

NINTH EDITION

ECONOMICS FOR BUSINESS

John Sloman, Dean Garratt
Jon Guest and Elizabeth Jones



ECONOMICS FOR BUSINESS



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ECONOMICS FOR BUSINESS

Ninth edition

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About the authors



John Sloman was Director of the Economics Network (www.economicsnetwork.ac.uk) from 1999 to 2012. The Economics Network is a UK-wide organisation based at the University of Bristol and provides a range of services designed to promote and share good practice in learning and teaching Economics. John is now a Visiting Fellow at Bristol and a Senior Associate

with the Economics Network.

John is also Visiting Professor at the University of the West of England (UWE), Bristol, where, from 1992 to 1999, he was Head of the School of Economics. He taught at UWE until 2007. John has taught a range of courses, including economic principles on social science and business studies degrees, development economics, comparative economic systems, intermediate macroeconomics and managerial economics. He has also taught economics on various professional courses.

He is also the co-author with Dean Garratt and Jon Guest of *Economics* (Pearson Education, 11th edition 2022), with Dean Garratt of *Essentials of Economics* (Pearson Education,



Dr Dean Garratt is a Senior Teaching Fellow at Aston Business School. He joined Aston University in September 2018 having previously been a Principal Lecturer at Nottingham Business School. Dean teaches economics at a variety of levels, including modules in macroeconomics and economic principles for business and management students. He is

passionate about encouraging students to communicate economics more intuitively, to deepen their interest in economics and to apply economics to a range of issues.

Earlier in his career Dean worked as an economic assistant at both HM Treasury and at the Council of Mortgage Lenders. While at these institutions he was researching and briefing on a variety of issues relating to the household sector and to the housing and mortgage markets.

Dean is a Senior Fellow of the Higher Education Academy and an Associate of the Economics Network which aims to promote high-quality teaching practice. He has

9th edition 2023) and with Elizabeth Jones of *Essential Economics for Business* (6th edition 2020). Translations or editions of the various books are available for a number of different countries with the help of co-authors around the world.

John is very interested in promoting new methods of teaching economics, including group exercises, experiments, role playing, computer-aided learning and the use of audience response systems and podcasting in teaching. He has organised and spoken at conferences for both lecturers and students of economics throughout the UK and in many other countries.

As part of his work with the Economics Network he has contributed to its two sites for students and prospective students of economics: *Studying Economics* (www.studyingeconomics.ac.uk) and *Why Study Economics?* (www.whystudyeconomics.ac.uk).

From March to June 1997, John was a visiting lecturer at the University of Western Australia. In July and August 2000, he was again a visiting lecturer at the University of Western Australia and also at Murdoch University in Perth. In 2007, John received a Lifetime Achievement Award as ‘outstanding teacher and ambassador of economics’ presented jointly by the Higher Education Academy, the Government Economic Service and the Scottish Economic Society.

been involved in several projects promoting a problem-based learning (PBL) approach in the teaching of economics. In 2006, Dean was awarded the Outstanding Teaching Prize by the Economics Network. The award recognises exemplary teaching practice that deepens and inspires interest in economics. In 2013, he won the student-nominated Nottingham Business School teacher of the year award.

Dean has been an academic assessor for the Government Economic Service (GES) helping to assess candidates at Economic Assessment Centres (EACs). In this role he assessed candidates looking to join the GES, the UK’s largest employer of professional economists.

Dean has run sessions on HM Treasury’s Graduate Development Programme (GDP). These sessions covered principles in policy making, applying economics principles and ideas to analyse policy issues and contemporary developments in macroeconomics.

Outside of work, Dean is an avid watcher of many sports. Having been born in Leicester, he is a season ticket holder at both Leicester City Football Club and Leicestershire County Cricket Club.



Jon Guest is a Senior Teaching Fellow at Aston Business School and a Teaching Associate at Warwick Business School. He joined Aston University in September 2017 having previously been a Senior Lecturer at Nottingham Business School, a Principal Teaching Fellow at Warwick Business School and a Senior Lecturer at Coventry University.

Jon has taught on a range of courses including Principles of Microeconomics, Intermediate Microeconomics, Economic Issues and Behavioural Economics. He has also taught economics on various professional courses for the Government Economic Service and HM Treasury.

Jon has worked on developing teaching methods that promote a more active learning environment in the classroom. In particular, he has published journal articles and carried out a number of funded research projects on the impact of games and experiments on student learning. These include an online version of the TV show 'Deal or No Deal' and games that involve students acting as buyers and sellers in the classroom. He has also recently included a series of short videos on economics topics and implemented elements of the flipped classroom into his teaching.



Elizabeth Jones is a Professor in the Department of Economics at the University of Warwick. She joined the University of Warwick in 2012 and was the Deputy Director of Undergraduate Studies for 2 years. Since 2014, she has been the Director of Undergraduate Studies, with overall responsibility for all Undergraduate Degree programmes within the Economics

Department. She is a Founding and now Alumni Fellow of the Warwick International Higher Education Academy and through this, she has been involved in developing and sharing best practice in teaching and learning within Higher Education. She was the external panellist for the curriculum review at the London School of Economics, advising on content, delivery and assessment.

She has previously co-ordinated and taught at the Warwick Economics Summer School and has also been involved in delivering the Warwick Economics Summer School in New Delhi, India. Within this, Elizabeth was delivering introductory courses in Economics to 16–18 year olds and has also delivered taster events to schools in Asia about studying Economics at University.

Prior to being at Warwick, Elizabeth was a Lecturer at the University of Exeter within the Business School and was in this position for 5 years, following the completion of her MSc in Economics. She also taught A level Economics and Business

Jon is also interested in innovative ways of providing students with feedback on their work.

Through his work as an Associate of the Economics Network, Jon has run sessions on innovative pedagogic practices at a number of universities and major national events. He is also an academic assessor for the Economics Assessment Centres run by the Government Economic Service. This involves interviewing candidates and evaluating their ability to apply economic reasoning to a range of policy issues. He has also acted as an External Examiner for a number of UK universities.

The quality of his teaching was formally recognised when he became the first Government Economic Service Approved Tutor in 2005 and won the student nominated award from the Economics Network in the same year. Jon was awarded the prestigious National Teaching Fellowship by the Higher Education Academy in 2011.

Jon is a regular contributor and editor of the *Economic Review* and is a co-author of the 11th edition of the textbook, *Economics*. He has published chapters in books on the economics of sport and regularly writes cases for *The Sloman Economics News Site*. He has also published research on the self-evaluation skills of undergraduate students.

Outside of work Jon is a keen runner and has completed the London Marathon. However, he now has to accept that he is slower than both of his teenage sons – Dan and Tom. He is also a long suffering supporter of Portsmouth Football Club.

Studies at Exeter Tutorial College and continues to work as an Examiner in Economics for AQA. She is also a member of the OCR Consultative Forum and has previously been involved in reviewing A level syllabi for the main examining bodies.

Elizabeth has taught a range of courses including Principles of Economics; Economics for Business; Intermediate Microeconomics; Economics of Social Policy; Economics of Education and Applied Economics. She has won multiple student-nominated awards for teaching at Warwick and Exeter University, winning the Best Lecturer prize at the 2017 Warwick Awards for Teaching Excellence, where she used her prize money to invest in her development as a teacher at a conference in Boston. She has a passion for teaching Economics and particularly enjoys teaching Economics to non-economists and loves interacting with students both inside and outside of the classroom.

