



UNEMPLOYMENT

MACROECONOMIC PERFORMANCE AND THE LABOUR MARKET

RICHARD LAYARD STEPHEN NICKELL RICHARD JACKMAN

Unemployment

*Macroeconomic Performance
and the Labour Market*

RICHARD LAYARD STEPHEN NICKELL

RICHARD JACKMAN

OXFORD UNIVERSITY PRESS

1991

Oxford University Press, Walton Street, Oxford OX2 6DP

Oxford New York Toronto

Delhi Bombay Calcutta Madras Karachi

Peking Taipei Singapore Hong Kong Tokyo

Nairobi Dar es Salaam Cape Town

Melbourne Auckland

and associated companies in

Berlin Ibadan

Oxford is a trade mark of Oxford University Press

Published in the United States

by Oxford University Press, New York

© R. Layard, S. Nickell, R. Jackman 1991

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of Oxford University Press

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out or otherwise circulated without the publisher's prior consent in any form of binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser

British Library Cataloguing in Publication Data

Data available

ISBN 0-19-828433-0

ISBN 0-19-828434-9 (pbk.)

Library of Congress Cataloging in Publication Data

Layard, P. R. G. (P. Richard G.)

Unemployment : macroeconomic performance and the labour market /

Richard Layard, Stephen Nickell, Richard Jackman.

P. cm.

Includes bibliographical references and index.

- 1. Unemployment. 2. Inflation--Effect of Unemployment on
3. Labor market. I. Nickell, S. J. II. Jackman, Richard, 1945-.
III. Title.*

HD5707.5.L393 1991 331.13'7--dc20 91-605

ISBN 0-19-828433-0

ISBN 0-19-828434-9 (pbk.)

Typeset by Latimer Trend & Company Ltd, Plymouth

Printed in Great Britain by

the Alden Press, Oxford

Preface

UNEMPLOYMENT is a major source of human misery. Despite economic growth, it is a bigger problem now than in most of the last fifty years. In Western Europe three times more people are out of work than in the 1960s, and the numbers in Eastern Europe are rising rapidly. The US job market has been more resilient, but in many sections of the community unemployment remains a source of dread.

No economy can function well without some unemployment. But do we really need this much, and, if not, how can it be reduced?

To answer these questions, we must first understand how unemployment comes about and why it changes. This is the prime purpose of this book. We develop a general framework of analysis, and then use it to explain the history of our times. Unemployment depends on so many different factors that it is not easy to find a single coherent framework for analysing how they interact. Yet without such a framework, it is difficult to refute the apparent plausibility of a thousand quack remedies.

An adequate framework requires a new combination of macroeconomics with a detailed micro analysis of the labour market. Traditionally, macroeconomics has concerned itself with how temporary shocks make unemployment fluctuate in the short term around its average level, while labour economics has focused on what determines that average level—factors such as unemployment insurance, labour mobility, and the like. But it has become more and more obvious that the average level itself varies greatly between decades, with previous unemployment exerting a persistent effect on subsequent unemployment. To explain this persistence requires new micro foundations of macroeconomics, going far beyond the influences considered in the 1970s.

A key issue is the role of the employed ‘insiders’ and the unemployed ‘outsiders’ in the labour market. How do they affect wage pressure and thus set limits to non-inflationary growth? The employed insiders want to have wages set in their own interest, with little regard to the interests of the unemployed outsiders. But the outsiders still have a role. If they search less hard for work or

Preface

are unsuited to the jobs available, this reduces the effective supply of labour and thus increases wage pressure. Through these mechanisms it becomes quite easy for a relatively small shock, like an oil price rise, to have long-lasting effects.

But there are many other issues. To fit them all in, we develop a single integrated view of the labour market, which explains both the stock of unemployed people and the flows into and out of unemployment, as well as the evolution of wage and price inflation. It allows for union bargaining, efficiency wages, unemployment insurance, labour mobility, and many other influences. It draws on microeconomic and macroeconomic evidence, and provides a convincing explanation of the astonishing movements of unemployment and inflation that have occurred in the post-war world.

