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LABOR MARKET EFFECTS
OF FIXED-TERM EMPLOYMENT CONTRACTS IN SPAIN

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Abstract

This article studies the labor market effects of fixed-term employment contracts in Spain. First, we present various relevant features of the institutional setting which gave rise to and resulted from the introduction of fixed-term contracts. Second, we look at the evolution of temporary and permanent employment over the period 1987-1995 for which data are available. Then we discuss the implications of the distinction between temporary and permanent in the employment relationship for labor market outcomes in Spain. Third, we undertake the empirical analysis, which is aimed at knowing who are the workers under fixed-term contracts, how much they earn as compared to permanent workers, and how likely they are to obtain an indefinite employment relationship. We find that non household heads, youth, less educated workers, women and private sector employees are over-represented among the temporary workers. These workers earn significantly less than those with indefinite contracts, and their transition rates from temporary into indefinite employment status appears quite low, having fallen significantly over the period 1987-1995.

Key Words

Temporary Employment; Permanent Employment; Transition Probabilities.

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1. Introduction

More than ten years have passed since fixed-term employment contracts became a crucial institution in the Spanish labor market. This time period, from the mid-1980's to the mid-1990's, forms a complete cycle of the Spanish Economy. Still today, the rigidity and inefficiencies of the Spanish labor market continue to be consistently debated.¹ It is widely accepted that the economic system of the Franco years was a paternalistic one, based on low labor cost in exchange for secured employment. Hence, the great need for reforms to integrate Spain in the world economy. However, such reforms have been piece-meal, without having provided a satisfactory solution to the problem of labor market rigidities. As a consequence, in two decades, Spanish unemployment has experienced two record highs: in 1985, when the unemployment rate reached 22 per cent of the labor force, and in 1994, when it approached the rate of 25 per cent.

The Workers' Statute of 1980 was the law that gave some legal structure to the post-Franco labor market. However, the model of strong employment security was consolidated rather than modified. At that time, in the midst of soaring unemployment, wage moderation obtained by economy-wide agreements between government, employer organizations and labor unions was not enough to stop labor shedding. The resistance of the economy to start creating jobs prompted the government to reform the Workers' Statute in 1984, with a view to foster employment. The reform consisted of giving a boost to fixed-term contracts already considered in the Workers' Statute. The latter has been the object of further changes in 1992 and 1993, and a deeper reform in 1994. However, according to post-reform labor market data, such legal changes do not appear to have significantly modified the institutional framework.

This article addresses how the new rules governing the employment relationship in Spain

might have significantly affected the functioning of the country's labor market. More precisely, the following questions will be examined: How have temporary and permanent employment changed over the period 1987-1995? Who are the main characteristics of workers under temporary contracts? Do they earn more or less than permanent workers? How likely are temporary workers to become permanent, and how has this probability changed over time? By answering these and other questions, we can better understand the structure and dynamics of the Spanish labor market from the mid-1980's to the mid-1990's.

2. Institutional framework

Fixed-term contracts were conceived in Spain as an alternative to the indefinite employment relationship in order to increase labor market flexibility. From the point of view of the firm, the main difference between both types of contracts lies in the cost associated with employment termination. The idea behind the 1984 reform of the Workers' Statute was that by hiring temporary workers firms could adjust employment much more easily, without having to modify dismissal rules for indefinite contracts. Two more recent decrees, in 1992 and 1993, and another major reform of the Workers' Statute in 1994, have tried to increase labor market flexibility by facilitating administrative requirements for collective dismissals, and increasing the reasons for firing individual workers.

According to the 1994 reform of the Workers' Statute, collective dismissals are those which in a period of 90 days affect ten workers in firms with less than 100 employees, 10 per cent of workers in firms with 100-299 employees, and 30 per cent of workers in firms with 300 or more employees. Such dismissals require administrative approval by the labor authority. If approved, each dismissed worker receives severance pay of 20 days' salary per year of service, up to a maximum of 12 months.

More costly for employers are individual dismissals. Workers can be individually dismissed because of economic and technological reasons, changes in the organization of work, or other justified reasons. Also, individual workers can be fired because of disciplinary cause. In all the cases workers can appeal before the labor court. There are two possibilities: (1) The dismissal is judicially declared fair. In this case, the worker receives a severance pay of 20 days' salary per year of service, up to a maximum of 12 months. This does not apply to disciplinary dismissals. (2) The dismissal is judicially declared unfair. In this case the worker is entitled to either readmission or a severance pay of 45 days' salary for every year of service, up to a maximum of 42 months. Because all types of individual dismissals can be appealed, and there is always the possibility of being declared unfair, it is said that excessively high firing costs continue to be a source of labor market rigidity in Spain.

Although the fixed-term employment contract was first introduced in the Spanish labor law in 1980, its application was limited to temporary jobs by nature. The Workers' Statute Amendment of 1984 made the use of fixed-term contracts possible regardless of the type of work. Based on the principle of promoting employment (Employment Promotion Program), firms could hire unemployed workers, registered in the Employment Office, for a minimum period of six months. This fixed-term contract could be renewed up to three years.

Under the Employment Promotion Program, after three years of holding a fixed-term contract with the same firm, continued employment implied that the employee automatically became permanent.² If the fixed-term contract expired and the worker became unemployed, he or she received severance pay of 12 days' salary per year of service. A worker whose contract had expired could not be re-employed by the same firm under the same scheme until one year had passed. When a worker had been laid-off or unfairly dismissed, the firm could not replace that worker with a fixed-

term employee until after one year from the time of termination. Moreover, the law prohibited a firm from filling a vacancy with a fixed-term worker if the vacancy resulted from expiration of another fixed-term contract in the previous year and lasted the allowed maximum duration.

The two royal decrees of 1992 and 1993, together with the extensive reform of the Worker' Statute carried out in 1994 have affected the regulation of fixed-term contracts in several respects. First, in 1992 the minimum duration of fixed-term contracts linked to the 1984 Employment Promotion Program was increased to one year. Second, a thorough revision of the Workers' Statute in 1994 led to define specific reasons for hiring temporary workers. This implies re-establishing the legal requirement of hiring temporary workers only when the nature of the job so demands. Such reasons are: (1) To do specific work or service, which will determine the duration. (2) Because of production needs, with a maximum duration of six months within a period of one year. (3) To replace a worker temporarily separated from his job. (4) In order to initiate a new activity within the firm, with a maximum duration of three years. The new regulation abolishes the fixed-term contracts as originally conceived in the 1984 Employment Promotion Program.

