Brief Contents

Contents

List of Boxes

Applying Economic Concepts

Lessons from History

Extensions in Theory

Additional Topics on MyEconLab (www.myeconlab.com)

Chapter 1	A Brief Introduction to Graphing
	Challenges Facing the Developing Countries
Chapter 2	How Economists Choose Their Theories
	What the S&P/TSX Really Measures
	A Brief Introduction to Graphing
Chapter 3	Economic Data and the Identification Problem
	A Primer on the Market for Crude Oil
Chapter 4	Some Further Details About Demand Elasticity
	Who Really Pays for Payroll Taxes?
Chapter 5	Linkages Between Markets
	When Rent Controls Work and When They Don't
	Agriculture and the Farm Problem
Chapter 6	What Makes People Happy?
	Do Taxes Discourage Work Effort and Saving?
Chapter 7	Multinational Enterprises and Foreign Direct Investment
	Do Firms Really Maximize Profits?
Chapter 8	Explaining Different Concepts of Efficiency
	Understanding and Addressing Canada's Productivity Challenges
Chapter 9	An Example of Loss Minimization as Profit Maximization
	The Long-Run Industry Supply Curve
Chapter 10	The Battle Over Online Prescription Drugs
Chapter 11	The Nature of Globalization
	A Sequential Game in Fibre Optics
	Oligopoly and Contestable Markets
Chapter 12	Ontario's Troubled Electricity Sector
Chapter 13	Does Government Support of Specific Industries Really Create Jobs?
Chapter 14	The Puzzle of Interindustry Wage Differentials in Canada
Chapter 15	The U.S. Housing Collapse and the Financial Crisis of 2007–2008
	A Beginner's Guide to the Stock Market
	Investment and Saving in Globalized Financial Markets
	Interest Rates and the Extraction of Natural Resources
Chapter 16	Externalities and the Coase Theorem
	How Excessive Regulation Hobbles Development
Chapter 17	Charging for Garbage by the Bag
	A Market for SO_2 Emissions in the United States
	The Politics of Market-Based Environmental Policies
Chapter 18	Debate More Healthy than Health Care
	Who Are Canada's Poor?
	The Economic and Fiscal Challenges of Population Aging
Chapter 20	Growth in Canada and Other G7 Countries
	What Makes People Happy?
Chapter 21	The Consumption Function in Canada
	Investment, Saving, and Equilibrium GDP
Chapter 22	The Saving–Investment Approach to Equilibrium in an Open Economy with Government
	What Is the Balanced Budget Multiplier?
Chapter 23	Oil Prices and the Canadian Economy
Chapter 24	Several Measures of Economic Fluctuations in Canada
Chapter 25	Understanding and Addressing Canada's Productivity Challenges
Chapter 26	What Makes People Happy?
	Investment and Saving in Globalized Financial Markets
	The Economic and Fiscal Challenges of Population Aging
	Challenges Facing the Developing Countries

Chapter 27 A Quick Introduction to Financial Assets

The U.S. Housing Collapse and the Financial Crisis of 2007–2008

The Costs and Benefits of Deposit Insurance

Chapter 28 A Beginner's Guide to the Stock Market

Interest Rates and the Slope of the *AD* Curve

Chapter 29 Monetary Policy and the Exchange Rate in Canada

Can Inflation Be Too Low?

Chapter 30 The Costs of High Inflation

Chapter 31 Understanding the Canada–U.S. Unemployment Gap

Does Government Support of Specific Industries Really Create Jobs?

Chapter 32 What Caused the Build-Up of Canada's Public Debt?

Budget Deficits and National Saving

Chapter 33 Who Are Canada's Trading Partners?

Does Third-World Growth Harm First-World Prosperity?

Chapter 34 The Continuing Saga of Softwood Lumber

Farm Subsidies and the World Trade Organization

Chapter 35 Expectations and Exchange-Rate Overshooting

What Is an Optimal Currency Area?

Chapter 36W Challenges Facing the Developing Countries

To the Instructor

Economics is a living discipline, changing and evolving in response to developments in the world economy and in response to the research of many thousands of economists throughout the world. Through thirteen editions, *Economics* has evolved with the discipline. Our purpose in this edition, as in the previous twelve, is to provide students with an introduction to the major issues facing the world's economies, to the methods that economists use to study those issues, and to the policy problems that those issues create. Our treatment is everywhere guided by three important principles:

1. Economics is *scientific,* in the sense that it progresses through the systematic confrontation of theory by evidence. Neither theory nor data alone can tell us much about the world, but combined they tell us a great deal.
2. Economics is *useful* and it should be seen by students to be so. An understanding of economic theory combined with knowledge about the economy produces many important insights about economic policy. Although we stress these insights, we are also careful to point out cases where too little is known to support strong statements about public policy. Appreciating what is not known is as important as learning what is known.
3. We strive always to be *honest* with our readers. Although we know that economics is not always easy, we do not approve of glossing over difficult bits of analysis without letting readers see what is happening and what has been assumed. We take whatever space is needed to explain why economists draw their conclusions, rather than just asserting the conclusions. We also take pains to avoid simplifying matters so much that students would have to unlearn what they have been taught if they continue their study beyond the introductory course. In short, we have tried to follow Albert Einstein's advice:

   Everything should be made as simple as possible, but not simpler.

Current Economic Issues

In writing the thirteenth edition of *Economics*, we have tried to reflect the major economic issues that we face in the early twenty-first century.

Living Standards and Economic Growth

One of the most fundamental economic issues is the determination of overall living standards. Adam Smith wondered why some countries become wealthy while others remain poor. Though we have learned much about this topic in the past 235 years since Adam Smith's landmark work, economists recognize that there is still much we do not know.

The importance of technological change in determining increases in overall living standards is a theme that permeates both the microeconomics and macroeconomics halves of this book. Chapter 8 explores how firms deal with technological change at the micro level, and how changes in their economic environment lead them to create new products and new production processes. Chapters 11 and 12 discuss how imperfectly competitive firms often compete through their innovative practices, and the importance for policymakers of designing competition policy to keep these practices as energetic as possible.

