

## *Applied Econometrics Association Series*

General Editors: **Jean H. P. Paelinck**, Emeritus Professor, Erasmus University, Rotterdam, and **Henri Serbat**, Chamber of Commerce, Paris

The vital importance of econometrics for understanding economic phenomena is increasingly recognised in every field of economics.

The discipline is based on 'scientific processes which aim to identify, explain and forecast economic phenomena using formalised tools to produce, measure, structure and model the information' (Gerard Duru and Henri Serbat, 1991).

The Applied Econometrics Association, established in 1974, seeks to develop the use of econometric tools by producing regular updates on the state of the art and the progress made in each specific field, and so to further the transformation of unconnected facts into pertinent information for use in analysis and decision-making.

The series was conceived to form a set of working references for advanced students and researchers in each specific field, as well as a guide to development across the discipline more broadly.

This exchange of knowledge will be continued permanently by the opening of a debate-site on the Internet [<http://www.lyonl.fr/aea>].

### *Titles include:*

Françoise Bourdon and Jean Bourdon (*editors*)  
WAGE ECONOMETRICS AND MODELLING

Fabrizio Carlevaro and Jean-Baptiste Lesourt (*editors*)  
MEASURING AND ACCOUNTING ENVIRONMENTAL NUISANCES  
AND SERVICES

Arthur Getis, Jesús Mur and Henry G. Zoller (*editors*)  
SPATIAL ECONOMETRICS AND SPATIAL STATISTICS

Siv S. Gustafsson and Danièle E. Meulders (*editors*)  
GENDER AND THE LABOUR MARKET  
Econometric Evidence of Obstacles to Achieve Gender Equality

Hans Heijke and Joan Muysken (*editors*)  
EDUCATION AND TRAINING IN A KNOWLEDGE-BASED ECONOMY

Pavlos Karadeloglou (*editor*)  
EXCHANGE-RATE POLICY IN EUROPE

Sandrine Lardic and Valérie Mignon (*editors*)  
RECENT DEVELOPMENTS ON EXCHANGE RATES

Danièle Meulders, Robert Plasman and François Rycx (*editors*)  
MINIMUM WAGES, LOW PAY AND UNEMPLOYMENT

Emile Quinet and Roger Vickerman (*editors*)  
THE ECONOMETRICS OF MAJOR TRANSPORT INFRASTRUCTURES

Philippe Thalmann and Milad Zarin-Nejadan (*editors*)  
CONSTRUCTION AND REAL ESTATE DYNAMICS

---

**Applied Econometrics Association**  
**Series Standing Order ISBN 0-333-71460-1**  
(*outside North America only*)

You can receive future titles in this series as they are published by placing a standing order. Please contact your bookseller or, in case of difficulty, write to us at the address below with your name and address, the title of the series and the ISBN quoted above.

Customer Services Department, Macmillan Distribution Ltd, Houndmills, Basingstoke, Hampshire RG21 6XS, England

---

# Minimum Wages, Low Pay and Unemployment

Edited by

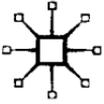
Danièle Meulders

Robert Plasman

and

François Rycx

palgrave  
macmillan



© Applied Econometrics Association 2004

Softcover reprint of the hardcover 1st edition 2004 978-1-4039-3642-4

All rights reserved. No reproduction, copy or transmission of this publication may be made without written permission.

No paragraph of this publication may be reproduced, copied or transmitted save with written permission or in accordance with the provisions of the Copyright, Designs and Patents Act 1988, or under the terms of any licence permitting limited copying issued by the Copyright Licensing Agency, 90 Tottenham Court Road, London W1T 4LP.

Any person who does any unauthorised act in relation to this publication may be liable to criminal prosecution and civil claims for damages.

The authors have asserted their rights to be identified as the authors of this work in accordance with the Copyright, Designs and Patents Act 1988.

First published 2004 by  
PALGRAVE MACMILLAN

Houndmills, Basingstoke, Hampshire RG21 6XS and  
175 Fifth Avenue, New York, N.Y. 10010

Companies and representatives throughout the world

PALGRAVE MACMILLAN is the global academic imprint of the Palgrave Macmillan division of St. Martin's Press, LLC and of Palgrave Macmillan Ltd. Macmillan® is a registered trademark in the United States, United Kingdom and other countries. Palgrave is a registered trademark in the European Union and other countries.

