

Industrial Organization

Thoroughly revised according to classroom feedback, *Industrial Organization: Markets and Strategies* offers an up-to-date and rigorous presentation of modern industrial organization that blends theory with real-world applications and derives implications for firm strategy and competition policy. This comprehensive textbook acquaints readers with the most important models for understanding strategies chosen by firms with market power and shows how such firms adapt to different market environments. The second edition includes new and revised formal models and case studies. Formal models are presented in detail, and analyses are summarized in ‘lessons’, which highlight the main insights. Theories are complemented by numerous real-world cases that engage students and lead them to connect theories to real situations. Chapters include review questions, exercises and suggestions for further reading to enhance the learning experience, and an accompanying website offers additional student exercises, as well as teaching slides.

Online resources at www.cambridge.org/belleflamme2

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‘The second edition of Paul Belleflamme and Martin Peitz’s *Industrial Organization: Markets and Strategies* is encyclopedic in its coverage of modern industrial organization, including both seminal and new models. The authors present models with exactly the right level of formal detail to equip students and practitioners with what they need to understand a plethora of issues ranging from two-sided markets to price discrimination. I commend the authors for doing the impossible – improving their initial gem.’

**Michael Baye, Bert Elwert Professor of Business Economics,
Kelley School of Business, Indiana University**

‘Industrial economists have been blessed with some significant texts over the centuries. However, until Belleflamme and Peitz, no one had attempted to cover it all. *Industrial Organization: Markets and Strategies* does that. It is all here. From monopoly to competition, from simple pricing to pricing with menus, from bundling to innovation. There is no topic left untouched. It is a must-have for teachers and students alike.’

**Joshua Gans, Professor of Strategic Management and Skoll Chair in Innovation
and Entrepreneurship, Rotman School of Management, University of Toronto**

‘This second edition of Belleflamme and Peitz is a strong revision of what has emerged as the “go-to” book for those teaching industrial organization to advanced students. Moreover, it is a useful reference and resource for scholars. It deserves space on the bookshelves of all industrial organization economists.’

Benjamin E. Hermalin, University of California, Berkeley

‘Paul Belleflamme and Martin Peitz’s *Industrial Organization: Markets and Strategies* offers a fully up-to-date treatment of modern industrial organization, including recent work on intellectual property, new forms of price discrimination, competition policy and two-sided markets. Theoretically inclined, clearly written, and mathematically accessible to a wide audience (including advanced undergraduates), it usefully provides motivation through short business-strategy or competition-policy cases. A tour de force and a must-read for students, researchers and practitioners of the field.’

**Jean Tirole, Toulouse School of Economics,
2014 Nobel Laureate in Economic Sciences**

‘The revised version of the book provides an up-to-date treatment of the main topics in Industrial Organization analysis, including the advances of recent research as well as exercises. The authors take a theoretical perspective which is contrasted with a wealth of real-world cases and the analysis of issues relevant for the information economy, such as bundling, intellectual property and two-sided markets.’

Xavier Vives, Professor of Economics, IESE Business School

Industrial Organization

Markets and Strategies

2nd edition

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Preface to the second edition

We are grateful for all the positive feedback from researchers, students and practitioners. In particular, we are very happy that our book is widely adopted in IO courses at the master's level and has also proved useful in many advanced bachelor as well as Ph.D. courses.

The publisher provided us with a number of anonymous reviews, which contained suggestions on how to improve the book further, in particular with regard to reader-friendliness. We are grateful for the efforts by these researchers.

The second edition keeps the same order of chapters. However, compared with the first edition, we have made two important expositional changes.

First, at the end of each chapter we provide several exercises. Solutions to these exercises can be found at the end of the book. (As in the first edition, the textbook website contains additional exercises. Solutions to most exercises are available to instructors. We also continue to make slides for each chapter available on the textbook website.)

Second, to improve the ease of use, endnotes of the first edition now appear as grey footnotes. Thus, we now have two types of footnote. Those in black contain additional information that helps the understanding. Footnotes in grey provide references and occasionally technical remarks. References are collected at the end of each part. We have thoroughly revised the content of the book; in addition to some corrections, we have shortened some expositions and added additional material (cases, formal models and verbal expositions) in several chapters. We want to mention two instances where we have reorganized content across chapters. First, the formal analysis of customer poaching has been moved to the section on behaviour-based price discrimination in Chapter 10. Second, some of the material in Chapters 18 and 19 has been reshuffled and expanded (e.g., the analysis of patent licensing and the comparison of patents, secrets and rewards as incentive mechanisms for innovation).

