Flexibility or polarization? Temporary employment and job tasks in Spain

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The paper takes issue with demand-based interpretations of the consequences of deregulation through temporary employment in Spain. According to demand-based accounts, the introduction of temporary contracts has helped to generate and maintain a secondary segment in the Spanish labour market, in which specific product market conditions generate a need for highly flexible contracts to perform low-skilled tasks. In contrast to this view, the paper argues that partial deregulation has also had important segmenting consequences amongst Spanish professionals, despite the high levels of asset specificity and monitoring costs involved in their job tasks. Drawing on the analysis of the Spanish Labour Force Survey for the period 1987–1997, the paper presents empirical evidence that shows how, when introduced in a context of high unemployment and high dismissal costs for the permanent workforce, temporary contracts can generate a process of polarization of employment chances within both manual and professional occupations. The segmenting consequences of partial deregulation have, therefore, been more severe, pervasive and pernicious than it is acknowledged by demand-based accounts.

Keywords: Temporary employment; segmentation; occupational classes; Spain
JEL classification: J21 Labor Force and Employment, Size, and Structure; J41 Contracts: Specific Human Capital, Matching Models, Efficiency Wage Models, and Internal Labor Markets; J42 Monopsony; Segmented Labor Markets

1. Introduction

The flexibilization policy implemented in Spain in 1984 has been assigned different labels. Some economists have referred to it as '*flexibilization at the margin*' (Bentolila and Dolado, 1994; Toharia and Malo, 2000), others as '*partial deregulation*' (Adam and Canziani, 1998), whilst, within the sociological camp, Esping-Andersen (2000) has considered it as a paradigmatic example of what he calls '*two-tier selective*

labour market policies'. All these different labels point, however, in the same direction. The flexibilization reform implemented in 1984 was characterized by deregulating conditions for some workers, but not for others. The 1984 reform targeted new entrants in employment, while the employment security of workers on permanent contracts continued untouched.

The levels of employment security for permanent workers in Spain are amongst the highest within OECD countries—at least until the labour market reform of 1997. In very sharp contrast to dismissal costs for permanent workers, temporary contracts introduced in 1984 entailed very low termination costs. Moreover, most of them included a termination date, after which the employer was legally obliged either to convert the temporary contract into a permanent one or to put an end to the employment relationship. It is the combination of high employment security for workers on permanent contracts and the removal of all hitherto barriers for the use of flexible temporary contracts that characterizes the Spanish approach to labour market flexibilization inaugurated in 1984. The Spanish experiment amounts *de facto* to the institutionalization of a two-tier system of employment rights.

Soon after the labour market reform of 1984—and favoured by the economic boom experienced in the second half of the 1980s—the Spanish labour market saw the rapid expansion of a flexible segment of temporary contracts in which most transitions in and out of work would occur. Already by 1991, one-third of all employed wage-earners had a temporary contract, whilst more than 80 per cent of all new entries into employment and of all new exists into unemployment took place in the flexible segment of temporary work[1] (see Figures 1 and 2). Since the early 1990s up until today, the rate of temporary employment in Spain has more than doubled the average for the OECD.

Throughout the 1990s, the Spanish flexibilization strategy was subjected to evaluation by various labour market experts (e.g. Alba, 1991, 1994, 1996, 1997; Bentolila and Dolado, 1993, 1994; Bentolila and Saint-Paul, 1992; Bentolila *et al.*, 1991; Garrido, 1996; Jimeno and Toharia, 1992, 1994, ch. IV; Segura *et al.*, 1991). Yet it is perhaps the very passing of time that provides researchers with the best view-point for the analysis of the consequences that partial deregulation has had on the Spanish labour market and, thereof, on the opportunities and obstacles that Spanish employees face in it. Therefore, the latest evaluations of the Spanish experience of deregulation should receive special attention.

One of the latest and most authoritative of such evaluations has been provided by Toharia and Malo (2000). In their review of the 'pros and cons of flexibilization at the margin' the authors argue that 'the Spanish labour market has evolved into a

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[1] During the economic crisis of 1992–1994 more than 1 million jobs were lost in Spain, yet, despite this massive destruction of employment, only 17% of those who became unemployed in 1993 came from permanent employment.
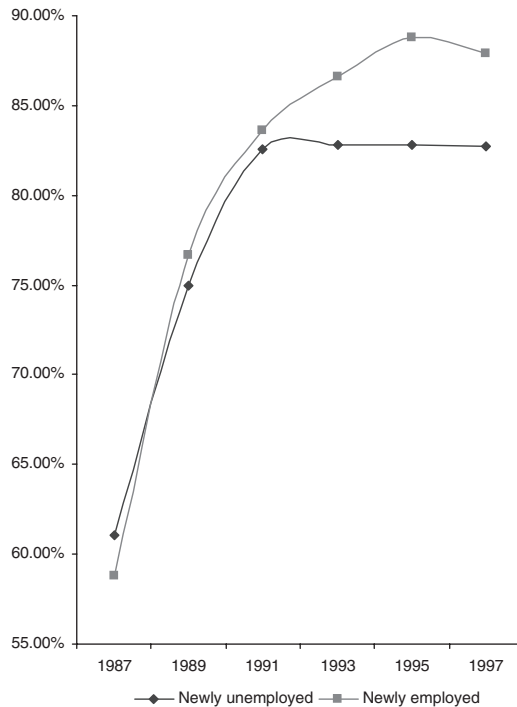
Figure 1 Percentage of temporary contracts among the newly employed and the newly unemployed (LFS).

New entries into employment in the LFS are given by the number of employed respondents who claim that they were not employed the previous year, whilst new exits from employment into unemployment are given by the number of unemployed respondents who claim that they were employed.

Source: Polavieja (2003) based on LFS (second quarters), smoothed.

dual structure, with two-thirds of employees retaining permanent status and the rest in a highly mobile market', yet they also conclude 'that the secondary sector probably responds to specific product market conditions which require more flexible labour market conditions, probably because of their inherent instability' (2000, p. 326). This demand-based view of the segmentation process triggered by partial deregulation in Spain leads Toharia and Malo to offer a rather positive evaluation of the Spanish experience. In their concluding remarks, the authors write:

> To sum up, the 'experiment' has probably been beneficial to the economy as a whole because it allowed the more permanent existence of this secondary sector, one of whose roles is precisely that of providing the economy with a flexible fringe (Toharia and Malo, 2000, p. 330).