ISBN 978-1-349-51859-3

ISBN 978-0-230-52407-1 (eBook)

DOI 10.1057/9780230524071

This book is printed on paper suitable for recycling and made from fully managed and sustained forest sources.

A catalogue record for this book is available from the British Library.

Library of Congress Cataloging-in-Publication Data

Applied Econometrics Association. International Conference.

Minimum wages, low pay and unemployment / edited by Danièle Meulders, Robert Plasman and François Rycx.

p. cm. – (Applied Econometrics Association series)

Papers from the 79th Applied Econometrics Association Conference discussion on the "Econometrics of Wages".

Includes bibliographical references and index.

1. Minimum wage – Europe – Econometric models – Congresses.
2. Wage differentials – Europe – Econometric models – Congresses.
3. Job satisfaction – Europe – Econometric models – Congresses.
4. Unemployment – Europe – Econometric models – Congresses.
5. Wages – Effect of wages on – Europe – Econometric models – Congresses.
6. Wages – Econometric models – Congresses. I. Meulders, Danièle. II. Plasman, Robert. III. Rycx, François, 1974– IV. Title. V. Series.

HD4920.5.A66 2004

331.2'2'015195—dc22

2003066148

10 9 8 7 6 5 4 3 2 1  
13 12 11 10 09 08 07 06 05 04

# Contents

<i>List of Tables</i>	vi
<i>List of Figures and Graphs</i>	x
<i>Introduction</i>	xi
<i>Danièle Meulders, Robert Plasman and François Rycx</i>	
<b>Part I Minimum Wages, Low Pay and Job Satisfaction</b>	<b>1</b>
1 Low Pay and the Minimum Wage in Ireland <i>Donal O'Neill</i>	3
2 Mobility at the Bottom of the Italian Earnings Distribution <i>Lorenzo Cappellari</i>	27
3 Low-pay Mobility in the Swiss Labour Market <i>Augustin de Coulon and Boris A. Zürcher</i>	57
4 Low Pay, Higher Pay, Earnings Mobility and Job Satisfaction in Britain <i>Rannia M. Leontaridi and Peter J. Sloane</i>	87
<b>Part II Low Pay and Unemployment</b>	<b>141</b>
5 An Econometric Analysis of Unemployment Traps for Belgium <i>Anna Cristina D'Addio, Isabelle De Greef and Michael Rosholm</i>	143
6 Outsourcing and the Demand for Low-skilled Labour: Exemplary Evidence from German Manufacturing Industries <i>Ingo Geishecker</i>	176
7 Monopsony and Employment Inflows. A Microeconomic Analysis Based on a Panel of Belgian Firms <i>Benoît Mahy and Isabelle Paindavoine</i>	195
<i>Index</i>	218

# List of Tables

1.1	International comparison of minimum wage rates	4
1.2	Classification of low paid by pay range, private sector employees	5
1.3	Classification of private sector employees by gender	5
1.4	Age classification of private sector employees	6
1.5	Low pay by part-time/full-time status, private sector	6
1.6	Occupational classification of private sector employees	7
1.7	Industry breakdown of private sector employees	8
1.8	Firms which have employees currently being paid less than £4.50 per hour classified according to their perceived responses to the hourly wage of adult employees (18 years and over) being raised to a minimum of £4.50 per hour	9
1.9	Persons engaged classified according to broad pay scale and full-time/part-time status for 1999 and 2001	13
1.10	Persons engaged classified according to broad pay scale, sector of employment and full-time/part-time status for 1999 and 2001	14
1.11	Firms classified according to the percentage of their staff whom they recorded as having received an increase in hourly rate as a direct result of the introduction of the minimum wage	15
1.12	The impact of minimum wage changes in the Wholesale and Retail sector and the Hotel/Restaurant/Bar sector	18
1.13	Firms classified according to their perceptions of the impact of the minimum wage on a series of operational and related aspects of their business	20
1.14	Firms classified according to their perceptions on the direction of effect of the minimum wage on a number of areas of business, by sector	21

