HOW TEMPORARY IS TEMPORARY EMPLOYMENT IN SPAIN?

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Abstract

We use the Spanish Labor Force Survey (EPA) for the period 1987-1996 to study trends, characteristics, and labor force transitions of temporary workers. These are workers who hold fixed-term contracts, which the Spanish labor law distinguishes from indefinite contracts. Since the EPA questionnaire allows us to identify permanent from temporary workers, we are able to compare their characteristics. More importantly, we can use matched files from the same data source to analyze transitions from temporary to permanent employment. The aim is to test the extent to which temporary workers tend to be trapped in temporary employment relationships. Indeed, we find some evidence of this.

Key Words

Permanent and temporary employment; fixed-term contract; transition rate.

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I. Introduction[1]

More than ten years have passed since fixed-term employment contracts became a crucial institution in the Spanish labor market. During this time period, from the mid-1980s to the mid-1990s, the Spanish economy experienced a complete cycle. Today, the rigidity and inefficiencies of the Spanish labor market are still debated.[2] It is widely accepted that Francos's economic system was paternalistic and based on low labor cost in exchange for secure employment. Hence, there was a great need for reforms to integrate Spain to the world economy. However, such reforms have been piece-meal, without providing a satisfactory solution to the problem of labor market rigidities. As a consequence, the 1980s and 1990s Spanish unemployment experienced two record highs --in 1985, when the unemployment rate reached 22 percent of the labor force and in 1994, when it approached 25 percent.

The Workers' Statute of 1980 gave some legal structure to the post-Franco labor market. However, employment guarantees were consolidated rather than modified. As unemployment soared, wage moderation obtained by economy-wide agreements between government, employer organizations and labor unions was not enough to stop labor shedding. Sluggish job creation prompted the government to reform the Workers' Statute in 1984 in an attempt to foster employment. The reform gave a boost to fixed-term employment 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, as far as temporary employment is concerned, such legal changes do not appear to have significantly modified the institutional framework.

About two thirds of wage and salary workers held fixed-term employment contracts in 1996, up from 15 percent in 1987, the first year for which data are available (Figure 1). Although this proportion has remained stable in the 1990s, it has become a worrisome feature of the Spanish

economy. A dual labor market seems to have emerged. What was fostered for the sake of labor market flexibility may have caused side effects: low job security and short employment relations can thwart training and lower productivity.

For this reason, we investigate the mobility between the various labor market states. In particular, it is important for public policy to know the extent to which temporary workers obtain permanent employment. As a previous step to addressing this issue, we study the characteristics of temporary workers and how those characteristics have changed over time. Then, we use a multinomial logit model to analyze transition probabilities from temporary employment to permanent employment, self-employment, and non-employment. We find that the transition rate from temporary to permanent employment declined significantly in the period considered. However, much of the decline took place from 1987 to 1992. Thereafter, similar to the proportion of temporary employment, the transition probability has remained stable at a fairly low rate.

In section II, we present the institutional and conceptual framework; in section III, we describe the data; in section IV, we look at trends and characteristics of temporary workers; in section V, we analyze transitions out of temporary employment; and, in the last section we conclude and suggest some interpretations of the results.

II. Institutional and Conceptual Framework

In order to increase labor market flexibility, fixed-term employment contracts were conceived in Spain as an alternative to the indefinite employment relationship. From the firm's point of view, 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 further labor market flexibility by facilitating administrative requirements for collective dismissals and by giving more 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 percent of workers in firms with 100-299 employees, and 30 percent 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 motives. Also, individual workers can be fired for disciplinary reasons. In all the cases workers can appeal before the labor court. There are two possibilities: (1) The dismissal is judicially declared fair and, 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. 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 for a minimum of six months unemployed workers registered at the Employment Office. 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. If the fixed-term contract expired and the worker became unemployed, he or she received a 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 Workers' 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 perform specific work or service, which will determine the duration; (2) to meet

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; and (4) to initiate a new activity within the firm, with a maximum duration of three years. The new regulation abolished the fixed-term contracts as originally conceived in the 1984, that is, to promote employment growth.

Regardless of these regulatory changes, the fixed-term contract continues to offer a legal alternative to the presumed rigidity in the employment relationship due to 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, job security has greatly eroded and labor turnover has significantly increased.[3] Firms resort to fixed-term contracts for new employees, and only a minority of them are 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.[4]

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 viewed as employees engaged in long-term employment, enjoying the advantages of promotion ladders and other incentive schemes.[5] Temporary workers are usually hired for a short period. 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 must 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 of frequent firing on reputation. 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.[6]

Although the increasing presence of temporary or contingent workers in the economy is particularly strong in Spain, this phenomenon has also taken place in other countries.[7] The quest for greater flexibility is also common in economies where circumventing stringent job-security legislation is not a relevant issue. For the U.S., Abraham (1990) finds a growing importance of market-mediated work arrangements. This is attributed to the need for buffering the costs associated with adjusting the regular labor force, to the advantages of increased wage flexibility, and to the need for specialized services. For a specific sector, as the temporary help supply industry, Laird and Williams (1996) find that both supply and demand shifts contributed to the expansion of temporary employment in the U.S. In addition, Lee (1996) emphasizes the role of public policy. He argues that firms respond to increased restrictions on firing and hiring by resorting to more flexible employment. Undoubtedly, in Spain, both supply and demand forces are at work. However, as explained above, labor law has played a fundamental role in inducing employers to increase the use of temporary employment.

