Is Current Economic Thought Reflected in the Principles Textbook?

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Arts at George Mason University

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For Melissa

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Besides any research value, this paper was a hugely heuristic exercise, invaluable for anyone whose goal is to teach principles in the community college. I am grateful to Pete Boettke and Phil Wiest for encouraging me to do it.

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Abstract

IS CURRENT ECONOMIC THOUGHT REFLECTED IN THE BEST-SELLING PRINCIPLES TEXTBOOK?

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This study tracks changes in the textbook Keynesian model in the best-selling principles-of-economics textbook in the United States, McConnell & Brue, and compares it with the profession's textbook of record, Samuelson & Nordhaus. One major and two minor themes present themselves from the analysis: (a) Despite the forces of inertia and other factors that affect textbook composition, the principles textbook is a surprisingly accurate reflection of current events and the evolution of ideas in the economics profession, with a lag of 5 to 10 years. Ideas that appeared rapidly were usually the result of widespread public concern and current events. Concepts that took longer to appear tended to be those that did not meet the research and other needs of the mainstream; delays in acceptance also appear due to conflict with the Keynesian paradigm under which the author(s) and reviewers were trained. (b) The widespread adoption of aggregate demand–aggregate supply (AD–AS) analysis has loosened Samuelson's influence on the principles text because it permits direct classroom exposition of the fundamental question in economics:

the length of time it takes the economy to self-adjust. (c) The best-selling principles textbook taught our students a 1960s Keynesian approach to deficits and debt. An analysis in the appendix found that the Nobel Prize is a lagging indicator and the Bates Clark award is a leading indicator of the productivity of prominent economists.

I. Scope of the Study

Introduction

A prominent professor who writes about principles of economics textbooks recently said that a textbook "is not a direct expression of what the author believes" but rather is the result of "inertia and process" with "not even intellectual or pedagogical validity" playing central roles (Colander, 2006, p. 42).

If this is true, how are textbooks rewritten to reflect major changes in the field? According to a famous philosopher of science, textbooks represent the cumulative body of accepted theory of a discipline, and they must be rewritten when there are major paradigm changes (Kuhn, 1970). Mainstream economic thought—the predominant Keynesian paradigm—underwent such a change with the failure of the Phillips Curve trade-off and the advent of the rational expectations revolution in the 1970s. How did textbooks represent this change? The 1970s was a turbulent period of expanding inflation and slow economic growth. Economists have tried to explain what happened in the economics profession that contributed to these problems. Thomas Mayer (1999) argues that academic economists and policymakers adopted the Phillips Curve as a policy menu because that's what the top-selling principles textbooks told them as students. However, a reviewer of Mayer's book characterized it as "informal" and "whimsical" (Shenk, 2000). In this paper I will demonstrate that popular principles textbooks are, in fact, a mirror

reflection of current economic thought, with a lag of five to ten years, and with one or two exceptions due to the ideological lens used by the authors. I will also seek to demonstrate that what gets written in textbooks may also affect what the educated public thinks about economic issues, such as deficits and debt.

Study Questions and Hypothesis

What Is the Relationship Between the Development of New Ideas in Economics and Their Appearance in the Principles Textbook?

This study will attempt to estimate the time it takes a major macroeconomic concept or idea that becomes accepted in the mainstream of the economics profession to be adopted by the best-selling principles textbook.Getting an idea of the lag time between reaching consensus and adoption in the principles textbook may shed light on such questions as these: How accurately does the principles textbook represent current economic thought? What role do current events play in the process? Which ideas represent the consensus of the profession, which are passing fads, and which are retained for purely pedagogic purposes? Are principles-of-economics textbooks an accurate reflection of current economic thought, or are they merely a long list of abstract topics, a "watered down encyclopedia," in the words of Nobel laureate Joseph Stigler (Stigler, 1963, p. 657). What can we say about the factors that affect the adoption of new ideas; or as previously suggested, is the adoption ruled by inertia and process?

Textbooks are usually revised every 3 to 5 years "whenever the language, problem-structure, or standards of normal science change" (Kuhn , 1970, p. 137).

Presumably, new concepts that achieve consensus in the profession would take a similar length of time to appear in the principles textbook. Conceivably, concepts that take longer to reach consensus should take longer to be adopted by the textbook. It seems that the length of time it takes for a new concept to be adopted would be affected by a number of factors, including the Keynesian paradigm[1] under which the authors and reviewers were trained, current issues in the broader U.S. economy, and what the author and publisher think will sell. In economics, some ideas become popular in the mainstream, then fade away for a while but never really die off. However, if the "inertia" description above is correct, then we would expect to see older ideas from the previous paradigm being retained in the principles textbook longer than necessary. Subsidiary questions in this paper are as follows: Has the dominant textbook Keynesian model changed? What are students taught about deficits and debt?

Has the Dominant Textbook Keynesian Model Changed?

Until the late 1990s, the basic macroeconomic model in the principles textbook has been the "neoclassical synthesis" of classical and Keynesian ideas. Paul Samuleson is credited with developing this and related concepts, such as the aggregate expenditure model, or "Keynesian cross," which first appeared in his 1948 textbook. This presentation came to be known as the "textbook Keynesian model" (see Pearce & Hoover, 1995) and for years was the standard introductory tool for millions of beginning students of principles of macroeconomics. The other mainstream principles textbooks

[1]Since Kuhn supposedly used 21 definitions of "paradigm," the following definition is provided: a paradigm is a "package of claims about the world, methods for gathering and analyzing data, and habits of scientific thought and action" (Godfrey–Smith, 2003, p. 77).

copied this model. Among them was the McConnell & Brue text, which outstripped the Samuelson text in sales in 1975 and has been the best-selling principles textbook to the mid-2000s.

However, the noted Austrian economist Mark Skousen has seen a shift away from Keynes in newer college texts:

> All textbooks have shifted more toward free markets. They are going back to the classical, long-term growth model first and the Keynesian, short-term equilibrium model second. Friedman is cited more often and the Austrians get a little credit. (Skousen, 1997a)

Is this the case? The most comprehensive study in the literature that actually traces the development of the textbook Keynesian model from the early Samuelson text found that Samuleson's model is a "triumph of normal science" (Pearce & Hoover, 1995, p. 212). In his book *Economics as Religion* (1999), Robert Nelson portrays the Samuleson text as a religious canon of the modern progressive era. Surely this fundamental model has not changed?

One way to answer this question is to examine the introduction of the aggregate supply curve and development of supply-side concepts that resulted from the problems of stagflation over 1965–82 and the rational expectations revolution of the 1970s. Until then, the current textbook view of macroeconomics was dominated by the demand-side thinking of the Keynesian model. How much have U.S. principles textbooks begun to reflect a reintroduction of the neoclassical concept of supply in current thinking about macroeconomics?

What Are Students Taught About Deficits and Debt?

Recently the vice president of the United States said that "Reagan proved that deficits don't matter" (Susskind, 2004, p. 297). It seems that once again, the United States is going through a period of high continued deficits and growing public debt, as it did during the 1980s and 1990s. Buchanan and Wagner (1977) described the evolution of attitudes toward deficits and debt since Keynesian economics became so popular starting in the 1950s. They asked why voters continued to support politicians who behave irresponsibly in the fiscal sense.

One is therefore led to ask what message about deficits and debt is taught to principles students, the majority of whom do not go on to major in economics. About 40% of American college students take principles of economics and go on to become citizens, business people, and sometimes, decision-makers. What they learn in the principles class affects their knowledge and attitude toward economic issues in the broader economy. As will be seen, the author of the most popular principles textbook in the United States had definite ideas about what should be included in textbooks with respect to simplicity of presentation and pedagogical clarity. In view of the strong sales of his textbook, what he has put in responded to what the market wanted. But are some concepts done injustice when they are simplified to appeal to a wider market? The McConnell textbook has been the largest-selling principles text in the United States at least until 2005. What then has this textbook taught over the last 45 years about deficits and debt?

Organization of the Study

The purpose here is to record the changes in the textbook Keynesian model in the most popular textbook in the United States in relation to changes in the development of economic thought in the profession since 1960. This chapter begins with a discussion of the analytical approach and the rationale for textbook selection, followed by an overview of work done on economic principles textbooks. I then discuss the significance of the study and its relationship to the arrival and disappearance of ideas in current economic thought, as well as the tension between current events and internal developments within the field of economics. The next part of the chapter reviews the various factors that influence what gets written in the principles textbook.

The final section of Chapter I is a summary table presenting the topics covered in Chapters II, III, IV and V. These middle chapters specifically address the relationship between the development of new ideas in economics and their appearance in the textbook. Chapter II covers economic growth; Chapter III looks at the evolution of the fix-price Keynesian cross model to aggregate supply-aggregate demand (AS-AD) analysis, answering the study question above whether the basic textbook model has changed.

Closely related to the development of AS-AD analysis, Chapter IV covers the adoption of the Phillips Curve and the natural rate hypothesis. Chapter V covers monetary and fiscal policy. Although the treatment of deficits and debt is covered in this chapter, the answer to the study question (above) about what students are taught about these issues is reserved for the final chapter. Chapter V also reviews concepts which

don't fall squarely within the rubric of macroeconomics such as public choice and the economic way of thinking. The final chapter, Chapter VI, summarizes the three main findings of the study, regarding the relationship between the development of new ideas and their appearance in the principles textbook; how the dominant textbook model has changed; and a discussion of what is taught about deficits and debt.

Focus on Macroeconomics

This review explores primarily the presentation of macroeconomics in the principles text. Macroeconomics has changed much more dramatically than has microeconomics in the past 30 years (Caldwell, 2004, p. 383). "Scientific and policy challenges are more ambitious in macro—microeconomists do not attempt to explain or analyze quarter-to-quarter or even year-to-year fluctuations in process or quantities of micro variables" (McCallum, 1994, p. 232). The field seems to be much more affected by current events than microeconomics, starting with the Great Depression:

> God put macroeconomists on earth not to propose and test elegant theories but to solve practical problems. The problems He gave us, moreover, were not modest in dimension. The problem that gave birth to our field [was] the Great Depression of the 1930s. (Mankiw, 2006, p. 1)

Indeed, because it is not a laboratory science, it is inevitable that macroeconomics responds sharply to external events (Friedman B., 2000, p. 105). Finally, the expanded discussion of macroeconomics contributed to more than a 30% growth in the size of principles texts since the 1970s (Carvellas et al., 1996, p.233).

Aside from the emphasis on macroeconomics, this study will also cover public choice and game theory, two areas that fall under the microeconomics course but have

had increasingly major implications for macroeconomics in recent years. Game theory is included because it is used in rational expectations approaches to analyzing government policy—for example, time inconsistency models of macroeconomic behavior developed by Nobel laureates Finn Kydland and Edward Prescott. It is also used in efficiency-wage and other models that new Keynesians utilize to find a microeconomic basis for the failure of the macroeconomy to adjust. Any discussion of fiscal policy must include analysis from the public-choice school.

Research Approach

The approach here will be to tack between the history of economic thought since the introduction of the textbook Keynesian model, and the evolution of ideas in the best-selling principles textbook in the United States.[2] The intent is to see how well the best-selling principles text in this country reflects current economic thought.

Use of Published Interviews

I first attempted to determine when consensus was reached about the main concepts behind economic growth, fiscal and monetary stabilization policy, and the textbook conventions used to present these ideas. It is often said that there is little consensus in macroeconomics, but I shall attempt nonetheless to ascertain current views, using, where possible, opinion surveys of economics.

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[2]In addition, the author will keep an eye on the rhetorical treatment of some topics. This paper has elements of a hermeneutic analysis. Hermeneutics is the study of understanding, often taking the form of interpreting text (Madison, 1990, p. 45). Hermeneutics has been historically associated with interpreting the Bible, or determining the meaning of the U.S. Constitution (Leyh, 1988). Textual analysis in hermeneutics may emphasize interpretative content analysis of text, where findings are usually stated in terms of themes (Byrne, 2001). The theme in this paper is the backdrop of Keynesianism in 1960 when the first edition of McConnell & Brue was written.

Interviews are often a quick and efficient way of gathering current views on economic thought (Colander, 1990). This paper was inspired by the interviews contained in Klamer's *Conversations with Economists* (1984). That work sought to ascertain the impact of the rational expectations revolution on the views of prominent economists, with an emphasis on the inherent stability of the economy.

Another more recent source of interviews used in this paper is *Conversations with Leading Economists* by Snowden & Vane (1999), who point out that in the period since Klamer's interviews were conducted (1982–83), macroeconomics witnessed a real business cycle revolution, a new Keynesian counterrevolution, and a renaissance of interest in economic growth (p. 9). Snowden & Vane organized their work around the concepts that emerged from a seminar titled "Is There a Core of Practical Macroeconomics That We Should All Believe?" at the 1997 AEA convention.[3]

Textbook Analysis

This analysis looks at the 16 editions of the principles text by Campbell McConnell (with Stanley Brue after 1990) published over the period 1960 through 2005. The sixteen editions were examined to determine when important concepts or ideas appeared or disappeared. As a kind of reality check, I make parallel comparisons with the classic text by Paul Samuelson (with William Nordhaus after the 1985 edition) on most concepts, beginning with the fifth (1961) edition. Additional comparisons are made with other popular principles textbooks by William McEachern and Gregory Mankiw.

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[3]The seminar was arranged by Robert Solow, who chose four "able, reasonably pragmatic people from . . . the real-business cycle end and the neo-Keynesian end" (ibid., p. 291). See Blanchard, 1997; Blinder, 1997; Eichenbaum, 1997; Solow, 1997; and Taylor, 1997a.

The following describes the technique used to date the arrival and departure of concepts and issues in the McConnell and Samuelson textbooks since 1960. The original work on the development of the concept is first discussed, followed by an attempt to ascertain when the concept attained general consensus in the profession. Generally, a major concept is considered "accepted" in the textbook if any one of the following conditions applies in the edition in which it appears:

- Special mention occurs in the preface, or in a separate section of the text, addressing recent changes in current economic thought
- The summary at the end of the chapter contains a statement indicating acceptance
- The concept is migrated from an appendix to the main text
- The concept appears for the first time in the subject index

The same method is used in the case where concepts are *dropped* from further mention. Ideas that may be controversial but never attained mainstream consensus (such as Ricardian equivalence) are dated from the seminal study or studies. Current events items, such as the balanced budget amendment, are dated from their occurrence. Comparison with the Samuleson textbook is usually contained in footnotes, some of which are fairly lengthy owing to the more nuanced treatment of some issues in that text. Timing cannot be exact, since textbooks are rewritten every 3 to 5 years.

Rationale for Textbook Selection

It has been suggested that the Paul Samuleson textbook is a "chronicle of the discipline" (Elzinga, 1992, p. 873). In the minds of many economists today, it is still the

"textbook of record" in the mainstream of the profession. However, sales of the McConnell text started to outpace Samuelson after 1975 (ibid., Table III, p. 874). With Stanley Brue added in 1990, this textbook has continued to dominate the market to about 2005. Apart from the considerable number of references[4] indicating that McConnell has been the best-seller, the authors assert it is "the nation's best-selling textbook" in the United States in the beginning of the preface of the 1993, 1996, 1999, and 2002 editions. The Samuelson & Nordhaus text fell to the bottom of the best-seller list by the late 1990s (Nasar, 1995; Schneider, 1997) and no longer is in the top 10 sellers (Table 1). The top five or six best-sellers are Samuelson clones; after that the sales numbers drop sharply (ibid.). Surveys of textbooks have shown that the top sellers are highly homogenous in content: "The data indicate that the content coverage in principles textbooks is fairly standard, and that there is consensus" (Walstad, Watts & Bosshardt, 1998, p. 197). The homogeneity of principles textbooks is further discussed below.

The McConnell textbook has accounted for more than a third of U.S. textbook sales over 2002–04 (Table 1). Publication statistics and market share are proprietary and notoriously difficult to obtain. The role of the secondary market is well known but not well documented. Estimates are usually obtained from senior editors in publishing companies (Carvellas et al., 1996, p. 242 2n). Nonetheless, it is probably no exaggeration,

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[4]The following are estimates by Sylvia Nasar of the percentage of total sales in 1995 of 750,000 new principles texts: McConnell & Brue 20%, Baumol & Blinder 10%, Miller 10%, Byrnes & Stone 10%, and Parkin 10% (Nasar, 1995). According to Parkin (2000, p. 86), who gathered his data from talking with editors and publishers, about 25% of U.S. principles students used the 1997 edition of McConnell & Brue, more than any other single textbook of the 23 textbooks he surveyed. The following are other references that state, or used similar terms (e.g., "market leader" or "highest-ranked in sales"), that McConnell is the best-selling principles text: Epstein (1998), Carvellas, Kessel & Ramazani (1996, p. 227), Naples & Aslanbeigui (1996, p. 110), Schneider (1997), DiLorenzo, (1987, p. 44), Warsh (1993, p. 217), Bethell (1989), and Clancy (1987).

as stated on McGraw–Hill's Web site, that "more students have learned their principles of economics from McConnell and Brue than any other text."[5] After Samuelson (1948), the McConnell text is the longest-existing principles textbook in print; the third is Lipsey & Steiner (1966).

McConnell in Context

To understand how mainstream economic concepts are treated in the principles textbook, it is appropriate to examine the McConnell text. This text has been considered "one of the longest and most comprehensive texts for the more average college student" and to be "moderately rigorous" (Leamer, 1974). The McConnell & Brue text is still considered a "mid-level" text (Carvellas et al., 1996, p. 227) and "continues to make Keynesian economics the core of students' understanding of macro" (Colander, 1999, p. 1). Like many principles textbooks, it is criticized for being encyclopedic; however, the McConnell text "explains and re-explains complex ideas so that even a C+ student can grasp them" (Schneider, 1997). The authors themselves say that "the 'extra sentence of explanation' remains a distinguishing characteristic" of their text (1996, p. xxiii). McConnell's more "down to earth" approach has appealed to college professors (Clancy, 1987). Other textbooks such as Samuleson & Nordhaus, Baumol & Blinder and Lipsey & Steiner "demand a greater degree of intellectual sophistication" on the part of the student (Carvellas et al., 1996, p. 237).

The first edition of the McConnell text was published in 1960, at the beginning of the two decades of U.S. history when orthodox Keynesian economists dominated

[5]Retrieved March 15, 2006, from http://highered.mcgraw-hill.com/sites/0072875577/student_view0/

Table 1
Market Share of Top Four Best-Selling Principles-of-Economics Textbooks (3-year average, 2002–04)

Author(s)	Title	Publisher	Total Sales (%)
McConnell & Brue	Economics: Principles, Problems & Policies	MH	35.8
Mankiw	Principles of Economics	TL	13.4
McEachern	Economics: A Contemporary Introduction	TL	7.4
Miller	Economics Today	AWL	4.2
Total			60.8

Note. The source of this information is drawn from a personal communication on April 14, 2005 from Martin D. Quinn, Senior Marketing Manager, McGraw–Hill, Inc. Mr. Quinn cited data from Monument Information Resources, Inc., whom he called "an unbiased third-party market research organization." According to his note, the remaining top six best-sellers over this period are: Schiller (MHI) 3.6%, Tucker (TL) 3.1%, Colander (MHI) 3.0%, Slavin (MHI) 2.7%, Baumol (TL) 2.6% (assume he meant Baumol & Blinder), and Parkin (AWL) 2.5%.

government policymaking. The essential Keynesian outlook of this textbook is well known: A review that examined the "free market" content of principles textbooks published over the late 1970s and early 1980s noted McConnell's "undying devotion to Keynesian dogma in his macro analysis" (Cordato & Palasek, 1982, p. 264). However, while this observation may remain accurate, it was the result of a cross-sectional analysis at one point in time. In this paper I look at how this text changed with the arrival and departure of ideas in the economic mainstream over the last 45 years.

The next section provides an overview of the relatively limited amount of work done on principles of economics textbooks. The section after that discusses the significance of the study, followed by a discussion of the various factors that influence what gets written in principles textbooks. The final section in this chapter presents the table summarizing the chronology of macroeconomic concepts covered in the following chapters.

Previous Work on Principles Textbooks

In view of the economic profession's traditional lack of interest in pedagogical issues,[6] there is a surprisingly large literature on the principles-of-economics textbook. This literature ranges from evaluation of the coverage of different topics to the evolution of textbook size. Much of it appeared after the conference on the principles of economics textbook sponsored by the *Journal of Economic Education* in 1987 (Bartlett & Weidenaar, 1988).

Time-Series Studies

The proposed study is similar to five studies that provide time-series analysis of Samuleson's textbook, first published in 1948. The most comprehensive, by Pearce & Hoover (1995), traces the development of the neoclassical synthesis, maintenance of Samuleson's "scientific neutrality," and treatment of some concepts such as the Phillips curve, most of which is presented with a quasi-religious vocabulary, similar to the approach taken by Nelson (2001). Their analysis stops with the 1980 (11th) edition, the last one in which Samuleson is sole author before William Nordhaus was added in the

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[6]Some may be surprised at the "outdated" pedagogic studies in economics cited in this paper. This is because economists pay little attention to the scholarship of teaching and learning. Up until the 1960s there were practically no studies of economic pedagogy. By 1969 the number of educational studies on the teaching of principles reached about 240; by the late 1970s the total was over 800 (Dawson, 1981, p. 386). The *Journal of Economic Education* was founded in 1969. By 1979, in the *first* survey article of research on economic education, a prominent researcher in this field could announce:

> An economist can now make a decent living by specializing in economics education. True (perhaps unfortunately for undergraduate students), it is not a prestige subject in high demand. A young economist wanting to win the Clark medal needs to earn his reputation elsewhere (Siegfried & Fels, 1979, p. 959).

This 1979 survey was updated in 1998 in Siegfried & Walstad (1998). However, the above statement remains accurate today. The development of the internet and modern data bases today permits one to monitor the evolution of the different strains of literature in economics. Economics still lags behind many other fields in the scholarship of teaching and learning.

1985 edition. By 1980, of course, the McConnell text had replaced Samuelson as the best-seller.

Skousen (1997b) is more concerned with the free-market implications of the textbook Keynesian model, examining the evolution of Samuelson's treatment of such topics as saving, monetary policy, government activism, economic growth, and heterodox schools of thought in more recent editions. His analysis stops at the 1995 (15^{th}) edition.

Arjo Klamer's study (1990) covers the preface, table of contents, and first chapters of the 12 editions of the Samuelson text up to 1985. He examines the rhetoric of the first chapters' treatment of economics as a science, differences of opinion among economists, history of economics, and the effectiveness of the text in conveying its arguments about methodological approach and ideology.

Elzinga (1992) and Brazelton (1977) are much more general in their scope and interpretation. Elzinga's paper covers the general mix between micro, macro, institutional, and international analysis in the first 11 editions up to the 1980 edition. However, it is widely cited because it details the sales of both the Samuelson and McConnell textbooks, showing how rapidly the McConnell text overtook Samuleson after its initial publication in 1960. Brazelton's paper looks at the change in treatment of micro, macro, socioeconomic problems, and heterodox schools of thought over the 25 years between the 1948 and 1973 editions.

The study proposed here carries the analysis of the McConnell text through 2005. None of the above studies attempts to track the edition-by-edition arrival of new ideas or departure of old ones from the mainstream profession and current events. The focus here

is primarily on topics in fiscal and monetary stabilization, economic growth, evolution of the change from the Keynesian cross to aggregate demand–aggregate supply (AD–AS) analysis and treatment of deficits and debt.

Other Studies

Some studies examine particular ideas in economic thought as presented in the Samuelson text. The classic review of Samuelson's 1961 edition by E. C. Harwood (1961) complains about the inadequate treatment of West Germany's postwar economic growth and the "shotgun wedding" of Keynesian and classical economics represented by Samuelson's neoclassical synthesis. Stockman (1982) provides a free-market review of Samuelson's 1980 edition with particular attention to its bias on such issues as government intervention, the paradox of thrift, and the link between money and inflation. Thies (1996) and Ahiakpor (1995) address only the paradox of thrift. Brady (2002) reacts to the publication of Mankiw's (less Keynesian) textbook and covers the treatment of production possibilities, the paradox of thrift, and the Keynesian cross. Gottesman, Ramrattan, & Szenberg (2005) provide a general review and confirmation of the continuing legacy of Samuleson's Keynesian textbook model today.

Several studies provide cross-sectional views (data gathered at one point in time) of the impact of ideas from the rational expectations revolution in intermediate textbooks (Froyen, 1996; Erekson, Raynold & Salemi, 1996; Policano, 1985). Skousen (1991) evaluates the free-market content of a large sample of principles texts. McEachern (1996) tracks the general arrival and disappearance of ideas and textbook size. Carvellas et al. (1996) the principles textbook page count. By far the most thorough and informative

cross-sectional review of principles textbook content and use is Walstad et al. (1998), who were also able to draw from an earlier cross-sectional study conducted in 1990.

This paper pays particular attention to the development of aggregate demand–aggregate supply (AD–AS) analysis and its use in principles textbooks, for which there is a whole stream of literature (e.g., Colander, 1995; Barro, 1994; Fields & Hart, 1996; Dutt, 1997; Colander & Sephton, 1998; Rao, 1998). There is also a relatively large amount of writing on the history and evolution of the aggregate supply curve from its original mention in John Maynard Keynes's *The General Theory;* among the more prominent ones are Patinkin, 1978; King, 1994; and particularly Dutt, 2002.

Other works address the textbook treatment of these topics: aggregate demand (McCormick & Rives, 1998), capital (Gale, 2004), citations of prominent economists (Breit & Huston, 1997, Hoaas & Madigan, 1999), entrepreneurship (Kent & Rushing, 1999), mention of Schumpeter's creative destruction (Diamond, 2006), epistemology (Aslanbeigui & Naples, 1996), free-market concepts (Taylor, 1982; DiLorenzo, 1987), full employment (Cherry, 1996), involuntary unemployment (Naples & Aslanbeigui, 1996a), methodology (Hoaas, 1993), readability (Gallagher & Thompson, 1981), promarket rhetoric (George, 1996), sustainable development (Folsom & Brauer, 1998), and women and minorities (Feiner, 1993). Prominent works on the market for principles textbooks include Stiglitz (1988), Siegfried & Latta (1998), and Chevalier & Goolsbee (2005).

Significance of the Study

The Sanctity of the Textbook

Why is it important to look at the relationship between the history of ideas of a discipline and how long it takes for new ideas to arrive in the introductory textbooks?

Textbooks represent the cumulative body of accepted theory of a discipline (Kuhn, 1970). Textbooks are the major pedagogic device for initiating students into the central paradigms of science, and the authors must rewrite them when there are paradigm changes (Kuhn, 1977). Of social sciences, economics is more like the natural sciences in that it tends to rely almost exclusively on the textbook to initiate students into the field (Gordon, 1965, p. 122). Students acquire many of their views about society and the economy from their textbooks (Main, 1978). Kenneth Boulding said, "The object of a textbook is to transmit knowledge structures from decaying old minds into decaying young ones. Without this, the human race would lose all it has learned in the last fifty thousand years in a single generation" (Boulding, 1988, p. 123).

From a broader perspective, school textbooks give the "authorized" version of society's knowledge to successive generations of students (Luke, De Castell & Luke, 1983). In fact, one observer noted that because they represent the codified knowledge of a field, "we tend to think that a statement is in a textbook because it is a fact," but when looked at from a sociological perspective, "a statement is a fact because it is in a textbook" (Myers, 1992, p. 3). Here is a wonderful example of the authority of books in our culture:[7]

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[7]Example provided by Esther Geva cited in Olson, 1980, p. 193.

Mother: Don't spill water on the kitten because kittens hate water.

Child: How do you know?

Mother: I read it somewhere.

Child: Oh!

As Paul Samuelson said about writing economics textbooks, "The first lick is the privileged one, impinging on the beginner's *tabula rasa* at its most impressionable state" (Samuelson, 1990, p. v). Introductory economics textbooks are a "window into the principles course, indicating what economists think undergraduates should learn" (Naples & Aslanbeigui, 1996b, p. 2). Furthermore, textbooks are a primary source of curriculum for many teachers (Gwynn & Chase, 1969). The selection of an economics textbook is a major instructional decision that affects what the student learns in the classroom and beyond (Walstad et al., 1998). However, the nature and history of textbook economics is usually beneath the notice of economic research (Cottrell, 1995).

From Old Concepts to New Events

Why is it important to study the history of economic thought? This question is particularly important in view of the fact that the study of the history of economic thought has declined in the profession (Blaug, 2001). The reason for studying economic thought becomes clear if one views scientific progress in economics in the manner of science philosopher Imre Lakatos. His work has been popular with economists (De Marchi, 1991; Backhouse, 1994). Lakatos's basic idea[8] is that science advances with several competing and sometimes overlapping research programs or schools of thought. These "paradigm-like units" pursue their work in parallel and are unable to invalidate

[8]The following is drawn from Godfrey–Smith, 2000, pp. 102–05.

each others' paradigms. Some programs may be "progressive"—that is, constantly expanding their research to wider bases, or "degenerating" when the program cannot be successfully applied to new cases. So in this view, economics is a collection of research programs at any given time, some of which are progressing rapidly, others more slowly, and some degenerating. Using this view of scientific progress in economics, for example, we can see why each school (new classical, new Keynesian, monetarist, etc.) has its own competing version of the Phillips Curve (Wulwick, 1987). It also explains why the use of rhetoric (McCloskey, 1983) and strategic advocacy (Leeson, 2000) has become so important in understanding the evolution of economic thought.