1.15	Cross-tabulation of perceived consequences of the minimum wage on likelihood of closure and actual ex-post business status	23
1.16	Cross-tabulation of perceived consequences of the minimum wage on likelihood of closure and actual ex-post business status	24
2.1	Sample means and probability of being in the balanced panel	30
2.2	Descriptive statistics of the distribution of nominal hourly earnings	32
2.3	Low pay transition probabilities	33
2.4	Results from SML estimation of trivariate probit models for conditional low pay probabilities	41
2.5	Retention and low pay conditional probabilities – three years transition	46
2.6	Results from estimation of four-variate probit model for 1998 conditional low-pay probabilities (absolute $t$ -ratios, $p$ -values)	49
3.1	Sample means (pooled data 1992, 1994, 1996)	61
3.2	Low-pay thresholds, hourly wages, monthly incomes and low-pay proportions	62
3.3	Transitions between different labour market states of low- and high-paid workers	64
3.4	Transition matrix, pooled data	66
3.5	Low-pay incidence in period $t - 1$	72
3.6	Transition probabilities	76
3.7	Heterogeneity and state dependence effect	82
4.1	Median wages for men and women, 1991–97	90
4.2	Descriptive statistics for the higher pay and low-pay samples split by higher pay and lower pay	90
4.3	Descriptive statistics for the higher pay and low-pay samples split by gender	93
4.4	Principal components analysis of job satisfaction determinants (component matrix)	103
4.5	Overall job satisfaction	105
4.6(a)	Low-paid males	111
4.6(b)	Low-paid women	116
4.6(c)	High-paid males	120
4.6(d)	High-paid females	124
4.7(a)	The impact of moving out of low pay on the probability of a change in job satisfaction: probit estimates	130

4.7(b)	The impact of moving out of low pay on the probability of a change in satisfaction with pay: probit estimates	132
4.8(a)	The impact of moving into low pay on the probability of a change in overall job satisfaction: probit estimates	134
4.8(b)	The impact of moving into low pay on the probability of a change in satisfaction with pay: probit estimates	136
5.1	Belgian tax schedule: year 1997	147
5.2	Descriptive statistics: men	156
5.3	Descriptive statistics: women	157
5.4	Results of the estimation of (1) and (2) by ML: selection equation	159
5.5	Estimation results of (1) and (2) by ML: wage equation	160
5.6	Estimation results of (1) and (2) by ML: other parameters	160
5.7	Mean observed and expected wages	162
5.8	C.d.f. of observed and estimated income ratios by year: men	165
5.9	C.d.f. of observed and estimated income ratios by year: women	166
5.10	Observed income ratios: OIR_a (workers with observed wage)	166
5.11	Estimated income ratios: EIR_1a (whole sample)	167
5.12	Estimated income ratios: EIR_2a (whole sample)	167
5.13	Observed income ratios: OIR_b (workers with observed wage)	167
5.14	Estimated income ratios: EIR_1b (whole sample)	168
5.15	Estimated income ratios: EIR_2b (whole sample)	168
5.16	Estimated income ratios for the 'fictionally' employed	168
5.17	FE logit model: men	169
5.18	FE logit model: women	170
6.1	FGLS regression results	187
6.2	Decrease in cost share of low-skilled workers explained by outsourcing	189
6.3	Employment share of high-skilled labour in %	191
7.1	Number of firms by activity branch and by group	207

7.2	Wage equations in the monopsonistic groups	209
7.3	Lower skilled proportions in the inflows among monopsonistic and other firms: statistical data	211
7.4	Testing for equal skill levels proportions in inflows between monopsonistic and other firms	212
7.5	Age proportions among monopsonistic and other branches: statistical data	212
7.6	Testing for age proportions between monopsonistic and other branches	213