Note that implicit in this argument is the idea that partial deregulation has removed the hitherto prevailing institutional obstacles for employment creation in the
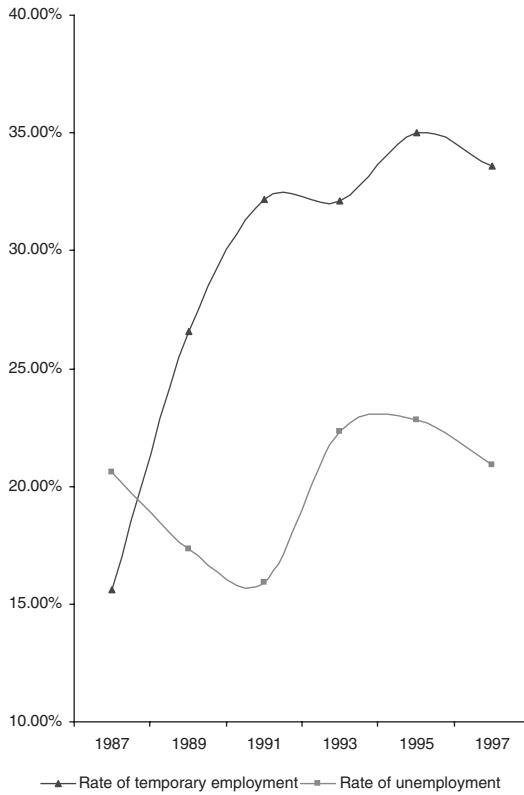
Figure 2 Rates of temporary employment and unemployment by year (LFS).
Source: Polavieja (2003) based on LFS (second quarters), smoothed.

'secondary sector', thus facilitating its more permanent existence. This is where Toharia and Malo's argument connects with standard segmentation theories.

According to the segmentation theories, the secondary sector is identified simultaneously with small peripheral firms targeting the volatile component of demand (see, e.g. Doeringer and Piore, 1971; Piore, 1975, 1978, 1983) and with low-skilled, poorly paid and fundamentally insecure jobs (see, e.g. Edwards, 1979; Edwards *et al.*, 1975; Gordon *et al.*, 1982; for a review see Polavieja, 2001, ch. I). Both the sectorial and occupational dimensions of the secondary sector are often coupled in segmentation theories and this has generated a considerable degree of confusion and debate over the years (for an early review see Kalleberg and Sorensen, 1979; Baron, 1984; see also Fine, 1998). Toharia and Malo's argument seems to be, however, based primarily on an occupational definition of the secondary sector, that is, a definition in terms of the characteristics of the jobs involved (*ibid.*, 2000, p. 326). According to the authors, partial deregulation has helped to generate and maintain

a stock of low-skilled jobs, where the very characteristics of the job task (i.e. its '*inherent instability*') require of flexible forms of employment.

This idea that partial deregulation has mainly helped to enlarge the 'secondary sector' of low-skilled jobs is certainly not new in the literature. In the early 1990s, researchers working in the fields of industrial sociology, sociology of work and stratification analysis provided a description of the labour market segments in Spain that also assumed a relation of identification between temporary employment and low-skilled jobs (see, e.g. Bilbao, 1993; González, 1992; Prieto, 1989; Recio, 1991). According to this description, the primary segment of the Spanish labour market was identified simultaneously with highly qualified professionals and with permanent contracts, while the secondary segment was viewed as consisting of unskilled workers and fixed-term contracts. Types of contract and occupational classes were thus treated as mainly overlapping concepts (see, e.g. González, 1992, pp. 70–71; Recio, 1991, p. 99; see also Miguélez, 1995, ft. 1; Rivero, 1985, pp. 34–7).

In what follows, I will take issue with this dominant view by providing evidence that shows how the polarization of employment opportunities triggered by labour market reform has indeed occurred *inside* different occupational classes with various degrees of task-inherent instability. By showing that partial deregulation has had a segmenting impact across the occupational board, the paper offers a rather more negative evaluation of the Spanish experience of flexibilization than the one provided by Toharia and Malo (2000). The segmenting impact of temporary employment in Spain has been much more pervasive than standard demand-based models usually acknowledge. Rather than viewing partial deregulation as a tool to provide a better adjustment between types of tasks and types of employment contracts, I will defend the view that it is more accurate to see it as a powerful mechanism of inequality that has had important segmenting consequences in all types of job-tasks.

The paper is organized as follows. Section 2 provides a theoretical framework for the discussion of the relationship between task-specificity factors influencing labour market opportunities and the segmentation process triggered by labour market deregulation in Spain. The logic of segmentation is spelt out by referring to two mechanisms unleashed by labour market reform: the so-called *incentive* and *buffer* effects of temporary contracts. Section 3 provides empirical evidence that partial deregulation has indeed triggered a process of employment polarization in all main occupational categories. This evidence is obtained by drawing on an original analysis of the Spanish Labour Force Survey (LFS) for a 10-year period ranging from 1987 (first point in which information on type of contract was provided) to 1997 (the year in which a further labour market reform, not treated in this paper, was introduced). The evidence shows that task-specificity factors have influenced the *intensity* of this process but not the existence of the process itself. The paper ends with a concluding section that takes stock of the Spanish route to flexibilization.

2. Theoretical considerations: task-specificity and the mechanisms of type-of-contract polarization

It is obvious that employees' rewards and opportunities in the labour market depend greatly on the characteristics of the jobs they perform or, in other words, on the degree of task-specificity that their jobs imply. Two dimensions of task-specificity are crucial: (1) the degree of firm-specific human capital required in the job; and (2) the costs involved in monitoring workers' productivity, which depend on technological factors (see Goldthorpe, 2000, ch. X). The higher the monitoring costs and the higher the specific human capital required for the performance of the task, the higher the incentives are for both employers and employees to 'close' the employment relationship from outside competition. This is typically achieved through long-term open-ended contracts (see Sorensen, 2000).

The closure of employment relationships poses, however, an important organizational problem for employers, namely, that of how to best induce high levels of productivity to their protected workforce—in particular, when monitoring workers is costly for the firm. Several economic and sociological theories of the employment contract seem to converge in this point (see, e.g. Goldthorpe, 2000, ch. X; Lazear, 1995, ch. IV; Marsden, 1999; Sorensen, 1994, 2000; Williamson, 1985, 1994, 1996). According to these theories, rational employers will seek to induce effort and deter shirking by designing an incentive structure based on the wage system. Thus it is the very form that monetary compensation takes as the employee's career evolves which acts in itself as the main incentive mechanism in long-term employment relations.