Technological change also plays a central role in our discussions of long-run economic growth in Chapters 25 and 26. We explore not only the traditional channels of saving, investment, and population growth, but also the more recent economic theories that emphasize the importance of increasing returns and endogenous growth.

We are convinced that no other introductory economics textbook places as much emphasis on technological change and economic growth as we do in this book. Given the importance of continuing growth in living standards and understanding where that growth comes from, we believe this emphasis is appropriate. We hope you agree.

Financial Crisis and Recession

The collapse of U.S. housing prices in 2007 led to a global financial crisis the likes of which had not been witnessed in a century, and perhaps longer. A deep recession, experienced in many countries, followed quickly on its heels. These dramatic events re-awakened many people to two essential facts about economics. First, modern economies *can and do* go into recession. This essential fact had perhaps been forgotten by many who had become complacent after more than two decades of economic prosperity. Second, financial markets are crucial to the operation of modern economies. Like an electricity system, the details of financial markets are a mystery to most people, and the system itself is often ignored when it is functioning properly. But when financial markets cease to work smoothly, and interest rates rise while credit flows decline, we are all reminded of their importance. In this sense, the financial crisis of 2007–2008 was like a global power failure for the world economy.

The financial crisis had micro causes and macro consequences. The challenges of appropriate regulation, for financial and non-financial firms, are explored in Chapters 12 and 16. The market for financial capital and the determination of interest rates are examined in Chapter 15. And debates regarding the appropriate role of the government in a market economy occur throughout the book, including Chapters 1, 5, 16, and 18.

On the macro side, the financial crisis affected the Canadian banking system, discussed in Chapter 27, and led to some "unconventional" actions by the Bank of Canada, as discussed in Chapter 29. Moreover, as the global financial crisis led to a deep recession worldwide, Canadian fiscal policy was forced to respond, as we review in Chapters 24 and 32. Finally, as has happened several times throughout history, the recession raised the threat of protectionist policies, as we examine in Chapter 34.

Globalization

Enormous changes have occurred throughout the world over the last few decades. Flows of trade and investment between countries have risen so dramatically that it is now common to speak of the "globalization" of the world economy. Today it is no longer possible to study any economy without taking into account developments in the rest of the world.

Throughout its history, Canada has been a trading nation, and our policies relating to international trade have often been at the centre of political debates. International trade shows up in many parts of this textbook, but it is the focus of two chapters. Chapter 33 discusses the theory of the gains from trade; Chapter 34 explores trade policy, with an emphasis on NAFTA and the WTO, especially its round of negotiations that began in Doha.

Included under the label of globalization is the mobility of labour and capital. How mobile is labour across international borders? Does such labour mobility imply that Canada's policies cannot diverge significantly from those in other countries? We explore these issues at various points throughout the book, especially in Chapters 13, 14, and 18.

With globalization and the international trade of goods and assets come fluctuations in exchange rates. In recent years there have been substantial changes in the Canada–U.S. exchange rate—a 15-percent depreciation followed the Asian economic crisis in 1997–1998, and an even greater appreciation occurred in the 2002–2008 period. Such volatility in exchange rates complicates the conduct of economic policy. In Chapters 28 and 29 we explore how the exchange rate fits into the design and operation of Canada's monetary policy. In Chapter 35 we examine the debate between fixed and flexible exchange rates.

The forces of globalization are with us to stay. In this thirteenth edition of *Economics*, we have done our best to ensure that students are made aware of the world outside Canada and how events elsewhere in the world affect the Canadian economy.

The Role of Government

Between 1980 and 2008, the political winds had shifted in Canada, the United States, and many other countries. Political parties that previously had advocated a greater role for government in the economy began to argue the benefits of limited government. But the political winds shifted again with the arrival of the financial crisis and global recession in 2008, which led governments the world over to take some unprecedented actions. Many soon argued that we were observing the "end of laissez-faire" and witnessing the return of "big government." But was that really true?

Has the *fundamental* role of government changed significantly over the past 30 years? In order to understand the role of government in the economy, students must understand the benefits of free markets as well as the situations that cause markets to fail. They must also understand that governments often intervene in the economy for reasons related more to equity than to efficiency.

In this thirteenth edition of *Economics*, we continue to incorporate the discussion of government policy as often as possible. Here are but a few of the many examples that we explore:

- tax incidence (in Chapter 4)
- the effects of minimum wages and rent controls (in Chapter 5)
- economic regulation and competition policy (in Chapter 12)
- pay equity policy (in Chapter 13)
- environmental policies (in Chapter 17)
- the disincentive effects of income taxes (in Chapter 18)
- fiscal policy (in Chapters 22 and 24)
- policies related to the economy's long-run growth rate (in Chapter 26)
- monetary policy (in Chapters 28, 29, and 30)
- policies that affect the economy's long-run unemployment rate (in Chapter 31)
- the importance of debt and deficits (in Chapter 32)
- trade policies (in Chapter 34)
- policies related to the exchange rate (in Chapter 35)

The Book

Economic growth, financial crisis and recession, globalization, and the role of government are pressing issues of the day. Much of our study of economic principles and the Canadian economy has been shaped by these issues. In addition to specific coverage of growth and internationally oriented topics, growth and globalization appear naturally throughout the book in the treatment of many topics once thought to be entirely "domestic."

Most chapters of *Economics* contain some discussion of economic policy. We have two main goals in mind when we present these discussions:

1. We aim to give students practice in using economic theory, because applying theory is both a wonderfully effective teaching method and a reliable test of students' grasp of theory.
2. We want to introduce students to the major policy issues of the day and to let them discover that few policy debates are as "black and white" as they often appear in the press.

Both goals reflect our view that students should see economics as useful in helping us to understand and deal with the world around us.

The choice of whether to study macro first or micro first is partly a personal one that cannot be decided solely by objective criteria. We believe that there are excellent reasons for preferring the micro–macro order, and we have organized the book accordingly. For those who prefer the macro–micro order, we have attempted to make reversibility easy. The first three chapters provide a solid foundation for first studying either microeconomics (Chapters 4–18) or macroeconomics (Chapters 19–35 and 36W).