# List of Figures and Graphs

## Figures

3.1	Probability plot $\Pr(y_t = 1   y_{t-1} = 1)$ for the 2/3 median threshold on education	79
3.2	Probability plot $\Pr(y_t = 1   y_{t-1} = 1)$ for the 2/3 median threshold on experience measured by the age	79
4.1	Overall job satisfaction	95
4.2	Satisfaction with promotions	95
4.3	Satisfaction with pay	96
4.4	Satisfaction with boss	96
4.5	Satisfaction with job security	97
4.6	Satisfaction with job initiative	97
4.7	Satisfaction with work itself	98
4.8	Satisfaction with hours of work	98
4.9	Overall job satisfaction	99
4.10	Satisfaction with promotions	99
4.11	Satisfaction with pay	100
4.12	Satisfaction with boss	100
4.13	Satisfaction with job security	101
4.14	Satisfaction with initiative	101
4.15	Satisfaction with work itself	102
4.16	Satisfaction with hours of work	102

## Graphs

7.1	Labour market equilibrium under perfect competition	199
7.2	Monopsonistic equilibrium at the firm (and the branch) levels	199

# Introduction

*Danièle Meulders, Robert Plasman and François Rycx*

The 79th Applied Econometrics Association Conference was organised with the specific aim of stimulating discussion on the 'Econometrics of Wages'. Various sessions have in particular focused on *Minimum Wages, Low Pay and Unemployment*. The collection of papers in this book, originally presented at the Conference, provides some new insight into this topic. In what follows a short summary of these papers is presented.

## **Minimum wages, low pay and job satisfaction**

Prior to April 2000 minimum wages in Ireland were set by number of industry-specific Joint Labour Committees. As a result the majority of Irish workers were not covered by these agreements. Furthermore for those that were covered the wages specified were often quite low and enforcement was weak. In April 2000 the Irish government introduced a national minimum wage of IR£4.40 (approx €5.60) an hour which covered almost all adult workers. In the opening chapter, Donal O'Neill (NUI Maynooth) uses Labour Force Survey data, along with data from a new survey of firms to describe the effect this legislation had on the labour market in Ireland. The author shows that firm's prior views on the likely impact of the minimum wage were not consistent with reported ex-ante outcomes. The evidence suggests that at the time it was introduced the minimum wage had little effect on most dimensions of business organisation in Ireland.

In Chapter 2, Lorenzo Cappellari (Università del Piemonte Orientale) use Italian panel data to analyse transition probabilities at the bottom of the earnings distribution during the 1990s. The analytical framework is characterised by the ability to account for endogeneity of initial conditions and earnings attrition. Results show that both are endogenous for the estimation of low pay transitions. In particular it is found that the low paid are more likely to exit from the earnings distribution compared to the higher paid, revealing higher employment instability. The data also reveal considerable state dependence, that is, the probability of experiencing low pay depends upon past low pay experiences rather than on personal attributes. Extensions of the model to longer term transitions suggest that state

dependence effects are concentrated at the beginning of low pay spells, while subsequent low pay experiences contribute to a lesser extent.

In Chapter 3, Augustin De Coulon (Queen Mary, University of London and CEP, London School of Economics) and Boris A. Zürcher (Swiss State Secretariat for Economic Affairs) investigate whether the low-paid individual at one time tends to move to another state two years later. With the under-used Swiss Labour Force Survey, the authors construct three panels following individuals two years apart from 1992 until 1998. They observe on two transition matrices that the probability of being low paid is much higher for those low paid two years earlier than for those high paid two years earlier. In addition, they investigate this difference using a bivariate probit with endogenous selection into the initial state. Results on the determinants of the probability of remaining low paid and high paid are presented. The authors investigate whether the observed difference in low pay probabilities is due to individual heterogeneity or state dependence. Their results suggest that low-pay spells are both, transitory and persistent events. A sizeable portion of workers low-paid at some point in time succeeds to escape the low-pay segment within a two-year period. But between 69 and 81 per cent of the difference in low-pay probabilities is due to state dependence and this result provides further support to the view that time spent in low pay has a detrimental effect and tends to cause further spells of low pay.