The analysis we present is in many ways original. This is bound to be the case, since recent events have so often been inconsistent with old explanations, and since many basic issues still lack an adequate analytical framework. But we have also aimed to incorporate the best of existing knowledge. In this sense we have tried to write a book that is simultaneously a contribution to new social thought and a textbook.

Using the book

We have written the book so that it can be used at many levels. The overview in Chapter 1 is much simpler than the rest, and can, we hope, be followed by any general reader with knowledge of elementary economics. We have tried to write it so that the argument can be followed while skipping the maths. For what ultimately matters is what is in the minds of politicians, administrators, and voters. We would not have written the book unless we hoped that it would affect how they think.

Much of the rest of the book is also widely accessible. It aims to link theory and evidence throughout. None of it requires more than intermediate economics, and each chapter has a succinct summary.

For teaching purposes, a macro-oriented course could consist of Chapters 1, 2 (Sections 2 and 7), 3 (Section 4), 5 (Section 5), 6 (Section 3), 7, 8, and 9, while a labour-oriented course could consist of Chapters 1, 2, 3, 4, 5, 6, 9, and 10. As a stimulus to thought, we include at the end a series of possible discussion/essay questions.

Our thanks

We have learned so much from our colleagues that it is difficult to distinguish our own thoughts from theirs. Nearly every idea and piece of evidence in the

Preface

book has been discussed with Christopher Pissarides and Sushil Wadhvani; and Sushil Wadhvani has generously allowed us to use his draft as the basis for Chapter 4. We have also had constant help from our other colleagues in the Centre for Labour Economics (now incorporated in the Centre for Economic Performance), and especially from Charles Bean, David Grubb, Andrew Oswald, and James Symons. In some ways the authors of this book should be 'the Centre'.

But we owe almost as much to our friends in the USA. Olivier Blanchard has taught us so much on so many issues, as has George Johnson. Rudi Dornbusch has been a constant source of encouragement.

Orley Ashenfelter generously proposed holding a conference near Princeton, NJ, to discuss an early draft of the book. The John M. Olin Conference on Unemployment was organized by Alan Krueger, and we learned much from the comments of the discussants: Robert Solow, Lawrence Katz, Peter Diamond, George Johnson, Alan Krueger, Gregory Mankiw, Larry Summers, Martin Weitzman, David Card and Richard Freeman. They caused us much rewriting! We also organized our own conference in Sussex, England, and have learned much from the contributions of our colleagues here: James Malcomson, Alan Manning, David Stanton, Richard Blundell, Patrick Minford, Andrew Britton, Gavyn Davies, George Alogoskoufis, Peter Sinclair, Michael Hoel, and, above all, David Soskice.

We have received invaluable research support from Savvas Savouri, who played a major role in Chapter 6, and from Paul Kong and Mark Walsh, who did the same in Chapter 9. The whole manuscript received comments from Mark Armstrong; and Bob Gross, Hartmut Lehmann, Marcus Rubin, Mike Sadler, and, especially, John Schmitt were key figures in helping us with the final draft.

The number of drafts has been uncountable. Only three wonderful people could have coped with the typing: Joanne Putterford, Phyllis Gamble, and Caroline Wise.

Andrew Schuller has been a patient and helpful publisher, and Gary Fethke organized an enjoyable stay for two of us at the University of Iowa, where some key chapters were drafted. Throughout the long process of this work, the Centre has been financed by the Economic and Social Research Council, the Department of Employment, and the Esmee Fairbairn Charitable Trust. Their support has been invaluable. But the chief support has been from our families.

Thank you all.

