half as above in the case of layoffs and short-time work.

The workers dismissed, laid-off or under short-time working were entitled to receiving unemployment benefits, provided they had contributed to the unemployment insurance system long enough (six months before April 1992, one year thereafter). The same rules applied to all of them. The only proviso added in the case of short-time workers is that the benefit was proportional to the amount of working time reduction; in addition, a threshold for working time reduction of 1/3 of normal hours was established to be entitled to receiving benefits. These benefits were against their total benefits; it could thus happen that a worker, when dismissed, might have already exhausted most of his/her benefits in previous short-time or layoff episodes.

⁴This may be the provincial delegation of the Ministry of Labour or the regional authorities or the central Ministry itself, depending on the nature of the ERE and whether the region where the firm is established is responsible for handling labour matters.

⁵This refers to the total number of ERE. Disaggregated information by types does not exist, although it can be presumed that dismissals ERE carry a lower percentage of agreement.

As part of the ERE, the firm might agree to supplement the workers' income so that no actual loss was experienced during the period of layoff or short-time.⁶ In the case of both layoffs and short-time work, employers had to pay social contributions for those workers affected.

In all cases, any dismissal carried a minimum severance of 20 days' wages per year of seniority (with a maximum of 12 months' wages).⁷ Finally, in the case of firms with less than 25 workers, the state paid, through the wage guarantee fund (FOGASA), 40 percent of the legal severance payment.⁸

The recent labor market reform of May 1994 has introduced several changes to this scheme. First, a distinction has been made between individual and collective dismissals. Economic reasons are now accepted as a legal ground for individual dismissal (recognizing what was usual practice), and EREs are now restricted to collective dismissals. Secondly, the ERE procedure has been somewhat changed:

- at the time of initiating the ERE, the firm has now to both initiate negotiations with its workers and to notify the labor market authority, providing the necessary information to justify the measures proposed (in the prior regulation, this documentation had to be given only when no agreement was reached with the workers);
- negotiations with workers must last "at least 30 days" (the minimum requirement was not established in the previous regulation).
- in the case of firms over 50 workers, a "social plan" is to be added to the initial documents of the ERE.
- after the period of consultations, if there is agreement, the labor authority will simply certify it within 15 days.
- should an agreement not be reached, the labor market authority will take a decision within 15 days, with the proviso that if no decision is taken on time, the ERE shall be deemed accepted.

On the whole, the new procedure puts a heavier burden on the negotiation and tries to limit the role of the labor market authority. In exchange, the firm is now required to disclose information on its situation right at the beginning of the process as well as to prepare, for those over 50 workers, a social plan. Neither severance payments nor access to unemployment benefits have been changed. At any rate, the spirit of the reform appeared to be simplifying matters and reducing times of resolution.⁹

⁶Prior to 1994, unemployment benefits were tax-exempt. This has to be taken into account here, as after-tax replacement ratios could well be above 100%, especially prior to 1992 when the initial gross replacement rate was 80% of previous wages.

⁷Needless to say, these amounts could be higher if so agreed.

⁸The ET established that the State would pay 40% of the severance pay *agreed*. This was corrected in 1984 to become 40% of the legal severance pay, because of the obvious perverse incentives created by the initial system.

⁹Whether the new regulation has achieved that remains to be seen.

The regulation for temporary layoffs and short-time work has not been further changed beyond the changes mentioned above, though: they are still subject to an ERE whose procedures are similar to those established for EREs with dismissals. Decision times are still half of those applicable to ERE with dismissals; documentation required is less burdensome to the firm.

Needless to say, all of the above applies to permanent workers only. Temporary or fixed-term workers¹⁰, whose labor contract has a limited and well-defined duration, can be discharged by simply not having their contracts renewed. This is an important caveat, as 1/3 of all employees in Spain work under a contract of this type.

In addition, it should be mentioned that all of the above measures, in particular those related to layoffs and short-time work, are seen as temporary solutions to cyclical problems rather than structural difficulties. No explicit work-sharing programs (like subsidized on-leave programs or subsidized short-time working) are in effect as response to permanent demand declines in some sectors caused by structural changes in the Spanish economy.

3. Temporary layoffs and short-time working in Spain

3.1. Working hours

As a first step toward the empirical analysis of short-time working in Spain, we can glance at the evolution of the working time. There are two usual measures of working hours: the average weekly number of working hours and the yearly number of hours. The growing flexibility of working time in the last twenty years, caused by the increasing incidence of temporary and part-time employment, makes the latter a more suitable measure of working hours. We shall also use the average weekly number of working hours when yearly figures are not available, though.

Table 1 contains data on yearly hours from different OECD countries for several years within the 1970-90 period. These data show a continuous decline in the number of working hours across countries, with the only exception of Sweden in the eighties. Some countries show a dramatic decline in the seventies (the cases of Norway, Sweden and Germany) and others in the eighties (Spain and the Netherlands). Since working hours differ across sectors, being highest in Agriculture and lowest in

¹⁰Temporary workers undertake activities which by nature are temporary; fixed-term workers undertake activities which are normal to the firm, but they do so for a limited amount of time. Since 1984, the minimum contract time was 6 months, renewable to a maximum length of 3 years. In 1992, the minimum was extended to 1 year. The maximum was temporarily extended to 4 years. Starting in May 1994, these fixed-term contracts have been suppressed on general grounds, their use being restricted to apprenticeship and practice contracts as well as specific employment policy measures to be decided on a yearly basis in the budgetary law.

Services (see table 2), changes in the sectoral composition of employment have some effects in the evolution of working hours.

There are other factors influencing the evolution of the yearly number of working hours, being the incidence of part time and temporary employment a major source of variation across time and across countries. Thus, we first present data on the evolution of fixed-term contracts and part-time work, to turn, afterwards, to provide the facts on internal working hours adjustment schemes in the Spanish labor market.

3.2. Temporary and part-time employment

Nowadays, there exist a wide variety of employment contracts that firms can use in Spain. Liberalisation of temporary contracts took place in late 1984, and further reforms have taken place recently. The result has been a rapid increase of the proportion of temporal contracts in the Spanish economy since the mid-80's, as it can be seen in table 3. From 1987 to 1991, the proportion of workers with temporal contracts increased from one sixth of total wage workers to one third of that number; since 1991, the proportion has maintained more or less constant. Two types of temporary contracts must be disentangled: temporary contracts used to fill jobs with a seasonal or fixed term duration, and temporary contracts "without a cause", which are used mainly to avoid the firing restrictions embedded in the "typical" permanent full-time employment contract. If we only take account of the latter, then the proportion of fixed-term employment has raised from 8.6% in 1987 to about 25% in 1991 and thereafter. This evolution is important in regard to the evolution of working hours (since temporary workers work, on average, less hours than permanent workers¹¹). But, more importantly and as we shall see below, a high the proportion of fixed-term employees implies less restrictions to workforce adjustment and, thus, short-time working schemes as response to demand fluctuations are less needed.

One aspect that must be stressed is the sectoral dispersion of the incidence of fixed-term employment. As seen in table 4, manufacturing and services have a below average proportion industries of fixed-term employment, while in Agriculture and Construction, the incidence of fixed-term employment is highest, mainly because there are relatively more seasonal and fixed term jobs. This sectoral dispersion is also closely related to the sectoral dispersion of short-time working schemes.

Additionally, part-time employment can also be used as flexible forms to adjust working hours. Until recently and because of a restrictive regulation of part-time employment contracts, the incidence of this kind of employment in the Spanish economy has been rather low, as seen in table 5. In fact, part-time employment in Spain is at a proportion similar to other Southern European countries (Italy, Greece or Portugal) but much lower than in Northern European countries.

¹¹See Segura *et. al.* (1991)

3.3. Short-time Working

The main statistical source to get information on internal workforce adjustment is the data base referred to the EREs published by the Ministry of Employment and Social Security.

