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## ABSTRACT

### **An Experimental Investigation of Age Discrimination in the Spanish Labour Market<sup>\*</sup>**

In a field experiment of age discrimination, pairs of men aged twenty-seven and forty-seven, inquired, by email, about employment as waiters in twenty five Spanish towns. Discrimination against the older waiters, corresponded to the highest rates ever recorded anywhere, by written tests, for racial discrimination.

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“He looks old to be a waiter” (White Teeth)

## **I. Introduction**

The growing interest in field experiments, as a method of empirical investigation in economics, is demonstrated by the special issue of *The B. E. Journal of Economic Analysis and Policy*, (2006, 6, issue 2: *Advances*) which is dedicated to field experiments. The first field experiment of discrimination in employment, which used pairs of matched, written job applications, was undertaken in the 1960s by Jowell and Prescott-Clarke (1970). They developed the technique to investigate racial discrimination in employment in England. The first time this experimental method was applied to investigate sexual discrimination in employment was in Melbourne during the 1980s (Riach and Rich, 1987).

Although it originated almost forty years ago, there has been virtually no application of this technique to measuring the extent of age discrimination in employment. This is surprising, given the widespread contemporary concern about the economic implications of the ageing population in Western countries, and the frequent recommendation that the only viable solution to the consequent “pensions’ crisis” is an extended working life. For example, the Organisation for Economic Co-operation and Development, referring to Spain’s impending demographic crisis, estimated that by 2050, “... there will be less than two persons of working-age per person of age 65 and over (compared with about four persons of working-age per person of age 65 and over in 2002)” (OECD, 2003, p. 27). The Spanish response has been to focus on increasing the employment rates of older workers, as the means to ensuring the sustainability of the current public pensions system. Recent reforms include the introduction of a “flexible retirement” system which penalises retirement before age

65 and financially encourages retirement post-65 (retirement at 65 is no longer compulsory). Also, to encourage demand for workers 55 and over, the social security obligations which employers have for such workers have been reduced. Further reforms under discussion include improving the skills of older workers and changing the welfare system to provide incentives to work (OECD, 2003, pp. 9-15).

The challenge in applying the experimental technique to age discrimination is the obvious variation in human capital across the generations. The logic of this experimental technique, as innovated by Jowell and Prescott Clarke, is to design the test so as to control *strictly* for human capital components such as education, qualifications, skills and experience, so that the *only* distinguishing feature of the two job applicants is the characteristic, such as race or sex, which is being tested. The influence of race or sex on hiring decisions is consequently isolated. In the case of age there must inevitably be a variation in the job experience of the different age groups, and therefore a difficulty in determining whether any employment preference is attributable to a profit-maximizing response to differential human capital or to prejudice.

In our paper “Field Experiments of Discrimination in the Market-Place” (Riach and Rich, 2002) we recommended that the technique should be adapted to the special case of older applicants; to accept that the *job experience* component of human capital does vary between different groups and have realistic candidates make applications, but to control for all other dimensions of human capital.

A frequent accusation against older applicants is that they are less mentally able/flexible and less physically active than their youthful competitors; "... numerous surveys and research conducted in the past 15 years point to negative employer perceptions vis-à-vis older workers with respect to their productivity, cost, work motivation, health, receptiveness towards training and ability to cope with technological and organisational change" (OECD 2004, p. 97; see also Purcell *et al.* 2003, pp. 3-4). However the objective scientific literature is to the contrary; "The finding from more than 100 research investigations is that there is no significant difference between the job performance of older and younger workers" (Warr 1994, p. 309).

We decided to confront such ageist attitudes by presenting an older applicant who was not more than forty-seven, who was engaged in strenuous physical activity and who demonstrated mental flexibility by an up-to-date interest in computers and information technology. In other words we controlled for the older candidate's mental and physical capacities, but not for his length of experience. In which case, if a preference were found for younger applicant with twenty years less experience, it would indicate a very significant level of prejudice against older applicants. On the other hand, if we were to find a preference for the older workers in such circumstances it could be interpreted as an economically rational response to human capital superiority, rather than prejudice against youth. The OECD recognises that; "...age discrimination is neither overt nor easily measured" (OECD 2004, p. 98). This is a challenge which we now address; what follows is a realistic attempt to measure age discrimination by using the experimental technique of forwarding matched, written job inquires.