But the important aspect of this approach, as interpreted by Negeshi (1989), is that competition among schools is "profitable" for the progress of economics. That is because although the dominant research program or paradigm often rejects ideas, those same ideas may later be restated in another, possibly newer and "better" paradigm. Negeshi (pp. 3–7) uses the example of the "just price," a medieval concept discredited by marginal theory but later reinstated in modern incomes policy. "In the writings of our predecessors, we may again find helpful, 'lost' ideas that can be rediscovered and extended, and, thereby, help create a contingency fund of models for the future." (Guthrie, 1894, p. 780).[9] Several examples are reviewed here in which old, apparently discarded ideas have popped up again as a result of current events.

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[9]However, this is often why "the dead horses of economic theory have a habit of suddenly springing back to life again, which is why it is necessary to beat them even when they appear lifeless" (Selgin, 1989, p. 489).

Internal Versus External Influence on Current Thought

When commenting about the recent demise of the LM curve, Benjamin Friedman noted that a "traditional question about any scientific discipline is the balance of influence, between internal intellectual dynamics and the external environment, in shaping the evolution of ideas in the field" (Freidman B., 2003, p. xiv). He goes on to say that because it is a "would-be science lacking the ability to conduct controlled, replicable experiments," the field of macroeconomics "inevitably responds sharply to actual events" (Friedman B., 2000, p. 105). Does the arrival of new ideas and the departure of old ideas depend on current events or a paradigmatic change in the science?

As asserted above, macroeconomics tends to be shaped by outside events. However, this is an old dispute in the history of economics and indeed in the history of science. Some economists view the development of economic thought as autonomous and internal to the profession, while others view it as a partial product of the history, culture, and institutions of the time. Stigler (1965, pp. 16–30) is generally regarded as the most influential proponent of the former view. For example, Stigler doubted that Keynes's *General Theory* was a product of the Great Depression, "but if so it is one of the very few great events that have affected the basic theory . . . [and] could have found an evident empirical basis in the post-Napoleonic period or the 1870s or the 1890s" (ibid., p. 21 and p. 23). Samuelson (1987) is also a proponent of this approach (see Boulding, 1971).

By contrast, we have Robert Lucas: "The *General Theory* is a political response to the Great Depression and to the discrediting of conventional economics that resulted from it" (Klamer, 1984, p. 56). The externalist or extrascientific approach is often associated

with the tradition of Adam Smith (Fetter, 1965). Proponents of this view also argue that social forces, rhetorical persuasion, or policy concerns may affect which economic theories are important (Wulwick, 1987, p. 834).

Of course, in the real world causality runs in both directions: "The common understandings of the economic profession coalesce, and then eventually change, under the influence of internal logic and external events" (Solow, 2000, p. 112). An awareness of the external–internal issue informs the analysis of the history of economic thought as recorded in the principles textbook, for, as will be seen, external issues appear to speed up the adoption of ideas in the principles textbook.

The Irresistible Forces of Textbook Inertia

What factors immediately affect the content of principles textbooks? They can be divided into three: (a) What the author believes is the professional consensus, but also the author's own idiosyncratic views or ideological slant. These can influence what he or she thinks is the professional consensus, but the author cannot depart from the received canon and remain in the mainstream. (b) What most economics instructors find agreeable—that is, what reviewers judge is appropriate or what publishers think will sell. (c) The economic structure of the textbook publishing industry. As will be seen, these three factors tend to slow the adoption of new ideas in the principles textbook.

Author's Own View

Clearly, the most important factor is what the author believes is important for introductory students to learn, as long as it does not depart from the Keynesian textbook

model.[10] David Colander, noted for his writings about teaching economics, says, "As a teacher you have a duty to teach them what is considered the standard mainstream models" (Snowden & Vane, 1999, p. 214). Campbell McConnell says that "my philosophy as an author is that a principles textbook should accurately and fairly portray the corpus of economic thought" (McConnell, 1988, p. 148).

At the same time, professors usually like to teach what they studied in graduate school, so there is a "degree vintage" factor in what they believe they should teach (more on this below). Kuhn observed that education in the natural sciences (to which economics is often compared) is a "professional initiation" in a "preestablished tradition." Given its "rigid education in exclusive paradigms," it is clear that a writer of economics textbooks will "elucidate the scientific tradition in which he was raised rather than to change it."[11]

Of course, there are some differences between textbook presentations, which may represent the author's own beliefs and pedagogical approaches. The text by Baumol & Blinder put greater emphasis on the role of supply shocks in the evolution of the Phillips Curve. McEachern's text put relatively less emphasis on growth, while Samuelson & Nordhaus ignored the role of the Federal Reserve in causing the Great Depression. Mankiw's text ignored public choice until his 2004 edition but always placed considerable emphasis on the role of money in inflation.

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[10]Robert Barro's (1984) textbook written with a new classical approach was received with wide acclaim but did not sell in the mainstream because it fell outside the received canon (Mankiw, 2006, p. 20).

[11]Drawn from Kuhn, 1977, pp. 346–47 and p. 351; and 1970, p. 5 and p. 47. See Klamer & Collander (1990) for a description of the "initiation process" of graduate students in economics.

However, many economists are motivated to write their first textbooks because they perceive a gap between current theory and the material in existing textbooks (Froyen, 1996). Also, the proximity of an author to a particular issue has been cited as one reason it is introduced earlier than other principles textbooks. Examples are Nordhaus's research on political business cycles (discussed below) and the work on the Phillips Curve by Samuelson (Samuelson & Solow, 1960) or Richard Lipsey (1960).

Finally, the author will retain some material because of the enormous amount of work required to edit and reedit a published textbook. Nordhaus described it as "a dog's life that makes Chinese water torture sound tolerable" (Nordhaus, 1999, p. 357). If an item was in the previous edition, and the reviewers and publishers for the subsequent edition make no comment about it, then it's one more item that doesn't have to be modified for the new edition. As Stanley Fischer said:

> I once asked Paul [Samuelson] at a time when I found revising a textbook hard work, "How did you manage to keep this going for so long?" And he said, "A bit of hard work, a lot of benign neglect." (Fischer, 1999, p. 363)

What the Buyers Want

After the first visionary edition is published, "textbooks become informed less by the vision of a particular author than by market considerations" (Carvellas et al., 1996, p. 236). Textbook content is primarily affected by what reviewers judge to be appropriate and what publishers think will sell. The buyer is the median instructor.

Reviewers of textbooks are usually "front-line teachers" whose conception of economics is "very much intertwined with the current texts. Many have only a slight

acquaintance with new developments in the field, and thus little of the reviewing process concerns how well the text conveys new developments" (Colander, 2006, pp. 33–34). This situation tends to discourage innovation.

Furthermore, like textbook authors, reviewers bring their own education to the exercise. For example, a survey of the opinions of economists found a "degree-vintage factor," in which the year of a person's doctorate degree appeared to strongly influence his opinion on controversial issues in the profession. For example, economists who received their degrees during or before the 1960s were less likely to agree with the notion that the macro economy is self-correcting, that inflation is a monetary phenomenon, or that there is a natural rate of unemployment (Alston, Kearl & Vaughan, 1992, Table 3). This is not a formula for innovation.

The homogeneity of the economics principles textbook is also reflected in the textbook selection process that takes place in colleges and universities. Actually, the fact that most textbooks are fairly standardized makes textbook selection a "relatively easy" task (Walstad et al., 1998, p. 201). However, often a small committee may be formed at the department level that spends hours of precious time poring over the minute differences between each textbook. But the final choice is almost always a center mainstream text that tends to be encyclopedic in content, so that a range of instructors can place greater or less emphasis on their pet topic without re-writing their lecture notes (Frank, 1998, p. 14).[12] "One textbook can easily be substituted for another with only

[12]This has also been the case with the physical sciences. Lewis (1992) noted that the "similarity of competing texts can lull a reader into a trance" and that "some harried professors fantasize each semester about tossing the books down a flight of stairs and choosing the one that lands first."

minor changes in the syllabus" (Conrad, 1998, pp. 381). Furthermore, there is little evidence showing that textbook selection has any impact on student achievement (Siegfried & Walstad, 1998, p. 154; McConnell, 1998, p. 38). More research in this area is needed.

Pedagogic Convenience

Some material may be retained for limited pedagogic reasons not related to its relevance in current economic thought. The material may remain popular with reviewers because of its usefulness or simplicity. A 1990 study by Klamer and Colander suggests that principles textbooks must maintain a component of "lowbrow theory" and current events because the vast majority of economics students will never take another economics course (pp. 187–200). Robert Clower observed that macroeconomics texts put students through "chapters of meaningless and mindless multiplier exercises" (1989, p. 27). Kenneth Boulding suggested that textbooks may transmit "ritual that is useful for passing examinations" (1988, p. 123). David Colander says that sometimes students have to do "calisthenics of the mind because their brains are flabby" (Snowden & Vane, 1999, p. 214).

Indeed, some of the new material submitted by textbook authors often represents passing fads and fashions of the profession: "When poverty was in, in went a chapter on poverty. When radical economics was in, in went a chapter on Marxian economics" (Stiglitz, 1988, p. 173). An emphasis on current events issues is useful pedagogically but also helps sell textbooks. For example, Klamer asserts that Samuelson was "playing to his audience" in a period of political turmoil on American campuses when he introduced

positive treatment of Marx in his 1973 edition but later dropped it in the 1985 edition (Klamer, 1990, p. 149). In the late 1980s Clower remarked that "the reason Marx is leaving the textbooks now is that it no longer sells" (1989, p. 27). Other examples of passing fads that have waxed and waned with their popularity are Galbraithian institutionalism, labor unions, and the U.S. agriculture sector, all which have tended to decrease since the 1980s (McEachern, 1996, p. 218). The top-selling textbooks have excellent current-events coverage.

The 15% Rule

Most publishers and textbook authors believe that only a small degree of innovation is acceptable if a book is to have a chance in the mainstream market (Walstad et al., 1998, p. 188). One textbook author reported that "when an author deviates from the norm, the textbook publisher and reviewers push the author to revise in order to satisfy the median professor or textbook-adoption committee (Naples & Aslanbeigui, 1996, p. 2)." Another reports that "whenever I try to lead [with new research] in texts I get dumped on by my reviewers (Snowdon & Vane, 1999, p. 116). As John Kenneth Galbraith wrote:

> The wisest course for the textbook writer is to say faithfully what has been said before with, as embellishment, some minor notes of novelty which the publisher can emphasize in his advertising. This brings the best chances of acceptance. (Galbraith, 1981, p. 514)

With respect to introducing new ideas, David Colander (2006) and Bradford DeLong (2000a) say there is a "15% rule": A new edition cannot differ from the standard presentation by more than 15% and still be seen as a mainstream book. Changes greater

than 15% require professors to incur the high personal costs of changing their notes for class preparation, while the benefits from teaching "better" material do not accrue to the professors. Furthermore, some professors resist new concepts because of the time cost of incorporating them into their teaching routines.[13]

For example, Colander recounts his great difficulties in adding an analytical clarification to the AD–AS presentation, an addition that would have strengthened its relationship to the Keynesian cross by linking the slope of the AD curve to the multiplier. Although he succeeded in getting it into his first edition over strong opposition from the publishers and reviewers, they constantly pressured him in subsequent editions to reduce the innovation so that the text conformed more closely to the standard presentation. In the end, he admitted defeat:

> Very few professors were willing to study carefully the model I presented and . . . an increasing number of professors were not interested in teaching the AE/AP [Keynesian cross] model, and hence were not interested in whether the AS/AD presentation was consistent with the AE/AP presentation. The third strike against my presentation was that a number of those who did present both models felt that the class should focus on policy discussion, not on models . . . Put succinctly, the change violated the 15% rule. (Colander, 2006, p. 38)

According to Brad DeLong, a new textbook should have just enough new material to provide professors an incentive to switch but be similar enough so they don't have to rewrite their notes. "It makes intellectual progress—in undergraduate instruction—nearly

[13]"The argument for omitting some new economic knowledge in the interest of sound teaching has been used before. Once upon a time, welfare economics, cost–benefit analysis, externalities, rational expectations, flexible exchange rates, and the J-curve were all too difficult to expound" (Bell, 1988, p. 139).

impossible" (DeLong, 2000). For the above reasons, some economists have observed that the textbooks are not a good place to spread new ideas (Kindleberger, 1989, p. 44; Clower, 1989, p. 27).

The "New Blood" Rule

Despite the above, there seems to be a "new blood" effect on the adoption of new ideas in principles textbooks that trumps the 15% rule. This applies when an individual writes a new textbook, or when a published textbook adds another author. The addition of Stanley Brue to the McConnell text as co-author in 1990 heralded major changes in the textbook (discussed later). According to Skousen (1997b) and Dutt (2002), much of the non-Keynesian improvements in the Samuelson text are due to the addition of William Nordhaus in 1985 as co-author (see also Pearce & Hoover, 1995). As the new kid on the block, Mankiw's 1997 introductory text contained several major changes from the standard textbook Keynesian model, primarily omission of the Keynesian cross, greater emphasis on classical growth theory including placement of economic growth in the front of the text, and omission of other concepts that instructors may view as minor. Because it was a new text, the first edition of Baumol & Blinder (1979) adopted AD–AS analysis earlier than other principles texts then on the market (Dutt, 2002, p.346; Lipsey, 2000, p. 67).

The Publishing Industry

Publishers also tend to be risk-adverse. The economic structure of the textbook publishing industry has been characterized as monopolistic competition[14] (Walstad et al., 1998; Stiglitz, 1988), which means that the best-selling product is substantially homogeneous, with nonprice competition and a broad range of product differentiation (which mostly occurs in pedagogical aids and supplements). There is a core group of similar texts—essentially Samuelson clones—that present the standard Keynesian textbook model, with some outliers on the margin. Little evidence exists that the trend toward greater uniformity in textbooks will change soon (Carvellas et al., 1996, p. 236). Some books serve special markets (e.g., the public choice text by Ekelund and Tollison or Barro's new-classical text).

Chronology of Macroeconomic Concepts

Chapters II, III, IV and V track the arrival and departure of major concepts over time in macroeconomics in the principles-of-economics textbook. It traces the appearance of these concepts in the McConnell text and compares his treatment with that by Samuelson. In most cases, the original work is briefly discussed, and an estimate is made of when it became generally accepted in the economics profession. Where evident, the evolution of the concept is related to current events. The chronological list of concepts discussed in the following four chapters is summarized in Table 2, which also shows the year that certain ideas were dropped.

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[14] Sichel (1988) argues that the textbook industry comprises an oligopoly of a few large publishers. Walstad et al. (1998) point out that this position is consistent with widespread homogeneity among texts and lack of new approaches (p. 189).

The next two chapters cover the evolution of the treatment of economic growth and the development of aggregate demand–aggregate supply (AD–AS) analysis in principles textbooks. Although any discussion of the aggregate supply curve would cover its derivation from the Phillips Curve, I place some of the discussion of the Phillips Curve in Chapter IV in the context of expectations and long-run money neutrality. Next, Chapter V covers several concepts that do not fall directly under the rubric of macroeconomics but are nonetheless relevant. The findings are summarized in the final chapter of the paper.

Table 2. Chronology of Concepts in the McConnell* Principles Textbook (Beginning With the First Edition in 1960)

Concept	Yr. Adopted	Yr. Dropped
Paradox of thrift	1960	1996
Discussion of Galbraithian institutionalism	1960	1990
Functional finance	1960	Continued
Incomes policies and/or wage-price controls	1963	2002
Keynesian growth model (Harrod-Domar)	1966	1990
Balanced-budget multiplier	1966	2005
Phillips Curve as a policy menu	1969	1990
Noncooperative game theory (prisoner's dilemma)	1969	1978†
Fiscal drag (as another argument against balanced budget)	1969	1990
Presentation of Friedman's "monetarism" in text	1972	Continued
Neoclassical growth model (Denison's growth accounting)	1969	Continued
Public choice	1978	Continued
Political business cycle	1981	Continued
Rational expectations	1981	Continued
Laffer curve, populist supply-side economics	1981	Continued
A little demand–pull inflation may be good	1981	2002
Aggregate supply–aggregate demand (AD–AS) model	1984	Continued
Role of savings for "growth miracles" (Japan)	1984	1999
Discussion of bananced budget amendment to constitution	1984	Continued
Natural rate hypothesis with expectations-adjusted Phillips Curve	1990	Continued
Growth is primarily a supply-side phenomenon	1990	Continued
Ricardian equivalence	1990	1999
Real business cycle theory	1990	Continued
Adaptive expectations	1990	Continued
Monetary source of inflation	1993	Continued
Monetary policy is best for fine-tuning	1993	Continued
Major contributor to Great Depression was reduced money supply *and* Federal Reserve inaction	1993	Continued
Acceptance of monetarist view of "crowding out" effect	1993	Continued
Keynesian "microfoundations" (efficiency wages, etc.)	1993	Continued
Markets with asymmetric information ("lemons," etc.)	1993	Continued
Economic way of thinking (broader concept of rational choice)	1996	Continued
Coordination failures as explanation for macro instability	1999	Continued
Long-term economic growth before short-term instability in text	2002	Continued

*And S. Brue after 1990.

†Game theory was reintroduced in the 1993 edition and continued to the present.

II. Economic Growth

One of the main changes in mainstream economic thought in the last 30 years is the increased concern with long-term growth. Over this period the concept shifted from an emphasis on demand to an emphasis on supply; that is, from one of capital accumulation and investment management through active fiscal policy to one involving technology development and human capital improvement in more of a supply-side framework. Attention devoted to the relationship between savings and investment and the fiscal multiplier decreased. Meanwhile, earlier neoclassical ideas about the quantity theory of money and concern about supply-side resource availability and the institutional framework increased.

How long did it take for the acceptance of the idea that economic growth is primarily a supply-side phenomenon to filter down into the most popular principles textbook in the United States? The McConnell textbook is ideal for analysis of the treatment of economic growth, because the author has traditionally differentiated his text from others in the market by its "considerable emphasis upon the crucial topic of economic growth" (1987, p. xxv).

This chapter also looks at the change of textbook organization as a result of the change in the view of economic growth. It examines the treatment of the Laffer curve, an essentially current events issue. Treatment of the Asian "growth miracles" is also

covered, as are the concepts of paradox of thrift and the liquidity trap. Both have been revived with the recent long recession in Japan.

Following Snowden (2002), it is possible to delineate mainstream interest in growth theory research after World War II as occurring in three waves: the Keynesian Harrod–Domar model in the late 1940s, Robert Solow's neoclassical model in the 1950s (and subsequent development of growth accounting as an offshoot), and the work by Romer and Lucas on endogenous growth in the 1980s.

The demand-driven Harrod–Domar model played a prominent role in the 1975 edition of McConnell, the first edition to outsell Samuelson. The text also presented the production possibilities curve and a traditional production function, supplemented with the Keynesian cross to illustrate why demand must increase for the economy to utilize its capacity. Denison's growth accounting model was used as a supplement to the presentation. Over time, the demand-driven Harrod–Domar model was replaced by a presentation based on the production possibility curve, AD–AS analysis, and Denison's growth accounting model.[15]

The Harrod–Domar model persisted in the textbook up until the 1990s, some 20 years after its introduction and well after it fell out of favor in the mainstream. At the same time, mainstream interest in research on growth theory essentially stagnated until it was revived in the mid-1980s by the work on endogenous growth. As will be seen in this paper, a distinct parallel exists between, on the one hand, the length of time it takes a

[15]The relevant Samuelson text (1973) centers on a "Ricardo–Marx–Solow" neoclassical production function using factor-price analysis to illustrate labor productivity, capital deepening, etc.; the Harrod–Domar model was presented in an appendix. Over the years, a streamlined Solow model took precedence, with increased emphasis on growth accounting in 1985, and Harrod–Domar falling by the wayside in 1992.

concept to be adopted or abandoned in the principles textbook and, on the other hand, the research trends in mainstream economics.

In the McConnell textbook, the new idea that growth was a supply-side phenomenon was adopted at the same time as acceptance of the expectations-adjusted Phillips Curve in 1990 (1985 in Samuelson). However, the overall aggregate supply framework took longer to filter down. The aggregate supply curve was not formally linked to economic growth until 3 years later (1993), while the broader discussion of legal and institutional requirements for growth came six years later (1996). A chapter received "aggregate supply" in its title 9 years later (1999) and reorganization of the text to put growth in front came 12 years later (2002). However, the idea that growth was demand-led never was dropped.

The Harrod–Domar Model

The first two editions of McConnell (1960 and 1963) treated growth as a uniquely demand-side phenomenon. Economic growth was analyzed within the framework of the aggregate expenditures model, with GDP (called NNP) growth being affected by "permissive factors" (passive supply) and "implemental factors" (demand and allocative efficiency of the price system). The question was asked, "Will the economy's actual performance keep pace with its expanding ability to produce?" (1960, p. 371).

The third edition (1966) established the McConnell textbook's "conceptual framework for analyzing economic growth" (p. viii) for the next 20 years. It introduced the simplest version of the Harrod–Domar model (for example, as described in Behrman, 1977). This model was based on work by Roy Harrod (1939) and Evsey Domar (1946)

and represented the typical treatment of economic growth in the first intermediate macroeconomics textbooks in the 1950s and early 1960s (Froyen, 1996, p. 109). It is a very simple model that "focuses attention on the growth-inducing role of investment" and is presented using the aggregate expenditure model (Keynesian cross) "as an extension of the tools of Keynesian employment theory" (McConnell, 1966, p. 365).The text emphasized that "maintenance of a given rate of growth requires a constantly expanding volume of investment spending" (1966, p. 365). But "an expanding productive potential will not be achieved unless aggregate demand expands at an appropriate rate" (p. 370):

> Remember: households save a larger proportion of a large income than they do of a small income. This obviously means that if the expanding productive capacity of a growing economy is to be realized, investment spending must increase by the same amount as the full-employment level of saving increases. (McConnell, 1966, p. 364) [16]

In other words, investment that is independent of savings and a part of the aggregate demand equation (Y = C + I) must expand at the same rate as savings in a balanced fashion (at the "warranted rate"), or the economy will not realize its full-employment level of growth. If investment and savings are not equal, then government must intervene with appropriate fiscal and monetary measures (see discussion of paradox of thrift, below). McConnell reminds the student that realization of growth potential

[16]Note that this does not indicate a lack of supply-side forces but rather a misunderstanding of the relationship between short-run and long-run average and marginal rates of consumption. It does not reflect the then-recent work on intertemporal choice and consumption by Modigliani and Friedman. In the Solow growth model developed later, consumption is proportional to income, implying that MPC would equal APC.

depends upon allocative efficiency, especially from the demand side (along the lines of W. W. Rostow).

This Keynesian demand-driven growth model was a product of the Great Depression and puts considerable emphasis on government fiscal policy to increase capital accumulation. This approach is directly reflected in the graph of the production possibility curve from the first edition of McConnell to the 2005 edition. This graph shows that

> the ability to expand production is not a sufficient condition for the expansion of total output . . . an increase in the productive *potential* of the economy will not be realized if the economy fails to generate a level of aggregate demand sufficient to provide full employment. . . . (1960, p. 360)

As Peter Drucker points out, in the Keynesian world, productivity is a function of demand and determined by it (Drucker, 1980, p. 9).

Introduction of Growth Accounting

The pioneering work by Robert Solow (1956, 1957) on the neoclassical growth model brought technological progress to greater prominence, essentially by emphasizing in the formulation of his model what the profession did not know about the technological sources of growth. This led to work on growth accounting by Edward Denison of the Brookings Institution (1962). As an outgrowth of Solow's original work, growth accounting found technology rather than investment to be the driving force behind economic growth.

Growth accounting is a simpler, less theoretical way to understand the separate effects of labor, capital, and technological change on economic growth. It is more appropriate for undergraduate principles students than the neoclassical model.[17] To this day, McConnell has used growth accounting as the central story of growth and especially to demonstrate the importance of labor productivity in the long-term growth of the United States. As pointed out above, the Samuelson growth story is based on the Solow model.[18]

McConnell introduced Denison's work in his 1969 edition, only 7 years after Denison published his work in 1962. The preface of the 1969 edition stated that it "now establishes the basic analytical framework for understanding the growth process" (1969, p. vii). However, strong emphasis remained on the Harrod–Domar model. For example, in the 1975 edition, the Denison growth accounting table was accompanied by the proviso that ". . . although these sources of growth do not perfectly dovetail with our discussion—in particular . . . the role of aggregate demand is not explicit—the resulting

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[17](Taylor, 2000b, pp. 90–91). In addition, Colander reports that the Solow model is "not an especially useful tool for . . . the teaching of growth" (Snowdon & Vane, 1999, p. 221). DeLong also discusses the difficulty of teaching the Solow model in his "textbook manifesto" on the Web (2000a).

[18]Initially, Samuelson presented a "Marx–Ricardo–Solow" neoclassical capital accumulation model that analyzed capital deepening and technological improvement by examining the relationship between the interest rate, capital, and real wages. This treatment evolved into a mild version of "the approach pioneered by MIT's Robert Solow," introduced in the 1989 edition (p. 855) after Solow's Nobel Prize in 1987 and continued to the 2005 edition. Samuelson's coverage of the Harrod–Domar model was always contained in an appendix since 1964 (introduced in a footnote in 1961); he reduced coverage in the 1989 edition, and removed it in the 1992 edition along with the entire appendix. Thus Samuelson carried the idea from 1964 to 1992, or 28 years. Note also that the level of difficulty between the 1975 McConnell and 1973 Samuelson editions was great indeed and helps explain why the McConnell text began to consistently outsell Samuelson beginning in 1975 (Elzinga, 1992, Table III, p. 874). For example, the Samuelson appendix also included coverage of Joan Robinson's post-Keynesian view of growth, Modigliani's life-cycle model, and Leontief's input–output tableau, all in surprising detail. The "extra credit" question for discussion in this section asked the student to verify a summary of Leontief system using matrix notation (1973, p. 764).

rough estimates do provide an interesting perspective" (1975, p. 410). In the 1975 edition, the terms "supply" versus "demand" factors of growth replaced permissive versus implemental factors.

McConnell increased coverage of the role of technology in economic growth in the 1981 edition to "make amends for the relative neglect of the productivity concept in earlier editions" (p. xxv). This and every subsequent edition included the following statement in italics: "*Productivity growth has been the overwhelming force underlying the growth of our real GNP*" (1981, p. 399). He made other changes in the text to emphasize labor productivity. He expanded this viewpoint in subsequent editions, while retaining the Harrod–Domar model. Moreover, the text expressed increased concern in the 1980s editions about the declining productivity of the United States that began in the early 1970s.

Nonetheless, up to and including the 1987 edition, the text emphasis remained on the "more sophisticated" growth model that "focus[es] attention upon the investment component of aggregate expenditures" (1987, p. 430):

> If aggregate spending grows less or not at all, the consequence will be underutilized productive capacity, unemployed resources, and a retarded growth rate. On the other hand, if [aggregate expenditures increase], the economy will realize its increased capacity to produce but it will also incur inflation. Note that fiscal and monetary policies must now be manipulated to hit a moving target! (1987, p. 430)

Persistence of the Keynesian Model

It was not until the 1990 edition that McConnell dropped the Harrod–Domar model altogether, 3 years after Robert Solow was awarded the 1987 Nobel Prize. Thus, the model was retained in the McConnell text for 24 years since its introduction in 1966 (Samuelson retained it in an appendix for 28 years). Moreover, the aggregate expenditure model was removed from the section on economic growth (kept in all editions up to 1990) and replaced by AD–AS curves. (McConnell introduced the AD–AS framework in 1984 while retaining the AE model—see below). The 1990 edition represented a major rewrite and featured the addition of Stanley Brue as second author.

The persistence of the Keynesian model in the textbook is reflected in the evolution of interest in economic growth in the economics profession, which essentially declined to almost zero over the period from 1950 to the mid-1980s (Snowden 2002, p. 65). For example, from 1970 through 1984, very few articles on economic growth appeared in refereed journals (Kim, Morse & Zingales, 2006).

Roy Harrod and Evsey Domar published their original work in 1939 and 1946, respectively. However, Domar subsequently repudiated his work in 1957 (Easterly, 2002, p. 28). In the 1970s the Harrod–Domar model "died out of the academic literature altogether, yet the ghost of it lives on" (ibid., p. 35). Many had begun to debate the appropriateness of using Keynesian analysis for developing countries (Behrman, 1977, p. 545). As James Tobin has stated, "the general theory is not a theory of the stationary state or of long-run economic growth" (1997, p. 13)

Because of the beguiling simplicity of a constant investment/output ratio and the ease of projecting the "investment gap," Harrod–Domar continued to be widely used in the development economics profession (ibid., Chapter 2). This suggests of course that pedagogical simplicity and ease of presentation could explain why this model persisted as long as it did in the principles textbook, along with the fact that it fell well within the received Keynesian paradigm. Indeed, as John Hicks said in 1965:

> [Growth theory] has been fertile in the generation of classroom exercises; and so far as we can yet see, they are exercises, not real problems. . . . They are shadows of real problems, dressed up in such a way that by pure logic we can find solutions for them.[19]

In the 1950s and 1960s most economists viewed development economics as falling outside the mainstream. It was widely believed that standard microeconomic theory did not apply to developed economies (excluding of course Peter Bauer). At that time development economics completely split off as a separate branch of economics, and it was not regarded as sufficiently important to be part of every economist's training. As a result, it was acceptable for individual economists to ignore the problem of development and to concentrate instead on developed economies (Backhouse & Biddle, 2000, p. 11).