London and Oxford

R. L.

S. N.

R. J.

December 1990

CONTENTS

<i>Preface</i>	xiii
1. Overview	1
 The Microfoundations	
2. Wage-Bargaining and Unions	83
3. Efficiency Wages	150
4. Wage Behaviour: the Evidence	173
5. Job Search: the Duration of Unemployment	216
6. Mismatch: the Structure of Unemployment	285
7. The Pricing and Employment Behaviour of Firms	336
 The Macroeconomic Outcome	
8. The Macroeconomics of Unemployment	361
9. Explaining Post-war Unemployment in OECD Countries	397
 Policy Implications	
10. Policies to Cut Unemployment	471
<i>Annexes</i>	512
<i>Discussion Questions</i>	556
<i>List of Symbols</i>	560
<i>List of Tables</i>	562
<i>List of Figures</i>	565
<i>References</i>	568
<i>Index</i>	593

Detailed Contents

Preface

xiii

1. Overview	1
1. Facts to be explained	1
2. Our broad approach	8
3. What determines equilibrium unemployment?	12
4. Why does unemployment fluctuate?	16
5. How do real wages relate to unemployment?	19
6. If labour markets don't clear, why don't wages fall?	22
7. How do import prices, taxes, and productivity affect unemployment?	31
8. How does job-search behaviour affect unemployment?	34
9. Is unemployment voluntary or involuntary?	41
10. Why are some groups more unemployed than others?	44
11. Why has unemployment differed between countries?	48
12. How can unemployment be reduced?	61
13. Summary	75
Notes	77

MICROFOUNDATIONS

2. Wage Bargaining and Unions	83
1. Basic facts and bargaining theory	86
2. How unions affect unemployment	100
3. Bargaining over employment? A digression	112
4. Does featherbedding create jobs?	118
5. A world with good and bad jobs	125
6. Corporatism: centralized versus decentralized bargaining	129
7. Trade unions and nominal inertia	138
8. Summary	143
Notes	144

Detailed Contents

3. Efficiency Wages	150
1. 'Recruit, retain, and motivate': basic theory	151
2. Underlying mechanisms	157
3. Evidence	164
4. Efficiency wages and the persistence of unemployment	168
5. Summary	170
Notes	172
 4. Wage Behaviour: The Evidence	 173
1. Is the labour market competitive? Inter-industry evidence	174
2. The effect of outside and inside factors	181
3. The effect of the characteristics of the firm	189
4. The effect of unions	193
5. The effect of unemployment	199
6. The effect of productivity	204
7. Real wage resistance and benefit effects	209
8. Nominal inertia	211
9. Summary	212
Notes	214
 5. Job Search: The Duration of Unemployment	 216
1. Unemployment duration: the facts	220
2. Job search: theory	230
3. Job search: the facts	235
4. Determinants of duration: cross-section evidence	250
5. Determinants of duration: time-series evidence	256
6. Unemployment inflow and the U/V curve	266
7. Determinants of vacancies	272
8. Summary	276
Appendix: Job search of unemployed people in Britain, 1987	277
Notes	282
 6. Mismatch: The Structure of Unemployment	 285
1. The structure of unemployment: some facts	286
2. How the structure of unemployment is determined	299
3. How mismatch is related to the NAIRU	307
4. Evidence on sectoral wage behaviour and on mobility	313
5. Policy implications	317
6. Mismatch and the unemployment–vacancy relationship	324
7. Summary	331
Notes	333

Detailed Contents

7. The Pricing and Employment Behaviour of Firms	336
1. A static model of price and employment behaviour	338
2. Dynamic models of prices and employment with convex adjustment costs	342
3. Time delays and staggered price-setting	351
4. Optimal pricing with fixed costs of adjustment	354
5. Summary	356
Notes	358

THE MACROECONOMIC OUTCOME

8. The Macroeconomics of Unemployment	361
1. A closed-economy model	362
2. The dynamics of the model	370
3. The unemployment-inflation trade-off and the NAIRU	377
4. The open-economy model	384
5. The behaviour of the open economy	389
6. Summary	393
Notes	395
9. Explaining Post-war Unemployment in OECD Countries	397
1. The model	401
2. Evidence on the parameters	402
3. Explaining changes in unemployment	408
4. Explaining the key parameters	413
5. A common multi-country equation for unemployment dynamics	430
6. Unemployment in Britain: a case-study of the open economy	437
7. Summary	448
Appendix: The derivation of model parameters	449
Notes	467