## 2. The experiment

The intention was to have pairs of job applicants who were carefully-matched in all respects except in the experience which inevitably goes with age. An implication of this approach is that jobs with a career hierarchy were ruled out of the investigation. For instance, academics in their mid-twenties would be applying for different posts to those in their mid-forties: the former would be applying for post-doctoral fellowships or lectureships, whilst the latter would be applying for Chairs or Deanships. This is not to say that age discrimination may not be alive and well in academia, or in law, or in the civil service, but instead that it cannot be investigated by the technique of paired mail applications. We have chosen an occupation where it is realistic to expect that applications will come from candidates aged twenty years apart.

There are two techniques for applying this experimental method. The first is to *respond to advertised vacancies*, as innovated by Jowell and Prescott-Clarke in 1969, and surveyed by Riach and Rich (2002). The second is to conduct the investigation by *forwarding unsolicited job inquiries* to a group of employers in some occupation, as innovated by Fidell in 1970 and surveyed by Riach and Rich (2004b). The former procedure confronts the employer with simultaneous pairs of fictitious job applications at a time when he/she has initiated recruitment and they will be dealt with during the normal hiring process, but the application and observation rate, and therefore the duration of the study, is dependent on the state of the labour market. The latter procedure is more expedient; all that is required is an appropriate listing of employers in a particular occupation, and two mailings about a month apart, if the intention is to test matched pairs and if suspicion on the part of employers is to be allayed. This procedure is more appropriate in occupations where inquiries are

customarily initiated from the supply side and in small business, so ensuring the inquiry is likely to be answered by the same person who normally takes hiring decisions. As inquiries must arrive at least a month apart there is some randomness in the extent to which they will coincide with a vacancy, therefore there can be less expectation of “equivalent treatment” (both candidates being offered interviews) than with the first procedure. Nevertheless, if in the first mailing fifty per cent of inquiries go from candidate A and fifty per cent from candidate B, with reversal in the following month, this variation in timing will not bias the overall outcome of the experiment: i.e. there is control by age for the timing of application receipt. We decided to adopt the latter procedure and forward unsolicited job inquires by email in this study.

We sent unsolicited inquiries about possible job openings for male waiters to 340 hotels and restaurants throughout Spain. One applicant was twenty-seven and the other was forty-seven. In such an experimental investigation of age discrimination, for the reasons discussed above, it was not possible to perform any reversal of résumés. Both candidates had completed four years of secondary schooling and both had studied English and information technology subsequent to leaving school. To demonstrate his physical and mental agility the older candidate’s “interests” were cycling and internet usage. We invented fictitious restaurant names for the current employers of our candidates. The proprietor of a restaurant on the Costa del Sol advised us on the content of the résumés.

In any one emailing half the inquiries went from the older applicant and half from the younger, and this application process was reversed in the following month.

Positive responses were dealt with promptly and courteously with a reply explaining that alternative employment had already been secured. The ethical considerations involved in this deceptive procedure are dealt with in Riach and Rich (2004a).

### **3. The results**

The outcome of this experiment is set out in Table 1 in a format which follows McIntosh and Smith (1974, p. 13) and which has since been adopted in field experiments across Europe; (see Riach and Rich 2002, pp. F486-F491). Column 4 shows the number of occasions when one or both applicants received a favourable response. This total is divided as follows: column 5 shows occasions when both received favourable responses (equal treatment); column 6 shows occasions when only the younger received a favourable response (discrimination against the older); and column 7 shows occasions when only the older received a favourable response (discrimination against the younger). Column 8 is net discrimination; that is 7 minus 6, so that it is positive when the older applicant encountered more discrimination than the younger applicant. The statistical significance of any finding of net discrimination was determined by the application of the chi-square test. The data were categorised as accepted /rejected for two applicants in a 2\*2 contingency table (Riach and Rich 2002, pp. F493 – F496). A comparison with Spanish experimental results for race discrimination is provided in Table 2.

The highest net rate of discrimination *ever previously recorded* by the written experimental method was 66.7 percent against Antilleans in France in 1977 (Riach and Rich 2002, Table 4, p. F500).