To better understand the causes and nature of temporary employment, it is important to study its dynamics. At the same time, it is fundamental to know who are the temporary workers, where in the economy are the temporary jobs, and particularly, what is the mobility between temporary

employment and other labor force states. Moreover, it is useful to know about the factors that affect the transition from temporary to permanent employment. One can expect that those persons who are more likely to hold a fixed-term contract are at the same time the ones less likely to obtain a permanent job. Of course, the stock of temporary workers is the net balance of flows in and out of temporary employment. But there are other aspects of employment transitions that can shed light on the dynamics of the labor market. Some of them will be analyzed below.

III. Data

The data used in this article are obtained from the Spanish labor force survey, *Encuesta de Población Activa (EPA)* which is carried out every quarter on a sample of some 60,000 households. It is designed to be representative of the total Spanish population, and the questionnaire contains a variety of questions about the labor force status. The major shortcoming of the EPA is the lack of information on earnings. On the other hand, as of the second quarter of 1987, the EPA questionnaire asks each dependent worker about the type of contract held, whether indefinite or temporary.[8]

Labor force transitions can be analyzed by using the EPAS's panel structure. One sixth of households leave the sample every quarter; thus, each household can remain in the survey for a maximum of six consecutive quarters. Matched files have recently been made available by the Spanish National Institute of Statistics (INE). In these files only individuals were matched. The place of residence and codes to identify members of the same household were initially absent from the matched files. Fortunately we were able to recover this missing information.

We use both the matched and unmatched EPA files --the unmatched EPA files for figures and tabulations with weighted data. Also, we use such files to study the probability of having a fixed-term

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employment contract. In this case, we pooled all wage and salary workers for the second quarter of each year for the period 1987-1996. After dropping some observations with missing information, a sample of 196,298 observations remained.

Matched files were used for analyzing labor force transitions. In particular, we focus on a sample of 33,422 wage and salary workers who held a fixed-term employment contract as of the origin year. This sample results from pooling persons who can be observed in the second quarters of two consecutive years, conditional on their being temporary workers in the origin year. The potential proportion of people who meet such a condition is two sixth of those present in the survey in the origin year. These are the persons interviewed for the first or the second time in the origin year, given that we are matching surveys one year apart. The resulting number of observations is reduced by attrition, which we estimated to be an average rate of 15 percent in the one-year interval.

IV. Evolution and Characteristics of Temporary Employment: 1987-1996

A. Trends in Temporary Employment

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

The upper panel of Figure 2 presents the evolution of dependent employment from 1987 to 1996 (second quarter of each year). Strong employment growth is apparent up to the third quarter of

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1991. Thereafter, employment fell until the first quarter of 1994. Since then, 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 upper-right panel of Figure 2 shows that the evolution of both categories of employment has been quite different. From the second quarter of 1987 to the second quarter of 1994, permanent employment fell by 940,000 employees, and temporary employment increased by more than 1,660,000 employees. Temporary employment reached a low in 1993, while permanent employment did so in 1994. Note that the increase in permanent employment for two consecutive years is a development which suggests that temporary employment has reached a plateau. In addition, the increase of permanent employment, in a phase of economic recovery, may have been favored by the 1994 new reform of the Workers' Statute.

It is also useful to present the evolution of permanent and temporary employment by gender (lower panels of Figure 2). Despite a slightly more pronounced fluctuation for men, it is clear from the figure that the evolution of temporary employment is quite similar for both sexes. 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 are reflected in the proportions of temporary employment by gender (Figure 1). Up to 1992, the proportion of temporary employment increased faster among women than men, and since then both proportions are becoming more equal.

It is likely that workers' flows between permanent and temporary employment have gone down significantly. Labor market transitions will be analyzed later. 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. Therefore, by the mid-1990s almost all people entered employment through a fixed-term employment contract. Given the short duration of these jobs,[9] the result is a dramatic increase in labor turnover. Moreover, the proportion of permanent workers with 12-35 months of job tenure declined from 1987 to 1991 and increased again in 1995, although in the latter year the number of workers in that bracket of current job duration was much lower than earlier.

After the legal provision for fixed-term contracts was enacted, very few newly hired employees were so under an indefinite contract (Table 1). The decreasing proportion of workers with job tenure of 12-35 months suggests that retaining a job for longer than one year requires that the worker achieve a permanent employment status, either on entry into the firm or at the expiration of his fixed-term contract.[10] However, as shown later, the transition rates from temporary to permanent employment have dramatically declined over the period 1987-1996. Before analyzing this phenomenon, we need to know more about who the temporary workers are.

B. Characteristics of Temporary Employment

To study the likelihood of holding a fixed-term employment contract, we estimate the following logit model,

$$\text{Prob } (y_i = 1) = F(\beta'x_i + g_i(\text{time}) + \gamma' (\text{time}*x_i)),$$

where for the ith respondent, y is a dichotomous variable that takes on 1 if the individual holds a fixed-term employment contract at survey date, and 0 otherwise (indefinite contract); F(.) is the logistic distribution; x is a vector of covariates; g(time) is a cubic function of time; and time*x is an interaction term between time and the vector of covariates. The estimated values for the coefficients γ indicate how the characteristics of temporary workers have changed over the period.