We want to say thank you to a large number of researchers. In addition to the people we thanked in the first edition, some of whom provided additional comments and suggestions for the second edition, we would like to thank Olivier Bonroy (Grenoble), Yijuan Chen (Australian National University), Daniel Halbheer (St. Gallen), Ari Hyytinen (Jyväskylä), Jos Jansen (Aarhus), Paco Martinez-Sanchez (Murcia), Jose L. Moraga-Gonzalez (Amsterdam), Michele Polo (Bocconi), Eva-Maria Scholz (Louvain-la-Neuve), Florian Schuett (Tilburg), Max van Lent (Rotterdam) and Chengsi Wang (Mannheim). Apologies to those who also provided useful input but whose names got lost.

We are grateful for the trustful relationship with the staff at Cambridge University Press, in particular Chris Harrison and Claire Wood.

Preface from the first edition

A large part of economic transactions takes place through markets. On these markets, firms take decisions in response to prevailing market conditions that affect the well-being of market participants. Such decisions are relevant to the field of Industrial Organization (IO) and their analysis lies at the heart of this book. *Industrial Organization: Markets and Strategies* indeed aims at presenting the role of imperfectly competitive markets for private and social decisions.

Among the numerous decisions taken by firms is the *make-or-buy decision*, whereby firms compare the costs and benefits of manufacturing a product or service against purchasing it. Typically, the firm will prefer the ‘make’ option over the ‘buy’ option if the purchase price is higher than the in-house manufacturing cost or if outside suppliers are unreliable. Naturally, the firm must also have the necessary skills and equipment to meet its own product standards.

There is a clear analogy between this generic dilemma and the decision process that led us to write this book. As industrial organization teachers since the start of our academic careers, we have both long relied on existing textbooks to support our courses. Yet, through the years, our needs became different from the offers of outside suppliers. That is, the ‘make’ option started to become more tempting than the ‘buy’ option.

At the end of 2004 we firmly took our decision to ‘make’ a new textbook.^a At that time (and this still holds today), we could not find on the market any textbook in industrial organization that suited the type of courses at the advanced undergraduate or master level we were teaching. We knew that many of our colleagues shared our views. Our objective was thus to produce a new text that would greatly simplify the work of teachers who, thus far, had to combine material from different books and look for applications to meet their students’ needs. Naturally, benefits to teachers are meant to spill over to their students. Although we believe in formal modelling, we also believe that it is important not to overload students with techniques and to motivate the analysis with real-world cases. So, we endeavoured to write a book that blends up-to-date theoretical developments and real-life applications.

The concretization of our efforts currently lies in your hands. To convince you that the best option for you is the ‘buy’ decision, we propose three main reasons for which *Industrial Organization: Markets and Strategies* is your choice.

- We have produced a book that is easy to read, while maintaining a high level of rigour and conciseness. We intend to be exact and clearly state assumptions and results. As a consequence, you will be able to see easily where a new model starts, what are its assumptions and results, and what are the arguments that lead to those results.
- Our book covers a wide range of topics as it includes recent developments in the IO literature, as well as topical issues (related, e.g., to the digital economy).
- Many of the arguments made in IO theory are arguments at the margin; to formalize them we cannot rely on ‘calculus-free theory’. Hence, we present and analyse

^a As it took us four years to complete the redaction of this book, we can provide proof that we largely underestimated the costs of this ‘make’ decision. Firms, as analysed in this book, are not subject to such a bias.

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simple and hopefully elegant models. We summarize the main results as lessons. We also illustrate the relevance of these models by relating them to real-world cases.

The **targeted audience** of the book is advanced Bachelor or Master students taking a course in industrial organization. The book is also a useful reference for an IO course at the Ph.D. level as well as for an advanced course for Business School teaching. In any case, to learn effectively from this book, students need to have a course of intermediate microeconomics or business economics in their academic background. Note that selected chapters of the book can also serve as support for courses in business and managerial economics, in management strategy, in strategic pricing, in economics of innovation, in the theory of competition policy or in oligopoly theory. It is also possible to focus on topics and cases to outline a course of industrial organization in the digital economy.