Regardless of these changes in regulation, the fixed-term contract continues to offer a legal alternative to the presumed rigidity placed in the employment relationship by the permanent contract. In the midst of massive unemployment, fixed-term contracts were meant to ease adjustment costs and foster new hiring. Because firms make an intensive use of the fixed-term contract --around 35 per cent of total dependent employment in 1995-- job security has greatly eroded and labor turnover has significantly increased. Firms resorted to fixed-term contracts for new employees, and only a minority of them were subsequently hired as permanent employees. Firms' favorable response to the new labor legislation indicates that the changes in the institutional framework were effective in establishing more

flexible rules for the employment relationship.³

The overwhelming use of fixed-term employment contracts by firms in Spain has brought up the issue of differences in working conditions between both types of employees. Permanent workers can be thought of as employees engaged in long-term employment, enjoying the advantages of promotion ladders and other incentive schemes.⁴ Temporary workers are usually hired for a short period of time. After their fixed-term employment contract ends, three outcomes are possible: the worker joins the firm as a permanent employee, the contract is renewed, or the worker has to leave the firm to seek work elsewhere after receiving a low severance payment.

For the firm, however, two characteristics of fixed-term contracts are paramount. First, employers avoid the costs and potential liability in laying-off employees, protecting themselves from onerous litigation and the adverse effect on reputation of frequent firing. Second, the worker is bound to the firm for the employment period stipulated in the contract. This reduces a firm's uncertainty with regard to the possibility of workers quitting their jobs. Third, in an economy, where fixed-term contracts become available by law, there is little incentive for the firm to hire a new employee as permanent. The firm will necessarily adapt its recruiting policies to the new provision for fixed-term contracts. The corollary is that the costs of employment adjustment are much lower when a significant proportion of the labor force is under temporary employment.⁵

In order to assess the implications of the introduction of fixed-term contracts for the Spanish labor market, in the following sections we examine trends in temporary/permanent employment, and compare their personal characteristics; then, we analyze temporary/permanent workers' wage differentials; and, finally, we study labor market transitions and, more particularly, the probability

that temporary workers obtain permanent jobs.

3. Trends in Permanent and Temporary Employment: 1987-1995

From 1985 to 1991, the Spanish economy enjoyed high levels of economic growth, and the creation of new jobs was impressive by most standards. Concurrent with this process of employment recovery, the increase in the number of temporary workers (those with a fixed-term contract)⁶ has been remarkable. In 1987, 14.4 per cent of wage and salary workers held fixed-term contracts; by 1991 the figure was 32 per cent. In the same time span, from 1991 to 1995, this proportion has increased only by three percentage points.

The upper panel of Graph 1 presents the evolution of dependent employment from the second quarter of 1987 to the fourth quarter of 1995 in Spain. It is apparent the strong employment growth up to the third quarter of 1991. Thereafter, the Spanish economy started to destroy employment until the first quarter of 1994. Since that date the recovery has been weak in terms of both GDP and employment growth.

How has the cycle affected the composition of employment by temporary and permanent status? The lower panel of Graph 1 shows that the evolutions of both categories of employment has been quite different. From the second quarter of 1987 to the fourth quarter of 1995, permanent employment fell about 750,000 employees, and temporary employment increased about 1,900,000 employees. Both variables fluctuated over the period considered and it is worth noting the timing of their ups and downs. After several quarters of leveling-off, permanent employment began to decline in the fourth quarter of 1990, well ahead temporary employment fall in the fourth quarter of 1992 and the first of 1993. Thereafter, permanent employment continued to decline and temporary employment

started to recover slowly. It is to be noted that the continuous increase in permanent employment since the third quarter of 1994 is a development unique in the whole period considered. This suggests that the weight of temporary employment may have reached a maximum in the Spanish economy. The increase in permanent employment, in a phase of economic recovery, may have been favored by the 1994 new reform of the Workers' Statute.

It is also interesting to present the evolution of permanent and temporary employment by sex (Graph 2). It is clear from this graph that the evolution of temporary employment is quite similar among men and women. Until the third quarter of 1992, temporary employment increased faster among women than men. However, since that date the reverse is true. Regarding permanent employment, the trends are very different for men and women. Whereas, women's permanent employment increased over the whole period, men's permanent employment declined. These trends reflect in the proportions of temporary employment by sex (Graph 3). Up to 1992, the proportion of temporary employment increased faster among women than men, and since then both proportions are getting closer. By looking at Graph 3 we can infer that the proportion of temporary employment has not increased much since the Spanish economy entered the recession in 1992 to the present.

It is likely that workers' flows between both employment status have reduced notably. Labor market transitions will be analyzed later to test this. For now, we provide a first insight into this issue by looking at employment status according to job tenure. Table 1 contains the distribution of male and female workers by permanent/temporary status and job tenure in 1987, 1991 and 1995. From 1987 to 1991, the table shows a disproportionate decline in the percentage of permanent employees in low tenure brackets. If we consider that people with job tenure of less than 3 months are those who entered employment recently, we can infer from Table 1 that the probability of doing so under a

permanent employment status decreased in 1991 to a one third of what it was in 1987. Likewise, such probability is reduced almost by half from 1991 to 1995 for men, and by less than one fifth for women. At least two conclusions can be obtained from these data: (1) That almost all people enter employment through a fixed-term employment contract in the mid-1990's in Spain; and (2) that the temporary jobs that they get appear to become of shorter and shorter duration over the period analyzed. It is to be noted that the proportion of permanent workers with two or more year of job tenure declined from 1987 to 1991 and increased again in 1995.

Thus, it is clear that, after the legal provision for fixed-term contracts was enacted, very few newly hired workers obtained a permanent job. This points to a high level of labor turnover among Spanish workers and suggests that most temporary employment relationships terminate quite soon.⁷ The decreasing proportion of workers with job tenure of 12-35 months reflected in Table 1 indicates that retaining a job for longer than one year requires that the worker achieves a permanent employment status, either upon entry into the firm or at the expiration of his fixed-term contract. However, as we will show later the transition rates from temporary into permanent employment have plummeted over the period 1987-1995.

3. Who Are the Temporary Workers?

When addressing the question of who the temporary workers are, we must account for duration of the current job. The reason for this is that, as indicated earlier, there is a selection into permanent employment along job tenure tracks. Some workers who are temporary at the early stage of their job tenure later become permanent, partly due to firms' use of fixed-term contracts as a screening device for permanent employees. This must be taken into account when comparing personal and demographic characteristics of workers according to their temporary or permanent status. If we

consider all wage and salary workers, we know that among permanent workers there are some who entered that employment status long time ago, even before fixed-term contracts were available. These people ought to be quite different from those who entered permanent employment later. However, if we consider low job-tenure worker we are looking at workers who have faced similar labor market conditions upon entering employment. Moreover, this way we exclude some workers who may have become permanent after being hired as temporary by the same firm. As we consider workers with job tenure of less than two years, there is a more precise way to formulate the question we are investigating: who hold fixed-term employment contracts conditional on having been hired less than two years ago?⁸

To study the likelihood of being a temporary worker, we estimate a logit model where the dependent variable takes on one if the worker has a fixed-term contract and zero otherwise. The sample is composed of workers with less than two years of current job tenure. Table 2 shows the results, where other controls are 9 sectors and 17 regions. We estimate the model for 1987, 1991 and 1995 in order to identify changes in regression coefficients over time. In general, it appears that females, non-household heads, less educated employees and workers under thirty years of age are more likely to be hired under a fixed-term contract than other comparable workers.