POLICY IMPLICATIONS

10. Policies to Cut Unemployment	471
1. Policies for the unemployed: benefits and active manpower policy	472
2. Policies on mismatch: employment subsidies and training	482
3. The reform of wage-bargaining and incomes policy	483
4. Marginal employment subsidies	490
5. Non-targeted public employment	492
6. Profit-sharing	493
7. Work-sharing and early retirement	502
8. Deregulation	508
9. Summary	508
Notes	510

Detailed Contents

Annexes	512
1.1 The 'intertemporal substitution' theory of fluctuations	512
1.2 A model of the OECD economy with endogenous commodity prices	513
1.3 Unemployment benefit systems in OECD countries	514
1.4 Wage-bargaining systems in OECD countries	517
1.5 Optimal disinflation policy with hysteresis in wage-setting	524
1.6 Unemployment and inflation series for each OECD country	526
2.1 A brief note on implicit contract theory	533
2.2 Bargaining theory	533
2.3 Properties of the survival function	537
2.4 Effect of employment measures upon wage-bargaining in corporatist economies	538
3.1 Efficiency wages and bargaining combined	539
4.1 Wage determination in a turnover model	541
4.2 A model of wages and employment in a two-stage bargaining framework	541
5.1 Unemployment stocks and flows: selected countries	544
5.2 The reservation wage: the dynamic programming approach	547
5.3 Allowing for employed job-seekers	549
6.1 Mismatch and substitution between types of labour	550
8.1 A 'disequilibrium' framework	551
Notes	554
<i>Discussion Questions</i>	556
<i>List of Symbols</i>	560
<i>List of Tables</i>	562
<i>List of Figures</i>	565
<i>References</i>	568
<i>Index of Names</i>	593
<i>Index of Subjects</i>	598

1

Overview

UNEMPLOYMENT matters. It generally reduces output and aggregate income. It increases inequality, since the unemployed lose more than the employed. It erodes human capital. And, finally, it involves psychic costs. People need to be needed. Though unemployment increases leisure, the value of this is largely offset by the pain of rejection.

So we have to explain why unemployment occurs, how it changes over time, and why it affects some kinds of people and not others. We can then suggest policies that will make things better.

1. Facts to be explained

Let us begin with some of the key facts that need to be explained.

1. Unemployment fluctuates over time. Some of these fluctuations are short-term changes which get reversed quite quickly. But there are also big secular changes (see Fig. 1). The 1960s were a period of very low unemployment. Since then unemployment has risen in most countries. The rise has been much worse in the European Community (EC) than anywhere else, with unemployment increasing in every year between 1973 and 1986 (from 3 to 11 per cent). After 1986 European unemployment fell—but very slowly. The major falls were in Britain and Spain.

2. Unemployment varies much more between business cycles than within business cycles. This is true of almost all countries. For example, unemployment rose hugely between the 1920s and 1930s, and then fell to very low levels in most countries during and after the Second World War.

This is illustrated for the USA and Britain in Fig. 2, which shows how much average unemployment varies between business cycles. To summarize this

Chapter 1

variation, we can divide the twentieth century into half-decades and take the average unemployment for each half-decade. For Britain the standard deviation of these averages is 3.16. This is hardly any less than the standard deviation of the *annual* unemployment rates, which is 3.36. The corresponding figures for the USA are 4.29 and 4.88. Thus, most of the annual variation 'comes from' the long-frequency fluctuations between half-decades rather than from the short-frequency fluctuations within half-decades.¹ Conventional business cycles account for relatively little of the history of unemployment.

