Applied Economics

Edited by Brian Atkinson Frank Livesey and Bob Milward



Edited by Brian Atkinson with Frank Livesey and Bob Milward



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First published 1998 by MACMILLAN PRESS LTD Houndmills, Basingstoke, Hampshire RG21 6XS and London Companies and representatives throughout the world ISBN 978-0-333-67382-9 ISBN 978-1-349-14250-7 (eBook) DOI 10.1007/978-1-349-14250-7

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

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

Copy-edited and typeset by Povey–Edmondson Tavistock and Rochdale, England

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CONTENTS

List of Tables List of Figures Notes on the Contributors Acknowledgements	vii xi xiii xv
Introduction	xvi
Chapter 1: How Firms Decide Prices Frank Livesey	1
Chapter 2: Small Firms Frank Livesey	23
Chapter 3: How Firms Grow Frank Livesey	41
Chapter 4: Oligopoly and Monopoly Frank Livesey	66
Chapter 5: Competition Policy Frank Livesey	82
Chapter 6: Privatisation <i>Frank Livesey</i>	98
Chapter 7: Multinationals Frank Livesey	118
Chapter 8: Labour Markets Stephen Smith	130
Chapter 9: Poverty Bob Milward	149
Chapter 10: Social Policy: Health and Education <i>Brian Atkinson</i>	163
Chapter 11: Housing Paul Balchin	178
Chapter 12: The Environment <i>Bob Milward</i>	202
Chapter 13: Regional Policy <i>Paul McKeown</i>	213

vi Contents

Chapter 14: Agriculture David Colman and Jeremy Franks	232
Chapter 15: The Motor Industry Garel Rhys	250
Chapter 16: The Service Industries Frank Livesey	273
Chapter 17: Spending and Saving Julia Darby and Jonathan Ireland	288
Chapter 18: Investment Michael Kitson	307
Chapter 19: Public Expenditure Bob Milward	322
Chapter 20: Taxation Bob Milward	335
Chapter 21: Money and Monetary Policy David Gowland	349
Chapter 22: Inflation Brian Atkinson	368
Chapter 23: Unemployment Brian Atkinson	386
Chapter 24: International Trade Brian Atkinson	405
Chapter 25: Economic Aspects of the European Treaties <i>Brian Atkinson</i>	423
Chapter 26: Economic and Monetary Union <i>Brian Atkinson</i>	434
Chapter 27: Underdevelopment Bob Milward	447
Chapter 28: The Asian Tigers Bob Milward	461
Chapter 29: Finding out in Economics <i>Christine Ironfield</i>	471
Index	491

LIST OF TABLES

1.1	Pricing methods for different	
	types of product	2
1.2	Selling prices calculated	
	primarily on cost modified by	
	non-cost-related considerations	3
1.3	Ranking of alternative methods	
	of pricing main product	3
1.4	Factors leading to price increases	
	(or decreases)	3
1.5	Responses to a boom in demand	4
1.6	Non-cost-related methods of	
	fixing price	5
1.7	Price perceptions of brands	7
1.8	Perceptions of price of mineral	
	water	8
1.9	Prices of three categories of car	11
1.10	Effect of initial selling price on	
	subsequent sales	13
1.11	Export price basis and	
	discrimination	16
1.12	The consequences of a delivered	
	price system	17
1.13	Special terms received by large	
	multiples	18
2.1	International comparisons of	
	(non-agricultural) self-employment	23
2.2	Number of businesses,	
	employment and turnover by	
	size of business, end 1994	25
2.3	Small firms in the European Union	28
2.4	One-man businesses by sector,	• •
~ -	European Union	28
2.5	One-man businesses as	
	percentages of newly created	• •
	firms, 1992	28
2.6	Distribution of turnover by	
	industrial sector and	• •
	employment size band	29
2.7	Distribution of employment by	
	industrial sector and	
	employment size band	29

2.8	Relative importance of small	
	businesses, by country	29
2.9	Firm creation rates, 1992	30
2.10	Indices of small firms' share of	
	economic activity	30
2.11	Lifespan of businesses registered	
	for VAT	32
2.12	Changes in employment	34
3.1	Large firms' share of economic	
	activity	41
3.2	Share of turnover accounted for	
	by large firms, manufacturing	42
3.3	Large firms' share of economic	
	activity and average employment	42
3.4	Large firms' share of economic	
	activity by employment size	43
3.5	Changes in number of units	
	(1981=100) and average	
	employment	43
3.6	Engineering estimates of	
	economies of scale, USA	46
3.7	Main motives for merger activity	55
3.8	UK corporate restructuring,	(0)
• •	1980–92	60
3.9	UK corporate restructuring,	(1
41	1980–92 Share of tors fine EC firms in	61
4.1	share of top five EC firms in	
10	Concentration and profits	00 75
4.2	Concentration and profits	75
4.5	profit rates	77
51	Reports published by the	//
5.1	Monopolies and Mergers	
	Commission 1985_95	87
52	Analysis by activity of target	02
5.2	companies	83
53	Proposed mergers and value of	05
5.5	assets of target companies	
	classified by type of integration	8 /
54	MMC decisions on mergers	04
5.7	1991_95	R /
		04

viii LIST OF TABLES

5.5	Cross-border (Community)
	mergers, amalgamations and GDP
6.1	Accumulated privatization
	proceeds
6.2	Privatization via public offers of
	shares
6.3	The results of British
	privatizations
6.4	Privatization in East Germany, as
	at end 1994
6.5	Units in manufacturing industry,
	Czech Republic
7.1	Foreign sales as a percentage of
	total sales of top 100
	multinationals
7.2	The activities of Royal Dutch
	Shell
7.3	Stocks of outward foreign
	investment
74	Stocks of inward foreign
7.1	investment
75	Shares of FU foreign direct
1.0	investment in countries outside
	the EU 1082 01
76	Top 100 European MNIEs: foreign
7.0	assate and employment
77	Briging methods for internal
1.1	transform (%) of companies using)
01	Comparative labour force
0.1	Comparative labour force
0 1	Participation rates 1975, 1994
8.2	Ratio of female to male earnings,
0.7	Great Britain
8.3	Sectoral composition of UK
0.4	employment, 1980–95
8.4	UK balance of payments,
~ -	manufactured goods, 1951–95
8.5	Labour productivity index
	1990
8.6	Vocational qualification
8.7	Occupational structure of British
	employment, 1984, 1991
8.8	Unemployment benefit
	replacement ratio 1989
8.9	Average employer labour tax rate
	1988
8.10	Part-time working 1979, 1990
8.11	Temporary employment,
	1983–1991

	8.12	Self-employment, 1973–1993:	
86		% total employment	143
	8.13	Employees average total usual	
98		working hours per week	143
	8.14	UK–USA wage and employment	
99		changes, 1980–91	146
	9.1	Unemployment benefits in the	
102		European Union	150
	9.2	Distribution of income	153
113	9.3	Employees with gross earnings	
		below the Council of Europe's	
114		decency threshold	154
	9.4	Entitlement to benefits in Britain	155
	9.5	Numbers below 50 per cent of	100
118		contemporary average income	156
	9.6	The extent of poverty in	100
119	210	developing countries	157
	9.7	Income per capita, life	107
121		expectancy and adult literacy	157
	98	Income distribution: percentage	107
121	2.0	share of income or consumption	158
	9.9	Human Development Index and	100
	,,,	ranking for selected countries	158
122	9 10	Standardized unemployment	100
1	2.10	rates	160
123	10.1	GDP and human resources for	100
120	10.1	health 1991	164
127	10.2	Educational expenditure as a	101
	1012	percentage of GDP 1992	165
132	10.3	Proportions of the manufacturing	100
	2010	workforce with certified	
133		qualifications	172
200	11.1	Housing tenure and gross	
135		domestic product	179
	11.2	Housing tenure. United	
136		Kingdom, 1981–94	179
	11.3	Average house price and retail	
138	1110	prices 1970–96	180
138	114	Mortgages: main institutional	100
100		sources 1980–93 UK	181
139	11 5	Properties taken into possession	101
107	11.0	and mortgages in arrears 1985-92	182
141	11.6	Local authority housing	102
1.11	11.0	investment England	184
142	11 7	Housing subsidies and rents	10-1
142	11./	local authority sector	18/
172	11 0	Houses started Creat Britain	104
140	11.0	1000 05	105
140		1707-70	100

11.9	Local authority dwellings sold		15.7	Pr
	under right to buy legislation,		15.8	Jaj
	local authority completions and			co
	the local authority stock, GB	185	15.9	Та
11.10	Housing association rents,		15.10	UI
	1980–95: average per week	187		ра
11.11	Private sector rents, 1980–95:		15.11	Co
	average unfurnished per week	192		th
11.12	The number of dwellings and		15.12	Av
	households, 1991	193		ch
11.13	Number of dwellings and			ur
	households, UK	193	15.13	Pr
11.14	Government expenditure by		15.14	Ca
	function, 1980/81 to 1994/95	194	16.1	De
11.15	Housing investment and			in
	housebuilding, Western Europe	194	16.2	Gr
11.16	Houses started, Great Britain,			pe
	1965–95	196	16.3	Ĺa
11.17	Local authority homeless			со
	acceptances, 1979–94	197		pr
11.18	Principal bricks-and-mortar			m
	subsidies and individual		16.4	Sh
	allowances, Great Britain	198		gr
12.1	CO2 emissions from industrial			19
	processes	204	16.5	En
12.2	European Union national			sei
	reduction on targets for		16.6	En
	greenhouse gases	210		pr
13.1	The political economy spectrum	214		Br
14.1	The economic importance of the		16.7	Se
	agricultural sector	233		со
14.2	Resource availability to farmers		16.8	Ur
	in selected countries in the EU	234		co
14.3	The objectives of CAP: Article 39		16.9	Va
	of the Treaty of Rome (1957)	235		pe
14.4	CAP expenditure by commodities	238	16.10	Se
15.1	Optimum scale in various			pe
	processes	251	16.11	Gr
15.2	Volume to average unit cost			pe
	relationship	251	16.12	Re
15.3	European production of six			sel
	leading firms	252	16.13	Pa
15.4	World automobile industry wage		16.14	Nι
	costs	252		10
15.5	Share of Western European car	_	16.15	Ch
· · · · · ·	market	254		tel
15.6	Share of Western European		16.16	Ind
	production	255		(19
	r			(**

15.7	Production in EU countries 1996	256
15.8	Japanese production in European	
	countries 1996	256
15.9	Tariffs on cars 1950–96	257
15.10	UK motor industry's balance of	
	payments	258
15.11	Comparative car pre-tax prices in	
	the EU	262
15.12	Average annual percentage	
	change 1980-1995 and absolute	
	unit labour cost	266
15.13	Profits before interest and tax	267
15.14	Car production	270
16.1	Determinants of market structure	
	in European service industries	275
16.2	Growth in value added per	
	person (1985 prices)	276
16.3	Labour productivity per capita	
	compensation of employees, and	
	prices (market services minus	
	manufacturing)	276
16.4	Share of demand components in	
	gross commodity output, UK	
	1989	277
16.5	Employees in employment in	
	services, Great Britain, June 1996	277
16.6	Employees in services as a	
	proportion of the total, Great	
	Britain	278
16.7	Services, GDP at constant factor	
	cost 1994	278
16.8	United Kingdom GDP at	
	constant factor costs	278
16.9	Value added by industry as	
	percentage of total	278
16.10	Service employment as	
	percentage of total, Europe	278
16.11	Gross value added in services as	
	percentage of total GVA	279
16.12	Retailing employment and sales,	
	selected countries	279
16.13	Passenger travel, EU and UK	282
16.14	Number of telephone lines per	
	100 inhabitants	282
16.15	Changes in the EU	
	telecommunications industry	283
16.16	Index of employment 1991	
	(1980 = 100)	284
	· ·	

X LIST OF TABLES

16.17	Leading consultancy firms by	
	country of origin	285
17.1	Effect of a rise in real interest	
	rates on consumption in the	
	two-period model	301
17.2	Value of 'windfall' payouts to the	
	personal sector in 1997	304
18.1	Gross domestic fixed capital	
	formation 1960–92	309
18.2	Gross capital stock, 1960–92	309
18.3	Net capital stock, 1960–92	309
18.4	Gross domestic fixed capital	
	formation in manufacturing,	
	1960–92	309
18.5	Gross capital stock in	
	manufacturing, 1960–92	309
18.6	Net capital stock in	
	manufacturing 1960–92	309
18.7	Growth of the manufacturing	
	gross capital stock: international	
	comparisons	311
19.1	General government total	
	expenditure, 1993–8	323
19.2	The UK national debt, 1694–1993	329
19.3	General government gross debt	330
19.4	General government deficits	330
19.5	General government total current	
	receipts	331
19.6	Change in government	
	expenditure 1993–97	332
19.7	Major QUANGOs in Britain	333
20.1	Sources of taxation	338
20.2	International comparison of	
	indirect taxes as a proportion of	
	total taxation and social security	
	contributions	343
20.3	Taxes on capital in Britain as	
	percentage of total revenue	344
20.4	European Union corporation tax	
	rates 1994/5	345
22.1	Retail Prices Index, section	
	weights 1997	369
22.2	UK average inflation rates	37
22.3	The depreciation of the German	
	mark, 1921–23	374
22.4	Comparative inflation rates	37
23.1	Unemployment rates in selected	2
	countries, 1997	389
		20.