First, tables 6, 7 and 8 show the basic data referred to the total number of EREs made by firms and approved by administrative authorities, the total number of workers affected and the average number of workers affected per ERE. Data are disaggregated by form of adjustment (reduction in working time, temporary layoffs, and dismissals), industry (agriculture, manufacturing, construction, and services), and firm's size (ranging from 1-25 workers to more than 5,000 workers).

As seen in figure 1, the number of EREs shows a clear cyclical pattern: They increased in the last 70's, maintained high levels in the first half of the 80's, slowed down in the second half of the 80's and increased again in the first years of the 90's. This cyclical pattern can be observed both in regards to temporary layoffs and to permanent layoffs. However, it is much less pronounced in the case of the reduction of working hours, since it shows a continuous decreasing trend from 1981 to 1990 to slightly recover afterwards.

As for sectoral disaggregation, table 7 shows that manufacturing firms are more prone to implement EREs, although the proportion of EREs in manufacturing has been decreasing (from 61 % of the total number in 1980 to 48 % in 1993). The proportion of EREs in small firms (those more extended in the Spanish economy) is both high and increasing (63 % in 1980 and 75 % in 1993), which is above the proportion of this type of firms in the Spanish economy.

Not surprisingly, the number of workers affected by EREs also follow a cyclical pattern: They increased from the last 70's to the mid-80's and decreased since then due to the economic expansion of the second half of the 80's. However, the impact of the recent recession in 1992-1993 has made the number of workers affected by EREs to surge again. As seen in figure 2, the evolution of total number of workers affected by EREs is mainly driven by temporary layoffs, which account for an important proportion of the total number of workers involved in the adjustment process (from 45 % in 1979 to 70 % in 1993).

The sectoral composition of workers affected by EREs is similar to the incidence of EREs by sectors. First, manufacturing is by far the main sector in relation to the number of workers affected. Second, although firms with less than 26 workers are those presenting a higher number of EREs, the number of workers affected is relatively higher in medium-sized firms (51-500 workers) and, specially in recession years, on the biggest companies. As a result, the average number of workers involved in EREs, shown in table 8, increased from the late 70s through the mid-80s to decrease afterwards. If we consider the form of the adjustment, that pattern has been guided by the scheme related to the reduction of working hours: the average number of workers in this kind of adjustment process increased in the early 80's, and figures over one hundred were usual in many years of the 80's but have decreased substantially

in the 90's. The average number in the other two schemes were more or less constant over the period of observation. By industry, manufacturing is the sector with a higher average number (over 40 in all the period), the rest showing lower figures. Finally, regarding firm's size, there exists a direct relationship between the size and the average number of workers involved, as one could imagine a priori. However, there must be said that the average number of workers in the case of companies over 5,000 workers differs very much among years due to the number of workers involved in each of the ERE, not to the number EREs made.

Now we turn to the distribution of the total number of workers affected by industry and size of firms within each of the workforce adjustment alternatives (see tables 9 and 10). As we stated previously, manufacturing is the industry which concentrates most of the workers affected by internal flexible adjustment processes. This is specially true in the case of the reduction in working hours (nearly the 100%) but less in the case of temporary layoffs (although it has reached nearly the 90% in 1993). As far firm's size is concerned, either reduction in working hours or temporary layoffs are concentrated on companies with more than 100 workers. However, we have to highlight two aspects: first, in the case of the working hours form, the contribution of companies with more than 5,000 workers differs greatly among years; and second, firms with less than 26 workers use more intensely the temporary layoffs, as their participation is higher in this kind of workforce adjustment.

Now we are interested on having an estimate of the incidence of the flexible forms of workforce adjustment on the whole economy. To obtain such a measure, we relate the number of workers effectively affected by those forms of adjustment and the total number of workers that could theoretically be affected. We have the first figure; with regard to the second, we are going to take the number of wage workers in the economy (and in each industry). The estimate of the incidence of flexible forms of workforce adjustment with respect to wage workers is shown in table 11. In table 12, more disaggregated data are given. We stress the following aspects:

- First, no more than 6% of the total wage workers were affected by temporary layoffs in the year of more intensity use of this internal adjustment form, i.e., 1984. However, we can state that this kind of adjustment process shows a cyclical pattern: Their use increases in periods of economic crisis and increasing unemployment (1977-85 and 1992-93) and decreases in periods of economic expansion and employment creation (1986-91).
- Second, manufacturing is the industry in which the use of workforce adjustment forms is more extended, conducting the cyclical pattern described above. The estimated incidence increased in the early 80's, reaching a maximum of 25.6% in 1984; then, the incidence decrease to about 10% in period 1988-91. But it increased substantially in the last three years.
- Third, incidence in the agricultural sector has maintained at about 4-6% since the early 80's. Also, the incidence in construction and services is very low and has decreased continuously since the early 80's.
- Fourth, if we distinguish between temporary layoffs and reduction of working hours as forms of flexible workforce adjustment in each industry, we observe that all the industries use

temporary layoffs more intensively. This is specially true in the case of the agriculture sector. About manufacturing, firms use both forms of adjustment equally until 1983, but since then they prefer temporary layoffs; in this way, it is very significant the lack of use of the working hours: from 9% of the total wage workers to less than 2% only three years later.

We can obtain a more concrete insight into the incidence of those forms of workforce adjustment if we consider the following information: we have calculated the incidence for different sub-sectors of the manufacturing sector, as this is the industry in which the adjustment of the workforce has been most intense. The data are shown in tables 13 and 14, and are given for 22 manufacturing sub-sectors.

With regard to the use of temporary layoffs, there exist a number of manufacturing sub-sectors for which incidence is (or was) very high (over 10% of their wage workers). Such cases are mainly five: "Extraction of solid fuels and coal", "Production of metallic goods", "Production of electric equipment", "Production of automobiles and their spare parts" and, above all, "Ship building". The rest of industries have used this adjustment form at a low rate (affecting to less than 10% of total wage workers). However, the incidence in some of them has been very scarcely (even below 1%): this is the case of "Extraction of oil and gas" and "Electricity, gas and water".

If we consider the sub-sectors using the reduction of working hours more intensely in relation to the number of their wage workers, one remarkable aspect is that they coincide to those using the other flexible form of workforce adjustment, except for "Extraction of solid fuels and coal", and adding "Production of mechanical equipment". One aspect that is necessary to stress is that the use has decreased greatly since 1984: the incidence was over 20% in those sub-sectors but nowadays is at some lower levels. Another point is that there exists a higher number of sub-sectors (10) for which the incidence is very low in most of the years. This is related to the increasing incidence of fixed term employment, which can be used as an alternative workforce adjusting instrument.

As a final comment, table 15 contains data about the average number of days in temporary layoffs and the average number of hours of reduction. As for the number of days, it is between 90 and 120 (i.e., three and four months) in the whole period. Also, the number of hours is between 350 and 500 (which is equivalent to 40-60 days of work), but showing no clear temporal pattern.

The conclusion is that the use of flexible forms of workforce adjustment is very concentrated in some specific industries. These are of two types: one, productive activities plunged into a crisis since the 70's due to their high costs with the result of an intense reduction of their workforce ("Extraction of solid fuels and coal" and "Ship building"); and two, other activities related to the production of metallic, mechanical or electric equipment, which can be more affected by seasonal variations in the demand. There is a technological aspect common across these industries: These are mass production industries where team-work organized through assembly lines is predominant.

4. Adjusting working hours as an alternative to firings: When is it feasible?

As we have seen above, firms can adjust (and do adjust) their workforce either by dismissing workers, by temporary layoffs or by adjusting working hours. As for the employment relationship is concerned, there is an important difference between dismissals, on the one hand, and temporary layoffs and short-time working on the other. While dismissals imply the breakdown of the employment relationship, and therefore workforce adjustment takes place externally (through firings and hirings), temporary layoffs and short-time working are internal workforce adjustment measures that maintain employment relationships, although temporary layoffs are often perceived by workers as the first step toward dismissals of a fraction of the firm's workforce.

