Microeconomics for MBAs

This is the first textbook in microeconomics written exclusively for MBA and other serious business students to help them develop *the economic way of thinking* by applying the theory to a variety of problems that business students, as future managers of real-world firms, will find relevant. This third edition has been designed to work with conventional courses as well as online and hybrid courses: short video modules are available on You Tube at https://www.youtube.com/user/richardmckenzie/ videos and longer video lectures are available at the Cambridge resources website at www.cambridge.org/mckenzie. Each chapter also concludes with discussion and review questions and with links to online readings. This combination provides a complete course in microeconomics for advanced business students.

McKenzie and Lee continue to minimize technnical mathematics and instead focus on teaching intuitive economic thinking. The text is structured clearly and accessibly: In each chapter Part A presents the basic economic theory with applications to economic policies, and Part B applies this theory to real-world management issues. Between each part the authors provide a "perspectives" section containing an article or blog entry that serves as a source for discussion by presenting a new or different (often counterintuitive) view on a business or policy issue. Two new chapters on behavioral economics have been added to this edition as well.

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Dedicated to

Mackenzie Jane Shelton

(Class of 2036)

Microeconomics for MBAs

The Economic Way of Thinking for Managers

Richard B. McKenzie Dwight R. Lee



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Almost all (if not all) textbooks used in business students' first course in microeconomics are designed with undergraduate economics majors or first-year PhD students in mind. Accordingly, business students, especially MBA students, are often treated to a course in conventional intermediate microeconomic theory, full of arcane mathematical explanations. The applications in such standard textbooks deal mainly with the impact of social or government policies on markets, with little discussion of how realworld managers can use microeconomics to make better decisions within their firms in response to market forces or how market forces can be expected to affect firms' institutional and financial structures. Standard microeconomics textbooks often pay scant direct attention to how the *economic way of thinking* (which differs dramatically from how professors in other business courses think about business issues) can offer managers guidance on how they can improve their thinking and decision making to enhance their firms' profits (or to achieve other organizational goals).

This is because much microeconomic theory simply assumes firms into existence, with little or no discussion of why they are needed in the first place. Managers and their staff are assumed to do exactly what they are employed to do by their firms' owners – maximize owners' profits – with no discussion of how firms' organizational and financial structures affect incentives and how incentives affect firms' production and profit outcomes. They also presume that managers always and everywhere think through business problems and make management decisions with great (even perfect) care and precision, a starting position that leaves no room for teaching students how they can improve their thinking and decision making.

That is to say, little is often written in standard textbooks used in courses for serious business students about exactly how real-world firms pursue the goal of profit maximization (or any other goal) and how they can improve their pursuit of that goal. And that void in microeconomics textbooks is a real problem for serious business students, for an obvious reason: serious business students have typically come to business schools to learn how to improve their management skills, which involves learning about how they can improve their ability to extract more profits from the scarce resources available to their firms (or to the firms where they expect to move after graduation). They do not come to become economic theorists. Standard microeconomic textbooks are often of little value to dedicated, advanced students in helping them achieve their career objectives.

xxiv Preface

Microeconomics for MBAs breaks dramatically from the standard textbook mold. As the title suggests, we have designed this textbook with a focus on MBA students (although our novel approach has attracted a following among professors teaching advanced, often capstone, courses to business majors as well). This textbook is also well designed to work in the growing number of one-year masters in management and in accounting, both those that are exclusively online and those that are some hybrid of online and in-class instruction.

In Part A of every chapter, we cover standard microeconomic theory in an accessible way, and we provide an array of applications to government policies that serious business students need to understand. After all, managers everywhere face the constraints of government-imposed laws and regulations that are ever-changing, and managers must work to maximize their firms' profits within those constraints. Moreover, professors in marketing, finance, accounting, strategy, and operations research who teach elective courses in advanced business programs will expect their students to have a firm grounding in conventional microeconomic theory.

To help students learn the material we have provided a new set of 58 video lectures, which have an average length of close to 30 minutes (with a time-range of 12 to 37 minutes). These are listed at the end of each chapter and often closely follow the text of the chapter, at times providing something of a "second reading" of chapter materials. These are in addition to the shorter (five to ten-minute) "video modules" that deal with compact topics covered in chapters – say, basic economic concepts that all business students should understand at some level upon entering their programs of study and concepts, principles, and modes of analysis that are often hard to comprehend the first time they are presented in the form of written text or lectures. These video modules (which collectively have had well over 2 million views with high praise from viewers) remain freely available on YouTube.