	23.2	Regional unemployment	390
5	23.3	Regional unemployment in the EU	391
	23.4	Job programmes 1995/96 budget	392
	23.5	Age-related unemployment in	
1		the European Union, 1994	392
	23.6	Male and female unemployment	
4		in selected European countries	393
	23.7	Unemployment rates by ethnic	
9		origin	393
9	23.8	Estimates of the actual and	
9		non-accelerating unemployment	
		rates of unemployment	402
	24.1	GATT negotiating rounds	407
9	24.2	Tariff changes in the Tokyo round	408
	24.3	Commodity dependency in	
9		selected countries	411
	24.4	Examples of the use of standards	
9		to block imports	417
	24.5	Costs to develop selected	
		commercial aircraft	419
1	25.1	Key events in European integration	426
	25.2	The main results of the Cecchini	
3		Report	431
9	26.1	The Madrid timetable for the	
0		single currency	438
0	26.2	Distribution of automobile	
		production	439
1	26.3	Single currency gains and losses	
		for the UK	441
2	26.4	Average inflation rates	444
3	27.1	Basic indicators for groups of	
8		economies	448
	27.2	Country rankings using GNP per	
		capita and HDI	450
	27.3	Rates of population growth	452
3	27.4	Development indicators for	
		selected economies, 1986–94	460
4	28.1	Basic economic indicators	462
	28.2	Structure of production, 1965–95	463
5	28.3	Growth of production – average	
		annual growth	463
9	28.4	Exports and imports and	
'1		imports, 1980–95	464
	28.5	Employment by sector, 1965–90	464
'4	28.6	Central government budget,	
′5		1970–95	466
	28.7	Gross domestic saving (% GDP),	
9		1980–95	466

LIST OF FIGURES

1.1	Cost-based pricing	2
1.2	A perceived demand curve	4
1.3	A price-taker's demand curve	5
1.4	A generic buy–response curve	9
1.5	Experience curves	12
1.6	Price discrimination with	
	constant output	15
1.7	Price discrimination with	
	increased output	16
2.1	Self-employed with and without	
	employees	24
2.2	Percentage of employment in	
	small businesses	25
2.3	Employment share by size	26
2.4	Turnover share by size	26
2.5	Self-employment (non-agricultural)	
	as a percentage of total	
	employment, 1992	27
3.1	Main effects of growth	44
3.2	The direction of growth	51
4.1	Profit maximization in monopoly	67
4.2	A kinked demand curve and	
	changing costs	68
4.3	Cost-based pricing and profitability	68
4.4	Blocked entry	72
4.5	Structure-conduct-performance	
	paradigm	79
8.1	UK population and labour force,	
	1965–96	131
8.2	Relationship between work and	
	pay in model of labour supply	132
8.3	Individual labour supply	133
8.4	Labour supply and income tax	133
8.5	Labour supply and welfare benefits	134
8.6	UK employment, 1960–96	135
8.7	Labour demand and	
	productivity	136
8.8	Labour demand and	
	productivity growth	137
8.9	Developments in the markets for	
	skilled and unskilled labour	139
8.10	Wage and employment growth	
	in the US and the UK	140

8.11	Minimum wage and unemployment	144
9.1	Lorenz curve	154
9.2	Expenditure on social protection	
	benefits per head	154
9.3	Distribution of income	157
11.1	Effect of an increase in demand	
	and slower increase in supply on	
	rents in the private rented sector	189
11.2	Effect of rent control upon market	
	for private rented dwellings	190
11.3	Rent control and the decrease of	
	housing services	190
11.4	Market adjustment following an	
	initial increase in demand and rent	191
12.1	Population, technical change and	
	growth	203
12.2	Intercountry cooperation in	
	pollution abatement	206
12.3	Market for permits	207
12.4	Pigouian tax	208
13.1	UK standard planning regions, 1993	216
13.2	Claimant unemployment rates	217
13.3	GDP per head for best- and	
	worst-performing regions	217
13.4	Net migration of population of	
	working age, 1979–93	218
13.5	The pre-war Special Areas	220
13.6	The changing strength of regional	
	policy	221
13.7	The British Assisted Areas at July	
	1979	222
13.8	Assisted areas, UK, 1993	223
13.9	GDP per capita in the EU (1993)	227
14.1	A welfare analysis of the	
	Common Agricultural Policy	239
14.2	A comparison of supply control	
	instruments	241
14.3	The welfare effects of the	
	post-EU 1992 cereal regime	244
17.1	European and US household	
	saving ratios 1970–95	289
17.2	UK consumption and income	
	growth	290

xii LIST OF FIGURES

17.3	Derivation of the intertemporal		20.4	Classification of distributional	
	budget constraint	292		effects of taxation	340
17.4	Consumption preferences	292	20.5	Marginal income tax rates, 1978/79	341
17.5	The optimal consumption choice	293	20.6	Marginal income tax rates, 1997/98	341
17.6	(a) Effect of an increase in		20.7	Average rates of income tax,	
	period 1 post-tax income upon			1978/79 and 1997/98	342
	the budget constraint	293	20.8	Taxation and external effects	346
17.6	(b) Consumption smoothing as		20.9	Perfectly inelastic supply	346
	period 1 post-tax income increases	293	21.1	Credit rationing at a lower rate of	
17.7	Income and consumption profiles in			interest	360
	the life cycle hypothesis	294	21.2	Credit rationing at a high rate of	
17.8	(a) Relaxation of a credit			interest	360
	constraint resulting in an		22.1	Comparing price indices: the rise	
	increase in consumption	298		in prices, 1985–94	371
17.8	(b) A binding credit constraint in		22.2	Price changes over the centuries	372
	the life cycle model	299	22.3	Cost-push inflation	375
17.9	Average mortgage advance to		22.4	A Phillips curve diagram	377
	income ratio for first-time buyers	299	22.5	Demand-pull inflation	377
17.10	(a) RPI inflation	300	22.6	An expectations-augmented	0
17.10	(b) Mortgage rate	300		Phillips curve	378
17.11	Effect of an increase in interest	200	22.7	Comparing velocities of circulation	380
	rates on the budget constraint	301	22.8	Tackling aggregate demand	000
17.12	Housing turnover	303		inflation	382
17 13	Repossessions as % of all	000	23.1	Comparing ILO and claimant	
17.10	advances in the UK	303	2011	estimates of unemployment	388
18 1	Gross fixed investment in UK	000	23.2	Unemployment in Great Britain	000
10.1	manufacturing 1960–95	310	20.2	(claimant method)	389
18 2	Annual change in gross fixed	010	23.3	Classical unemployment	397
10.2	investment in manufacturing	310	23.4	Keynesian unemployment	398
18.3	Gross capital stock in UK	010	23.5	The real business cycle	399
10.0	manufacturing 1960–89	311	23.6	Efficiency wages	400
184	Gross capital stock per worker in	011	24.1	$\frac{1}{100} = 100$	406
10.4	manufacturing 1960–89	312	24.2	Western Furope North America	100
185	Stock changes in all industries	012	£ 1.£	and Japan: changes in real	
10.5	1960_95	316		exports and real GDP	407
18.6	Fixed investment in dwellings	010	24 3	The gains from free trade	409
10.0	1060_05	317	24.5	Dumping can increase profits	414
197	Housing starts (UK) 1960 95	317	24.4	The effects of a tariff	415
10.7	Cross domestic fixed capital	517	24.5	The three pillars of the Treaty on	H 15
10.0	Gross domestic fixed capital	210	23.1	European Union	178
10.1	Dential equilibrium	225	25.2	European Onion	420
19.1	Partial equilibrium	323	20.Z	EU experialitate	450
19.2	General equilibrium	326	27.1	Structure of production	450
19.3	Pareto-efficient allocations	326	27.2	Evolution of theories of economic	450
19.4	Social welfare function	326	00.1	aevelopment	452
20.1	An example of the categorization		28.1	Structure of employment –	
• • -	of taxes	337		change during the development	
20.2	Optimal taxes on consumption	339	a a z	process	464
20.3	Laffer curve	339	29.1	Recording information	472

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ACKNOWLEDGEMENTS

The authors and publishers wish to thank the following for permission to use copyright material: Addison Wesley Longman for Fig. 24.3 from W. Brown and J. Hogendorn, International Economics (1994) fig. 4.1, p. 112. Copyright © 1994 Addison Wesley Longman; The Bank of England for Tables 1.3, 23.2 from the May issues of the Bank of England Quarterly Bulletin (1994, 1996); Blackwell Science Ltd for Table 14.3 from R. Fennell, The Economics of the Common Agricultural Policy, 2nd edn (1988) p. 8; Calder Publications Ltd for Table 22.3 from M. Jefferson, Inflation (1977); Consumers' Association for Table 1.9 from Which Car? (1995); Elsevier Science for Tables 3.8, 3.9 from M.J. Peel, 'The Impact of Corporate Restructuring', Long Range Planning, 28 (1995) pp. 92-101; The Controller of Her Majesty's Stationery Office for Figs 2.1-4, 9.2 and Tables 1.13, 2.2, 3.2, 5.2-4, 8.7, 9.4, 11.2, 11.6-14, 11.17, 13.1-2, 16.5-9, 16.11, 20.3, 22.1, 23.7 from Crown copyright material; The Low Pay Unit for Table 9.3 from 'Quiet Growth in Poverty' in The New Review of the Low Pay Unit, 36 (1995) pp. 8-10; Macmillan Press Ltd for Tables 9.3, 9.8, 27.2 from A. Thirlwall, Growth and Development, 5th edn (1994) pp. 13, 53, 54, Tables 19.2, 20.2 from D. I. Trotman-Dickenson, Economics of the Public Sector (1996) table 14.1, p. 293, table 9.3, p. 210, and Fig. 12.2 from Atkinson et al., Economic Policy (1996) fig. 8.5, p. 171; MCB University Press Ltd for Tables 1.7–8 from Leslie de Chernatony, Simon Knox and Mark Chedgey, 'Brand Pricing in a Recession', European Journal of Marketing, 26:2 (1992), and Table 1.12 from G. Davies, J. Fitchett and K. Gumbrell, 'The Benefits of Delivered Pricing', European Journal of Marketing, 22:1 (1988); The MIT Press for Table 26.2 from P. Krugman, Geography and Trade (1991), and Table 4.3 from H. Michael Mann, 'Seller Concentration, Barriers to Entry and the Rates of Return in Thirty Industries 1950-60, Review of Economics and Sta-

Research for Table 8.6 from Mason et al., 'Vocational Education and Productivity in the Netherlands and Britain', National Institute Economic Review, 140 (1992) table 2, p. 49, and Table 10.3 from M. Mahony and K. Wagner, Changing Fortunes: An Industry Study of Anglo-German Productivity over Three Decades (1994), National Institute Report Series No. 7; National Westminster Bank for Table 6.1 from B. Stevens, 'Prospects for Privatisation in OECD Countries', National Westminster Bank Quarterly Review (1992) August; Office for Official Publications of the European Communities on behalf of the European Communities for Tables 2.3, 2.5, 2.9, 2.12, 3.3, 3.7, 4.1, 8.13, 11.12, 14.2, 16.10, 16.12–13, 16.15, 19.1, 19.3-5, 23.3, 23.5, 25.2 and from material published by the European Commission; Organization for Economic Cooperation and Development for Table 23.6 from Historical Statistics 1960-90 (1992), tables 2.16, 2.17, Table 10.2 from Education at a Glance (1996), Table 8.8 from Employment Outlook (1991), and Tables 8.1 and 8.12 from Labour Force Statistics (1995); Oxford University Press for Fig. 13.6 from G. Gudgin, 'Regional Problems of Policy in the UK', Oxford Review of Economic Policy, 11:2 (1995) fig. 12, pp. 18-63, and Tables 18.3-4, 18.7 from M. Kitson and J. Grieve Smith (eds), Creating Industrial Capacity: Towards Full Employment (1996); Prentice-Hall Europe for Table 20.4 from S. James and C. Nobes, The Economics of Taxation (1996) Prentice-Hall, p. 297, and Fig. 13.5 from H.W. Armstrong and J. Taylor, Regional Economics and Policy (1993) Harvester/Wheatsheaf; Joseph Rowntree Foundation for Table 11.18 from S. Wilcox, Housing Finance Review 1995/6 (1996); United Nations, Department of Public Information for Table 7.6 from World Investment Report 1993, and Table 6.5 from The Economic Survey of

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INTRODUCTION

Most introductory economics books focus on theory. That is right and proper since economics is a way of thinking, and without theory it is nothing. Nevertheless, theory on its own is rather like a sandwich without any filling – dull and unappetizing. This book attempts to remedy this deficiency. Most chapters do contain some theory, but this is to give a context to the application which is the essential subject of the book. In this way we believe that economics is made interesting as well as worthwhile.

Each chapter is self-contained. This means that the book can be read in any order. However, it does have a structure, making it easy to use as a set book for a course. The book begins with several chapters concerned with microeconomics. It then widens its focus to look at the economy as a whole and with international aspects of economics. A special feature is the last chapter, which is an invaluable guide to sources of information in economics. It should be used as a source of reference throughout the course. Whatever the subject of the chapter, all reflect that we live in a world in which international factors affect us all – hence a feature of the book is a strong European flavour. Each chapter contains a bibliography which is meant to be useful to readers who want to pursue the topic in more depth.

The book is aimed at first- and second-year students of economics in higher education. It will therefore be suitable for those taking degrees in economics and also for students who are just taking a one-year course in the subject – for example, those taking banking or accounting courses. Its introductory nature also makes it suitable as an additional text for those taking A-level economics or business studies.

A book such as this is the result of the work of many people. The editorial staff at Macmillan have been a great help to me, and we have been lucky to have assembled such a distinguished team of writers. To all those, and to the anonymous critics of the early drafts, thank you.

BRIAN ATKINSON

1 HOW FIRMS DECIDE PRICES

Frank Livesey

Firms' objectives are the starting point of this chapter. It examines the relationship between costs and prices, for example by discussing price changes, price stickiness and the sensitivity of consumers to price changes. It then considers price differentiation, the pricing of new products and those in decline, as well as practices such as predatory pricing, discounting and pricing to distributors.

Introduction

All pricing decisions must take account of the firm's objectives and the constraints within which it operates when trying to achieve these objectives. We therefore begin by discussing alternative objectives and possible constraints. We then present a simple model of a firm that enjoys some discretion in its pricing decisions and review the empirical evidence relating to this model. We next consider markets where firms' pricing discretion is much more limited. Finally we examine the factors that influence 'subsidiary' decisions relating to the productline, the product life cycle, promotional pricing, the sub-division of markets, discount structures and pricing by retailers.

Objectives and constraints

Business objectives have been scrutinized by economists, psychologists, sociologists and other observers, and the picture emerging from these studies is one of considerable complexity. Most firms have a number of objectives, which may or may not be compatible. When objectives are incompatible, the resulting conflict is usually resolved in two ways. First, a compromise is reached, with some weight being attached to more than one objective (Cyert and March 1963). For example, the compromise price might be midway between the prices that would maximise the volume of sales on the one hand and the level of profits on the other hand. Second, the weights attached to various objectives may be adjusted over time.