In an unregulated labor market, absent both externalities and distributional considerations, profit maximizing firms and utility maximizing workers would always choose the efficient levels of employment and working hours. However, labor markets require, by nature, the existence of certain institutions (like a public unemployment compensation system, collective bargaining, legal restrictions to some employment conditions, etc.) that affect both efficiency and distribution. Thus, it makes sense to wonder if employers and workers are choosing the optimal level of employment and working hours, given demand and institutional restrictions, and if some reforms in institutional restrictions would increase social welfare.

Institutions interact with each other, so that the economic effects of labor regulation are not independent on the whole set of institutions at work. Thus, regulation on internal workforce, in general, and on short-time working, in particular, must be analyzed considering other institutions like unemployment compensation programs and job protection legislation. Clearly, a publicly financed unemployment benefit system lowers the private marginal costs of dismissals to be borne by workers. Job protection regulation increases firing costs. Adjustment in working hours may be preferred by workers to dismissals if the value that they attach to the employment relationship is higher than the plausible loss of earnings implied by working fewer hours. But, if this is the case, and temporary layoffs do not increase the probability of being fired, then temporary layoffs are preferred to short-time programs, as workers temporarily laid-off get unemployment compensation. From the employers' point of view, short-time working permits, in principle, costless workforce adjustment, since no firing costs are involved. However, if there is wage resistance, non-wage labor costs are different from zero, there are increasing returns to working hours or the workforce is heterogeneous, reductions in working hours may be costly, and even more so than temporary layoffs or dismissals.

Thus, in general, it would be necessary the implementation of publicly financed short-time compensation schemes, of similar nature to a "partial" unemployment compensation scheme, for workers to be willing to consider short-time working. It would also be necessary the existence of significant firing costs for employers to accept reductions in working hours, when workforce adjustment is an issue.

Previous studies on the tradeoffs between the level of employment and working hours, when unemployment compensation and job protection regulation are present, have analyzed two issues: i) the effects of a short-time compensation scheme on the efficiency of the resulting combination of employment and hours, and ii) the effects of a short-time compensation scheme on the frequency and the size of the employers' response to adverse shocks. The main results of this line of research are:

i) The absence of a short-time compensation scheme produces excessive temporary layoffs, if the unemployment benefit system is not fully-rated. Short-time compensation schemes, if sufficiently generous, reduces temporary layoffs but implies underemployment, that is, working an inefficiently low number of hours. A fully-rated unemployment benefit system eliminates the inefficiencies in both cases (Wright and Hotchkiss (1988), Burdett and Wright (1989)).

ii) If there is not disutility of work, then the short-time compensation scheme has to be at least as generous as the unemployment benefit system for short-time working to take place (Van Audenrode (1994)). Otherwise, temporary layoffs will bear the burden of adjustment to declines in firms' activity.

However, these results are obtained under simplifying assumptions which make short-time working more plausible than under more realistic assumptions. The assumptions under which the two results above are derived are:

i) There is efficient bargaining between employers and workers. This means that there are contingent contracts under which workers' earnings and other labor costs depend on the state of nature. In other words, after a negative shock, workers' earnings and other labor costs fall, so that the reduction in employment needed to accommodate the shock is lower than under non-contingent employment contracts which have embedded some degree of wage rigidity. As a result, temporary layoffs or short-time compensations are lower under efficient bargaining. Contingent contracts under which both workers' earnings and non-wage labor costs depend on the state of nature are not usually observed.

ii) The number of effective hours is equal to the number of actual hours and the labor input is homogeneous. These two assumptions imply that "bodies" and "hours" are perfectly substitutes (thus, the average productivity of one employee working n hours is the same as the average productivity of n employees working one hour, for instance). In fact, there are many reasons why these two assumptions fall: There are jobs that, somewhat, are subject to indivisibility of working hours, workers may differ in ability, the amount of firm-specific human capital that they embody, etc. If for some reasons, there are decreasing returns to reducing hours below a certain threshold and workers are heterogeneous, employers are more likely to prefer temporary layoffs than short-time working. Adverse selection and moral hazard in the employment relationship would also make the firms more prone to the use of dismissals and temporary layoffs.

iii) Workers are assumed to have a utility function which ranks preferences over consumption and leisure. In other words, there is disutility of work. Thus, given earnings, workers are better-off under

temporary layoffs than under short-time working, and better under short-time working than under full-time working. However, it could be argued that workers derive utility from having a full-time "regular" job instead of "unstable" part-time jobs (Drèze (1987)). And, as already commented, temporary layoffs may be perceived as the first step toward complete dismissals. Then, dismissals of part of the labor force can be preferred by workers to either temporary layoffs or short-time working.

iv) All workers are employed under the same contract which imposes the same severance payments in case of dismissals. Thus, the marginal cost of dismissals is taken to be constant by assumption. However, severance payments are usually linked to seniority, so that, their marginal cost is increasing in the number of dismissals. This implies some non-linearities in the decision to resource to temporary layoffs and short-time working: for small workforce adjustment, dismissals may be less expensive than temporary layoffs and short-time working, so that internal workforce adjustment will take place only after large shocks. This distinction in the firing costs among workers is very relevant to the Spanish case, where a significant proportion of workers are employed under fixed-term contracts which do not entail significant firing costs. It also suggests some questions about the actual utility function of the workers bargaining with the firm. It is very likely that these are more senior workers, permanent workers which do not fully represent the interests of the junior, fixed-term employees. If so, external workforce adjustment would be much more likely than internal workforce adjustments.

v) Finally, the whole analysis is carried out on pure static grounds, although dynamic considerations are crucial in this issue. First, it is clear that the nature of the adverse shock affects both the private decisions about adjustments, and the convenience of such adjustments from a social point of view. If the shock is transitory, temporary layoffs and short-time working are likely. Anyway, under efficient bargaining, employment contracts are designed to take care of transitory shocks. However, if the shock is permanent, temporary layoffs do not solve the problem, and general equilibrium considerations play a role: It may be the case that the utility of workers under temporary layoffs or under short-time working scheme is below the alternative utility that they may achieve in other activities. Second, insider and membership effects are to be taken into account by employers and firms when deciding the combination of employment and working hours. While a group of workers may prefer dismissals, so that in the future rents are to be enjoyed by a lower number of workers, firms may want temporary layoffs and short-time working, so that employment relationships are maintained and in the future there will be lower wage pressure. As for social welfare is concerned, it is clear that internal adjustment to transitory shocks could be desirable, to mitigate insider effects, while, by an efficient allocation of resources argument, external adjustment to permanent shocks produces better outcomes. Distributional considerations could also be mentioned to shift the balance toward internal adjustment. However, in the case of adjustment to permanent shocks, it is clear that there are much less perverse ways of redistributing than by short-time working schemes that preclude an efficient allocation of resources.

Thus, on balance, it seems that the conditions required by short-time working to be a major source of internal workforce adjustment are rather strong. In particular, technological constraints on the tradeoffs between hours and number of workers, efficient bargaining, relative generous compensations for

short-time working, and lack of segmentation of the workforce by types of employment and seniority are close to be necessary for internal workforce adjustment to take place as varying working hours. Even in this case, a short-time compensation more generous than the unemployment benefit system is likely to be required. In the Spanish case, these three conditions are very far to be satisfied. Bargaining is mostly at the sectoral level (see Jimeno and Toharia (1994b), chapter 3), there are not special provisions for short-time working (section 2) and the labor market is segmented between permanent/protected workers and fixed-term/unprotected workers¹². Further research on this topic should concentrate on the relative importance of each of the above constraints to short-time working schemes, and on the social costs and benefits of government intervention in this type of arrangements.

¹²Dolado and Bentolila (1993) estimate a wage determination model with insider effects and cannot reject the hypothesis that, in Spanish manufacturing firms, permanent workers are the insiders while the interest of fixed-term workers is not taken into consideration when bargaining.

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Table 1. Average annual number of working hours, 1970-1990. Source: OECD, 1991.