The reasons for this are a central issue of this book. In our view they stem

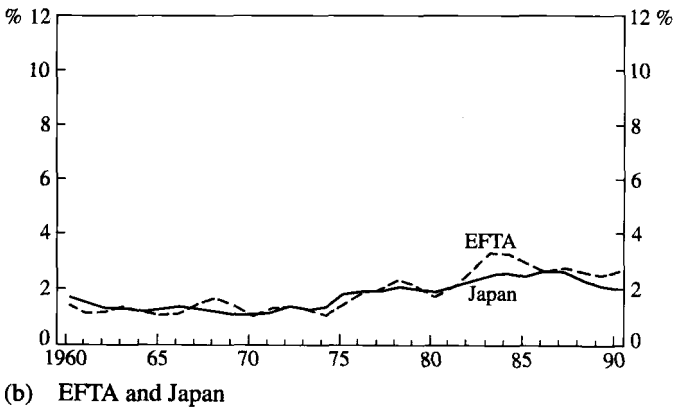
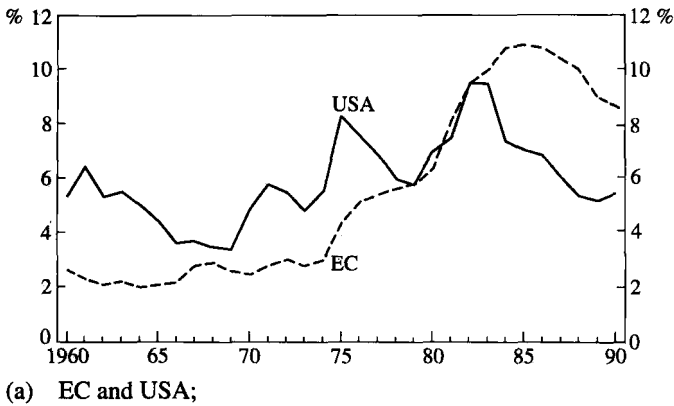


Fig. 1. *Unemployment, 1960–1990.*

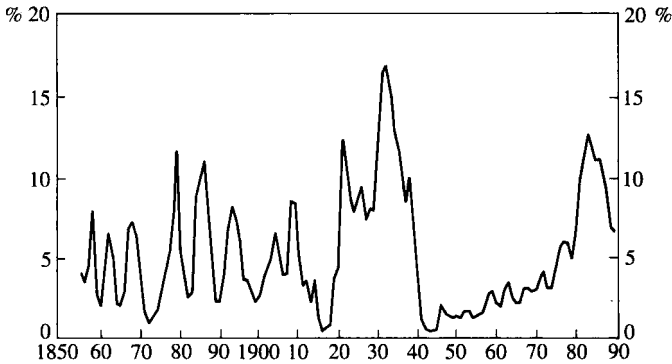
EFTA (the European Free Trade Area) includes Norway, Sweden, Finland, Austria, and Switzerland. Detailed annual data for each country are in Annex 1.6.

Sources: see Annex 1.6.

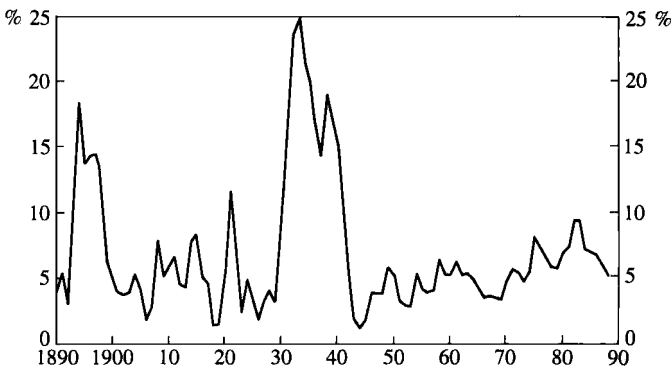
Overview

from two sources: first, there are long-period changes in social institutions; and, second, big shocks to the system (such as oil price rises or major wars) have long-lasting effects.

The main social institutions that affect unemployment are the unemployment benefit system and the system of wage determination. In Europe unemployment benefit systems generally became more generous financially and more readily available up to around 1980. This did not happen in the USA. In addition, the position of the unions became increasingly strong in Europe up to around 1980. Union membership grew in many countries, while



(a) UK



(b) USA

Fig. 2. *Unemployment since the nineteenth century:*

Sources: UK: Feinstein (1972), chained to data in Annex 1.6, OECD series. USA: 1890–1954: U.S. Census, *Historical Statistics of the United States* (1976), Series D85–86, chained to 1955–1990 series in Annex 1.6.

it was falling in the USA. On most indices, militancy grew. For example, from 1968 onwards (the year of the Paris riots) the number of industrial conflicts rose sharply (see Fig. 3). Even before the oil shocks, increased militancy was making it difficult to contain inflation without rising unemployment.