This bifurcation continued into the 1970s after the development of neoclassical work by Solow and others. According to Paul Romer,

> The growth guys talked math; the development guys still talked words. They diverged further and further apart because they could not understand each other. It was less the differences in the substantive questions they were asking, than

[19] *Capital and growth* (1965), p. 183; originally cited in Blaug, 2003, p. 405.

> the tools they were selecting to try and address them. Also an element of the development economist actually wanted and needed to say something about policy issues. (Snowden & Vane, 1999, p. 298)

While it is fair to say that economists were distracted by the turmoil of the 1970s, economists were bored with growth theory. According to Robert Solow,

> Edward Denison was still writing his books during this period, all of which I read and admired. But there were no new ideas. The merit of the contributions from Paul Romer (1986) and Bob Lucas (1988) . . . is that they renewed interest in the subject by bringing in new ideas. . . . Around 1970 we simply ran out of new ideas. (Snowden & Vane, 1999, p. 276)

As Christina Romer said, "Economists did not stop talking about growth theory because they did not think it was important, but because they didn't have anything new to say" (Snowden, 2002, p. 374).

In sum, the overlong retention of the Keynesian growth model until 1990 in McConnell (1992 in Samuelson) mirrors the fact that growth theory was essentially ignored in the profession until the work on endogenous growth theory in the mid-1980s.

Endogenous Growth Theory

Interest in economic growth in the economics profession exploded as a result of the original work by Lucas (1988) in which he made his oft-cited statement that once "one starts to think about [economic growth] it is hard to think of anything else" (1988, p. 5). The other important work at that time was done by Paul Romer (1986) with a new emphasis on increasing returns and investment in human rather than physical capital. According to Bernard McCallum, this work "made growth economics a viable

substantive area [of research] for the first time, as opposed to a fascinating but empirically empty theoretical domain" (McCallum, 1994, p. 222). In the words of Robert Solow, Paul Romer "single-handedly turned [growth research] into a hot subject" through his work on increasing returns (Kelly, 1996). In Mankiw's view (1991), the reemergence of economic growth as an active area of research indicates a broader acceptance of classical economics in the field.

According to John Taylor, three reasons explain the revival of interest in economic growth analysis in the economics profession:

> One is that the business cycle is now less of a problem. In the United States we have had only one relatively short recession in the last 15 years. A lot of the freshmen students I teach can't even remember the last recession. The second reason is that growth is more of a problem now, especially since the reduction in productivity growth in the mid-1970s. A third reason is that for a lot of people economic growth is more appealing to teach. It is more straightforward and being an extension of micro is easier for students to understand." (Snowden &Vane, 1999, p. 205)

Snowden (2002, pp. 66–67) lists many other reasons why growth theory "took off" in the mid-1980s, among them: concern about the productivity slowdown in the United States in the early 1970s; the collapse of the Soviet Union and other Eastern-bloc economies in the late 1980s and increased concern about the relationship between political economy and growth; increased recognition of the "growth disasters" (sub-Saharan Africa) and the "growth miracles" (East Asia); increasing influence of real-business cycle research, which used the Solow neoclassical growth model; and the fact

that growth research became an "article laden" topic in economics departments in the United States.

Was actual interest in endogenous growth reflected in McConnell & Brue? Yes, but more as a result of current events (the 1990s economic expansion) and not recent developments in economic thought about growth. A completely new chapter on the microeconomics of technology, research, and development was added at the end of the section on microeconomics of product markets in the 1999 edition. More important, the phrase "new economy" was added to the title of the 2002 edition's chapter on economic growth. The new economy is characterized by higher productivity growth resulting from rapid technological advance, coupled with global competition. (2002, p. 331). This chapter introduces the concept of "increasing returns" from economies of scale and adoption of technology by U.S. firms. The 2005 edition uses the growth accounting presentation by the Council of Economic Advisers.

Textbook Organization

In their history of economic thought, Landreth & Colander (2002, p. 432) state that as growth models worked their way first into intermediate books and then into introductory books, the association of macroeconomics with Keynesian economics faded with increased attention to the quantity theory of money and supply-side growth theories. Today, most leading intermediate macroeconomics textbooks start with the classical long-run model and then switch gears to address short-run sticky-price unemployment and inflation topics (DeLong, 2000a; Snowden & Vane, 1997, p. 24).

Several prominent principles textbooks followed suit, introducing long-run growth discussion at the front of the book, before the discussion of short-term instability. Examples are textbooks published in 2004 by Mankiw, Bade & Parkin, Baumol & Blinder, and Colander. This move is well entrenched in most higher-level principles texts, and all principles textbooks are moving toward an organization strategy of teaching long-run classical growth before introducing short-run Keynesian ideas (Mankiw, 1998, p. 522). As Mankiw says:

> After all, long-run growth is at least as important for human welfare as the business cycle. . . . I introduce the topic of long-run growth quite early. This is, in large part, a reflection of the research trend started by Paul Romer and others. (Snowden & Vane, 1999, p. 122)

The McConnell & Brue text also changed, but slowly. Since inception, the first chapter on macroeconomics (after the obligatory chapter on measurement) in the McConnell text addressed "macroeconomic instability"—that is, the business cycle, unemployment, and inflation. Short-term instability has always been introduced before long-term economic growth. However, in the 2002 edition, a small section (two pages) on economic growth was added at the beginning of this chapter, which was then retitled "Introduction to Economic Growth and Instability" (2002, p. 136).[20]

However, a demand-side emphasis remains. This introductory chapter notes that "long-run economic growth in the United States has been interrupted by periods of economic instability" (2002, p. 138)—that is, business cycles. Considering the

[20]The 1995 edition of Samuelson & Nordhaus introduced a three-paragraph section with AD–AS graph on the importance of economic growth in the introductory macro chapter.

"causation" of business cycles (innovation, productivity, and monetary factors), this section states, "Most economists . . . believe that the immediate cause of cyclical changes in the levels of real output and employment is changes in the level of total spending" (2002, p. 140), i.e., demand. The 2005 edition has the same wording in the same chapter (2005, p.135).

How Supply-Sided Is Growth?

The discussion of growth theory also increased in popular textbooks in light of the relation between growth and supply-side economics (Policano, 1985, p. 390). The increased mainstream recognition of the importance of supply-side issues in the 1980s was best summed up by James Tobin at a conference of Nobel prize-winners:

> In my view, Keynesian economics, both in theory and in policy, refers mainly to short-run, demand-side phenomena...Fiscal and monetary management of aggregate demand...will not even speed up significantly the growth of productivity in the advanced economies themselves. Those difficult tasks require a wholly different set of policies, "supply-side" measures (in the sober, professional meaning of the phrase). (Tobin, 1986a, p. 107)

When is aggregate growth treated as a supply-side phenomenon? Not until McConnell's 1993 edition.[21] The statement "although demand and efficiency considerations are important, discussions of growth focus primarily on the supply side"

[21]The Samuelson & Nordhaus 1992 edition says: "We introduce growth theory as an integral part of aggregate supply and potential output . . ." so that ". . . the controversies about the government deficit and debt can be better understood as affecting the growth of potential output" (Samuelson & Nordhaus, 1992, p. xvi). Also in this edition, the authors placed the chapters on microeconomics before macroeconomics, in part because of "increasing emphasis on the microeconomic foundations of macroeconomics" (ibid.). In the subsequent 1995 edition, they changed the title of the growth chapter to "Economic Growth and Aggregate Supply."

was introduced in the 1990 edition (p. 415); however, the AD–AS apparatus was not introduced into the growth chapter until the 1993 edition. The supply-side legal and institutional requirements for economic growth were not discussed until the 1996 edition of McConnell. This edition expanded the standard introductory comment on the importance of private property ownership at the beginning of the text to five paragraphs covering the importance of property rights and their effect on investment, exchange and economic growth, and the importance of intellectual property (1996, pp. 58–59). The 1999 edition added new chapters, "Technology, R & D, and Efficiency" and "Extending the Analysis of Aggregate Supply," consolidating discussion of the Phillips and Laffer curves. The 2002 edition for the first time elaborated on the legal–institutional environment as an "aggregate supply-shifter" (p. 211) and also for the first time made a direct graphical link between the PPC and the vertical long-run AS curve in the section on economic growth.

However, the economic growth section of the 2005 text still retains McConnell's earliest conception of the Production Possibilities Curve, which says that supply factors "make possible" an outward shift in an economy's production possibilities curve, but economic growth is only "realized" when the "demand factor" actually moves the economy forward (2005, p. 309). As pointed out above, from the 1960 edition until the present, aggregate demand still plays a key role in economic growth. "Normally, increases in total spending match increases in production capacity . . . [although] the

curve may shift outward but leave the economy behind at some level of operation such as [a point in the interior of the PPC]" (2005, p. 309).[22]

Many economists believe that business cycles and long-run growth tend to be independent phenomena (Saint-Paul, 1997). Aggregate demand has disappeared from mainstream growth theory (Dutt, 2006). However, there is little current consensus on this issue, according to a 2000 survey of U.S. university economists (Fuller & Geide–Stevenson, 2000, p. 374). The role of demand management in U.S. economic growth remains controversial—a good but somewhat dated review of this issue is DeLong, Summers, Mankiw & Romer (1988). Demand-driven growth remains a popular concept with prominent Keynesians (e.g., Yellen & Akerlof, 2006). It is also strongly held by post-Keynesians (a good example is Setterfield, 2002).

The Laffer Curve

Popular interest in what Lawrence Klein termed "populist" or short-term supply-side economics[23] became widespread in reaction to the inflation and unemployment problems of the 1970s. The original work of supply-side macroeconomics, with its basic emphasis on fiscal ease and monetary restraint, is credited to Robert Mundell (1971), according to Phelps (1990, p. 67).[24] Arthur Laffer and others subsequently popularized it. Laffer supposedly sketched his curve on a napkin in a Washington restaurant for a

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[22]Samuelson & Nordhaus do not directly address the relationship between demand and economic growth; but the textbook is explicit about the negative impact of fiscal policy (deficits) on growth (e.g., 2005, p. 717).

[23]To be differentiated from longer-term supply-side concerns with economic growth, e.g., demography, productivity, energy,y and regulation (Klein, 1983, p.10).

[24]Robert Mundell is "an originator of supply-side economics" according to his c.v. Retrieved March 4, 2006, from: http://www.columbia.edu/~ram15/bob2000.html

"befuddled Richard Cheney" who was Gerald Ford's chief of staff in 1974 (Blum, 1978, p. 24), and by 1979 the bipartisan Joint Economic Committee of Congress had endorsed the new policy, 2 years before Ronald Reagan took office.

McConnell introduced the Laffer curve in his 1981 edition. He discussed it as one of three categories of policies to cope with stagflation (along with wage–price, or incomes, policies and "market" policies) to reduce imbalances and bottlenecks in the labor market, in the attempt to manage the Phillips Curve. The text discussion evolved into a review of the supply-side policies of the Reagan administration ("Reagonomics") and use of tax cuts and reduction of government regulation of business to move the aggregate supply curve to the right. The discussion is critical, reflecting mainstream views (Mirowski, 1982; Feldstein, 1986; Akhtar & Harris, 1992). However, the discussion ends with the conclusion that "changes in marginal tax rates do alter taxpayer behavior and thus affect taxable income. Although these effects are relatively modest, they need to be considered in designing tax policy" (2005, p. 305).

The "Growth Miracles"

In view of the increased attention given to economic growth after the rational expectations revolution, popular principles textbooks have been criticized for not carrying stories about the growth-miracle countries of postwar Japan and Germany, and more recently the "Asian tigers" (Skousen, 1991). McConnell's treatment of the issue is a little timelier and more comprehensive than Samuelson's.[25] McConnell's 1984 edition had a full-page treatment of the "Japanese economic miracle" at the end of the section on

[25]The economic successes of the "Pacific Rim countries" were not introduced in Samuelson until the 1989 edition (with a little more coverage added in the 1992 edition).

economic growth (p. 391), which was kept in for the 1987 edition. Although McConnell placed considerably more emphasis on Japan's industrial policies to explain its success, he also discussed the role of savings. This feature was subsequently dropped in the 1990 edition. Discussion of Japanese growth again increased in the 1993 edition in both the introductory section on production possibility curves (a highly appropriate application of the Japanese growth example appears on page 29). Also, the 1993 edition reintroduced the special section on Japanese growth (p. 380–81) with the same mix of content described above. In the 1996 edition, the former section was retained but the latter section was dropped. The 2002 edition's only discussion of Japanese growth used the leakage–injection argument to explain the "end of the Japanese growth 'miracle'" (discussed below).

Paradox of Thrift

It was inevitable that the rational expectations revolution, with its focus on the aggregate supply curve and economic growth analysis, would eventually highlight the glaring difference between the leakage–injection theory behind short-term Keynesian stabilization policy and the investment and savings requirements for long-term economic growth.

This has been a particular point of contention for Austrian economists. In his cross-sectional survey of principles textbooks published over the 1987–90 period, Mark Skousen found that most used an "anti-savings" model in the macro theory section and a "pro-savings" model in the economic growth section (Skousen, 1991, pp. 52–53). In these textbooks, new savings is made available to investors only in the vertical classical

range of the aggregate supply curve, and not in the horizontal Keynesian range, when new savings is not converted to investment because of liquidity preference.

So, the paradox of thrift does not apply when the economy is at full employment; and when the economy is at less than full employment, the paradox of thrift applies—that is, saving is harmful to the economy.[26] Except, as Skousen points out, this fails to explain the extraordinarily high levels of economic growth achieved by Germany, Japan, and many countries in the Far East when their resources and human capital were underemployed (see the discussion of growth miracles in the McConnell text, above).

Ahiakpor (1995) lists other prominent economists who have objected to the paradox of thrift; for example, Leijonhufvud observed that it is "one of the more common muddles of (modern) macroeconomics that we do not know what an 'increase in non-consumption' means" (cited on p. 29). Ahiakpor argues convincingly that Keynes incorrectly substituted the idea of "hoarding" for "saving" in the classical theory of income determination. "This recognition may help end the annual ritual of teaching students a fundamental confusion from which they later struggle to escape in courses such as development economics or finance" (p. 17).

McConnell has always offered the leakage–injection approach to help the student understand the multiplier in the aggregate-expenditure model. This presentation was always complemented with a discussion and graphical presentation of the paradox of thrift (e.g., 1987, pp. 251–53). This was dropped from the McConnell text in 1996.[27]

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[26]The clearest explanation of this issue, using the production possibility curve, is found in Garrison (1995).

[27]According to Ahiakpor (1995), Samuelson & Nordhaus stopped mention of the paradox of thrift in their 1992 edition. Although it was dropped from the main text, it continued in one of the questions at the end of

However, as noted above, a discussion of the concept (although not actually labeling it) in relation to Japan was reintroduced in the 2002 edition. The "main reason" for the failure of the Japanese growth miracle

> relates to the same high saving rate that enabled Japan's earlier fast growth. As explained previously, it is imperative that all savings be borrowed and spent on current output. If planned investment spending is less than savings . . . aggregate expenditures . . . will be insufficient to purchase the output that is produced. (2002, pp. 197–98)

Why did the paradox of thrift continue in the principles textbook for so long? Thies (1996) gives three reasons for its endurance in the profession: youthful iconoclasm in the spirit of rejecting the neoclassical past; mathematical sophistry—that is, fondness for mathematical models; and the elastic nature of Keynesianism with respect to the different schools of economic thought. This is another example (along with the liquidity trap) of a concept that, as discussed in the introductory chapter of this paper, may become outdated and fall out of use but can be revived when circumstances seem to dictate, as they did in Japan.

Needless to say,

> few economists today believe that excessive saving threatens the economy. Instead, almost all economists now believe that additional saving will, in the long run, lead to additional investment rather than inadequate aggregate demand. (Mankiw, 1991, pp. 5–6)

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the chapter on the multiplier model (e.g.: 1998, p. 464; 2005, p. 501), referring the student to the section on the fallacy of composition at the beginning of the text.

Revival of the Liquidity Trap

While it is a short-term concept usually not discussed in the context of economic growth, the liquidity trap was mentioned by Samuelson in association with the paradox of thrift, another form of output trap.[28] Until the Japanese crisis of the 1990s, the liquidity trap was used by many Keynesian economists as "a nice way to get people to take notice of ... Keynesian ideas." (Heijdra & van der Ploeg, 2002, p. 20).[29] Many prominent mainstream Keynesians hold the liquidity trap view of Japan. However, the renewed interest in the concept with the case of Japan involves rational expectations rather than the elasticity of money demand as before (e.g., Boianovsky, 2004). The McConnell, Mankiw and McEachern texts have never covered this concept.

[28]In his response to Skousen's critique (1997b) of his textbook, and with reference to the Bank of Japan's problems in 1996, Samuleson said, "Yes, Virginia, there can be in such times shades of liquidity traps and a genuine paradox of thrift" (Samuelson, 1997, p. 156). The liquidity trap concept was dropped in the Samuelson & Nordhaus 1985 edition (i.e., the flat section of the LM curve was dropped). However, the concept was reintroduced in their 2001 edition with specific reference to Japan (2001, p. 562, question 7). In the 2005 edition, it is discussed with reference to Japan and the dangers of deflation (p.552 and 672–73).

[29]A good example is Krugman (1999).

III. Aggregate Demand–Aggregate Supply

This chapter covers the origin of aggregate demand–aggregate supply (AD–AS) analysis, its relation to traditional IS–LM analysis and how it slowly supplanted the traditional Keynesian cross in the principles textbooks. Adoption of AD–AS reflected changes that the U.S. economy underwent in the 1970s and new developments in economic thought.

Despite strong resistance in some quarters of the profession, AD–AS analysis has come to dominate the presentations in current principles textbooks. The Keynesian cross (aggregate expenditure) model, which was originally designed to illustrate the multiplier effect of fiscal policy in interest- and output-space, became unsuitable for explaining the major changes. Although the aggregate supply curve is a Keynesian invention, it received little attention until changes in economic thought were brought about by the failure of the Phillips Curve trade-off in the late 1960s and 1970s and the rational expectations revolution.

Other important contributing factors—which were easier to illustrate in price- and output-space of the AD–AS framework—were the declining productivity of labor starting in 1973, the energy and food shocks of the 1970s, and the decline of fiscal policy as a viable stabilization tool. Another issue was the decline in interest on the part of central bankers in targeting monetary aggregates. The declining use of IS–LM analysis at the

graduate level may also have contributed to its widespread adoption. Finally, it had distinct pedagogical advantages that speeded its adoption by economics instructors.

Meanwhile, emphasis on the aggregate expenditure (Keynesian cross) model declined. McConnell & Brue still retain it, though they give more emphasis to AD–AS analysis. As will be seen, the widespread adoption of AD–AS analysis helped shift the central question in macroeconomics from *whether* the economy moves to full-employment equilibrium to *how long it takes* to do so.

Origin of AD–AS Analysis

While there are several interpretations, the basic AD–AS model in today's principles textbook is a restatement of the standard IS–LM model with an inverse Phillips Curve added as a supply curve. The original IS–LM framework, first developed by Hicks (1937) as a hermeneutic device for the *General Theory*, represents the essence of orthodox Keynesian thought until the 1970s (Laidler, 1999; Young & Zilberfarb, 2000). The IS–LM model uses the same equations as the AD side of modern AD–AS models, but aggregate supply is not explicit and the price level is exogenous.

Although the aggregate supply curve is a Keynesian invention, it received little attention until the late 1970s. Keynes only briefly discussed the concept in the third chapter of his *General Theory*. Patinkin argues convincingly that neither Keynes nor his promoters in the United States ever took it seriously (Patinkin, 1978). The original Phillips Curve developed in Phillips (1954)—before the version of Phillips (1958) became popular—was a positively sloped curve in price and output space (Wulwick, 1987, p. 837; Lipsey, 2000, p. 61). When economists and policymakers were confronted

with the supply shocks of the 1970s, they added a Philips Curve to the IS–LM apparatus (Vercelli, 2000, p. 38). At the same time, classroom instructors needed an apparatus that would explicitly demonstrate the problems of the 1970s, supply shocks, and stagflation. At the principles level, the fix-price Keynesian cross (aggregate expenditure) model was not particularly useful for explaining the concerns after the 1970s: inflation, monetary policy, and supply-side issues (Colander, 1995, p. 180).

While there are several interpretations, the basic AD–AS model in the intermediate textbook is a restatement of the standard IS–LM model with an inverse Phillips Curve added as a supply curve. Basically, the LM curve was compressed (since it was falling out of use anyway—see below) into an aggregate demand curve showing different levels of output changing with the general price level. For example, in IS–LM an increase in the price level shifts the LM curve leftward along the IS curve in interest and output space, which is the same as moving the economy leftward up the AD curve in price and output space. The Phillips Curve is then converted from "wage–unemployment" space to "price–income" space, with income put on the X-axis to represent output. This was then called a short-run supply curve, showing how planned output would change with the price level (assuming fixed input prices). When work by Friedman (1968) and Phelps (1967) added an (adaptive) expectations term to the Phillips Curve to deal with accelerating inflation, the supply curve could shift upward/leftward as a result of the OPEC price shocks, which explained stagflation.[30]

[30]Adopted from Lipsey, 2000, pp. 61–66.

Further work on the unemployment–inflation trade-off was done in Lucas & Rapping (1969a, 1969b) and in the very influential Lucas (1973), which presented the standard Lucas aggregate supply curve.[31] This work provided stronger support to the unique classical equilibrium and money neutrality first proposed in the Friedman–Phelps work. Lucas (1973) presented a Phillips Curve representing an aggregate (labor) supply curve that (a) is elastic in the Keynesian short run and inelastic in the classical long run, (b) loses its trade-off properties over the long run if government attempts to exploit it, and (c) deviates from the natural rate negatively with the difference between actual and expected inflation. This work was generalized into an aggregate supply curve in Sargent & Wallace (1975) and other studies. Thus was AD–AS analysis born.

Decline of the Keynesian Cross

Until the late 1990s, the basic framework for macroeconomic analysis in introductory textbooks for generations of students was the Keynesian cross or aggregate expenditure (AE) model. Samuelson invented the concept (Patinkin, 1983, p.162; Breit & Ransom, p. 114n), which became the central framework in his 1948 and subsequent textbooks. This presentation and its surrounding concepts came to be known as the "textbook Keynesian model" (see Pearce & Hoover, 1995) and was the standard introductory tool for beginning students of macroeconomics for years.

In the AE model the 45-degree line represents the aggregate supply schedule since:

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[31] Gordon says the Lucas supply curve really should be called the "Friedman supply function" (Gordon, 1981, p. 505).

> in the case of aggregate equilibrium it is correct to envision aggregate demand as the crucial determining variable or force to which the level of aggregate supply (NNP) adjusts. We should regard the aggregate supply schedule—the production intentions of businesses—as fixed and the actual amount produced by businessmen as responding to shifts in aggregate demand. (1966, pp. 235–36)[32]

This passive view of aggregate supply has been characterized as "a kind of Say's law operating in reverse" (Reinwald, 1977, p. 63) or "Hansen's law" where "demand creates its own supply" (Clower, 1994, p. 382). As Peter Drucker notes, the Keynesian theoretical structure has "no way to stimulate or spur [supply], no means to make an economy more productive" but instead takes "productivity for granted, provided that employment and demand remain high" (1980, pp. 10–11).

The primary reason why the AE model fell out of favor is that its fix-price assumption and lack of an aggregate supply curve prevented it from being used to adequately portray what was going on in the U.S. economy. It is difficult to utilize the 45-degree "supply curve" to establish links to pricing considerations and other business behavior (Clower, 1994, p. 382). It is difficult as well to use the curve to illustrate such issues as the dynamics of inflation, policy effectiveness, labor market issues, the impact of international trade, technological change, capital formation, taxation, and the potential impact of government regulation and other institutional factors on growth (e.g., see Policano, 1985).

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[32]From the 1969 through 1981 editions, apparently to reinforce the description of the 45-degree line as the aggregate supply curve, McConnell included under this discussion a footnote with a graph and text demonstrating the "nonsensical results" if one experiments with lines representing aggregate supply curves lying below or above the 45-degree line.

For example, a major event in the economic history of the United States was declining productivity of labor over 1973–81. The AE model was inadequate in portraying this occurrence. Other major events difficult to represent using the planned expenditure–income space of the AE model were the following: the rise of inflation in the late 1960s and 1970s, Paul Volker's disinflation after 1982, the "supply shocks" of the 1973 and 1979 OPEC price increases, the doubling of grain prices in the mid-1970s, and of course rising unemployment during periods of high inflation, which violated the Phillips Curve trade-off.[33] The 45-degree line is not a supply curve; it is an "accounting identity" between expenditures and income (Reinwald, 1977, p.63). The 45-degree line is not capable of independent derivation unless you assume that production costs do not increase for firms over a wide range of output. So in that case the economy would comprise entirely oligolopistic firms with flat average cost curves (Naples & Aslanbeigui, 1996, pp. 119–20). For these reasons, the 45-degree line was termed the "Achilles heel of contemporary macroeconomics" (Reinwald, 1984, p. 85).

Decline of the AE model also coincides with the decline of fiscal policy as viable discretionary policy in the 1980s (discussed more below). Mankiw (1991) noted that

> as an empirical matter, the message of the [Keynesian cross] model is more wrong than right. The numerical examples regularly given to students suggest that the multiplier is indeed quite magical. But in the world, fiscal policy is not so potent. . . . For the purpose of analyzing economic policy, a student would be

[33]Weintraub (1960) was an early critic of the Keynesian cross because it could not adequately depict inflation. See also King (1994).

> better equipped with the quantity theory of money (together with the expectations-augmented Philips Curve) than the Keynesian cross. (1991, p. 6)

Other factors eventually rendered the AE model increasingly irrelevant to the concerns of mainstream economics, as well as to instructional requirements of the classroom. It could not handle the implications of the new theories arising from the turbulent 1970s. These included the rational expectations revolution with its supply-side emphasis on the labor market; the development of real business cycle theory, which centers on the neoclassical production function; and the resurgence of interest in growth theory in the 1980s. Furthermore, it could not accommodate supply-side economics when it arose as a strong political force (Kennedy, 1998, pp. 96). Most important, the AD–AS framework allowed a clearer comparison of the Keynesian and other competing views on the supply side of the economy. The fact that Mankiw dropped the AE model in the first edition of his principles text published in 1997 may have contributed to its becoming one of the best-sellers (Table 1).

Increasing Dominance of the AD–AS Model

The normal sequence for innovations is that they first show up in intermediate texts and then filter down to introductory texts. Concerned about the failure of textbooks at the time to cover new concepts that developed in the 1970s such as the natural rate and rational expectations, Dornbusch & Fischer and Robert Gordon wrote intermediate textbooks in 1978 adopting AD–AS analysis (Froyen, 1996, p. 110; Dutt, 1997, p. 340). Early adopters at the principles level were Lipsey & Steiner (1981) and Baumol &

Blinder (1979) according to Lipsey (2000, p. 67). McConnell adopted in it 1984 and Samuelson & Nordhaus in 1985 (discussed below).[34]

While many texts retained the Keynesian cross, the AD–AS model began to dominate the principles textbook presentation by the mid-1990s (Walstad et al., 1998, pp. 195–96 and pp. 199–200; McCormick & Rives, 1998, p. 13). In commenting on his decision to drop the AE model from his principles textbook published in 1998, Mankiw said:

> The biggest battle [with publisher and reviewers] was over my decision to leave out the Keynesian cross. . . . I felt that it was not worth covering in a principles course. The model is often hard for students to understand. Moreover, the big ideas of Keynesian economics can be presented more simply using only the model of aggregate demand and aggregate supply." (Mankiw, 1998, p. 523)

A 2004 survey of 54 U.S. colleges and universities found that mean discussion of the Keynesian cross in principles of macroeconomics classes fell from about 20 hours in 1997 to less than 30 minutes in 2002 (Debebe & Placone, 2005).

Relative Decline of IS–LM Analysis at the Graduate Level

The standard IS–LM model "does not actually have a supply side of any depth" and is "an awkward framework for many interesting questions about policy" (Fisher, 1988, p. 25). Several authors say that the model is slowly declining in use at the graduate level. However, Vercelli (2000) says that popularity of IS–LM waxes and wanes; the AD–AS simply represents a new generation of IS–LM model adapted to the 1970s.

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[34]The very first adopter was Kenneth Boulding, who used it in his 1948 textbook to display the dangers of aggregate thinking (Dutt, 2002, p. 334).

AD–AS has tended to replace IS–LM analysis at the graduate level because the latter model proved inadequate to analyze inflation (Romer, 2000; De Vroey & Hoover, 2004). Emphasis on the LM curve declined at the graduate level also because of increased interest in microfoundations with representative agent models after the rational expectations revolution in the 1970s (ibid.). "A graduate student in 2003, having studied no economics as an undergraduate, might obtain a Ph.D. without any acquaintance—much less mastery—of the IS–LM model" (ibid., p. 8). The IS–LM model in graduate schools

> has gone out of fashion in modern mainstream macroeconomics . . . [and] is increasingly used as a mere stepping stone in the construction of the aggregate demand schedule in the AD–AS model with the bulk of the argument being devoted to the form of the aggregate supply schedule. (Dixon & Gerrard, 2000, p. 25)

Another reason for the relative decline of IS–LM usage in the wider economics community is the increased attention of central banks to the interest rate rather than money aggregates or money growth (Friedman B., 2003; Romer, 2000; see also Blinder, 1997). In part as a result of the Federal Reserve's "failed monetary experiment" of the late 1970s, central banks stopped making policy in terms of target rates for money growth and started making policy by fixing an interest rate (now they tend to target an inflation rate, discussed below). As a result, neither the LM curve nor even the concept of money demand has much bearing any longer on what we continue to call monetary policy (Friedman B., 2003, p. xvi). Alan Blinder refers to the "collapse of the LM curve" as one

of the factors contributing to the "fall of Keynesianism" in the 1980s (1988, p. 286n and p. 289).