Empirical studies have shown three objectives to be especially important. The first is to achieve a target rate of return on investment. (This might or might not be the maximum that could be obtained.) The second is to maintain or improve market position, in terms of sales volume or market share. The third is to stabilize prices and/or profit margins.

Three major types of constraint have been identified: the activities of competitors; the attitudes, opinions and reactions of consumers and distributors; and legal constraints. (Legal constraints on business are discussed in Chapter 5.) In an attempt to minimize the impact of external constraints, a firm may differentiate its product from those of competitors. However product differentiation can impose a set of internal constraints on pricing decisions, as shown below.

Basic price and subsidiary pricing decisions

To aid discussion, a distinction can be made between decisions relating to the basic price of a product, and subsidiary pricing decisions relating to such matters as the price structure within the firm's product range, pricing at different stages of a product life cycle, and alternative discount structures. Although these latter decisions are termed 'subsidiary', this does not mean they are unimportant. They often have a

the state of the s	Table 1.1	Pricing	methods	for	different	types of	product (percentages)
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	Type of product sold			
	Total	Capital goods	Components	Materials
Adding a percentage to costs (cost plus)	46	41	45	52
Fixing required gross profit margin on selling price	35	39	37	27
Some other non-cost-related method	19	20	18	21

Source: Adapted from Atkin and Skinner (1976).

significant influence on profitability, and can account for a majority of the time devoted to pricing decisions.

A simple model of cost-based pricing

Although, as shown below, pricing decisions are often constrained by the activities of competitors, many firms enjoy some degree of discretion in the prices they set. In one of the earliest British surveys of pricing decisions, Atkin and Skinner (1976) found that of 220 firms, mostly in manufacturing, 80 per cent usually set price on the basis of their costs. Moreover, this figure applied across all product groups (Table 1.1).

The starting-point in the decision process is the calculation of cost at the expected level of output or sales. If cost refers to the sum of variable and fixed costs (or direct and overhead costs) then price is arrived at by adding a profit margin, as in Figure 1.1. This is known as the full or absorption cost method.



Alternatively, if cost refers only to variable (or direct) costs then the price is arrived at by adding a margin to cover both fixed (overhead) costs and the profit margin. This is known as the direct cost method (and sometimes by accountants as the marginal cost method, not to be confused with the economist's marginal cost pricing).

Of the two, the full cost method was found to be the more common by Atkin and Skinner, and also in most other studies (for example Coutts *et al.* 1978).

These cost-based methods may appear to involve circular reasoning, because, on the one hand, the price affects the quantity sold and, on the other hand, the quantity has to be assumed in estimating the cost which is the basis of price. In practice, however, this is seldom a serious problem, at least for established products. Sales in earlier years provide a good guide as to what would be sold at various prices (relative to the prices of competitors) in the current period. Moreover, average cost is often roughly constant over a range of output, say expected output ± 10 per cent (*LH* in Figure 1.1).

Flexibility in cost-based pricing

Despite its widespread use, cost-base pricing has been criticized in the academic literature as leading to rigidity in pricing, resulting in reduced profitability. But this criticism ignores the fact that firms often vary the mark-up incorporated into price, as shown in Table 1.2.

The widespread modifications to the target price were reflected in considerable variations in the profit margins among the different products within a company's product range. Of 190 companies, 24 per cent said that profit margins Table 1.2 Extent to which selling prices calculated primarily on cost are modified by non-cost-related considerations (%)

Usually	21
Frequently	19
Sometimes	45
Rarely	14
Not stated	1

Source: Atkin and Skinner (1976).

varied 'widely', 48 per cent said 'significantly', and 28 per cent 'marginally.' Other investigations have found mark-ups to be influenced by the elasticity of demand and the height of barriers to entry into the industry (Hawkins 1973) and by the degree of international competition (Hazeldine 1980). These factors may, of course, be interrelated.

A recent survey of 654 UK companies undertaken on behalf of the Bank of England by Hall *et al.* (1996, 1997) again revealed a mix of pricing policies, with some firms acting as price-makers and others as price-takers. But they found much more evidence of price-taking than did Atkin and Skinner. Together, 'market level,' 'competitors' prices' and 'customer set' were mentioned more frequently than cost-based methods (Table 1.3).

Several factors could account for this difference. The first is differences in the two samples. All the firms in Atkin and Skinner's study were from manufacturing and construction, and 43 per cent had more than 500 employees, whereas almost a quarter of Hall's sample was from

Table 1.3 Ranking of alternative methods of pricing main product (percentage of respondents)

	Ranking method			
	1st	2nd	3rd	
Market level	39	21	12	
Competitors' prices	25	35	15	
Direct cost plus variable				
mark-up	20	18	14	
Direct cost plus fixed				
mark-up	17	8	6	
Customer-set	5	8	7	
Regulatory agency	2	1	1	

Source: Hall et al. (1996).

service industries, and 95 per cent had more than 500 employees. Second, improvements in data collection and processing might have increased firms' awareness of market conditions. (In this context it may be significant that costbased methods were more important for small than for large firms.) But perhaps the most important factors was the intensification of competition over the intervening two decades.

Price changes

Hall's study revealed a marked asymmetry in the relative importance of the various factors that led to a rise or to a fall in price. Price rises were more likely to follow changes in material costs than in market conditions. Firms often feel able to pass on (at least in part) increases in material costs because competitors' costs are likely to have been affected in a similar way.

On the other hand, changes in market conditions (demand, rival's price) were the most common cause of price reductions. The prominence of these factors may be indicative of the intensity of competition today.

The car market provides a good example of how pricing becomes more flexible in response to changes in the balance between demand and supply. In the 1990s, competition has become increasingly intense, as increases in capacity have not been matched by new registrations. New registrations in Europe increased from 12.7 million in 1991 to 13.5 million in 1992, but

Table 1.4 Factors leading to price increases (or decreases): percentage of firms mentioning with reference to price

Factor	Increase	(Decrease)
Increase (decrease) in		
material costs	64	28
Rival's price rise (fall)	16	36
Rise (fall) in demand	15	22
Increase (decrease) in		
interest rates	3	1
Higher (lower) market		
share	2	11
Increase (decrease) in		
productivity	1	3

Source: Adapted from Hall et al (1996).

fell to 11.5 million in 1993 and were still only 11.9 million in 1994, although capacity was greater than in 1991. Garel Rhys found only 9 examples of price cuts, independent of tax or specification changes, in the UK car industry between 1950 and 1990, but 48 in the next 5 years (*Financial Times* 15.12.95). There was also an increased incidence of 'back-door' price cutting, for example including as standard equipment previously classified as an 'extra'.

Price stickiness, price flexibility and profitability

Hall *et al.* asked firms what action they take when a boom in demand occurs and demand cannot be met from stocks. Only a minority said that they would respond by increasing price (Table 1.5). This is in line with the conclusions of Haskel *et al.* (1995) who found that only 8 per cent of firms would change price in response to an increase in demand.

These responses are entirely consistent with the three company objectives listed above, namely to achieve a target rate of return, to improve or maintain market position, and to stabilize prices and/or profit margins. Moreover, they are consistent with the findings of numerous studies (Skinner 1970; Hankinson 1985; Tull *et al.* 1986; Diamantopoulos and Matthews 1993) that managers often perceive the firm as facing a demand curve as shown in Figure 1.2.

The firm has set price *P*, at which it expects to sell *Q*, and it is reluctant to increase price significantly because it believe that it would lose

Table 1.5	Responses	to a	boom	in	demand:
percentage	e of firms 1	ankin	ng res	por	nse

Response	1st	2nd	3rd
More overtime	62	11	2
More workers	12	32	14
Increase price	12	6	7
Increase capacity	8	14	14
More subcontractors	7	12	11
Longer delivery time	7	11	13
Other	4	1	1

Source: Adapted from Hall et al. (1996).



sales to competitors whose prices are unchanged. When Hall *et al.* asked firms what they thought was the most important reason for price stickiness, this reason ('coordination failure') emerged as the third most important reason of eleven. In an earlier study of 72 American companies by Blinder (1991), it was ranked as the second most important reason.

In the British study, the most important reason for price stickiness was considered to be the existence of long-term contracts. This was especially important for price-setting by firms in the construction sector and least important for retailers. Cost-based pricing also emerged as an important cause of price stickiness in both studies, reflecting the fact that when the studies were undertaken there was little pressure on prices from rising material costs.

It might be thought that the response to a higher than expected demand would be a small price increase. However, any price change involves some increase in costs arising from changes in packaging or labelling, communication with customers, and so forth, so that profits might not increase. Moreover, even if the firm thought that profits would increase, they might prefer to take advantage of the higher demand in the form of increased sales volume.

Consumers would not be expected to react to a small price reduction, while a bigger reduction would probably be matched by competitors, so that the increase in sales would be small and profits would fall.

Wied-Nebbeling (1983) suggested that the range of prices over which a price change would have no effect on sales would be influenced by the degree of buyer loyalty, the importance of non-price factors, the costs incurred by buyers in switching suppliers and the degree of product differentiation, (factors that are also taken into account in arriving at the initial target price).

Price-minus costing

Economic models often assume that firms always operate with the lowest possible cost curve, but in practice this may not be so. Empirical research has revealed many possible sources of 'organisational slack' (Cyert and March 1963) and 'x-inefficiency' (Leibenstein 1966, 1969), implying that firms could reduce costs if required. The term price-minus costing indicates that firms react to unsatisfactory profit margins by reducing costs rather than by raising prices. For example, in 1993 Volkswagen reduced the number of suppliers from 2000 to 200 and forced some suppliers to accept price cuts of up to 30 per cent. These measures cut VW's purchasing bill by 4 per cent in 1994 (The Economist 1996). If this can apply at times to price-makers, that is firms with pricing discretion, we can be sure that it applies also to pricetakers.

Price-takers

Firms that have little discretion in pricing are sometimes known as price-takers. Atkins and Skinner found that although for 80 per cent of their sample of 220 firms, cost-plus was the main method of price setting, 90 firms reported the use of non-cost-related methods for at least some of their products. In the majority of instances the alternative method would justify applying the term price-taker (Table 1.6).

Figure 1.3 illustrates the situation as it is perceived by the price-taker. With demand D, the price taker sells Q at price P, set by the price leader. Given average cost C, the firm may not

Table 1.6 Non-cost-related methods of fixing price (%)

Follow market leader	8
Refer to general level of competitors' prices	57
Prior investigation of customer reaction	22
Trial and error	2
Consult sales force	10
Some other method	1

Source: Atkin and Skinner (1976).



Figure 1.3 A price-taker's demand curve

earn its target profit. However it may be the best it can do at present. Were it to increase its price then its profits would fall, because demand is highly elastic. On the other hand, it is afraid that a price reduction would be matched by the dominant firm, so that demand would be inelastic, again leading to lower profits.

Price leaders, price takers and the structure of prices

Price leadership does not necessarily mean that all firms set identical prices. Price takers often set prices below the leader to try to counteract the brand loyalty enjoyed by the leader. But price leadership does imply that price changes by the leader are followed, so that the existing structure of prices is maintained.

In the wholesale petrol market there has for many years been a difference between the average price charged by the major suppliers, for example Shell and BP, and minor suppliers such as Jet. The majors obtain more of their supplies on longer-term contracts than the minors, who rely more on purchases in the 'spot' market. Spot prices are much more volatile, and this means that at certain times the minors can substantially undercut the majors. As long as the price differential is modest, the majors tolerate it. But when the differential has been widened so as to threaten the market share of the majors, they have retaliated by slashing their own prices. The knowledge that in a prolonged price war the majors must win has been sufficient to bring the minors back into line.

More recently, the majors' share of the retail market has come under attack from supermarkets, estimated to have 22 per cent to 25 per cent of the market in 1996. The supermarket chains can buy in bulk on the spot market, and the costs of building a petrol station on a supermarket site are relatively low. They also benefit from the cost reductions associated with a large turnover, averaging 8 million litres per site per year, compared with 3 to 3.5 million for the busiest oil company sites, and an overall average of 2 million (*Financial Times* 19.1.96).

Having a low-cost base, the supermarkets were able to undercut the majors and further gains in market share seemed likely. (In France supermarkets have captured 50 per cent of the market.) Faced with this threat, Esso announced in February 1996 that its prices would be reduced to match the cheapest competitor. (Other majors followed by reducing their prices.) This change in policy was made despite the fact that gross margins were already below those in earlier years. This 'Pricewatch' campaign was estimated to have cost Esso £200 million in 1996 (Mortished 1997a), but the company felt that drastic action was required, because its market share had fallen from a fifth to a sixth.

Given the supermarkets' lower cost base, it seems doubtful if the majors will permanently match their prices. But their lower prices may well force some of the smaller international oil companies out of the market. In 1996 Mobil merged its sites with BP's, and the Frost Group, owner of the Save brand, saw its chain shrink from 1144 sites to 614. Once a discounter, Frost resisted price cuts, and lost about 40 per cent of its volume as a result (Mortished 1997b).

In some markets, although no firm is recognized as a price leader, a prominent firm's prices may act as a guide for other firms. For example, the George brand of clothing, sold in Asda, is priced around 15 per cent below the price of what is claimed to be comparable clothing in Marks & Spencer.

In the Australian wine market, two-thirds of the wine is produced by seven conglomerates, one firm being dominant in each segment of the market, such as sparkling wine. The prices set by these dominant firms are taken as a guide by the 500 small independent producers (Edwards and Spawton 1990).

Market price

Figure 1.3 can also be applied to the situation in which each firm accepts the general level of competitors' prices (market price). In this situation, there may be less danger of a price reduction leading to retaliation than when there is a dominant firm. However, demand may still not be sufficiently elastic to make a price reduction profitable, and the firm may first attempt to increase profits by reducing costs, as noted above.