By assuming that F (.) is the logistic distribution, the probability that the ith worker holds a fixed-term employment contract is given by:

$$p_i = \exp(\beta'x_i + g_i(time) + \gamma (time*x_i))/[1 + \exp(\beta'x_i + g_i(time) + \gamma' (time*x_i))].$$

We estimate this model by using data from the labor force survey (EPA). Given that since 1987 the EPA questionnaire inquires about the type of contract held by the worker, we pooled data from the second quarter surveys for the period 1987-1996. We consider wage and salary workers who hold their jobs for 3 year or less. The reason for imposing this condition on the sample is that very few workers remain with a firm under a fixed-term employment contract beyond three years. In part, this is due to the fact that three years is the maximum legal duration of a temporary employment relationship.

Moreover, there is a selection into permanent employment along job-tenure tracks. Some temporary workers later become permanent, partly due to firms' use of fixed-term contracts to screen 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

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employment status even before fixed-term contracts were available. To control for this, we consider low job-tenure workers. Thus, we focus on people who have faced similar labor market conditions upon obtaining work.

Table 2 shows the results of estimating the specified logit model for the probability of holding a fixed-term contract. Females, single, less educated, and young employees are more likely to have a fixed-term employment contract than other comparable workers. For instance, compared to the average worker in 1987, women and 16-19 year olds are respectively 10 and 25 percent more likely to have a temporary employment relationship. By contrast, university education decreases such probability by 14 percent. Also, temporary jobs are more common in farming/fishing and construction than in the other economic sectors. The intensity of temporary employment also differs significantly across the four geographical zones considered.[11] Regarding the variable time, its specification as a cubic function seems to pick up the trend quite well (see Figure 1).

The interaction between the set of explanatory variables and time allows us to learn something about the changing characteristics of temporary workers. Women have reduced their relative presence in temporary employment over the period. The effect of educational levels on the probability of holding a fixed-term contract has also changed. In particular, temporary employment is increasingly concentrated among people with only primary education. On the other hand, younger (older) workers have become more (less) likely to be in temporary employment. Moreover, the relative weight of temporary jobs diminished in the public sector and in farming/fishing as compared to other industries. In particular, the construction sector significantly increased its share of temporary employment over the period 1987-1996.

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It is clear from these results that temporary employment is concentrated among women, youth and less educated workers. Over the period 1987-1996, males, younger, and lower educated employees were becoming increasingly represented among temporary workers. The role played by education in the competition for permanent jobs is to be emphasized. But formal education alone does not seem to keep people away from temporary employment. Despite a higher educational attainment of the new entrants to the labor market, accepting a fixed-term employment contract may be the only channel for acquiring the first work experience.

We also estimated separate equations for men and women and found quite similar results by gender to those already indicated. For this reason, they are not reported. However, it is noteworthy to remark on some differences in the characteristics associated with temporary employment for men and women. The probability of holding a fixed-term contract was higher for married than for single women, although the magnitude of the coefficient for marital status declined over time. This result can be attributed to the massive entry of married women to the labor force since the mid-1980s. As these women have settled down in the labor market, their employment stability improved. Note also that the increasing negative effect of higher education on the probability of temporary employment over the period was found only for men. In addition, the negative impact of education on the probability of holding a fixed-term contract appears to be much weaker for women than for men.

V. Explaining the Transitions Out of Temporary Employment

At what rate do temporary workers become permanent employees? What are the factors that affect such a transition rate? To answer these questions we use a sample of temporary workers at the survey date of a given year, obtained by pooling second-quarter surveys for the period 1987-1995. Then we look at those workers' labor force status a year later. The possible outcomes are that the temporary

workers are observed in one of the following situations: (1) permanent employment with a wage and salary job, (2) other type of employment, mostly self-employment, (3) non-employment, and (4) temporary employment in the same or a different job. To analyze the corresponding transitions we estimate the following multinomial logit model:

$$\lambda_{ij}(z_i, \alpha_i) = \exp(\xi_j{'}\, z_i, \alpha_i)/\, 1 + \Sigma_{j=1,2,3}\, \exp(\xi_m{'}\, z_i, \alpha_i),$$

where λ_{ij} is the conditional probability of a transition into state j (permanent employment, other type of employment, or non-employment) in the interval of one year, given that the individual i holds a fixed-term contract at survey date of the origin year; z_i is a vector of covariates for individual i that are considered to affect the transition rates; α_i is a vector of dummy variables for each of the origin years pooled in the sample; and ξ is a vector of parameter to be estimated. The indicated specification implies independence of the four possible labor force states, and temporary employment is taken as the base category. Thus, the estimated effects are obtained relative to the effect of the respective variable on the conditional probability of remaining in temporary employment status.

We estimated this model for a sample of temporary workers obtained as explained above. The vector of covariates includes the following groups of variables.

(i) *Personal and household characteristics*. Gender, age, age squared, number of members in the household, dummies for five levels of education, and two dummies that are equal to 1 if the person is married, and if there are children in the household, respectively.

(ii) *Variables related to labor force attachment*. Dummy variables that are equal to 1 in each

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of the following respective cases: the worker is attending school, the person indicated that he/she holds a fixed-term contract because he/she could not find a permanent job, the worker report to be looking for another job, the person was unemployed or out of the labor force just a year before the origin year.

(iii) *Job related variables*. Tenure in the current (temporary) job; dummies for five brackets of work time; a dummy that equals 1 if the job is in the public sector; and dummies for five industries (farming/fishing, mining/manufacturing, construction, trade/hotel, and other services).

(iv) *Other variables*. Four geographical areas[12] and the unemployment rate in seventeen autonomous regions for the period 1987-1995 are considered. The latter variable is deemed to pick up the state of the local labor market as well as the business cycle effect on the transition probabilities. Finally, among the explanatory variables, we include year dummies that take care of the trend in a flexible way.