Pedagogical Advantages for Adoption of AD–AS

There are compelling pedagogic reasons for economics instructors to rely increasingly on the AD–AS framework for teaching basic concepts of macroeconomics. It is proving to be an excellent pedagogical device:

> This approach can stay with the students just as basic supply and demand stays with the beginning micro student. The beauty of the AD–AS approach is that it is simplifying and unifying at the same time. I believe that in the next fifteen years, almost all beginning students will be taught the basic macro theory in terms of AD–AS. It will take that long because it takes us that long to discard dinosaurs in our classrooms. (Amacher, 1988, p. 154)

The fact that supply and demand curves are the foundation of economic analysis is a "seductive argument" for extending them to the macroeconomic context (Kennedy, 1998, pp. 96). David Romer argues that the principle advantage of the AD–AS model[35] is that "many students and policymakers with little or no previous exposure to economics can, after some effort, master its mechanics, understand its intuition, and apply it to novel situations" (2000, p. 153). "Telling little white lies can be the right thing to do if the benefits outweigh the costs" (Kennedy, 1998, p. 104). Even David Colander admits that "as textbook authors we are well aware of the pressures for a simple macro model" (Colander & Sephton, 1998, p. 141).

[35]Actually, he calls it the IS–LM–AS model in his paper.

By far the most succinct argument for adoption of the AD–AS framework is given by Dutt (2002):

> The AD–AS model can be thought of as the most complete of a sequence of macro models. The income-expenditure model is usually interpreted as taking the interest rate and the price level to be given; the IS–LM model as relaxing the assumption about the fixed interest rate but continuing to assume a given price level; and finally, the AD–AS model, as endogenizing even the price level. This sequence made it appear that the AD–AS model is the logical culmination of this sequence of models and hence the most complete and general one for analyzing the economy. This reason may have had some role in the rapid spread of the model, once it was already in a number of textbooks. (Dutt, 2002, p. 345)

Typical Presentation of AD–AS

McConnell introduced the "new" AD–AS model, "which directly incorporates the price level as a key variable" in the 1984 edition.[36] The preface states:

> Overall the price level is a more integral part of theory and policy and supply-side considerations are accorded earlier and more systematic treatment. The student is also made aware of the turmoil within the profession as to what constitutes the most meaningful model of the macroeconomy. (1984, p. xxiv)

McConnell expanded the treatment of AD–AS with successive editions. In the 1993 edition growth chapter, he more fully integrated it with the production possibility frontiers. The 1999 edition more closely integrates it with the Phillips Curve.

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[36]Samuelson replaced the "Hicks–Hansen diagrams" with the AD–AS framework in the 1985 edition, with the addition of co-author Nordhaus. "All major issues in macroeconomics are now analyzed using these new tools. . . . We thereby integrate different schools of thought. . . . Depressions, hyperinflations, and the crowding-out debate are [also] encompassed in a single theoretical framework" (1985, p. viii).

In the McConnell text, the AD curve is downward sloping because of the Pigou and Keynes effects (the foreign trade effect was added in 1987), accompanied by an explicit statement contrasting it with traditional demand curves used in microeconomics. It derives from the Keynesian cross using the multiplier concept. This is consistent with the treatment in the majority of principles textbooks of the mid to late 1990s (McCormick & Rives, 1998).

As in most principles texts, the short-run AS curve slopes upward because, as the general price level rises, firms will produce more output since wages and other input costs move more slowly over the short run (same for Samuelson). Up to the 2002 edition, the text retained the early 1980s version of the AS curve; that is to say, the inverted L with "Keynesian," intermediate and "classical" ranges (Dutt, 2002, pp. 346–47) rather than specifying separate short- and long-term AS curves.[37] The labor market is subsumed in the aggregate supply curve. This permits the inclusion of the (non-Keynesian) idea that wages are endogenous in the economy.

The AE framework has been retained to the present edition of McConnell & Brue. However, from 1984 coverage of the AE framework slowly shrank while pedagogical approaches recommended by McConnell shifted toward more emphasis on the AD–AS framework. The 1996 edition advises that "instructors wishing to use only AD–AS can

[37]As Parkin (2000) correctly points out, this AS model used by McConnell & Brue is "the closest that the introductory books come to error as opposed to legitimate simplification" (pp. 86–87). It is an erroneous treatment and contradicts other parts of the text. This fact was noted in a review of the 1981 edition, by Cordato & Palasek, who complained that the kink in the aggregate supply curve negates the possibility of capital substitution in the production process, while elsewhere McConnell assumed perfect substitutability (Cordato & Palasek, 1982, p. 256). The correction was not actually made until the 2005 edition, in which a "generalized AS curve" replaced the "three-range AS curve," which "enables a more modern presentation of AD/AS" (2005, p. 4).

delete the AE chapters" although "the AE and AD–AS models are better integrated for the majority of professors who teach both" (p. xxii). In the 2005 edition, discussion of macro theory begins with AD–AS analysis. Treatment of the AE curve is isolated in a "tight, single" chapter; the multiplier is discussed with less reference to the AE model; discussion of the balanced budget multiplier is deleted (see below); and derivation of the AD curve from the AE curve is relegated to an appendix. The second page of the preface of the 2005 edition features a "two-path macro" option, without the assertion that the majority of instructors use it as was done in earlier editions.[38]

Change Slower in Principles Texts

Many intermediate texts had already adopted AD–AS framework by the early-1980s, but it took another 10 years for it to filter down to the major principles texts. Why? Dutt suggests that slower adoption was due to the dominance of the Samuelson text (2002, pp. 347). Resistance to the concept because of its departure from the textbook Keynesian model has been strong. Robert Barro of Harvard University stated that it should be "abandoned as a teaching tool" because it fails to include the key feature of the IS–LM model:

> The notion that the distinguishing features of the IS/LM model involves excess supply of goods and labor in the context of sticky prices and wages was well understood in the 1970s, but is now often forgotten. This is a clear example of technological regression. (Barro, 1994, p. 5n)

[38]No such instructions are given to instructors in the Samuelson & Nordhaus 2005 edition, although integration of the AD–AS framework was very rapid since its introduction in 1985. Like McConnell, this text retains a chapter devoted to the AE model.

David Colander (1995) objected to the framework because, among other reasons, the AD curve does not reflect the multiplier effect from the interaction of production and expenditures in the AE model. Hall and Treadgold objected that the AD curve, among other problems, "lends itself to the misapprehension that aggregate demand is independent of aggregate supply" (1998, p. 8). Brady (2002) observed that dropping the AE model, as Mankiw did in his principles text, fails to demonstrate to introductory students the importance of the paradox of thrift.[39] "Mankiw may have tilted too far the other way," said Peter Coy of *Business Week* (1997), who complained about relegating short-run stabilization policy to the end of the text.

Another objection came from the two different ways AD and AS are derived at the intermediate level. AD is derived from the textbook IS–LM apparatus where firms produce to meet demand by making quantity adjustments with a fixed price level. AS may be derived from the Phillips Curve, with imperfect competition (mark-up pricing). Or, in some textbooks, it may be derived using assumptions of perfect competition in the labor market or the market for goods and services (price-taking firms) (Dutt, 2002, p. 326). In this case, it would be as if the discussion were taking place in the microeconomics section of the textbook and the market for labor services were the same as the market for pizzas. This derivation is fundamentally inconsistent with the derivation of the AD curve from IS–LM. But most important, assuming that aggregate supply is composed of price-takers in perfect competition violates Keynes's *General Theory.* There, aggregate demand determines employment and, given the level of employment,

[39]This author states that "there is no Invisible Hand, in 1776 or 1996," that guides the economy to full employment without the aid of government (p. 246).

the going real wage (Dutt, 1997, p. 471;Grieve, 1996, p. 70). Thus, the conventional neoclassical view of the labor market is reintroduced into the IS–LM apparatus, obscuring Keynesian theory with "Marshallian residue" (ibid., p. 72), i.e., a rapidly-clearing labor market. Suppposedly, this approach "smuggles" into the Keynesian textbook model the idea that unemployment is not involuntary.[40]

There have also been pedagogical objections to the AD–AS model. Colander called it "dirty pedagogy" because it dupes students into thinking the curves represent partial equilibrium curves (ibid., p. 138). Another author says the "the AD–AS model is highly unsuitable for undergraduate education in economics" because the curves are "artificial constructs cobbled together from the interdependent interactions of numerous underlying equations, conditions, and assumptions" (Geithman, 1994, p. 476). "Unable to follow the reasoning processes, [students] have little choice but to fall back on the authority of the textbook and instructor" (ibid., p. 477).[41] There are other objections to perceived logical inconsistencies and expositional problems of the AD–AS model (Rao, 1998; Dutt, 1997; Geithman, 1994).

Alternatives offered to current AD-AS analysis generally attempt to correct the logical inconsistency of deriving AD from the IS-LM apparatus and AS from the labor

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[40]A more detailed examination of this issue is best done at the level of intermediate or graduate macroeconomics textbooks. Dutt (1997) reviewed a dozen intermediate texts and found that six had "smuggled" the neoclassical view back into the IS–LM model "like a Trojan horse" to use Grieve's terminology (Grieve, 1996). Dutt found that two popular texts (Blanchard and Dornbusch & Fisher) retain the Keynesian view that the wage is determined by output, deriving AS from a Phillips Curve with imperfect competition; and two other popular books (Abel & Bernanke and Mankiw) simply define the short-run AS as horizontal and the long-run AS as vertical, without an explicit theory of prices. Thus, in the latter two textbooks, the interpretation is left to the instructor.

[41]Paul Heyne applied the same reasoning to the failure of students to learn the AE model (Heyne, 1994, p. 36).

market. Some approaches revert back to the fix-price IS-LM model with the addition of a Phillips curve, along the lines of Lipsey (2000). Mark Sheffrin devoted an entire intermediate macro textbook to this approach (Sheffrin, Wilton & Prescott, 1988). Other presentations of AD-AS use different derivations and often address the elasticity of the respective curves (see Rao, 1998). These have not yet made their way into principles textbooks; e.g., Colander failed at his attempt to introduce an alternative AD-AS presentation in his textbook (see above section entitled, "The 15% Rule"). As pointed out above, pedagogical convenience trumps logical consistency.

AD–AS Loosens Samuleson's Influence on Principles Texts

The argument here is not that adoption of the AD–AS framework is a drastic change from the received Keynesian textbook model. As Debebe & Placone (2005) point out in their recent survey of principles course content, the increasing neglect of the Keynesian cross "does not mean that Keynesian assumptions and concepts such as sticky wages and prices, MPC, spending multiplier and crowding out are being dropped. They are dealt with in the context of the aggregate demand and aggregate supply model" (p. 4). In the AD–AS model, Keynesian theory has survived "albeit in somewhat more fancy clothing" (Policano, 1985, p. 396).

Also, there is truth to the observation that "today's textbooks explain the contributions of the monetarists, but only after Keynes's model . . . has been presented. Rational expectations and supply-side analysis must be discussed, but not without the models they attempt to refute" (Bell, 1988, p. 134). There is also merit to Mark Skousen's observation that "Keynesian economists believe that the AD–AS diagram

rescued them from the defeat in the 1970s" (1991, p. 82). Indeed, one can view the AD–AS model as another (possibly ad hoc) adaptation of the Keynesian program to changing conditions in the economy (Vercelli, 2000). This is no doubt why the noted economic historian Mark Blaug closes the section on macroeconomics in his massive *Economic Theory in Retrospect* by asserting that the Keynesian revolution may have proved to be a "permanent revolution" (Blaug, 1997, p. 687).

One useful thing about the AD–AS model is that, depending upon the approach used by the instructor, the aggregate supply curve represents the reintroduction of the neoclassical growth model into the classroom discussion of short-term stabilization policy. This was not possible with the Keynesian cross model, which represents aggregate supply as passive. It is no wonder that the Lucas supply curve and the revitalized interest in long-term economic growth (where prices and wages are flexible downward) appears to have revitalized interest in neoclassical economics, giving support to the New Classical movement.

Furthermore, the AD–AS model is an excellent tool for analyzing the different schools of macroeconomic thought.[42] One can compare the Keynesian, monetarist, and rational expectations frameworks by changing assumptions about how expectations are formed, whether labor contracts cause sticky nominal wages, or what form the aggregate demand schedule takes (Froyen, 1996, p. 112).[43]

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[42]With the exception of the Austrian school (Laidler, 1999, p. 27).

[43]See Snowden & Vane (1997, pp. 9–20) for an excellent exposition of AD–AS analysis applied to six schools of thought.

More important, despite its close relationship to Hicks's original IS–LM analysis, widespread adoption of the AD–AS model represents a major change in the conceptualization of one of the most important questions in economics. "The central question posed by Keynes's assault on received classical doctrine is: Is the existing economic system, in any significant sense, self-adjusting?" (Clower & Leijonhufvud, 1975, p. 182). In their complaint about the Keynesian view of economic coordination, Clower & Leijonhufvud observed that

> the point is simply that, in our judgment, the standard [IS–LM] model is incapable of development in the directions to which the central question [whether the existing economic system is self-adjusting] requires that we turn our attention. In effect, if we wish to say anything worthwhile about the central question, we must start by averting our eyes from the Keynesian model. (ibid., p. 183)

This is no longer the case. Essentially, AD–AS analysis has shifted the discussion to a new level. The question is no longer *whether* the economy moves to full-employment equilibrium, but *how long it takes* to do so. This view directly contradicts Keynes, according to Mark Blaug:

> Keynes rejected the idea that a capitalist economy tends automatically to revert to full employment when disturbed and that the only disagreement amongst economists is how long it takes. Keynes rejected the idea that there is a self-restorative power in a capitalist economy. (Snowden & Vane, 1999. pp. 319–20)

The question "How steep is the aggregate supply curve?" has now become the main controversy in macroeconomics (Dornbusch, Fischer & Startz, 2001, p. 9). In his

comments on what is probably the most thorough review of Samuelson's textbook Keynesian model by Pearce & Hoover (1995), Cottrell says:

> The switch to AD–AS marks a rather decisive break of the textbook tradition from Keynes himself . . . the downward-sloping AD curve in P–Y space is definitely not Keynes. He presented the "Keynes effect" as the best hope for a "classical" self-adjusting system, but he set little store by it himself. . . . The writing of a downward-sloping AD curve into the textbooks . . . produced a subtle (or maybe not so subtle) shift in the terms of the debate. In place of the argument over whether the macroeconomy is self-adjusting at all (or is relatively so), the focus changes to the speed of self-adjustment. . . . (1995, p. 221)

The basic controversial issue of self-adjustment can now be directly addressed in the principles classroom with a flexible, intuitive tool. In the words of Michael Boskin, we now have an emerging "modern eclectic macroeconomics combining elements of Keynesian fixed-price models with some insights from monetarism, rational expectations, and the legitimate part of supply-side economics. . . ." (1988, p. 163).

IV. The Phillips Curve and Natural Rate Hypothesis

Adoption of Phillips Curve as a Policy Menu

Discussions among policymakers and economists of the possibility of trade-offs between employment and inflation were already going on in the United States when Phillips's article (1958) appeared; however, it was a paper by Samuleson & Solow (1960) that first characterized the Phillips Curve as a "policy menu" (Laidler, 1997, pp. 92–93) and is generally credited with popularizing the idea in the United States. Both Samuelson and Solow were closely associated with the Kennedy Council of Economic Advisers, which "is justly famous for having set the (Keynesian) policy agenda for the rest of the decade." (ibid., p. 95). Their 1962 *Economic Report of the President* clearly presented the idea of a trade-off between unemployment and inflation but asserted that full employment without inflation was achievable only "with cooperation from labor and management" (*Economic Report*, p. 8); that is to say, there was a close association with incomes policies.

Adoption of the trade-off idea by undergraduate textbooks was "almost instantaneous" (Leijonhufvud, 1968, p. 738). Early presentations of the Phillips Curve were always closely followed by the discussion of incomes policies (the same is true for Samuelson). In McConnell, the Phillips Curve was introduced in the 1969 edition (1970

in Samuelson)[44] in the context of management of the "new" (cost–push) inflation of 1955–58. A graph of the curve was presented to show that a 3% unemployment rate could be achieved with a 2% annual increase in the price level, with "wage–price guideposts used to shift the curve . . . so as to make the goals of full employment and price stability compatible. . . ." (1969, p. 393). As will be shown, it took the turbulent times of the 1970s and early 1980s to modify this early view of the Phillips Curve.

Introduction of Discussion of Friedman's Monetarism

The McConnell text first incorporated a discussion of Friedman's monetarism in terms of the debate with Keynesians in the 1972 edition (1970 in Samuelson).[45] Since the term "monetarism" was coined only in 1968, it can be said that adoption was very rapid. However, as discussed below, this recognition was really about 20 years overdue.

It is surprising that there is no earlier mention of Friedman and the quantity theory in the McConnell textbook, in view of his early impact on the profession. Friedman received the third John Bates Clark award in 1951 (Samuleson received the first). By 1953 he had already published more than 25 reviews and articles, including *The Marshallian Demand Curve,* in prominent journals, co-authored four books (one with George Stigler and another with Simon Kuznets), contributed to eight more books, and

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[44]That is to say, in the 1970 Samuelson edition it was moved from an appendix. The concept first appeared in this appendix in the 1961 edition, only a few years after Phillips (1958). As explained in Chapter 1, proximity to the issue (Samuelson & Solow, 1960) no doubt played a role in its rapid adoption by Samuelson.

[45]The first McConnell edition to introduce the term *monetarism* was 1972. It contained a "thorough explanation of the monetarist debate" (1972, p. xx). Samuelson first introduced the term in the 1970 edition, but the 1961 edition first referenced Friedman in the context of a discussion of his "sophisticated quantity theory." (McConnell has always discussed monetarism without reference to the quantity theory). For a detailed review of the treatment of monetarism in Samuelson up until the 1980 edition, see Patinkin (1983). The term *monetarism* was coined by Brunner (1968).

published *Essays in Positive Economic,s* which was both controversial and influential. In 1956 he published *Studies in the Quantity Theory of Money,* "which more than any other event signaled the reemergence of the quantity theory" (Greenway & Shaw, 1988, p. 100). In 1963 he published a controversial study with David Meiselman that found that movements in consumption were more closely affected by monetary rather than fiscal variables. This study was "welcomed by the profession about like an unexpected slap in the face" (McCallum, 1986, p. 11). In 1967 Freidman was elected president of the AEA.

So we could say that recognition of Friedman's influence in McConnell in 1972 really was about 20 years overdue (about 10 years overdue in Samuelson). In addition to carrying out a frontal attack on Keynesianism, Friedman and his collaborators at the University of Chicago had fundamental methodological conflicts with the mainstream. That helps explain this delay.

Friedman proposed a research program that was utterly radical at the time. He advocated that economists conduct research on fundamental institutional reforms (policy rules) to improve the long-term performance of the economy. However, mainstream economists were concerned with research problems on how to solve day-to-day, countercyclical management of the economy, in the spirit of the Employment Act of 1946 (Lucas, 1980).

Also, the controversial Freidman–Meiselman study, which started the "AM–FM radio" debate[46] over the effectiveness of fiscal policy, used single-regression equations with only one or two explanatory variables. This "reduced form" methodology did not

[46]This refers to the journal debate initiated by Friedman & Meiselman (1963) over the relative importance of velocity and the investment multiplier; see *American Economic Review*, 55(4).

conform to the mainstream view of appropriate research methods, which used large, multi-equation econometric models. One-equation models were "too primitive" to be taken seriously by the mainstream (McCallum, 1986, pp. 10–11). In the next section, I further discuss the methodological conflict with the mainstream as a cause of slow adoption of monetarist ideas.

Failure of Fed Policy Contributed to Great Depression

Though it was not the sole cause of the Great Depression, Federal Reserve policy was a significant factor. Why is this important? Because recognition that the Federal Reserve made mistakes in the Great Depression is key to understanding that money can have considerable short-term impact on the economy. Also, the Keynesian liquidity trap story, with declining business expectations or an unexplained decline in consumption (Temin, 1976), is not adequate. Students need to understand that the problem of the Great Depression was the lack of money, not the lack of demand for money. Looking at this issue also dispels the myth that central banks utilize great expertise and dispassionate judgment when exercising their duties (Mayer, 1997, pp. 91–92). Put another way, it helps students understand that government failure and not market failure contributed in a major way to the Great Depression. The field of macroeconomics was born with the Great Depression; no principles textbook can avoid coverage of this formative period in the history of the United States or its implications for monetary policy and the role of government.

Put briefly, *A Monetary History of the United States*, by Friedman & Schwartz (1963), demonstrated that the Federal Reserve helped cause the Great Depression through

mistaken monetary tightening. This study became a "central component of our interpretation of the Great Depression" (Mayer, 1997, pp. 90–91) and "spawned a vast literature in economic history" (Bordo, 1989, p. 57). Unlike other books whose popularity wanes a few years after publication, citations of *A Monetary History* increased every year from 1963 to 1987 (ibid., p. 16). The book was one of the three factors cited by the Bank of Sweden for Friedman's 1976 Nobel prize.

However, it was not until the 1993 edition of McConnell & Brue that a clear connection was made in the main text (i.e., outside the obligatory discussion in the section on monetarism) between the fall in the money supply and inaction by the Fed. (The Samuelson text—with Nordhaus after 1985—has never made *any* connection between the money supply and the Great Depression.) Other principles texts have noted this connection within several years before or after 1993, but are somewhat mixed in their coverage.[47] This may indicate that the consensus on this issue which seems to have been reached in the profession in the mid-1990s (see below) may be a fragile one.

Why did it take so long—30 years in the case of McConnell & Brue—for this issue to be accepted in the best-selling principles textbook? The immediate answer that comes to mind is resistance from economists trained in the Keynesian tradition. That tradition downplayed the role of money—viewed as that "inert companion of the real

[47]For example, Mankiw's first edition (1997) recognized that many economists blamed the fall in the money supply as a cause of the Great Depression (p. 606), but made no mention of error by the Fed. The second edition (2001) added mention of the Fed's failure to act (p. 436). However, Mankiw's third edition (2004) added more nuance to the issue: in two separate locations, he says "many" economists blame the Fed for the depth of the Great Depression, while "some" economists blame other factors. McEachern, the third best-seller in Table 1, is unequivocal on this issue, thoroughly discussing the bank runs and the Fed's failure to respond in all his editions starting in 1988. Miller, the fourth best-selling textbook in Table 1, covered both issues of reduced money supply and the Fed's failure in his early editions, but stopped coverage in 2001, stating that the cause was an autonomous shift of the investment function (2001, p. 287). Colander (2004, p. 306) covered both issues thoroughly, while Baumol & Blinder (2001) ignored them.

economic force of increasing investment" (Breit & Ransom, 1998, p. 224)—and the role of monetary policy in the economy:

> Monetary theory and history were not then in fashion, hydraulic Keynesianism and macroeconomics were. Economists had little analytical interest in the Great Drepression. They had great confidence that they could not only prevent future depressions but keep the economy continuously at full employment. (Hammond, 1996, p. 185)

But another fundamental reason for the slow acceptance of the monetary cause of the Great Depression and the errors of the Federal Reserve, and other tenets of monetarism, are the profound methodological differences between Friedman and his collaborators and the mainstream Keynesians.

Once again, we find that slowness of acceptance in mainstream thought is related to the fact that the idea did not meet the profession's research interests. Robert Clower (1964) is credited with diagnosing the methodological conflict between Friedman and the Keynesians in his review of *A Monetary History* (Hammond, 1996, p. 105), but Friedman himself also explained his methodological approach: his was Marshallian, and the approach of mainstream Keynesians was Walrasian. Friedman believed in using practical tools "for the discovery of concrete truth" based on factual evidence, while Tobin and other adversaries used "abstractness, generality and mathematical elegance . . . [as] ends in themselves" (Friedman, 1970, pp. 145–46).[48] Moreover, Friedman focused on the long run while the Keynesians focused on the short run (Hafer, 2001).

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[48] According to Kevin Hoover, in *Two Types of Monetarism* (1984) the differences could be described in the following way: The Marshallian approach is incremental, involves partial equilibrium, and partitions the

Since he had no theoretical model using the latest advances in econometrics, according to the Keynesians, proof of the impact of money on incomes could not overcome the *post hoc ergo propter hoc* error (Tobin, 1970). In sum, Friedman and Schwartz ignored contemporary developments[49] in mainstream research, and "the Keynesian model builders returned the compliment and ignored the *Monetary History*" (Lucas, 1994, p. 10). The mainstream still does not accept Friedman's methodological approach. (Summers, 1991).

Hammond implies that a 1993 symposium on the Great Depression held by the *Journal of Economic Perspectives* may have signaled consensus by the profession that constriction of the money supply was one of the causes of the Great Depression (Hammond, 1996, pp. 182–86). "Monetary forces are not viewed as the only cause of the Depression, but they are given an important role in the accounts of its causes" (ibid., p. 186). A survey of U.S. economic historians by Whaples (1995) found over 75% agreed or agreed with provisos that the Fed could have cut short the process of monetary deflation and banking collapse, but the sample was evenly divided over whether monetary forces were the "primary" cause of the Great Depression (Mayer, 1997, p. 90).

While debate continues still on this issue, a 1993 study by Christina Romer argues convincingly that tight monetary policy was the initial cause of the crisis. More recent work strongly supports this view (Steindl, 1998; Bordo, Erceg, & Evans, 2000).

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whole into parts to be analyzed (single-equation); the Walrasian approach is globalist, involves general equilibrium, and examines the interdependent whole (multi-equation).

[49]For a history of the development of the formalist Walrasian approach, see Blaug (2003). For a thorough review of Friedman's methodological differences with mainstream economic thought, see Hammond (1996).

Increased acceptance of Friedman and Schwartz's long-term analysis was, undoubtedly, also due to the explosion of interest in growth theory in the late 1980s engendered by the Lucas and Romer work on endogenous growth, as well as the other factors discussed in greater detail in the previous section.

The following recounts the mention of this issue in the McConnell textbook. The early editions mentioned the money supply in contributing to the "decline in the volume of spending" in the Great Depression. Until 1993, students learned about the excess reserves from bank panics and reduction of credit during the crisis without learning about the role of the Fed. In the 1981 edition, interviews depicting the misery of the period from Studs Terkel's *Hard Times* were added to the business cycle section (Samuelson too includes references to the book on the noneconomic costs of unemployment).

The 1990 edition discussed the need for the Fed to control the money supply "in an anticyclical rather than procyclical fashion" (1990, p. 318). As stated above, the 1993 edition finally made a clear connection in the text between the fall in the money supply, contraction of bank credit, and inaction by the Fed (1993, p. 278). In the section on monetarism, the 2002 edition added a quotation from Milton Friedman about the failure of the Fed to "exercise the responsibilities assigned to it in the Federal Reserve Act to provide liquidity to the banking system." (2002, p. 360). In reality, this acceptance must be judged as somewhat reluctant, since the section on monetarism in the 2005 edition still retains the Friedman quotation, implying that this remains a heterodox view. As indicated above, the other popular textbooks are a little mixed on this issue.

The Expectations-Adjusted Phillips Curve and Natural Rate Hypothesis

The natural rate hypothesis states that unemployment is stable in the long run at a particular natural rate where cyclical unemployment is zero and not affected by inflation. No trade-off exists between unemployment and inflation over the long run: the long-run Phillips Curve is vertical (or money is neutral). Deviations from this rate can be caused by a shock (e.g., rising oil prices), but the economy always self-adjusts to full employment after some period of time.

Although Phelps (1967) developed the concept at the same time, Milton Friedman (1968) is credited with introducing the natural rate hypothesis in his presidential address to the American Economic Association in 1967. It is considered one of the most influential papers ever published in economics, in part because he predicted the outbreak of the great stagflation of the 1970s. He challenged the idea that there was an exploitable trade-off between inflation and employment, an idea that by then most economists had begun to accept.

The basis for Friedman's challenge was that after inflationary periods, people develop backward-looking expectations based on past and present experience and gradually adjust their behavior (wage contracts, interest premiums, etc.) to accommodate future inflation. As explained above, the work by Lucas and other rational-expectations economists on forward-looking expectations moved the profession toward acceptance of the expectations-augmented Phillips Curve with a unique equilibrium and money neutrality in the long run. Supposedly this concept was accepted by the profession in the early 1970s, but as we shall see, that was not in fact the case.

Expectations

Although the theory of adaptive (backward-looking) expectations originated in the 1960s and became popular in the 1970s, the view was never really supplanted by rational expectations in the 1980s. Friedman and Phelps used it in their work on the natural rate hypothesis, as did the rational expectations economists in their early work (e.g., Lucas & Rapping, 1969a). Since backward-looking expectations admit a short-run but no long-run trade-off in the Phillips Curve, the concept clearly is supported by mainstream views today. Also, criticism of rational expectations made some monetarists reluctant to abandon adaptive expectations.[50] Appropriately, McConnell did not drop it from his text after it was introduced along with the natural rate hypothesis in the 1990 edition.