However, it was the big commodity price shocks of 1973–4 and 1979–80, shown in Fig. 4, that gave the sharpest impulse to inflation. And the ensuing efforts of governments to disinflate then led to the further rises in unemployment. Europe, as a major importer of raw materials, suffered much more from the commodity price rises than did the USA, which is much more self-sufficient. But what surprised everybody was the extraordinary persistence of European unemployment in the 1980s, and the fact that inflation fell so slowly despite mass unemployment. In our view, a key to understanding this is the emergence of long-term unemployment.

3. The rise in European unemployment has been associated with a massive increase in long-term unemployment (see Table 1). In most European countries the proportion of workers entering unemployment is quite small: it is much lower than in the USA and has risen little. The huge difference is in the duration of unemployment: nearly half of Europe's unemployed have now been out of work for over a year. As we shall show, long-term unemployment reduces the effectiveness of the unemployed as potential fillers of vacancies. Once long-term unemployment has taken root, it has a very weak tendency to correct itself. This helps to explain our next fact.

4. In many countries the level of unemployment has risen sharply relative to the level of vacancies. This suggests either an increase in mismatch (which we question) or a failure of the unemployed to seek work as effectively as before.

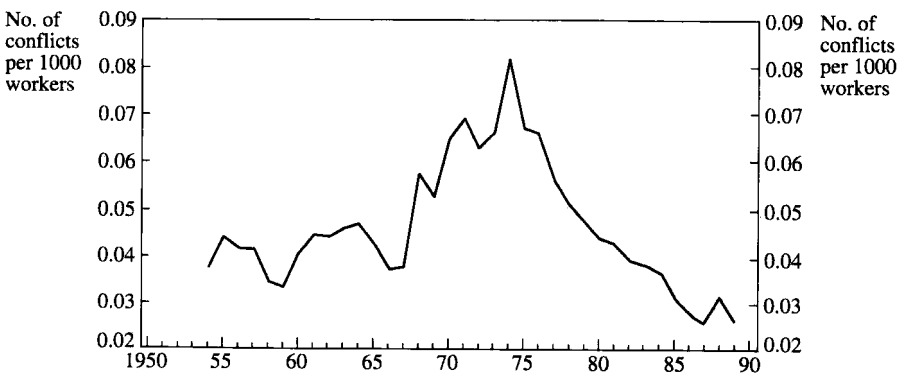


Fig. 3. *Industrial conflicts in the OECD, 1954–1989.*

Sources: ILO, Yearbook of Labour Statistics; OECD, Labour Force Statistics.

5. Despite all this, unemployment is untrended over the very long term (see Fig. 2). This is a key point. It suggests that ultimately there are very powerful mechanisms at work which have forced the number of jobs to respond to huge changes that have occurred in the numbers of people wanting work. It also suggests that in the long term productivity and taxes have no impact on unemployment.

These are the main time-series facts about unemployment. We turn now to cross-sectional differences.

6. Unemployment differs greatly between countries (see Table 1). Among industrial countries it is worst in the countries of the EC, while the other Western European (EFTA) countries (Norway, Sweden, Finland, Austria, and Switzerland) and Japan have been remarkably unaffected (see Fig. 1). This appears to be due to differences in social institutions, with the latter countries having highly corporatist wage-setting arrangements and/or shorter entitlements to benefits (combined in Sweden with major training and employment programmes for the unemployed). These arrangements both inhibited unemployment's original rise and ensured that unemployment did not persist. In the USA there was by contrast a big rise in unemployment in the early 1980s, but, with unemployment benefits running out after six months, this could not persist.