The sample used is composed of 33,422 individuals who hold a fixed-term contract in a given year of the period 1987-1995. The transitions are measured from the second quarter to the subsequent second quarter. Transition rates, calculated as the proportion of temporary workers who are observed in each of the four considered labor force states a year forward, are shown in Table 3. It is obtained that the percentage of those holding a permanent contract in the destination year[13] has declined from 23 percent in 1988, to an average of 12 percent in the period 1993-1996. The decline came to a halt at the beginning of the indicated latter period. As a consequence, more temporary workers remain in that situation when observed a year later. The proportion of persons entering non-employment responded strongly to the business cycle, which was at its lowest in 1993. This is reflected in that 31

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percent of temporary workers in 1992 became jobless in 1993.

The results of the parametric analysis are presented in Table 4, which contains the estimated coefficients for the specified model using the whole sample of men and women. The corresponding marginal probabilities and means are shown in Table 5.[14] Our interest focuses on the factors that contribute to explaining the probability of moving into a permanent job in one year interval, conditional on being in a temporary job at the origin year. Therefore, we pay particular attention to the results concerning that transition, and discuss the findings regarding the transitions to self-employment and to non-employment where they are considered relevant for understanding the problem at hand. We also estimated the multinomial logit for men and women separately, and found that some variable effects vary across sexes. We do not report the results but comment where appropriate.

Women are less likely to move into permanent employment (and into self-employment), and much more likely to become jobless; age has a strong, although decreasing effect on the probability of obtaining a permanent job; and higher levels of education are associated with higher transition rates to permanent work. Other results are less obvious. Marriage increases the probability of obtaining an indefinite contract, and the number of household members diminishes such a probability. The former result holds only for men and the latter only for women.

Variables that yield particularly interesting results are those included in group (ii), described above. If the temporary worker indicated that he was in temporary employment because he could not find permanent work (87 percent of the sample), was searching for another job (7.5 percent of the sample), or had been jobless a year before the survey origin year (39 percent of the sample), the

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likelihood of obtaining a permanent job is significantly lower than for the average comparable workers (by 5.4, 27, and 37.5 percent, respectively). The effect is particularly strong for the dummy variable that indicates a recent history of non-employment, which can be taken as a proxy for previous working instability or high turnover. On the other hand, the negative and significant coefficient for the dummy that is equal to 1 if the person is searching for another job, may indicate that she already foresees a gloomy future in the current job. In fact, both of the referred variables have strong positive impacts on the probability of becoming jobless.

Regarding the variables that refer to job characteristics, some results are note worthy. Tenure in the current job has a very significant positive effect on the probability of becoming a permanent employee: one year in the current job increases the probability by 5 percent with respect to the average worker in the sample. This means that staying in a temporary job beyond a certain threshold strongly increases the likelihood that the temporary contract will be converted into a permanent one. The same variable obtains a positive and very significant coefficient in the equation for the transition into self-employment. One is tempted to interpret this result as suggesting that if a worker remains with a particular firm for enough time and does not obtain permanent status, she may become an independent contractor with the same firm.[15] This interpretation seems to be consistent with the finding that people working part-time, less than 35 hours per week (12 percent of the sample), are more likely to become self-employed; whereas those whose work 35-39 hours per week (6 percent of the sample), are more likely to obtain a permanent job.

It should also be pointed out that persons employed in farming/fishing and construction are the least likely to become permanent --a not surprising result because temporary workers in those activities are the most likely to be engaged in more contingent, discontinuous work. Note that other

services, exhibiting the lowest probability of temporary employment of the five industries considered, are the most likely to generate transitions to permanent employment.

Living in the southern regions has a positive and significant effect on the probability of transition to permanent employment. Such probability is also positive but much weaker for those residing in the central areas of the country. These regional differences may have something to do with characteristics of workers, jobs, and the local labor markets for which we do not control. The effect of the regional unemployment rate on the transition to permanent work is, as expected, negative and significant at the 5 percent level. It has no effect on the transition to self-employment, and, not surprisingly, a higher unemployment rate strongly increases the probability of non-employment (a one percentage increase translates to a 2 percent increase in the probability of being jobless). The effect of year dummies confirms what we already know, namely, that the probability of obtaining an indefinite contract diminished up to 1992, and stayed virtually constant thereafter. As indicated earlier, that same year marks the beginning of a much more stable evolution of the proportion of temporary employment. On the other hand, the increase observed in permanent employment in 1995 and 1996 does not seem to be caused by a higher probability of transition from temporary into permanent work. Instead, it can result from more people being hired as permanent employees at first by firms.[16]

Despite a lower transition rate in 1995 than in 1987, the number of people going from temporary to permanent employment has stayed roughly constant. But a larger number of temporary workers in the economy means that more temporary workers are increasingly trapped in that situation, rotating from one temporary job to another. The extent to which recurrent temporary employment relationships prevent people from ever becoming permanent in their working life remains an issue for future research. In this article, we obtained some evidence to support that previous non-employment

experience diminishes the probability of obtaining an indefinite contract and increases the jobless rate among temporary workers.

V. Conclusions and Interpretations

Public policy in Spain goes a long way in explaining the growth of temporary employment. At present, the issue is to define what policy will be effective in bringing the percentage of temporary workers down. We have primarily documented how the proportion of temporary employment increased rapidly from 1987 to 1991, declined in the 1992 recession, and has increased slightly since. Then we studied the characteristics of temporary employees, and their likelihood of obtaining permanent employment status. We found that temporary workers are more likely to be female, young, and the less educated.