Elizabeth has taught on a number of professional courses, with EML Learning Ltd, where she teaches Economics for Non-economists and Intermediate Microeconomics to the public sector. She has delivered courses across all government departments, including BIS, Department for Transport, HM Treasury and the Department of Health and Social Care. She is involved in teaching on the Graduate Development Programme for the new intake of HM Treasury employees twice each year, where she delivers sessions on economics, the role of policy and its implementation.

Outside of work, Elizabeth loves any and all sports. She is an avid fan of Formula 1 and tennis and provides ongoing support to her father's beloved Kilmarnock Football Club.

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MACROECONOMIC POLICY

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Preface

TO THE STUDENT

If you are studying economics for a business degree or diploma, then this book is written for you. Although we cover all the major principles of economics, the focus throughout is on the world of business – a world that has been shaken by recent events. First there was the COVID-19 pandemic that, despite government support, saw many businesses fail. This was followed by rampant inflation caused first by supply-chain problems as the world opened up after lockdowns and then by the surge in energy, input and food prices following the Russian invasion of Ukraine.

Being a book on economics for business students, we cover several topics that do not appear in traditional economics textbooks. There are also many case studies (in boxes). These illustrate how economics can be used to understand particular business problems or aspects of the business environment. Some cover general business issues; others look at specific companies. Nearly all of them cover topical issues, including the rise of online business, entrepreneurship, the social responsibility of business, the effects of business activity on the environment, competition and growth strategy, mergers and takeovers, executive pay, recovery from COVID lockdowns, problems of recruitment, dealing with rising input costs, quantitative easing by central banks and then quantitative tightening, the role of global trade, increased competition from newly industrialised countries and the effects of Brexit.

The style of writing is direct and straightforward, with short paragraphs to aid rapid comprehension. There are also questions interspersed throughout the text in ‘Pause for thought’ panels. These encourage you to reflect on what you are learning and to see how the various ideas and theories relate to different issues. Definitions of all key terms are given in definition boxes, with defined terms appearing in bold. Also, we have highlighted 44 ‘Key ideas’, which are fundamental to ‘thinking like an economist’. We refer back to these (with icons in the margin) every time they recur in the book. This helps you to see how the subject ties together, and also helps you to develop a toolkit of concepts that can be used in a host of different contexts.

Summaries are given at the end of each chapter, with points numbered according to the section in which they appear. These summaries should help you in reviewing the material you have covered and in revising for exams. Each chapter finishes with a series of questions. These can be used to check your understanding of the chapter and help you to see how its material can be applied to various business problems. References to various useful websites are listed at the end of each Part of the book.

The book also has a blog, *The Sloman Economics News Site*, with frequent postings by the authors. The blog discusses topical issues, gives links to relevant articles, videos and data and asks questions for you to think about.

There is also an open-access student website. This companion website contains 157 additional case studies, answers to ‘Pause for thought’ questions, animations of key models in the book with audio explanations suitable for playing on a smart phone, tablet or computer, hotlinks to 286 websites, plus other materials to improve your understanding of concepts and techniques used in economics.

In addition to the blog and website, the book is accompanied by an interactive learning platform, MyLab Economics. This is a personalised and innovative online study and testing resource which your lecturer may choose to use with you. It also contains an online version of the book. There is also an interactive version of the book in Revel. This is a full online version of the text, with questions and answers, activities, FT videos, case studies and links to articles.

We hope that, in using this book, you will share some of our fascination for economics. It is a subject that is highly relevant to the world in which we live. And it is a world where many of our needs are served by business – whether as employers or as producers of the goods and services we buy. After graduating, you will probably take up employment in business. A thorough grounding in economic principles should prove invaluable in the business decisions you may well have to make.

TO LECTURERS AND TUTORS

The aim of this book is to provide a course in economic principles as they apply to the business environment. It is designed to be used by first-year undergraduates on business studies degrees and diplomas where economics is taught from the business perspective. It is also suitable for students studying economics on postgraduate courses in management, including the MBA, and various professional courses.

Being essentially a book on economics, we cover all the major topics found in standard economics texts – indeed, some of the material in the principle sections is drawn directly from *Economics* (11th edition). But, in addition, there are several specialist business chapters and sections to build upon and enliven the subject for business studies students. These have been fully updated and revised for this new edition. The following are some examples of these additional topics:

- The business environment
- Business organisations
- Characteristics theory
- Consumer behaviour and behavioural economics
- Advertising and marketing of products
- Business strategy
- Alternative aims of firms
- Behavioural analysis of firms
- Growth strategy
- Strategic alliances and various other forms of co-operation between firms
- The small-firm sector
- Pricing in practice, including topics such as mark-up pricing, an extended analysis of first-, second- and third-degree price discrimination in various contexts, multiple product pricing, transfer pricing and pricing over the product life cycle
- Labour market flexibility and changes to working practices
- Firms' social attitudes and the adoption by many of an environmental, social and governance (ESG) framework
- Government and the firm, including policies towards research and development (R&D) and policies towards training
- Government and the market, including environmental policy and transport policy
- Financial markets and the funding of business investment
- The financial well-being of firms, households and governments and its impact on the business environment
- The multinational corporation
- Globalisation and business and issues concerned with international interdependence
- Trading blocs and their development
- Monetary union, the future of the eurozone and implications for business
- The impact of Brexit on business
- The impact of COVID-19 on business and working practices
- Supply-chain problems
- Firms' response to rising input costs in a context of global inflation

The text is split into 32 chapters. Each chapter is kept relatively short to enable the material to be covered in a single lecture or class. Each chapter finishes with a summary and review questions, which can be used for seminars or discussion sessions.

The chapters are grouped into 11 Parts:

- Part A Business and economics (Chapters 1–3) establishes the place of business within the economy and the relevance of economics to business decision making.
- Part B Business and markets (Chapters 4 and 5) looks at the operation of markets. It covers supply and demand analysis and examines the importance of the concept of elasticity for business decisions.
- Part C Background to demand (Chapters 6–8) considers the consumer – how consumer behaviour can be predicted and how, via advertising and marketing, consumer demand can be influenced.
- Part D Background to supply (Chapters 9 and 10) focuses on the relationship between the quantity that businesses produce and their costs, revenue and profits.
- Part E Supply: short-run decision making by firms (Chapters 11–13) presents the traditional analysis of market structures and the implications that such structures have for business conduct and performance. Part E finishes (Chapter 13) by considering various alternative theories of the firm to that of short-run profit maximisation.
- Part F Supply: alternative strategies (Chapters 14–17) starts by looking at business strategy. It also examines how businesses attempt to grow and how size can influence business actions. It finishes by considering why pricing strategies differ from one firm to another and how these strategies are influenced by the market conditions in which firms operate.
- Part G The firm in the factor market (Chapters 18 and 19) focuses on the market for labour and the market for capital. It examines what determines the factor proportions that firms use and how factor prices are determined.
- Part H The relationship between government and business (Chapters 20–22) establishes the theoretical rationale behind government intervention in the economy, and then assesses the relationship between the government and the individual firm and the government and the market.
- Part I Business in the international environment (Chapters 23–25) starts by examining the process of

globalisation and the growth of the multinational business. It then turns to international trade and the benefits that accrue from it. It also examines the issue of protection and international moves to advance free trade. Finally, it examines the expansion of regional trading agreements.

- Part J The macroeconomic environment (Chapters 26–29) considers the macroeconomic framework in which firms operate. We focus on the principal macroeconomic variables, investigate the role of money in the economy, and briefly outline the theoretical models underpinning the relationships between these variables.
- Part K Macroeconomic policy (Chapters 30–32) examines the mechanics of government intervention at a macro level as well as its impact on business and its potential benefits and drawbacks. Demand-side and supply-side policy and economic policy co-ordination between countries are all considered.