The effects of household status, education and age on the employment relationship are more significant in 1991 than in 1987. This is particularly true for the dummy for higher educated workers. Bearing in mind that the average worker is more likely to be in temporary employment in 1991 than in 1987, we can indicate several reasons for enhanced demographic differences between temporary and permanent employees over that period of time. One may be that, in the beginning of the economic recovery, most long-term unemployed workers accepted the first job offer. As the job

creation process continued, some earlier temporary workers could improve their job match by settling into permanent employment.⁹

Another explanation for enhanced differences between temporary and permanent workers over time could be that firms, in their process of sorting out workers between permanent and temporary employment, reduced their preferences for stable employment relationships among women, youth and lower educated workers. Although women are more likely to hold a fixed-term contract in 1987 and 1991, the 1995 logit regression tells us that, among workers with less than two years of job tenure, men are more likely to be in temporary employment than women in that year. This result was already highlighted in the previous section (see Graph 3 and Table 1).¹⁰ The sign of the coefficient for public sector employee dummy also reversed between 1987 and 1991, becoming negative in the latter year and keeping so in 1995. The reasons for this can be linked to differences in employment dynamics between both sectors of employment.

4. Do Temporary Workers Earn Less than Permanent Workers?

Inquiries into the earning differential between temporary and permanent workers can reveal crucial aspects of the employment relationship in Spain. In principle, it is evident that fixed-duration jobs preclude any wage growth that otherwise would result from continuous employment. However, workers under fixed-term contracts may be compensated for their job instability. This means that among newly hired workers with similar productivity, temporary workers may earn more than permanent employees unless firms have the ability to discriminate against temporary workers or the latter are disadvantaged in wage bargaining.¹¹

Estimating the type-of-contract effect on earnings by using individual data is a difficult task.

The main reason for this is that some unobserved workers' characteristics may affect wages and be correlated with the type of contract held. Indeed, above indicated results suggest that the correlation between workers' unobserved characteristics and the types of contracts under which they are employed is likely to be higher the greater the job tenure is among workers in the sample analyzed. This problem could be ameliorated by considering a sample of newly hired or very low-tenured workers. However, given that size of the data set that we use, it is advisable not to do so.

The data used for estimating wage equations were obtained through a first and only inclusion of earning questions in the EPA as of the second quarter of 1990. These questions were asked of a 2,000 household sample, out of the 60,000 which comprises the quarterly EPA survey. Although these data contain information on job tenure which permits to select a sub-sample of low-tenured workers, we decide not to exclude any observations because the sample is rather small --1,209 wage and salary workers with valid information on earnings and other variables. Thus, we estimate wage equations for the total sample, as well as for men and women separately. Moreover, there is the possibility of estimating wage equations by using an enterprise survey of medium and large-sized firms. By utilizing this two sources, we will be able to arrive to more robust results.

Based on the indicated EPA data, Graph 4 shows age-earnings profile of permanent and temporary workers. The age-earnings profile of permanent workers has the typical concave shape, whereas the age-earnings profile of temporary workers is almost flat for those aged 20 and over. This result is an indication of the lack of professional progression among temporary workers. In addition, there is an earnings gap between these two types of workers, appearing even larger among older workers. The question is whether the gap persists after controlling for experience and other personal and work characteristics.

Table 3 provides estimates of the wage differential between temporary (three sub-categories) and permanent workers in 1990. When the entire sample of wage and salary workers is considered, controlling for various demographic and job characteristics, temporary workers under a training or apprenticeship contract earn about 29.5 per cent less than permanent workers. Seasonal workers earn 21.8 per cent less than permanent workers, and other temporary workers (the majority of those with a fixed-term contract) earn 11.3 per cent less than permanent workers. The former differentials diminish, although remain significant, when lower tenure workers are considered (results not reported). When we estimate the wage equation for men only (second column of Table 3) these differentials increase and remain highly significant. By the contrary, wage differentials for women are much lower and insignificant at the 10 per cent level. Although this latter finding is somewhat surprising, it has to be qualified by the fact that the sample is small --389 observations-- and, therefore, the regression estimates are affected by lack of precision.

Table 4 contains the results of estimated wage equations by using a sample of medium and large sized-firms drawn from the survey "La Negociación Colectiva en las Grandes Empresas" (NCGE).¹² Among this sample of medium and large-sized firms, about 12 per cent of employees worked under some kind of temporary employment arrangement as of June 1988. If we consider newly employed workers (all those hired in the previous year, regardless of how long they retained their jobs), 70.6 per cent of them were temporary workers. Both fractions, indicating the stock and flow of temporary employees, integrate the set of independent variables in our estimated wage equations.¹³ Also, we include the fraction of newly hired workers in the previous year among the set of explanatory variables.

The results are reported in Table 4. Each specification differs from one another in the

definition of the dependent variable, logarithm of average wage. In column 1, the firm's average wage is calculated as the firm's wage bill at a point in time (June 1988) divided by the firm's number of employees at that time. In column 2, the average wage is calculated as the total annual wage bill divided by the total annual number of employees. This is obtained by summing the number of employees each month and dividing that total by twelve. Finally, in column 3, the average wage is calculated as the total annual wage bill divided by the total annual number of hours worked.

The variable fraction of employees with a fixed-term contract appears to have a significant and negative effect on the average wage regardless of what definition is considered for the latter. The finding that firms with a higher fraction of temporary workers, keeping other observed characteristics constant, pay a significantly lower average wage suggests that fixed-term contracts reduce labor costs among medium and large-sized firms in Spain. All else remaining equal, a one standard deviation in the fraction of temporary employees reduces the worker-average wage by 3.2% (column 2 of Table 4) and the hour-average wage by 3.9% (column 3 of Table 4).¹⁴ If more intensive temporary employment firms are not less productive, this finding may indicate that an improvement in firms' efficiency is associated with a more intensive use of fixed-term contracts by medium and large-sized firms in Spain.

5. How Likely Are Temporary Workers to Get Permanent Employment?

In this section we try to respond to the following questions: What are the previous labor force status of temporary workers? and, at what rate do temporary workers become permanent employees? As in the previous section, we use data sets: the labor force survey (EPA) and the survey "La Negociación Colectiva en las Grandes Empresas" (NCGE). Using EPA we can do a longitudinal analysis of individual workers, and from the NCGE we can present the employment status of a

sample of temporary employees over the following four years.