Our experiment conducted across 23 towns on the Spanish peninsula, from Barcelona to Jerez and from La Coruna to Almeria, and also in the Balearic and Canary Islands detected a level of net discrimination against the older applicant of 64.5 per cent which is comparable to that which we have recorded for waiters in London and France, and higher than that recorded against Moroccans in Spain (47 percent – see Riach and Rich, 2002, Table 2, p. F495). In contrast to our English and French experiments (Riach and Rich 2006a and 2006b) we found very little variation within Spain; the net rate for the four major cities: Barcelona, Madrid, Seville and Valencia, was 66.7 percent.

#### **4. Interpretation**

Warr (1994) presents a classification of job activity in four categories, based on the relationship of performance to age. First are “age-impaired activities” in which there is a negative relationship between age and performance; “... basic capacities are exceeded to a greater extent for older people and experience cannot help. Tasks of that kind include continuous rapid information processing and some forms of strenuous physical activity” (Warr 1994, p. 314). Second are “age-counteracted activities”, in which there is no relationship between age and performance, because older people have strategies to compensate for any decline in information processing skills or in physical capacity. Third are “age-neutral activities”, in which there is no relationship between age and performance, because the work is relatively undemanding and routine “... primary memory is apparently unaffected by age; older people are as able as their younger counterparts to hold in memory small amounts of information that are being used in uncomplicated cognitive activities” (Warr 1994, p. 317). Fourth are “age-enhanced activities” in which performance improves with age, because of the

favourable impact of experience. Waiters clearly come into Warr's category three, as the work is relatively undemanding and routine; also recall that our older Spanish waiter's physical capacity is confirmed by his activity as a cyclist. Therefore we conclude that there are no human capital characteristics which can account for the discrimination we have detected against middle-aged Spanish waiters.

In their econometric study, which used data from the Workplace Employment Relations Survey, Daniel and Heywood found "... strong evidence for the role of deferred compensation and internal labour markets as a negative predictor of hiring older workers. This fits the hypothesis that efficient life-time incentive structures require hiring younger workers and employing them when old, but not hiring older workers." (Daniel and Heywood, 2005 forthcoming, p. 15). However these factors cannot explain our results for waiters. Waiters do not operate in internal labour markets, nor do they benefit from deferred compensation.

Whilst Warr's framework provides an explanation for age-related employment preferences which arise from age-related human capital differences, Becker (1971) has provided an economic analysis of employment preferences which arise from discriminatory attitudes in the market place. His theory proposes that customers, employers and/or current employees may sacrifice economic benefit, in order to indulge a "taste" for eschewing contact with some perceived pariah group.

As long ago as 1933 George Orwell in *Down and Out in Paris and London*, (1940, pp. 68-9) recognized the strange symbiosis between waiter and diner. It certainly is an occupation with a critical interaction between employee and customer, *and* in an

economic activity where repeat business is vital for commercial success. There is critical interaction, for instance, between nurse and patient, but few of us are repeat customers of hospitals. This might suggest particular insight in the casual aside quoted at the outset of this paper, which comes from the television adaptation of Zadie Smith's novel *White Teeth*, that is, customer prejudice à la Becker.

We have detected unequivocal discrimination against middle-aged waiters in Spain, at a rate which is consistent with our findings in France and London. In view of the nature of the job and our findings across these three countries we suspect that the most likely source of this discrimination is customer prejudice. Contemporary European demography accentuates the seriousness of such age discrimination, so further research to investigate labour market behaviour in other European countries would be desirable; and also to probe the motivation of employers in this activity.

**Table 1: Results for the Spanish Age Discrimination Test**

1	2	3	4	5	6	7	8
Occupation	Location of test	Neither invited	Usable tests	Equal treatment	Discrimination against older	Discrimination against younger	Net Discrimination <sup>a</sup>
Total (number)	Spain	309	31	5	23	3	20
Percent			100	16.1	74.2	9.7	64.5***
Total 4 Cities (number)	Barcelona		15	3	11	1	10
Percent	Madrid		100	20.0	73.3	6.7	66.7***
	Seville						
	Valencia						

a: Chi-squared tests were conducted on the response rates and the results are indicated in column 8, \*\* significant at the 0.01 level;  
 \*\*\* significant at the 0.001 level.