ALL WORKERS	1970	1973	1975	1979	1983	1988	1990	1970-79	1979-90
Canada	1890	1865	1837	1794	1730	1760	1734	-5.1	-3.3
Finland	1982	1915	1885	1859	1798	1783	1756	-6.2	-5.5
France	1962	1904	1865	1817	1717	1690	1678	-7.4	-7.6
Italy	1969	1885	1841	1788	1764			-9.2	
Japan		2185	2100	2110	2081	2078		-3.4	-1.5
Norway	1766	1694	1653	1501	1471	1429	1417	-15.0	-5.6
Spain				2148	2052	1934	1941		-9.6
Sweden	1641	1557	1516	1451	1453	1485	1480	-11.6	2.0
United States	1886	1875	1833	1808	1788	1785	1782	-4.1	-1.4
EMPLOYEES									
France	1821	1771	1720	1667	1558	1547	1539	-8.5	-7.7
Germany	1885	1804	1737	1699	1670	1623	1589	-9.9	-6.5
Netherlands				1591	1530	1450	1433		-9.9
Spain				2032	1946	1843	1858		-8.6
United States	1836	1831	1791	1767	1754	1750	1750	-3.8	-1.0

Table 2. Average weekly number of working hours, different countries, 1991. Source: National Labour Force Surveys.

	Agric.	Manuf.	Serv.	Total
Belgium	36.7	38.2	34.3	35.6
Denmark	35.7	35.4	33.1	33.8
Germany	39.9	37.8	35.7	36.6
Greece	45.3	40.6	39.1	39.7
Spain	43.3	40.3	38.8	39.6
France	39.4	39.5	36.6	37.6
Ireland	48.2	40.2	37.2	38.6
Italy	38.9	40.1	36.8	38.0
Luxembourg	44.7	39.9	37.7	38.4
Netherlands	32.5	35.6	30.2	31.7
Portugal	46.3	42.9	38.9	40.9
UK	43.6	41.6	35.2	37.3

Table 3. Workers with fixed-term contracts (total in thousands and proportion out of total wage workers), Spain 1987-1994. Source: Labour Force Survey.

	EMPLOYEES	FIXED-TERM CONTRACTS					
		Total	Seasonal	Others	%Total	%Seasonal	%Others
1987	7877.1	1225.8	546.4	679.4	15.6	6.9	8.6
1988	8284.9	1851.3	608.5	1242.8	22.3	7.3	15.0
1989	8802.5	2334.7	584.6	1750.1	26.5	6.6	19.9
1990	9230.0	2750.4	553.1	2197.3	29.8	6.0	23.8
1991	9384.0	3018.9	550.2	2468.7	32.2	5.9	26.3
1992	9144.3	3063.0	739.2	2323.8	33.5	8.1	25.4
1993	8699.8	2796.3	678.3	2118.0	32.1	7.8	24.3
1994	8609.0	2896.4	798.9	2097.5	33.6	9.3	24.4

Table 4. Workers with fixed-term contracts by sectors, Spain 1987 and 1992. Source: LFS.

	%FIXED-TERM WORKERS/EMPLOYEES		1987		1992	
	1987	1992	EMPLOYEES	FIXED-TERM	EMPLOYEES	FIXED-TERM
Agriculture	39.3	57.6	525.9	206.7	397.7	229.1
Energy & Water	4.3	8.4	135.4	5.8	117.8	9.9
Extraction	8.2	24.1	371	30.4	386.8	93.4
Production	7.8	25.3	756.3	59.2	835.7	211.2
Other manuf.	15.3	34.2	1132.3	173.4	1124.9	384.4
Construction	29.3	59.1	682.3	199.8	924.3	546.5
Trade	18.2	41.2	1256.2	229.1	1568.7	647
Transports	7.8	20.9	446.8	34.7	530.8	110.7
Finance	8.5	28.0	437.9	37.1	600.7	168.2
Ot.Services	11.7	24.9	2133	249.7	2656.9	662.6
TOTAL	15.6	33.5	7877.1	1225.9	9144.3	3063.0

Table 5. Workers with part-time contracts (proportion out of total employment) by sectors, Spain 1987, 1990 and 1992. Source: Labour Force Survey.

	1987	1990	1992
Agriculture	6.8	6.0	6.4
Energy & water	0.7	0.6	0.3
Extraction	1.7	0.9	1.1
Production	1.2	0.8	1.0
Other manuf.	4.1	3.0	4.0
Construction	1.3	0.9	0.8
Trade	5.8	4.8	5.7
Transports	1.5	1.9	2.1
Financial serv.	3.8	4.3	5.1
Other services	12.0	10.7	12.3
TOTAL	5.8	4.9	5.8

Table 6. Number of EREs (Spain, 1977-1993).

	FORM OF ADJUSTMENT			INDUSTRY			FIRM'S SIZE						TOTAL		
	TEMP. LAYOFF	REDUCT. HOURS	PERM. LAYOFF	AGRIC.	MANUF.	CONSTR.	SERV.	1-25	26-50	51-100	101-500	501- 1000		1001- 5000	+5000
1977	2533	732	3790	316	3909	1009	1821	5147	842	492	473	54	37	10	7055
1978	3669	1060	5489	318	5924	1535	2441	7043	1388	751	840	91	96	9	10218
1979	5570	1426	6679	896	7600	2297	2882	9561	1765	977	1081	127	153	11	13675
1980	8628	2660	4244	706	9456	2434	2936	9807	2423	1492	1457	168	156	29	15532
1981	7431	2256	3866	1266	7712	1985	2590	8303	2082	1295	1450	220	191	12	13553
1982	6560	1787	3769	785	6744	1546	3041	7144	1629	1132	1385	271	299	205	12116
1983	9305	1555	4228	1414	8130	1230	4314	9262	1764	1318	1724	354	343	279	15088
1984	7720	1630	4896	1520	8224	1192	3310	8482	1643	1210	1494	421	467	484	14246
1985	7914	1275	5776	1994	8007	1136	3828	9843	1694	1098	1356	294	363	307	14965
1986	8017	642	5227	2134	7860	751	3141	9462	1473	774	1267	261	260	389	13886
1987	6346	478	4346	1695	6323	497	2655	7444	1119	596	1006	244	313	448	11170
1988	5853	336	4036	2268	5172	355	2430	7099	884	566	821	155	293	407	10225
1989	4696	210	3816	2271	3994	210	2247	6249	717	395	628	105	232	396	8722
1990	5010	297	4180	2134	4610	315	2428	6594	795	560	790	192	265	291	9487
1991	5812	451	5608	2333	5989	320	3229	8160	1029	703	1012	264	204	499	11871
1992	5689	494	7273	2092	6809	635	3920	9707	1054	759	1202	164	323	247	13456
1993	8215	1170	13611	2084	11024	1584	8304	17347	1827	1162	1598	264	294	504	22996

Table 7. Total number of workers affected by EREs, by form of adjustment, industry and firm's size (Spain 1977-1993).