Microeconomics: Structure and Coverage

To open Part 1, Chapter 1 presents the market as an instrument of coordination. We introduce the issues of scarcity and choice and then briefly discuss alternative economic systems. Comparisons with command economies help to establish what a market economy is *by showing what it is not*. Chapter 2 makes the important distinction between positive and normative inquiries and goes on to an introductory discussion of the construction and testing of economic theories. We also discuss graphing in detail.

Part 2 deals with demand and supply. After introducing price determination and elasticity in Chapters 3 and 4, we apply these tools in Chapter 5. The case studies are designed to provide practice in applying the tools rather than a full coverage of each case. Chapter 5 also has an intuitive and thorough treatment of economic value and market efficiency.

Part 3 presents the foundations of demand and supply. The theory of consumer behaviour is developed via marginal utility theory in Chapter 6, which also provides an introduction to consumer surplus and an intuitive discussion of income and substitution effects. The Appendix to Chapter 6 covers indifference curves, budget lines, and the derivation of demand curves using indifference theory. Chapter 7 introduces the firm as an institution and develops short-run costs. Chapter 8 covers long-run costs and the principle of substitution, and goes on to consider shifts in cost curves due to technological change. The latter topic is seldom, if ever, covered in the micro part of elementary textbooks, yet applied work on firms' responses to changing economic signals shows it to be extremely important.

The first two chapters of Part 4, Chapters 9 and 10, present the standard theories of perfect competition and monopoly with a thorough discussion of price discrimination and some treatment of international cartels. Chapter 11 deals with monopolistic competition and oligopoly, which are the market structures most commonly found in Canadian industries. Strategic behaviour plays a central part in the analysis of this chapter. The first half of Chapter 12 deals with the efficiency of competition and the inefficiency of monopoly. The last half of the chapter deals with regulation and competition policy.

Part 5 begins in Chapter 13 by discussing the general principles of factor pricing and how factor prices are influenced by factor mobility. Chapter 14 then examines the operation of labour markets, addressing issues such as wage differentials, discrimination, labour unions, and the "good jobs–bad jobs" debate. Chapter 15 discusses investment in physical capital, the role of the interest rate, and the overall functioning of capital markets.

The first chapter of Part 6 (Chapter 16) provides a general discussion of market success and market failure, and outlines the arguments for and against government intervention in a market economy. Chapter 17 deals with environmental regulation, with a detailed discussion of market-based policies and an introduction to the issue of global climate change. Chapter 18 analyzes taxes, public expenditure, and the main elements of Canadian social policy. These three chapters expand on the basics of microeconomic analysis by providing current illustrations of the relevance of economic theory to contemporary policy situations.

Macroeconomics: Structure and Coverage

Our treatment of macroeconomics is divided into six parts. We make a clear distinction between the economy in the short run and the economy in the long run, and we get quickly to the material on long-run economic growth. Students are confronted with issues of long-run economic growth *before* they are introduced to issues of money and banking. Given the importance of economic growth in driving overall living standards, we feel this is an appropriate ordering of the material; but for those who prefer to discuss money before thinking about economic growth, the ordering can be easily switched without any loss of continuity.

The first macro chapter, Chapter 19, introduces readers to the central macro variables, what they mean, and why they are important. The discussion of national income accounting in Chapter 20 provides a thorough treatment of the distinction between real and nominal GDP, the distinction between GDP and GNP, and a discussion of what measures of national income *do not measure*.

Part 8 develops the core short-run model of the macro economy, beginning with the fixed-price (Keynesian Cross) model in Chapters 21 and 22 and then moving on to the *AD/AS* model in Chapter 23. Chapter 21 uses a closed economy model with no government to explain the process of national-income determination and the nature of the multiplier. Chapter 22 extends the setting to include international trade and government spending and taxation. Chapter 23 rounds out our discussion of the short run with the *AD/AS* framework, discussing the importance of both aggregate demand and aggregate supply shocks. We place the Keynesian Cross before the *AD/AS* model to show that there is no mystery as to where the *AD* curve comes from and why it is downward sloping; the *AD* curve is derived directly from the Keynesian Cross model. In contrast, books that begin their analysis with the *AD/AS* model are inevitably less clear about where the model comes from. We lament the growing tendency to omit the Keynesian Cross from introductory macroeconomics textbooks; we believe the model has much to offer students in terms of economic insights.

Part 9 begins in Chapter 24 by showing how the short-run model evolves toward the long run through the adjustment of factor prices—what we often call the Phillips curve. We introduce potential output as an "anchor" to which real GDP returns following *AD* or *AS* shocks. This chapter also addresses issues in fiscal policy, including the important distinction between automatic stabilizers and discretionary fiscal stabilization policy. Chapter 25 is a short chapter that contrasts short-run with long-run macroeconomics, emphasizing the different typical causes of output changes over the two time spans. Using Canadian data, we show that long-run changes in GDP have their root causes in changes in factor supplies and productivity, whereas short-run changes in GDP are more closely associated with changes in the factor utilization rate. With this short-run/long-run distinction firmly in place, we are well positioned for the detailed discussion of long-run economic growth that appears in Chapter 26. Our treatment of long-run growth, which we regard as one of the most important issues facing Canada and the world today, goes well beyond the treatment in most introductory texts.

Part 10 focuses on the role of money and financial systems. Chapter 27 discusses the nature of money, various components of the money supply, the commercial banking system, and the Bank of Canada. In Chapter 28 we review the determinants of the demand for money. We then turn to a detailed discussion of the link between the money supply and other economic variables such as interest rates, the exchange rate, national income, and the price level. This chapter builds directly on the material in Chapters 23 and 24, with an emphasis on the distinction between short-run and long-run effects. In Chapter 29 we discuss the Bank of Canada's monetary policy, including a detailed discussion of inflation targeting. The chapter ends with a review of Canadian monetary policy over the past 30 years. This provides some important historical context for policy discussions later in the book, as well as an opportunity to draw some general conclusions about the operation of monetary policy.