Since 1/6 of the EPA sample (60,000 households) leave the survey every quarter, 5/6 of the sample can be followed from one quarter to another, allowing us to analyze workers' transitions between different employment and non-employment status. The analysis proceeds in two steps: First, we focus on those workers who report to be working under a fixed-term contract in the third quarter of 1987, 1991 and 1995, and examine their situation with respect to the labor force in the previous quarter (the second quarter of each year). Second, we consider all workers who reported to be working under a fixed term contract in the second quarter of the above indicated years and observe their labor force status in the following quarter (third of each year). This is done both for males and females separately. Since each quarter-sample of temporary workers represents a cross section of temporary workers, this way we are able to measure their gross flow rates in and out of temporary employment.

Table 5 shows the second quarter's labor force status of workers who reported to be in temporary employment as of the third quarter of 1987, 1991 and 1995. As the table illustrates, a majority of temporary workers were in the same employment status a quarter earlier. We do not know whether in the same or a different firm, nor whether it was with the same or a different temporary contract. For males, the indicated proportion increased from 50 per cent in 1987 to 76 per cent in 1991, and 78 per cent in 1995. Similarly for females. The percentage of temporary workers who were unemployed the previous quarter also declined significantly, by half for both sexes from 1987 to 1991, from 25.4 and 21.3 per cent in 1987 to 12.3 and 10.8 in 1991 for men and women respectively.

There are two more results in Table 5 worth mentioning: (1) The percentage of women in temporary employment who were out of the labor force three months earlier declined significantly from 1987 to 1995. (2) In 1987, a significant proportion of people under fixed-term contracts were permanent wage and salary workers a quarter earlier: 17 per cent among men and 16 per cent among women. However, this proportion was much lower in 1991 and, by 1995, only at 3 for men and 4 per cent for women.

All this results indicate that, by the mid-1990's, temporary employment has reached such a level in Spain that about three fourth of temporary workers are observed under that employment relationship in two consecutive quarters. To this proportion one may need to add part of those unemployed in the previous quarter if they became so after holding a fixed-term contract. Moreover, very few people with an indefinite contract seem to lose it to become a temporary worker. This evidence may be sufficient to conclude that temporary workers are increasingly trapped in such situation, rotating from temporary to temporary jobs. We will test that further by looking at the labor market transitions of temporary workers.

Table 6 indicates the third quarter's labor force status of temporary workers in the second quarter of 1987, 1991 and 1995. Some findings are noteworthy: (1) Among men, the proportion of temporary workers who reported to be in permanent employment a quarter later was 18 per cent in 1987, 9.5 per cent in 1991, and 5 per cent in 1995. For women these transitions rates are similar, slightly lower than for men in 1987 and 1991, and slightly higher in 1995. (2) Consistent with previous results, workers who maintain their temporary status increase over the period. In 1995, the corresponding figure was 80 per cent of men and 75 per cent of women.

Because we do not know whether the transition to permanent employment took place in the same firm or not, we cannot say that a temporary contract has been converted into a permanent one. A temporary worker may leave the job to obtain permanent employment with other firm. In any case, we can infer from these transition probabilities that very few temporary workers manage to get permanent employment. Given that the transition rate between temporary and permanent employment has become so small by 1995, around 5-6 per cent, we can say that temporary workers tend to be locked up in that employment relationship.¹⁵

Additional evidence on the transitions probabilities into indefinite contracts can be obtained from the NCGE survey.¹⁶ The NCGE survey allows us to calculate these transition probabilities because in 1991 it asked of all firms to indicate the evolution of fixed-term contracts arising in 1987. Table 8 shows that, in the sample of large firms, 54,829 fixed-term contracts were created in 1987.¹⁷ The situation of those contracts in 1987, 1988, 1989 and 1990 is also reported: how many whose term ended, were renewed or converted into permanent contracts.

Some results are to be noted: (1) In 1987, 24 per cent of fixed-term contracts expired, 26 per cent were renewed and 2.8 per cent became permanent contracts. The remaining contracts continued into 1988. This finding is consistent with the previous conclusion that a high number of contracts are of short duration. (2) By the end of 1990, 70 per cent of the contracts had expired and the workers separated from their jobs; whereas only 28 per cent of them had been converted into permanent employment relationships. Note that the hazard rate of conversion into indefinite employment is increasing. That is, the likelihood of getting a permanent contract is higher as the employment relationship continues for a longer period. The transition probability obtained through this sample of medium and large-sized firms has the advantage of referring to conversion rates, whereas, by using

the EPA, we do not know whether the transition to a permanent job occurred with the same or a different employer. This implies that the conversion rate from temporary to permanent employment as reported in Table 8 ought to be higher among larger firms.

7. Conclusions and Interpretations

In investigating the labor market effects of fixed-term employment contracts in Spain, this article provides the following main results: First, the proportion of temporary employment increased rapidly from 1987 to 1991, and declined in the 1992 recession. Thereafter, the recovery has been weak. Permanent employment has started to grow but it is too early to attribute this to the 1994 reforms. Despite the latter, the costs associated with individual dismissals continue to be as high as they were before 1984.

Second, temporary workers are more likely to be non-household heads, under thirty years of age and less educated than comparable permanent workers. This tells us something about the employers' preferences about the types of workers they chose for longer term employment relationships. Third, temporary workers have a flat age-earnings profile as compared to the standard concave age-earnings profile of workers under permanent employment relationships. Moreover, we found that temporary people earn significantly less than their permanent counterpart, keeping constant various personal and job characteristics. This finding is consistent with a lower average wage in firms employing a higher fraction of temporary workers. If this result is correct, it implies that firms resort to temporary employment as a way to reduce production costs in addition to employment adjustment costs.

Fourth, a low and declining transition rate from temporary into permanent employment --

around 5 per cent in 1995-- indicates that Spanish firms have become very selective with regard to establishing permanent employment relationships. The consequence is increasing labor turnover and a more segmented labor market. This can cause long-term negative effects on the Spanish economy. If temporary workers lack any attachment to the firm, they are less likely to receive training than permanent workers. This, in turn, will make temporary workers more prone to perpetually work in temporary employment relationships. Their work precariousness and lack of commitment to an employer can have a negative impact on the country's labor productivity. For this reason, further research is needed to better understand firms' behavior regarding the use of fixed-term contracts; in particular, how the latter influence the wage determination process and productivity growth at the firm level.