As David Laidler has argued, "old-fashioned monetarist models with adaptive expectations" can capture inertia in the economy resulting from nominal price rigidities; and "quite a lot of expectations formation is backward-looking" anyway. (Snowden, Vane & Wynarczyk, 1994, p. 186). Moreover, the hypothesis is sometimes used in Keynesian models of aggregate supply and also in at least one advanced macro theory text (Heijdra & Van der Ploeg, 2002) to derivate the aggregate supply curve so that students can better appreciate the Lucas supply curve.

Discussion of rational expectations as a "competing macroeconomic theory" showed up in the 1981 text (Samuelson in 1980), about 10 years after the seminal papers

[50]Muth himself observed that there were circumstances when use of adaptive expectations in a model would be appropriate (1960).

on the subject by Lucas (1972, 1973).[51] The discussion usually follows presentation of the adaptive-expectations Phillips Curve after 1990. The impact of rational expectations I discuss further below.

Slowness to Accept the Natural Rate Hypothesis

According to Snowden and Vane, the majority of Keynesians in the United States came to accept that there was no trade-off between unemployment and inflation over the long run by the "mid- to late-1970s" (1997, p. 3). However, McConnell did not explicitly adopt the natural rate hypothesis with the expectations-augmented Phillips Curve until the 1990 edition, the year that Brue signed on as second author (Samuleson did not adopt it until the 1985 edition, when Nordhaus joined as co-author). Assuming that the idea reached consensus in the profession in the mid- to late 1970s, this means that it took 10 to 15 years for the concept to filter down to the principles textbook.

However much evidence (discussed below) exists that the concept had not been completely accepted—or, rather, it was basically ignored—by many in the profession until the nation had experienced the full impact of the 1970s stagflation. Even though many intellectually accepted the Friedman–Phelps argument, economists and policymakers in the 1970s took what Romer & Romer (2000, p. 39) call an "extended detour" back to 1960s ideas about the Phillips Curve. That is why the mainstream principles textbook did not fully and explicitly accept the natural rate hypothesis for such

[51]A feature on real business cycle theory started with the 1990 edition, where business cycles are caused by real aggregate supply factors rather than by fluctuations in aggregate demand. Early work by Lucas and Rapping (1969b) is often credited as the first important work of real business cycle theory. However, later works by Kydland and Prescott (1982) and Long and Plosser (1983) also sparked expansion of interest in the topic, that is, 10 years before its appearance in the textbook in 1990.

a long time. It also supports the finding that the principles textbook is an accurate chronicle of economic thought.

The following recounts the progressive adoption of the natural rate hypothesis with the expectations-adjusted Phillips Curve in the McConnell text culminating in the 1990 edition. The 1981 edition noted that "perhaps the fundamental question evolving from the awkward decade of the 1970s is whether Keynesian economics is losing its relevance as an analytical model and as a basis for policy" (p. 367). The 1984 edition introduced the aggregate supply curve with its "vertical or classical range wherein real national output is constant at the full employment level and the price level can vary" (p. 172). But the text says that "economists are not sure" and "there is no simple consensus" about the long-run relationship between output and inflation, and perhaps the Phillips Curve relationship applies to demand-side but not supply-side fluctuations (1984, p. 353). The 1987 edition is less tentative, saying that "in the long run . . . a trade–off is much less likely" (p. 320) and makes a somewhat stronger connection between the aggregate supply curve, the "accelerationist view" and rational expectations. These three concepts, however, are more closely brought together in the 1990 edition, introducing the concept of adaptive expectations. The 1990 text formally stated in the preface:

> The "accelerationist" view of the Phillips Curve is now recast as the natural rate theory and the discussion is rewritten to distinguish between short-run and long-run Phillips Curves. . . . Material on the new classical distinction between short- and long-run aggregate supply curves is introduced. . . . The model itself is treated as an outgrowth of the natural rate criticisms of Keynesianism. . . . The

> discussion of policy options for combating stagflation has been greatly condensed. (p. xxxi)

Unwillingness to Abandon the Policy Menu

Many prominent Keynesian economists claim that the profession had accepted the natural rate hypothesis in the early 1970s. For example, Blinder (1988, p. 114), Modigliani (1988, p. 4), Gordon (1990, p. 1134) and Krugman (2000, p. 87) all said that the natural rate hypothesis was adopted only several years after the work by Friedman and Phelps, or in the early 1970s.[52] However, Sargent noted that the concept was "certainly not" accepted by the mainstream in the early 1970s and the "older policy types" doubted the hypothesis "well into the decade" (2002, p. 79 n2). "It is certainly true that some ambition to exploit a Phillips curve, on the hope that it would remain stable, was part of the economics of that time" (Friedman B., 2000, p. 105).

At least one prominent Keynesian was still promoting the idea that the short-run trade-off was available in the late 1970s (Baily, 1978). Many economists with Keynesian training joined or served in advisory roles to the government in the 1960s and 1970s. "It is clear that the Phillips Curve and the low estimate of the natural rate of unemployment helped lead to the appointment of policymakers with less concern about pursing price stability" (Taylor, 1996, p. 185). These officials are usually blamed for contributing to the quick adoption of the Phillips Curve policy menu by the Kennedy and Johnson administrations, causing the Great Inflation of 1969–82.

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[52]Tobin in his 1978 Yrjo Jahnsson Lectures can also be interpreted as having claimed early adoption of the Friedman–Phelps hypothesis by the Keynesians (cited in Lucas, 1981, p. 560).

Several factors contributed to the slowness in the profession to fully adopt the expectations-augmented Phillips Curve, a slowness mirrored in lags by the principles text.

Unrealistic Natural Rate

According to Blinder, the natural rate was never really in dispute during the intellectual ferment of 1972–85 (1988, p. 114). The Fed simply used the *wrong* natural rate. Policymakers in the Federal Reserve failed to take adequate measures to curb the 1970s inflation because mainstream economic opinion at the time was unwilling to accept a "full employment unemployment rate" of more than 4% (Mayer, 1999; Romer & Romer, 2002).[53] Taylor notes that although there was "little evidence for this low figure at the time," the 4% natural rate "was put forth by many economists . . . and it became widely accepted and difficult to change" (1997b, p. 278). McConnell did not replace the 4% natural with the 6% rate until the 1987 edition (p. 175). Samuleson adopted 6% in the 1985 edition, but not without considerable complaint.[54]

Disinflation Costs Believed Too High

Additionally, many studies over the 1960s and 1970s—most notably Perry (1978) and Tobin (1980)—suggested that a prolonged period of very high unemployment might be required in order to make substantial progress in reducing the core rate of wage

[53]Allan Meltzer notes that "very often the Fed staff certainly and perhaps the policy board reflect very much the mainstream views of the economic profession. There is real coincidence" (Fischer, 2002, p. 99).

[54]The Samuelson & Nordhaus 1985 edition placed the natural rate of unemployment at "around 6 percent in the mid-1980s" (1985, p. 223). But the rate "is a central flaw in modern mixed capitalism" and is "getting worse over time, as higher and higher unemployment rates are necessary to restrain inflation" and shows that "chronic unemployment is becoming an increasingly prevalent feature of modern capitalism" (1985, p. 258).

inflation (Mussa, 1994, p. 133; Taylor, 1997b, p. 279; Velde, 2004, p. 37). Essentially, many of these studies used the Friedman–Phelps accelerationist model to demonstrate how costly it would be to reduce inflation (Taylor, 1996, p. 185). Thus it was widely believed in the profession that the cost in terms of lost output and jobs of using monetary policy to bring inflation down was too high (Romer & Romer, 2002, p. 31 and p. 62). De Long (1997) also argued that the lingering memory of the Great Depression contributed to the fear of taking costly measures that might substantially increase unemployment. The more common view among economists throughout the 1970s was that it was hardly worth the high costs to reduce inflation. This view was based on the expectations-augmented Phillips Curve, not simply the original Phillips Curve (Taylor, 1997b, p. 279).

Cost–Push Factors

Many economists in the late 1970s and 1980s believed that a large part of the inflation was due to what Samuleson called the *new inflation* (Samuelson, 1976, p. 823). The new inflation is based on a Galbraithian view of union and corporate power in monopolistically competitive markets (Mayer, 1999, p. 101). (As discussed below, McConnell did not abandon Galbraithian institutionalism until 1990.) In fact, in the mid- to late 1970s, monetary and fiscal policymakers in the Federal Open Market Committee and the Council of Economic Advisers tended to put more emphasis on supply shocks from food and energy prices—another cost–push factor—as a source of inflation (Romer & Romer, 2002). Cost–push theory never quite satisfactorily explained inflation, but it is often used to justify incomes policies (see discussion under Monetary Source of Inflation, below).

In Mayer's words, "economists who think that cost–push is a major cause of inflation generally oppose pursuing price stability at the cost of higher unemployment, on the argument that it would take unacceptable unemployment to reduce the inflation rate significantly" (1999, p. 95). Moreover, cost–push inflation offends one's sense of justice, since unorganized workers and workers in competitive industries would be losing their jobs just because unionized workers could raise their wages or oligolopistic industries could raise their prices (ibid.).

Some Inflation can be Tolerated

As was pointed out above, belief in the high cost of disinflation in terms of lost output contributed to a willingness on the part of economists and policymakers working with the administration to tolerate increasing levels of inflation. But the idea that short-term inflation could be tolerated was also related to the fact that many economists did not focus on the idea that lower employment meant *accelerating* inflation, not just higher inflation (Mayer, 1999, p. 95; Taylor, 1997b, pp. 278). Finally, there was (and still is) the widespread belief among many Keynesian economists that "a little inflation is good" (see below).

Adoption of Incomes Policies

To summarize, economists at the time held several widespread beliefs that delayed full acceptance of the expectations-adjusted Phillips Curve. These included the following: (a) a lingering belief in the trade-off; (b) an overoptimistic view of the natural rate of unemployment; (c) a belief that part of inflation was caused by the market power of unions and big corporations, as well as other cost–push factors such as oil and food;

and (d) a belief that bringing down inflation was extraordinarily costly in terms of lost output. As a result, Keynesian-trained economists recommended the adoption of nondemand management interventions such as incomes policies.[55]

Random Events

I have mentioned the energy and food price shocks, which some economists claim to be the primary cause of the breakdown of the Phillips Curve policy menu (e.g., Baumol & Blinder, 2001, p. 721). Other random events that contributed to high inflation over the period included

- The end of the Bretton Woods system in 1971 and the devaluation of the dollar over 1971–73
- Termination of the Nixon wage–price controls in 1974
- Political pressures from the various administrations. Most notable were (a) Johnson's unwillingness (against the advice of his Keynesian advisers) to use either fiscal or monetary policy to offset the inflationary impact of the Vietnam War, and (b) Nixon's unwillingness to fight inflation by increasing unemployment.
- The productivity decline, which pushed up production costs.[56]

All the above, combined with the typically short-term view of politicians, encouraged administration officials to think that inflation could be controlled without

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[55]The term *incomes policies* here is meant to refer to a wide range of government interventions, for example, wage and price guideposts or controls, voluntary wage and price cooperation, taxation schemes, and moral suasion.

[56]Rather than concentrating on an erroneous natural rate of unemployment, Orphanides (2001) describes the Fed's policy errors over the 1970s following a framework of deviations of actual from potential output.

raising interest rates—and besides, moderate inflation was not worse than high unemployment.

Consensus at Last

As a result of the turmoil of the 1970s, it was not until the early 1980s that economists reached what Romer & Romer (2002, pp.33–35) call the "modern consensus":

- Acceptance that there was no long-run trade-off
- Acceptance of a higher natural rate
- Recognition that inflation tends to accelerate
- Recognition that aggregate demand policies can reduce inflation, while nondemand policies (incomes policies) are not viable
- Greater awareness that the costs of inflation were real and substantial

Brad De Long also argues that it took the decade of the 1970s (the only peacetime inflation in U.S. history) to persuade economists that the natural rate was higher than previously thought and that the costs of high inflation were very high indeed (De Long, 1997, p. 251).

This illustrates neatly how events external to the discipline affect the evolution of modern macroeconomic thought. It shows that macroeconomists have been more successful in responding scientifically to crises once they were past than when they first were upon us (Guthrie, 1984, p. 779).

Influence of Rational Expectations

It must also be said, however, that the "internal" influence of the early rational expectations work also played an important part in final acceptance of the natural rate hypothesis. Mainstream studies in reaction to Friedman–Phelps in the late 1960s (e.g., Solow, 1969) asserted the existence of an exploitable trade-off. It was only after Lucas and his collaborators demonstrated the logical flaw of these studies under forward-looking (rational) expectations, rather than backward-looking (adaptive) expectations, that the mainstream began to truly accept the hypothesis (McCallum, 2000, p. 127). Lucas (1972) and other studies claiming that credible monetary policy could reduce inflationary expectations at very low cost also influenced thinking at the time (Taylor, 1997b, p. 279; Friedman B., 2000, p. 106). These studies became more influential in the 1970s as opinion surveys showed the public's increasing aversion to inflation (Taylor, 1996, p. 185).[57]

In addition, Lucas (1972) overcame the mainstream's previous objection to Friedman's methodological approach (discussed above) by giving the accelerationist Phillips Curve stronger microfoundations and casting it in methodological terms more amenable to the mainstream's research interests, that is, a "rigorous and elegant" Walrasian general equilibrium framework (De Vroey, 2001, p. 135; Chari, 1998, p. 179).

Finally, the rational-expectations economists' emphasis on supply issues and the new interest in economic growth discussed in the previous chapter caused a shift of

[57]This is not to suggest that the Volker disinflation was costless (in terms of foregone output and employment) or that the rational expectations prediction was successful; obviously, it was very costly and the prediction was a failure. But the cost was significantly less—perhaps a third less than the amount that most models predicted at the time (Friedman B., 2000, p. 106; Boskin, 1986, p. 284).

attention in the profession from short-term stabilization policy to long-term issues of economic growth.

Kuhnian Mystery?

Some observers believe that the 1970s inflationary episode represents a period of turmoil in the economics profession in which economists and policymakers temporarily forgot the basic lessons of the Phillips Curve and the role of money in inflation. Thus, in the view of Romer & Romer (2002), "policymakers temporarily went astray by forsaking a good model of the Phillips Curve for a worse one, but eventually returned to the correct view" (Sargent, 2002, p. 80). Allan Meltzer says that "what got lost in the late 1960s and 1970s was the belief that money growth had something to do with inflation" (Fischer, 2002, p. 101). Policymakers' beliefs came full circle after the Volcker disinflation of 1981.

As described above, a two-stage revolution took place in the profession. The first stage was associated with monetarism and the second with rational expectations or new classical economics (De Vroey, 2001). This change concealed a more radical change from Marshallian to Walrasian approaches and from the IS–LM apparatus (which Friedman used—see Garrison, 1992) to the dynamic, stochastic, intertemporal general equilibrium model with rational agents, along with the shift from issues of aggregate demand to aggregate supply.

Events behind this episode are not immediately discernible in the principles textbook. Rather, recognition of the importance of the long-run Phillips Curve appears as a cumulative progression in the textbook, from the 1960s, when economists found that

the trade-off seemed to work, to the 1970s and early 1980s, when it no longer seemed to work because of supply shocks. Then with the productivity gains and other sources of cost reductions in the 1990s, the Phillips Curve began to look like the 1960s version once more. However, we learned from these events that output and employment boosts from increases in aggregate demand are only temporary, since workers cannot be fooled into accepting wages with less purchasing power; consequently the long-run Phillips Curve is vertical (McConnell & Brue, 2005, pp. 299–300).

This is in line with Kuhn's view (1977, Chapter XI) that textbooks present only the most recent outcome of a scientific revolution, leaving out the complex developments and forward and backward movements within the field leading to the actual change. Progress in science is thus portrayed in the texts as cumulative and linear, as if scientists build their understanding one brick at a time. (Warsh, 2006, pp. 372–73). Our knowledge about macroeconomics moves forward step by step as past events play themselves out in a natural experiment.

Slow Self-Adjusting Mechanism

In this review of actual acceptance of the natural rate hypotheses by the professional mainstream, we should note the self-adjustment to equilibrium subsumed in the theory. David Colander notes in *Teaching Keynes in the 21st Century* (1999, p. 1) that "almost all intermediate and principles texts" recognize that the economy gravitates to a long-run natural-rate equilibrium on its own. The McConnell text (somewhat reluctantly) accepts the principle of self-adjustment associated with the natural rate hypothesis—the

Samuelson & Nordhaus text does not.[58] Essentially, the reason for slow self-correction is that wages and prices do not adjust downward. The 2005 edition states clearly:

> There is ample evidence, say mainstream economists, that many prices and wages are inflexible downward for long periods. As a result, it may take *years* for the economy to move from recession back to full-employment output, unless it gets help from fiscal and monetary policy. (2005, p. 346. Emphasis added)

An opinion survey of U.S. university economists in 2000 found no consensus that the economy has a self-correcting mechanism. However, it found "substantial" consensus that it tended toward a natural rate of unemployment in the long run (Fuller & Geide–Stevenson, 2003, p. 373). The issue of self-adjustment of the economy is probably one of the most important theoretical disputes in the history of economic thought.

The slowness of self-adjustment of the economy supports the continued emphasis in the McConnell and other popular textbooks on the need for government to "fix" the economy.[59] Mankiw placed considerable focus on the classical long run, but does indicate that the short run, "a period of several years" (2004, p. 432), has a sloped AS curve, which is "the key difference between the economy in the short run and in the long run" (2004, p. 442) because of sticky wages and prices. McEachern's treatment is similar, and so is that by Baumol & Blinder (2001).

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[58]The 2005 edition of Samuelson & Nordhaus says that "there is no automatic self-correcting price mechanism, and the economy can therefore experience prolonged periods of depression or inflation" and so "monetary and fiscal policies can substitute for flexible wages and prices" (p. 706). Nonetheless, there is quite strong emphasis on the importance of policies that affect aggregate-supply factors and long-run economic growth.

[59]Since the first edition (1960, p. v), McConnell has always differentiated his text in the preface as one that gave full attention to the role of government in the economy. It is no surprise that this role is overwhelmingly positive.

V. Monetary and Fiscal Policy

Monetary Source of Inflation

An implication of the vertical long-run Phillips Curve is acceptance of Friedman's "accelerationist" hypothesis, which states that in the long-run, with the economy at the natural rate of unemployment, the rate of monetary expansion will determine the rate of inflation in line with the traditional quantity theory of money (Snowden et al., 1994, p. 159). The consensus in the economics profession is that over the long run, the rate of growth of the money supply determines the rate of inflation (Snowden & Vane, 1999, p. 88). In 1974, a survey of U.S. university economists found that 73 percent agreed or agreed with the proviso that inflation is primarily a monetary phenomenon (Kearl et al., 1979, p. 30). Opinion surveys of U.S. university economists in 1990 and 2000 show a "substantial" degree of consensus on the proposition that "inflation is primarily a monetary phenomenon" (Fuller & Geide–Stevenson, 2003, p. 376). Certainly more agreement exists on this issue than ever before, since some say that the new Keynesians are really "new monetarists" (Mankiw & Romer, 1991, p. 3; De Long, 2000b, p. 85).

To date, there is very little discussion in the McConnell text of the monetary source of inflation, except with respect to the extreme case of hyperinflation. The primary sources of inflation are cost–push and demand–pull forces caused by institutional pressures with "ratification" by the central bank. In a chapter discussing Friedman's

monetarist view in the three 1980s editions, a special section featured a discussion whether inflation is a monetary phenomenon. It concluded that over the long run an increase in the money supply was a necessary but not sufficient condition for the continuation of inflation (e.g., 1981, p. 346; 1987, p. 420).

It was not until the 1993 edition that McConnell added a statement that "the mainstream has incorporated the monetarist precept that excessive growth of the money supply over long periods is a major source of rapid inflation" (p. 320). This is the same edition that finally recognized the monetary cause of the Great Depression and failure of the Fed (and the dominance of monetary over fiscal policy). But the idea that inflation is a monetary phenomenon receives only scant treatment in the rest of the text.[60] Until the 2002 edition, a statement connecting money growth and inflation was subsumed in the discussion of hyperinflation. In the introductory chapter on growth and instability of the 2005 edition, we find an addition to the definition of demand–pull inflation: "Where inflation is rapid and sustained, the cause invariably is an over-issuance of money by the central bank (the Federal Reserve in the United States)" (p. 142). Like McConnell, the Samuleson & Nordhaus 2005 edition limits the discussion of money and the price level to

[60]The following presents the analysis supporting this statement. The text goes on to say that "this consensus view is reflected in our previous discussions of demand-pull inflation . . . and maintaining the domestic value of the dollar. . . ." (p. 320). The "previous discussions" refers to a lone statement after presentation of the excess-demand definition of demand-pull inflation, that demand-pull inflation can be "crudely expressed in the phrase 'too much money chasing too few goods.'" (1990, p. 168). This statement dates from the 1978 edition (p. 372). However, there was no additional discussion of the role of money in inflation in all editions reviewed, other than the standard discussion of hyperinflation; rather, the emphasis was always on excess demand. Hyperinflation is discussed in reference to "maintenance of the domestic value of the dollar" in the chapter on money and banking. This section concludes, however, that maintaining the value of money depends on "the application of appropriate fiscal policies" (1993, p. 251) as well as control of the money supply. Treatment in earlier editions is similar.

the obligatory section on monetarism. Outside of this section, the text states that the long-run neutrality of money is only a "tendency" (2005, p. 549).[61]

Both textbooks feature detailed treatment of cost–push inflation (Abba Lerner's "sellers' inflation"). This is a concept often associated with a Keynesian view of the economy. Demand–pull inflation is usually associated with a monetarist view of the economy. As pointed out above, economists who advocate cost–push inflation "throw in the towel" against demand–pull inflation and turn to incomes policies to deal with the problem (Miller, 1981, p. 396). Cost–push theory has never been a satisfactory treatment of inflation (Backhouse, 1988, p. 145; Olson, 1979, p. 141). There is a sustainability issue: when inflation increases over time, does corporate or union market power also increase over time, and why would the monetary authorities validate the demand increases anyway? Nonetheless, the convention in the mainstream is to cover both types in the principles textbook. Once the inflationary process has begun, distinction between the two is impossible and probably not important anyway (Patinkin, 1979, p. 130; Greenaway and Shaw, 1988, p. 268).

In sum: mention that inflation is primarily a monetary phenomenon came in the 1993 edition, at about the same time as consensus in the profession; however, this statement must be viewed as what Klamer calls "a throwaway: it reads well but has no consequences" (Klamer, 1990, p. 145). Acceptance of the monetary source of inflation in the McConnell (and Samuelson) text was never complete. The text essentially retains the same orthodox Keynesian view of the role of money that was noted in a review of the

[61]In his review of the 1980 Samuelson edition, Alan Stockman (1982, p. 15) says that "Samuelson's does little justice to the large amount of evidence linking money and inflation."

1981 text (Cordato & Palasek, 1982). This review said: "Monetary inflation . . . is conspicuously absent from serious consideration in McConnell's text" (p. 257). Interestingly, the introductory chapter of Mankiw's first edition (1997) covers the "ten important principles of economics." The ninth principle is "prices rise when the government prints too much money" (p. 12). Mankiw is considered a "new Keynesian."

"A Little Inflation Is Good"

Given its orthodox Keynesian view of the role of money, it is no surprise that until only very recently the text was sympathetic to moderate inflation.[62] The idea that a little demand–pull inflation was good for the economy was introduced in the 1981 edition. Ten years earlier, James Tobin gave an influential presidential address to the American Economic Association, his rejoinder to Friedman's 1968 paper (Fisher, 1988, p. 44). Tobin argued that macroeconomic policy "should aim for unemployment lower than the zero-inflation rate" (Tobin, 1972, p. 18). As the 1981 edition of McConnell states, "Many economists have argued that mild demand–pull inflation tends to have a stimulating effect upon national output" since, after all, "the fact that the price level may be two or three per cent higher will be only a minor irritant to an unemployed worker who is able to find a new job" (1981, p. 187). Even though the natural rate was accepted in the 1990 edition, it was not until the 2002 edition that this discussion was changed to be more evenhanded.[63]

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[62]The issue of measured inflation exceeding actual inflation is ignored in this discussion.

[63]Since it uses the nonaccelerating inflation rate of unemployment approach, the Samuelson text has always implied that some level of inflation may be appropriate. With the NAIRU, the natural rate is not accepted as the "equilibrium rate," as proposed by Friedman (1968). Unemployment has spillover costs that workers or the government must absorb so the NAIRU is likely to be higher than the optimal rate of unemployment.

The view that some inflation is necessary implies that the natural rate hypothesis is not correct. Another implication is that the text authors do not fully accept the classical dichotomy. However, it is a dubious proposition, argues Mankiw (1991, pp. 7–8), that "policymakers should learn to live with inflation, because it is the cost of low unemployment." He asserts that most economists doubt there is a trade-off between inflation and employment over the long run. Many economists today, especially those involved in central banking, believe that 1 to 3 percent inflation imposes significant economic costs on society (Eiffinger, 2001, p. 190; see also Poole, 1999).

However, other economists believe some inflation is necessary. This view was recently renewed by Akerlof, Dickens & Perry (1996), who found that zero inflation would lower U.S. output permanently by 1 to 3 percent. The belief that a little inflation should be tolerated for reasons of equity (the poor are hurt less by inflation than by antiinflation policy) remains a popular Keynesian notion (e.g., Blinder, 1987, pp. 54–55).

In sum, no mainstream consensus exists on whether low inflation should be tolerated (Kahn, 1996). According to Snowden (2002, p. 142), a consensus *is* growing in economic thought that low and stable inflation is conducive to growth. But "although no consensus has emerged on the definition of low inflation, most macroeconomists agree that a sustained inflation in excess of 3 percent is unacceptably high" (Chari & Kehoe, 2006, p. 14).

Thus "lowering the unemployment rate would raise the nation's net economic welfare" (2005, p. 686). The 2005 edition maintains that "the tension between price stability and low unemployment is one of the cruelest dilemmas of modern society" (op. cit., p. 687).

The following records the detailed changes in the McConnell text on this issue: The first edition (1960) presented a brief review of economists' positions for and against "creeping inflation" (pp. 209–10), followed by a perfunctory discussion of hyperinflation in 1923 Germany. This coverage pretty much reflected experience up until 1960, when inflation in the United States had not yet been perceived in the profession as a major problem. McConnell introduced the term *demand–pull inflation* in the 1963 edition, in which "pure" inflation is the result of the economy's "operating at capacity at a point on its production possibilities curve" but "total demand in excess of society's productive capacity pulls the price level upward" (1966, p. 187). Throughout there is emphasis on the view that prices and wages are sticky downward. The case for (with reference to Alvin Hansen) and against creeping inflation was presented up to and including the 1978 edition. In 1981, though, in a major reorganization of the chapter on unemployment and inflation, McConnell modified the text to favor "some" demand–pull inflation. Subsequent editions from 1984 through 1999 held the same position: "Some moderate amount of inflation must be accepted if we are to realize high levels of output and employment."[64] Note that the natural-rate hypothesis with the expectations-adjusted Phillips Curve was formally "accepted" in the 1990 edition. In the 2002 text, however, the opposing view was once again presented: "Proponents of zero inflation argue that

[64]The section was titled "Stimulus of Demand–Pull Inflation." (1984, p. 165; 1987, p. 187; 1990, p. 174; 1993, p. 146; 1996, p. 161; 1999, p. 167)

even mild demand–pull inflation (1 to 3 percent) reduces the economy's real output" (p. 156). The 2005 text has the same "pro versus con" paragraph.[65]

Monetary Versus Fiscal Policy

The debate over monetary versus fiscal policy that started with the "AM-FM radio" debate ended in 1980, after much empirical work, with both monetarists and Keynesians agreeing that both the IS and LM curves were sloped (Lipsey, 2000, pp. 68-69). But as Robert Gordon (1986) pointed out, the "influence of events rather than journal debates" was also important in convincing economists that monetary policy could be used not only for "pumping up a depressed economy" but also for "slowing down an overheated one" as well (Gordon, 1986, p. 129). Two events that convinced economists of the importance of monetary policy were the inflation with rising interest rates in the late 1950s and 1960s;[66] and the increasing recognition in the 1960s (even during these glory days of activist fiscal policy) that changes in government spending involved considerable lags and side effects.

Another factor was the policy advocacy by senior officials of the St. Louis Fed in the 1970s, supported by the macroeconomic modeling work by the staff of the bank. This work, demonstrating that short-run monetary stabilization policies could be successful, was not based on the "reduced form" approach used by Friedman & Meiselman so widely

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[65]The Samuelson & Nordhaus 2005 edition favorably reviews the Akerlof, Dickens & Perry study cited above and argues that "low inflation like that seen recently in the United States has little impact on productivity or real output" (2005, p. 675).

[66]Rising inflation over this period into the 1970s was partly due, argues Wheeler (1998), to the events of the Great Depression that caused the Fed to have an inflationary bias. Economists and policymakers came to believe that maintenance of fixed exchange rates under the gold standard did not justify increased unemployment. De Long (1997) elaborates on the same theme.

criticized by the profession (discussed above); rather, it used large-scale econometric models popular in the mainstream at the time (Hafer & Wheelock, 2001).