We also studied the transitions of temporary workers to various labor force states and focused on the probability that they obtain permanent employment status. We found such probability to be significantly lower for women, youths and the less educated. Moreover, we found that job tenure has a strong positive effect on the probability of obtaining a permanent job. However, this probability is significantly lower for workers who were non-employed a year before the date of the survey.

These main findings tell us something about the employers' hiring preferences as well as the workers' type-of-job opportunities. Against more attractive long-term employment relationships, there are more flexible employment arrangements. For those who are less likely to obtain permanent employment, there is the risk that they become increasingly trapped in temporary work. In Spain, pervasive temporary employment has much to do with labor market institutions. The use of fixed-term employment contracts was encouraged by public policy to increase labor flexibility, while maintaining

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high dismissal costs associated with the indefinite contract. Under these conditions, employers are reluctant to hire permanent workers and those given indefinite contracts are carefully screened. As a consequence, there are disadvantaged workers whose prospects for gaining employment stability appears rather low. The results obtained in this article suggest that only institutional changes can improve such prospects. A reduction of the indefinite contract rigidity, should foster long-term employment relationships in Spain.

It is clear that increasing labor turnover and a more segmented labor market cause long-term negative effects on the 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. Further research is needed to better understand employers' behavior regarding the use of fixed-term employment contracts; in particular, how temporary employment influences the wage determination process and productivity growth at the firm level.

1. Sections I and II are partly based on Alba-Ramírez (1996).

2. Some of the studies dealing with labor market rigidities and unemployment in Spain are 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).

3. A recent report by the Ministry of Labor (La Contratación y el Paro Registrado en 1996) shows that only 4 percent of the contracts registered with the Public Employment Office in 1996 were indefinite. More striking is the finding that only 1 percent of total contracts indicated a duration of one year or longer.

4. 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.

5. 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.

6. 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.

7. See, for instance, OECD (1993) and Meulders et al. (1994).

8. Up to the forth quarter of 1991, the EPA 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 provisionary period, (2) contract to replace total or partially another employee, (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.

9. See figures given in note 2.

10. Under the Employment Promotion Program, a worker could not remain in the same firm under a fixed-term contract for more than three years. 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. Apart from this, 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.

11. The 17 autonomous communities are grouped as follows. South (Andalusia, Canary Islands, Extremadura, and Murcia); Center (Castile-Leon, Castile-La Mancha, and Madrid); East (Aragon, Balearic Islands, Catalonia, and Valencia); North (Asturias, Cantabria, Galicia, Navarre, La Rioja, and the Vasc Country).

12. See note 11, for the grouping of the 17 autonomous communities in North, Center, East, and South.

13. Because we ignore whether the transition to permanent employment takes place in the same firm or not, we cannot say that a temporary contract is converted into a permanent one. A temporary worker may leave the job to obtain permanent employment with other firm, with or without an intervening spell of unemployment.

14. For the transition from temporary employment to the jth situation, the marginal effect of an exogenous variable, x, is obtained at the sample means as follows: $\delta p_j/\delta x = p_j(\beta_j - \Sigma\, p_k\beta_k)$, where $k=1,2,3$.

15. We estimated separated equations for men and women and found that this result held for both sexes. In any case, the extent to which some employees become self-employed, while continuing to perform similar work for the same firms, remains to be investigated. An alternative explanation for the indicated result could be that some temporary employees working part-time are also self-employed, and what we observe in one year interval is that they have quit dependent employment while keeping their self-employment situation.

16. We calculated the proportion of permanent employees among those in the job for three or fewer months. For the second quarter of each year, we obtained that the figure was 34 percent in 1987, 16.5 in 1989, 11 percent in 1991, and a fairly constant percentage for the period 1993-1996, at about 7.4 percent. Thus, the relative increase in permanent employment since 1994 seems to be explained by a drop in the outflow from permanent employment rather than by a change in the employers' attitude toward hiring permanent employees.

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Table 1
Distributions of Wage and Salary Workers by Type of Contract
and Current Job Tenure

Year 1987

Males

Type of Contract	Current Tenure in Months						Total wage/salary workers
	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

	0-2	3-5	6-11	12-23	24-35	36+	
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

Type of Contract	Current Tenure in Months						Total wage/salary workers
	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

	0-2	3-5	6-11	12-23	24-35	36+	
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

Type of Contract	Current Tenure in Months						Total wage/salary workers
	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

	0-2	3-5	6-11	12-23	24-35	36+	
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

Note: EPA's Second Quarter of Each Year. Number in Thousands.