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End Notes

1. Some of the studies dealing with labor market rigidities and unemployment in Spain are the following: Dolado et al. (1986), Bentolila and Blanchard (1989), Andrés et al. (1990), Bentolila and Saint-Paul (1992), Bentolila and Dolado (1994), Blanchard et al. (1995), and Dolado and Jimeno (1995).
2. As a exceptional measure taken in 1993, fixed-term contracts within the Employment Promotion Program that reached the maximum duration of three years during 1994, could be extended for eighteen more months.
3. The successful implementation of the Employment Promotion Program was facilitated by other economic factors that are less relevant to the discussion at hand. For example, Spain's integration into the European Economic Community in 1986 and the general buoyancy of the world economy in the period.
4. Differences in working conditions between permanent and temporary workers have raised the issue of labor market segmentation in Spain. The extent to which the dual labor market theory (Doeringer and Piore (1971), Dickens and Lang (1985), Rebitzer and Taylor (1991)), can contribute to better understand the effects of fixed-term contracts on the Spanish labor market has yet to be investigated.
5. That firms are in a position to employ fixed-term workers also implies that they can make greater investments in permanent workers. The reason for this is that there is less uncertainty associated with such investments, particularly when employment adjustments in slumps can be carried out inexpensively through temporary workers.
6. Since the second quarter of 1987, the Spanish Labor Force Survey (EPA) reports whether the employment contract is permanent or temporary. Up to the fourth quarter of 1991, it distinguished three different types of fixed-term employment arrangements: (1) training or apprenticeship contract, (2) seasonal contract and (3) other contract which can be one under the Employment Promotion Program. Since the first quarter of 1992, the EPA splits the "others" category in four categories: (1) contract for a provisional period, (2) contract to replace total or partially other worker, (3) contract for specific work or service and, (4) other fixed-term contracts. This new set of options for classification within the group of temporary workers is not comparable to the original one. For this reason, we limit our classification to permanent and temporary workers when needed for time series analysis.
7. Under the Employment Promotion Program, a worker cannot remain in the same firm under a fixed-term contract for more than three years. The EPA statistics show some temporary workers with over three years of job tenure who are mostly seasonal workers. However, the law permits that, after three years of a temporary employment relationship with a firm, a worker can return to the same firm with the same employment status once a year has passed.

8. Some permanent workers with a specific firm might have been hired under a fixed-term contract by a previous firm. Such possibility in inter-firm mobility patterns responds to workers' needs for better job matches in an economy with two types of employment relationships. This is an important issue for future research.

9. If we used the whole sample of wage and salary workers, the estimated probability of being under a fixed-term contract would be affected by the probability of having remained in such type of employment relationship, as well as of having obtained an indefinite contract before temporary employment became available.

10. Using the whole sample of wage and salary workers, women continue to be more likely to hold a fixed-term contract. This is due to the fact that men are more likely to be in long-tenured jobs, and thus to hold a permanent contract. In 1995, 66.4 per cent of women had a temporary contract as compared with 61.4 per cent among men. In 1991, the respective percentages were 70.6 and 61.7.

11. See Jimeno and Toharia (1993) for a discriminatory approach to wage differentials.

12. The sample is composed of some 600 firms employing 200+ workers. The NCGE survey is carried out annually by the Spanish Ministry of Economy and Finance. See Alba-Ramirez (1994), for more details on this data set.

13. The fact that the percentage of fixed-term contracts is lower among large-sized firms than the figure for the whole economy, does not mean that temporary employment growth is a phenomenon taking place within small-sized enterprises. Because temporary employment growth is a recent phenomenon, when we look at the relative weight of fixed-term contracts by firms, temporary employment is higher among smaller-sized entities. To have a more appropriate measure of the relationship between the use of temporary employment and firm size, we must consider the fraction of fixed-term contracts among newly hired workers.

14. The mean (standard deviation) is .116 (.14) for the fraction of temporary employees and .704 (.303) for the fraction of temporary employees among newly hired workers.

15. It should be noted that, in absolute number, the transition from temporary into permanent employment did not decline from 1987 to 1991, but it did so from 1991 to 1995.

16. The NCGE also permits to know the distribution of employees by duration of their fixed-term contracts as of June 1988 and June 1989. Consistent with previous results, more than 70 per cent of firms' temporary employees had fixed-term contracts with durations that do not exceed one year.

17. All these contracts are newly created ones. However, we do not know whether some of the workers have had a previous temporary employment relationship with the current firm.

Table 1
Distributions of Wage and Salary Workers by Type of Contract
and Current Job Tenure. (Number in Thousands)

Year 1987							
Males		Current Tenure in Months					Total wage/salary workers
Type of contract	0-2	3-5	6-11	12-23	24-35	36+	
Temporary	68.9 %	55.2	42.5	27.8	19.1	2.2	14.5
Permanent	31.1 %	44.8	57.5	72.2	80.9	97.7	85.5
Number	427	256	301	312	357	3,911	5,564
Females							
Temporary	67.1	51.0	41.8	28.0	22.7	4.2	18.5
Permanent	32.9	49.0	58.2	72.0	77.3	95.7	81.5
Number	193	116	164	175	223	1,366	2,238
Year 1991							
Males		Current Tenure in Months					Total wage/salary workers
Type of contract	0-2	3-5	6-11	12-23	24-35	36+	
Temporary	89.2	87.4	76.3	61.6	47.0	2.9	29.4
Permanent	10.8	12.6	23.7	38.4	53.0	97.1	70.6
Number	545	382	444	567	494	3,875	6,309
Females							
Temporary	89.5	84.5	78.0	63.0	48.3	5.2	38.3
Permanent	10.5	15.5	22.0	37.0	51.7	94.8	61.7
Number	308	237	305	350	285	1,524	3,009
Year 1995							
Males		Current Tenure in Months					Total wage/salary workers
Type of contract	0-2	3-5	6-11	12-23	24-35	36+	
Temporary	94.2	90.1	80.0	51.3	23.8	1.4	33.6
Permanent	5.8	9.9	20.0	48.7	76.2	98.6	66.4
Number	840	543	429	266	155	3,247	5,481
Females							
Temporary	91.2	86.5	76.4	44.9	25.0	4.2	38.6
Permanent	8.8	13.5	23.6	55.1	75.0	95.8	61.4
Number	491	334	316	174	128	1,538	2,982

Source: EPA's Second Quarter of Each Year

Table 2
Logit Estimates of the Likelihood of Having a Fixed-Term Contract
EPA's Second Quarter of Each Year