	FORM OF ADJUSTMENT			INDUSTRY			FIRM'S SIZE						TOTAL		
	TEMP. LAYOFF	SHORT HOURS	PERM. LAYOFF	AGRIC.	MANUF.	CONST.	SERV.	1-25	26-50	51-100	101-500	501- 1000		1001 -5000	+ 5000
1977	76161	28233	54786	-	-	-	-	-	-	-	-	-	-	-	159180
1978	114135	95759	66207	-	-	-	-	-	-	-	-	-	-	-	276101
1979	152471	105343	75055	20101	250145	34005	28618	68037	45351	47338	107724	23825	39597	997	332869
1980	256675	171389	60222	16365	381563	41804	48554	73177	62854	70666	152500	35477	60657	32955	488286
1981	240894	179250	57454	29746	381524	24440	41888	62550	51975	55943	148440	53736	75334	29620	477598
1982	239473	153918	61805	18644	340959	26246	69347	49629	39239	48859	138074	51558	88109	37904	455196
1983	369815	178990	59984	23140	490446	16278	78925	63909	44109	61423	161990	66921	119977	89585	608789
1984	407453	218240	68990	23293	608158	14934	48298	62542	40979	52230	140861	66599	113969	215160	694683
1985	362351	156267	74776	27584	496355	11510	57945	68801	40896	46712	125994	56819	89649	162714	593394
1986	259919	87562	56882	25415	333580	6583	38785	64746	29265	25791	87608	51069	70261	75623	404363
1987	230784	47763	48166	20007	261885	4203	40618	49626	22923	21168	70825	54554	75118	32501	326713
1988	214121	34855	56753	26210	238606	3432	37481	48925	19005	19802	62962	31023	71015	52997	305729
1989	146517	23065	46322	26436	165769	1895	21804	44288	15397	14360	46140	26776	52131	16812	215904
1990	257033	28837	48591	22979	283059	4300	24123	45756	18321	20985	63934	30560	50021	104884	334461
1991	213744	37558	68032	24890	250947	3081	40416	53426	22439	26896	85033	23189	38497	64892	319334
1992	233805	24565	83237	22091	284496	5878	29142	60099	22749	27205	83404	26670	47160	69935	341607
1993	392139	47263	118744	23166	469702	12486	52792	93424	36114	41123	133260	41230	79544	128103	558146

Table 8. Average number of workers affected by EREs (Spain, 1977-1993).

	FORM OF ADJUSTMENT			INDUSTRY			FIRM'S SIZE						TOTAL		
	TEMP. LAYOFF	SHORT HOURS	PERM. LAYOFF	AGRIC.	MANUF.	CONST.	SERV.	1-25	26-50	51-100	101-500	501- 1000		1001- 5000	+ 5000
1977	30	39	14	-	-	-	-	-	-	-	-	-	-	-	23
1978	31	90	12	-	-	-	-	-	-	-	-	-	-	-	27
1979	27	74	11	22	33	15	10	7	26	48	100	188	259	91	24
1980	30	64	14	23	40	17	17	7	26	47	105	211	389	1136	31
1981	32	79	15	23	49	12	16	8	25	43	102	244	394	2468	35
1982	37	86	16	24	51	17	23	7	24	43	100	190	295	185	38
1983	40	115	14	16	60	13	18	7	25	47	94	189	350	321	40
1984	53	134	14	15	74	13	15	7	25	43	94	158	244	445	49
1985	46	123	13	14	62	10	15	7	24	43	93	193	247	530	40
1986	32	136	11	12	42	9	12	7	20	33	69	196	270	194	29
1987	36	100	11	12	41	8	15	7	20	36	70	224	240	73	29
1988	37	104	14	12	46	10	15	7	21	35	77	200	242	130	30
1989	31	110	12	12	42	9	10	7	21	36	73	255	225	42	25
1990	51	97	12	11	61	14	10	7	23	37	81	159	189	360	35
1991	37	83	12	11	42	10	13	7	22	38	84	88	189	130	27
1992	41	50	11	11	42	9	7	6	22	36	69	163	146	283	25
1993	48	40	9	11	43	8	6	5	20	35	83	156	271	254	24

Table 9. Distribution of the forms of adjustment by industries (Spain, 1979-1993).

	TEMPORARY LAYOFFS				SHORT-TIME				FIRINGS			
	AGRIC.	MANUF.	CONSTR.	SERV.	AGRIC.	MANUF.	CONSTR.	SERV.	AGRIC.	MANUF.	CONSTR.	SERV.
1979	12.7	65.6	11.3	10.4	0.0	92.9	3.9	3.2	0.9	69.7	16.9	12.4
1980	6.0	70.9	10.2	12.9	0.1	92.5	3.7	3.8	1.4	68.2	15.5	14.9
1981	11.9	70.4	5.4	12.3	0.1	95.7	1.7	2.5	1.7	70.3	14.4	13.5
1982	7.2	63.4	6.6	22.8	0.2	94.6	1.7	3.5	1.7	70.4	12.6	15.2
1983	5.9	73.8	2.4	17.9	0.1	97.3	0.4	2.2	1.9	72.5	11.1	14.5
1984	5.4	84.1	1.5	9.0	0.0	98.0	0.9	1.0	1.8	74.5	9.7	13.9
1985	7.2	79.8	1.3	11.7	0.1	98.5	0.2	1.2	1.7	71.4	8.6	18.3
1986	9.4	80.1	1.0	9.5	0.1	97.0	0.1	2.8	1.5	71.3	6.8	20.4
1987	8.3	77.6	1.0	13.2	0.0	95.2	0.0	4.8	2.0	77.7	3.9	16.4
1988	11.9	77.5	0.8	9.8	0.0	97.3	0.1	2.6	1.5	68.2	2.9	27.4
1989	17.5	73.2	0.8	8.6	0.1	98.9	0.0	1.0	1.8	77.1	1.6	19.5
1990	8.6	83.9	1.2	6.2	0.0	98.7	0.0	1.3	1.6	80.2	2.3	15.9
1991	11.1	76.6	0.5	11.9	0.0	98.2	0.0	1.8	1.7	74.1	3.0	21.1
1992	8.9	84.8	1.2	5.2	0.1	97.5	0.3	2.1	1.6	74.8	3.7	19.9
1993	5.4	89.0	1.1	4.6	0.1	94.8	0.7	4.4	1.6	64.0	6.7	27.7

Table 10. Distribution of the forms of adjustment by firm's size (Spain, 1979-1994).

	TEMPORARY LAYOFFS							SHORT-TIME							FIRINGS						
	1-25	26-50	51-100	101-500	501-1000	1001-5000	+	1-25	-24	51-100	101-500	501-1000	1001-5000	+	1-25	26-50	51-100	101-500	501-1000	1001-5000	+
1979	22.2	16.5	15.5	32.9	4.6	8.0	0.2	6.8	6.8	11.5	37.5	13.4	23.9	0.0	35.9	17.3	15.3	23.9	3.6	3.0	0.8
1980	16.3	15.5	15.4	29.0	6.2	10.1	7.5	7.6	6.7	11.8	36.2	10.5	19.4	7.8	30.3	19.2	18.1	26.9	2.4	2.4	0.7
1981	15.3	13.0	13.2	30.5	11.8	9.7	6.7	5.5	5.3	7.5	32.7	13.3	28.3	7.4	27.5	19.4	18.9	28.6	2.5	2.5	0.6
1982	11.8	10.1	11.9	31.1	13.2	18.8	2.5	4.6	4.5	7.5	29.4	10.9	24.8	18.3	23.1	13.4	14.4	29.8	5.3	7.8	6.0
1983	11.7	8.1	11.3	27.8	12.4	17.6	11.1	3.2	3.4	5.9	25.3	8.6	27.8	25.8	25.2	13.3	15.4	23.4	9.8	8.4	4.3
1984	9.4	6.6	7.8	18.6	9.6	13.1	34.4	2.6	2.1	5.1	22.2	10.5	25.2	32.1	26.6	13.6	13.5	24.2	6.4	8.3	7.1
1985	11.9	7.5	8.8	21.8	9.3	13.1	27.1	2.9	2.7	4.0	19.1	12.1	21.7	37.6	28.3	12.5	11.5	22.9	5.6	11.3	7.9
1986	17.0	8.3	6.5	22.1	14.7	15.0	16.4	2.9	1.6	2.7	18.5	10.6	33.0	30.9	31.6	11.3	11.3	24.6	6.4	4.2	10.6
1987	14.8	7.0	5.8	20.8	20.7	20.1	10.7	3.3	3.0	4.2	22.2	7.2	52.4	7.7	28.9	11.0	11.9	25.4	6.8	7.6	8.5
1988	16.2	6.3	5.8	20.4	11.9	23.0	16.5	3.6	2.4	4.7	27.5	7.4	47.7	6.7	23.1	8.2	10.2	17.0	5.2	9.2	27.1
1989	20.3	7.4	6.1	20.2	16.3	23.3	6.5	3.2	1.9	4.1	25.7	1.4	61.3	2.4	30.0	8.9	9.6	22.8	5.7	8.3	14.7
1990	11.4	4.6	5.4	19.0	11.0	13.2	35.4	3.8	3.6	7.1	18.4	2.4	26.3	38.5	31.5	11.2	10.6	20.0	3.5	17.6	5.5
1991	14.6	6.7	7.8	27.4	9.7	13.7	20.1	5.0	3.3	3.5	29.6	6.5	12.2	39.7	30.0	10.1	13.1	22.5	0.0	6.7	10.3
1992	13.2	5.5	7.2	25.8	10.7	11.2	26.5	9.2	4.1	5.0	21.4	6.6	53.7	0.0	32.5	10.7	10.9	21.5	0.0	9.5	9.6
1993	10.2	5.3	6.9	26.4	9.4	14.4	27.4	11.0	5.6	6.0	17.9	9.6	34.7	15.2	40.6	10.6	9.5	18.1	0.0	5.5	11.2

Table 11. Incidence of the EREs, by form of adjustment and industries (over total wage workers). Spain, 1977-1993.