Part 11 deals with some of today's most pressing macroeconomic policy issues. It contains separate chapters on inflation, unemployment, and government budget deficits. Chapter 30 on inflation examines the central role of expectations in determining inflation, and the importance of credibility on the part of the central bank. Chapter 31 on unemployment examines the determinants of frictional and structural unemployment and discusses likely reasons for increases in the NAIRU over the past few decades. Chapter 32 on budget deficits stresses the effect of deficits on long-term economic growth.

Virtually every macroeconomic chapter contains at least some discussion of international issues. However, the final part of *Economics* focuses primarily on international economics. Chapter 33 gives the basic treatment of international trade, developing both the traditional theory of static comparative advantage and newer theories based on imperfect competition and dynamic comparative advantage. Chapter 34 discusses both the positive and normative aspects of trade policy, as well as the WTO and NAFTA. Chapter 35 introduces the balance of payments and examines exchange-rate determination. Here we also discuss three important policy issues: the desirability of current-account deficits or surpluses, whether there is a "right" value for the Canadian exchange rate, and the costs and benefits of Canada's adopting a fixed exchange rate. Chapter 36W discusses the main impediments to economic development and the current debates about development policies.

We hope you find this menu both attractive and challenging; we hope students find the material stimulating and enlightening. Many of the messages of economics are complex—if economic understanding were only a matter of common sense and simple observation, there would be no need for professional economists and no need for textbooks like this one. To understand economics, one must work hard. Working at this book should help readers gain a better understanding of the world around them and of the policy problems faced by all levels of government. Furthermore, in today's globalized world, the return to education is large. We like to think that we have contributed in some small part to the understanding that increased investment in human capital by the next generation is necessary to restore incomes to the rapid growth paths that so benefited our parents and our peers. Perhaps we may even contribute to some income-enhancing accumulation of human capital by some of our readers.

Substantive Changes to This Edition

We have revised and updated the entire text with guidance from an extensive series of formal reviews and other feedback from both users and nonusers of the previous editions of this book. As always, we have strived very hard to improve the teachability and readability of the book. We have focused the discussions so that each major point is emphasized as clearly as possible, without the reader being distracted by non-essential points. We have removed some material from the textbook and placed it in the *Additional Topics* section of the book's MyEconLab (www.myeconlab.com), which also includes new material that has been written especially for this edition. (A complete listing of the *Additional Topics* on MyEconLab is provided following the Contents after the List of Boxes.) As in recent editions, we have kept all core material in the main part of the text. Three types of boxes (Applying Economic Concepts, Lessons from History, and Extensions in Theory) are used to show examples or extensions that can be skipped without fear of missing an essential concept. But we think it would be a shame to skip too many of them, as there are many interesting examples and policy discussions in these boxes.

What follows is a brief listing of the main changes that we have made to the textbook.

Microeconomics

Part 1: What Is Economics? In Chapter 1, we have brought forward the discussion of money and markets. And in the discussion of the "great debate" regarding the choice between market and planned economies, we have added a short discussion of the experience of the transition economies following the collapse of the Soviet Union. In Chapter 2, we have streamlined our treatment of theories and models, and we have added a new Study Exercise so students can practise the creation of an index number.

Part 2: An Introduction to Demand and Supply In Chapter 3, which develops the basic model of demand and supply, we now explain why we choose a "boring" product like carrots to demonstrate the model—because unlike many more "interesting" products like iPods and cell phones, it satisfies the conditions required for the model to be applicable. We have streamlined the discussion of the various factors that lead to shifts in demand and supply curves, and we have added *perception of product quality* to the list of supply shifters.

In Chapter 4, we have clarified our discussion of the role of substitutes and product definition as determinants of elasticity. We have also shortened our presentation of tax incidence and expanded the discussion of necessities and luxuries. In Chapter 5, which presents many applications of basic price theory, we have added the example of Canadian health care in the discussion of legislated price ceilings and the possible development of black markets. We have also expanded the discussion of deadweight loss and efficiency, emphasizing the fact that market changes generally create both winners and losers in terms of economic surplus.

Part 3: Consumers and Producers Chapter 6 presents the theory of consumer behaviour. We have shortened and clarified our discussion of marginal utility and demand. We have also shortened the discussion of the paradox of value, but have added an example of how the paradox also exists in many markets, including labour markets.

Chapters 7 and 8 present the theory of the firm. In Chapter 7, we have added the example of optimal portfolio diversification in our discussion of diminishing marginal returns. We have also added a new box on the case of flat marginal and average variable cost curves—common in situations where firms can "idle" some of their existing capacity in response to changes in demand. In Chapter 8, we have expanded our discussion of the principle of substitution with an example of the switch toward fuel-efficient jets in response to rising fuel prices. Finally, we have expanded our discussion of technological change in the very long run, emphasizing the importance of innovations to firm profits.

Part 4: Market Structure and Efficiency In presenting the theory of perfect competition in Chapter 9, we have clarified our discussion of the rules a competitive firm should follow for whether to produce and how much to produce. We have also added a new diagram showing the firm's shut-down price. In Chapter 10 on the theory of monopoly and price discrimination, we have improved our explanation of why monopolists do not have a supply curve, and we have expanded our treatment of the relationship between price discrimination and firm profits. In Chapter 11, we have added one key assumption to the theory of monopolistic competition (namely, that firms have similar cost curves) and clarified our discussion of the zero-profit tangency solution in the long-run equilibrium.

Chapter 12 examines productive and allocative efficiency and economic regulation to promote efficiency. We have added a new box discussing how the economy's allocatively efficient point on the production possibilities boundary depends on the distribution of income. We have also added a new box discussing the benefits from innovation that come from imperfect competition, much in the spirit of Joseph Schumpeter. Chapter 12 also has an improved treatment of the regulation of natural monopolies, including a new diagram to clarify the distinction between marginal-cost and average-cost pricing. A new section discusses how the recent financial crisis and recession have led to a re-emergence of some financial-market regulations and government ownership. Finally, the section on Canadian competition policy has been updated to reflect the proposed reforms to the *Competition Act,* and the old box on bank mergers has been removed.