Extensive revision

As with previous editions, the ninth edition of *Economics for Business* contains a great deal of applied material. Consequently, there have been considerable revisions from the previous editions to reflect contemporary issues, debates and policy interventions. Specifically, you will find that:

- many of the boxes are new or extensively revised;
- there are many new examples given in the text;
- all tables and charts have been updated, as have factual references in the text;
- economic analysis and debate has been strengthened and revised at various points in the book in the light of economic events and developments in economic thinking;
- building on the revisions in previous editions, we have enhanced further our discussion around behavioural economics;
- we have extended the analysis throughout the book on the issues of globalisation and financialisation;
- all policy sections have been thoroughly revised to reflect the changes that have taken place since the last edition. This includes extensive analysis of the implications of COVID-19 for economies, business and labour markets. It also includes the effects of rising inflation from supply-chain issues and the Russian invasion of Ukraine;
- most importantly, every part of the book has been carefully considered and, if necessary, redrafted, to ensure both maximum clarity and contemporary relevance;
- to enable an easy transition for lecturers from the 8th to the 9th edition, all changes (although extensive) have been made within existing pagination. This enables the same chapter, section and page references to be used in course materials.

SPECIAL FEATURES

The book contains the following special features:

- A direct and straightforward written style, with short paragraphs to aid rapid comprehension. The constant aim is to provide maximum clarity.
- Attractive full-colour design. The careful and consistent use of colour and shading makes the text more attractive to students and easier to use by giving clear signals as to the book's structure.
- Double-page opening spreads for each of the 11 Parts of the book. These contain an introduction to the material covered and an article from the *Financial Times* on one of the topics.
- Key ideas highlighted and explained where they first appear. There are 44 of these ideas, which are fundamental to the study of economics. Students can see them recurring throughout the book, and an icon appears in the margin to refer back to the page where the idea first appears. Showing how ideas can be used in a variety of contexts helps students to 'think like an economist' and to relate the different parts of the subject. All 44 Key ideas are defined in a special section at the end of the book.
- 'Pause for thought' questions integrated throughout the text. These encourage students to reflect on what they have just read and make the learning process a more active one. Answers to these questions appear on the student website.
- Highlighted technical terms, all of which are clearly defined in definition panels on the page on which they appear. This feature has proved very popular in previous editions and is especially useful for students when revising.
- A comprehensive glossary of all technical terms.
- Additional applied material can be found in the boxes within each chapter. The extensive use of applied material makes learning much more interesting for students and helps to bring the subject alive. This is particularly important for business students who need to relate economic theory to their other subjects and to the world of business generally. The boxes are current and include discussion of a range of companies and business topics. They are ideal for use as case studies in class. Answers to the questions in boxes can be found on the lecturer website, which lecturers can make available to students, if they choose.
- Boxes containing a wealth of cases studies and applied material. They also include questions, allowing students to assess their own understanding. In addition, most boxes contain an activity designed to develop important skills around research, data analysis and the communication of

economic ideas and principles. These skills are not only of use to students while at university but also in the world of work. They are frequently identified by employers as being especially valuable. Hence, undertaking the activities in the boxes helps students to increase their employability.

- Additional case studies with questions appearing on the student website are referred to at the end of each Part. Again, they can be used for class, with answers available on the lecturer website, which can be distributed to students, if lecturers choose to do so.
- Detailed summaries appear at the end of each chapter with the points numbered by the chapter section in which they are made.
- A series of review questions concluding each chapter to test students' understanding of the chapter's salient

points. These questions can be used for seminars or as set work to be completed in the students' own time. Again, answers are available on the lecturer website.

- References at the end of each Part to a list of relevant websites, details of which can be found in the Web appendix at the end of the book. You can access any of these sites easily from the book's own website (at <https://pearsonblog.campaignserver.co.uk/>). When you enter the site, click on 'Hot Links'. You will find all the sites from the Web appendix listed. Click on the one you want and the hyperlink will take you straight to it.
- A comprehensive index, including reference to all defined terms. This enables students to look up a definition as required and to see it used in context.

SUPPLEMENTS AND OTHER RESOURCES FOR STUDENTS

Blog

Visit the book's blog, *The Sloman Economics News Site*, at <https://pearsonblog.campaignserver.co.uk/>. This refers to topical issues in economics and relates them to particular chapters in the book. There are frequent postings by the authors, with each one providing an introduction to the topic, and then links to relevant articles, videos, podcasts, data and official documents, and then questions which students and lecturers will find relevant for homework or class discussion.

MyLab Economics for students

MyLab provides a comprehensive set of online tests, homework and revision exercises. A student access code card may have been included with this textbook at a reduced cost. If you do not have an access code, you can buy access to MyLab Economics and the eText – an online version of the book – at www.myeconlab.com.

MyLab provides a variety of tools to enable students to access their own learning, including exercises, quizzes and tests, arranged chapter by chapter. There are new questions in this edition and each question has been carefully considered to reflect the learning objectives of the chapter. A personalised Study Plan identifies areas to concentrate on to improve grades, and specific tools are provided to each student to direct their studies in a more efficient way.

You can also purchase the MyLab with the eTextbook version of the book to enable you to access it via the Internet.

Revel

Economics for Business (9th edition) is also available in Revel. This is a full online version of the complete book, accessed chapter-by-chapter. Apart from the complete text, it has a range of activities and resources. These help to bring the discipline to life and encourage students to think critically about concepts, with pop-ups of key ideas and other defined terms. There are questions interspersed in the text, mirroring the Pause for thought questions, with pop-up answers and suggestions. Questions are in a number of forms, including multiple choice and drag-and-drop. Flash cards also provide students with the means of checking on key terms. Case studies, simulations and activities ask students to solve actual business dilemmas – exposing them to real-world situations and getting them to think like true business professionals. FT videos encourage students to engage with key concepts and debates and with current economic and business issues.

A key feature of the Revel version of *Economics for Business* is the integration of animated models and diagrams, with an audio track explaining the workings of the model and how it applies to business situations.

Revel is ideal for a blended learning environment and encourages a much more active and engaging learning experience for students.

Student website

In addition to the materials on MyLab, there is an open-access companion website for students with a large range of other resources, including:

- Animations of key models with audio explanations. These ‘audio animations’ can be watched online or downloaded to a computer, MP4 player, smart phone, etc.
- Links to *The Sloman Economics News* blog, chapter by chapter, with news items added several times each month, with introductions, links to newspaper and other articles and to relevant data, questions for use in class or for private study, and references to chapters in

the book. You can search the extensive archive by chapter or keyword

- 157 case studies with questions for self-study, ordered Part-by-Part and referred to in the text
- Updated list of 286 ‘hot links’ to sites of use for economics
- Answers to all in-chapter (Pause for thought) questions

SUPPLEMENTS AND OTHER RESOURCES FOR LECTURERS AND TUTORS

MyLab Economics for lecturers and tutors

You can register online at www.myeconlab.com to use MyLab Economics, which is a complete virtual learning environment for your course embedded into Blackboard, Moodle or your institution’s own VLE. You can customise its look and feel and its availability to students. You can use it to provide support to your students in the following ways:

- My Lab’s gradebook automatically records each student’s time spent and performance on the tests and Study Plan. It also generates reports you can use to monitor your students’ progress.
- You can use MyLab to build your own test, quizzes and homework assignments from the question base provided to set your own students’ assessment.
- Questions are generated algorithmically so they use different values each time they are used.
- You can create your own exercises by using the econ exercise builder.