This incentive structure is what Goldthorpe (2000, ch. X) calls the 'service contract'. Service or 'professional' contracts secure the employment relationship on a long-term basis, whilst offering productivity incentives to their employees through a payment system based on a fixed wage—or salary—that is not directly linked to current performance. Salary-based compensation typically takes the form of seniority wages. Seniority wages allow employers to link employees' future rewards to their current performance (even if the latter cannot be cheaply measured) by offering tenure-dependent wages that are above the clearing-market level. The possibility of achieving such high wages in the future acts as an incentive for current performance on the job. In sum, according to this model, tasks that require high investments in specific human capital and where monitoring costs are high will be better dealt with by professional contracts characterized by employment security and wage-compensation schemes.

Employers do not need to design these types of incentive-compatible contracts for those tasks that require negligible investments in firm-specific human capital and/or tasks that are easy (i.e. cheap) to monitor. In these instances, employers will tend to offer simple 'labour contracts' to their employees. As Goldthorpe explains, labour contracts will tend to take the form of discrete and short-term exchanges of

money for effort and come 'as close as is possible to a simple spot contract—albeit perhaps of a recurrent kind—for the purchase of a quantity of a commodity' (Kay, 1993; Goldthorpe, 2000, p. 214).

It follows from Toharia and Malo's argument that the introduction of temporary contracts in Spain should have facilitated employers' options for offering flexible contracts in those tasks where monitoring costs and asset specificity are both low. This is why the authors seem to interpret the rapid increase in the rate of temporary employment experienced in Spain as signifying the growth of a 'secondary segment' made of poorly-paid and insecure low-skilled jobs. Temporary contracts should be, according to this view, and using a sociological terminology, mainly a working-class phenomenon. But is this necessarily the case?

Partial deregulation could have altered the importance of task-specificity factors in the shaping of the employment relation allowing employers to use short-duration contracts even for jobs with high levels of task-specificity. If the use of temporary contracts allow employers to extract greater levels of output from their professional workers than standard incentive schemes in long-term employment relationships, then there is simply no reason why temporary employment should be confined to low-skilled jobs. The use of temporary contacts in a context characterized by high levels of unemployment and high security in permanent employment can prove an efficient (i.e. rational) effort-eliciting mechanism in all types of jobs.

2.1 The incentive effect of temporary contracts

The Spanish labour market prior to the 1984 reform was characterized by very high levels of unemployment—by 1984 unemployment had risen to 20% of the active population—combined with very high levels of legally-granted employment security for permanent workers (see, e.g. Buechtemann and Walwei, 1996; Grubb and Wells, 1993). It is in this context that employers can use the possibility of conversion of temporary contracts into permanent ones as an efficient effort-eliciting tool, even in those instances where monitoring workers' productivity proves problematic (see Güell-Rotllan, 2000; Polavieja, 2003).

The idea that the conversion rate can act as an incentive mechanism has been proposed and formalized by Güell-Rotllan (2000). The thrust of Güell-Rotllan's model is that employers can extract a considerable amount of productive effort from their temporary workforce by using the conversion rate of temporary employment into permanent employment strategically. The conversion rate would, therefore, play an equivalent role to that of efficiency wages in the classic model of Shapiro and Stiglitz (1984).

Güell-Rotllan's economic model can be further extended to incorporate task-specificity factors that are central to recent debates on class stratification and the employment relation (see Polavieja, 2001, ch. II). It can be noted that the costs for employers of this form of incentive system are equal to the firm-specific

investments made on the temporary workers that will not be converted plus the costs of converting the 'wrong' type of workers—i.e. those who are not the most productive within the temporary stock. These latter costs depend, in turn, on the available monitoring technology. This implies that the higher the firm-specific investments and the higher the monitoring costs required for the optimum performance of any given task, the less efficient the incentive effect of temporary employment will be relative to those provided by closed employment relationships and their associated incentive schemes. Hence it follows that the rate of conversion into permanent employment will increase with task-specificity factors. Yet if unemployment and dismissal costs for permanent contracts are both high, employers might find it more economical to lose the returns to whichever firm-specific investments may have been made on their temporary employees than to invest in the costs associated with long-term employment relationships.

In short, in a context of high unemployment, the efficiency of the incentive effect of temporary contracts will not only depend on task-specificity factors—namely, monitoring costs (MC) and specific human capital (SK)—but crucially on the difference in the empirical employment protection of workers on permanent contracts *vis-à-vis* that of workers on temporary ones. This is because, in principle, the larger this difference (denoted D), the higher the incentives to exert effort will be for temporary workers—i.e. the higher the prize of achieving permanent status—and consequently, the lower the conversion rate will need to be in order to extract the same levels of output from the temporary workforce. Note, however, that if the conversion rate is so low that temporary workers cease to perceive that they stand a chance to be converted into permanent ones, the incentive effect will disappear at once. The incentive curve of the conversion rate is, therefore, expected to be non-monotonic (see Polavieja, 2003).

The conversion rate of temporary contracts into permanent ones (CR), which is the incentive mechanism in this model, can, therefore, be expressed as follows:

$$CR = f(+SK, +MC, -D) \tag{1}$$

Note that the term D in the equation is defined as the difference in the *empirical* levels of employment security of workers employed on different contracts—permanent *versus* temporary. Of course, the most important determinant of this difference is the regulatory framework—in particular, the costs of dismissal. Yet this might not be the only factor affecting D.

2.3 The buffer effect of temporary employment

Bentolila and Dolado (1994) and Rodríguez (1996) have provided company-level evidence showing a causal relationship between the proportion of temporary workers employed in Spanish firms, and the rents obtained by permanent workers

in their collective agreements. Polavieja (2001, ch. IV, 2003) has obtained similar results using individual-level data. Polavieja's analysis also suggests that the employment security levels of those employed on permanent contracts increased relative to temporary workers as the proportion of the latter expanded in the Spanish labour market. In other words, the existing evidence seems to suggest that D increased with the rate of temporary employment (see below).

This evidence, showing a correlation between the rate of temporary employment and permanent workers' employment security in Spain, is consistent with the insider–outsider model proposed by Bentolila and Dolado (1994). The central idea in this model is that temporary workers can act as a *buffer* that protects workers on permanent contracts from the risk of unemployment. Temporary workers could have provided permanent workers with a protecting shield because they are much more cheaply dismissible. Therefore, employers needing to shed labour will *ceteris paribus* always choose to dismiss temporary workers over permanent ones. This means that the larger the proportion of temporary workers employed in any given firm, the greater the employment security of their permanently employed counterparts will be. Enhanced employment security for permanent employees should translate into greater bargaining power[2] (see Bentolila and Dolado, 1994).