Part 5: Factor Markets In Chapter 14, which examines several labour-market issues, we have moved the box on intra-industry wage differentials to an online *Additional Topic*. In Chapter 15 on capital and interest rates, we have added a discussion in the opening section about capital markets during the financial crisis of 2007–2008. We have also written a new online *Additional Topic* on "The U.S. Housing Collapse and the Financial Crisis of 2007–2008," which is cited in the chapter's first section. Finally, we have improved our explanation of the link between the interest rate and firms' desired investment demand.

Part 6: Government in the Market Economy We have improved our opening discussion of market failures in Chapter 16. We have also clarified our brief discussion of market power as a market failure, emphasizing that governments do not seek to remove all monopoly power but instead seek to ensure that firms do not abuse whatever market power they may possess. The example of road pricing is now added to the discussion of congestion and rivalrous goods, and the regulation of financial institutions is added to the discussion of moral hazard, with reference to the financial crisis of 2007–2008. In the chapter's closing discussion, we have added a discussion of how the current economic recession has brought to the fore the issue of the appropriate role of government in the economy.

Chapter 17 examines the economics of environmental policy. The discussion of tradable pollution permits now introduces the student to the terminology of *cap and trade*, which is becoming standard. We also compare emissions taxes with a cap-and-trade system, emphasizing how the two systems work differently in the presence of uncertainty regarding firms' marginal costs of abatement. This issue figured in the 2008 Canadian federal election, as we now mention. The former section on the "politics of pollution control" has been moved to become an online *Additional Topic*, and in its place we now have an introductory examination of the issue of global climate change. It reviews the basics of greenhouse-gas emissions, the Kyoto Protocol, the technical challenges of reducing emissions, and the international and Canadian policy challenges involved. We end the chapter with a box that reprints the open letter to Canada's political leaders signed by over 230 Canadian academic economists advocating the adoption of effective climate-change policies.

Chapter 18 examines government taxation and expenditure. We have removed the discussion on the fiscal imbalance, as this issue has been largely resolved (for now). We have added the Working Income Tax Benefit (WITB) in the box on the negative income tax. We now include the new Tax-Free Savings Accounts in our discussion of policies to promote saving.

Macroeconomics

Part 7: An Introduction to Macroeconomics Chapter 19 now contains many references to the recent financial crisis and the current recession, thus improving the chapter's relevance for the typical student reader. We have added a new discussion of interest rates and credit flows, motivated by recent events. In the chapter's closing passages, we add a discussion regarding the debate over the government's role in developing new technologies, an important issue for long-run growth. In Chapter 20, we now mention the concept of *chain weighting* in the box on real and nominal GDP. At the end of the chapter where we discuss the connection between GDP and living standards, we have added a citation of the online *Additional Topic* "What Makes People Happy?"

Part 8: The Economy in the Short Run Chapter 21 presents the basic model of the Keynesian Cross. The discussion on self-fulfilling prophesies has been expanded to include the decline in business and consumer confidence observed in the current recession. In Chapter 22, which adds government and foreign trade to the basic macro model, we have shortened our opening discussion of the government's budget balance, and we have improved and expanded our treatment of fiscal stabilization policy. Chapter 23 introduces the *AD/AS* model. We have reworked the explanation for why the *AD* curve is downward sloping. When introducing shifts in the *AS* curve, we now explain clearly that we are focusing on exogenous shifts in the *AS* curve (the endogenous shifts coming from wage adjustments are discussed in the next chapter).

Part 9: The Economy in the Long Run In Chapter 24, we have redesigned the first table to better explain the various aspects of the three macro states—the short run, the adjustment process, and the long run. We have added a new box discussing how the intrinsic dynamics of the business cycle help to return real GDP to potential GDP. This is especially important for recessions when the wage-adjustment process is very weak. Our discussion of the limitations of discretionary fiscal policy has been strengthened by discussing some of the problems encountered by the federal government in its 2009 budget. We have added a new box discussing the current recession and how it motivated the fiscal actions taken in the Canadian federal budget of 2009.

In Chapter 25, we have added two new numerical Study Exercises requiring students to work through the short-run and long-run changes in GDP as they are discussed in the chapter. Chapter 26 examines long-term economic growth. We have added a new box on climate change and economic growth in the chapter's final section, where we discuss the possible limits to economic growth.

Part 10: Money, Banking, and Monetary Policy In Chapter 27 on money and banking, we have enriched our discussion of the Bank of Canada by mentioning some of the unusual actions taken during the recent financial crisis. A new section on the "provision of credit," motivated by recent economic events, helps to explain the role played by commercial banks. We also have a citation to a new online *Additional Topic* on "The U.S. Housing Collapse and the Financial Crisis of 2007–2008."

In Chapter 28, we have expanded and improved our explanation of the different stages of the monetary transmission mechanism. In Chapter 29, we have added a new box discussing "unconventional" monetary policy actions during the recent financial crisis, including the possible actions of quantitative easing and credit easing. In the chapter's final section, we have added a substantial discussion on monetary policy since the beginning of the financial crisis.

Part 11: Macroeconomic Problems and Policies In Chapter 30, which examines the details of inflation in the *AD/AS* model, we have clarified the explanation of a constant inflation, with nominal interest rates being held constant by two equal but opposing forces (monetary expansion versus rising wages and prices leading to a rise in money demand). We have added a new box discussing the potential danger of deflation, and we have added a second new box examining whether the NAIRU is really a "razor's edge" as assumed by the standard macro model. The old box on the "death of inflation" has been removed.

In Chapter 31 on the NAIRU and unemployment fluctuations, we have clarified the discussion of New Classical theory in the existing box. We now illustrate the concept of structural unemployment with reference to changes in Canada between 2002 and 2008, driven largely by rising energy and commodity prices. In the discussion of policies to reduce structural unemployment, we discuss the recent government support provided to GM and Chrysler. Chapter 32 examines budget deficits and debt. With the significant turnaround in Canadian government budgets since 2008, this chapter has been updated throughout, although the basic structure of the chapter is unchanged.