**Table 2: Results for the Spanish Race Discrimination Tests**

1	2	3	4	5	6	7	8
Occupation	Location of test	Neither invited	Usable tests	Equal treatment	Discrimination against Moroccan	Discrimination against Spaniard	Net Discrimination <sup>a</sup>
<b>Total</b>							
Telephone – interview offer	1994/5						
Total (number)	Barcelona	261	268	112	141	15	126
Percent	Madrid		100.0	41.8	52.6	5.6	47.0***
	Malaga						
In-person – job offer							
Total (number)		25	26	9	14	3	11
Percent			100.0	34.6	53.9	11.5	42.3**
<b>Hotel/catering</b>							
Total (number)	1994/5	14	22	6	15	1	14
Percent	Malaga		100.0	27.3	65.2	4.4	60.9***

Source: de Prada, et al. (1996).

a: Chi-squared tests were conducted on the response rates and the results are indicated in column 8, \*\* significant at the 0.01 level;  
\*\*\* significant at the 0.001 level.

## References

- The B. E. Journal in Economic Analysis and Policy* (2006). Vol. 6, Issue 2.  
(Advances).
- Becker, Gary (1971). *The Economics of Discrimination*, 2<sup>nd</sup> edition. University of Chicago Press, Chicago.
- Daniel, Kirsten and Heywood, John S. (forthcoming). 'The Determinants of Hiring Older Workers', *Labour Economics* (In Press).
- de Prada, M., Actis, W., Pereda, C., and Perez Molina, R. (1996). *Labour market Discrimination Against Migrant Workers in Spain*. International Migration Papers 9, International Labour Office, Geneva.
- Fidell, L. S. (1970). 'Empirical Verification of Sex Discrimination in Hiring Practices in Psychology', *American Psychologist*, Vol. 25, December, pp. 1094-98.
- Jowell, Roger and Prescott-Clarke, Patricia (1970). 'Racial Discrimination and White-Collar Workers in Britain', *Race*, Vol. 11, No. 4, pp. 397-417.
- McIntosh, Neil and Smith, David (1974). 'The Extent of Racial Discrimination', Political and Economic Planning Broadsheet no.547, Political and Economic Planning, London.

OECD (2003). *Ageing and Employment Policies, Spain*. OECD, Paris.

OECD (2004). *Ageing and Employment Policy, United Kingdom*, OECD, Paris.

Orwell, George (1940). *Down and Out in Paris and London*, Penguin, Harmondsworth, UK.

Penna Sanders and Sidney (2002). 'Generation Flex to the Rescue?'  
<http://www.management-issues.com>.

Purcell, Kate, Wilton, Nick and Elias, Peter (2003). 'Older and Wiser? Age and Experience in the Graduate Labour Market, Researching Graduate Careers Seven Years On', Research paper no. 2. Warwick University, Warwick Institute for Employment Research.

Riach, Peter A. and Rich, Judith (2006a). 'An Experimental Investigation of Age Discrimination in the English Labour Market', (under review).

Riach, Peter A. and Rich, Judith (2006b). 'An Experimental Investigation of Age Discrimination in the French Labour Market', IZA Discussion Paper No. 2522.

Riach, Peter A. and Rich, Judith (2004a). 'Deceptive Field Experiments of Discrimination: Are They Ethical?', *KYKLOS*, Vol. 57, Issue 3, pp. 457-470.

Riach, Peter A. and Rich, Judith (2004b). 'Fishing for Discrimination', *Review of Social Economy*, Vol. 61, No. 4, pp. 465-486.

Riach, Peter A. and Rich, Judith (2002). 'Field Experiments of Discrimination in the Market Place', *Economic Journal*, Vol. 112, No. 483, pp. F480-F518.

Riach, Peter A. and Rich, Judith (1987). 'Testing for Sexual Discrimination in the Labour Market', *Australian Economic Papers*, Vol. 26, No., pp. 165–178.

Smith, Zadie (2000). *White Teeth*, Hamish Hamilton, London.

Warr, P. (1994). 'Age and Job Performance', in Snel, Jan and Cremer, Roel (eds.), *Work and Aging: A European Perspective*, Taylor and Francis, London, pp. 309-322.