	1987		1991		1995	
	Coeff.	t	Coeff.	t	Coeff.	t
Constant	.513	4.39	1.690	15.02	2.312	18.37
Female	.112	2.01	.266	5.37	-.097	-1.87
Head	-.184	-2.79	-.291	-5.11	-.366	-6.26
<u>Education:</u>						
No education	.335	4.05	.507	5.36	.190	1.78
Primary						
Lower secondary	-.075	-1.23	-.039	-0.65	-.125	-1.93
Upper secondary	-.202	-2.23	-.572	-7.13	-.463	-5.32
Vocational	.001	0.01	-.264	-3.49	-.331	-4.28
University	-.079	-0.85	-.616	-8.03	-.644	-7.83
<u>Age:</u>						
16-19	.455	4.25	.541	5.37	.670	5.51
20-24	.299	3.04	.512	6.01	.436	5.09
25-29	.328	3.35	.249	3.05	.258	3.19
30-34	.084	0.82	.173	2.05	.040	0.49
35-39						
40-44	.089	0.76	-.137	-1.36	.131	1.29
45-49	.128	1.01	-.061	-0.55	-.117	-1.10
50-54	.316	2.40	.079	0.59	-.182	-1.54
55-59	.150	0.98	.006	0.04	-.024	-0.16
60-64	-.086	-0.42	-.441	-2.42	-.494	-2.45
Public sector	.271	3.46	-.203	-2.95	-.315	-3.76
Log likelihood	-6114		-7771		7111	
N. of observations	9,378		16,208		16,740	
P	.5204		.7852		.8305	

Note: Regressions refer to workers with tenure of less than two years. Dummies for 9 industries and 17 regions were included.

Table 3
 Wage Differential by Type of Contract
 Dependent Variable: Log (Gross Monthly Earnings)
 EPA's Second Quarter of 1990

	All wage and salary workers		Males		Females	
	Coeff.	t	Coeff.	t	Coeff.	t
Constant	8.47	43.1	9.62	27.4	8.06	31.0
Female	-.113	-3.6	--	--	--	--
Househ. head	.161	4.9	.181	4.7	.153	2.2
Experience	.021	5.5	.024	4.9	.013	2.0
Experience ²	-.0003	-4.9	-.0003	-4.4	-.0002	-1.9
Education	.060	15.0	.052	10.8	.067	9.4
<u>Type of contract:</u>						
Training	-.295	-2.5	-.391	-3.1	-.076	-0.3
Seasonal	-.218	-3.5	-.248	-3.4	-.157	-1.5
Other	-.113	-3.2	-.163	-4.0	-.015	-0.2
Public sector	.286	8.1	.243	5.6	.303	4.8
Tenure	.014	3.5	.004	0.8	.037	4.4
Tenure ² /100	-.026	-2.2	-.006	-0.5	-.065	-2.6
Log hours work.	.535	10.5	.255	2.8	.587	8.7
Adj. R-square	0.53		0.47		0.60	
N. of observ.	1209		820		389	

Notes:

- (1) Female, household head and public sector are dummies.
- (2) The variable experience is age minus education minus 5.
- (3) All regressions include 9 sector dummies.

Table 4
 Wage Effect of Fixed-Term Contracts at Firm Level
 Dependent Variable: Log (Average Wage)
 NCGE, 1991

	(1)		(2)		(3)	
	Coeff.	t	Coeff.	t	Coeff.	t
Constant	6.95519	66.02	7.17173	60.44	6.68373	55.76
Log firm size	.01768	2.00	.02279	2.29	.02915	2.91
Log capital per employee	.04051	5.19	.04742	5.44	.04572	5.19
Util. instalations	.08942	1.83	.14715	2.68	.13549	2.44
Foreign	.05524	2.43	.05062	1.98	.04630	1.79
Public	.00925	0.30	.03396	1.00	.05625	1.64
Fraction of newly hired	-.08562	-1.95	-.06294	-1.27	-.07764	-1.55
Fraction temporary employees	-.20596	-2.55	-.22752	-2.50	-.28188	-3.07
Fraction temp. empl. among newly hired	.01445	0.45	.07165	2.04	.07005	1.97
Fraction high-level managers	.90487	10.06	.98350	9.72	.91772	8.98
Fraction medium-lower-level managers	.57699	9.27	.56082	8.02	.54096	7.66
Fraction clerical workers	.01430	0.14	-.10273	-0.93	-.11380	-1.02
Fraction sharing profit	.09705	3.00	.05963	1.64	.07233	1.97
CCOO majority in bargaining table	-.05165	-2.76	-.05879	-2.79	-.05767	-2.71
UGT majority in bargaining table	-.06770	-3.25	-.07907	-3.37	-.08011	-3.37
Adj. R-square	.53		.51		.52	
N. of observations	589		594		593	

Notes:

(1) All the regressions include 8 sector dummies.

(2) The average wage is defined as follows: in column (1) the firm's wage bill at a point in time divided by the firm's number of employees at that time; in column (2) the firm's total annual wage bill divided by the firm's average number of employees throughout 1988; in column (3) the firm's total annual wage bill divided by the firm's average number of hours worked throughout 1988.

Table 5
 Previous Quarter's Labour Force Status of Temporary Workers
 in the Second Quarter of Each Year

Males

	1987	1991	1995
Permanent w/s	16.81 %	6.56	2.91
Temporary w/s	50.08	76.35	78.22
Other employed	3.12	1.43	1.34
Unemployed	25.43	12.35	13.90
Out of the L.F.	4.56	3.30	3.63
Number	641,661	1,293,080	1,386,563

Females

	1987	1991	1995
Permanent w/s	15.72 %	5.65	4.05
Temporary w/s	45.95	73.32	74.99
Other employed	1.76	1.09	1.00
Unemployed	21.32	10.83	13.71
Out of the L.F.	15.25	9.11	6.25
Number	313,517	803,263	853,237

Note: The number of temporary workers in the sample is lower than that in the economy by approximately 1/6 (out-rotation)
 plus 1/5 (attrition).

Table 6

Labour Market Transitions of Temporary Workers
 (Gross Flows from the Second to the Third Quarter of Each Year)

Males

	Wage/Salary Perman.	Tempor.	Other Employ.	Unemploy.	Out of the L.F.	Number
1987	18.38 %	63.07	2.42	14.69	1.43	509,535
1991	9.49	78.18	1.48	9.49	1.36	1,262,916
1995	5.07	80.17	0.93	11.64	2.19	1,352,941

Females

1987	17.10 %	54.89	2.70	17.88	7.43	262,438
1991	8.73	74.93	0.77	10.43	5.13	785,998
1995	6.20	75.29	0.88	11.97	5.67	849,810

Note: The number of temporary workers in the sample is lower than that in the economy by approximately 1/6 (out-rotation)
 plus 1/5 (attrition).