From this argument it follows that D could indeed be a positive function of the rate of temporary employment (TC), which introduces an interesting loop in model (1). The dependence of D on TC implies that the buffer effect of temporary employment can augment the efficiency of the incentive effect. The reason for this is simple. With everything else constant, the greater the employment security of workers on permanent contracts, the greater the gain from achieving a permanent contract will be for temporary workers. The increase in permanent workers' employment security associated to the increase of the temporary stock should, therefore, improve the incentive effect of the conversion rate. Employers will now be able to extract the same levels of effort from temporary workers with a lower conversion rate. Of course, this effect is also expected to be non-monotonic. In other words, CR is only expected to decrease down to the lowest level that is compatible with incentives. Below this threshold the incentive effect will reverse and workers will choose to shirk (see Polavieja, 2003).

Note that, although the benefits/costs for employers of using the conversion rate as an incentive device depend on task-specificity—since monitoring costs affect the probability of converting unproductive workers and asset specificity increases the economic losses associated with high turnover—there are absolutely no reasons to expect that incentive and buffer effects be confined to low-specificity tasks. Even for

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[2] It must be noted, however, that after a certain threshold, a further increase in the proportion of temporary workers in the firm could start debilitating rather than strengthening insiders' bargaining position. The buffer curve is, therefore, also expected to be non-linear (see Polavieja, 2003).

the highest levels of task-specificity it should be possible for employers to find a minimum conversion rate that is compatible with incentives. This rate could still be rather low if the difference in the empirical levels of employment security by type of contract is notable, as it is indeed the case in Spain. The buffer effect of temporary employment is also expected to operate across the occupational board. In other words, incentive and buffer effects triggered by labour market reform seem to have their own micro-level logic and, therefore, could have played an important polarizing role not only within the ranks of the so-called secondary segment but also amongst highly skilled professionals. If this were the case, the demand-based interpretation of the effects of partial deregulation in Spain would be fundamentally challenged.

3. Task-specificity and polarization of employment: empirical evidence from the LFS

The relationship between task-specificity factors and temporary employment in the Spanish labour market has been analysed using the Spanish Labour Force Survey (LFS). The LFS is carried out every 3 months by the Spanish Institute of National Statistics (INE) to a representative sample of approximately 60 000 households. It contains information on the labour market situation of all the members in each household. Every 3 months one-third of the sample is renewed. This allows us to follow one-third of the sampled individuals for as long as 12 months. The INE provides two versions of the LFS: the standard version, which does not include individuals' identification numbers, and the so-called matched files, which does include these numbers thus allowing for the analysis of yearly transitions. Both versions of the LFS have been used in the analysis that follows.

The LFS is the most widely used and probably the best source for the analysis of the Spanish labour market. Yet it must be noted that there are two types of coding limitations when it comes to analysing job tasks. The first limitation is that respondents' occupation—our proxy variable to job task—is coded in two digits in the unmatched files of the LFS but only in one digit in the matched files—the latter being a crucial source for the analysis of conversions into permanent employment. The second limitation is due to a methodological break that occurred in the coding system in 1994. That year, the Spanish National Coding of Occupations (CNO), which is based on the ISCO, changed. This change introduced some problems in the comparability of the series under investigation, although its effect is thought to be rather small (see Polavieja, 2001, ch. III). To remind readers of this latter problem, the graphs in Figures 3 and 4 leave a gap in that particular year.

Notwithstanding these methodological caveats, it is perfectly possible to differentiate clearly between professionals and labourers in both versions of the LFS and hence to observe the evolution over time of different employment indicators within these two key occupational groups.
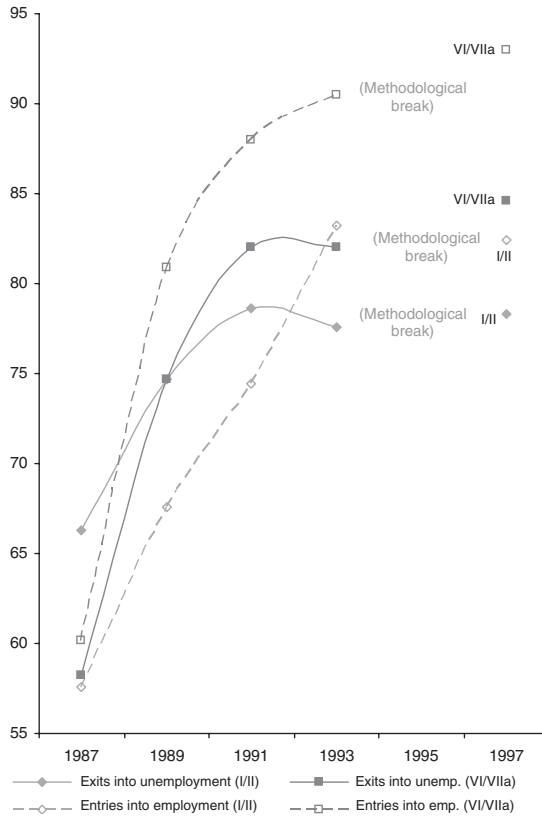
Figure 3 Percentage of temporary contracts among the newly employed and the newly unemployed for selected occupational classes (LFS).

New entries into employment in the LFS are given by the number of employed respondents who claim that they were not employed the previous year, whilst new exits from employment into unemployment are given by the number of unemployed respondents who claim that they were employed.

Source: LFS (second quarters), smoothed (calculated by the author).

3.1 The evidence

Two conclusions can be drawn at first glance from the occupational-class-based analysis of temporary employment using the standard cross-sectional LFS survey files for every other year within the period 1987–1997: (1) that the distribution of temporary contracts does follow a clear class pattern; and (2) that the rate of temporary employment experienced a very significant growth throughout the analysed period in the occupational classes considered. In Figures 3 and 4 these processes are presented graphically for both employees belonging to the professional class (i.e. classes I and II of the Goldthorpe class schema) as well as for those belonging to the 'labour' class (classes VI and VII) (see Erikson *et al.*, 1979; Goldthorpe, 2000: ch. X).
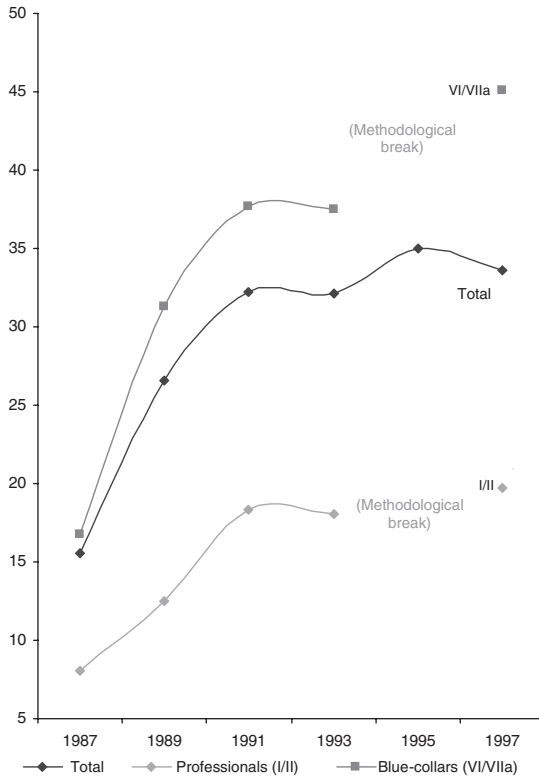
Figure 4 Rates of temporary employment by year and selected occupational classes (LFS).
Source: LFS (second quarters), smoothed (calculated by the author).