Additional resources for lecturers and tutors

There are many additional resources for lecturers and tutors that can be downloaded from the lecturer section of MyLab or the Lecturer Resources section of the book’s website at www.pearsoned.co.uk/sloman. These have been thoroughly revised for the ninth edition. These include:

- PowerPoint® slide shows in full colour for use with a data projector in lectures and classes. These can also be made available to students by loading them on to a local network. There are several types of slideshows:
 - *All figures from the book and most of the tables.* Each figure is built up in a logical sequence, thereby allowing lecturers to show them in lectures in an animated form. There is also a non-animated version suitable for printing or for display on an OHP or visualiser.
 - *Customisable lecture slideshows.* There is one for each chapter of the book. Each one can be easily edited, with points added, deleted or moved, so as to suit

particular lectures. A consistent use of colour is made to show how the points tie together. It is not intended that all the material is covered in a single lecture; you can break at any point. It is just convenient to organise them by chapter. They come in various versions:

- Lecture slideshows with integrated diagrams. These include animated diagrams, charts and tables at the appropriate points.
- Lecture slideshows with integrated diagrams and questions. These are like the above but also include multiple-choice questions, allowing lectures to become more interactive. They can be used with or without an audience response system (ARS). A special ARS version is available for PointSolutions® (previously known as TurningPoint®) and is ready to use with appropriate ‘clickers’ or with smartphones, tablets or laptops.
- Lecture plans without the diagrams. These allow you to construct your own diagrams on the blackboard, whiteboard or visualiser or to use prepared ones on a visualiser or OHP.
- Case studies. These, also available on the student companion website, can be reproduced and used for classroom exercises or for student assignments. Answers are also provided (not available on the student site).
- Workshops. There are 24 of these, each one covering one or more chapters. They are in Word® and can be reproduced for use with large groups (up to 200 students) in a lecture theatre or large classroom. Suggestions for use are given in an accompanying file. Answers to all workshops are given in separate Word® files.
- Teaching/learning case studies. There are 20 of these. They examine various approaches to teaching introductory economics and ways to improve student learning of introductory economics.
- Answers to all end-of-chapter questions, Pause for thought questions, questions in boxes, questions in the case studies on the student website and to the 24 workshops. They have been completely revised with new hyperlinks where appropriate.

Pages xxi and xxii show in diagrammatic form all the student and lecturer resources.

ACKNOWLEDGEMENTS

As with previous editions, we've had great support from the team at Pearson, including Catherine Yates, Melanie Carter, Jodie Mardell-Lines and Kay Richardson. We'd like to thank all of them for their hard work and encouragement. Thanks, too, to the many users of the book who have given us feedback. We always value their comments. Please continue to send us your views.

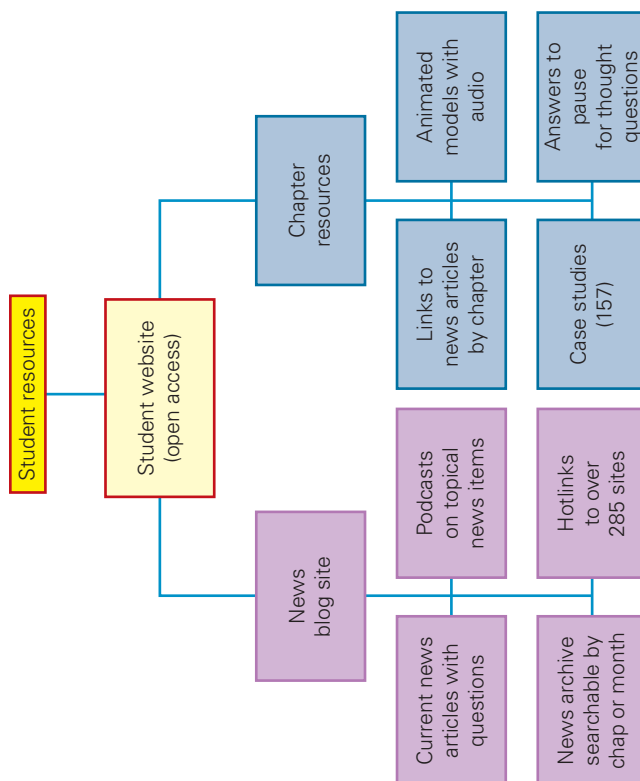
Thanks too to Peter Smith for his work on MyLab. He has been involved with the project for several years and his input is greatly appreciated.

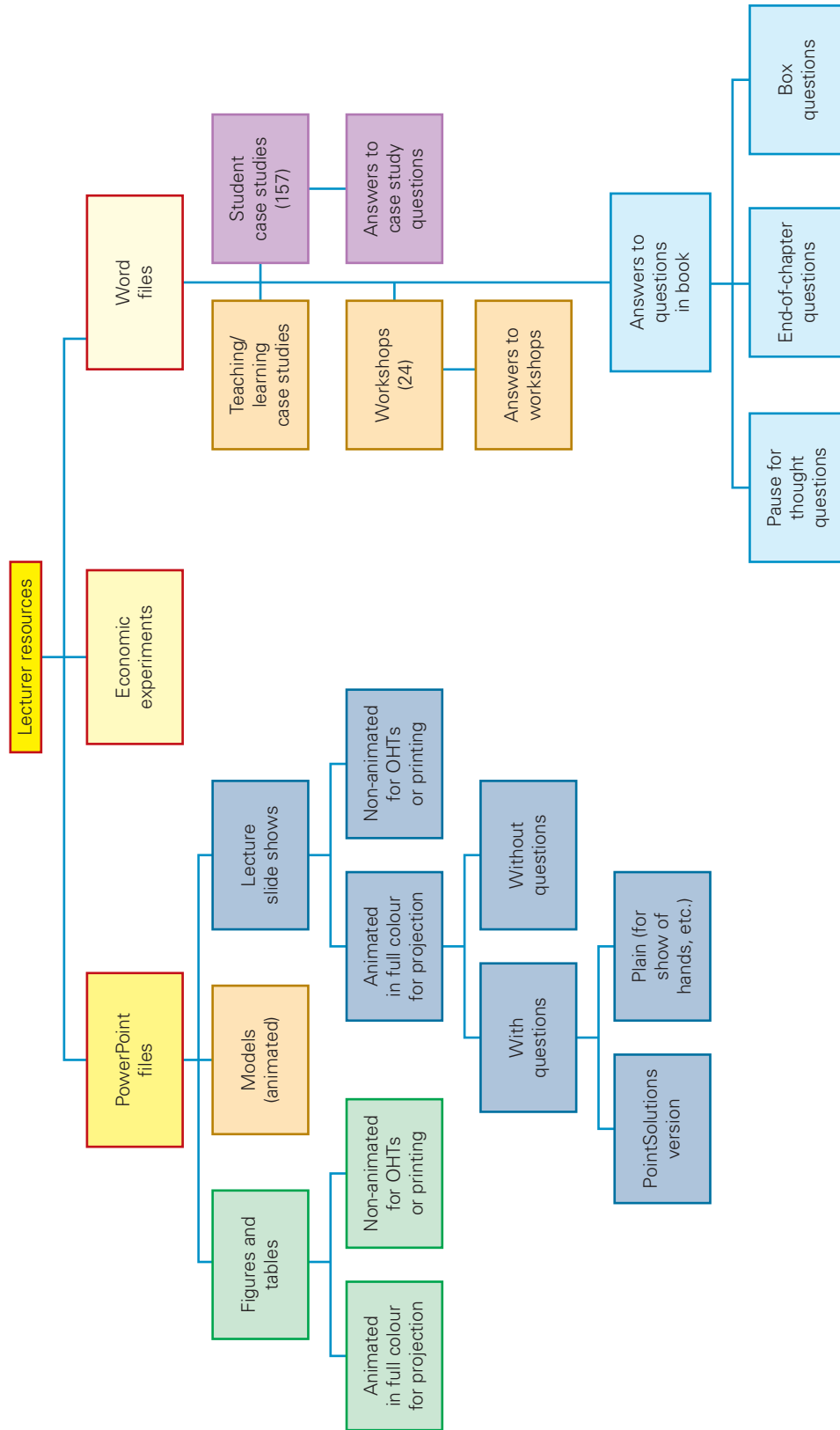
Kevin Hinde and Mark Sutcliffe, co-authors with John on previous editions, have moved on to new ventures.