	FORM OF ADJUSTMENT			INDUSTRY				TOTAL
	TEMP. LAYOFFS	SHORT-TIME	FIRINGS	AGRIC.	MANUFAC.	CONSTR.	SERV.	
1977	0.87	0.32	0.63	-	-	-	-	1.83
1978	1.33	1.12	0.77	-	-	-	-	3.23
1979	1.82	1.26	0.90	3.05	8.50	3.67	0.75	3.98
1980	3.18	2.12	0.75	2.71	13.56	4.89	1.28	6.05
1981	3.09	2.30	0.74	5.18	14.23	3.16	1.11	6.12
1982	3.09	1.99	0.80	3.26	13.42	3.43	1.79	5.87
1983	4.83	2.34	0.78	4.05	19.96	2.24	2.03	7.96
1984	5.57	2.98	0.94	4.45	25.64	2.48	1.26	9.49
1985	4.96	2.14	1.02	4.95	21.58	2.09	1.49	8.12
1986	3.39	1.14	0.74	4.79	14.25	1.08	0.93	5.28
1987	2.89	0.60	0.60	3.75	10.88	0.61	0.94	4.10
1988	2.56	0.42	0.68	4.84	9.71	0.44	0.82	3.66
1989	1.65	0.26	0.52	5.42	6.49	0.21	0.44	2.43
1990	2.77	0.31	0.52	4.87	10.77	0.45	0.46	3.61
1991	2.28	0.40	0.73	5.36	9.87	0.31	0.75	3.41
1992	2.58	0.27	0.92	5.52	11.75	0.65	0.54	3.76
1993	4.51	0.54	1.37	6.24	21.38	1.54	0.99	6.43

Table 12. Incidence of the EREs by form of adjustment (and industry) over employees. Spain, 1979-1993.

	TEMPORARY LAYOFFS				SHORT-TIME				FIRINGS			
	AGRIC.	MANUF.	CONSTR.	SERV.	AGRIC.	MANUF.	CONSTR.	SERV.	AGRIC.	MANUF.	CONSTR.	SERV.
1979	2.94	3.40	1.86	0.42	0.01	3.33	0.44	0.09	0.10	1.78	1.37	0.24
1980	2.54	6.47	3.07	0.87	0.03	5.63	0.73	0.17	0.14	1.46	1.09	0.24
1981	4.98	6.32	1.70	0.79	0.03	6.40	0.39	0.12	0.17	1.51	1.07	0.21
1982	3.02	5.97	2.07	1.41	0.05	5.73	0.35	0.14	0.19	1.71	1.02	0.24
1983	3.83	11.10	1.22	1.70	0.02	7.09	0.11	0.10	0.20	1.77	0.91	0.22
1984	4.19	14.45	1.03	0.96	0.02	9.02	0.34	0.06	0.24	2.17	1.12	0.25
1985	4.69	12.57	0.86	1.09	0.02	6.70	0.06	0.05	0.23	2.32	1.16	0.35
1986	4.61	8.89	0.43	0.59	0.02	3.63	0.01	0.06	0.16	1.73	0.64	0.28
1987	3.57	7.44	0.33	0.70	0.00	1.89	0.00	0.05	0.18	1.55	0.27	0.18
1988	4.69	6.75	0.23	0.46	0.00	1.38	0.00	0.02	0.15	1.57	0.21	0.34
1989	5.24	4.20	0.13	0.25	0.00	0.89	0.00	0.00	0.17	1.40	0.08	0.18
1990	4.70	8.21	0.33	0.31	0.00	1.08	0.00	0.01	0.17	1.48	0.12	0.15
1991	5.10	6.44	0.10	0.47	0.00	1.45	0.00	0.01	0.25	1.98	0.21	0.27
1992	5.18	8.19	0.30	0.23	0.01	0.99	0.01	0.01	0.33	2.57	0.34	0.31
1993	5.70	15.88	0.51	0.34	0.01	2.04	0.04	0.04	0.53	3.46	0.98	0.62

Table 13. Incidence of temporary layoffs by manufacturing subsectors (Spain, 1981-1992).

	COAL	OIL	ELEC	MINE	META	NO.MET	CHEM	P.MET	EQUIP	M.ELEC	TRONIC
1981	396	0.22	0.17	6.10	5.90	1.75	2.63	16.65	5.16	4.57	2.22
1982	4.27	0.62	0.16	8.23	7.60	3.88	3.12	12.91	3.96	16.27	2.45
1983	5.50	0.42	0.29	4.65	9.88	3.20	5.55	22.06	9.59	20.94	1.42
1984	19.61	0.03	0.11	2.54	10.18	2.31	0.93	11.62	8.92	23.50	10.79
1985	3.54	0.03	0.14	3.74	8.83	4.47	1.17	12.42	9.34	24.79	8.12
1986	7.02	1.24	0.04	6.95	8.49	2.72	0.81	18.57	12.17	9.34	6.54
1987	20.22	0.51	0.10	10.32	4.60	2.44	0.45	18.54	7.34	12.80	13.39
1988	4.87	0.00	0.07	3.69	7.17	2.32	0.23	11.14	8.62	15.60	6.12
1989	2.54	1.17	0.05	5.39	2.31	1.50	1.01	5.56	9.03	15.44	4.21
1990	17.25	0.00	0.04	5.76	5.84	1.53	1.46	10.43	4.90	8.00	5.67
1991	38.31	0.80	0.01	5.84	3.23	1.72	1.74	14.55	9.28	3.79	7.79
1992	24.24	0.11	0.00	3.63	4.82	1.80	5.93	12.39	14.12	6.21	4.43
	CARS	SHIPS	PREC	FOOD	TEXT	LEATHER	CLOTH	WOOD	PAPER	PLAST	OTHER
1981	14.77	6.96	0.75	4.30	9.65	3.74	7.81	3.21	3.35	3.88	4.57
1982	4.32	7.97	0.86	4.48	8.99	3.31	6.37	3.57	2.03	4.26	5.21
1983	9.72	56.68	5.39	11.13	5.48	5.21	5.86	4.90	6.29	9.55	8.65
1984	13.15	155.45	1.63	10.34	8.81	3.43	7.34	3.13	2.51	2.84	5.96
1985	30.72	116.07	3.15	7.49	6.91	1.64	9.18	3.77	2.59	3.01	4.03
1986	15.09	51.23	2.38	1.11	5.70	2.37	19.63	2.54	2.61	5.63	2.93
1987	2.43	52.22	1.91	1.96	1.96	2.79	9.90	1.20	1.47	2.19	1.95
1988	16.23	48.65	1.09	1.34	3.07	5.03	7.11	0.71	0.84	0.79	0.65
1989	6.38	26.42	1.77	1.85	1.91	1.50	3.70	0.66	1.44	0.84	0.81
1990	58.32	21.05	0.64	1.69	4.97	1.41	2.34	0.79	3.32	5.71	0.71
1991	16.46	28.97	2.10	1.13	3.87	2.04	3.32	0.88	2.55	9.71	2.97
1992	32.53	38.22	1.76	0.92	3.65	3.56	2.58	1.14	3.66	10.11	1.44

Table 14. Incidence of the reduction of working hours by manufacturing subsectors (Spain, 1981-1992).