A largely complete course in microeconomics is thus provided through the use of the textbook, video lectures, and the further online reading suggested for each chapter. The video lectures are available for *streaming only* (not downloading) from YouTube. They are designed to meet the needs of students in three types of courses:

- 1 Students in conventional on-campus, in-class courses who believe they need additional video resources to learn microeconmics.
- 2 Students in complete online courses that are organized around this textbook or even other textbooks.
- 3 Students in "hybrid courses" that require watching the video lectures in order to free up in-class time for the expansion of the coverage of courses.

We have also provided a mountain of addition resources for students and professors alike. On the publisher's website for this book, we have provided an array of additional readings, tied to the various chapters, which can expand students' learning experience.

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On a password protected site for professors adopting the textbook, instructors have access to a wealth of materials, including test banks (plus pre-constructed examinations), suggested lines of answers to many (not all) of the "Review questions" at the end of each chapter, and a number of weekly discussion problems that can be assigned to students (with suggested lines of answers to many, but not all, questions).

In Part B of every chapter, we go where other microeconomics textbooks seldom, if ever, go with such completeness. We drop the usual assumption that firms magically come into existence and that they automatically maximize owners' profits by simply following maximization rules. Instead, we bring to the forefront of our analysis several crucial problems faced by firms and pervading much management decision making. For example, one such problem – dubbed the "principal–agent problem" within the economics profession and in this textbook – is that both owners and workers are more interested in pursuing their own wellbeing than someone else's wellbeing. Owners ("principals") want to maximize their income streams and wealth through the firms they create by getting the most they can out of their employees. Similarly, managers and line workers (the owners' "agents") seek to maximize some combination of income, on-thejob perks, and job security, which are often in conflict with maximizing profits for the firm's owners. Without effective firm policies that align the incentives of owners and workers for their *mutual benefit*, the work in a firm can be a self-destructive tug of war, with the demise of the firm virtually assured in competitive markets.

In this textbook, we focus students' attention on *thinking* through the complex problems of getting incentives right. This is mainly because there is as much (maybe more) profit to be made from creatively structuring incentives (and prices) as there can be made from creatively developing products for sale.

Getting hourly and monthly pay systems right is obviously an important means of aligning the interests of owners and managers. However, we also explain how firms' structure, in terms of both people and finances, can affect the alignment of owners' and workers' incentives. And make no mistake about it, both owners and their employees have a stake in finding the right alignment. Workers' jobs can hang in the balance. Owners' investments can hang just as precariously on a cost-effective, balanced alignment of incentives.

Accordingly, this book places a great deal of emphasis on a field within economics that is growing rapidly in importance, especially as the subject relates directly to the business world, and business programs: *organizational economics*, which is the study of the design of firms' organizational and financial structures using the analytical tools of microeconomic analysis. The mode of thinking presented in these pages is crucial for managers who want to move up their corporate hierarchy or go off and create successful companies of their own. Many of the topics covered under organizational economics are covered in students' courses in organizational behavior, grounded in psychology. This means that students will come to understand how business topics can be approached differently from different disciplinary perspectives, often with complementary insights.

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In between Parts A and B of every chapter, we have inserted a "Perspective" – that is, a short section that provides a new or different take on a business or policy issue. For example, everyone *knows* (don't they?) that the "first mover" in any market has a competitive advantage. In the Perspective for Chapter 9, we discuss a startling research finding made by management scholars: there is no first-mover advantage (or it appears rarely). First movers can even be at a decided disadvantage, which explains why so many well-known firms that dominate their industries today were "followers" (including, at times, probably the most creative company on the planet, Apple).

Toward the end of each chapter, we insert a short discussion highlighting "Practical lessons for serious business students," designed to show how the analytics in each chapter can help real managers solve real workplace problems, all with an eye toward enhancing firm profitability (or the achievement of other firm goals). And make no mistake about it, we believe that theory at its best is a guide to improved thinking and decision making and thereby to greater firm profitability, as well as welfare gains for workers and the broader society. Each chapter has a section that we have titled "The bottom line," mainly because the section contains listings of "key takeaways" – succinct statements of the most important points to be drawn from the chapter. We understand that serious business students, you included, face serious time constraints, especially when you are working full time and have family responsibilities. "The bottom line" section is designed to focus your attention when reviewing the material covered in the chapter, with the hope that your time devoted to studying will be made still more productive.

The scholarly and policy literature in economics and management relating to most of the topics considered in this volume is massive. We have tried to give credit where credit is due, especially when "classic" or path-breaking treatments by distinguished scholars are concerned. However, we have tried to hold references and footnotes in check in order that the flow of the argument is not constantly disrupted. Still, our bibliography at the end of the book is extensive.