Commodity and stock exchanges and sales by auction are good examples of markets in which price is established by the interaction of aggregate demand and supply. Prices in these markets are often highly volatile, especially when supply is affected by climatic conditions. For example, The Times reported in July 1995 that the price of coffee (benchmark futures contract) had fallen to \$2351 a tonne on the London Commodity Exchange, compared with a price of \$4140 a tonne less than a year earlier, after frost and drought in Brazil had threatened the crop for the season 1995/6. A study of price changes in selected commodities was reported in The Economist (20.1.96). Between 3 January 1995 and 16 January 1996, the highest recorded price exceeded the lowest by more than a third for seven of the twelve commodities, including a price range of more than 60 per cent for maize and coffee. Only copper had a range of less than 20 per cent. However, large price fluctuations are not confined to such products. Dramatic change may occur in any market in which demand and supply become seriously out of line. In 1996, after a steep drop in the market for dynamic random access memory chips, the most common computer memory chip, the average selling price fell by three-quarters (*The Times* 8.1.97).

Price awareness and sensitivity of consumers

One possible reason for a lack of discretion in pricing is that consumers are aware of the prices charged by suppliers and are highly sensitive to any differences in price. Even if a firm has some discretion in pricing, it still needs to take account of consumers' price awareness and sensitivity (elasticity). The greater the awareness, the greater the danger that sales will be lost as a result of a price increase (and sales gained as a result of a price reduction). It may be necessary to constantly monitor price awareness and elasticity, because both are likely to change over time, as changes occur in real income and in the degree and nature of competition.

When the prices of seven grocery products were compared with the prices estimated by consumers who had purchased those products during the previous week, the percentage of correct price estimates varied from 79 for tea to 35 for breakfast cereal (Gabor and Granger 1961). A survey of 496 housewives undertaken for Harris International Marketing in 1974 revealed that only 15 per cent claimed to know the recommended price of most of the goods they bought, while 23 per cent were unaware of any of the recommended prices. Temporary price reductions were doubtless one explanation of this situation, but perhaps more important was an annual rate of inflation of 15 per cent.

It might be thought that a lower rate of inflation, higher unemployment, more information on prices from suppliers and the media would have combined to increase consumers' price awareness. But a more recent study suggests that many consumers still exhibit a high degree of ignorance about prices (Table 1.7). Moreover, fewer than half of the price estimates were within 10 pence of the correct price (Table 1.8).

The two products in this study were chosen because during the recession manufacturers' advertising had increased for one (mineral water) and fallen for the other (fruit juice). As we show below, a number of studies have found that consumers often see price as an indicator of a product's quality. De Chernatony and his colleagues reached the conclusion that 'a positive price-quality relationship still exists where marketing management have the courage to continue supporting brands in times of recession' as with mineral water. But they also felt that management had not taken advantage of this by increasing price. As Table 1.7 shows, the

Brand	Overestimate (%)	Correct (%)	Underestimate (%)	
Mineral water				
Evian	68	15	17	
Buxton	85	3	12	
Highland Spring	68	5	27	
Fruit Juice				
Del Monte	38	6	56	
Princes	34	1	65	
Sun Pride	30	6	64	

Table 1.7 Price perceptions of brands

Source: De Chernatony et al. (1992).

Table 1.8 Perceptions of price of mineral water: % of price recall within 10 pence of correct price

Evian	59
Buxton	36
Highland Spring	39
Sainsbury own label	39
Tesco own label	57
Safeway own label	37

Source: De Chernatony et al. (1992).

majority of consumers overestimated the price of the manufacturers' brands.

Purchasers of industrial goods have also exhibited limited price awareness at times. A study of 51 purchase decisions of standard machine tools found that in 15 instances only one supplier was considered, while in a further 19 instances only two or three quotations were obtained. Moreover, the price information relating to previous suppliers often derived from the general reputation of suppliers rather from actual price data (Cunningham and Whyte 1974). But when economic conditions are tougher, as they have been more recently, a common response is a much more thorough search procedure among suppliers.

Firms may take advantage of low price-awareness to increase prices. When a study by the Shick Corporation revealed that 30 per cent of buyers thought that the price of Shick injector blades was 98 cents a packet, whereas the actual price was 73 cents, the price was subsequently raised to 98 cents with 'satisfactory' results. However, it would be dangerous to assume that price can be increased with impunity whenever awareness is low. A television rental company found that increased rental rates led to a loss of custom, even though customers who changed companies did not benefit financially thereby (Livesey 1971).

Price elasticity may differ considerably from brand to brand within a given product category. A study in the USA found that in one product category elasticity varied from -0.84 to -4.5(Moran 1978). Elasticity may be influenced by the relative price level. Monroe (1990) states that 'the further a brand's price is from the product category's average price, in either direction, the lower will be its price elasticity'. An example of this principle is the ice cream market, where demand for high-price brands such as Haagen-Dazs was found to be inelastic (*Business Week* 1986).

Also, elasticity may be influenced by the purchaser's ability to evaluate the product before purchase. It has been suggested (Wilde 1980, Nelson 1980) that products can be classified as search, experience or credence products. Buyers can readily evaluate the attributes of search products before purchase. Examples given by Monroe (1990) include television picture quality and stereo sound. To the extent that buyers attempt to acquire such information, they are likely to be aware of the attributes of substitutes, and hence be price-conscious.

Experience products have attributes that can be evaluated only after purchase (the taste of food, dry cleaning quality). But once the product has been purchased and experienced, buyers will have some idea of whether the product is good value. Experience products are likely to be highly differentiated and to be less price-elastic than search products.

Finally, credence products have attributes that buyers cannot confidently evaluate, even after one or more purchase (legal advice, some health care). Buyers must rely on the reputation of the product or on other clues, such as brand name or price, as signals of quality. Credence products are therefore likely to be the least pricesensitive.

Price as indicator of quality

Firms should be aware that sales could be lost not only because of high prices, but also because consumers see prices as being too low. When consumers were asked whether they would buy various products at different prices, the pattern of reactions tended to be similar for each product (Gabor and Granger 1964, 1966). The application of statistical theory to these responses suggested that a generic 'buy-response' curve, with the shape shown in Figure 1.4 could be derived. The most likely reason for the fall in the



Figure 1.4 A generic buy-response curve

percentage of consumers 'buying' below a certain price is that price is seen as an indicator of a product's quality. The first person to demonstrate that buyers perceive a positive price-quality relationship was Leavitt (1954), and this relationship was subsequently identified by Monroe (1973) and Wheatley and Chiu (1977).

A frequent criticism of these early studies was that price was the only information given to respondents, and later studies experimentally varied other cues in addition to price. The results of these multi-cue studies varied in the statistical significance attached to price. However, two comprehensive reviews of this research stream (Rao and Monroe 1989, Zeithaml 1988) clearly indicate that a positive price-perceived quality relationship exists.

Dawar and Parker (1994) undertook a study of the relative strength of various quality signals – brand name, price, physical appearance and retailer reputation – among consumers from four cultural groups, namely North American, EEC, non-EEC Europe and non-aligned. They found that for all four groups price was less strong than brand name as a signal of quality, but stronger than retailer reputation. This finding confirmed that of an earlier study (Rao and Monroe 1989).

It has been suggested that price is less likely to be seen as an indicator of quality for longestablished brands and brands whose quality can be easily tested by the consumer. This has led to doubts as to how often the pattern of consumers' reactions would be as shown in Figure 1.4 (Stout 1969, Bowbrick 1980). But as noted above, De Chernatony *et al.* (1992) did find a positive price-quality relationship in the minds of purchasers of two products of this type. Again, Edwards and Spawton (1990) found that 'price is used by many wine consumers as an indicator of quality' and that 'product differentiation allows winemakers considerable leeway when setting prices.'

Product differentiation and price

Products may be differentiated by technical performance, styling, level of service, advertising and so forth. The role of product differentiation in facilitating growth despite higher prices is easily illustrated by the experience of such brands as Coca-Cola, Ariel (Procter & Gamble), Pampers (also Procter & Gamble) and Nescafé. The recent history of Coca-Cola is especially interesting. The entry of cheaper competitors, including Virgin Cola and several retailers' own labels, has led to a fall in Coca-Cola's market share. However, as the market has expanded, Coca-Cola's sales have continued to increase, despite its higher price.

Moreover, Coca-Cola has introduced differentiation within the brand. Linneman and Stanton (1991) found that in the United States, although Diet Coke contributed only 4 per cent of the company's sales volume, it contributed 'more net profit (per unit) from in-home sales than did the mainstream product, Coke'.

But although product differentiation may allow higher prices to be set, this does not mean that profit margins are necessarily higher, because the higher prices may be matched by the costs incurred by product differentiation. For example, it was estimated that the cost of advertising in the UK by the major vehicle producers ranged from £96 per car for a Ford to £469 for a Fiat (*The Times*, 18.10.93).

Furthermore, product differentiation does not always mean that the products or brands are more clearly seen as different by consumers,

allowing higher prices to be charged. Indeed, consumers may become confused by the extensive product differentiation that is now seen in some markets. For example, there are now over a hundred clothes-washing products on sale in the UK, with each of the leading brands appearing in up to fifteen variants, including colour wash or standard, biological or non-bio, powder or liquid, low temperature or suds, and a variety of pack sizes and refills (*Financial Times* 30.11.95).

Product-line pricing

When a firm supplies a number of brands or a range of products, account must be taken of interrelationships between brands or products in terms of substitution, complementarity and consistency.

Substitution

The various products made by a firm may be seen by customers as substitutes for each other, and the different versions of a given product will almost certainly be seen as such. (In technical terms, internal price cross-elasticities are positive.) A reduction in the price of Gillette Sensor Excel razor blades might increase sales at the expense not only of Wilkinson Sword but also of other Gillette blades.

Complementarity

Complementarity exists when an increase in the sales of one product leads to an increase in the sales of another product. (Cross-elasticity is negative.) This may occur because purchases of different products are tied together by contracts. However, such legal ties have become increasingly difficult to sustain. For example, IBM was forced by the courts to 'unbundle' the sales of computers, peripheral equipment and software.

Ties may also arise from technological or design requirements, especially in capital goods. The prices at which component manufacturers sell to vehicle assemblers often yield very low profits. This is due partly to the bargaining power exercised by the manufacturers, but also to the fact that car owners often specify the same brand when ordering replacement parts, at prices that yield much higher profits than original equipment.

A simple example in a consumer market is the frequent temporary reductions in the price of razors. The manufacturers no doubt hope to compensate for the lower price by increased sales of the same brand of blade to be used with the razor.

A weaker form of complementarity may underlie the banks' offer to students of a limited range of financial services at very low (or even negative) prices. An example of a negative price is the offer of cash to students opening a bank account. This offer is made in the hope that when the students start to earn they will continue to buy these services at higher prices and also to buy other products supplied by the banks.

A final example of complementarity is the selling of some products at very low prices (loss leaders) by retailers in order to attract additional custom and thus increase the sales of other products.

Consistency

A producer will try to establish a price structure for its product line that appears to be fair to consumers. This is most difficult to do when there are big differences in the costs of making different items; for example if a particular colour or size is not very popular then it may have to be made in small batches at a higher unit cost.

A common way of overcoming this problem is to set a list or basic price for the standard model or version, and to quote higher prices for 'special' versions, implying that for the extra money the buyer is obtaining a certain degree of exclusivity or prestige. (If the prestige element is strong then the price differential may exceed the cost differential.) This strategy is particularly well developed in the car market, where alternative specifications and the provision of extras of various kinds mean that there may be a considerable overlap between the prices of models aimed at different segments of the market (Table 1.9). Table 1.9 Prices of three categories of car

Category	Price range (£)
Supermini:	
Čitroën AX	6 670- 9 350
Ford Fiesta	7 695–11 610
Renault Clio	7 387–14 472
Rover Metro 100	6 924–10 124
Vauxhall Corsa	7 430–12 600
Small family cars:	
Citroën ŹX	9910-16270
Ford Escort/Orion	9 940–17 440
Renault 19	9837-15072
Rover 200/400	10 986–20 446
Vauxhall Astra	9 930-17 100
Large family car:	
Čitroën Xantia	12 195–19 390
Ford Mondeo	11 940-21 325
Renault 21	13 392-14 832
Rover 600	15 446-23 946
Vauxhall Cavalier	11 930–19 780

Source: Consumers' Association (1995).

Pricing and the product life cycle

In the preceding sections, most of the discussion has related to products which were, and would continue to be, established in the market. In other words, they were at the 'mature' stage of their life cycle. But decisions also have to be made when a product is at other stages of its life cycle.

The pricing of new products

Especially important are decisions in the cycle's early stages. When a pioneer product, that is an entirely new product or a brand that is heavily differentiated from existing brands, is introduced, the supplier may adopt a skimming price or a penetration price policy (Dean 1976).

Skimming price

A skimming price involves a high initial price that yields a high profit from the limited number of consumers who place a high value on the product. Low barriers to entry, rapid technological change and/or changes in taste or fashion may mean that these high profits do not persist for long.

Du Pont was described as 'one of the classic skimmers' by *Business Week* (1974) when Du Pont introduced Quiana, a synthetic fibre with the look and feel of silk, with a price range of \$5.95 to \$8.95 per pound (above that of other synthetics), compared with \$8 to \$10 for silk. A Du Pont spokesman was quoted as saying, 'you get it into the very highest prestige garments to build a reputation and identity for it. We got the biggest designers and biggest names (Dior, Cardin and Givenchy, for instance) to develop this identity'. Subsequently, as volume builds up and cost falls, 'to broaden the market you go into the next lower price category'. Five years later Quiana's price was cut by 35 per cent.

Penetration price

A penetration price policy involves a low initial price, perhaps below the full-cost level, designed to penetrate the market as quickly as possible. This policy is especially appropriate when unit costs fall significantly as cumulative output increases. Estimates of this experience or learning effect are shown in Figure 1.5.

The rationale for penetration pricing is not confined to pioneer products or to products sold in mass markets. In 1995 Boeing, the largest US aircraft manufacturer, launched a price war with the aim of recapturing the lead in new orders that it had lost to its European rival, Airbus Industries, in 1994. In the 130-seat segment, where the Airbus A 320 Twin-jet was very successful, Boeing offered its updated 737 model at 25 per cent below the current cost of production, an offer that was said to rely on a successful outcome to its four-year cost-cutting plan.