	COAL	OIL	ELEC	MINE	META	NO.MET	CHEM	P.MET	EQUIP	M.ELEC	TRONIC
1981	0.00	0.00	0.02	0.15	2.92	0.98	7.00	34.06	7.41	10.30	0.08
1982	0.00	0.00	0.01	2.55	5.79	0.62	2.47	19.79	11.33	15.80	4.14
1983	0.00	0.00	0.01	0.12	7.71	0.51	1.36	22.39	13.77	19.06	3.35
1984	0.00	0.00	0.09	0.01	9.86	0.21	0.85	22.19	19.31	19.56	3.80
1985	0.00	0.01	0.17	0.10	7.93	0.35	0.31	11.54	13.53	25.27	0.34
1986	0.00	0.00	0.00	0.01	5.78	0.39	0.12	4.64	12.30	7.53	0.02
1987	0.00	0.00	0.01	0.62	0.40	0.42	0.11	3.77	4.08	16.29	0.22
1988	0.93	0.00	0.00	2.58	0.69	0.10	0.00	0.80	0.76	9.10	0.11
1989	0.00	0.00	0.00	0.00	4.18	0.01	0.02	0.72	3.40	9.64	0.17
1990	0.00	0.00	0.00	0.02	4.53	0.02	0.21	1.44	0.54	0.72	1.80
1991	0.00	0.00	0.00	0.00	4.52	0.23	0.30	2.45	2.01	1.16	0.09
1992	0.01	0.00	0.00	0.02	0.51	0.20	0.53	1.73	0.52	1.74	1.72
	CARS	SHIPS	PREC	FOOD	TEXT	LEATHER	CLOTH	WOOD	PAPER	PLAST	OTHER
1981	5.23	0.15	3.18	0.51	9.79	6.09	1.69	2.49	1.14	4.16	2.13
1982	22.69	1.49	1.35	0.36	4.81	2.10	1.89	1.13	1.50	3.26	3.92
1983	33.35	12.88	14.14	0.13	3.28	0.62	0.96	1.32	1.06	3.40	3.18
1984	43.49	23.96	6.09	0.19	6.62	2.15	1.88	1.82	2.22	5.03	2.48
1985	36.11	19.89	2.03	0.33	4.10	1.60	1.36	1.56	1.05	1.89	5.08
1986	21.19	19.38	4.56	0.18	0.62	0.53	0.70	0.34	0.17	0.79	1.37
1987	3.49	6.78	2.01	0.19	0.83	0.16	0.33	0.13	0.14	0.65	0.48
1988	4.42	3.60	0.19	0.09	5.74	1.06	0.36	0.10	0.07	0.08	0.07
1989	0.66	0.28	0.11	0.02	1.48	0.20	0.25	0.12	0.12	0.07	0.20
1990	8.18	0.00	0.95	0.10	1.58	0.11	0.31	0.15	0.06	0.20	0.25
1991	10.35	0.00	2.25	0.29	1.09	0.97	0.35	0.09	0.03	0.56	0.42
1992	6.13	0.05	0.01	0.28	0.78	0.43	0.17	0.24	0.08	0.22	0.80

**Table 15. Average days of temporary layoff and average hours of reduction
(Spain, 1982-1994).**

	DAYS (TOTAL)	DAYS PER WORKER	HOURS (TOTAL)	HOURS PER WORKER
1982	26630357	118	59518887	397
1983	33825951	93	66023061	369
1984	34083907	86	78203061	358
1985	29220472	85	51050715	327
1986	27017725	104	43788875	500
1987	23686045	103	23619322	495
1988	23062778	108	13434444	385
1989	17789578	122	11448025	496
1990	23149295	90	13696826	475
1991	22687212	106	18009319	480
1992	22588446	97	11177719	455
1993	36008463	92	15608731	330

Figure 1. Number of EREs, by types.

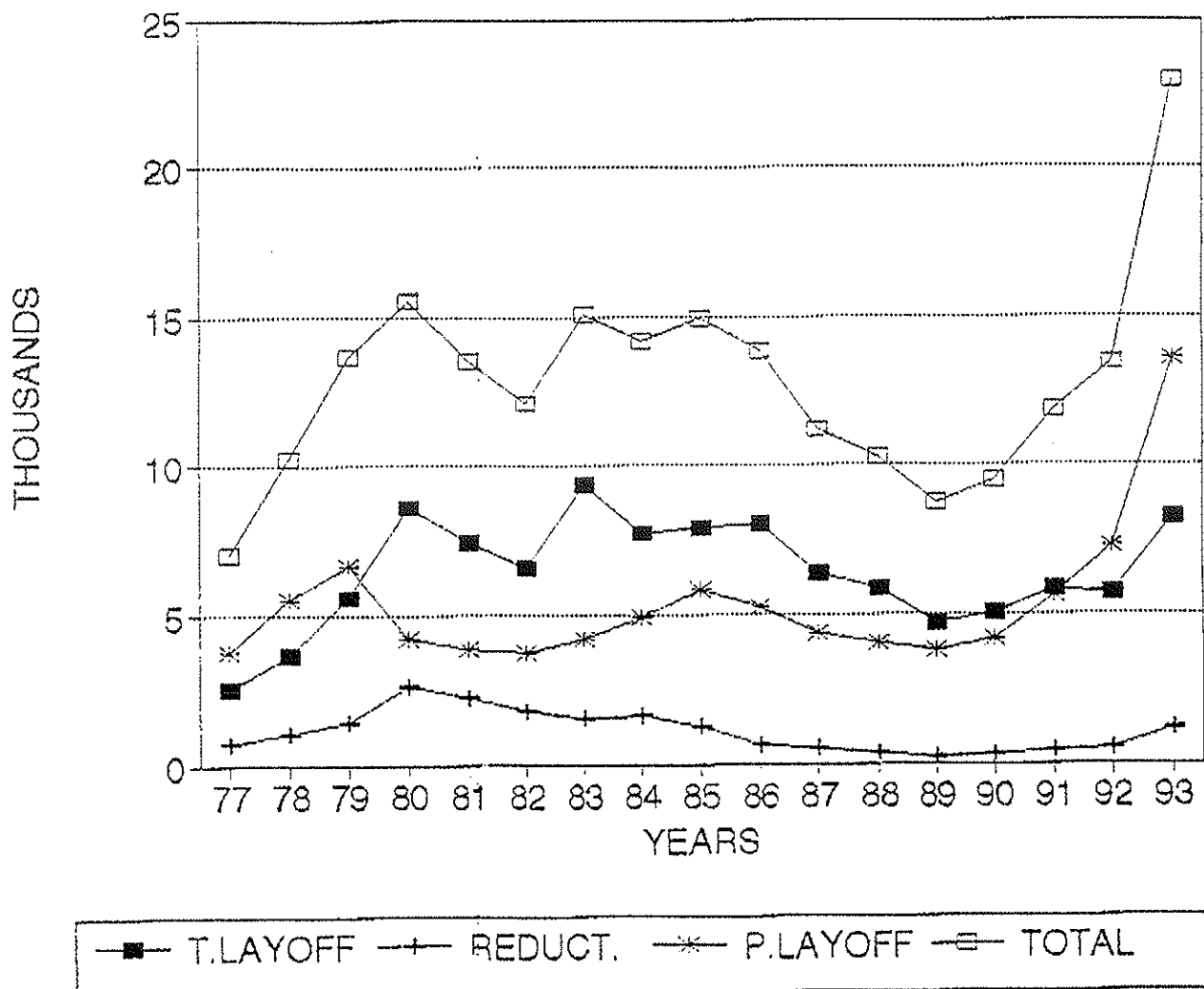


Figure 2. Employees affected by EREs, by types.