However, many of their wise words and ideas are still embedded in this ninth edition and, for that, we once more offer a huge thank you.

Our families have also been remarkably tolerant and supportive throughout the writing of this new edition. Thanks especially to Alison, Pat, Helen, Elizabeth, Douglas and Harriet, who all seem to have perfected a subtle blend of encouragement, humour, patience and tolerance.

John, Dean, Elizabeth and Jon





Publisher's acknowledgements

Text credits:

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Business and economics

The FT Reports . . .

The Financial Times, 27 January 2022

Netflix stock market woe is warning to Hollywood

By Anna Nicolaou

The corporate narrative on Netflix has always been high drama. Is the streaming service a savvy disrupter . . . the first mover of online entertainment? Or is it . . . pushing an unsustainable business model that all of Hollywood foolishly followed?

In the past few months, investors have leaned towards the more steely-eyed view of Netflix's prospects. Its share price has nearly halved over that time, wiping away \$150bn in market value. Disney, Warner and other media giants announced in 2019 grand plans to make their own streaming services. Their stock prices benefited.

The problem is that the long-term business case for streaming is still being tested. Streaming's predecessor, cable TV, is expensive, inflexible and inconvenient for consumers – which is part of the reason it made a lot of money . . . and there was not much of an alternative.

Netflix broke the dam, and in doing so grew rapidly. At the time, it was too early to know whether Netflix would become sustainably profitable.

In Netflix's early days, it was easy to lap up subscribers, but recently it has become a slog in the US. But does Netflix need to keep adding a rip-roaring number of new customers to be a good business?

Netflix believers have argued that by adding more subscribers, revenue would balloon while costs would stabilise as it built up its content library. As its heft grew, Netflix could also raise prices, enabling even higher revenue.

In practice, it has been more complicated . . . viewers have become hungrier, stingier and more impatient.

"The decay rate on streaming content is incredibly rapid. Squid Game? That's so last quarter", Michael Nathanson wrote last week. "The business model is much more capital intensive than most other models." So even with 222m subscribers, Netflix has to keep spending.

MoffettNathanson projects that, for 2022, Netflix revenue will rise 13 per cent to more than \$33bn, but expenses will increase 15 per cent to \$27bn. This results in net income of \$5bn, down about 3 per cent from 2021.

. . . Netflix's long-term business might look more like a telco than a tech company. The biggest US telecoms groups have to invest heavily to offer the best service, while also keeping prices low because they are effectively selling the same product as their competitors. Netflix was in its own category for a while. Now, it is surrounded by competition.

I dread admitting I am an economist. The cab driver quizzes you on what is going to happen to the economy, the dinner companion turns to talk to the person on the other side and the immigration officer says, with heavy sarcasm, that his country needs people like you.

John Kay, 'Everyday economics makes for good fun at parties',
Financial Times, 2 May 2006



Businesses play a key role in all our lives. Whatever their size, and whatever the goods or services they provide, they depend on us as consumers to buy their products.

But many of us also rely on businesses for our income. The wages we earn depend on our employer's success, and that success in turn depends on us as suppliers of labour.

And it is not just as customers and workers that we are affected by business. The success of business in general affects the health of the whole economy and thus the lives of us all. We've also seen how consumers' health affects businesses throughout the COVID-19 pandemic.

The extract from the *Financial Times* takes the case of Netflix. To be successful, firms must be capable of responding to changes in the market environment in which they operate. This requires a thorough understanding of economics. Developing a business strategy that simultaneously responds to technological changes, changes in consumer tastes and the activities of rival companies is not an easy task. Fortunately, economics provides frameworks for thinking about these issues, and many more.

In Part A of this text, we consider the relationship between business and economics.

In Chapter 1 we look at the structure of industry and its importance in determining firms' behaviour. We also look at a range of other factors that may affect business decisions and how we can analyse the environment in which a firm operates in order to help it devise an appropriate business strategy.

Then, in Chapter 2 we ask what it is that economists do and, in particular, how economists set about analysing the world of business and the things businesses do. In particular, we focus on rational decision making – how to get the best outcome from limited resources.

Finally, in Chapter 3 we look at the different ways in which firms are organised: at their legal structure, at their internal organisation and at their goals.

Key terms

The business environment
PEST and STEEPLE analysis
Production
Firms
Industries
Industrial sectors
Standard Industrial
Classification (SIC)
Industrial concentration
Structure–conduct–
performance
Scarcity
Factors of production
Macroeconomics
Microeconomics
Opportunity cost
Marginal costs
Marginal benefits
Rational choices
Circular flow of income
Transaction costs
Principal and agent
Business organisation
Price taker
Perfectly competitive
market
Price mechanism
Demand
Supply

1 Chapter

The business environment and business economics

Business issues covered in this chapter

- What do business economists do?
- What is meant by the 'business environment'?
- How are businesses influenced by their national and global market environment?
- How are different types of industry classified in the official statistics?
- What things influence a firm's behaviour and performance?

What is business economics?

What is the role of *business economics*? What will you study in this text?

The world economy has experienced many changes in recent decades, including the 2008/09 financial crisis and subsequent recession, the political changes in the USA, the vote in Britain to leave the EU, ongoing terrorist attacks, the effects of the COVID-19 pandemic, a growing environmental agenda, political tensions with Russia and changes in key emerging economies, such as China and India, to name but a few. These events have had profound effects on many businesses, creating an uncertain and challenging business environment.

Business economists examine *firms*: the changing environment in which they operate, the decisions they make, and the effects of these decisions – on themselves, on their customers, on their employees, on their business rivals, on the public at large and on the domestic and international economy.

All firms are different but, in one way or another, they are all involved in the production of goods and services. They use inputs, which cost money, to make output that earns money. The difference between the revenue earned and the costs incurred constitutes the firm's profit. Although firms may pursue a range of objectives, we assume that firms normally will want to make as much profit as possible or, at the very least, avoid a decline in profits.

In order to meet these and other objectives, managers will need to make effective choices: what to produce, how much to produce and at what price; what techniques of production to use, how many workers to employ and of what type, what suppliers to use for raw materials, equipment, etc. Business economists study these choices. They study economic decision making by firms.

The study of decision making can be broken down into three stages:

The external influences on the firm (the 'business environment'). Here we are referring to the various factors that affect the firm that are largely outside its direct control. Examples are the competition it faces, the prices its

suppliers charge, the state of the economy (e.g. whether growing or in recession) and the level of interest rates. Businesses need a clear understanding of their environment before they can set about making the right decisions.

Internal decisions of the firm. Given a firm's knowledge of these external factors, how will it then decide on prices, output, inputs, marketing, investment, etc.? Here the business economist can play a major role in helping firms achieve their business objectives.