An even more vicious battle took place when Airbus, Boeing and McDonnell Douglas introduced new, bigger twin-aisle aircraft, each having incurred almost \$1 billion in development costs. The Airbus A330 was the first aircraft to go into production, but then Boeing entered with the 777 at much lower prices, enabling it to capture the major share of the market.



 $\frac{90}{50} \begin{bmatrix} 1930 \\ 1935 \\ 1945 \\ 1955 \\ 1955 \\ 1955 \\ 1970 \\ 100$

(b) Bottle caps (West Germany) (value added, cost-constant 1974 DM.



Figure 1.5 Experience curves

Where the experience effect is substantial, a penetration price not only enables the manufacturer to reduce its cost. It also compounds its cost advantage by denying sales to competitors. Moreover, efficient airlines cannot afford to operate a variety of aircraft. Whichever manufacturer wins the initial battle for orders is more likely to benefit from additional orders. These factors no doubt explain why Airbus was reported to have offered to cut the price of the A330 by 40 per cent to obtain a contract from Malaysian Airline System (Tieman 1996).

A mixed strategy

Many large companies follow a mixed strategy. For example Du Pont, described earlier as 'one of the classic skimmers' followed a mixed strategy for both nylon and cellophane. However, cellophane was nearer the penetration end of the spectrum, apparently because 'the cost elasticity of volume output and the price elasticity of growing demand were sufficiently high to permit a more rapid rate of expansion than was possible in nylon' (Kaplan *et al.* 1958). Again, in the pricing of the cotton picker, a major piece of farm machinery manufactured by International Harvester, the decision settled on a middle ground between the estimated maximum economic value as a replacement for hand labour and a sufficiently low price to give assurance of widespread adoption.

A mixed strategy seems to have been adopted by the producers of the new alcoholic drinks introduced in the mid 1990s, namely ice beer, ice cider, premium strength lagers, and beers and stouts in widget cans and bottles (having the appearance of draught beer when poured). Although these products all sell at premium prices in a market that has steadily declined overall, the price has not prevented a rapid increase in sales. For example, in 1995 widget sales were estimated to be growing at 57 per cent a year, and premium lager by 6 per cent, while other lager sales were falling.

The pricing of products in decline

As noted above, the pricing of mature products is influenced by the factors discussed in earlier sections. But there are further strategies that are of particular relevance when sales begin to decline. One possibility is to reformulate the product and sell it at a much lower price. This is common in the book trade, where the saturation of the hard-backed market is often the sign for the introduction of a soft-backed edition. There are however, relatively few products that lend themselves to substantial reformulation, and hence can make such distinct appeals to different market segments. (Moreover, even in books the interval between the publication of hard and soft editions has tended to decline, and sometimes both editions appear simultaneously.)

Second, a temporary revival in sales may be induced by a substantial price reduction. Finally, even when a price reduction has failed to make a significant impact on sales, additional profits have been wrung out of declining products where the producers have been sufficiently strong-willed to reduce expenditure on advertising and R&D.

Promotional pricing

Promotional pricing is setting a price on a temporary basis below the price normally charged for that good or service. Promotional prices are often set when new products are introduced, in an attempt to persuade consumers to make trial purchases. Distributors may also be offered additional discounts as an inducement to stock the product. Setting a promotional price for a new product can, however, have a disadvantage. If consumers see the promotional price as a reference price then this may subsequently have a detrimental effect on sales at the higher, normal price.

This was found to be so by a group of researchers (Doob et al. 1969) who monitored the sale of five new brands in two groups of stores. In the first group the new brand was sold at a promotional price during the experimental period and at the normal price thereafter. In the other, control, group the normal price was maintained throughout. For all five brands, sales were higher in the first group (promotional

Table 1.10 Effect of initial selling price on subsequent sales						
				Average weekly sales (units)		
Product	Experimental condition	Price (\$)	Length of treatment (weeks)	During experimental price	After experimental price	
Mouthwash	Experimental Control	0.25 0.39	$1\frac{1}{2}$ 5	300 270	365 375	
Toothpaste	Experimental	0.41	3	1 280	1 010	
	Control	0.49	8	860	1 050	
Aluminium foil	Experimental	0.59	3	4 110	3 275	
	Control	0.64	8	2 950	3 395	
Light bulbs	Experimental	0.26	1	7 350	5 270	
	Control	0.32	4	5 100	5 285	
Cookies	Experimental	0.24	2	21 925	22 590	
	Control	0.29	6	21 725	23 225	

Source: Doob et al. (1969) as adapted by Monroe (1990).

price) during the experimental period, but higher in the control group thereafter.

After this introductory period, firms may make regular price promotions an integral part of their pricing strategy. Because this implies a reduction in average price, manufacturers should ideally identify the price reduction required to generate the desired increase in sales. However, a study of the sales patterns of 65 products suggested that in a significant proportion of promotions, money was given to consumers to no good purpose. Of the 65 promotions, 16 offered price reductions of less than 10 per cent, but 'even a casual glance at the record for the 16 brands indicated that the response to this range of discounts was not significant in terms of the job to be done', namely securing an increase in market share (Nielsen 1964). Larger reductions usually elicited short-term gains in market share, but permanent gains were found to be rare.

However, permanent brand switching appears to have resulted from the price cutting instituted by newspapers in the News International Group in 1993 (the first cut in price by two national newspapers since 1930), and continued into 1995. Against a national trend of declining sales, *The Times* and the *Sun* achieved substantial increases in circulation at the expense of rival titles.

The Sun's sales increased by more than 8 per cent between December 1992 and December 1993, and by a further 10 per cent by January 1996, by which time its lead over its main rival, the *Daily Mirror*, had increased to 1.5 million copies a day (*The Times* 19.1.94, 14.2.96).

In January 1996 sales of *The Times* were 94 per cent higher than when the price was first reduced in 1993, and its share of the broadsheet market had almost doubled to 25 per cent. A further growth in sales of 10 per cent was achieved in the following year (*The Times* 12.3.97).

Promotional pricing is sometimes used to counteract a loss of customers. Early in 1997 BT offered a series of concessions that were confined to former customers who had switched to competitors. These concessions included a lower reconnection charge and a reduction of 25 per cent in the price of all national calls for three months.

Predatory pricing

This is the term given to price reductions that are intended to seriously weaken rivals and ultimately to drive them out of the market. The authorities responsible for implementing the government's competition policy in the UK and the USA have acted to curb this practice, and *The Times* was accused by rivals of predatory pricing in complaints made to the Office of Fair Trading. However these complaints were not upheld. In this context it is interesting to note that the price cuts were reversed in 1995 (although price remained below that in early 1993), but that sales continued to increase. It must be concluded that this was a very successful example of promotional pricing.

On the other hand, predatory pricing could certainly be applied to the decision by Stagecoach to run a free bus service in Darlington, which forced the town's municipal bus service into liquidation (*Financial Times*, 12.2.96). Stagecoach had an annual turnover of around £340 million and was able to cross-subsidize the losses on its Darlington operation from profits earned on its other routes. It was allowed to do so because of a loophole in the regulations governing the deregulation of the bus market.

In the early part of 1996, KLM, the Dutch airline, was charging 1406 florins (£156) for the Amsterdam-London return journey. In May of that year easyJet entered the market at 1200 florins and in June KLM brought down its fare to 1190 florins (£73). The *Financial Times* (2.8.96) reported the existence of an internal memo which spoke of the need 'to stop the growth and development of easyJet and make sure that this newcomer will not be able to secure a solid position in the Dutch Market', wording that would seem to imply a policy of predatory pricing (Stewart 1997).

In the above two instances a large, strong company adopted predatory pricing to counteract a threat from a small, weaker competitor, a policy that can run foul of the authorities responsible for maintaining competition. The authorities may be less inclined to intervene if the competitor is better able to defend itself. But in these circumstances predatory pricing may lead to a price war that harms both companies, as happened recently in the market for information on consumers' purchasing patterns, information that is sold to manufacturers of products stocked in supermarkets.

Until recently AC Nielsen Co., who obtained the information from physical audits of grocery stores, had a monopoly of the European market. Then Information Resources Inc. entered the market, using information gathered from pointof-sale scanners. The two firms bid up the price at which they obtained this information, and then reduced the price at which they sold it. IRI alleged that Nielsen offered its customers discounts of up to 30 per cent if they bought its data across Europe (Oram 1996a).

This policy of buying dear and selling cheap resulted in substantial losses. Nielsen lost £16.3 million on a turnover of £45 million in 1995. IRI lost £12 million in the UK in 1995, and £10 million in 1996. It was therefore not surprising that the companies were reported to have agreed a truce (Oram 1996b).

Price differentials

The justification for charging different prices to different customers or groups of customers (or to the same customers at different times) can be illustrated by reference to Figure 1.6, in which the demand curves refer to two sub-markets (customers or groups), A and B, with differing elasticities of demand. In order to simplify the analysis we assume that at price P the same quantity, Q, would be sold in both sub-markets. To produce this output the firm has to operate at full capacity. It can, however, increase its revenue by introducing price differentials.

When price is increased in sub-market *B*, in which demand is inelastic, the change in revenue is *ICEP* minus *EHQS*. When price is reduced in sub-market *A*, in which demand is elastic, the change in revenue is *FGRQ* minus *PHFL*. In both



Figure 1.6 Price discrimination with constant output

instances, revenue increases although total output is unchanged. If the cost of supplying both sub-markets is the same then total cost will be unchanged and therefore total profit will increase.

Where firms have excess capacity they may reduce price to some customers in order to increase sales volume and revenue. In Figure 1.7 the firm initially charges P and sells Q in both sub-markets. It could increase sales volume by reducing prices in both, but revenue would increase only in sub-market A, where demand is elastic (OLGR is greater than OPHQ).

The effect on profits of a price reduction depends, of course, upon changes in costs as well as revenue. But when there is excess capacity, the cost of increasing output (incremental cost) may be well below average cost. This is often so in transport, where carrying an additional passenger usually adds little or nothing to operating costs. In this situation, there is an incentive to cut prices steeply, especially when competition is fierce.

The *St. Petersburg Times* published an analysis of the costs and revenues of one internal flight in the USA, Flight 369, Dallas to Tampa, on 29th



September 1992 (*The Times* 22.4.93). Of the 12 first (business) class seats, two were occupied by fare paying passengers at a (discounted) fare of \$288. In the coach (economy) section, 50 seats were empty or occupied by airline employees. The remaining 88 seats were allocated as follows: 22 full price passengers at \$202, 38 'plan ahead' (7 or 14 days) at \$70, 13 groups, for example conventions, at \$78, 9 others, for example senior citizens, at \$137, 3 frequent fliers travelling free and 3 miscellaneous, e.g. travel agents, at \$158.

In view of the fact that most of the seats were sold at discounted prices, it may not be too surprising that the flight failed to cover its full costs. But these costs included items such as depreciation, advertising and administration that would have been incurred even had the flight been cancelled. Revenue was well in excess of the costs directly incurred by the flight. Furthermore, the revenue from each group of passengers exceeded the costs of supplying them (apart, of course, from the frequent fliers).

The sub-division of markets

Markets are frequently sub-divided by space, especially by firms selling to more than one country. Of a sample of over 100 exporters, more than two-thirds charged different prices in export and home markets. Moreover, further variations occurred between one export market and another, as shown in Table 1.11.

A major reason for price differentials was that suppliers tailored their prices to the competitive conditions in each market. Almost two-thirds of the firms adopted market-based pricing methods ('pricing by reference to competitors' prices, pricing by investigation of customer reaction, judgement of what the market will bear').

These findings were consistent with those of an earlier study of 29 British engineering firms. While most of the firms were emphatically opposed to prices in the home market that did not cover direct costs and make a contribution to overheads, in export pricing 9 firms were prepared if necessary to accept such prices (Rosendale 1973).

In assessing profitability, exporters have to take many factors into account, including likely movements in exchange rates, inflationary trends in different countries and the costs of insurance, transport and distribution. Distributors often add a substantially higher mark-up than the manufacturers would wish – up to 200 per cent in some instances (Cavusgil 1988). The problem is compounded if the firm uses several levels of distributors in reaching its final market. Consequently, many firms use as direct a method of distribution as possible.

Table 1.11 Export price basis and discrimination (%)		
Are ex-works prices the same for export as for the UK?	Yes	31
And an unarthe prizes the same in all amount markets?	No Noc	69 27
Are ex-works prices the same in an export markets:	No	73

Source: Piercy (1981).

Price discrimination exists not only when different prices are set that do not reflect differences in costs, but also when a uniform delivered price is set even though it costs more to supply customers located in one area than another. The Monopolies Commission found that the London Brick Company, the dominant supplier of fletton bricks used in low-cost housing, had adopted this policy. In order to establish a national market for flettons, the company had sought orders from distant customers at a price that yielded lower profits. Subsequently, lower returns from distant areas were accepted in order to retain the benefits of scale economies in production and distribution.

Twenty-eight companies that had moved (either entirely or to a greater extent) to a delivered price system in export markets were asked to assess the consequences. Although overall there was no appreciable effect on the profitability of orders, there had clearly been a positive effect on sales volume (Table 1.12).

Table 1.12 The consequences of a delivered price system

	Number of companies
Increase in work load	10
Increase in orders/sales	19
Fall in sales	0
Higher profits on exports	5
Lower profits on exports	6

Source: Davies et al. (1988).

Suppliers may set different prices according to the time of day, week or year. Sub-division of the market by time is especially common in services that are difficult or impossible to store. This difficulty of storage is very important when the consumer's valuation of the product differs over time, as with a holiday on the Costa Del Sol (summer and winter), a journey by train or bus (commuter times and late evening), many leisure activities (evening and day).

Prices may also vary according to the time at which the order is placed. In recent years, as the supply of overseas holidays has outstripped demand, it has become almost customary for tour operators to offer discounts – currently up to 15 per cent – for early bookings. Ironically, one of the aims of these discounts is to dissuade people from leaving their booking to the last minute in the hope of obtaining the even bigger discounts that have been available in previous years.

Finally, different prices may be charged according to the characteristics or status of the customer. Distinction may be made according to age (senior citizens, children), membership of a group (as in the earlier airline example) and so forth.