The differences in unemployment rates in Table 1 are quite genuine. People are defined as unemployed if they are not working but are available for work and have taken specific steps to find work within the last month. This is the

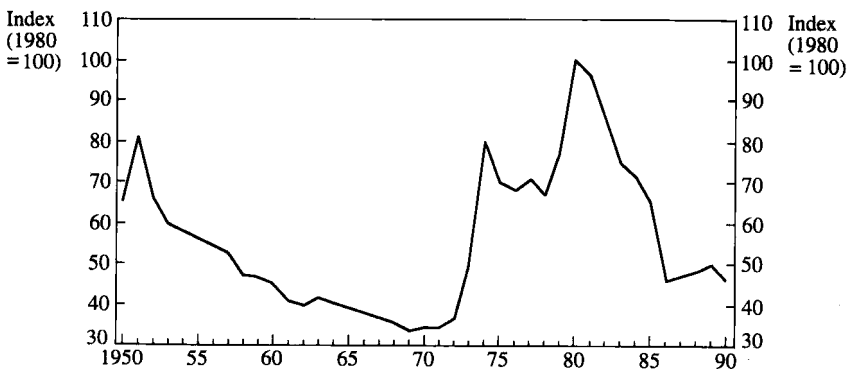


Fig. 4. *Real commodity prices (including oil), 1950-1990.*

Sources: UN, Statistical Papers Series M, no. 82, and Monthly Bulletin; IMF, International Financial Statistics; OECD, Main Economic Indicators.

Chapter 1

standard OECD definition, and the data are generally got by household surveys such as the EC Labour Force Survey or the US Current Population Survey. Unemployed people do of course differ in the intensity with which they seek work and in the type of work they are willing to accept. We shall discuss this issue at length. But it in no way invalidates the concept of unemployment, any more than the concept of tallness is invalidated by the fact that, if we defined tall as 'over 6 feet', some people are even taller.

7. Few unemployed people have deliberately chosen to become unemployed. In the USA about a half have lost their last job, a quarter have re-entered the

Table 1 *Percentage of labour force unemployed, 1979 and 1990*

	1990			1979		
	<i>All</i>	<i>Under 1 year</i>	<i>Over 1 year</i>	<i>All</i>	<i>Under 1 year</i>	<i>Over 1 year</i>
Belgium	8.7	1.9	6.8	8.2	3.4	4.8
Denmark	9.6	6.8	2.8	6.2	—	—
France	8.9	5.4	3.5	5.9	4.1	1.8
Germany	5.0	2.6	2.4	3.2	2.6	0.6
Ireland	14.0	4.8	9.2	7.1	4.8	2.3
Italy	7.9	2.4	5.5	5.2	3.3	1.9
Netherlands	7.6	3.8	3.8	5.4	3.9	1.5
Portugal	5.1	2.5	2.6	4.8	—	—
Spain	16.2	6.7	9.5	8.5	6.1	2.4
UK	6.5	3.6	2.9	5.0	3.8	1.3
Australia	6.8	5.2	1.6	6.2	5.1	1.1
New Zealand	7.6	—	—	1.9	—	—
Canada	8.1	7.6	0.5	7.4	7.1	0.3
USA	5.5	5.2	0.3	5.8	5.6	0.2
Japan	2.1	1.7	0.4	2.1	1.7	0.4
Austria	3.3	2.9	0.4	1.7	1.5	0.2
Finland	3.4	2.8	0.6	5.9	4.8	1.1
Norway	5.3	4.7	0.6	2.0	1.9	0.1
Sweden	1.6	1.5	0.1	1.7	1.6	0.1
Switzerland	1.8	—	—	0.9	—	—

Source: Unemployment rates have so far as possible been standardized, as described on page 529. Percentage of unemployed who are unemployed over one year is from OECD, *Employment Outlook*, 1985, Table H (for 1979) and 1990, Table M (which refers to 1988 or 1989).

Notes: Detailed country series for unemployment and inflation are given on pp. 526–32.

Throughout this book, 'Germany' refers to 'West Germany'.