Table 2
Logit Estimates of the Probability of Being a Temporary Worker

Variable	Coeff.	t	Sample Mean	Marginal Probability
Female	.2980	11.80	.3740	.0676
Married	-.1961	6.73	.4439	-.0445
No education	.4835	10.31	.0755	.1097
Primary			.2914	
Secondary (academic)	-.2077	6.89	.3846	-.0471
Secondary (vocational)	-.0643	1.53	.1273	-.0145
University	-.4090	9.40	.1210	-.0928
Aged 16-19	.7280	12.37	.0927	.1652
20-24	.4065	8.25	.2472	.0922
25-29	.2133	4.57	.2232	.0484
30-34	.0973	2.00	.1409	.0220
35-39			.0944	
40-44	-.0224	0.39	.0705	-.0050
45-49	-.0080	0.12	.0529	-.0018
50-54	.0348	0.52	.0387	.0078
55-59	.0890	1.15	.0270	.0201
60-64	-.0876	0.81	.0120	-.0198
Public sector	-.0353	0.97	.1548	-.0080
Farming/fishing			.0748	
Mining/manufacturing	-.9730	19.68	.2061	-.2208
Construction	-.4390	8.54	.1557	-.0996
Trade/hotel/restaurant	-1.0186	20.55	.2154	-.2311
Other services	-1.3011	26.26	.3478	-.2952
North			.1823	
South	.1067	3.20	.3187	.0242
Center	-.1279	3.60	.2068	-.0290
East	.2248	6.79	.2919	.0510
Time	.5429	20.74		.1232
$Time^2$	-.0642	13.11		-.0145
$Time^3$	.0026	9.01		.0006

Interactions with Time:

Variable	Coeff.	t	Sample Mean	Marginal Probability
Female	-.0148	3.65		-.0033
Married	-.0021	0.45		-.0004
No education	-.0198	2.37		-.0044
Secondary (academic)	-.0077	1.53		-.0017
Secondary (vocational)	-.0263	3.89		-.0059
University	-.0157	2.26		-.0035
Aged 16-19	.0496	4.82		.0112
20-24	.0263	3.35		.0059
25-29	.0058	0.80		.0013
30-34	-.0028	0.38		-.0006
40-44	-.0051	0.58		-.0011
45-49	-.0093	0.96		-.0021
50-54	-.0261	2.47		-.0059
55-59	-.0336	2.67		-.0076
60-64	-.0460	2.66		-.0104

Table 2 (continued)
Logit Estimates of the Probability of Being a Temporary Worker

Variable	Coeff.	t	Sample Mean	Marginal Probability
Public sector	-.0365	6.31		-.0082
Mining/manufacturing	.0582	6.82		.0132
Construction	.1063	11.78		.0241
Trade/hotel/restaurant	.0605	7.14		.0137
Other services	.0661	7.83		.0150
South	-.0030	0.56		-.0006
Center	.0066	1.15		.0014
East	-.0197	3.65		-.0044
Constant	-.1808	2.48		
Number of observations		196,298		
Log likelihood		-116,550		
Pseudo R^2			.08	
Proportion of temp. workers			.65	

Notes:
1. The sample is composed of wage and salary workers at survey date (second quarter of EPA) for 1987 to 1996.
2. Temporary workers are those who hold a fixed-term employment contract.
3. The marginal probabilities are obtained by applying the formula: $\beta p(1-p)$, where p is the sample's proportion of temporary workers.

Table 3
Proportions of Temporary Workers Becoming Permanent Employees (1),
Self-Employed (2), Non-Employed (3), and Remaining in Temporary
Employment (4)

| Origin Year | Labor Force Situation One Year Later | | | | | Number |
	(1)	(2)	(3)	(4)		
1987	22.90	4.57	25.10	47.43	100	1,773
1988	20.44	4.15	20.06	55.36	100	2,892
1989	18.20	3.37	22.24	56.19	100	3,620
1990	15.19	3.03	20.79	60.99	100	3,930
1991	15.91	3.97	24.88	55.23	100	4,280
1992	10.89	3.66	30.82	54.63	100	4,316
1993	11.32	2.75	26.23	59.69	100	4,071
1994	12.50	2.85	23.06	61.59	100	4,072
1995	11.86	3.02	24.51	60.61	100	4,468

Notes:
1. Pooled data from the EPA's second quarter of each year
for the period 1987-1996.
2. The transition rates are calculated comparing the labor
force status as of the second quarter of two consecutive
years.

Table 4
Multinomial Logit Estimates of Transition Probabilities to the Indicated Labor
Force States Among Temporary Workers

Variable	Permanent Empl.		Self-Employment		Non-Employment	
	Coeff.	t	Coeff.	t	Coeff.	t
Female	-.1322	3.44	-.4459	5.50	.3857	12.09
Age	.0835	7.74	.0932	4.72	-.0508	6.10
Age²/100	-.0952	6.80	-.0939	3.78	.0757	7.01
No education						
Primary	.0579	0.88	-.1768	1.74	-.0819	1.59
Secondary (academic)	.1242	1.68	-.1486	1.21	-.2329	3.97
Secondary (vocational)	.2641	3.13	-.0789	0.52	-.3777	5.47
University	.3446	3.91	-.3101	1.77	-.8194	10.19
Married	.1237	2.56	.0206	0.22	-.0093	0.22
# members in household	-.0306	2.53	-.0182	0.81	-.0058	0.60
Children (yes=1)	-.0572	1.35	.0432	0.53	.0161	0.47
Attend school/training	-.0626	0.87	.0046	0.03	.2632	4.80
Couldn't find perm. work	-.0954	1.86	-.2882	3.18	-.0711	1.63
Search for other job	-.2377	3.40	.1336	1.13	.2572	5.12
Non-employed a year ago	-.3251	8.78	-.0516	0.75	.4073	14.16
Job tenure (years)	.0618	10.17	.0387	4.32	.0065	0.89
Work week < 35 hours	-.0111	0.19	.3882	3.57	.1995	4.36
35-39 hours	.1732	2.45	.0330	0.21	.1083	1.74
40 hours						
> 40 hours	-.0125	0.26	.0910	1.07	-.0531	1.31
Public sector	-.0153	0.26	-.1745	1.36	.1658	3.25
Farming/fishing						
Mining/manufacturing	.4936	6.61	-.6942	5.85	-.0726	1.28
Construction	.0108	0.14	-.5273	5.01	.0604	1.11
Trade/hotel/restaurant	.5320	7.15	-.3939	3.51	-.0889	1.60
Other services	.6589	8.85	-.5465	4.67	-.1330	2.35
North						
South	.4162	5.72	.0899	0.63	.0084	0.13
Center	.0898	1.66	.0544	0.52	-.0584	1.28
East	-.0325	0.65	-.0596	0.61	-.1336	3.15
Regional unemp. rate	-.0113	2.06	-.0007	0.06	.0281	6.00
Year 1987	1.0004	12.00	.1697	1.12	-.3344	4.67
1988	.7210	10.01	.0670	0.52	-.6174	10.06
1989	.5733	8.34	-.1164	0.92	-.4123	7.47
1990	.2478	3.55	-.2965	2.33	-.5088	9.30
1991	.3466	5.07	.0685	0.58	-.1989	3.81
1992						
1993	-.0508	0.66	-.3964	2.91	-.3689	6.66
1994	.0317	0.40	-.3924	2.75	-.5781	9.62
1995	-.0155	0.21	-.3153	2.42	-.4563	8.31
Constant	-3.4393	13.71	-3.6735	8.00	-.2939	1.50