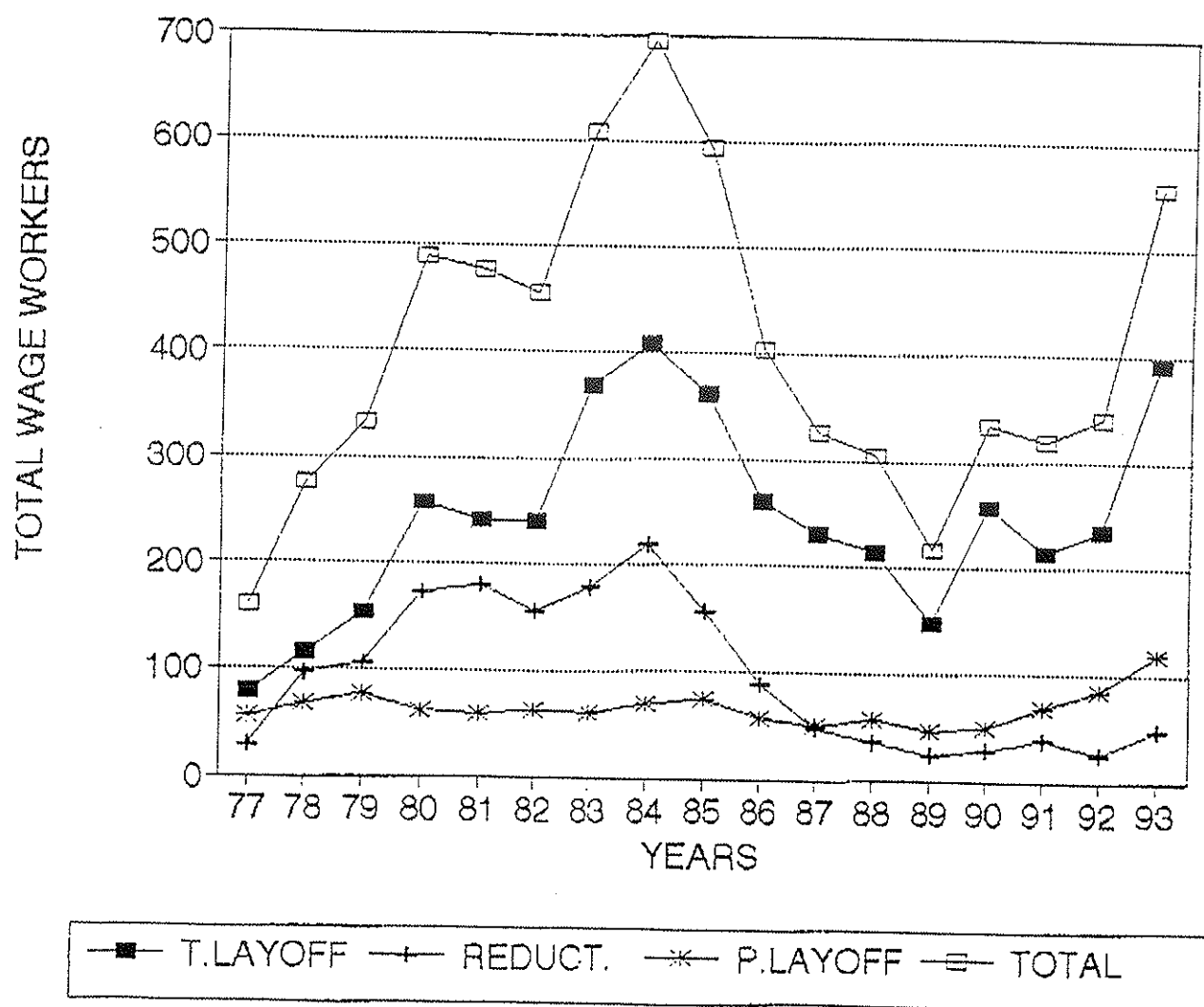
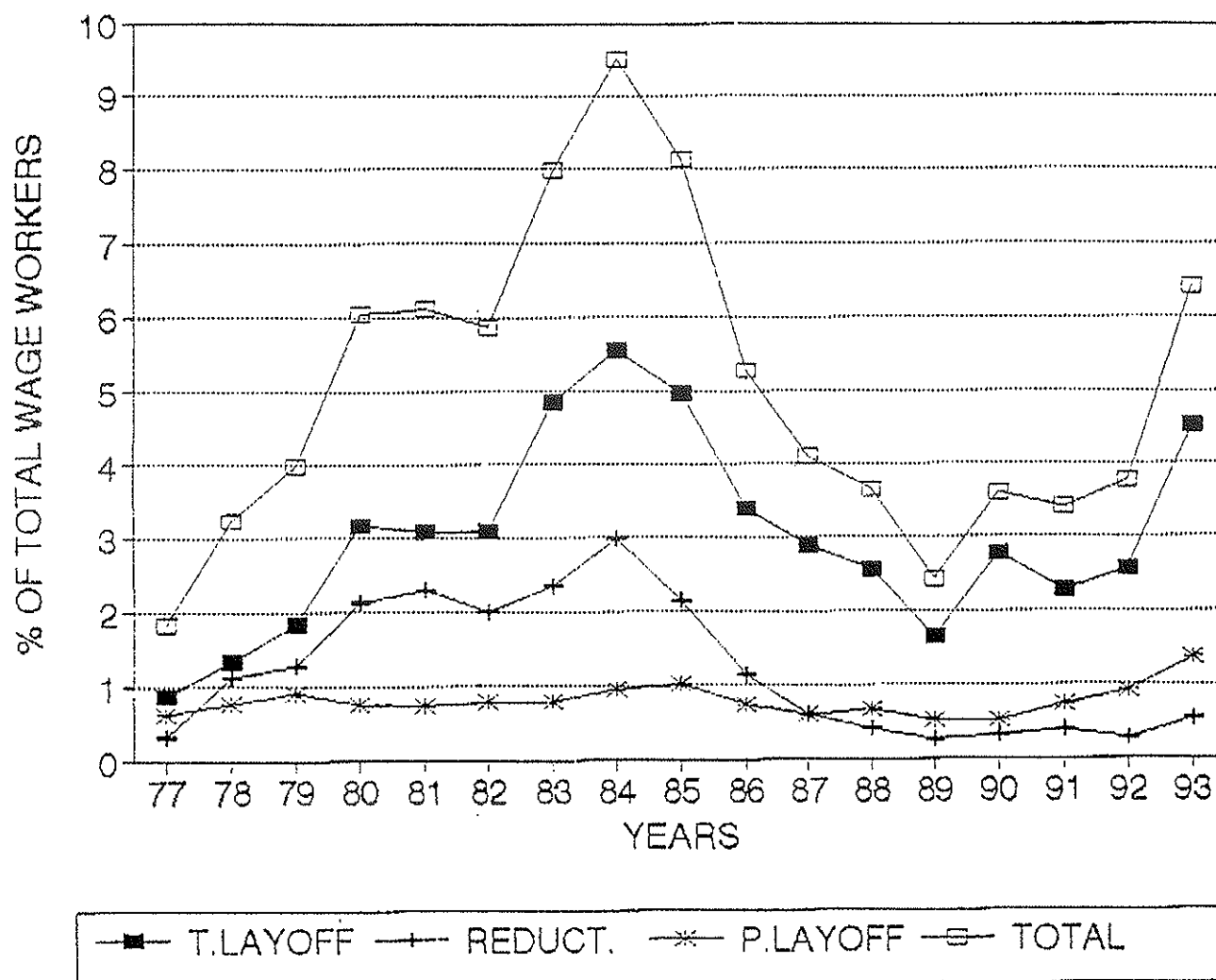


Figure 3. Incidence of EREs, by types.





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