Part 12: Canada in the Global Economy

Chapter 33 examines the theory of the gains from trade. We have added a new box that works through two numerical examples of absolute and comparative advantage, as well as a new discussion of human capital as one of the sources of comparative advantage. In the section discussing whether comparative advantage is obsolete, we have added some mention of government successes and failures in trying to create comparative advantage. Finally, we have added a new box on the concept of global supply chains and *integrative trade*.

In Chapter 34, we have added a new box discussing how recession usually leads to an increase in trade protection, with references to the Great Depression and the current economic situation. And in Chapter 35, we have improved our presentation of the demand and supply of foreign exchange, including a more intuitive figure.

***

If you are moved to write to us (and we hope that you will be!), please do. You can send any comments or questions regarding the text (or any of the supplementary material, such as the *Instructor's Manual,* the *Study Guide,* the *TestGen*, or the web-based *Additional Topics*) to:

Christopher Ragan
Department of Economics
McGill University
855 Sherbrooke St. West
Montreal, Quebec H3A 2T7
e-mail: christopher.ragan@mcgill.ca

To the Student

Welcome to what is most likely your first book about economics! You are about to encounter what is for most people a new way of thinking, which often causes people to see things differently than they did before. But learning a new way of thinking is not always easy, and you should expect some hard work ahead. We do our best to be as clear and logical as possible, and to illustrate our arguments whenever possible with current and interesting examples.

You must develop your own technique for studying, but the following suggestions may prove helpful. Begin by carefully considering the Learning Objectives at the beginning of a chapter. Read the chapter itself relatively quickly in order to get the general run of the argument. At this first reading, you may want to skip the boxes and any footnotes. Then, after reading the Summary and the Key Concepts (at the end of each chapter), reread the chapter more slowly, making sure that you understand each step of the argument.

With respect to the figures and tables, be sure you understand how the conclusions that are stated in boldface at the beginning of each caption have been reached. You should be prepared to spend time on difficult sections; occasionally, you may spend an hour on only a few pages. Paper and pencil are indispensable equipment in your reading. It is best to follow a difficult argument by building your own diagram while the argument unfolds rather than by relying on the finished diagram as it appears in the book.

The end-of-chapter Study Exercises require you to practise using some of the concepts that you learned in the chapter. These will be excellent preparation for your exams. To provide you with immediate feedback, we have posted Solutions to Selected Study Exercises on MyEconLab (www.myeconlab.com). The end-of-chapter Discussion Questions require you to apply what you have studied. We advise you to outline answers to some of the questions. In short, you should seek to understand economics, not to memorize it.

The red numbers in square brackets in the text refer to a series of mathematical notes that are found starting on page M-1 at the end of the book. For those of you who like mathematics or prefer mathematical argument to verbal or geometric exposition, these may prove useful. Others may disregard them.

In this edition of the book, we have incorporated many elements to help you review material and prepare for examinations. A brief description of all the features in this book is given in the separate section that follows.

We encourage you to make use of the brand new MyEconLab that accompanies this book (www.myeconlab.com) at the outset of your studies. MyEconLab contains a wealth of valuable resources to help you. MyEconLab provides Solutions to Selected Study Exercises. It also includes many additional practice questions, some of which are modelled on Study Exercises in the book. In the book, the MyEconLab icon directs you to online discussions of *Additional Topics*—these represent material written especially for this textbook and include many interesting theoretical, empirical, and policy discussions. You can also find animations of some of the key figures in the text, as well as an electronic version of the textbook. For more details about the MyEconLab, please see the description at the very beginning of this book.

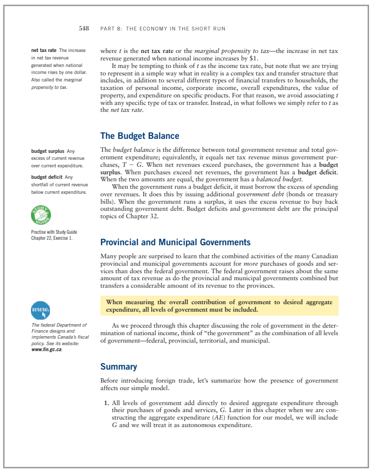
We strongly suggest you make use of the excellent *Study Guide* written expressly for this text. The *Study Guide* is closely integrated with the book. In fact, special references in the margins of the textbook will direct you to appropriate practice questions and exercises in the *Study Guide*. They will test and reinforce your understanding of the concepts and analytical techniques stressed in each chapter of the text and will help you prepare for your examinations. Explanations are provided for the answers to many of the Multiple-Choice Questions to facilitate your independent study. The ability to solve problems and to communicate and interpret your results are important goals in an introductory course in economics. The *Study Guide* can play a crucial role in your acquisition of these skills.

Over the years, the book has benefited greatly from comments and suggestions we have received from students. Please feel free to send your comments to christopher.ragan@mcgill.ca. Good luck, and we hope you enjoy your course in economics!

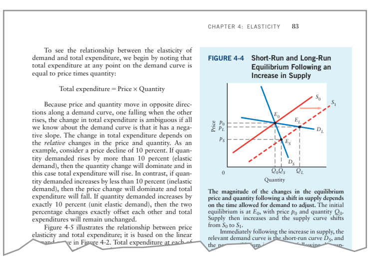
Features of This Edition

We have made a careful effort with this edition to incorporate features that will facilitate the teaching and learning of economics.

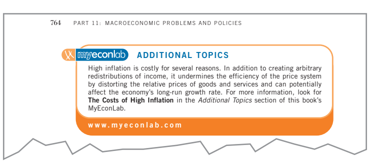
- A set of **Learning Objectives** at the beginning of each chapter clarifies the skills and knowledge to be learned in each chapter. These same learning objectives are used in the chapter summaries, as well as in the Study Guide.