Many textbook authors and their publishers play textbook development "safe" by taking up only those topics that have become fixtures in the profession's "conventional wisdom." We see such an approach as sucking the life out of a discipline and its treatment in textbooks. Topics that have not yet been fully settled by decades of professional debate can give life to a discipline by showing students how disciplines have an organic quality, in that they are constantly evolving through debate. As a consequence, you can expect many topics in this book to spark lively, and instructive, debates among student team members and between class members and professors in class. That is how we want the book to be received.

For example, the Perspective for Chapter 6 takes up the issue of whether walking or driving a mile to work is more polluting. If you are typical of our students, hold any quick conclusion from considering "obvious" paths of thinking. You will likely be

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surprised at the relative uses of energy in the two modes of travel, as well as the complexity of the problem., The Perspective for Chapter 12 looks at the connection between instances of reported pedophilia and the regulation of hugging in institutional settings (schools and day care centers, for example) to thwart child abuse. The problem is that there is an established tie between human touch and the emotional and mental development of children (often disadvantaged children who are deprived of close parental care). What's the economic tie? Human touch during childhood, via hugging, for instance, can give rise to adults being more trusting and more trustworthy, and in various chapters we elevate the economic importance of trust in ongoing business relationships. The "law of unintended consequences" lurks in this policy discussion, as it does in so many business and public policies covered in this textbook.

Each chapter ends with a series of Review Questions that we expect will activate discussions within student teams. In addition, we have set up a website for the book on which we will, from time to time, post interesting pointers and puzzles that occur to us as the book is being used. We shall also post an ever-changing list of relevant economic and business topics that have emerged after this textbook went into production at the start of 2016, offering professors an opportunity to make the course truly current.

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You may be interested in knowing that we – the authors of this book – have between us more than eighty years of university teaching experience, with most of our teaching careers spent in business schools. For the last twenty-five years, we both have taught *only* MBA students. That should tell you that we have a pretty good fix on our readers and their interests, not the least of which is to have a course of study that is intellectually challenging as well as having practical application.

Each year, we often start our microeconomics courses with a question that puzzles our students, many of whom are mid- and upper-level managers in firms from a broad range of industries who remain employed while completing their degrees. The question seems simple on the surface, "Why are you here?" Invariably, the students' interests are piqued, but typically because they are puzzled by the question, which prompts our elaboration: "Why are you sitting there in your seat in this classroom, all facing me at this lectern?"

Our business-savvy students are rarely reticent, and the answers are quick in coming and are varied: "I'm here to make more money," one student always confesses with an uneasy laugh. But many other answers share a common theme, "To learn how to *do* business" (with the emphasis on "*do*ing business"). That answer is understandable, mainly because business students are a focused lot, their eyes typically fixed on one objective – improving their career paths. Also, much business education encompasses instruction in business skills – for example, how to develop business plans and to secure funding for new business ventures. But invariably the answers leave an important part

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of our question unanswered because the answer – "to learn how to do business" – doesn't explain why our students are in their seats and we are behind the lectern.

We answer this question by pointing out the obvious, that what we will *do* in class is radically different from what they *do* in firms. Indeed, the students come to class on a campus removed from their work to get away from what they do at work, and that means getting away from the multitude of details of business dealings that are a part of their everyday, workaday world. In a literal sense, the class is a world apart from the world of business, and intentionally designed that way for one strategic purpose: to take a look at how business is done from a broad perspective without the clutter of details that our students deal with day in and day out.

In no small way, the purpose of our class (or any other business course worthy of academic respect) is to explore ways to *think* creatively about how business is done and can be done better, not to actually *do* business. In this regard, we take to heart an observation made by the late economist Kenneth Boulding:

It is a very fundamental principle indeed that knowledge is always gained by the orderly loss of information; that is, by conducing and abstracting and indexing the great buzzing confusion of information that comes from the world around us into a form we can appreciate and comprehend. (1970, 2)

The way of thinking we take up in class, and that which Professor Boulding had in mind, is necessarily *abstract* (to one degree or another) – that is, without the clutter of many business details. We approach thinking with abstractions principally because no one's brain is sufficiently powerful to handle all the complex details of everyday business life. In no small way, productive thought requires that the complexity of business life be reduced enough to allow us to focus on the few things that are most important to the problems at hand by finding meaningful relationships between those things. That is why Professor Boulding insists that knowledge can so often (if not "always") be gained only "by the orderly loss of information."

Without thinking, many business people often spurn theory on the grounds that it lacks practical value. We insist, "not so at all." The abstract way of thinking that we will develop in this textbook has a very practical, overriding goal, which is to afford students more *understanding* of the business world than they could obtain if they tried some alternative approach – that is, if they tried to keep the analysis cluttered up with the "buzzing confusion" of facts students leave behind in their workplaces when they set out for class.