As expected, given task-specificity factors, in any of the observed points in time along the analysed 1987–1997 period temporary contracts are much more frequent in 'labour' occupations than in professional ones. For instance, in 1997, the rate of temporary employment amongst manual workers was 45%, whilst it was 'only' 20% amongst professionals. These rates were respectively 3.7 and 2.5 higher than the rates found 10 years earlier. Note also that the growth of temporary employment in both classes takes place mostly between 1987 and 1991, following the general trend observed for the Spanish workforce as a whole (see Figure 4).

This growth in temporary employment in both classes is parallel to the increase observed in the proportion of new entrants into employment on temporary contracts. Figure 3 shows how temporary employment became the principal means of entry into employment both for labourers and professionals: 93% of the newly employed manual workers and as much as 82% of the newly employed professionals had a temporary contract by 1997. Figure 3 also shows how the termination of temporary contracts also became the principal means of exit from employment

into unemployment for both occupational categories over time. The growth in the proportion of exits that originate in the flexible segment of temporary employment was particularly acute in both classes between 1987 and 1991, a point after which across-the-board stabilization seems to be observed.

Did the expansion of the temporary segment observed in both occupational groups increase permanent workers' employment security relative to temporary workers as predicted by the buffer effect hypothesis? In order to test for the existence of a buffer effect, Polavieja (2003) has proposed an indicator that accounts for the relative weights of permanent and temporary contracts among the employed population. This indicator (represented by the symbol Ω_a) measures permanent workers' job security *vis-à-vis* temporary ones and it is obtained by applying the following formula:

$$\Omega_a = 1 - \left[\frac{\text{PNU}^{\text{PC}_t}}{\text{PPC}_{t-1}} \right] \times 100 \tag{2}$$

where $\text{PNU}^{\text{PC}t}$ is the proportion of wage earners who have become unemployed within year t as a result of the termination of their (hitherto) permanent contracts, whilst PPC_{t-1} is the proportion of employed workers on permanent contracts in the previous year. Note that, since only wage earners are considered, there are only two types of contracts, permanent (PC) and temporary (TC). Hence, $\text{PNU}^{\text{PC}t}$ equals one minus the proportion of wage earners that have become unemployed in year t due to the termination of their temporary contracts, and PPC_{t-1} equals one minus the rate of temporary employment in year t-1. Ω_a can, therefore, be interpreted as an indicator of the gap between the job security levels of workers on different contracts or, in other words, a measure of the term D in equation (1).

Ω_a represents this distance in percentage points. A value of 0% would indicate no differences in unemployment risks by type of contract (i.e. both types of workers will be equally represented in employment and in unemployment), whereas a value of 100% would indicate maximum contractual differences in unemployment risks (i.e. not a single permanent worker would become unemployed).[3] One particular advantage of Ω_a is that it is not affected by changes in the active population, which makes it possible to assess the evolution of permanent workers' security *vis-à-vis* temporary ones over long periods of time even if the rate of activity changes. Another advantage is that it can be calculated for different socio-demographic groups.

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[3] In other words, if the proportion of newly unemployed permanent workers observed in any given year equalled the proportion of employed permanent workers observed the previous year, permanent workers would not be underrepresented in unemployment and hence Ω_a would be 0% (i.e. minimum relative job security for insiders). If, on the contrary, all entries into unemployment in any given year were made from fixed-term contracts and, therefore, PNU^{PC} equalled 0, then Ω_a would be 100% (i.e. maximum relative job security for insiders).
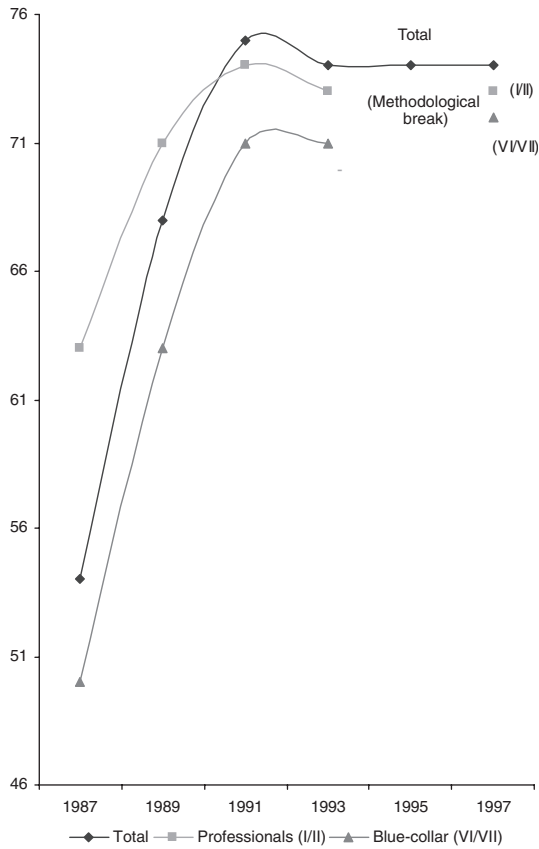
Figure 5 Permanent workers' survival probability relative to temporary workers (Ω_a) by class and year (LFS).

Source: LFS (second quarters), smoothed (calculated by the author).

Figure 5 shows the evolution of permanent workers' job security relative to temporary workers (i.e. the evolution of the Ω_a indicator) for both the total Spanish workforce, professionals and labourers for every other year over the 1987–1997 period. It is apparent that the trends are identical irrespective of the occupational class. The enhancement of permanent workers' employment security *vis-à-vis* temporary ones (i.e. the increase in D) occurs not only among labourers, but also amongst professionals.