Quantity discounts

A system of quantity discounts can be used to influence the pattern of orders, enabling a given volume to be supplied at minimum cost, and to increase the level of sales (or at least to prevent a loss of sales to competitors). The discount may relate either to (1) the amount of an individual product purchased or to (2) (in multi-product firms) the amount of all products purchased. Further, 'amount' may be measured in terms of (a) volume or (b) value.

In a non-cumulative system, the discount is based on the size of a single order. This encourages large orders, enabling savings to be made in manufacturing, handling and orderprocessing costs. In a cumulative system, the discount is based on the total amount purchased in a given period. This can help to 'tie' purchasers to a producer. But some suppliers have run foul of the Monopolies Commission, which has judged the policy to be anti-competitive.

The last, but by no means the least important, aspect of a discount structure is its depth, the size of discount for given purchase quantities. Each producer should take account of the discounts offered by competitors, although it appears that there is considerable diversity in some markets (Crowther 1966). Moreover, a producer may face very powerful purchasers who are able to obtain additional discounts.

Additional concessions can sometimes be obtained even from dominant producers. The Monopolies Commission (1970) found that Metal Box had established a structure that would contribute to the full utilization of highly automated machinery. For processed food cans, discounts of up to 3 per cent were given for purchases of up to 50 millions a year, and discounts to a further 3 per cent were given for combined purchases of food and beverage cans of up to 200 millions a year. Additional rebates were also given on the basis of the quantity of any single kind of can purchased in a year. Finally, additional rebates were given to customers purchasing all their requirements from Metal Box.

Even though at that time Metal Box supplied more than three-quarters of the domestic market, and had so elaborate a discount structure, it still felt obliged to go outside the structure when negotiating orders with very large customers. In many cases, special terms were negotiated at the insistence of customers with considerable bargaining power. Although only 45 of the company's 624 customers bought at special prices, they accounted for 88 per cent of sales.

Table 1.13 shows the total cost of special terms given by 15 major manufacturers to three large grocery chains. These costs comprised lower prices, contributions to the retailers' advertising, and the provision of shop equipment and of sales staff.

Table 1.13 Special terms received by large multiples

Retailer	Cost to manufacturers (% of sales)
Tesco	8.35
Sainsbury	7.77
Asda	7.06

Source: Monopolies Commission (1981).

Improvements in information technology have made it easier for suppliers to access data about their customers, including the amount that they buy. A simple example is the club-card introduced by major retailers such as Tesco. At present, these cards offer a flat cash bonus, for example 1 per cent of the value of sales. But differential bonuses are offered by some US supermarkets, with the biggest customers given 20 per cent off, the next biggest 10 per cent, the next 5 per cent, and the rest paying the full price (*The Times* 22.11.95).

In some instances, firms have refused to supply customers who purchase small quantities that are unprofitable to the supplier. For example, some US banks have closed the accounts of unprofitable customers.

Pricing to distributors

Manufacturers sell to distributors – wholesalers, retailers and so on – at a discount from the recommended retail price. The discount takes account of the services performed by the distributor: stocking, displaying and delivering the product, providing technical advice, and so forth.

In vehicle electrical equipment, Lucas gave discounts of 35 to 45 per cent to wholesale electrical agents and motor distributor agents that offered a specialized service in electrical equipment, that carried adequate stocks (particularly of spare parts for repairs), that could diagnose faults and that undertook repairs and testing; of 32¹/₂ to 42¹/₂ per cent to factors that offered a less comprehensive service; and of 30 to 40 per cent to stockists that had been appointed service agents of *other* manufacturers (Monopolies Commission 1963).

In retailing, high margins are required in the fashion trades such as shoes and clothing, because of the labour-intensive nature of the operation, the low rate of stock turnover and the risk of high stock losses. Lower margins are earned by retailers selling low-value, frequently purchased items with a low labour content, for example groceries sold by self-service.

A manufacturer may give less than the conventional trade discount if it can offer a compensating advantage, such as heavy advertising or superior product quality, which leads to a high rate of stockturn. Cadbury's used the high reputation of their products as a justification for offering retailers a margin that was conventional for chocolate but lower than usual for sugar confectionery when they entered the latter market.

In negotiating with larger retailers, manufacturers have to take into account not only the lower price they receive but also the possibility that the large retailers will pass this on to undercut smaller rivals. If these smaller retailers are forced out of business then the manufacturers may lose custom.

However, a contraction of the distribution network need not be a disadvantage to manufacturers. In fact, manufacturers may seek to limit the number of distributors, for two reasons. First, it reduces the manufacturer's cost of distribution, and especially of transport. This helps to explain why the petrol companies have maintained discount structures that have contributed to the closure of many smaller petrol stations in recent years.

Second, as the remaining distributors acquire a larger share of the market their profits increase. If these are ploughed back in order to increase their efficiency then the manufacturer's total sales may increase. This is one of the reasons why a number of vehicle producers have reduced the size of their dealer networks.

Pricing by retailers

Although some of the cost savings achieved by the large grocery retailers are passed on in the form of lower prices, which undercut their smaller rivals, especially one-man businesses, there is little evidence that the biggest multiples Tesco, Sainsbury, Argyll (now Safeway), Asda and Marks & Spencer – have sought to compete against each other by means of across-the-board price reductions. Indeed, it was recently suggested that British grocers earn margins that on average are four times those of their continental or US counterparts, partly because 'the band of grocers that controls three-fifths of all food sales is a disguised cartel', with each firm 'setting a baseline below which prices need not be cut further' (The Times, 10.1.96).

Another possible explanation is that British grocers are more efficient and stock a range of 'value added products', for example prepared foods, that have proved popular with customers. But British margins are also high on fruit and vegetables, giving weight to the 'cartel' theory.

The majors' high margins have provided the opportunity for other multiples to compete on a

'low-price/no-frills' basis. But the share of the market gained by these lower-priced competitors has again been mainly at the expense of oneman and other very small businesses.

Kwiksave is Britain's leading discount food retailer, with 850 stores. It stocks some 1,000 product lines (compared with over 10 000 in a large superstore), including leading brands sold at about 10 per cent below the prices of the majors. But two more recent entrants charge even lower prices. Aldi, a German company, moved into the UK in the late 1980s and had opened 100 stores by 1994. The product range is limited to between 500 and 600 items with an emphasis on basic foodstuffs, sold at prices up to 20 per cent below the majors. The Danish owned Netto, which opened its first store in 1990 and plans to have 350 outlets by the end of the decade, sells national brands at a claimed 30 per cent below the majors. These prices are achieved by a combination of very low margins (1 per cent compared with 7 to 10 per cent for the majors) and low expenditure on display and merchandising (Jones 1994).

Own labels

Perhaps the most important form of price competition exercised by the major multiples is via own-label or own-brand products. Manufacturers are willing to produce own labels at prices below the corresponding manufacturers' brands because they can be supplied at a lower cost, through savings in the formulation of the product, packaging, advertising, and selling. Moreover, the addition of own labels can reduce unit costs by enabling economies of scale to be exploited and/or excess capacity to be utilised. (In some instances, own labels have been the main source of growth. Faced with Kellogg's monopoly in the market for cornflakes, Viota began supplying under Tesco's label and then to other multiples. The Canadian Cott Corporation entered the UK market by supplying own-label colas to Sainsbury, Virgin and so on. Earlier, Italian manufacturers of refrigerators and other consumer durables used own-label contracts as a means of entering the UK market.)

With certain exceptions, such as Marks & Spencer, retailers stock both own-label and manufacturer brands in order to appeal to consumers for whom the relative importance of price differs. The cost saving normally enables the retailer to earn higher margins on own-labels, but still to sell at lower prices. In recent years a number of multiples, including Tesco, Sainsbury and Safeway, have introduced an additional range of even cheaper 'basic' own-label products.

Other forms of competition relating to price emphasized by the major multiples in recent years include loyalty cards, money-off vouchers and, of course, price promotions (selective price reductions).

A number of studies in the USA, using the information derived from scanning systems, seemed to suggest that the choice of products for promotions had little or no effect on the overall level of sales. From this, researchers were beginning to draw the conclusion that promotions were not an effective pricing strategy.

However, when Mulhern and Padgett (1995) analysed individual shopping baskets, they found that promotions had more positive effects. Among shoppers who identified the promotion as one of their reasons for visiting the store, three-quarters also made purchases at regular prices, spending on average more on regular price than on promotion merchandise. Shoppers visiting the store for the promotion were no less profitable to the store than other shoppers (and they would, of course, add to the total volume of sales and hence profits).

In other branches of retailing, a number of firms have successfully traded with a 'lowprice/no-frills' policy. These include warehouse clubs, factory outlet shopping centres and more conventional outlets such as What Everyone Wants, whose 'discount superstores' stock clothing, household goods and leisure goods.

For some retailers, price has not been an important form of competition, apart from temporary reductions during 'sales'. Department stores have traditionally competed in other ways, offering a wide product range, pre- and after-sales service, deliveries, cheap or free credit, and so on. The cost of these services normally has to be covered by charging higher prices. Moreover, low prices would not be consistent with the prestige image that these retailers seek to cultivate.

CONCLUSIONS

Pricing decisions involve people at different levels of the organisation. For example, decisions on basic price may be made by the board or by an individual director, decisions concerning what discount to offer to a particular customer by a salesman. Although some decisions have a greater impact than others do, a common feature of all pricing decisions is that they have a direct effect on profit.

Consequently, it is important for the firm to obtain information about all the factors relevant to those decisions, including the activities of competitors and the attitudes and perceptions of consumers. Since these two sets of factors constantly change, information must be gathered on a regular basis.

Modern methods of data processing have made it much easier to gather, analyse and disseminate information, and in this sense pricing decisions have become more scientific. However, personal judgement will always have a part to play if only because the behaviour of competitors and consumers constantly changes. Firms must always be aware of the potential impact of changes in such factors as market structure, the degree of product differentiation, the level of demand, the length of the various stages of the product life cycle, and the price awareness and sensitivity of consumers.

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In recent years small firms have increased in importance. This chapter defines them and examines their importance in the UK and in the EU. It then discusses the factors that favour small firms and those that influence their formation. A section on the death of small firms is followed by a discussion of small-firm finance and government policy in this area in the UK and the EU.

Decline reversed

Up to the 1970s the trend in most developed economies was towards larger businesses and more concentrated industries. This trend could be explained in terms of the growing importance of economies of scale (see Chapter 3). But a different picture emerged in the 1980s and 1990s. Loveman and Sengenberger (1991) found that in all the countries they studied employment increased in small enterprises but fell in large enterprises, with the medium-size firm sector being reasonably stable. The European Commission (1995b) found that during 1988–95 employment increased in small firms in Europe and fell in medium and large firms (although the reverse was true towards the end of this period).

Changes in self-employment are an indicator of changes in the number of small firms (Table 2.1).

Bannock and Daly (1990) showed that in the UK manufacturing sector employment in small firms, as a proportion of the total, declined from

Table 2.1 International comparisons of	of
(non-agricultural) self-employment:	
self-employment rate (%)	

	1979	1992
United Kingdom	6.6	11.0
Europe 12	11.4	12.9
Canada	6.7	8.0
USA	7.1	7.5
Japan	14.0	10.7

Source: Adapted from OECD (1995).

the 1930s through to the early 1970s, since when it has grown strongly. (The UK experience is discussed in greater detail below.) This reversal was so dramatic that

the small firm sector has been viewed in some policy-making circles as the main engine of the economic recovery. Indeed, by the late 1980s there was much talk of reconstructing not just the economy but also the national psyche via the creation of an 'enterprise culture' (Keasey and Watson 1993: 1).

Small firms defined

There are many possible ways of defining small firms. For example, in order to identify changes in the number of small firms, they could be defined in terms of employment, assets or sales (turnover). Of these three alternatives, employment is probably the most suitable, because it avoids the disadvantage inherent in the others, namely that they are affected by inflation. It also avoids the difficulties that can arise in making international comparisons owing to changes in exchange rates. Although in the course of this chapter we use more than one definition, for much of the time we follow the European Commission (1994) publication, Enterprises in Europe, in defining small firms as businesses with less than a hundred employees.

This definition is also used in many of the statistics published by the Department of Trade and Industry, although the DTI stresses that

there is no single 'official' definition of small, pointing out that different criteria can be used in determining a firm's eligibility for various forms of government assistance. As will be seen below, a further distinction within the small firm sector is sometimes made between micro firms (0 to 9 employees) and small firms (10 to 99 employees).

Small firms in the UK

One of the most striking changes in the UK economy over the past fifteen years or so has been the increase in the number of businesses. From 2.4 million in 1980, the number grew throughout the 1980s to reach a peak of 3.8 million in 1989, an increase of almost 60 per cent. As the recession set in, the number declined slightly in the early 1990s, to 3.5 million at the end of 1992. But this was still more than 1 million above the 1980 figure, and a further increase, to over 3.6 million, has been recorded since then.

This growth in the number of businesses was due largely to an increase in the number of micro firms, especially self-employed businesses with no employees (Figure 2.1).

In the light of these changes it is not surprising to find that small firms have accounted for an increasing share of employment and gross value added (GVA). For example, while employment in manufacturing fell overall between 1980 and 1992, the number of jobs in manufacturing enterprises with under 100 employees increased by 100 000. The share of these firms in manufacturing employment increased from 19 to 29 per cent, while the share of large firms (500 or more employees) fell from 68 to 52 per cent. During the same period, the share of GVA accounted for by enterprises with less than 200 employees increased from 21 to 29 per cent, while the share of enterprises with over 500 employees fell from 72 to 60 per cent (Department of Trade and Industry 1995).



A more detailed picture of the current situation is given in Table 2.2 and Figure 2.2.

Table 2.2 Number of businesses, employment and turnover by size of business, end 1994 (%)

Size	Number of	Employment	Turnover
(number of	businesses		
employees)			

1 2			
0	67.1	13.8	4.2
1 to 4	21.9	10.5	9.9
5 to 9	5.5	7.4	6.6
10 to 19	3.1	8.0	7.9
20 to 49	1.5	8.2	9.0
50 to 99	0.5	5.7	6.7
100 to 199	0.2	5.3	9.1
200 to 249		1.7	2.7
250 to 499	0.1	5.2	6.4
500+	0.1	34.1	37.4
	100	100	100

- = less than 0.1

Source: Department of Trade and Industry (1996).