The specific features of the book help to address a number of **learning challenges** usually faced by industrial organization students.

- *Students often struggle to connect theory with practice.* The integration of real-world cases in the text, showing how theories relate to real applications, greatly reduces this problem. In addition, this helps students to understand better the relevance of topics.
- *Students often struggle to understand the working of models.* To address this issue, we carefully develop the models we present and we make their assumptions explicit. We want students to see models at work and we make sure that they do not spend their time uncovering hidden calculus.
- *Students may be overwhelmed by a large variety of models and lose track.* To avoid or, at least, reduce this risk, we have introduced a large number of lessons that guide the reader through the book and summarize the main insights of the analysis.
- *Students may become bored by constructed examples.* As a consequence, we draw many real-world cases from industries that students consider to be important, notably in consumer goods industries and in the digital economy. This makes students more involved and curious about how to address additional issues that appear in the cases.
- *Students often have trouble relating different topics with one another.* The book is carefully organized to make sure that students do not ‘close’ a topic (and forget its analysis) when moving to the next one. Each part of the book contains several chapters covering related topics and starts with a general introduction that gives a bird’s-eye view of the part material and explains the links between the various chapters. Multiple cross-references between chapters are made throughout the text. As a result, students should acquire a deeper and more transversal understanding of the various issues of industrial organization.
- *The needs of different types of students may be in conflict.* In particular, students who want to dig deeper may have problems finding the right material, while those who simply want to read the textbook may be distracted by many references in the text or in footnotes. To solve this dilemma, we minimize the number of footnotes and provide access to the relevant literature through endnotes. Moreover, the

bibliography is sorted by the parts in which the respective work is cited. Hence, the book adequately combines access to the scientific literature for those who need it, and uninterrupted reading for those who do not.

A number of **supplementary resources** accompany the book and help instructors teach and students learn. Exercises are posted on the textbook website. Solutions to these exercises are made available to instructors. Additional exercises can be uploaded by other researchers. On the website also slides are posted. These come in two different sets (two files per chapter). The first set provides a quick overview on the different topics. Instructors can use this set to motivate a particular topic, establish key insights, provide some intuition, and some reality check. The second set presents the most important models in-depth. Each instructor can make his or her preferred blend from the slides provided by the authors.

Students at Barcelona, Frankfurt, Liège, Louvain, Luxembourg, Manchester, Mannheim and Munich (from the advanced undergraduate to the Ph.D. level) have seen parts of this book at various stages of completion. We thank them for their feedback. Several people – colleagues and students – dedicated their precious time reading parts of this book and helped us to make this book a reality with comments and suggestions on previous drafts and exercises for the textbook website. At the risk of forgetting some of them, we want to mention Francesca Barigozzi (Bologna), Giuseppe De Feo (Glasgow), Estelle Derclaye (Nottingham), Vincenzo Denicolo (Bologna), Roman Inderst (Frankfurt), Heiko Karle (Brussels), Johannes Koenen (Mannheim), Florian Köpke (Mannheim), Christian Lambertz (Mannheim), Marco Marinucci (Louvain), Yann Ménière (Paris), Jeanine Miklós-Thal (Rochester), Volker Nocke (Mannheim), Pierre M. Picard (Luxembourg), Thomas Roende (Copenhagen), Isabel Ruhmer (Mannheim), Markus Reisinger (Munich), Maarten Pieter Schinkel (Amsterdam), Yossi Spiegel (Tel Aviv), Cecilia Vergari (Bologna), Georg von Graevenitz (Munich) and Xavier Wauthy (Brussels). We should add to this list the various anonymous referees who conscientiously reviewed and commented initial drafts of several chapters. We want to thank them all for their contributions, support and encouragement. Over the whole period, Chris Harrison from Cambridge University Press was supportive and, perhaps due to our incomplete information disclosure about the progress of the book, optimistic that this book project will come to a happy end. We kept going because we could not disappoint him after all these years. We thank the team at Cambridge University Press for their dedication to produce this book.