Note that the increase in Ω_a is more pronounced within the former occupational group—the indicator Ω_a for labourers increased from 50% in 1987 to 70% in 1997—than within the latter—Ω_a for professionals increased from 63% to 73% in the same period. Note also that the increase in the indicator Ω_a is parallel to the increase observed in the rate of temporary employment in each class (see Figure 4). Both findings are fully consistent with the buffer effect hypothesis.
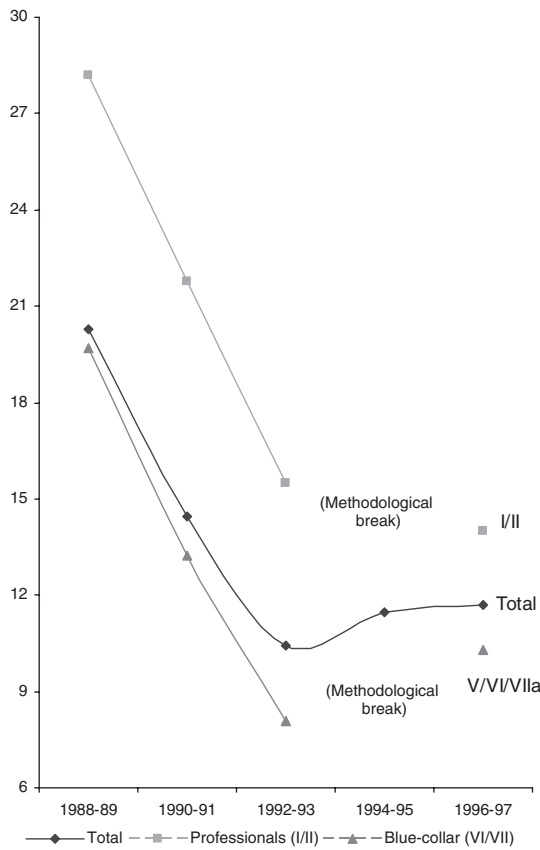
Figure 6 Conversion rate as percentage of temporary workers who held a permanent contract 12 months later by class and year (LFS).
Source: LFS (second quarters), smoothed (calculated by the author).

According to the incentive-buffer model outlined in the preceding section, an increasing buffer effect should improve the efficiency of the incentive mechanism and, therefore, allow employers to extract the same output from their temporary workers with a lower conversion rate (i.e. at a lower cost). Figure 6 shows the evolution of the conversion rate into permanent employment calculated as the proportion of temporary workers in any given year that held a permanent contract 12 months later. These calculations are based on the analysis of the LFS matched files.

Note that, as expected, the conversion rate, which has always been very low in Spain in comparative terms,[4] did in fact decrease sharply in the 1987–1993

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[4] The transition rate from temporary employment into permanent employment for the British case is approximately 45% (Gallie, 2000, p. 301), while for the US it is more than 50% (Amuedo-Dorantes, 2000, p. 315).

period—which is the period of rapid growth in temporary employment—and then flattened out to remain basically constant up until the end of the analysed period,[5] i.e. 1997. The observed drop in conversions is by no means modest: the total transition rate between 1987 and 1988, the highest ever recorded in Spain, was around 20% (i.e. 20% of all temporary workers employed in 1987 had achieved a permanent contract 12 months later); between 1992 and 1993 it was only around 10%.

Crucially, the data also shows that the notable drop in conversion rates did indeed occur both amongst labourers and professionals. The conversion rate for Spanish professionals decreased from 28% in 1987–1988 to 15% in 1992–1993; whilst for labourers, it dropped from 20% to only 8% during the same period (see Figure 6). In other words, achieving a permanent contract in Spain became increasingly difficult for all types of workers, irrespectively of the specificity of the tasks they were employed to perform. This constitutes a crucial piece of evidence against demand-based explanations of temporary employment in Spain.

3.3 Parametric analyses

Parametric analyses suggest that this process of segmentation identified within different occupational classes cannot be interpreted as an artefact of compositional effects unaccounted for by bivariate analysis. Using data obtained by pooling together the second-quarter matched files of the Spanish labour force surveys for every year between 1987 and 1993 (the only period for which a common coding of occupations is available), it has been possible to investigate the determinants of the transitions into permanent employment over time within a multivariate framework. This approach constitutes a more robust test of the incentive effect model.

Two different output variables have been modelled:

(1) the probability, expressed as an odds ratio, that temporary employees in year t have achieved a permanent contract 12 months later instead of finding themselves in any other labour market situation (including being still employed on a temporary contract or being non employed), which can be expressed as $[P_{pc}]_{t+1}/[1 - P_{pc}]_{t+1}$; and

(2) the probability that temporary employees in year t have achieved a permanent contract 12 months later instead of finding themselves out of employment, denoted $[P_{pc}]_{t+1}/[P_{ne}]_{t+1}$. Two logit models have been fitted to each of these output variables.

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[5] The evolution of the transition rate for the total workforce presented in Figure 6 is fully consistent with previous calculations made by labour economists (see, e.g. Alba, 1997, pp. 13–9; Amuedo-Dorantes, 2000; Güell-Rotllan and Petrongolo, 1998, p. 13; Toharia, 1996, p. 51).

The first logit model (model A) takes the following form:

$$\left.\begin{array}{l} \text{Log}([P_{pc}]_{t+1}/[1-P_{pc}]_{t+1}) \\ \text{or} \\ \text{Log}([P_{pc}]_{t+1}/[P_{ne}]_{t+1}) \end{array}\right\} = [\alpha + \beta_{ji}Class_{ji} + \chi_{ji}Year_{ji} + \delta_{ki}C_{ki} + \varepsilon_i]_{t\text{-}1}\ (\text{model A})(3)$$

where, α is a constant parameter, $Class_{ji}$ represents a vector of the occupational classes introduced in the equation as dummy variables ($j = 1 - $number of class categories); $Year_{ji}$ is a vector of dummies representing each of the years of the pool ($j = 1 - $number of years); C_{ki} represents a vector of control variables (including sex, age and age squared, respondents' education, firms' ownership and respondents' industry); and ε_i is the error term. All these variables are measured in time $t - 1$, that is, the first year of each pair of matched files that form the pooled sample (pooled sample $=\text{LFS}_{1987-1988} + \text{LFS}_{1988-1989} + \text{LFS}_{1989-1990} + \text{LFS}_{1990-1991} + \text{LFS}_{1991-1992} + \text{LFS}_{1992-1993}$).