Number of observations   33,422
Log likelihood   -33,885
Pseudo R²   .04
Sample's transition rates   .147   .034   .244

Notes:
1. The sample is composed of temporary Workers in the origin year for the period 1987 to 1995. The transition rate is measured by considering temporary workers' labor force state a year later.
2. Data are obtained from the EPA matched files for the period 1987-1996.

Table 5
Means and Marginal Probabilities for Temporary Workers' Transitions
to the Indicated States

Variable	Sample Mean	Permanent Employment	Self-Employ.	Non-Employ.
Female	.3726	-.0281	-.0171	.0794
Age	30.8606	.0118	.0030	-.0131
Age^2/100		-.0141	-.0032	.0181
No education	.1017			
Primary	.3120	.0110	-.0054	-.0157
Secondary (academic)	.3816	.0246	-.0035	-.0461
Secondary (vocational)	.1217	.0469	-.0007	-.0784
University	.0828	.0739	-.0051	-.1607
Married	.4490	.0157	.0001	-.0063
# members in household	4.3644	-.0035	-.0003	.0001
Children (yes=1)	.5128	-.0079	.0015	.0046
Attend school/training	.0676	-.0172	-.0017	.0507
Couldn't find perm. work	.8868	-.0079	-.0083	-.0073
Search for other job	.0744	-.0396	.0034	.0547
Non-employed a year ago	.3937	-.0550	-.0034	.0871
Job tenure (years)	.8811	.0073	.0009	-.0013
Work week < 35 hours	.1232	-.0104	.0111	.0339
35-39 hours	.0614	.0176	-.0006	.0134
40 hours	.6642			
> 40 hours	.1510	-.0001	.0034	-.0100
Public sector	.1191	-.0069	-.0070	.0325
Farming/fishing	.0966			
Mining/manufacturing	.2075	.0678	-.0245	-.0252
Construction	.1897	.0018	-.0178	.0151
Trade/hotel/restaurant	.2118	.0717	-.0148	-.0321
Other services	.2941	.0899	-.0200	-.0435
North	.1728			
South	.3325	.0513	.0008	-.0140
Center	.1972	.0130	.0018	-.0144
East	.2973	.0010	-.0006	-.0229
Regional unemp. rate	20.3609	-.0024	-.0001	.0055
Year 1987	.0530	.1363	.0033	-.0988
1988	.0865	.1119	.0037	-.1401
1989	.1083	.0870	-.0032	-.0955
1990	.1175	.0506	-.0067	-.1001
1991	.1280	.0501	.0021	-.0496
1992	.1291			
1993	.1218	.0088	-.0096	-.0629
1994	.1218	.0265	-.0082	-.1044
1995	.1336	.0159	-.0064	-.0809
Sample's transition rates		.147	.034	.244