The external effects of business decision making. When the firm has made its decisions and acted on them, how do the results affect the firm's rivals, its customers and the wider public? In other words, what is the impact of a firm's decision making on people outside the firm? Are firms' actions in the public interest or is there a case for government intervention?

What do business economists do?

Our study of business will involve three types of activity:

- *Description.* We will describe the objectives of businesses (e.g. making profit or increasing market share), the types of market in which firms operate (e.g. competitive or non-competitive) and the constraints on decision making (e.g. the costs of production, the level of consumer demand and the state of the economy).
- *Analysis.* We will analyse how a firm's costs might vary with the amount of output it produces and how its revenues will be affected by a change in consumer demand or a change in the price charged by rivals. We will also analyse the upswings and downswings in the economy: something that will have a crucial bearing on the profitability of many companies.
- *Recommendations.* Given the objectives of a firm, the business economist can help to show how those objectives can best be met. For example, if a firm wants to maximise its profits, the business economist can advise on what prices to charge, how much to invest, how much to advertise, etc. Of course, any such recommendations will only be as good as the data on which they are based. In an uncertain environment, recommendations will necessarily be more tentative.

In this chapter, as an introduction to the subject of business economics, we shall consider the place of the firm within its business environment, and assess how these external influences are likely to shape and determine its actions. In order to discuss the relationship between a business's actions and its environment, first we need to define what the business environment is.

1.1 THE BUSINESS ENVIRONMENT

Traditionally, we identify four dimensions to the business environment: political, economic, social/cultural and technological.

Political factors. Firms are directly affected by the actions of government and other political events. These might be major events affecting the whole business community, such as the effects of the Russian invasion of Ukraine, Britain leaving the EU, COVID-19 restrictions or a change of government. Alternatively, they may be actions affecting just one part of the economy. For example, the charge on plastic bags affects the retail sector and the ban on smoking in public places affects the tobacco industry.

Economic factors. Businesses are affected by a range of economic factors, including the changing costs of raw materials, the entry of a new rival into the market, the current availability of investment funds, the economic performance of the

domestic and world economy, and changes in domestic and foreign economic policy.

It is normal to divide the economic environment in which the firm operates into two levels:

- *The microeconomic environment.* This includes all the economic factors that are *specific* to a particular firm operating in its own particular market. Thus one firm may be operating in a highly competitive market, whereas another may not; one firm may be faced with rapidly changing consumer tastes (e.g. a designer clothing manufacturer), while another may be faced with a virtually constant consumer demand (e.g. a potato merchant); one firm may face rapidly rising costs, whereas another may find that costs are constant or falling.
- *The macroeconomic environment.* This is the *national* and *international* economic situation in which business as a whole operates. Business in general will fare much better

BOX 1.1

A LIDL SUCCESS STORY

Making the best of your business environment

Lidl's history dates back to the 1930s, when Josef Schwarz, a partner in a German fruit wholesaler, developed the firm into a general food wholesaler. His son, Dieter, continued the development of the Schwarz-Gruppe and began to create the basis of the Lidl that we recognise today: a firm focusing on the discount end of the market. He changed the name of the supermarket from Schwarzmarkt ('black market') to Lidl, despite facing some legal issues relating to the surname 'Lidl'.

In 1973, the first Lidl store was opened in Germany. It had 3 employees and 500 product lines. Keeping costs down was a key aspect of the business, with unsold stock being removed quickly from shelves, products being left in original packaging and store size kept small. This was an approach already established by the other famous German discounter, Aldi. The strategy proved a success and, by the end of the decade, 30 Lidl stores were open in Germany and this number continued to grow, reaching 300 by the 1980s.¹

It was the following decade when Lidl's presence outside of Germany began, with stores first opening in France and then in the UK in 1994. Over the following years, it recorded consistent growth in the UK and by 2022 had over 900 stores, with plans to increase this to 1100 by 2025 (see below). The Lidl group now has over 11 000 stores worldwide, 200 distribution centres and operates in 32 countries, including in the USA since 2017.

It has retained its focus on low-cost products, which has proved to be a successful strategy in breaking the dominance of the UK's big supermarket chains. It also stocks fewer product lines than the bigger supermarkets, with a smaller range of brands, many of which are its own label products. This enables it to keep costs down.

The second part of its advertising slogan 'Big on Quality, Lidl on Price' has been a key factor contributing to Lidl's rise in the UK. It likes to position itself in the market as a low-cost but high-quality supermarket. This strategy has enabled it to achieve a rapid growth in market share, up from 2.8 per cent in 2012 to 7.1 per cent by 2022². It did see a temporary decline in market share in 2021 as its lack of online delivery meant that some people switched to other supermarkets at the height of the coronavirus pandemic. However, growth in market share resumed in late 2021 and into 2022.

How has Lidl broken into such a competitive market and recorded such high growth? What lessons are there for other businesses? How has its performance been affected by its business environment – by consumer tastes, by the actions of its rivals, by the state of the national and world economies and by government policy?

In particular, how would an economist analyse Lidl's performance so as to advise it on its best strategy for the future? This is the sort of thing that business economists do and the sort of thing we will be doing throughout this text. We will also look at the impact of the behaviour of businesses on their customers, on employees, on competitors and on society in

general. So let's take a closer look at Lidl and relate its business in general to the topics covered in this text.

The market environment

To be successful, it is important for Lidl to get its product and strategy right. This means understanding the markets in which it operates and how consumer demand responds to changes in prices and to the other services being offered.

The UK supermarket industry is very competitive and is dominated by the big four: Tesco, Sainsbury's, Asda and Morrisons. Other retailers focus more on the high-end market, including Waitrose and Marks & Spencer, while Aldi and Lidl initially focused on the opposite end of the market: no frills, low-cost, budget products. However, few households viewed Lidl as the place where you would go to do your weekly shop. Instead, Lidl seemed to be more about stocking up on products.

While Lidl's low prices are crucial for its success, the quality of the products is equally important. Consumers will not be willing to pay a price, however low, if the food is of poor quality and if similar products can be purchased from other stores. With Lidl's rise to a legitimate competitor, the big four supermarkets in the UK were forced to respond and we have seen an increasingly competitive food industry, with many pressures being placed on suppliers, creating its own range of ethical issues. When setting prices and designing/sourcing products, consideration must be given to what rival companies are doing. Lidl's prices and product quality must be competitive to maintain its sales, profitability and increase its position in the global market and Lidl recognised the importance of this aspect.

While Lidl had always been an attractive place to shop for lower-income households, it wanted to expand its appeal. During and after the financial crisis, especially when food prices in the UK were rising faster than incomes, many middle- and even higher-income households began to be swayed into shopping at the budget retailer, keen on finding cheaper products. With its drive to become more upmarket, this meant that it was increasingly important for Lidl to focus on the quality of its products and change the perception that low cost meant low quality. In 2015, Lidl started to focus on changing its image as a budget retailer, opening stores in London, adapting its marketing, while still maintaining the low-cost nature of its products. David Gray from Planet Retail said:

This is part of an ongoing strategy, with Lidl putting in more premium ranges, more fresh bakery products, more brands, to make it more like a mainstream supermarket.³

The strategy appears to have worked. In 2016, six of Lidl's products won their categories in the Quality Food Awards and, for the first time, Lidl was named Grocer of the Year at the 2015 Grover Gold Awards, beating Waitrose, Asda and Aldi. Lidl's UK CEO at the time, Ronny Gottschlich, reflected on the award and the changes introduced within Lidl commenting that:

This is an incredible achievement . . . More and more people are coming to Lidl for their full supermarket shop, with old preconceptions continuing to change all the

¹ www.lidl.co.uk/en/About-Us.htm

² www.statista.com/statistics/280208/grocery-market-share-in-the-united-kingdom-uk/

³ Jamie Robertson, 'Lidl aims to shake off budget image with London stores', *BBC News* (10 September 2015).

time . . . We are committed to investing in our own brand ranges so that we can offer our customers premium products and ingredients at the lowest possible prices, helping them to shop a little smarter and save as much money as possible, every single day.⁴

Having established itself as a legitimate competitor and responding to COVID-19 and the rapid rise in food prices in 2022, Lidl has somewhat returned to its focus on low prices, forcing other competitors to engage in price-matching.