When fitted to the data, model A shows that, for both definitions of the output variable, achieving a permanent contract was affected by respondents' gender, age, occupational class, level of education, firms' industry and, crucially, by time. After controlling for all the former variables, achieving a PC became increasingly more difficult each year. Possible interaction effects between time and class have been tested and rejected. These results do indeed suggest that the observed decline in conversion rates over time is not an artefact of compositional effects and, crucially, that it has taken place inside all occupational categories. Entering into the core of permanent employment between 1987 and 1993 did indeed become increasingly difficult for workers of all characteristics[6] (see Table 1).

It follows from the incentive-buffer model that the observed effect of time over the response variable should actually be the result of an increasing gap between the employment security levels of temporary and permanent workers. In other words, it is D that should be doing the explanatory work, as it follows from expression (1). Therefore, the second logit model fitted to the data takes the following form:

$$\left.\begin{array}{l} \text{Log}([P_{pc}]_{t+1}/[1-P_{pc}]_{t+1}) \\ \text{or} \\ \text{Log}([P_{pc}]_{t+1}/[P_{ne}]_{t+1}) \end{array}\right\} = [\alpha + \beta_{ji}Class_{ji} + \chi_{ji}Di_{ji} + \delta_{ki}C_{ki} + \varepsilon_i]_{t\text{-}1}\ (\text{model B})\quad(4)$$

where D_i is a six-interval macro-level variable calculated for each year using the values of Ω_a [see expression (2)].

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[6] These findings are fully consistent with those reported by Güell-Rotllan and Petrongolo (1998), who also showed that the observed decline in the conversion rates of temporary contracts into permanent ones could not be attributed to personal characteristics, household characteristics or firm characteristics (nor to changes in the business-cycle) since the non-monotonic downward trend was confirmed after controlling for all these factors.

Table 1 Pooled logit regressions on the chances that temporary workers (in Time 1) achieve a permanent contract (12 months later) for the period 1987–1993 using two different definitions of positive transition (LFS, matched files)

Parameters	Log([P$_{pc}$]$_{t+1}$/[1-P$_{pc}$]$_{t+1}$) 0 = not permanent worker 1 = permanent worker (pc)								Log([P$_{pc}$]$_{t+1}$/[P$_{ne}$]$_{t+1}$) 0 = not employed (ne) 1 = permanent worker (pc)							
	Model A		Model B						Model A		Model B					
	Coeff.	Sig.	Coeff.	Sig.					Coeff.	Sig.	Coeff.	Sig.				
Constant	−0.90		1.50						0.54		3.67					
Female	−0.05	****	−0.05	****					−0.13	****	−0.12	****				
Age	0.01	ns	0.01	ns					−0.02	ns	−0.02	ns				
Age^2	−0.045	****	−0.05	****					−0.058	****	−0.058	****				
Class (LFSCS1)																
→ Professionals (ref.)																
White collars	0.06	ns	0.06	ns					0.073	ns	0.061	ns				
Salesmen & others	−0.22	ns	−0.22	ns					−0.30	ns	−0.31	ns				
Labourers	−0.34	**	−0.34	**					−0.47	**	−0.46	**				
Education																
→ Incomplete (ref.)																
General elementary	0.21	*	0.21	*					0.34	***	0.33	***				
Intermediate	0.29	**	0.28	**					0.54	****	0.51	****				
Intermediate vocational	0.53	****	0.52	****					0.90	****	0.86	****				
Tertiary	0.52	****	0.54	***					1.12	****	1.09	****				
Firms' Ownership																
→ Private (ref.)																
Public	0.16	ns	0.17	ns					−0.17	ns	−0.15	ns				

	Model 1		Model 2		Model 3		Model 4	
Industry								
→ Farming & Fishing (ref.)								
Light Industry	0.48	****	0.48	****	0.61	****	0.62	****
Extractive	0.45	***	0.46	***	0.55	***	0.57	****
Heavy industry	0.44	***	0.45	***	0.46	**	0.50	**
Construction	−0.16	ns	−0.16	ns	−0.15	ns	−0.14	ns
Commerce & Catering	0.28	**	0.28	**	0.34	**	0.36	**
Transports & Comm.	0.36	*	0.37	*	0.34	ns	0.34	ns
Finances	0.36	**	0.35	**	0.34	*	0.35	*
Public administration	0.34	*	0.34	*	0.53	**	0.53	**
Other Services	0.62	****	0.62	****	0.62	****	0.64	****
Year								
→ 1987 (ref.)								
1988	−0.28	*			−0.09	ns		
1989	−0.43	****			−0.27	**		
1990	−0.69	****			−0.48	****		
1991	−0.77	****			−0.80	****		
1992	−1.05	****			−1.26	****		
D (Ω_a value for each year)			−0.041	****			−0.054	****
N→	10 218		10 218		3 867		3 867	
LR chi²→	(25) 385.74		(21) 370.89		(25) 442.72		(21) 396.96	
Prob > chi²→	0.0000		0.0000		0.0000		0.0000	
Pseudo R²→	0.0451		0.0433		0.0856		0.0767	

Note: In the matched version of the Spanish LFS age is coded as an ordinal variable in 11 5-year groups. In order to avoid collinearity when testing for a quadratic effect, age has been centred.

****Significance ≤ 0.001; ***significance ≤ 0.01; **significance ≤ 0.05; *significance ≤ 0.10.

Source: Random sub-sample of pool of matched files, LFSs, second quarters (calculated by the author).

As expected the effect of D on each of the output variables is negative and statistically significant. The larger the gap between the employment-security levels of permanent workers *vis-à-vis* temporary ones, the lower the observed transition rates[7] (see Table 1).

As Goldthorpe (2000, ch. X) explains, the 'service' (i.e. professional) employment relationship is characterized by high asset specificity and productivity measurement costs, whereas these costs are low in labour employment relationships. Yet, regardless of these task-specificity factors, the same trends can be observed both amongst professionals and labourers with respect to both the rate of temporary employment (TC), the evolution of permanent workers' employment security *vis-à-vis* temporary ones (D), and the conversion rate of temporary contracts into permanent employment (CR). These trends suggest the existence of a polarization of employment conditions, whereby employment security was enhanced for permanent workers in both classes, whilst employment insecurity increased for those on temporary contracts. Both labour and professional workers on temporary contracts found it increasingly difficult to enter into the permanent core and, consequently, became increasingly locked in their insecure employment situation. The evidence reviewed here is, therefore, at odds with demand-based interpretations of the segmenting impact of temporary employment in Spain.