Table 7
Evolution of 54,829 Fixed-Term Contracts Created in 1987

	1987	1988	1989	1990
Expired	13,209	13,616	6,438	4,987
Renewed	14,210	10,717	10,568	1,400
Converted into indefinite	1,523	3,598	3,867	6,611

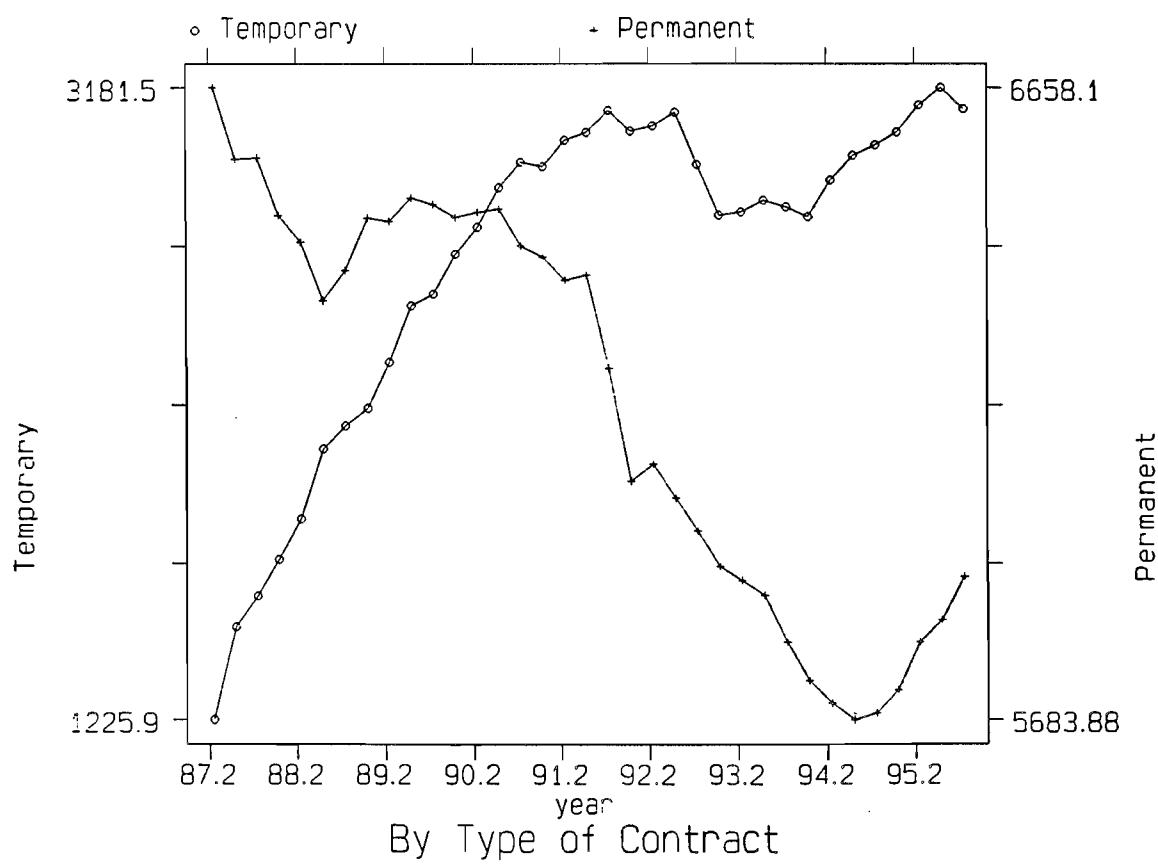
Source: The Collective Bargaining in Large Enterprises. Ministry
of Economics and Finance, 1991.

Graph 1

Dependent Employment in Spain: 1987-1995

(Number in Thousands)

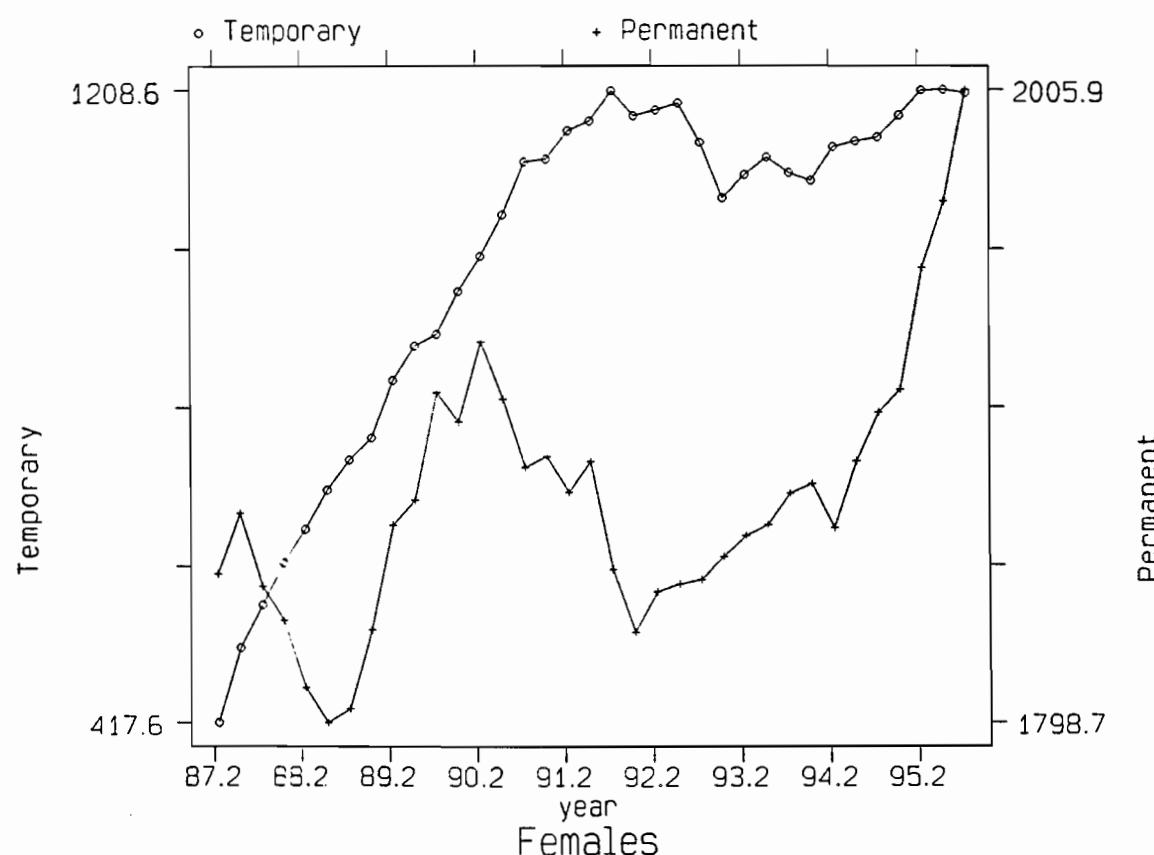
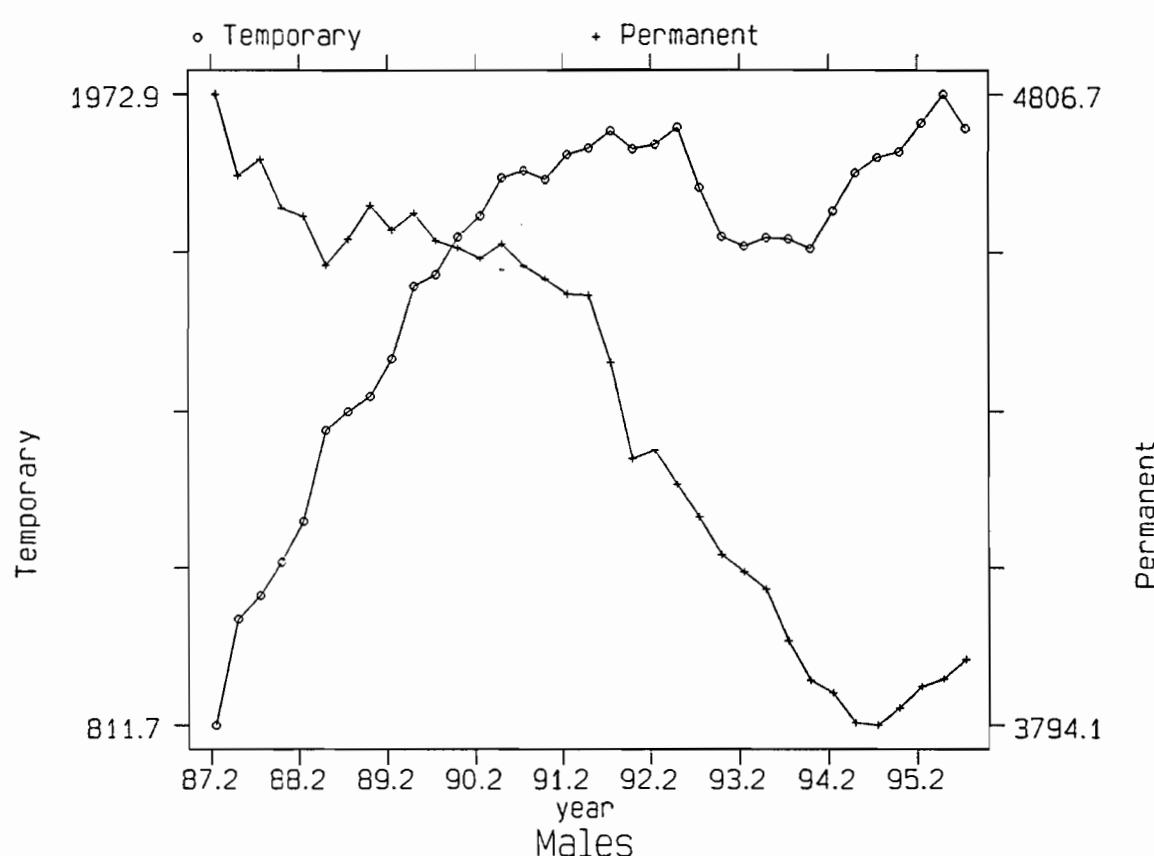
EPA