Herbert Stein (1996a) has written about the "disintegration of fiscal policy" beginning in 1965 and leading up to the present, with growing deficits resulting in part from the "shortsightedness of policymakers" but also from the lack of any "aggregate goals" about the national budget (p. 522) or any "dominating rule about the deficit" (p. 599). But fiscal policy appears to have stopped being important for demand management with the beginning of the Reagan administration in the 1980s (Romer & Romer, 2002, p. 36; Stein, 1996b, p. 17). This of course was accompanied by a decrease in the 1980s in the active role the CEA used to play in conducting stabilization policy (Feldstein, 1997; De Long, 1996, p. 49). "In general, a large and growing public debt creates political impediments to the use of anti-recessional fiscal policy" (McConnell & Brue, 1996, p. 369).

According to John Taylor (2000a), "there has been little or no discussion about using discretionary fiscal policy to bring aggregate demand back into line with potential GDP in recent years" (p. 28). The arguments against fiscal policy (Taylor classifies them as implementation lags, irreversibility, and political constraints), together with less confidence about the impact of fiscal policy in recent years, led economists to consider that fiscal policy is good only for automatic stabilizer effects and a "fail safe" device if the central bank is having problems reviving aggregate demand (ibid., p. 29). Since the 1960s, the role of automatic stabilizers has actually been much larger than the role of discretionary fiscal policy (ibid., p. 34). Moreover, the increased flexibility of the "new

economy" of the 1990s argues against trying to use fiscal policy for stabilization (Cecchetti, 2000).

Consensus now exists in the profession that monetary policy is better for short-term stabilization than fiscal policy, and the stabilization role for fiscal policy should be limited to the impact of automatic stabilizers (Snowden & Vane, 1999, pp. 88–89). Mankiw (1991) noted:

> In the United States today, fiscal policymakers have completely abdicated responsibility for economic stabilization. Their inability to cope with persistently large government deficits has left them unable even to imagine trying to reach consensus on countercyclical fiscal policy in a timely fashion. All attempts at stabilization are left to monetary policy. (pp. 6–7)

In their attempt to find consensus about this issue among leading economists, Snowden and Vane (1999) found that several prominent economists[67] agreed that the "the discretional stabilizing role of fiscal policy associated with orthodox Keynesianism is dead." Keynesian economists themselves argue this point well. Robert Solow said "it is hard to invent and negotiate a neutral fiscal package. Lobbyists descend, and legislators listen. Any outcome, good or bad, will take a long time to negotiate. . . . So monetary policy gets the stabilization job by default" (ibid., p. 286). "It is difficult to argue that on balance 'discretionary' fiscal policy has played *any* stabilizing role" in managing the U.S. economy since World War II (De Long, 1996, p. 47).

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[67]Nobel laureate Robert Solow (p. 286), John Taylor (pp. 198–99), David Colander (pp. 219–20) and Nobel laureate Franco Modigliani (pp. 249–50) all assented.

As reflected in the principles textbook, the profession no longer views fiscal policy as playing a viable role for short-term stabilization. In the McConnell text, discussion of the "certain problems and questions" with fiscal policy increased in the three editions published over the 1980s; too, the 1981 and 1987 editions featured a special section suggesting that fiscal policy may be impotent. Finally, the 1993 edition added a section titled "Absorption Into Mainstream." It stated that "contemporary macro has absorbed several of the fundamental ideas of monetarism and rational expectations theory":

> During the last half of the 1980s and early 1990s, government largely abandoned the use of discretionary fiscal policy because of large full-employment, or structural deficits. . . . Thus, Federal Reserve monetary policy, not countercyclical fiscal policy, has recently carried the burden of stabilizing the economy. (1993, p. 320)

In its 1992 edition, the Samuelson & Nordhaus text formally recognized that "most macroeconomists believe that monetary policy is more useful than fiscal policy for combating the short-term fluctuations of the business cycle" (Samuelson & Nordhaus, 1992, p. 637).

Monetary Rule

The view that self-adjustment takes place after "years" is consistent with the text treatment of the "rules vs. discretion" issue, which until only recently has been thorough but categorically negative. The concept, of course, originated with Friedman's 1960s revival of monetarist ideas advocating that the money supply should be increased by a

certain percentage each year; with the rational expectations movement, the concept of rules has become broader to apply to both monetary and fiscal policy.

Since the introduction of a discussion of Friedman's "monetarism" in the 1972 edition, the inclusion of rational expectations in the 1981, and real business cycle theory in the 1990 editions, the discussion of rules versus discretion has been full and detailed (including full coverage of the Taylor rule beginning in 2002). The 2005 edition, however, states that "mainstream economists oppose strict monetary rules and a balanced-budget requirement and defend discretionary monetary and fiscal policies" (p. 353). This is consistent with the treatment in mainstream principles texts and reflects the views of the issue in the early 1990s (Snowdon et al., 1994, pp. 212–13 and p. 414).

However, toward the end of the 1990s there appears to have been increasing acceptance of approaching stabilization policy—particularly monetary policy—within a rules-based framework. The field of monetary economics appears to be changing with the broader recognition of the work by Nobel recipients Kydland and Prescott (1977) on "time inconsistency." This view states that whenever expectations are forward looking, discretionary monetary policy is doomed to fail (Snowdon et al., 1994, pp. 204–14). Monetary policy becomes a dynamic game between the central bank and the private sector, where over time government will inevitably renege on its announced policies. The result: players end up in Nash equilibrium—that is, inflation, since the private sector will not adjust its inflationary expectations to announcements that lack credibility. Credibility of monetary policy becomes an issue (e.g., Blackburn & Christensen, 1989). Independence of the central bank also becomes extremely important (e.g., Alesina &

Summers, 1993). John Taylor writes that since the early 1990s, much of macroeconomic policy research has shifted toward "new normative economics." This deals with the evaluation of policy rules, concentrating mostly on monetary policy (Taylor, 2000a, p. 22). Of course, another original work that promoted the idea that policy should be conducted within a long-term, rules-based framework was the policy neutrality proposition of the "Lucas critique" (Lucas, 1976).

Although it is true that inflationary pressures have been weak in recent years, it nonetheless appears to have become a stylized fact that most central banks of the industrial countries now follow a de facto inflation target (McCallum, 2000, p. 122).[68] "Overall, the most fundamental change [in monetary policy] since the 1970s has been the assumption of responsibility by central banks for performance in terms of inflation rates" (ibid., p. 123).[69] More recent studies have confirmed that the movement toward inflation targeting and related policy rules is widespread (Chari & Kehoe, 2006) and it has increasing theoretical support in academia (Mankiw, 2006, p. 16). The 2000 opinion survey cited above found a "substantial" consensus among economists that the Federal Reserve should strive toward a low rate of inflation rather than other possible goals (Fuller & Geide–Stevenson, 2003, p. 376). In sum, there appears to be a strong movement in macroeconomic policy analysis toward central bank openness and monetary rules (Chari & Kehoe, 2006). DeLong attributes this trend to the absorption of this monetarist concept by the new Keynesians (DeLong, 2000).

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[68]By 2002, some 22 countries had adopted monetary frameworks that emphasize inflation targeting, and the number is increasing over time. The Fed has been moving toward openness and inflation targeting for the last 25 years (Chari & Kehoe, 2006, pp. 18-19).

[69]See also the papers by Thygesen, Eiffinger, and Bianchi in Leijonhufvud (2001), which support this view.

With about a 10-year lag, concepts relating to central bank independence and monetary rules began to creep into the principles textbook. It is significant that a discussion of the Fed's "isolation from political pressure" was introduced in the 1990 McConnell text (the point being, of course, that credibility of commitment is increasingly viewed as important).[70] A page devoted to the Taylor rule (Taylor, 1993) started with the 2002 edition. The 2005 edition included a new discussion of inflation targeting along with a notation that, as Eichenbaum pointed out (Eichenbaum, 1997, p. 238), the Federal Reserve has in effect been following a Taylor rule by targeting inflation.[71]

"Crowding-Out" Effect

Recognition of this concept is important because of the impact of accumulated deficits on economic growth by raising the real interest rate and reducing the stock of capital, among other possible effects. It appears that the mainstream profession already was beginning to accept this concept when the Reagan administration took office in January 1981 and embarked on a fiscal policy resulting in higher real interest rates and lower national saving. In a 1984 conference sponsored by the Federal Reserve Bank of St. Louis, Bennet McCallum observed that most publishing macroeconomists no longer agreed with the 1960s Keynesian view of monetarism, citing as evidence a list of current vector autoregression (VAR) studies that used more monetary than fiscal variables (McCallum, 1986, p. 10). The crowding-out thesis appears to have been accepted by James Tobin (1986b). The impact of the Reagan fiscal policies of increased military

[70]Samuelson & Nordhaus introduced the credibility concept in their 1985 edition.

[71]A more nuanced discussion of inflation targeting was introduced in the Samuelson & Nordhaus 1998 edition (pp. 659–60), describing it as "a compromise between rules-based approaches and purely discretionary policies."

spending and reduced taxes was viewed as a confirmation of the crowding-out effect (Mankiw, 1992, p. 69; Chimerine & Young, 1986, p. 32).

Thus it appears that the profession accepted this monetarist concept in the early to mid-1980s. However, from the textbook point of view, current events had as much weight as supporting research in the profession. The problem of crowding out, "which diminishes the effectiveness of fiscal policy," was formally recognized in McConnell's 1993 edition: "Thanks to the monetarists' emphasis on the crowding-out effect, mainstream economists now incorporate this idea within their analysis (p. 321)."[72] Samuelson & Nordhaus accepted the effects of "crowding out" in their 1985 edition, where in the longer run crowding out appears "virtually complete" (p. 355) and is "probably quite high" (p. 364).[73] In sum, it appears that acceptance of the crowding-out concept took a little less time than the standard 10 years after it was embraced by the mainstream. It quickly entered the principles text in part because the huge deficits of the 1980s (the largest in peacetime at that date) were such an important current events topic.

Functional Finance and the Public Debt

The McConnell text has had a chapter with the words "public debt" included in the title since the 1966 (third) edition.[74] The discussion of deficits and the public debt was

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[72]Crowding out was discussed in earlier editions in the section on monetarism versus Keynesianism. Beginning in 1987, more discussion was migrated from that section to the chapter on fiscal policy; still, the 1990 edition observed, "there is much disagreement as to the size of the crowding-out effect" (p. 270).

[73]More significant, the 1985 edition makes the first general statement that high (structural) deficits with loose monetary policy are "a sure recipe for a low ratio of investment to GNP and for slow growth of potential output" (p. 364). To this textbook's credit, later editions up to the present increased the emphasis on the potential impact of continued structural deficits and public debt on economic growth.

[74]The McConnell text has always emphasized the positive role of debt in a prosperous economy (for example, 1975, p. 282). In each edition up to the 1999 edition, the chapter on budget deficits and debt

split off from the chapter on fiscal policy in the 1987 edition because of the "enormous media attention accorded deficits and debt" (1987, p. xxii).

The discussion of fiscal policy and the public debt has always centered on three "budget philosophies": the annually balanced budget, the cyclically balanced budget, and functional finance.[75] Up to the 2005 edition, functional finance is the only positive alternative budget approach offered to the student (the other two being the annually balanced budget and the cyclically balanced budget, which both receive negative treatment). [76]

In the view of Abba Lerner's "functional finance" (1943), the primary purpose of economic policy is to provide for noninflationary full employment and economic growth, without regard to the effect on the public debt. After initial resistance by Keynes to the idea, it became synonymous with Keynesian fiscal policy (Landreth & Colander, 2002, p. 423). Lerner became "one of the few real examples of Friedman's 'fine tuner' straw

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ended with a section titled "Positive Role of Debt." The section assures the student that when consumers and firms are unwilling to borrow and thereby increase private debt sufficient to absorb a growing volume of saving, "it is appropriate for government to expand its debt in order to absorb the remainder. Otherwise, the economy might falter from full employment and not realize its growth potential" (1999, p. 400). Taken by itself, this clearly is appropriate policy advice in many instances, but read in the context of the chapter it serves only to reinforce the generally favorable view of government deficits and debt. In the 2002 edition, this section was deleted, possibly pushed out by the expanded discussion of how to dispose of the recent budget surpluses.

[75]McEachern's text (1988, 1994, 2000 and 2005 editions) also uses "functional finance." However, by the 2005 edition the space devoted to the concept evolved to literally two sentences (p. 688), while the discussion of public debt is more nuanced.

[76]The Samuelson text has always used a more standard definition of government budget policy called "positive fiscal policy": setting taxes and public expenditures to help dampen the swings of the business cycle and maintaining a "growing high-employment economy" free from "excessive demand" inflation. The presentation is framed in a short-run and long-run context and is therefore more nuanced in favor of the long-term damage caused by deficits. Starting with the 1985 edition (see section on crowding out) emphasis increased substantially on the harmful effects of public debt on economic growth. There was never any mention of functional finance.

man" (Howitt, 1985, p. 452). For economists, functional finance fit well into standard IS–LM analysis, and was also palatable for elected officials because it allowed government to spend without taxing. Even a positive reviewer of his work recognized that Lerner is "partly to blame" for unlimited deficit financing (Scitovsky, 1984, p. 1561). Lerner's original approach is preserved in the McConnell & Brue 2005 edition:

> With functional finance, an annually or cyclically balanced budget is of secondary concern. The primary purpose of the Federal budget is to provide for non-inflationary full employment to balance the economy rather than the budget. If that object causes either persistent deficits or persistent surpluses, so be it. In this philosophy, the problems of government deficits or surpluses are minor compared with prolonged recession or persistent inflation. The Federal budget is an instrument of achieving and maintaining macroeconomic stability. Government should not hesitate to incur deficits and surplus to achieve macroeconomic stability and growth. (2005, p. 326)

If the student is shown the pattern of deficits over the period 1930–2006, and the fact that the United States has had only 13 years of budget surplus over that period, the above paragraph takes on an entirely different meaning. Nonetheless, functional finance "appears to be the budget approach used in this country since the Great Depression" (McEachern, 1988, p. 382). Herbert Stein, the noted historian of fiscal policy, said, "We are all functional-financers now" (Stein, 1978, p. 55).

In the McConnell text, Lerner's "we owe it to ourselves" argument has always been a primary justification for running high levels of public debt. The text has always presented this argument in a separate section titled "False Concerns." It begins with the

statement "The public debt does not impose as much of a burden on future generations as generally thought" (p. 330).[77] Disadvantages of the public debt are presented in a following separate section titled "Substantive Issues." With the steadily increasing deficits in the 1980s and 1990s, the latter section put increased emphasis on the crowding-out of capital stock available to future generations, as well as microeconomic distortions (distribution of bond ownership and impact of increased taxes on worker incentives).[78] The chapter summary covers both sides of the issues of public debt; however, the following are the first sentences in 2 of 12 paragraphs in the summary section: "The concern that a large public debt may bankrupt the government is a false worry because. . . ." and "The crowding-out effect aside, the public debt is not a vehicle for shifting economic burdens to future generations" (2005, p. 336).[79]

It appears no consensus exists in the economics profession about the complex and controversial issue of intergenerational debt burden. For example, Kotlikoff & Burns's *The Coming Generational Storm* (2004) received endorsements from many prominent economists, including four Nobel laureates. But the "we owe it to ourselves" argument is widely accepted; the popular intermediate textbook by Dornbusch, Fischer & Startz is an example (2001, p. 442). Some principles textbooks do not cover the life-cycle or

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[77]Buchanan (1958) claims that future generations bear the burden of internal (as well as external) debt because its service is involuntarily imposed. A similar view was also advocated by Bowen, Davis & Kopf (1960). For a full discussion of the issues, see Ferguson (1964).

[78]Treatment of the issue by Samuelson is similar to McConnell, though more nuanced because it is divided into short- and long-term effects and emphasizes the detrimental impact of debt on growth. Similarly, McEachern (2006) concludes that "to the extent that deficits crowd out private capital formation, this decline in private investment reduces the economy's ability to grow" and "can reduce the standard of living of the next [generation]" (p. 700). Mankiw (2001) presents a perfectly evenhanded case for and against reducing the U.S. public debt (pp. 512–16).

[79]Earlier editions before the budget surpluses of 1999–2001 contained the same presentation.

generational accounting models.[80] Needless to say, neither of the textbooks addresses what would cause the domestic and international financial markets to reject U.S. government debt, and possible impacts.

However, the view that high deficits can have a negative effect on long-term growth appears to be gaining ground. Quantitative estimates of the effect of debt reduction on savings appears regularly in official U.S. government documents (Elmendorf & Mankiw, 1999, p. 1639). The Fuller & Geide–Stevenson (2003, p. 375) survey found that there was "substantial" consensus (79.5% agreed or agreed with provisos, down from 85% in 1990) that "a large federal deficit has an adverse effect on the economy."[81] Retention of Lerner's functional finance idea and continued emphasis on the concept in the McConnell & Brue textbook appears to conflict with many economists' concerns about the U.S. deficit.

Ricardian Equivalence

No discussion of fiscal policy would be complete without addressing the "Ricardo–Barro effect." The seminal article that began the interest in this concept was of course Barro (1974). This idea states that Keynesian debt-financed government spending would not have impact because the increased spending would be offset by increased private saving necessary to service the debt—that is, debt is just postponed taxes. Ricardo himself put forth the doctrine to which James Buchanan (1976) attached the label of

[80]Samuelson & Nordhaus introduced the "permanent income" concept in their 1985 edition, and McEachern in his first (1988) edition. Neither McConnell nor Mankiw cover it.

[81] However, it also found that only a "modest" majority (51%, down from 60% in 1990) of economists agreed or agreed with provisos with the statement that "the level of spending relative to GDP should be reduced (disregarding expenditures for stabilization)" (p. 374). Both decreases in concern are likely attributable to the Clinton balanced budgets of 1999, 2000 and 2001.

"Ricardian equivalence." Ricardo himself eventually dismissed the idea—it seems that many in the profession have done the same.

The idea was first introduced in the 1990 text (discussed but not specifically named) but received greater coverage as the "Ricardo–Barro effect" in subsequent editions. It was dropped in the 1999 edition. The Samuelson & Nordhaus 2005 edition retains brief coverage of the concept but says that "the empirical evidence has not been kind to the Ricardian view" (p. 702).[82]

A review of the literature will show that a majority of economists reject the idea on empirical grounds (Gale & Orszag, 2004; Ricciuti, 2003; Stanley, 1998; Elmendorf & Mankiw, 1999, p. 1655; Backhouse, 1997, p. 203; Bernheim, 1987; Feldstein, 1982, 1988). The deficit experiments of the 1980s that coincided with a fall in the saving rate contributed to a real-world indictment of Ricardian equivalence (Boskin, 1988, p. 163).

Economists who continue to entertain the concept "come from institutions . . . toward the political right" (Seater, 1993, p. 184). Others support Ricardian equivalence because of its theoretical elegance (Stanley, 1998; Elmendorf & Mankiw, 1999, p. 1659). Others favor its use as a heuristic device, that is, "trying to explain why Ricardian equivalence is not true can yield a deeper understanding about the effects of government debt on the economy" (Elmendorf & Mankiw, 1999, p. 1645).

Since the large majority of principles students do not go on to major in economics, one could say that from the "keep it simple" pedagogical approach characteristic of the McConnell & Brue text, dropping the concept of Ricardian

[82]Ricardian equivalence was heavily covered in Mankiw's first edition (1997) but dropped in the second edition (2001). McEachern (1988) never covered it from the first (1988) to the seventh edition (2006).

equivalence was entirely appropriate. It may also be noted, though, that this concept conflicts with the heavily Keynesian nature of this textbook.

Fiscal Rule

In both textbooks reviewed here, the discussion of "rules" to promote fiscal discipline—legislative efforts by Congress—received increasingly stronger coverage that paralleled the growth of public concerns with the deficit from the late 1970s. The books give detailed coverage of notable legislative efforts to establish fiscal "rules"—for example, the Gramm–Rudman–Hollings Act of 1985, the pay-as-you go rule (Budget Enforcement Act of 1990), the line-item veto, and privatization efforts.[83] After the 1999–2001 surpluses, coverage of the issue decreased.

But a paragraph on the proposed constitutional amendment for a balanced budget has continued up to the 2005 edition. Because it was such a controversial current events issue, introduction of the proposed balanced budget amendment into the McConnell text was rapid. It occurred in the 1984 edition after the Senate approved the proposed legislation in 1982 (the House failed to pass it). Both the 1984 and 1987 editions contained a full page discussing the proposal, which was driven by the popular concern that growth of government was out of control. The primary work supporting this concept was cited (Buchanan & Wagner, 1977).

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[83]Samuelson & Nordhaus's text discussion of Congress's efforts to enforce fiscal restraint (other than the bananced budget amendment) deals a little more with the positive effects on the deficit—for example, the rules under Gramm–Rudman–Hollings and pay-as-you-go helped produce the budget surpluses after 1998 (2001, pp. 744–45). Throughout the discussions the authors put more emphasis on public-choice problems of implementing budget rules and, consequently, a more balanced view of the issue (see discussion of public choice).

Discussion of the concept of balanced budgets in McConnell has always been unequivocally negative. As indicated above, only three budget philosophies are presented to the student, and two of these involve balancing the budget. Balanced budgets slow down the economy. Each edition since 1984 included at least a paragraph (the 1999 edition featured a graph on p. 252) explaining how the requirement to balance the budget annually would intensify the business cycle. As in previous editions, the 2005 text says annually balanced budgets may intensify the business cycle while cyclically balanced budgets are too difficult to achieve.[84] The text notes three times in a span of five pages that the mainstream of economists does not favor the constitutional proposal (p. 349, p. 350 and p. 353).

Mainstream policy research in macroeconomics is moving toward development of fiscal rules, only much more slowly than monetary policy (Chari & Kehoe, 2006). In addition to the rational expectations work on dynamic time inconsistency and policy ineffectiveness, the early work by Buchanan and Wagner (1977) brought attention to the need for fiscal rules. Much of the new work specifically fixes on intertemporal analysis, which to date is not covered in some principles textbooks. According to Chari & Kehoe (2006), fiscal policy will follow monetary policy and eventually develop rules-based recommendations; these will be oriented toward the minimization of intertemporal distortions in the labor and capital markets.

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[84] The negative view of the cyclically balanced budget began with McConnell's first edition (1960): "Out of the problems associated with any application of the cyclically balanced budget has evolved the idea of functional finance" (1960, p. 273). This was well before it fell out of favor in the profession (e.g., see Blinder & Solow, 1973). Samuelson has the same treatment, at least since 1964 (p. 362).

The doctrine of "sound financing," which caused so many problem sin the Great Depression, is not merely conservative prejudice, as Keynesians such as Abba Lerner wanted us to believe. The question of deficits and public debt remains a central but highly controversial policy issue in the United States.[85] As one observer noted, it is "unsettling to find this amount of disagreement on something that is an important issue for public policy" (Holcombe, 1988, p. 521). The most notable recent work on the dangers of deficits and the public debt is Kotlikoff & Burns (2004).

Balanced Budget Multiplier

The balanced budget multiplier has been another source of controversy with many economists who object to the anti–private sector bias inherent in its formulation. The concept was developed by Trygve Haavelmo, who won a Nobel in 1989. In the Keynesian cross, an increase in government spending has a more powerful effect on aggregate expenditures than does a tax reduction of the same amount. Government spending has a direct effect on aggregate expenditures; the effect of a tax reduction is less direct because its impact is reduced by the marginal propensity to consume.

The implication is that the utilization of funds by government is more efficient than utilization by the private sector. However, the balanced budget multiplier became obsolete in the face of high structural budget deficits. The concept was finally dropped in

[85]Several edited books in the Buchanan & Wagner tradition came out after the heyday of deficits in the late 1970s and 1980s, including Buchanan & Wagner, 1978, 1986; Forte & Peacock, 1985; Cagan, 1985; and Fink & High, 1987.

the 2005 edition "due to its complexity and marginal real-world significance" (2005, Appendix, p. 4).[86]

With the demise of the Keynesian cross, emphasis on the fiscal multiplier in general decreased somewhat. Colander (1999) observed that given our better understanding of forward-looking expectations, multiplier effects are not large empirically and, in fact, the "Keynesian multiplier model is almost unusable" (p. 364).[87] Blanchard (1981) found that the growth of consumer credit has greatly reduced the consumption multiplier. De Long says that as a result of the increased acceptance of monetarist principles in the profession, the multiplier has shrunk in both journals and textbooks (DeLong, 2000, p. 84).[88]

Fiscal Drag

This concept also fell out of use with the declining importance of discretionary fiscal policy. As pointed out by Buchanan & Wagner (1977), fiscal drag was an orthodox Keynesian explanation for the declining GDP in the late 1950s. According to the McConnell text, during the latter part of the 1950s,

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[86]Explicit discussion of the balanced budget multiplier was dropped in the 1992 Samuelson & Nordhaus edition, being subsumed under a general discussion of the "government expenditure multiplier" in a chapter devoted to the "multiplier model." The discussion explains why the multiplier effect from a tax decrease is less than the government expenditure multiplier.

[87]But we should still teach about multipliers because "it is an exercise of the mind, not a model of the economy" and because our best real-world policy models still use multipliers (Colander, 1999, p. 369). Here is an opposing view: "Not only are these multipliers fictitious, since they apply to a version of the economy too simplistic even for first year undergraduates, but I doubt that students feel they learn very much about how the macroeconomy works from the study of multipliers" (Siklos, 1991, p. 1210).

[88]It is noteworthy that since their 1989 edition, Samuelson & Nordhaus have featured a graph from a well-known Brookings study (Bryant, Holtham & Hooper, 1988) showing different estimates of fiscal multipliers, while observing that there is "a great deal of disagreement about the size of multipliers" (1989, p. 195; 2005, p. 497).

> the fiscal system of the Federal government—the economy's primary stabilization device—was actually exerting a contractionary effect on the economy. . . . [T]he progressiveness of the Federal tax system was resulting in the withdrawal of more and more purchasing power from the economy each year as the national income expanded; this withdrawal made it increasingly difficult to achieve a level of total spending high enough to maintain full employment. (1972, p. 196)

As a result, budget surpluses during periods of substantial growth tend to slow down the economy. According to the McConnell text, over a long period of substantial economic growth, the budget surpluses generated by fiscal drag can "precipitate a recession and choke off growth" (1987, p. 280). As part of their tool kit for fine-tuning, the Kennedy Council of Economic Advisers planned to redistribute the budget surplus created at full employment to state and local governments. The idea was known as the Heller Plan.

This dividend from revenue sharing vanished, though, with the increasing costs of the Vietnam War and other expenditure programs of the Johnson administration. The idea of fiscal fine-tuning also began to move to the background with encroaching inflation and subsequent influences in the Johnson and Nixon CEAs from development of new ideas in the economics profession, primarily the natural rate of unemployment (Stein, 1996b, pp. 15–16). According to Charles Schultze, discussions of the dangers of fiscal drag in the CEA in the 1960s and early 1970s began to decline along with increased concern for expanding budget deficits and other developments that ". . . eroded much of the remaining attractiveness of fiscal policy as a stabilization tool" (Schultze, 1996, p. 36).

> Whereas in 1963 fiscal advisers were worried about full employment surpluses, fiscal drag, and finding good uses for the nation's money, in 1973 advisers are worried much more about full employment deficits, inflationary gaps, and finding the money for the nation's uses. (Gramlich, 1973, p. 422)

The fiscal-drag doctrine disappeared from government policy discussions by 1973 (Liebling, 1973, p. 106). Nonetheless, coverage of the concept was not dropped until the 1990 edition in the McConnell text, more than 10 years later, when it was finally reframed in a consolidated discussion of automatic stabilizers.[89]

This is another concept that died out but still retains usefulness in economics in certain contexts. It comes up in discussions about the macroeconomic effects of taxation (e.g., Dungan, 1998). It has been applied to the case of Japan's recent recession (Fischer & Makin, 2001, p. 171). But in the present historical context of increasingly ineffective fiscal stabilization policy in the United States, and the competition for space among ideas and concepts in the principles textbook, the question presents itself: is fiscal drag an appropriate concept for first-year principles students 10 years after it fell out of widespread use in the profession?

Incomes Policies

The observation by economists and policymakers that the trade-off between inflation and unemployment during 1960–65 no longer seemed to hold true in the United States led to the development of policies that would shift the Phillips Curve "to provide a better menu of inflation rate–unemployment rate choices for society" (1984, p. 341). The perception was that inflation came primarily from increases of wage rates in excess of

[89] The "fiscal drag or dividend" was dropped from the Samuelson 1973 edition.

average labor productivity. The perceived success of World War II price controls contributed in part to their being viewed favorably in the textbook.[90]

While not called supply-side policies at the time, "market policies" were advocated to reduce imbalances and bottlenecks in the labor market (e.g., increased job training) and "procompetition" policies to reduce market power of unions and businesses. But the political and economic difficulties presented by procompetition policies (and the widespread perception that direct price controls during World War II succeeded in controlling inflation) led Congress to pursue "incomes policies." Congress believed that voluntary or mandatory wage–price policies were a more feasible alternative to combat the "inflationary psychosis" that seemed to underlie the persistent wage–price inflationary spiral (McConnell, 1975, p. 213).