This evidence is even more compelling if one takes into consideration that the observed decline in conversion rates took place in the face of very high levels of economic growth, experienced in Spain in the second half of the 1980s. This coincidence of a falling conversion rate and rapid economic growth should appear as puzzling for most standard theories of contracting, which tend to assume that employers are more likely to invest in long-term employment relationship the greater firms' profits are, yet it is perfectly consistent with the incentive-buffer model outlined in the previous section. A greater buffer could have indeed improved the efficiency of the incentive effect of temporary contracts, thus allowing for an incentive-compatible reduction in conversion rates. Rather than occupationally restricted flexibility, as implied by demand-based accounts, what seems to be observed in the Spanish case is across-the-board polarization.

4. Discussion

As a result of this polarization process, the Spanish labour market showed by 1997 a very intense differentiation of opportunities for stable employment by type of contract. That year, 34% of the employed wage-earners in Spain had a temporary contract, whilst the unemployment rate was 21%, exactly the same figure that

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[7] Note that the year dummies and D cannot be entered in the same equation at the same time, since they are highly correlated (Pearson $r = 0.95$). Model B seems a more accurate statistical representation of expression (1) than model A.

13 years earlier had led the Socialist government to implement partial deregulation. Approximately 90% of all entries into employment as well as of all exits from employment into unemployment that took place in 1997 occurred in the flexible segment of temporary contracts. The average tenure of temporary workers was only 12 months, a figure that stood in sharp contrast to the average tenure in employment for permanent workers, which was 12 years. The segment-specific unemployment rate in 1997 was 34% for temporary workers, yet only 5% among permanent ones. These two segments had little permeability as shown by an annual transition rate between temporary and permanent employment of only around 11%.

The observed relationship between temporary contracts and employment instability has had a clear impact on workers' awareness of their own survival probability in the job. According to the survey on *Attitudes towards Employment and Work* carried out in 1997 by the Spanish Centre for Sociological Research (*Centro de Investigaciones Sociológicas*) of a representative sample of 2500 respondents, 47% of all employed respondents on temporary contracts considered it possible or very possible that they would become unemployed within 12 months after the date of the interview. Only 6% of permanent workers expressed the same fear (Polavieja, 2001, p. 110).

Given the precarious character of fixed-term employment in Spain, it is not surprising either that as many as 91% of all the temporary workers surveyed by the LFS in 1997 declared that they were holding a temporary contract due to their inability to find a permanent one, while only 0.4% claimed to be temporally employed on a voluntary basis.[8] Temporary employment has clearly an involuntary character in Spain, as almost no one wants to be precariously employed.

As all these data for 1997 show, the employment consequences of partial deregulation have been severe in Spain. The evaluation of the consequences in terms of polarization of employment could perhaps be more benevolent had partial deregulation produced a significant and durable reduction in unemployment levels. But this was not the case, as was shown in Figure 2. Buffer and incentive mechanisms offer a plausible explanation as to why partial deregulation might generate employment polarization without reducing the long-run levels of unemployment (see Güell-Rotllan, 2000).

The negligible impact that partial deregulation had on the long-run unemployment rate should come as no surprise in the field of labour–market studies. Esping-Andersen and Regini (2000) have already argued that various forms of regulation may have an impact on the *structure* of unemployment—i.e. which socio-demographic groups are most likely to experience it—but not on the overall

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[8] The proportion of involuntary temporary workers in Spain can be compared with the figures for UK (28%), Denmark (38%), Portugal (68%) and Greece (77%) (see OECD, 1993; Bentolila and Dolado, 1994, p. 61).

unemployment levels. Esping-Andersen (2000) has provided sound empirical evidence to support this argument. The flexibilization policy inaugurated in 1984 was, however, explicitly targeted to reducing overall unemployment levels. One must, therefore, conclude that, judged by its own standards, partial deregulation was a failure.

Neither has partial deregulation been particularly beneficial for distributing the risks of unemployment more evenly across the population. Instead, by enhancing insider–outsider tendencies within all occupational classes, it has made it even more difficult for new entrants into employment (mostly young and women) to obtain permanent employment. In other words, greater opportunities for access into (temporary) employment seem to have been gained at the expense of lowering the chances of finding a permanent job. And this, as it has been shown, seems to have happened in occupations that entail very different levels of task-specificity. The segmenting consequences of partial deregulation seem to have been more pervasive than usually recognized by demand-side interpretations. By assuming that temporary employment was a secondary-market phenomenon, demand-based accounts have overlooked the severe entry problem faced by all workers in the Spanish labour market.

If what Toharia and Malo (2000) have called the 'Spanish experiment' of flexibilization has not produced a great deal of social exclusion it is mainly because Spanish families have provided outsiders with what Esping-Andersen and Regini (2000) call 'derived welfare'. The sharp division between insiders and outsiders in the labour market dissolves within the four walls of the typical Spanish household, usually headed by a male-permanent employee. Labour market polarization has put, however, considerable strain on Spanish families, retarding the formation of new households and exacerbating the trade-off between women's integration into stable employment careers and fertility (see Baizán, 2004; Golsch, 2003; Jurado, 2001). On the whole, the Spanish 'experiment' of partial deregulation seems to convey more cons than pros.

In conclusion, the empirical evidence presented in this study has shown that demand-based theories offer an ultimately unsatisfactory account of the consequences of deregulation through temporary employment in Spain. Rather than providing the Spanish economy with a flexible fringe of secondary-market occupations, the evidence drawn from the Spanish labour force survey shows that deregulation through temporary employment generated a high degree of polarization across the board. This evidence seems compatible with the theoretical model proposed, which stresses the crucial role that micro-level strategies can play in the diffusion of temporary employment. Yet it must be noted that there is certainly a gap between the micro-level foundations of the model and the nature of the data provided by the labour force survey. The bulk of this gap is due to the lack of information on both employers' decisions and employees' productivity, the latter being a

particularly crucial dimension of the theoretical model but for which there is simply no representative individual-level data available at this point. A more definitive and direct test of the model presented in this study will, therefore, have to wait until such data are available.

Future research should also pay special attention to the analysis of the impact of temporary employment on human capital development. It follows from the model presented in this study that employers' investments in specific human capital can still be a valuable strategy in a two-tier system, as long as the returns for employers to this system—net of the costs of losing trained workers—are larger than those provided by a system based on permanent employment—net of the costs of efficiency or seniority wages. This idea, which stresses the incentive properties of employment contracts, is central to the model as it provides an explanation of the observed growth of temporary employment in high-specificity tasks. Yet it is perfectly possible that Spanish employers have actually chosen some combination of incentives through two-tier employment and *lower* investments in human capital for the temporary stock.[9] Such possibility, which has not been accounted for above, would add underinvestment in human capital to the many ills of employment polarization.

Acknowledgments

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[9] On the impact of temporary employment on workers' productivity see Dolado *et al.* (2002) and OECD (2002, p. 157).

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