Note: Given the sample transition rate to the state j, p_j, and the
estimated coefficients in Table 4, the marginal probabilities are
obtained by applying the formula: $p_j(\beta_j - \Sigma\ p_k\beta_k)$, where k=1,2,3.
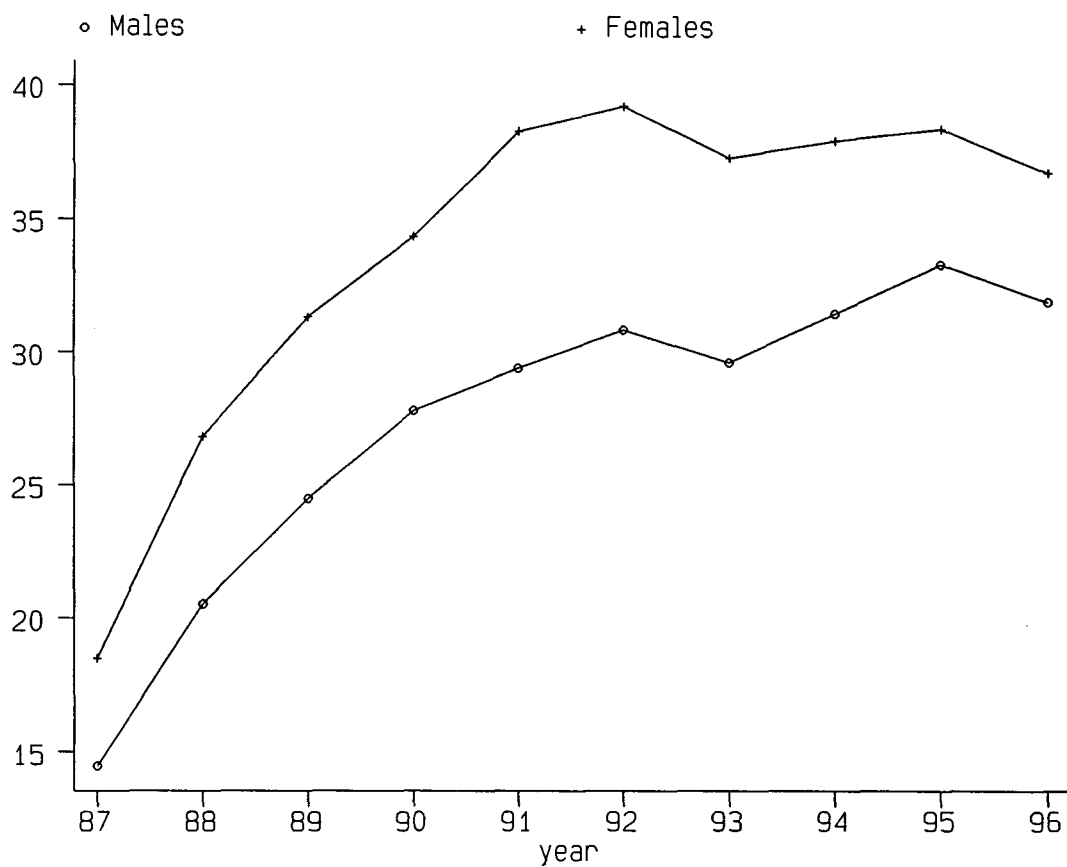
Figure 1
The Percentage of Temporary Employment. EPA's Second Quarter, 1987-1996

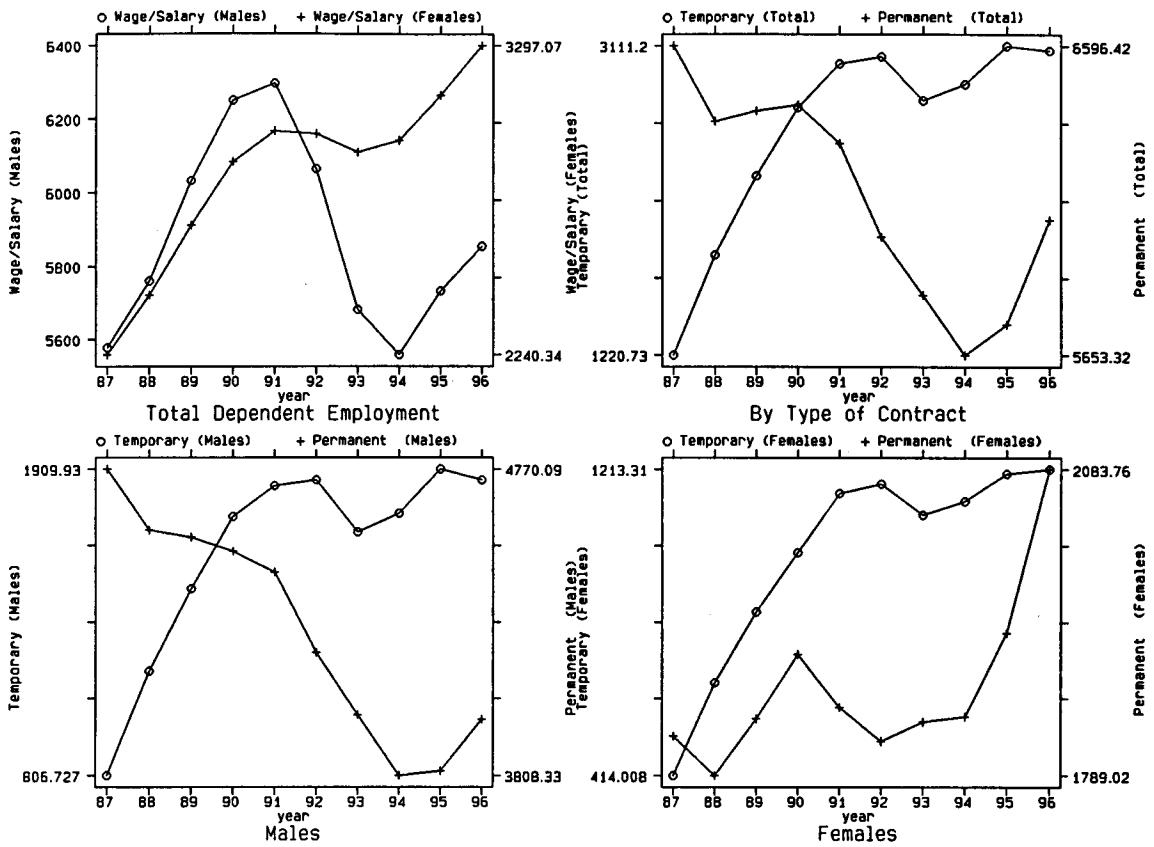Figure 2
Evolution of Dependent Employment by Gender and Type of Contract. EPA's
Second Quarter, 1987-1996. Number in Thousands

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