This nondemand-management concept first showed up in the 1963 edition and had expanded considerably by the 1975 edition. Each subsequent edition updated the progress of incomes policies in successive administrations. The 1990 text, for example, reviewed the failures of the wage and price controls of 1962 during the Kennedy administration and 1971–74 under the Nixon administration.[91] It concluded that the evidence on the effectiveness of incomes policies was "mixed." (1990, p. 387). The next edition contained the same language, but slightly more negative. The following edition (1996) stated that the Carter administration guideposts of 1979 (the last time incomes

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[90] For example: "These wage–price controls would be reminiscent of those exercised by the government during World War II to contain the strong inflationary pressures then existing." (McConnell, 1966, p. 388; and 1972, p. 390).

[91] The 1973 edition of Samuelson was quick to suggest that the 1971–73 wage–price controls were "perhaps" effective in the short run (1973, p. 834).

policies were used by the U.S. government) "also failed" and that "in view of this historical record, there remains little support for incomes policies among American macroeconomists" (p. 354).

However, the 1996 edition also noted that the strategy is used in other nations to fight hyperinflation as a complement to tight monetary policy.[92] The 1999 edition features a small section describing only the negative effects of wage and price controls. It again concludes that "most contemporary economists reject this approach to trying to reduce inflation" (p. 347). The concept was finally dropped in the 2002 edition. It was never dropped in Samuelson.[93]

A survey of U.S. university economists in 1974 found that 72% generally disagreed that wage–price controls should be used to control inflation (Kearl et al., 1979, p. 30). McEachern noted that by the mid-1980s most textbooks began to drop terms that apply to incomes policies, terms such as *wage–price freeze, wage–price guidelines, moral suasion,* and *jawboning* (McEachern, 1996, p. 220). Romer & Romer (2002, p. 35) note that all discussion of incomes policies "virtually disappeared from the narrative record of stabilization policy" in the U.S. government after Carter's final *Economic Report of the President* in 1981. According to their study, this event indicated a new consensus among monetary and fiscal policymakers in the Federal Open Market Committee and the Council of Economic Advisers that these programs had been

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[92]Many European Keynesians still favor income policies (Snowden et al., 1994, p. 327) although new Keynesians in the United States are predominantly against them (ibid., p. 414).

[93]Treatment of incomes policies has always been extensive in the Samuelson & Nordhaus text as an institutional means of controlling inflation (NAIRU since the 1989 edition). The 2005 edition states that "although many economists now believe that incomes policies are simply ineffective [or] pernicious," they are often used by developing countries (p. 413).

ineffective in slowing inflation. In 1994, one of the leading books on current macroeconomic thought pronounced that "the Austrians appear correct in their argument that traditional incomes policies have had their day." (Snowden et al., 1994, p. 381). It thus appears that the concept fell out of favor in the mid-1980s.

Given the premium put on space in principles textbooks, it is difficult to understand why it took more than 10 years from the time it fell out of favor in the profession for this concept to be dropped from the McConnell & Brue text, especially after the concept received such critical treatment, edition after edition. It does not seem feasible that the authors judged that use of the policy in other countries justified its continuation. Certainly incomes policies have been popular with American voters, at least up until the Reagan administration (Blinder, 1987, p. 56). Perhaps the "degree-vintage factor" of the textbook's reviewers played a role in its retention? (Touched on in Chapter I, the degree-vintage factor refers to the the tendency of a Ph.D. to be influenced, in controversial economic issues, by the year in which he received the degree.)

Galbraithian Institutionalism

In a book review in the *American Economic Review*, McConnell's first edition was noted for being "one of the few introductory texts to do justice to the ideas of J. K. Galbraith" (Butler, 1961, p. 155). The major Galbraithian theme developed in the 1960s was the "social imbalance" problem, in which growth of the private sector in the United States was causing the underproduction of public goods (e.g., 1966, Chapter 38). According to the text, Galbraith promoted this view, along with other "well-known" economists, in particular, A. H. Hansen, W. W. Rostow, and F. M. Bator. In the 1970s

the McConnell text placed continued emphasis on concepts developed in Galbraith's *American Capitalism* (1956) and *The Affluent Society* (1958)—that is, how the profit motive and business cycles tend to increase the concentration of economic and social power of large corporations whose influence rivaled that of the state.

The 1980s texts covered the "Schumpeter–Galbraith view" that oligopolistic firms with market power are required for a rapid rate of technological progress (e.g., 1987, pp. 623–24).[94] The theme throughout is that Americans are exploited by big corporations but don't know it. Galbraith was inspired by the works of his teacher Thorsten Veblen, who is considered the founder of the "institutionalist" school in the United States. He also is credited with helping to develop post-Keynesian economics (Davidson, 2005).

Although he was president of the AEA in 1972, he was never accepted by the mainstream of the profession (Gordon, 1968).[95] Until the mid-1980s, the McConnell text featured more citations of Galbraith than any other economist, including Milton Friedman (see Appendix A). As noted earlier by Klamer, playing to the audience of students during the turmoil of the 1970s, and to reviewers who were students back then, sells textbooks.

In a survey of principles texts in the late 1990s, Galbraith was the 12th most cited economist along, with Kuznets and Lucas (Hoaas & Madigan 1999). But a survey of popular graduate-level textbooks used in 35 top-tier departments of economics in 1996–97 found no citations of Galbraith (Liner, 2001). In sum, people appear to have stopped talking about Galbraith by the late 1980s (Boettke, 2006). About 10 years later, the last

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[94]This idea was recently revived by Romer (1990).

[95]For more about the reasons Galbraith's work is not considered to be within mainstream economics, see Sharpe (1973), Friedman (1977) and more recently, Boettke (2006).

references to Galbraith's work were dropped in the 1999 edition (1995 edition of Samuelson & Nordhaus).

Keynesian Microfoundations

"New Keynesianism" originated in the 1970s in reaction to the theoretical crisis in Keynesianism caused by the rational expectations revolution. This label does not cover a unified theoretical program (De Vroey, 2004, p. 84).[96] It is interesting to note that, in general, the new Keynesian concern for microfoundations is essentially a concern with supply-side issues. One of its central efforts since the 1980s has been to establish (rather than merely to assume, as before) the microeconomic foundations explaining the slowness of wage and price adjustment in the economy, within the framework of rational expectations (see Gordon, 1990; Mankiw & Romer, 1991; Mankiw, 2006). Zeroing in on market imperfections also led to revived interest in analyzing imperfect or monopolistic competition. Prominent research themes that are relevant to the principles textbook have been efficiency wages, insider–outsider theories, and coordination failures to explain business cycles.

Mainstream research on efficiency wage theory dramatically increased in the 1980s after Solow's influential paper (1979) and included models based on principle-agent problems (e.g., Shapiro & Stiglitz, 1984). The concept was first discussed about 10 years later in the 1993 edition (1989 in Samuelson & Nordhaus). The discussion was in the context of principal-agent problems related to wage determination, accompanying the

[96]U.S. economists who have contributed to the new Keynesian literature include Gregory Mankiw and Lawrence Summers (Harvard), Stanley Fischer and Olivier Blanchard (MIT), Edmund Phelps (Columbia), Ben Bernanke (Princeton), and John Taylor (Stanford) (Snowdon et al., 1994, p. 289).

standard treatment of union and minimum-wage models of wage-stickiness. Discussion of efficiency-wage concepts was expanded in the 1996 edition, and in 1999 it was moved to a broader discussion of downward-wage inflexibility in the chapter "Macro Theory Disputes."

Insider–outsider theories of wage rigidity were also developed in the 1980s and are primarily associated with Lindbeck & Snower (1988) and their subsequent works. Insider–outsider theory was introduced in 1999 in the "Macro Theory Disputes" chapter, which discusses the slowness of the economy to self-correct.

Coordination failure was another "new"[97] topic. In this, recessions arise from rational agents anticipating one another's price- and wage-setting behavior and reaching a nonoptimal equilibrium (Cooper & John, 1988; Ball & Romer, 1991). Coordination failure was introduced in the 1999 text (again, at least 10 years later) as a new view of what causes macroeconomic instability or "unemployment equilibrium." Coordination failure is a new Keynesian version of business cycle theory based on game theory (Ball & Romer, 1991). This approach relates to the earlier discussion of rules versus discretion. In that discussion, we saw that stabilization policy is coming to be viewed as a game-theoretic problem, as opposed to a "control theory" problem of the 1950s and 1960s.

As another outgrowth of the rational expectations revolution, the idea that the policy regime adopted by the authorities affects people's expectations and behavior is now widely accepted in the field, as is the importance of establishing credibility

[97]Of course, coordination failure (or "disequilibrium Keynesianism") is not new. Clower (1965) and Leijonhufvud (1967) are considered to be the first to explore the "microeconomic foundations of the macroeconomics of non-clearing markets" (Snowden et al., 1994, p. 117). For a full account, see Backhouse & Boianovsky, 2005.

(Snowden & Vane, 1999, p. 89). As noted above, the concept of central bank independence was introduced in the 1990 text (1985 in Samuelson), roughly 10 years after research on these issues became prominent.

Other Issues Not Strictly Macroeconomic

Public Choice

Public choice theory first appeared in the 1978 edition of the McConnell text (1985 in Samuelson & Nordhaus),[98] well before James Buchanan received the Nobel Prize in 1986. Early prominent works in the field were Arrow (1951), Downs (1957), and of course Buchanan & Wagner (1962). Using the profession's journal of record (*American Economic Review*), the mid- to late 1960s might be an appropriate date for the acceptance of public choice as a legitimate heterodox branch of economics.[99] Thus it took about 10 years to filter down to the principles textbook.

Political business cycles. Public choice provides insights into the concept of political business cycles, which took a shorter period of time to show up in the principles textbook. Discussion of the political business cycle was introduced in the chapter on fiscal policy in the 1981 edition, only 6 years after the original Nordhaus study (1975). Economic historian Mark Blaug noted that "it is amazing how quickly" the study of political business cycles has developed since Nordhaus's original work (Snowden

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[98]The Mankiw text does not address public choice whatsoever; it was touted for its shorter size. McEachern treats it fully.

[99]Kuhn (1970, p. 19) tells us that a new paradigm is associated with the founding of a society and specialized journal. The Public Choice Society started in 1963 and *Public Choice* in 1964 (Mansbridge, 1990, p. 311, fn 42, including citation). In the *American Economic Review*, the notes of the annual meeting of 1968 show the presence of the Public Choice Society for the first time, and the first public choice paper published by the journal is Tullock (1969).

&Vane, 1999, p. 330). Part of the rapid expansion was no doubt due to Nordhaus becoming co-author of the Samuelson text in 1985. Another factor was the increasing public concern over the growing deficits (see below).

Most discussion occurs in micro section. As is typical of many texts, most of the public choice discussion takes place in the microeconomics section.[100] There is discussion of political business cycles and "policy reversal" in the chapter on fiscal policy. However, the emphasis throughout the discussion of deficits and public debt has been until the late 1990s on the impact of tax reductions with, by contrast, relatively little discussion of why spending levels remain so high. Since students enroll in macroeconomics and microeconomics at different times and often in different sequences, many students are not given the opportunity to make the direct link between the two sections. Given the general tendency to separate the discussion of fiscal policy from public choice (i.e., political economy) in many top-selling textbooks, the observation made fifteen years ago by James Buchanan still applies today to the view from the textbooks:

> To have believed sincerely that budgetary fine-tuning (even in the absence of political realities...) would have been efficacious for stabilizing employment and output over the possible swings of ordinary economic cycles seems, in retrospect, beyond the limits of academicized isolation. Yet, such was the state of the Keynesian epoch (Buchanan, 1986, p. 140)

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[100]By contrast, McEachern's first edition (1988, p. 384) specifically includes a quarter-page treatment of Buchanan & Wagner's view of budget deficits in its chapter on deficits and public policy. Mankiw does not cover public choice until his 2004 (3rd) edition. Miller's (1985, 2001, and 2006) coverage is limited to an introductory chapter, although the 2006 edition features an excellent new chapter on deficits and the public debt.

Inadequate definition. Public choice theory has never been properly defined in this text. That is to say, there is no presentation of the basic idea that elected officials behave the same way as businessmen and consumers, as implied by basic rational-choice theory. Rather, in the McConnell text, public choice theory "alleges that, just as certain limitations or failures are embodied in the private sector's price system, so there are also more-or-less inherent deficiencies in the political processes and bureaucratic agencies which comprise the public sector"(1987, p. 99). This definition was modified to become "the economic analysis of government decision making, politics, and elections" in the 2005 edition (p. 580). Omission of the correct definition of public choice theory can be understood from the text's failure to adopt the "economic way of thinking" (that is to say, a broadened definition of rational choice) until 1996 (see below).

Role of current events. Coverage of public choice was robust in both the McConnell and Samuelson textbooks until the U.S. budget surpluses of 1999, 2000, and 2001. After that period, public choice content declined somewhat in McConnell and virtually disappeared from Samuelson. This paralleled the survey results in Fuller & Geide–Stevenson (2003) discussed in the earlier section on functional finance; concern in the mainstream about the federal deficit decreased after the 1999–2001 Clinton budget surpluses.

The following recounts the evolution of the treatment of public choice as a new branch of economics in the McConnell textbook. The 1978 edition introduced a 3½-page section titled "Public Sector Failure." It discussed the "theory of public choice" and the

"special interest effect."[101] In 1990 this section was expanded to include discussions of the median voter, logrolling, the paradox of voting (in which society may not be able to rank its preferences consistently through majority voting), rent-seeking behavior, and the public choice view of bureaucracy. The section was expanded and converted in 1993 to a new chapter titled "Public Choice Theory and Taxation." It added pork-barrel politics; the idea that elected officials will favor programs with immediate, short-term benefits with postponed costs; and the limited-choice, bundled-goods problem. This section has not become smaller over time as with Samuelson & Nordhaus,[102] though sections of it remain equivocal.

For example, in McConnell & Brue the description of the public choice view of bureaucracy is somewhat biased: "Some economists contend that public agencies are generally less efficient than private businesses" (2005, p. 585), and "Cynics even argue that a public agency that inefficiently uses its resources is likely to survive and grow!" (p. 586). Contrast these statements with the following statement in the graduate text by Romer (2001): "Even casual observation suggests that governments are sources of enormous inefficiencies" (p. 548). Evidently, the authors believe that principles students should be shielded from a frank public-choice discussion of government, despite the

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[101]This section of the textbook drew on two texts, Gwartney & Stroup (1976) *Economics: Private and Public Choice,* and McKenzie and Tullock (1975), *The New World of Economics.* McConnell continued to base this section on these two texts (and their later editions: *New World* became *Modern Political Economy* in 1978) until the 1990 edition.

[102]In Samuelson & Nordhaus 1985 edition, public choice received quite prominent treatment initially, as noted by Henderson (2002). However, coverage substantially decreased in subsequent editions. For example, coverage went from eight pages in the 1995 edition to three paragraphs (p. 328) in the 2005 edition. The latter section states that public choice "received careful study by conservative politicians during the early 1980s." This decline in coverage after the budget surpluses of 1999, 2000, and 2001 is consistent with Skousen's view (1997b, p. 146) that "government failure has always been downplayed in the Samuelson texts."

heavy coverage of government's role in the economy that has been traditional for this textbook.[103]

A modest public-choice discussion in the chapter on deficits and the public debt was introduced in the 1981 edition and gradually increased with widening public concern over the deficits in the 1980s. It receded in 2002 and then again became more prominent in the most recent (2005) edition.[104] The Samuelson text followed the same pattern but

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[103] See Boettke, Coyn & Leeson (2006) for a discussion of the treatment of government in Samuelson's 1948 edition which still applies to most top-selling textbooks today.

[104]The following traces the public-choice content of the chapters on deficits and public debt in McConnell and Samuelson, respectively:

The discussion of the public choice causes of debt was minimal but increased in parallel with the concern for the issue in current events. It started out fairly strongly with the 1981 edition's introduction of two new items, a section titled "A Political Business Cycle" and a paragraph with the heading "Expansionary Bias?" in the chapter on fiscal policy and the debt, stating that "deficits tend to be politically attractive and surpluses politically painful" (p. 249). However, when this chapter was divided into two separate chapters in the 1987 edition, one on fiscal policy and the other on deficits and debt, these two sections were placed in the chapter on fiscal policy. In the new chapter, the causes of public debt were listed as wars, recessions, and tax cuts (one paragraph), with a brief statement saying, "Without being too cynical one might . . . assert that deficits and a growing public debt are the result of a lack of political will and determination. Remember: Spending tends to gain votes, tax increases precipitate political disfavor" (1987, p. 294). This paragraph remained unchanged in the 1990 and 1993 editions, except it was given a heading, "Tax Cuts" and a discussion of the Reagan deficits in the latter edition. The same paragraph was divided into two sections titled "Tax Cuts" and "Lack of Political Will" (p. 365) in the 1996 edition but also included, at the end of the chapter, an expanded discussion of the importance of entitlement programs and the difficulty of passing tax increases in Congress (same in the 1999 edition). But the section titled "Lack of Political Will" was deleted in the 2002 edition (which featured a large section on how to dispose of the budget surplus). This section was put back in the 2005 edition and retitled "Lack of Fiscal Discipline," with a considerably expanded public choice paragraph (pp. 327–28), starting with the assertion "Stated bluntly, a substantial part of the public debt reflects lack of fiscal discipline by elected leaders."

Until the 1999 budget surplus, the Samuelson text contained a more nuanced, public choice treatment. It introduced a section titled "A New Discipline?" in the 1985 edition, providing a preview to the chapter on public choice, introducing the idea of a balanced budget amendment and suggesting that "some new discipline must replace the budget-balancing maxim" (p. 357). In the 1989 edition the reference to the public choice chapter was replaced with a favorable review of Graham–Ruddman. This section tracked the progress of Graham–Ruddman in the 1992 edition and, significantly, was moved to the end of the section on the public debt (p. 635). In the 1995 edition, this section was retitled "Day of Reckoning?" and was greatly expanded to include quotations from Charles Schultze and Benjamin Friedman with a strong public choice tone (p. 639). Significantly, the usual "valediction" section, which ends the discussion of public debt in a favorable light (similar to McConnell's "Positive Role of Debt" section), was deleted in this edition. This section was entirely deleted in the 1998 edition, as the 1999 budget surplus became apparent. The closing paragraph in this section reviews the fiscal experience of the 1970s and 1980s, and says, "This

public choice content in the deficits and public debt section was drastically cut after the budget surpluses of 1999, 2000, and 2001. Because of the physical separation between this section (deficits and the public debt) and the public choice chapter in McConnell, issues such as the impact of special-interest groups and rent-seeking behavior were not discussed in the more immediate context of the failure by both political parties to control the expanding public debt and the size of government.

Economic Way of Thinking

The omission of the correct definition of public choice theory can also be understood from the basic definition of economic behavior used in the McConnell text. Although the idea achieved consensus in the profession in the mid-1980s (discussed below), the term *rational self-interest* as the basis for economic behavior was introduced only in a rewrite of the 1996 edition (p. 10), which "placed a greater emphasis on the economic way of thinking" (1996, p. xxii). Previous editions referred only to the "rationality or purposefulness in human actions and economic institutions" (e.g., 1993, p. 10). Note also that until the 2002 edition, when it was dropped, the definition of *utility* (pleasure or satisfaction) in the introductory chapter on the "economizing problem" carried a footnote saying, "this definition leaves a variety of wants—recognition, status, love, and so forth—for the other social sciences to examine and study" (e.g., 1999 p. 22n). This footnote occupied the same place since the first edition in 1960.

The point here is that a broader concept of rational choice, rather than a more narrow definition of market behavior, became dominant in economics in the 1980s but

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episode . . . demonstrates that concerted application of standard fiscal tools will do the job" (1998, p. 653). Problem solved.

was not reflected in this textbook until 1996. Sonja Amadae argues that rational choice theory grew out of early work by economists and mathematicians at the RAND Corporation and Ford Foundation during the Cold War, expanding successfully into other fields of social science. She notes that Mancur Olson observed as early as 1962 that economic theory had come to be seen as a general theory of rational behavior rather than merely a description of market behavior in capitalist economies (Amadae, 2003, p. 146). In 1985, Amartya Sen stated that social choice theory was very well established in many disciplines other than economics (ibid., p. 121). Mansbridge estimates that interest in rational choice theory in the field of political science peaked in the 1980s (1990, p. 12).

Thus we might put the year of acceptance in the economics profession of the broader definition of rational choice in the mid-1980s.[105] The Samuelson & Nordhaus text introduced the words "rational choice" in their 1989 edition (p. 451). Since its first edition in 1988, McEachern says that "rational self-interest should not be viewed as blind materialism, pure selfishness, or greed. . . . [It] often includes the welfare of our family, our friends, and perhaps the poor of the world" (1988, p. 8). Mankiw's text contains no direct discussion of rational choice though generally covers the issue under its "ten principles of economics."

Noncooperative Game Theory

Most principles textbooks cover elementary noncooperative game theory embodied in the "prisoner's dilemma." The original development of the prisoner's dilemma at RAND Corporation was inspired by 1994 Nobel laureate John Nash's work

[105] A well-known exposition of economic behavior that goes beyond egoistic self-interest is Sen (1977).

on noncooperative game theory in 1950 (Nasar, 1998, p. 118). Given the pattern outlined in this paper, one would not be surprised to find that textbook coverage of the prisoner's dilemma was incomplete because the Nash equilibrium, as well as game theory as a whole, was never integrated into mainstream economics until the late 1980s.

In point of fact, interest in game theory by the economics profession stagnated because it was not perceived to fit into the research agenda of the profession over that period (Giocoli, 2004). It made an "astonishing comeback," however, in the 1980s, and by 1985 game theory and in particular the Nash equilibrium "became just about the only language in economics with which to analyze the interactive behavior of rational agents" (Blaug, 2003, p. 398). Revival of interest was due in part to the development of new Keynesian research using game theory as a way to explain business cycles (discussed above).

Coverage of the topic has not been consistent in both the McConnell and Samuelson textbooks.[106] McConnell added a 4 X 4 payoff matrix for oligopoly behavior was added as an optional section in the 1969 edition; a 2 X 2 prisoner's dilemma representing a disarmament game between the United States and the Soviet Union was added in the 1972 edition. But game theory ("theory of games") was dropped after the 1978 edition, to be replaced by an expanded discussion of the Schumpeter–Galbraith

[106]Klamer (1990, p. 143) notes that game theory was introduced in the Samuelson 1970 edition, removed in the Samuelson 1980 edition (actually, it was relegated to a footnote in that edition) and reintroduced in the 1985 edition. Game theory had always been in an appendix to the chapter on imperfect competition in the Samuelson textbook but was brought into the main text in the 1992 edition. Inconsistent treatment of this topic may also have been due to Samuelson's ambivalent attitude toward it. Phillip Mirowski (2002) notes that Samuelson "never revealed any curiosity about the emergence of order from molecular chaos." He goes on to say that a "signal attribute of Samuelsonian economic theory was his hostility to the work of von Neumann. But more to the point, Samuelson never accorded game theory much respect" (p. 229).

view of oligopoly in the 1981 and subsequent editions. A payoff matrix for oligopoly was not reinstated until the 1993 edition. In other words, game theory disappeared from the McConnell text over the 1981–93 editions (12 years).

Theory of Markets With Asymmetric Information

Seminal papers in this relatively new branch of economics included Akerlof's "lemons" paper (1970) and Rothschild & Stiglitz (1976) on information problems of the insurance industry.[107] McConnell introduced a note on Akerlof's paper (he won a Nobel Prize in 2001) in the 1993 text, and by 1996 "information problems" was added to the title of the chapter on government and market failure.[108] The new Keynesian school of thought became established in the 1980s included work on asymmetric information and coordination failures (Snowden et al., 1994, pp. 291-292). So it took roughly 10 years to filter into the McConnell text (15 years in Samuelson).

Moral hazard was first discussed in the context of banking (deposit insurance) and ordinary insurance and in the chapter on the economics of health care. Adverse selection was first discussed in the context of insurance, under a section on "information failures," which is "another, more subtle, market failure" (p. 611); and in the chapter on economics of health care. The discussion was expanded to include other examples of asymmetric information (weights and measures, licensing of surgeons) and moral hazard (child support laws) in the 1999 text.

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[107]Although Stigler did important original work in this area (Rowley, 1999).

[108]Samuelson & Nordhaus introduced the concept of asymmetric information in their 1995 edition in the context of health care and also in more general terms of market failure and the role of government.

VI. Summary and Conclusions

One major and two minor conclusions present themselves from the preceding analysis:

1. Despite the forces of inertia and other factors that affect textbook composition, the principles textbook is a mirrored reflection of current events and the evolution of ideas in the economics profession, with a lag of 5 to 10 years. Concepts that took longer to appear in the textbook "stagnated" or were neglected by the mainstream because they did not meet its research interests. In at least one case, the delay appears to be due to the fact that the concept conflicted with the Keynesian paradigm under which the author(s) and reviewers were trained. Most concepts that fell out of favor were retained well beyond any reasonable timeframe. That appears to be due to the forces of textbook inertia, discussed in Chapter I. At times, old concepts were applied to new situations. Often subsidiary ideas connected to an overall framework (such as aggregate supply) were adopted piecemeal over time, a process that is similar to adaptation in biology textbooks.
2. Aggregate demand–aggregate supply (AD–AS) analysis utilizes the Keynesian IS–LM framework modified by an inverse Phillips Curve. In this respect it offers nothing essentially new. Nonetheless, its widespread adoption has loosened Samuelson's stranglehold on the textbook Keynesian model because it permits

direct classroom exposition of some of the fundamental questions in economics, including revival of neoclassical concepts of the labor market and, more important, the length of time it takes the economy to self-adjust.

3. The best-selling textbook in the United States since 1975 taught our students an outdated fiscal Keynesian approach. That approach presented a continuously favorable view of deficit spending and public debt since its first edition in 1960. Nothing has changed in the American principles textbook since Buchanan and Wagner issued their warning about the effects of Keynesianism on government budgets more than 25 years ago. If anything, they underestimated the impact of the principles textbook on the vast majority of economics students who do not go on to major in economics but do become voting citizens, business people, and, in some cases, decision-makers.

The Principles Textbook as Chronicle of Current Economic Thought

In this paper, I reviewed the arrival and departure of many important concepts in macroeconomics in McConnell & Brue. This textbook was first published in 1960 and was the best-selling principles textbook in the United States, at least until recently. Changes in this textbook were tracked alongside the text by Samuelson & Nordhaus. The review starts with 1960 (Samuelson in 1961) and stops with both 2005 editions. I made comparisons with other popular textbooks where judged appropriate. Most but not all of these important concepts which I tracked revolve around original proposals of Milton Friedman's monetarism and by extension Robert Lucas's rational expectations school of

thought. These are elements of both schools of thought that have been incorporated into the mainstream of macroeconomics since 1960.

These concepts, which were adopted to a greater or lesser extent by the best-selling principles textbook, are the following: the increased importance of aggregate supply in the workings of the economy and an increased emphasis on long-run economic growth; the expectations-adjusted Phillips Curve and natural rate of unemployment, with long-run money neutrality and self-adjustment of the economy to the natural-rate equilibrium; the failure of the Federal Reserve in the Great Depression; the monetary nature of inflation; monetary policy as the preferred short-term stabilization tool; the view that "a little inflation is good"; ineffectiveness of fiscal policy as a short-term stabilization tool, along with acceptance of the monetarist "crowding-out" thesis; monetary and fiscal "rules"; and Keynesian microfoundations

In addition, concepts that eventually were dropped from the textbook were also reviewed in this paper: the Keynesian demand-driven growth model, incomes policies, fiscal drag, balanced-budget multiplier, Ricardian equivalence, paradox of thrift, and Galbraithian institutionalism. I also covered other issues not strictly macroeconomic, such as public choice, the economic way of thinking, noncooperative game theory, and the theory of markets with asymmetric information.

Additional concepts with more pedagogic content covered by this paper are (a) the presentational changes (aggregate supply–aggregate demand, or AD–AS analysis) that accompanied adoption of the expectations-adjusted Phillips Curve and new emphasis

on economic growth and (b) the failure to drop an outmoded view of fiscalism (functional finance), both of which are discussed more in the next sections of this chapter.

Where Is Kuhn's Revolution?

Certainly the principles textbook shows itself to be the "vehicle for the perpetuation of normal science," as Kuhn observed, but they "have to be rewritten in the aftermath of each scientific revolution." (Kuhn, 1970, p. 137). The revolution, however, is not always apparent in the textbooks. The Keynesian revolution took 10 years from the year the *General Theory* was published to its arrival and explication in Samuelson's 1948 textbook, which set the model for principles textbooks to this day.[109] The Phillips Curve as a policy menu was adopted in only a few years by Samuelson (1961) after the original work by A. W. Phillips.

Many economists would probably agree that the acceptance of modifications of the Phillips Curve (the expectations-adjusted or vertical curve) after the 1970s constitutes a veritable Kuhnian "paradigm change" or "scientific revolution" (Snowden & Vane, 1999, p. 319; Wulwick, 1987). The crisis in Keynesian economic theory caused by its inability to provide an explanation for why inflation and unemployment rose together in the 1970s has been compared to the crisis in classical economic theory when it could not explain the vast unemployment of the Great Depression (Willes, 1980, pp. 84–85).

But the revolution that must be reflected in the textbooks, according to Kuhn, does not become apparent. Rather, the changes appear piecemeal and slowly, even linear

[109]Actually, the first textbook to incorporate the *General Theory* was published a year before by Tarshis (1947), but that book did not gain wide acceptance for a number of reasons (see Colander & Landreth, 1996; Samuelson, 1998).

over blocks of 3 to 5 years (the time before a revised edition is published). The renowned sociologist of science Joseph Agassi pointed out that one of the most difficult parts of Kuhn's philosophy to comprehend is how changes actually culminate in the emergence of a new textbook. Agassi asked, "At what critical point do men of science spend sleepless nights until they emerge with a new textbook?" (1981, p. 297).