There is another highly practical goal to be achieved by theory (or rather *thinking* with the use of theory). If people can *think* through business problems in some organized way, albeit abstractly, they might be able to avoid mistakes when they actually go out and *do* business. In economic terms, business mistakes imply a regrettable misuse and loss of firm resources. *Thinking* before doing offers the prospect of reducing waste in doing business.

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Our main interest in posing our initial question to our students – "Why are you here?" – is to stress the obvious: If the class is about *thinking* (not doing), then we – Richard McKenzie and Dwight Lee and students' other professors – have some justification for being in front of the class. Also, if the class is about the thinking process, there must be some method for thinking through problems, business-related or otherwise. The development of that *method* is the focus of our classes and this textbook.

Our goal in this volume is to develop *the economic way of thinking* in the context of a host of problems that business students, as future managers of real-world firms, will find relevant to their career goals.

We understand that some readers may worry about our emphasis on theory because they may have read theory-grounded books that seemed sterile or irrelevant, mainly because of the heavy reliance on highly technical mathematics or complicated charts. That will not be the case in this book. The first principle of economics that has guided the development of this book is one that many readers will appreciate (which is a play on a widely repeated quip by Albert Einstein): *Keep the theory as simple as possible and illustrate it with real problems, but no simpler.*

We suggest that sometimes the most productive way to get insight is to develop models that are "unreal" to one degree or another. For example, we cover "perfect competition," which is an idealized version of competitive markets. We employ this market model not because we think it is "real." It is not, and can't be, as we stress in Chapter 7 on the model's coverage. Rather, we employ the model as a device to gain some insight about directional forces in all competitive markets that might otherwise escape revelation, and offers the prospects of adding predictability in some market environments. We also employ the model for less heralded reasons in the economics profession. If we can see how firms will be forced to price their products, and seek to maximize their profits (or minimize their losses) under intense competition, we can gain insights into what real firms might consider doing in less competitive environments. That is, they should consider ignoring "sunk costs," and taking into consideration all costs (including often overlooked "opportunity costs"), and then produce where "marginal costs" equal "marginal revenue." We point out how firms under such "perfectly competitive conditions" will inevitably make zero "economic profits" (when the good and the market for it have already been developed). This means that entrepreneurs would be well advised to avoid markets that have the attributes of "perfect competition" (or come close to those attributes). The reason is clear: under such conpetitive conditions, entrepreneurs have no chance of recovering any costs incurred in the development of the product or its market. Any profits will be eroded by entering competitors who don't have to incur the development costs.

This textbook carries the subtitle, *The Economic Way of Thinking for Managers*, for a very good reason: in the following pages, we bring together a host of large and small ideas that economists have developed over the past several decades that have

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transformed the way we must think about the way the business world works. And we stress how theory can suggest ways in which thinking and decision making can be improved.

Readers' reactions to large and small ideas will, we expect, have changed radically by the time they have read the last words of this volume. Three of those large questions are:

- How can microeconomic theory be used to develop rules for improved thinking and decision making and, thus, firm profitability?
- How should organizations and incentives be structured to best encourage maximization of firm goals, most notably profit maximization?
- How does the competition in the market for goods and in the market for corporate control discipline executives?

The small questions that can be addressed from studying this volume are no less important and can be just as intriguing:

- Should used cars really be expected to be "better deals" than new ones (as so many people seem to think)?
- If competitive markets are expected to "clear" (with quantity demanded equaling quantity supplied), why are so many queues observed in grocery stores and at concerts?
- If queues are not mutually beneficial to buyers and sellers, then why aren't they eliminated?

Readers who think that these questions have simple, obvious, pat answers need to read on.

We expect that readers of this book will end this book the way our students end our courses: changed for life in the way they see the business world around them. But then that is what business students typically want – or should want – from every course in their business programs. We often tell our students, "Economics is as much a *disease* as it is a discipline, and it can be terminal: once you 'catch it,' its hard to let it go. You will be using the economic way of thinking in much of what you do daily." Readers have our best wishes for the journey of a lifetime.

Before this textbook was first published in 2006, our students made innumerable and invaluable suggestions for improvements in the book, and we remain indebted to them and the students and professors who used the first edition who freely advised on how the book could be improved. We have continued to receive advice from users of the second edition. However, the most prominent advice we received came from one professor who insisted, "Remember, you have a very good book, the best for serious business students on the market. Don't mess with success." Accordingly, we have carefully crafted the third edition with the intent of better positioning the textbook for the evolving role of microeconomics in an expanding array of business programs – and for