We look at how markets work in general in Chapters 4 and 5 and at different market structures and competition between firms in Chapters 11 to 13.

Products, employment and sustainability

Lidl's product range

One of the key factors behind Lidl's success is its local sourcing of products, with around two-thirds of products in UK stores sourced from UK farmers and producers. It has also recognised the increasing importance that customers place on sustainability and environmental issues, producing its first Sustainability Report in 2016/17, with an updated report in 2019/20. Part of the aim has been to tackle the perception that low cost means low quality and in the first report, the UK CEO of Lidl noted that, 'We hope to challenge these misconceptions and increase our transparency by outlining our sustainability achievements to date and setting out our priorities and commitments for the future.'⁵

Lidl has launched four 'Big Steps': 'Buying British', 'Sourcing Responsibly', 'Tackling Food Waste' and 'Supporting Active & Healthy Lifestyles'. Lidl's Good Food Plan sets out 29 goals for 2025, which align with its vision and strategic priorities, with further targets for 2030. Its focus continues around sourcing sustainably and locally; promoting human rights and animal welfare throughout its supply chain; promoting healthy eating; and investing in local communities. Lidl's global business sources products from thousands of suppliers in over 60 countries and hence its supply chain is complex, requiring constant monitoring to ensure that quality is maintained at each stage.

Another of Lidl's key features is the development of its own-brand products, which offer cheaper alternatives to many everyday products. This development was, in part, a response to changing consumer demands as finances became tighter for many households. Lidl has had ongoing, albeit declining, success at the Grocer Own Label Awards, picking up 63 medals in 2016, coming second in terms of the number of Awards in 2017 and winning 10 awards in 2021.

We look specifically at consumer demand and methods of stimulating it in Chapters 6 to 8 and a range of environmental issues and corporate social responsibility in Chapters 20 and 22.

Employees

Lidl has 26 000 employees in stores across the UK and aims to be the UK's most attractive employer. In 2015, Lidl became the first UK supermarket to pay its workers the national living wage, aiming to 'share its success' with the staff, though controversy did

arise when it emerged that this would be applied in England, Wales and Scotland, but not in Northern Ireland.

Lidl has had issues with its employees, including conflict with trade unions and issues of spying (more below), but its Sustainability Reports address human rights, working conditions and pay, linking this to its low prices, as well as recognition and rewards for its employees. This included a pay rise for 80 per cent of workers in Spring 2021, all employees getting vouchers in April 2020 and a bonus payment in February 2021 in recognition for their work during the COVID-19 pandemic.

Growth strategy

Lidl's expansion is considerable, from its beginnings in Germany, it now has stores in 28 EU countries. In 2017, it broke into the US market, initially taking 2.6 per cent of the share of supermarket visits. Its sales in the USA have fluctuated and although Lidl has continued to expand, with \$500 million of investment to open 50 new stores in 2021, its US presence lags significantly behind Aldi. Its growth in the UK has also continued, growing from 760 UK stores in 2019 to 900 stores by 2022, with plans to reach 1100 stores by the end of 2025, creating 4000 jobs. Similar trends can be seen in the EU, including plans for 23 new stores in Belgium by February 2022, 35 new stores opening in France in 2021, with another 200 planned, and its opening of the most sustainable supermarket in the Netherlands.

Lidl has also diversified into clothing, introducing an affordable but high-end 'Heidi Klum' range in 2017 and it now has its Lidl by Lidl clothing line, with demand for some items reportedly outstripping designer brands.

Employment issues are considered in Chapter 18, while strategic decisions such as growth by expansion domestically and globally are examined in Chapters 14, 15 and 23.

Dealing with controversy

Despite Lidl's remarkable success, it hasn't all been straightforward and an important element for any business is how it deals with controversy and any issues that affect its public image.

One challenge came in 2008, when it emerged that Lidl was, essentially, spying on its employees, keeping records of toilet breaks, health concerns, finances and even relationships, with details learnt from private phone calls. Further, such information was being used by managers when making decisions about employees. Lidl confirmed that it knew about this and even condoned the policy, which was aimed to stop any staff issues before they became a problem and protect the company's financial position. Lidl did not have any staff devoted to press and public relations but, after confirming that the company would make employees more aware of the monitoring, Lidl bounced back.⁶

The same year, controversy emerged in Sweden, first when buying alcohol was required to enter a competition and second when Lidl staff poured cleaning products and detergents over food that was past its expiration date and placed in Lidl bins. Lidl was accused of poisoning the homeless who

⁴ <https://www.lidl.co.uk/about-us/awards/supermarket-of-the-year>

⁵ www.lidl.co.uk/en/sustainability.htm

⁶ Debra Kelly, 'The untold truth of Lidl', *Mashed*.

took the food, despite the warning that it had been poisoned. Lidl apologised for these actions and its rise continued.

In 2014, Lidl UK stopped its employees from speaking any language other than English, including Welsh in its Wales stores to ensure a 'comfortable environment' for all customers and employees.⁷ This sparked controversy, but Lidl hit back noting that, 'Employees could speak any language customers addressed them in – including Welsh.'

A deadly spider and its babies were found in a bunch of Lidl's bananas in the UK in August 2016 and similar issues have occurred in other countries. In 2017, Lidl UK faced a social media backlash as customers criticised its decision to airbrush Christian symbols from its packaging and this controversy spilled over to other European countries, where customers were also angry at the move. In July 2021, some HGV drivers boycotted Lidl for its inflexibility in dealing with staff shortages and delivery delays, creating some shortages in stores. Then, in December 2021, it had to recall one of its products after salmonella was found in it.

Lidl has developed its press and media relations, in part to deal with responses to such issues. Its marketing strategy will continue to be crucial as it tries to shake off the image of a budget retailer. Despite issues in many countries, the retailer has proved resilient.

The economy

So do the fortunes of Lidl and other companies depend solely on their policies and those of their competitors? The answer is no.

One important element of a company's business environment is largely beyond its control: the state of the national economy and, for internationally trading companies, of the global economy. When the world economy is booming, sales and profits are likely to grow without too much effort by the company. However, when the global economy declines, as we saw in the economic downturn from 2008 and in the early stages of the coronavirus pandemic, trading conditions become much tougher.