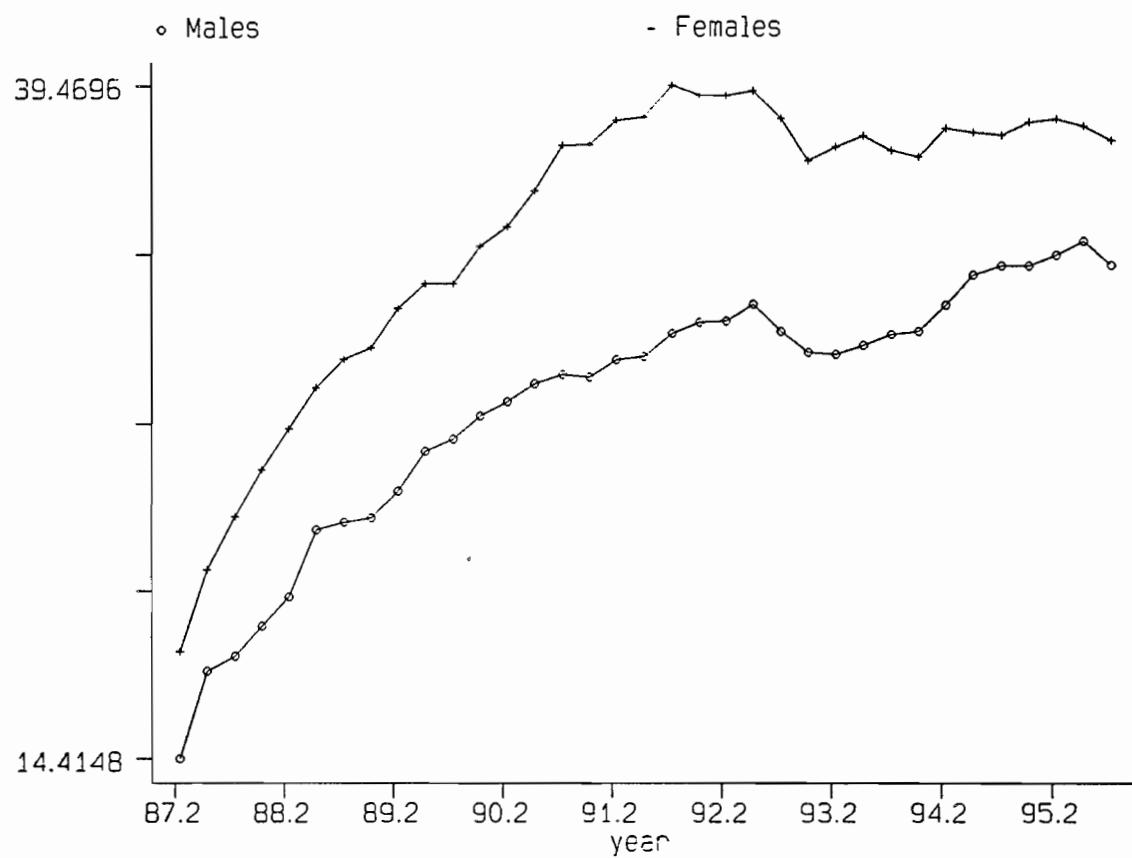
Graph 2

Permanent and Temporary Employment by Sex: 1987-1995
(Number in Thousands)

EPA



Graph 3
Proportion of Temporary Workers by Sex: 1987-1995
EPA



Graph 4

Age-Earnings Profiles of Wage and Salary Workers by Type of Contract
EPA's Second Quarter of 1990 ("Encuesta Piloto de Ingresos")