Source: DTI Small Firms Statistics Unit.

Figure 2.2 Percentage of employment in small businesses (less than 50 employees) by industry, end 1994

A comparison of the final two columns of Table 2.2 reveals that, overall, small firms, and especially micro businesses, are far more labourintensive than larger firms.

Figures 2.3 and 2.4 provide more detailed information about the varying importance of small firms in five sectors of the UK economy.

Manufacturing

About a quarter of non-government jobs are in manufacturing, and the sector contains one in five of all firms. As shown in the following chapter, economies of scale tend to be especially important in manufacturing, and this helps to explain why micro enterprises are less common (89 per cent) than in industry as a whole (94 per cent). Nevertheless, small (including micro) firms account for 38 per cent of manufacturing employment and 25 per cent of turnover. Small firms are important in a broad range of industries, both traditional (for example textiles, clothing, wood and wood products, with 41, 52 and 63 per cent of turnover) and newer, high-tech (publishing, printing and reproduction of recorded media, 50 per cent of turnover).

Construction

Around 8 per cent of non-government jobs are in construction, over 60 per cent being in micro businesses, mainly one or two person firms. Micro enterprises' contribution to turnover, at around 40 per cent, is larger than in any other sector.

Construction firms have been dominated by mainly self-employed craft and skilled manual workers. But it has been suggested that increased mechanization and developments in information technology may be resulting in the growth of small rather than micro firms, offering technical and professional jobs where skill boundaries are less rigid (Department of Trade and Industry 1995).

Wholesale and retail

In wholesale, retail and repairs, which account for a fifth of non-government employment, there are over half a million small firms. Their share of



Source: DTI Small Firms Statistics Unit.





turnover is 45 per cent in wholesale and 37 per cent in retail and repairs (both excluding motor vehicles).

Financial intermediation

During the 1980s the financial intermediation sector saw a dramatic growth in employment and in the number of businesses. Nevertheless, the sector is dominated by medium to large banking and insurance firms, small firms accounting for 22 per cent of turnover and only 10 per cent of employment. But small firms are more prominent in some parts of the industry such as 'other financial services' (which includes security broking and fund management), where their share of employment approaches 50 per cent.

Business services

Micro enterprises provide a third of all jobs in business services, renting and real estate, a sector that experienced a boom in self-employment in the 1980s. Small firms are especially important in data processing and handling, hardware and software consultancy, and maintenance and repair. Two-thirds of employment and nearly half of turnover are accounted for by firms employing less than a hundred people.

Employment generation

Looking at employment as a whole, there can be no doubt about the importance of small firms in generating jobs in recent years. In the UK they created over two-thirds of net jobs between 1987 and 1989 (Daly 1991). Perhaps even more impressive was the fact that over the period 1989/91, when many small firms ceased trading in the recession, firms with less than 100 workers created 445 000 new jobs, while there was a net job loss 142 000 in firms with 500 plus workers. Within the small firm sector, net job generation was greatest in firms with 1 to 4 workers (228 000) and 5 to 9 workers (105 000) (Department of Employment 1993).



	Share (%) of		
	Number of businesses	Total employment	Total turnover
One man businesses	49.72	9.32	7.18
1 to 9 employees	42.99	23.13	18.32
10 to 49 employees	6.16	18.80	20.36
Total small businesses	98.87	51.25	45.86

Table 2.3 Small firms in the European Union

Source: Statistics in Focus No. 6/1995; series Population and Social Conditions, catalogue no. CA-NK-95-006-EN-C. European Commission.

The growth in the small firms sector has been much more rapid in the UK than in other countries, although it started from a lower base. The sector's relative size in the UK is much closer now to that of other countries than it was at the beginning of the 1980s. The number of self-employed has risen by over three-quarters since 1979, and in 1992 the UK (non-agriculture) self-employment rate, at 11 per cent, was just below the European Union average (13 per cent) and similar to that of Japan (Figure 2.5).

Small firms in Europe

Table 2.3 shows that in the fifteen European Union countries there are slightly more oneman businesses than small firms with employ-

Table 2.4 One-man businesses by sector, European Union

	One-man businesses: % share of total		
Sector	Number of enterprises	Employment	
Industry	43.33	3.33	
Construction	47.29	10.87	
Distribution,			
HORECA ^a	45.53	13.15	
Transport and			
communications	52.68	8.01	
Banking, finance	58.15	11.69	
Other services	60.50	13.69	
All sectors	49.72	9.32	

^a Hotels, restaurants, catering.

Source: European Commission (1995b).

ees. But the latter are far more important in terms of their share of total employment and turnover. Together, small firms account for almost 99 per cent of all businesses, over half of total employment and almost 46 per cent of total turnover.

One-man businesses are especially prominent in banking and finance and in other services, and least so in industry (mainly manufacturing) (Table 2.4).

A similar picture can be seen in newly created businesses, (Table 2.5). This table also shows that owner-run businesses constitute a much higher proportion of new enterprises in some countries than in others.

Table 2.6 shows that small firms as a whole make a bigger contribution to activity in distribution (including hotels, restaurants and catering) and other services than in industry.

International comparisons

It is difficult to make precise and comprehensive international comparisons, because of differ-

Table	2.5 One	-man	businesses	as	percentages of
newly	created	firms,	, 1992		

Sector	Denmark	France	Finland	Sweden
Industry	87	60	52	31
Construction	81	70	60	24
Trade	91	73	59	37
HORECA ^a	68	69		
Other services	93	73	64	38

^a Hotels, restaurants, catering.

Source: European Commission (1995b).

Sector	Micro (0-9)	Small (10–49)	Medium and large	Total
Industry	3.5	7.9	28.1	39.5
Construction	1.9	2.0	1.7	5.6
Distribution	12.9	13.2	15.1	41.2
Other services	5.5	3.8	4.5	13.8
Total	23.8	26.9	49.4	100

Table 2.6 Distribution of turnover by industrial sector and employment size band, Europe 12, 1990 (%)

Source: Adapted from European Commission (1994).

ences in classification systems and statistical coverage. However, Table 2.7 shows that small businesses are especially prominent in Italy, Denmark and Portugal (in employment terms) and that they are less prominent in Germany, France and the UK. However, even in this latter group of countries they make a very substantial contribution to the national economy.

It is interesting to note that in 1992, the latest year for which figures were available at the time of writing, these same three countries, Germany, the UK and France, had the highest gross creation rates (new firms – of all sizes – as a percentage of the existing stock). However, in that year the recession caused the closure of an usually large number of firms, and the net crea-

Table 2.7 Relative importance of small businesses, by country

	Small businesses: % share of			
Country	Number of	Total	Total	
	enterprises	employment	turnover	
Belgium	98.9	45.3	50.0	
Denmark	98.3	56.0	47.0	
France	98.3	46.6	39.0	
Germany	97.9	40.0	36.6	
Italy	98.9	64.5	54.5	
Netherlands	98.7	55.0	50.6	
Portugal	98.9	55.0	43.8	
United				
Kingdom	98.6	42.0	n.a.	
Europe 12	98.8	50.0	43.0	

n.a.: not available

Source: Adapted from European Commission (1994).

tion rate was negative in France and the UK (Table 2.8).

A more detailed picture of the importance of small firms in a number of countries, as indicated by their share of the number of enterprises, employment and turnover, is presented in Table 2.9.

Factors favourable to small firms

In previous sections we demonstrated in statistical terms the importance of small firms, and we showed that their importance has increased in the UK since 1980. The statistical evidence indicates that small firms have an important role in the economy, otherwise they would not survive. Moreover, the increase in their importance suggests either that they have become more proficient or that the economic environment has changed so as to provide more opportunities that can be exploited by small firms and/or to reduce the advantages enjoyed by large ones.

In this context the development of new, more flexible forms of economic organisation is significant. The term post-Fordism has been applied to these new forms, because they differ from the mass production methods first adopted by Henry Ford. Murray (1988) has presented an idealized contrast between the two systems. Fordism is characterized by mass consumption, technology dedicated to one product, mass assembly-line production, semi-skilled workers, general or industrial unions, centralized national bargaining and geographically dispersed branch

Table 2.8 Firm creat	ion rates, 1992			
Country	Number of creations	Number of closures	Gross creation rate (%)	Net creation rate (%)
Austria	658	787	4.9	-1.0
Denmark	16758	n.a.	6.0	n.a.
Finland	18 565	46 725	9.2	-14.0
France	274 541	306 005	11.7	-1.3
Germany	416 900	318 000	19.3	4.6
Netherlands	24 000	16 300	6.4	2.1
Sweden	18 364	18700	5.4	0.0
United Kingdom	183 452	223765	12.5	-2.7

Table 2.8 Firm creation rates, 1992

n.a.: not available

Source: European Commission (1995b).

Table 2.9 Indices of small firms' share of economic activity (%)

		Employment size class			
	0	1 to 9	10 to 19	20 to 49	0 to 49
Belgium (1991)			······		
VAT units	64.5	30.5	2.5	1.8	98.3
Employees	n.a.	17.0	8.2	13.3	38.5
Turnover	9.1	19.5	9.4	13.6	51.6
Denmark (1991)					
Legal units	44.2	45.3	5.5	3.4	98.4
Employment	5.6	25.6	10.7	13.6	55.5
Turnover	3.7	18.6	9.6	14.7	46.6
France (1990)					
Enterprises	53.9	38.5	3.3	2.8	98.5
Employment	7.7	20.3	6.5	12.2	46.7
Turnover	5.6	13.8	6.2	13.5	39.1
Germany (1990)					
Enterprises	27.1	59.8	7.5	4.6	99.0
Employment	2.9	15.4	9.7	18.2	46.2
Turnover	5.1	11.4	7.2	16.8	40.5
Italy (1989)					
Enterprises	n.a.	91.2	0.6	2.2	94.0
Employment	n.a.	42.5	11.5	9.3	63.3
Turnover	n.a.	30.6	12.2	11.0	53.8
Portugal (1991)					
Enterprises	58.6	35.7	2.9	1.8	99.0
Employees	n.a.	24.3	10.3	14.2	48.8
Turnover	4.3	16.9	8.7	13.8	43.7
United Kingdom (19	991)				
Enterprises		92.2	3.7	2.5	98.4
Employment		26.6	6.4	9.1	42.1
Turnover		9.6	3.8	6.1	19.5

n.a.: not available

Source: Adapted from European Commission (1994).

plants. Post-Fordism is characterized by fragmented niche markets, general flexible machinery, short-run batch production, multi-skilled workers, no unions or company unions, decentralized local or plant level bargaining, geographically concentrated new industrial districts and flexible specialist communities.

Over the past two decades the world economy has been characterized by increased competition, more uncertainty (due partly to increased competition and partly to political changes), rapid technological change, and the fragmentation of markets (due partly to increasing affluence). These developments were advantageous to firms able to use new technology flexibly to respond quickly to changes in market demand, and disadvantageous to firms organized along Fordist lines, with highly centralized, bureaucratic decision-taking procedures.

As this latter type of firm came under financial pressure, it responded either by changes in internal organizational and work practices, often in decentralized, semi-autonomous divisions, or by the greater use of specialized outside subcontractors (Bagguley 1990). These subcontractors may supply components and other goods and services such as maintenance, security, catering, accounting, and data-processing. These changes create a demand that small businesses are well suited to meet.

It appears that contracting out is most common when a small firm possesses specialist knowledge or equipment (O'Farrell *et al.* 1993, Reid 1993). Otherwise, firms are likely to deal with a few large suppliers in order to reduce administrative costs. This consideration, together with the introduction of just-in-time manufacturing methods, led many companies to reduce the number of suppliers in the 1980s (Rainnie 1991).

Keasey and Watson (1993) argue that these changes have been especially dramatic in the UK because of the previous dominance of large, bureaucratic organizations and the nature of its manufacturing sector. Moreover, the process was enhanced by a government committed to 'rolling back the state' by, for example, allowing private-sector firms to compete for work previously done 'in-house' by local authorities, the National Health Service and so forth.

The small firm sector may benefit from such changes in the economic environment because fewer firms die, existing firms grow or new firms are formed.

The formation of new firms

There are many factors that could in principle influence the rate of formation of new firms, including the changes discussed in the previous section. In trying to identify the relative importance of these factors, two explanations or hypotheses have been advanced. Each of these starts from the assumption that the rate of formation is influenced by the difference between the (potential) profits from a new venture (P) and the wage (W) that could be earned by an employee. A widening of the gap between P and W will lead to an increase in the rate of new firm formation.

The so-called 'pull' hypothesis suggests that the gap widens primarily because of an increase in *P*. This might come about because of changes in the market such as those given above as characterizing post-Fordism. General economic conditions are also important. We showed earlier that the rate of formation was very high in the mid and late 1980s, a period of rapid economic growth. Economic growth implies a higher demand for goods and services, and hence increased opportunities for new firms. Moreover, new firms are then more likely to obtain the required financial resources (Keasey and Watson 1993).

The corollary is, of course, that the formation rate will fall in times of recession, such as the early 1990s, because of a fall in *P*. On the hand, the 'push' hypothesis suggests that the rate of formation will increase in recession because of the fall in *W*, especially when people become unemployed.

There is some evidence to support this second hypothesis. A study by Storey and Strange (1992) of new firms created in Cleveland in the 1980s found that 44 per cent of the owners had been or were likely to become unemployed immediately prior to starting their current business. Similarly, an earlier study by Binks and Jennings (1986) found that about half of the founders of new firms in the Nottingham area in the early 1980s, a period of very high unemployment, had been 'forced' into starting a firm because of unemployment. Incidentally, Binks and Jennings also found that the closure of existing firms in the recession provided a cheap source of second-hand machinery for the startups. However, overall, 'the empirical evidence from the UK and elsewhere has been less than decisive in settling the relative claims of the push and pull hypotheses' (Keasey and Watson 1993).

One of the reasons it has been difficult to determine the relative merits of these hypotheses is that the formation of new businesses is influenced by factors that neither hypothesis takes into account. Studies such as that by Scase and Goffee (1987) have found that many people start a business from non-economic motives: the desire to be independent, to use their skills and abilities more fully or to escape from a boring, undemanding job.