In the years after the financial crisis, the global economy remained in a vulnerable position and this led to many companies entering administration. These included Woolworths, Jessops, HMV, Comet, Blockbuster and Peacocks. However, it also presented opportunities for companies like Aldi and Lidl to take advantage of households who were looking for cheaper prices. In the 12 weeks to June 2008, Aldi saw its sales increase by 20.7 per cent, while Lidl's sales grew by 12.8 per cent, both well above the growth rates of the

⁷ "'English only' rule at Lidl shops sparks Welsh row', *BBC News*, (7 November 2014).

dominant supermarkets. Steve Gotham, a project director at Allegra Strategies, said:

Clearly the economic circumstances in the UK are playing into the hands of the discounters. They are appealing to new customers and those new customers are coming from more middle-class backgrounds.⁸

Even a few years after the financial crisis of 2008–9, the big four UK supermarkets continued to face difficulties, as the economy struggled to recover. Their sales fell, while Lidl and Aldi took the opportunity to increase their combined UK market share from 5 per cent in 2012 to 12 per cent by 2017. It had previously taken them nine years for their collective market share to double from 2.5 per cent to 5 per cent.⁹ Lidl's international sales were similarly impressive, rising from €28 billion in 2012 to €41.5 billion in 2016.

Lidl was certainly more insulated from both global and UK economic trends and crucial to this was its low-cost strategy, which allowed it to take advantage of an economic downturn.

However, Lidl's strategy did not help its relative performance during COVID-19. While supermarkets benefited as a whole from higher sales throughout 2020, Lidl's grocery market share fell slightly, while other retailers such as Tesco made gains. Lidl's lack of an online presence and its stores' narrower aisles meant that it lost out to other retailers, which expanded home delivery significantly, taking advantage of customer demands for online shopping. It still experienced growth throughout the pandemic, but was over-shadowed by more impressive growth from its competitors. With the economy returning to normality, Lidl's market share expanded again from April 2021. We shall see how Lidl's strategy develops and whether it might eventually feel forced to have an online presence.

We examine the national and international business environment in Chapters 23 to 29. We also examine the impact on business of government policies to affect the economy – policies such as changes in taxation, interest rates, exchange rates and customs duties in Chapters 30 to 32.



What challenges is Lidl likely to face in the coming years?



Choose a well-known company that trades globally and do a Web search to find out how well it has performed in recent years and how it has been influenced by various aspects of its business environment.

⁸ James Thompson, 'Lidl and Aldi see sales soar amid economic downturn', *Independent* (24 June 2008).

⁹ Kantar Worldpanel.

when the economy is growing, as opposed to when it is in recession, as we saw during the COVID-19 pandemic. In examining the macroeconomic environment, we will also be looking at the policies that governments adopt in their attempt to steer the economy, since these policies, by affecting things such as taxation, regulations, interest rates and exchange rates, will have a major impact on firms.

Social/cultural factors. This aspect concerns social attitudes and values. These include attitudes towards working

conditions and the length of the working day, equal opportunities for different groups of people (whether by ethnicity, gender, physical attributes, etc.), the nature and purity of products, the use and abuse of animals, and images portrayed in advertising.

The social/cultural environment also includes social trends, such as an increase in the average age of the population, or changes in attitudes towards seeking paid employment while bringing up small children. Various ethical issues, especially concerning the protection of the environment, are

BOX 1.2 THE BIOTECHNOLOGY INDUSTRY

Its business environment

There are few areas of business that cause such controversy as biotechnology. It has generated new medicines, created pest-resistant crops, developed eco-friendly industrial processes and, through genetic mapping, is providing incalculable advances in gene therapy. These developments, however, raise profound ethical issues. Many areas of biotechnology are uncontroversial, but genetic modification and cloning have met with considerable public hostility, colouring many people's views of biotechnology in general.

Biotechnology refers to the application of knowledge about living organisms and their components to make new products and develop new industrial processes. For many it is seen as the next wave in the development of the knowledge-based economy. The sector has grown significantly over the past 15 years, making significant contributions to global growth and job creation. In 2022, the global biotechnology industry was worth around \$800 billion and although it has faced many issues in terms of financing and of strategic and policy uncertainty, it is expected to continue growing at around 8 to 9 per cent per annum, with a projected value of around \$1400 billion by 2028.¹

How might COVID-19 affect this estimate, given the boost in demand for health products?

The global structure of the industry

The biotechnology sector is global, with many new competitors emerging in Asia, but the USA still dominates this sector. A 2017 report from Ernst & Young (EY) showed that the USA had many more private and public companies than Europe, employing more than double the number of workers that were employed in comparable companies across Europe. Revenue growth for biotech companies can be very volatile, often influenced significantly by mergers and acquisitions, such as the acquisition of Baxalta by Shire, which led to Europe's revenue growth rising from 4 per cent in 2015 to 19 per cent in 2016. Without that, revenue growth would have been negative.

Mergers and acquisitions (M&As)

The biotechnology industry is one with a high level of mergers and acquisitions. In 2019, for example, there were 28 deals globally, worth \$203.7 billion. While the number of M&As has grown, they did decline in 2020 and 2021, with the total value being \$117 billion and just \$52 billion respectively². One reason was the threat of tougher regulations to address the value of recent deals and rising drug prices. Also, with the COVID-19 pandemic, although some drug companies did well from vaccines, many others suffered from fewer people consulting doctors and fewer treatments for other diseases.

Countries' share of the global biotech sector

According to the OECD, the USA has historically dominated worldwide patent applications, though its worldwide share had declined from 44 per cent in the early 2000s to around 34

per cent in 2018. The EU27's share of worldwide biotech patent applications has remained fairly constant at around 24 per cent.

It is in Asia where the biggest growth of the biotech sector can be seen. For example, South Korea's share of patent applications rose from 1.7 per cent in 2000 to 9 per cent in 2018.³ China is also looking to make a global mark in this sector. Chinese companies had previously faced stringent government regulations, which meant that many effective medicines were not available, despite it being a dominant market for pharmaceuticals. The relaxing of these regulations has helped Chinese biotech companies to invest and develop new drugs and this growth is likely to continue.

Research and Development (R&D)

Another trend that we have seen in recent years, particularly in the US and European biotechnology sector, is that, despite revenue growth slowing, a larger share of biotech company revenues go into R&D. According to data from the OECD, in 2021 R&D expenditure by biotech firms in the USA totalled \$77.8 billion, growing from \$38.6 billion in 2014⁴. When compared to Europe as a whole, the US biotechnology sector spends over twice as much on R&D and, although the industry is dominated by small and medium-sized businesses, it is the larger firms that dominate in terms of R&D. In most countries, biotech firms are geographically clustered, forming industry networks around key universities and research institutes. We will see the benefits of this in terms of costs in Chapter 9.

One of the big issues facing the biotech industry is the return on investment (ROI) in R&D. With medical and technological advances, as well as an ageing population, we are seeing more chronic diseases and the need to develop new drugs. However, this is a costly business, with estimates ranging from \$1 billion to \$2.5 billion per drug. Biotech companies are, therefore, under significant pressure to continue to invest in expensive new drug development, while facing increasing pressure to reduce prices.

Cutting the costs associated with drug development will be crucial, particularly the costs of clinical trials. Technology will be important in streamlining processes and making trials and testing more efficient and Artificial Intelligence is also likely to play a significant role. Some companies have already taken steps to address poor R&D productivity, including focusing on developing those drugs that have the greatest revenue potential, such as oncology and immunotherapy, and looking into developing personalised medicines. The big biotech companies, in particular, will need to continue to address poor R&D productivity if they and the wider sector are to remain feasible.

Since the start of the coronavirus pandemic, biotech companies have invested significantly and quickly in developing treatments and vaccines. Vaccine development is normally a lengthy process, but with the COVID-19 vaccines, the development and trials were much shorter, with the first vaccine

¹ See, for example, *Biotechnology Market Size to Surpass US\$ 1,683.52bn by 2030*, Precedence Research (18 January 2022).

² See, for example, *Biotech M&A*, Chimera Research Group (2022).

³ *Key biotechnology indicators*, OECD (October 2021).

⁴ *Ibid.*