- **Major ideas** are highlighted with a yellow background in the text.
- **Key terms** are boldfaced where they are defined in the body of the text and they are restated with their definitions in the margins. In the index at the back of the book, each key term and the page reference to its definition are boldfaced.
- **Weblinks** to useful Internet addresses are given in the margins. Each weblink presents a URL address, along with a brief description of the material available there. Some links are to government home pages where much data can be obtained. Other links are to organizations such as OPEC, the UN, and the WTO.
- **Study Guide** references in the margin direct students to appropriate questions in the *Study Guide* that reinforce the topic being discussed in the text.

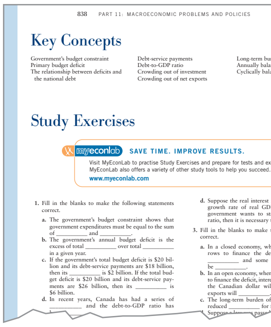


- The **colour scheme for Figures** consistently uses the same colour for each type of curve. For example, all demand curves are blue, whereas all supply curves are red.
- **A caption for each Figure and Table** summarizes the underlying economic reasoning. Each caption begins with a boldfaced statement of the relevant economic conclusion.



- **Additional Topics on MyEconLab (www.myeconlab.com)** are referenced in special boxes inserted at the appropriate place in the body of the relevant chapter. The *Additional Topics* include the entire online Chapter 36W, "Challenges Facing the Developing Countries."
- **Applying Economic Concepts** boxes demonstrate economics in action, providing examples of how theoretical material relates to issues of current interest.
- **Extensions in Theory** boxes provide a deeper treatment of a theoretical topic that is discussed in the text.
- **Lessons from History** boxes contain discussions of a particular policy debate or empirical finding that takes place in a historical context.
- **Photographs with short captions** are interspersed throughout the chapters to illustrate some of the arguments.

- **Chapter Summaries** are organized using the same numbered heading as found in the body of the chapter. The relevant learning objectives (LO) numbers are given in dark blue next to each heading in the summary.
- **Key Concepts** are listed near the end of each chapter.
- A set of **Study Exercises** is provided for each chapter. These often quantitative exercises require the student to analyze problems by means of computations, graphs, or explanations.


838 PART 11: MACROECONOMIC PROBLEMS AND POLICIES

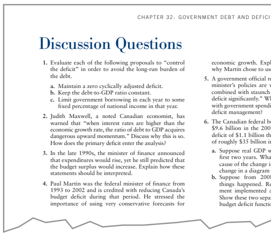
Key Concepts

Government's budget constraint
Primary budget deficit
The relationship between deficits and the national debt
Debt-service payments
Debt-to-GDP ratio
Crowding out of investment
Crowding out of net exports
Long-term burden of the debt
Annually balanced budget
Cyclically balanced budget

Study Exercises

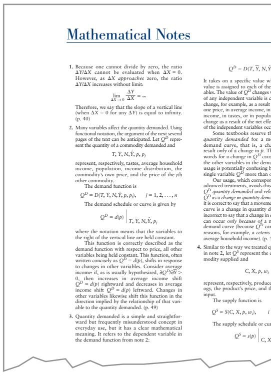
SAVE TIME. IMPROVE RESULTS.
Visit MyEconLab to practise Study Exercises and prepare for tests and exams. MyEconLab also offers a variety of other study tools to help you succeed.
www.myeconlab.com

- A set of **Discussion Questions** is also provided for each chapter. These questions require the student to synthesize and generalize. They are designed especially for discussion in class.

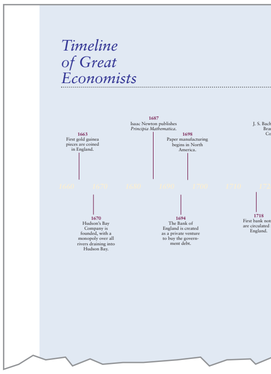

CHAPTER 32: GOVERNMENT DEBT AND DEFICITS 841

Discussion Questions

- A set of **Mathematical Notes** is presented in a separate section near the end of the book. Because mathematical notation and derivations are not necessary to understand the principles of economics but are more helpful in advanced work, this seems to be a sensible arrangement. References in the text to these mathematical notes are given by means of red numbers in square brackets.


Mathematical Notes

- A **Timeline of Great Economists,** running from the mid-seventeenth century to the late-twentieth century, is presented near the end of the book. Along this timeline we have placed brief descriptions of the life and works of some great economists, most of whom the reader will encounter in the textbook. Along this timeline we have also listed some major world events in order to give readers an appreciation for when these economists did their work.



- **Economists on Record,** given on the inside of the back cover, quotes some classic excerpts that are relevant to the study and practice of economics.
- For convenience, a list of the **Common Abbreviations Used in the Text** is given on the inside of the front cover.

Supplements

A comprehensive set of supplements has been carefully prepared to assist students and instructors in using this new edition.

Study Guide

A robust ***Study Guide***, written by Paul T. Dickinson and Gustavo Indart, is available as split volumes for microeconomics (978-0-321-68523-0) and macroeconomics (978-0-321-69496-6). It is designed for use either in the classroom or by students on their own. The *Study Guide* offers additional study support and reinforcement for each text chapter. It is closely integrated with the textbook. Special notes in the margins of the textbook direct students to appropriate practice exercises in the *Study Guide*. To facilitate independent study, we have now provided explanations for about 70 percent of the answers to the Additional Multiple-Choice Questions. For each chapter, the *Study Guide* provides the following helpful material:

- Learning Objectives matching those in the textbook
- Chapter Overview
- Hints and Tips
- Chapter Review consisting of Multiple-Choice Questions, organized into sections matching the numbered sections in the textbook
- Short-Answer Questions
- Exercises
- Extension Exercises
- Additional Multiple-Choice Questions
- Solutions to all of the Questions and Exercises above
- Explanations for the answers to at least 70 percent of the Additional Multiple-Choice Questions

Instructor's Resource CD-ROM

The ***Instructor's Resource CD-ROM*** (978-0-321-67477-7) for this new edition contains the following items:

- An Instructor's Manual (in both Word and PDF format) written by Christopher Ragan. It includes full solutions to all the Study Exercises and suggested answers to all the Discussion Questions.
- A **Computerized Testbank** (**Pearson TestGen**) prepared by Ingrid Kristjanson and Christopher Ragan. The testbank consists of 4000 multiple-choice questions, with an emphasis on applied questions (as opposed to recall questions) and quantitative questions (as opposed to qualitative questions). Approximately 60 percent of the questions test applied skills, about 20 percent of the questions are quantitative, and about 20 percent of the questions have a graph or table. All the questions have been carefully checked for accuracy. For each question, the authors have provided the correct answer, identified the relevant section number in the textbook chapter, specified the concept being tested, assigned a level of difficulty (easy, moderate, or challenging), identified the skill tested (recall or applied), noted whether the question is qualitative or quantitative, and noted whether the question involves a graph or table. *TestGen* enables instructors to search for questions according to any of these attributes and to sort questions into any order desired. With *TestGen,* instructors can easily edit existing questions, add questions, generate tests, and print the tests in a variety of formats. *TestGen* also allows instructors to administer tests on a local area network, have the tests graded electronically, and have the results prepared in electronic or printed reports.
- **PowerPoint® Slides** prepared by Christopher Ragan. Instructors can readily adapt these slides for lecture presentations.
- **Clicker Questions**, consisting of more than 600 questions in PowerPoint format, that can be used with any Personal Response System.
- **An Image Library**, consisting of all the Figures and Tables from the textbook in gif format. These files can easily be imported into PowerPoint slides for class presentation.
- **Additional Topics**, written by Christopher Ragan, offer optional topics on a wide variety of economic subjects, all cited in the textbook and found on MyEconLab (www.myeconlab.com).

MyEconLab

MyEconLab (www.myeconlab.com) provides students with personalized Study Plans and the opportunity for unlimited practice. It also provides instructors with ready-to-use assignments that can be graded electronically. MyEconLab also includes Pearson eText, a robust electronic version of the textbook that enables students and instructors to highlight sections, add notes, share notes, and magnify any of the images or pages without distortion.

Pearson's Technology Specialists work with faculty and campus course designers to ensure that Pearson technology products, assessment tools, and online course materials are tailored to meet your specific needs. This highly qualified team is dedicated to helping students take full advantage of a wide range of educational resources, by assisting in the integration of a variety of instructional materials and media formats. Your local Pearson Canada sales representative can provide you with more details about this service program.

CourseSmart eTextbook

CourseSmart eTextbook represents a new way for instructors and students to access textbooks online anytime from anywhere. With thousands of titles across hundreds of courses, CourseSmart helps instructors choose the best textbook for their class and give their students a new option for buying the assigned textbook as an eTextbook at a lower cost. For more information, visit www.coursesmart.com.

Acknowledgments

It would be impossible to acknowledge here by name all the teachers, colleagues, and students who contributed to the development and improvement of this book over its previous twelve editions. Hundreds of users have written to us with specific suggestions, and much of the credit for the improvement of the book over the years belongs to them. We can no longer list them individually but we thank them all sincerely.

For the development of this thirteenth edition, we are grateful to the many people who offered informal suggestions. We would also like to thank the following instructors who provided us with formal reviews of the textbook. Their observations and recommendations were extremely helpful.

- Iris Au (University of Toronto Scarborough)
- Yolina Denchev (Camosun College)
- Sacha Des Rosiers (Dawson College)
- Zuzana Fromm (British Columbia Institute of Technology)
- Viktoriya Galushko (University of Regina)
- Robert Gateman (University of British Columbia)
- David Gray (University of Ottawa)
- Robert Jefferson (Wilfrid Laurier University)
- Sunil Kaplash (University of Victoria)
- Ambrose Leung (Bishop's University)
- Roberto Martínez-Espiñeira (St. Francis Xavier University)
- Vettivelu Nallainayagam (Mount Royal College)
- A. Gyasi Nimarko (Vanier College)
- Manish Pandey (University of Winnipeg)
- Mathieu Provencher (McGill University)
- Don Reddick (Kwantlen Polytechnic University)
- Charlene Richter (British Columbia Institute of Technology)
- Kevin Richter (Douglas College)
- Neil Roberts (Kwantlen Polytechnic University)
- Duane Rockerbie (University of Lethbridge)
- John Saba (McGill University)
- Avinash S. Samboo (John Abbott College)
- Chandan Shirvaikar (Red Deer College)
- Peter Sinclair (Wilfrid Laurier University)
- Brennan Thompson (Ryerson University)
- Andrew Wong (Grant MacEwan College)

We would like to express our thanks to the many people at Pearson Canada involved in the production of this textbook. Through several editions, we have been privileged to work closely with Gary Bennett (Vice-President, Editorial), Don Thompson (Sponsoring Editor), Maurice Esses (Developmental Editor), and Marisa D'Andrea (Production Editor), and are grateful for their experience, professionalism, and diligence and care in guiding this book through the publication process. Leigh-Anne Graham joined the team on this edition as the Marketing Manager and has brought a great deal of energy, enthusiasm, and creativity to this project. These individuals have been a pleasure to work with each step along the way and we are deeply grateful for their presence and their participation, and delighted to consider them friends as well as professional colleagues.

Our thanks also to the many people at Pearson with whom we work less closely but who nonetheless toil behind the scenes to produce this book, including Andrea Falkenberg, Julia Hall, Quinn Banting, and Terri Rothman.

Thanks also to Valerie Adams for copyediting, Ron Kessler for the technical review, and to Dawn Hunter for proofreading, all of whom provided an invaluable service with their attention to detail.

In short, we realize that there is a great deal more involved in producing a book than *just* the writing. Without the efforts from all of these dedicated professionals, this textbook simply would not exist. Our sincere thanks to all of you.

Finally, we would like to express our appreciation to Ingrid Kristjanson, who is deeply involved in all stages of the revision of the textbook. She discusses the revision ideas, reviews and edits first and second drafts, and carefully handles the often-complex transcription process. In addition, for the past two editions she has played a leading role in the rewriting and expansion of the electronic testbank. Without her, the revision of the textbook would be far less pleasant and efficient than it now is.

Christopher Ragan
Richard Lipsey