Moreover, government policy can sometimes give rise to both push and pull factors simultaneously. For example, Storey and Strange (1992) found that following the reduction in regional aid in the 1980s, Cleveland experienced a massive decline in inward investment. This, together with continuing falls in steel-making and chemicals, industries that previously dominated the area, meant that unemployment remained above the national average, an important push factor. On the other hand, macro-economic policy might have contributed to the rapid expansion of the economy in the mid 1980s, an important pull factor. (Specific government initiatives to aid small firms are considered in a later section.)

As noted above, changes in the population of small firms are influenced not only by the formation of new firms but also by the survival (or failure) of existing businesses, the subject to which we now turn.

Survival and failure

A characteristic of the small firm sector is the high probability of failure. Whereas considerably less than 1 per cent of large quoted companies fail each year, approximately 10 per cent of small firms can be expected to do (Keasey and Watson 1993). If we take de-registration for value added tax as an indicator of failure, we find that casualties are especially heavy in the early years of trading, as shown in Table 2.10. (This table refers to all firms whose turnover is above the registration threshold.)

A study of the European economy (European Commission 1995b) found a similar failure rate. On average, 80 per cent of new businesses survived for 1 year, 65 per cent for 3 years and 50 per cent for 5 years. Survival rates tended to be above average in manufacturing and extractive industries (although this was not so in the UK).

The term 'failure' is used when a firm ceases trading (or, as above, de-registers for VAT), and this can happen for several reasons. Some small firms cease trading because the owner-manager retires, dies or decides to work for another firm. Owners who start businesses to avoid unemployment may become employees again once

Table 2.10 Lifespan of businesses registered for VAT

Time since registration (years)	Registrations surviving (%)	De-registrations as % of registrations at beginning of year
1	87	13
2	73	16
3	62	15
4	54	13
5	47	13
6	42	11
7	38	10
8	35	8
9	32	9
10	30	6

Source: Adapted from Department of Trade and Industry (1995).

the economy revives. In many of these instances the term failure may not seem to be appropriate. However, the statistics often do not distinguish between these and other failures.

Many firms fail because of managerial shortcomings. One way of identifying these shortcomings is to ask what identifies firms that survive. Freeser and Willard (1990) found that rapidly growing firms made a more thorough analysis of what markets to enter and what products to supply. Freeser and Willard also found, as did Storey *et al.* (1988), that good market and product decisions are more likely to be made when the firm is managed by a relatively large team of owner-managers, with a wider range of experience and expertise.

The European Commission (1995b) found that the failure rate was significantly higher, especially in the first year, in one-man businesses than in businesses with employees. The respective survival rates were: France 80 and 92 per cent, Finland 75 and 85 per cent, Austria 81 and 92 per cent. Moreover, there was some evidence that the greater the initial number of employees the greater was the chance of survival.

Research by Storey and Cressy, discussed in Hobson (1995), revealed that in firms with a single owner, his or her previous experience was extremely important. Storey and Cressy tracked 2000 new business owners who set up in 1988 and 750 in 1991. They found that the chances of a business surviving increased continuously for each five-year age group between 20 and 50. Those establishing a new venture aged 50 to 55 had a 70 per cent chance of lasting for three and a half years. Those aged 20 to 25 had only a 30 per cent survival rate.

Storey and Cressy attributed this difference to two factors. Younger people are more likely to have alternative opportunities in the labour market and so are less likely to persevere in their business ventures. Older people are more likely to have a range of contacts and experience.

Incidentally, the study revealed that only 19 per cent of the businesses established in 1988 had survived for six years. This implied a higher death rate than previously thought. However, this could be due to the fact that a large number of new businesses were formed in the late 1980s, and that this was soon followed by the longest recession experienced in the UK since the 1930s.

The importance of sound market decisions was also revealed by a study by Reid *et al.* (1993) of 73 firms with an average employment of nine. The firms were part of the 'competitive fringe' in various markets dominated by large firms. Competition within the fringe was fairly vigorous, but became 'intense (if not fatal) for those firms that encroach into the dominant firms' share of the market.' The firms that survived and prospered were those that had first concentrated on developing their own special niche within the fringe.

Niches may be based on location, on firmspecific skills or on customer types. For example, Reid found that a fence-making firm had chosen to set up in Scotland, a location distant from the source of chestnut timber, its primary input. This disadvantage had deterred other firms from locating in Scotland, and this had protected the firm from competition in its main markets, Scotland and Northern Ireland.

A firm making cassette tapes concentrated on maintaining longstanding relationships with certain high-volume customers by giving attention to service, delivery, quality and productivity. 'More attention is placed on increasing these existing customers' switching costs than in cultivating new customers. As a result the firm is able effectively to insulate itself from the predatory pressures of existing rivals' (Reid *et al.* 1993: 130).

On the other hand, Freeser and Willard (1990) found that high growth firms were characterized by a willingness to offer products to a wider range of markets. Indeed, they argue that this 'breadth of vision' differentiates high – from low – growth firms, a point also emphasized by Wicker and King (1989).

Storey *et al.* (1988) noted that research suggests that over a decade half of the jobs created by any 100 small firms will be created by the fastest-growing 4 firms. They found that these fast growers tended to differ from other firms in placing a much greater emphasis on marketing

and market-related activities. Their owners were strongly motivated toward achieving growth, and the firms' management had more experience and professional expertise.

Various other factors appear to influence the probability of a small firm surviving and growing, including location in a growing rather than an established region, being organized as a company or corporation (Mayer and Goldstein 1961, Wicker and King 1989) and access to an adequate supply of finance.

Changes in size

Table 2.11 presents evidence on changes in the average size of newly established businesses. Increases in employment were extremely modest on average. Moreover, when allowance is made for the (very few) rapidly growing firms, it is likely that employment did not increase in the majority of firms.

The financing of small firms

The Macmillan Committee (1931) was the first government appointed body to suggest that the financial needs of small businesses were not being adequately met by the existing financial institutions. Subsequent committees of inquiry

Table 2.11 Changes in employment				
	Average employment			
	At start-up	After 5 years		
Finland	8.6	8.5		
Netherlands				
HORECA ^a	2.5	2.8		
Industry	2.6	3.7		
Construction	3.1	3.5		
Trade	2.3	3.1		
Austria				
Construction	16.7	20.7		
Manufacturing	6.3	6.6		

^a Hotels, restaurants, catering

Source: European Commission (1995b).

(Bolton Report 1971, Wilson Committee 1979) came to similar conclusions. Representatives of small businesses have proposed various remedies for ameliorating the situation. For example, the Federation of Small Businesses (1993) advocated the creation of a two-tier system of interest rates, with a lower rate for business borrowing than for consumption. (Many European countries offer preferential interest rates to smaller businesses, as shown below.) The FSB also suggested a reduced rate of tax for small companies on earnings ploughed back into the business, concessions on National Insurance contributions and the abolition of the uniform business rate.

Banks and small firms

Most small businesses rely, to a greater or lesser extent, on funds provided by the clearing banks. For example Keasey and Watson (1993) found that of a sample of 110 firms, 92 per cent had loans, 91 per cent of the loans coming from banks. There has been a prolonged debate about the relationship between the two, a debate that became more intense during the recession in the early 1990s. The main areas of contention were identified by Hutchinson and McKillop (1992) as the cost of financing (bank charges and the interest rate on loans), collateral requirements, and the willingness of banks to maintain or increase the supply of loan capital.

The rate of interest charged on loans is influenced by the lender's assessment of the risk that the borrower will be unable to meet the interest payments and repay the loan. Given the higher failure rate among small businesses, it is not unreasonable for lenders to charge a higher interest rate to compensate for the higher risk. But what is a reasonable, fair premium? The Wilson Committee (1979) found that on average small firms paid 2 per cent more than large firms, a premium the Committee thought was excessive. A similar margin appears to have been maintained in the 1980s (Bannock and Morgan 1988, Hutchinson and McKillop 1992). However, with the rapid increase in the number of small businesses in this period, noted above, the level of perceived risk might have risen.

There is no comprehensive evidence concerning bank charges and fees, the second element in the cost of capital. But these were listed most frequently as a cause of concern by the respondents in Bannock and Morgan's survey.

The higher the collateral required for a loan, the lower the risk faced by the supplier of finance, and therefore the lower should be the rate of interest. It appears that the collateral required in the UK has been too high, given the interest rate. Bannock and Morgan found that for firms in the UK with less than 9 employees, the average collateral loan ratio was over three times the equivalent in the USA, and over twice as high for companies with 10 to 49 employees. Keasey and Watson (1993) found that of 101 firms with loans, only 2 did not have to provide some kind of security. Of the 101 firms, 47 per cent had to provide unlimited personal guarantees and 25 per cent secured the loans on the assets of the business.

The final major issue identified by Hutchinson and McKillop, the willingness of the banks to maintain the supply of capital, received increasing attention during the recession, when the banks were accused of failing to give sufficient support to businesses in 'temporary' difficulties. Hutchinson and McKillop point out that although banks often respond to increased risk by raising interest rates, they may refuse to lend when the level of risk is very high. This is normal banking practice, consonant with the banks' responsibilities to their depositors. As the level of risk increases in recession, refusal to lend, for example by renewing overdrafts or extending loan repayment periods, may become more common.

To what extent this happened in the last recession is not clear. Bradford (1993) reported that only 3.2 per cent of small firms surveyed cited access to finance as a problem. (Of course any firms that had failed due to a lack of finance would not be included in this survey.) Moreover, only 21 per cent of the firms starting a business in 1993 wished to borrow money as compared to 50 per cent three years earlier.

According to Davies (1996), the best that could be said about the relationship between the banks and small firms in 1993 was that both sides were in a state of 'armed neutrality'. Two enquiries undertaken by the Bank of England at the behest of the Chancellor had found no evidence of reprehensible behaviour by the banks, but nor had they resolved the underlying problem of suspicion and mistrust. However, Davies enumerated several beneficial changes that had taken place since then.

First, interest rates on loans had fallen in line with reductions in base rates. Moreover, the process of determining charges had become more transparent. (The Federation of Small Businesses (1993) had complained about a lack of transparency.) Second, the proportion of lending to small firms represented by overdrafts had declined from 49 to 37 per cent, while term lending, which gives the borrower more security, increased to 63 per cent. Third, improvements had been made in the banks' products and lending processes. Different lending packages had been devised for different sorts of small businesses. This had allowed bank charges for simple transactions to be reduced, and more flexible lending facilities to be offered to growth businesses.

Equity finance

UK banks have been criticized for being less willing to provide permanent (equity) capital than banks in, for example, Germany. This criticism relates to the financing of larger as well as smaller firms, and it may have some validity. But it is also true that the owners of small firms are often reluctant to seek equity capital, presumably because they wish to exclude outside investors from decision-making and profit-sharing. Cowling *et al.* (1991) found that 70 per cent of small firm owners had never considered equity finance from banks as a source of longterm finance, and that 61 per cent would object to this source.

Venture capital

There has been a substantial increase in the provision of equity finance to small and medium-sized firms, much of it in the form of venture capital. (Most venture capital organisations are independent specialists, but some are owned by other financial institutions such as banks, insurance companies and pension funds.)

Indeed, venture capital was one of the most vigorous growth areas of the UK economy in the 1980s. In 1981, 30 venture capital organizations committed £66 million to 163 companies. In 1992 the UK industry invested £1 326 million in 1297 enterprises worldwide, primarily small and medium-sized, unquoted companies. This represented an annualized growth rate, in real terms, of 27 per cent. In 1992 the UK industry accounted for 39 per cent of investment undertaken by all European venture capital organizations, and the UK has become the third largest venture capital centre in the world, after the USA and Japan (Murray 1995).

However, far more of this investment has gone towards the restructuring of existing, established firms (via management buy-outs, buyins, expansion and so forth) than towards the financing of new firms. Over the period 1987–91, investment in start-ups varied between 4 and 8 per cent of the total, and early-stage investments varied between 2 and 9 per cent (Murray 1995).

Informal investment

Venture capital companies are generally reluctant to consider investments below £250 000, because of the high risks and disproportionately high costs involved. This suggests that the 'equity gap' still remains, and indeed may be growing. It has been suggested that informal or 'business angel' investing may have an active role in helping to close this gap. For example, the Advisory Council on Science and Technology has stated that an 'active informal venture capital market is a prerequisite for a vigorous enterprise economy' (ACOST 1990). However, ACOST also noted that this market was underdeveloped in the UK, and that this was a major barrier to the growth of smaller companies.

The market comprises private individuals who provide risk capital directly to new and growing businesses with which they have no prior connection. In the UK, the vast majority of these investments are of less than £50 000, being concentrated in start-ups and early-stage ventures. In addition, the investors often provide very valuable business expertise.

The Small Business Research Trust found that, after relatives, private individuals were the most important source of external equity capital, being used by about 5 per cent of small firms, as compared to the less than 1 per cent using venture capital funds. Harrison and Mason (1993) estimated that SMEs had raised some £2 billion from this market, compared with the £1.25 billion estimated (Bannock *et al.* 1991) to have been invested by the venture capital industry.

Harrison and Mason concluded that there were considerable untapped funds. They found that most active informal investors had more funds available than could find suitable investments. Moreover, 'virgin angels', high-net-worth individuals with an entrepreneurial background, who had not yet entered the market, considerably outnumbered active investors. In recent years, the government has taken steps to try to improve the efficiency of this market, as we show below.

Alternative Investment Market

The Official List of the Stock Exchange caters for companies with a minimum capitalization of £700 000 and a three-year trading record, willing to trade at least 25 per cent of their equity. These requirements, together with the cost of entry, exclude most small companies, and to cater for their needs the AIM was opened in June 1995.

The intention was that the market should be available to as wide a range of companies as possible, with no restrictions on market capitalization, length of trading record or percentage of equity in the hands of the public. Potential entrants to the market have to provide a prospectus and meet the audit requirements of company law. But the Stock Exchange does not pre-vet prospectuses, and is not responsible for the accuracy of documents.

The less stringent regulation and the higher mortality rate among small companies mean that investment in AIM companies tends to be more risky than investment in larger companies