Increasingly in the European Union low-paid employment and job quality have become important policy issues. Recently job satisfaction has been used as a proxy for job quality. In Chapter 4, Rannia M. Leontaridi (CELMR, University of Aberdeen and University of Stirling) and Peter J. Sloane (WELMERC, University of Wales Swansea and IZA) use the British Household Panel Study from 1991 to 1997 to explore further these issues. First they define low pay using the two-thirds of the median classification and examine the levels of overall job and pay satisfaction for the lower and higher paid groups by gender. Given the importance of comparative income measures in the literature their chapter focuses both on the actual level of pay and comparison pay, which is derived from a nationally representative sample in the New Earnings Survey. Second, they use a random-effects estimator to deal with problems of individual heterogeneity in the sample. Third, they explain changes in job satisfaction by changes in pay and other individual and industrial characteristics. Their chapter has particular relevance to current policy issues. For instance, if low-paid workers generally have high levels of job satisfaction this casts doubt on the suggestion that low-paid jobs are invariably of low quality. The results suggest surprisingly

that there is no clear evidence that higher paid workers have higher job satisfaction than lower paid workers. This is particularly the case for women, which may be in accord with the compensating differentials theory as opposed to good jobs versus bad jobs view of the labour market. But it also emphasises that pay is not everything. This implication is reinforced when the authors consider mobility from low to higher paid jobs and vice versa. Overall, findings thus suggest that it is by no means always the case that moving from a lower paid to a higher paid job leads to increases in job satisfaction.

## **Low pay and unemployment**

In Chapter 5, Anna Cristina D'Addio (CIM, University of Aarhus and HIVA, K.U. Leuven), Isabelle De Greef (IRES, Université Catholique de Louvain) and Michael Rosholm (University of Aarhus, IZA and CIM) investigate whether unemployment traps affect the transition into employment of Belgian individuals interviewed in the waves 3 to 7 of the Panel Study of Belgian Households. To compute replacement rates, the authors specify and estimate with maximum likelihood techniques a parametric random effects model on (unbalanced) samples of men and women. The estimates are subsequently used to predict wages for all individuals in the sample and to compute income ratios, that is, the ratios between income as employed and as unemployed. Further, to assess whether the amount of incomes in and out of work affects individuals' transition into employment, they have estimated a fixed effects logit model. Significant differences exist in the participation behaviour of men and women and the issue of sample selectivity seems more important for women. This suggests that their transition back into work is highly selective. Moreover, a high proportion of their transitions into work are associated with important financial losses. This problem also affects men, but to a lower extent. In addition, the authors notice that quite a high share of unemployed men and women that are unemployed over the whole survey period, are 'potentially trapped' financially in the unemployment state since their transition into work would be accompanied by a substantial reduction in their disposable income. This is particularly true for single women with and without young children. Finally the results of the fixed effects logit model suggest that women are particularly sensitive to the amount of income they are granted when out of work.

Against the background of the deteriorating fortunes of low-skilled workers in terms of their relative employment position, Ingo Geishecker (DIW Berlin) analyses in Chapter 6 how international outsourcing may

affect the relative demand for low-skilled workers. In contrast to previous empirical work, the single elements of the input–output-matrix are used to disentangle international outsourcing and trade in final goods more accurately. The main finding is that, while in total manufacturing international outsourcing only has a negligible impact on the relative demand for low-skilled workers, there are however some industries, such as the electrical engineering, chemical, office machinery/computer and the paper industry, together accounting for about a quarter of total employment, where international outsourcing has been of high importance, explaining up to 47 per cent of the change in the relative demand for low-skilled labour between 1978 and 1993.

In the final chapter, Benoît Mahy and Isabelle Paindavoine (CRW, Université de Mons-Hainaut) analyse whether monopsonistic competition appears in the Belgian labour market situation, from a labour demand view. Belgian institutional facts tend to show that, though bargaining process appears to dominate wage determination, some firms could still pay wages that are lower than marginal productivities. These mark-ups or exploitation rates can be explained by monopsony, as it is shown by the theoretical model. The authors mention facts as some sectors that are dominated by few firms. Using a balanced panel of firms, they test for monopsonistic behaviour in two ways, testing for positive exploitation rates and for positive relationship between wages and employment among firms. They show that, even if they control for other potential explanations, tests are not conclusive. But they still support the monopsonistic assumption in 8.32 per cent of cases, a proportion that could further underestimate the reality for aggregation reasons. Considering other datasets, the authors also estimate that monopsony seems to dominate among firms occupying younger and lower skilled individuals. In policy terms, their results tend to show that deregulation could not necessarily serve to improve Belgian labour market shortage, while it probably worsens individual well-being.