Kuhn's answer would be that textbooks tend to disguise revolutions and make scientific change appear linear and cumulative. As outlined earlier in Chapter IV, several stories attended eventual adoption of the vertical Phillips Curve in both word and deed by the mainstream after the confusion and turmoil of the 1970s. But these are not reflected in the principles textbook; rather, adoption of the vertical Phillips Curve appears as a smooth, cumulative story based on what macroeconomists learned from current changes in the economy and supported by theoretical developments in the field.

The overall changes in the textbook appear to be slow, cumulative, and linear. The actual time period depends partly on how much the issue meets the research interests of the mainstream, but also on how much the concept departs from the paradigms under which the authors and their reviewers were trained. Current events changes show up almost instantaneously in the next edition. New ideas are adopted more quickly because of the "new blood" factor, while older ideas appear to hang on because of the other forces of textbook inertia discussed in Chapter I (pedagogical convenience or the "Chinese water torture" of editing a textbook described by Nordhaus).

It also becomes apparent that the textbook may formally embrace a revolutionary paradigm like the vertical Phillips Curve but may take another 5 to 10 years or even

longer to accept subsidiary concepts associated with the framework of the paradigm. That is especially the case if those concepts require reorganization of the textbook. It takes still longer for the concepts associated with the old paradigm to be removed from the text. A surprising similarity exists in the process of innovation in biology textbooks, as discussed in more detail below.

The Textbook as Mirror of Changes in Current Thought

Clearly, one of the characteristics of the best-selling principles textbook in the United States as the vehicle of normal science is its consistent and accurate reflection of developments in the economics profession and current events. There appears to be a 5- to 10-year lag for most "new" economic ideas to show up in the text, with a shorter period for changes in current economic thought that reflected major developments in the U.S. economy. The time it takes for new ideas to be adopted is longer (10 years) when those ideas stray from the Keynesian paradigm under which the author and the reviewers were trained. The new ideas take longer than 10 years if they are not relevant to the profession's research agenda. These latter ideas appear to "stagnate" or "incubate" and take longer to fully develop before filtering down to the principles text. Some ideas, such as self-adjustment of the economy under the natural-rate hypothesis, simply have not achieved mainstream consensus to date and consequently do not receive adequate coverage in the principles textbook. Other ideas, such as the monetary source of inflation for which widespread agreement exists in the profession, are simply ignored.

In general, the parallels are surprisingly close. The declining interest in economic growth in the mainstream of the profession from about 1950 until the early 1980s

coincides with the overly long retention of the Keynesian growth model in the principles textbook, long after it died out from the mainstream. Because of its simplicity it continued to be used in development economics, while mainstream economists did not consider it appropriate part of an economists' training. There were methodological differences ("the growth guys talked math, the development guys still talked words"), but basically no genuinely new ideas in growth theory emerged before Lucas and Romer's work on endogenous growth theory, incorporation of the Solow model into real-business cycle models, and several other current events factors that caused the explosion in growth research in the professional mainstream. Pedagogical convenience also likely played a role in the long retention of the Keynesian growth model. Both McConnell and Samuelson did not jettison the concept until Robert Solow won the Nobel Prize in 1987.

Many economists asserted that the expectations-adjusted Phillips Curve with the natural rate hypothesis was "accepted" by the profession in the early 1970s, "only a few years" after Friedman's presidential address to the American Economic Association in 1968. However, it was not explicitly adopted by McConnell until 1990 and 1985 by Samuelson. Thus it took 10 to 15 years from the date of "consensus" for the concept to be adopted by the principles textbook. Why? Because the economics profession and the policymakers that it advised were actually unwilling to abandon the trade-off idea: the natural-rate hypothesis was never fully accepted until after the experience of the stagflation of the 1970s. Over the 1970s, there was widespread belief in a 4 percent natural rate but little evidence to support it. Several prominent economists used the accelerationist Phillips Curve to show that the costs of disinflation would be too high.

Belief in Galbraithian cost–push factors was widespread. That belief reinforced the idea that disinflation would be too costly while denying the role of monetary factors. Promotion of incomes policies implied that the trade-off was exploitable. Fear of repeating the deflation of the Great Depression lingered; and besides, "a little inflation is good."

There were also the theoretical advances of the rational expectations school implying that disinflation would be less costly. More important, the rational expectations school gave stronger microfoundations to the Friedman–Phelps hypothesis and put it into methodological terms that the mainstream was more willing to accept. Thus, it was a combination of theoretical advances and the experience of the stagflation of the 1970s that finally persuaded economists to abandon the idea of the long-term trade-off, as discussed earlier in Chapter IV. This particular issue illustrates the fact that macroeconomics is driven by current events outside the profession. It also illustrates the "new blood" rule described in Chapter I, since the vertical Phillips Curve was adopted only when Brue and Nordhaus became co-authors, respectively.

The joint ideas that monetary factors and the failure of the Federal Reserve to act upon them were a primary cause of the Great Depression was not recognized by the McConnell textbook until the 1993 edition. Until then, students learned that an inadequate level of aggregate demand caused the Great Depression; the combined effect of an inadequate money supply and Fed inaction (government failure) was not recognized as having played a central role. This textual recognition came at about the same time as the issue appears to have been accepted in the mainstream in the early 1990s—but it

came 30 years after Friedman & Schwartz published their monumental work in 1963. Samuelson never recognized this monetary explanation, while other authors of popular textbooks recognized it in the late 1980s and early 1990s. Clearly the traditional Keynesian tendency to discount monetary forces and favor government intervention played a role in resistance to this issue. It is indeed difficult for someone trained in the tradition of 1960s Keynesianism economics to accept that government failure and not market failure was a major cause of the Great Depression.

Acceptance came at a snail's pace also partly because the methodology used by Friedman and his collaborators (methodology that ignored modern developments in econometrics and modeling theory) was not (and still is not) accepted by the mainstream. The development of public choice theory as a legitimate branch of the field in the late 1960s and the policy ineffectiveness proposition of the rational expectations school in the 1970s probably contributed to wider acceptance of the possibility of Fed failure.

Noncooperative game theory received inconsistent treatment by both the McConnell and Samuelson texts. Although the original work at RAND was done in 1950, the "prisoner's dilemma" idea appeared in the 1970s textbooks in connection with disarmament between the superpowers. It disappeared in the early 1980s only to reappear in the late 1990s in connection with oligopoly behavior. This mirrored the lack of interest in noncooperative game theory in the research agenda of mainstream economists from the 1950s to the late 1980s. Revival of interest was also due in part to new Keynesian explanations for business cycles based on game theory (discussed in Chapter V). This material showed up in the principles text about 10 years after the original work.

Retention of some ideas coincides remarkably with current developments in the profession. For example, adaptive expectations, which remains a very useful concept for some macroeconomic models because it admits a short-run Phillips trade-off, was retained in the text discussion of rational expectations. However, Ricardian equivalence, another concept associated with the rational expectations school, was added in 1990 but dropped 10 years later. Ricardian equivalence is an important heuristic device for theoretical studies of fiscal policy but probably unnecessarily complex for most principles students who do not go on to major in economics. The empirical evidence pointing to its real-world impracticality is very strong. Thus it is appropriate that because of pedagogical convenience and decreased practicality it receive less attention in the principles textbook. (Of course, it conveniently does not fit into the Keynesian paradigm.)

The appearance of some new-Keynesian concepts (efficiency wages, insider–outsider theory, coordination failures to explain business cycles) has been in lock step with developments in the profession, but with a minimum 10-year lag from the time interest dramatically increased in the subject by the mainstream. Of course, the new-Keynesian research agenda seeks to establish the (supply-side) microeconomic foundations explaining slow downward adjustment of wages and prices, within the framework of rational expectations. The longer period of adoption (at least 10 years) can be explained by the fact that these concepts fall outside the paradigm of the authors and reviewers. In particular, the new-Keynesian version of business cycle theory, which essentially views stabilization policy as a strategic game, is anathema to the "control

theory" approach under the 1960s Keynesian paradigm. While essentially a microeconomics concept, it is interesting to note that it took 10–15 years for the theory of markets with asymmetric information (lemons, insurance) to filter down to the principles text.

Concepts with strong current events content, such as the Laffer curve, "Reagonomics," and the balanced budget amendment have been particularly rapid in their appearance. In all but one case (Solow), concepts associated with Nobel Prize winners or other work by them appeared in the textbook several years before actual award of the prize. Like most principles textbooks, neither McConnell & Brue nor Samuleson & Nordhaus ever feature coverage of recent Nobel winners, a point recently brought out in a textbook survey by William Becker (2004).

Slow Adoption of the New Paradigm

Several new-Keynesian or "old monetarist" concepts associated with the vertical Phillips Curve paradigm have also been accepted in the principles textbook. The superiority of monetary over fiscal policy for short-term stabilization was endorsed by the textbooks only a few years after acceptance of the natural rate hypothesis. The decline of fiscal policy began as early as the Kennedy years, when policymakers began to recognize that changes in government spending involved considerable lags and side effects. It stopped being important as a short-term stabilization tool with the persistently large full-employment deficits of the Reagan administration in the 1980s (largest peacetime deficits), which made timely countercyclical fiscal policy impossible. The importance of the Council of Economic Advisers also decreased, since it no longer had a fiscal policy

role. By the late 1990s most prominent economists agreed that fiscal policy's role in stabilization was dead. Quick adoption of this concept into the textbooks by the early 1990s was no doubt due to its strong current events content.

The crowding-out hypothesis, long a source of conflict between Keynesians and monetarists, is another example of a concept that was quickly adopted by the textbook after acceptance by the mainstream. It was clear that by the mid-1980s mainstream economists recognized the potentially detrimental impact of accumulated deficits on economic growth by raising the real interest rate and reducing the stock of capital, among other possible effects. The principles textbook quickly adopted this concept only a few years after its acceptance by the mainstream—again, because of the impact of current events.

As discussed in Chapter V, treatment of the monetary rules-versus-discretion issue, another favorite monetarist theme, was categorically negative in the textbooks until recently. The idea of monetary rules did not die out with the failure of the "monetary experiment," which targeted monetary aggregates at the end of the 1970s. A monetary rule or "target" and related concepts associated with the rational expectations school slowly began to receive more favorable treatment in the early 2000s. With about a 10-year lag, the importance of central bank independence and inflation targeting—ideas endorsed by many new Keynesians—began to creep into the principles textbook. This is paradoxical since acceptance of a rules principle also implies acceptance of self-adjustment of the economy.

No such progress attended fiscal rules. Legislative efforts to control the budget cannot be discussed without recognition of public choice issues. McConnell & Brue include little adequate public choice explanation in its chapter on deficits and public debt, with little more than a description of the congressional struggles to legislate budgetary restrictions. The balanced budget rule, of course, was treated very negatively in both textbooks. The Samuelson text included more public choice content in the section on deficits and debt up until the Clinton budget surpluses of 1999, 2000, and 2001. After that, it dropped most of the discussion in the subsequent editions. The reduced public-choice content in Samuelson & Nordhaus after the Clinton budget surpluses (public choice is completely absent from Mankiw's first edition in 1997 but shows up in his 2004 edition) demonstrates the impact of current events on the principles textbook. It also raises the question whether research interest in the topic has declined overall in the profession.

The natural rate hypothesis implies that the economy gravitates toward long-run equilibrium on its own. As Blaug pointed out,

> Keynes rejected the idea that a capitalist economy tends automatically to revert to full employment when disturbed and that the only disagreement amongst economists is how long it takes. Keynes rejected the idea that there is a self-restorative power in a capitalist economy. (Snowden & Vane, 1999, pp. 319–20)

However, along with most popular textbooks, McConnell accepts the view (Samuelson does not) that the economy gravitates towards equilibrium only over several years. This stance is based on downward inflexibility of prices ("monetary and fiscal

policies can substitute for flexible wages and prices"). This result coincides with the lack of consensus in the profession that the economy is self-correcting.

One major concept related to the vertical Philips Curve paradigm still has not been accepted in the best-selling principles textbook, due to absence of consensus in the mainstream. Although the expectations-adjusted natural rate hypothesis was finally adopted in the 1990 McConnell text (1985 in Samuleson), inflation as a monetary phenomenon was never accepted.

The consensus view *now* (particularly among the new Keynesians whom many consider to be "new monetarists") is that inflation *is* a monetary phenomenon. Opinion surveys of academic economists in the United States since the 1990s consistently show substantial consensus on this proposition. To date, acceptance of the proposition has been weak or incomplete in both textbooks reviewed here. A heavy emphasis on cost–push or other institutional forms of inflation implies rejection of the classical dichotomy. Only in the most recent (2005) edition of McConnell was the earlier (1993) formal acceptance of the proposition somewhat reinforced by other statements in the text outside the obligatory review of monetarist views. The Samuelson text has never accepted the proposition.

This implies that the best-selling principles textbook, and the textbook of record in the profession, still do not fully accept the long-run classical dichotomy; indeed, after incorporating the natural rate hypothesis in 1990, McConnell continued to state that "a little inflation is good" for more than 10 years afterward. It is not surprising that (until very recently) the McConnell text took the view that some demand–pull inflation was necessary if the economy is to realize high levels of output and employment. Then in

2002 it adopted a more ambivalent stance (Samuleson & Nordhaus never changed their favorable view toward low inflation). Many economists believe that a little inflation is conducive to growth and also the poor are hurt less by inflation than by antiinflation policy for reasons of equity. Little mainstream agreement exists on this issue.

I have mentioned the reluctance to drop the demand-driven growth model. There is little role for aggregate demand in mainstream growth theory today. But the Keynesian model of demand-driven growth persisted in the text until it was dropped in the 1990 McConnell & Brue edition, when treatment of aggregate growth as a supply-side phenomenon was introduced. However, the 2005 McConnell & Brue text still retains the earliest conception of the production possibilities curve from the original 1960 edition, which says that growth cannot take place unless the "demand factor" actually moves the economy forward. The relationship between (short-run) demand management and (long-run) economic growth remains controversial.

Neither text reviewed here abandoned a basically favorable view of government intervention in the economy. This can be seen by the treatment of public choice in the texts. Adoption of public choice has been incomplete. Adoption of the basic issues came rapidly, and coverage continued to be good even after the 1999–2001 budget surpluses in the McConnell & Brue textbook (after 1999 Samuelson & Nordhaus virtually dropped the discussion of public choice). However, unwillingness to accept the possibility of negative results from government intervention persists. This can be attributed in part to the failure to adopt an adequate definition of *economic behavior* ("economic way of thinking") until 1996, some 15 years after the more narrow definition of *market behavior*

was dropped from the mainstream. In the McConnell textbook, there is also the problem typical of most principles textbooks that the public choice discussion remains in the microeconomics section and is not applied fully in the discussion of fiscal policy and the public debt. Consequently, the 40% of college students who take the macroeconomics course are never exposed to the reasons for increased spending, increasing public debt and the growth of government.

Reluctance to Drop the Old-Paradigm Concepts

The real effect of textbook inertia comes to the fore when we look at the length of time it takes for ideas that fall out of favor in the mainstream to be dropped from the textbook. Of course, in economics, ideas usually just don't die—they fall out of current use but may be resurrected in other circumstances or time periods. Nonetheless, the reluctance to shed some ideas that outlived their usefulness or relevance in the discipline—incomes policies, fiscal drag, paradox of thrift, the balanced-budget multiplier, Galbraithian institutionalism, and functional finance—demonstrates the long-held orthodox Keynesian outlook of this text, but clearly there are other inertial factors at work.

As discussed in Chapter V, incomes policies were viewed as a means of "managing" the Phillips Curve trade-off to prevent wages from increasing faster than productivity. Since union and labor contracts or rising energy prices are the cause of cost–push inflation, incomes policies to control prices and wages may be necessary. Their effectiveness increasingly came under question after the three episodes of their use in the 1960s and 1970s in the Kennedy, Nixon, and Carter administrations. Incomes policies

actually *contributed* to the inflationary problems of the 1970s because, in effect, they implied that government could use them to reduce inflationary pressures while trying to exploit the Phillips Curve trade-off. By the early 1980s they had disappeared from the narrative record of the government, and by the mid-1980s the profession had reached a consensus that they were no longer effective. However, the concept was not dropped by McConnell & Brue until 2002 (it was never dropped by Samuelson & Nordhaus). Many European economists (and post-Keynesians) favor incomes policies, but most mainstream U.S. economists do not.

The concept of fiscal drag was another mortality of the increasing realization in the mainstream of the ineffectiveness of discretionary short-term fiscal policy. It was an explanation for declines in output supposedly caused by the progressive tax system during periods of high growth; the resulting federal budget surplus would be redistributed through revenue-sharing arrangements with states and local governments. Enthusiasm about the idea quickly died out in the early 1970s with the problems of stagflation and worries about the expanding budget deficits. However, the McConnell & Brue text retained fiscal drag for more than 10 years later.

The balanced budget multiplier, with its inherently anti–private sector bias, was dropped by McConnell & Brue in 2005 (Samuelson still devotes an entire chapter to the multiplier). Some economists believe the multiplier has become less important with increased mainstream acceptance of monetarist principles (including the permanent income hypothesis) and decreased of relevance of fiscal stabilization policy. Certainly emphasis on the fiscal multiplier in general has decreased with the demise of the

Keynesian cross in some textbooks. However, many economists still consider the concept important to demonstrate short-run fluctuations of the economy. Some feel that its use in the principles textbook serves more of a pedagogical need for students to practice exercises—what Colander called "mental calisthenics."

The paradox of thrift has also been a controversial issue since principles students have to learn it for the short term but unlearn it when studying long-term economic growth. Also important has been the emphasis on savings in revival of research interest in the late 1980s on long-term economic growth. This concept was dropped in 1993 by McConnell (but reintroduced by Samuelson). Along with the liquidity trap, this is another example of a concept that may fade from view in the medium term, but may still retain importance when applied in other circumstances, as was done in Japan in the last decade.

Until 1990, students were taught that the economic and social power of big corporations could be reined in only by big government. The common Galbraithian theme was, "We are all victims of the capitalist system but we just aren't aware of it." Galbraithian institutionalism has always received prominent coverage in the McConnell text, beginning with the "social imbalance" question of the 1960s (not enough resources directed toward government social programs) and leading to how business cycles tended to increase the concentration of corporate power in the 1970s. From there coverage changed to the "Schumpeter–Galbraith" view of oligopoly and technological innovation in the 1980s, a concept that has been revived with Paul Romer's work on endogenous growth theory.

Clearly an affinity binds the structure of the Phillips Curve, cost–push inflation, and Galbraithian concepts, all of which are part of a view of the macroeconomy that tends to be Keynesian. For many years the McConnell text contained more references to Galbraith than any other economist including Milton Friedman. But mainstream economists never really accepted Galbraith. Even though they appeared to have stopped talking about him in the late 1980s, references to him were not dropped until 10 years later by both textbooks. It is difficult to say how much of the heavy coverage of Galbraith and his ideas was due to the popularity of his views with the authors and reviewers trained in the Keynesian paradigm, and how much was due to the hope that popular journalism will sell textbooks.

Finally, Abba Lerner's functional finance entered McConnell's first edition in 1960 and has been retained to this day. In this quintessentially Keynesian view, the goal of public policy is to "balance the economy not the budget" since government debt does not matter because "we owe it to ourselves." This is still the standard presentation in some popular intermediate textbooks in macroeconomics. However, the way this concept is presented in the principles text completely rules out balanced budgets. This issue is discussed more in the last section of this chapter.

Similarity to Biology Textbooks

Like economics, biology is taught primarily through the textbook. Diffusion of new concepts is "linear" in that it occurs at the research level and then filters downward through the graduate texts to undergraduate texts (Winstanley, 1975). The similarity between the two sciences ends here—because biology is based on principles of natural

science discovered in a laboratory setting, we would expect that the diffusion of ideas in biology is much more rapid than that in economics with its Lakatosian schools of thought. But the textbook reaction to a paradigm shift is very similar to economics. Gaster (1990) showed that new concepts may be incorporated in the undergraduate texts, but pieces of the overall framework—holdovers from the previous paradigm—may take much longer before they are finally dropped.

Briefly, until the early 1940s, it was believed that human heredity was based on a "protein paradigm" made up of large, complex mystery molecules. Oswald Avery and other scientists identified the DNA molecule in the early 1940s, but the field reacted with skepticism because it was widely believed that DNA was too simple a molecule to be the genetic material. The belief that only proteins were complex enough to transmit hereditary traits remained strong. In the early 1950s, though, the protein paradigm collapsed with the work of more scientists on the nucleic acid DNA. Nobel laureates James Watson and Francis Crick pieced together the puzzle, developing the DNA double helix model.

The discovery of DNA was a literal paradigm shift in biology, and it took only about 5 years to be adopted by the biology textbooks after the Watson–Crick work was published in 1953. However, it took another 7 to 10 years for biology textbooks to shed the strong protein bias. It was not a sudden "Kuhnian paradigm shift" but a gradual process in which "bits of knowledge were brought in" while "the frameworks of paradigms in which the knowledge was set continued to change very slowly" (Gaster, 1990, p. 448). Additionally, this paradigm shift helped cause a reorganization of biology

textbooks from being centered on taxonomy to being centered on "great generalizations of biology," or the concept that all life on earth was very similar (ibid., p. 445). As Gaster observed,

> One would expect that it would be easier for an author to insert a new piece of data, than to change deep-rooted assumptions about nature. . . . Just as the intellectual framework to which a scientist is first exposed appears to determine his or her ability to accept new ideas (or so Kuhn argues), so the intellectual framework that an author employs in the initial framing of a textbook seems to determine his or her ability to incorporate new ideas in later editions. In other words, textbooks have considerable inertia which hampers their ability to respond to change (ibid.).

In a similar fashion, even though the principles textbook may adopt the central idea of the expectations-adjusted Phillips Curve and pay homage to the natural rate hypothesis, it is not surprising that other related concepts within the framework—the role of money in inflation and the self-adjusting nature of the economy—take longer to be adopted because of the paradigm under which the author and reviewers were trained. The parallel is unmistakable.

The acceptance of aggregate growth as a supply-side phenomenon is another parallel example. Although McConnell adopted the aggregate supply curve in 1984, the connection with economic growth as a supply-side phenomenon was not made until 1990. The 1996 edition increased emphasis on the supply-side effects of property rights, while the importance of legal–institutional environment was introduced in the 1999 edition. It did not receive serious coverage, however, until the 2002 edition. Treatment of

the Japanese growth miracle was more favorable than Samuelson's treatment, including illustration in connection with the production possibility curve. However, the treatment of the production possibility curve still retains the demand-side factors introduced in the first edition in 1960.

In line with other popular textbooks, the McConnell textbook format was reorganized so that the discussion of long-term economic growth appeared before short-term instability in the 2002 text. That change took place more than 10 years after economists formally recognized aggregate growth as a supply-side phenomenon. Finally, the new interest in endogenous growth is reflected in the McConnell & Brue text more as a result of current events—the "new economy" of the 1990s U.S. economic expansion with higher productivity growth—than recent work in endogenous growth theory in the profession.

The Decline of Monetarism?

Beginning with their 1995 edition (p. 610), Samuelson & Nordhaus added a small section entitled, "The Decline of Monetarism" in their summary chapter on economic growth and macroeconomic policy. According to the authors, the decline was due to the unpredictability of velocity and the Fed's abandonment of using M_2 as a guide to policy. The failure of Volcker's "monetary experiment" of 1979 is also cited elsewhere as a reason for the decline. About ten years earlier, Alan Blinder proclaimed that "monetarism is now an anachronism" (Blinder, 1981, p. 39).

However, it is indeed interesting to note that the changes in the popular principles textbook since the late 1980s and early 1990s, as documented in this paper, show that

concepts that were associated with "monetarism" were eventually absorbed into the mainstream of economic thought, to a greater or lesser degree. From the level of the principles textbook, these concepts are: the natural rate hypothesis and expectations-adjusted Phillips curve; the crowding-out thesis; the decline of fiscal policy, and the superiority of monetary policy, as stabilization tools; more discussion about the advantages and disadvantages of policy rules (i.e., inflation-targeting which may be argued to be a form of "monetary rule"); more questioning of stabilization policy, due in part to the advent of theories about political business cycles and public choice; the link between money and inflation; and greater focus on longer-term economic growth. These ideas are generally associated with the new Keynesians who, as pointed out, have been described as "new monetarists" (e.g., see Mankiw & Romer, 1991; De Long, 2000b).

Loosening Samuelson's Influence on the Principles Text

This paper traces the evolution of economic analysis at the principles level from the short-term aggregate expenditure (AE) or Keynesian cross model to the aggregate demand–aggregate supply (AD–AS model). The latter presentation is a more appropriate tool for long-run treatment of the economy as well as the analysis of alternative schools of thought.

By the late 1970s AD–AS analysis was filtering down into most graduate-level textbooks and 10 years later into most principles textbooks. Several factors explain its rapid expansion into graduate textbooks: Use of IS–LM analysis at the graduate level declined because of (a) the need to analyze stabilization issues in price-space, (b) the increased interest at the graduate level in microfoundations-based representative-agent

models, (c) the decline of the profession's interest in money demand (LM curve), and (d) most important, the pedagogical appeal of AD–AS.

This latter factor explains its spread to principles textbooks, though expansion was slower owing to the dominance of Samuelson's textbook model and resistance to the concept by some prominent economists. Adoption of AD–AS can be viewed as a major break from the Keynesian textbook model first developed by Samuleson. Many factors rendered the AE model increasingly irrelevant to the concerns of mainstream economics, as well as to the instructional requirements of the classroom. The old model could not handle the implications of the rational expectations revolution with its emphasis on the labor market (the "Lucas supply curve"), the neoclassical production function, and concerns about economic growth. A new model in price- and output-space was needed to better analyze the problems of stagflation, supply shocks, and productivity decreases that arose in the 1970s. Surveys show that the Keynesian cross is on its way out in principles texts. Yet the best-selling principles textbook has not fully bought into the idea; it has adopted the AD–AS analysis alongside the AE model and has scrupulously refrained from implying anywhere in the text that self-adjustment may take place without government assistance.

We can provide an answer to the question posed in the beginning of this paper, whether Skousen's observation that "all textbooks have shifted towards free markets" was accurate. The answer is equivocal: it isn't and it is. AD–AS analysis is simply a modification of Hicks's "little apparatus" and represents the essence of Keynesian economics. A Phillips Curve that acts like the old Phillips Curve is added for the short-

run supply curve. Many of the traditional Keynesian concepts such as sticky wages and prices and the multiplier are still illustrated using AD–AS analysis. Some say that the incorporation of the aggregate supply curve is just another ad hoc adaptation of Keynesianism that "saved" it from oblivion after the stagflation of the 1970s and the breakdown of the Phillips Curve trade-off.

But it also must be noted that in the best-selling principles textbook, the neoclassical ideas that came with acceptance of the long-run vertical Phillips Curve have not all been fully accepted. These ideas include the concepts that growth is driven by supply, not demand, factors; that money is neutral in the long run; and that that the economy will self-correct to long-term equilibrium in a reasonable amount of time. Friedman is cited less than in previous editions, and since its first edition in 1960 there have been only two citations of Hayek (see Appendix A).

The slowness of change in our textbooks does indeed shed light on the truth of Samuleson's statement that "funeral by funeral, economics does make progress" (Samuelson, 1997, p. 159). Even Kuhn has noted this phenomenon: "Though a generation is sometime required to effect the change, scientific communities have again and again been converted to new paradigms" (Kuhn, 1970, p. 152).

Nonetheless, widespread adoption of the AD–AS presentation represents a major change in the conceptualization of one of the most important questions in economics, namely, whether or not the existing economic system, in any significant sense, is self-adjusting. Now the question has become not *whether* it adjusts but *the length of time it takes* to attain equilibrium. This issue can now be directly addressed with a flexible,

intuitive classroom tool. Additionally, AD-AS analysis permits the re-introduction of the neoclassical growth model with flexible wages and prices back into the principles classroom.

What Were Students Taught About Deficits and the Public Debt?

This final section argues that the issues of deficits and the public debt are presented in the McConnell & Brue textbook in a relatively simplistic manner lacking in nuance. Since it has been the best-selling principles textbook, the treatment of deficits and debt gives support to Buchanan & Wagner's observation that the Keynesian destruction of traditional attitudes toward balanced budgets started in the classroom.

Who Takes the Principles Course?

About 40% of all undergraduate students take at least one economics course during their college career (Siegfried, 2000a, 2000b). The usual requirement for business majors is the principles-of-economics sequence (micro and macro). "This gives us the ability to instill a core level or economic literacy in an amazingly high share of the college-educated population" (Lucas, Krueger & Blank, 2002, p. 477). The vast majority—more than 90%—of college students never take another economics course after the micro and macro sequence. [110]

Do Students Retain What They Learn?

The survey evidence is strong that college students retain some concepts from their principles course (Saunders, 1980; Walstad & Larsen, 1993; Walstad, 1997). The

[110]Only about 2% major in economics (Margo & Siegfried, 1996).

"college economics course has a lasting effect on the current economic knowledge of adults many years after taking the course" (ibid., p. 199).[111]

Why is Retention Important?

Colander observes that U.S. textbooks "are not written for future economists; they are written for future citizens and business people" (2005, p. 940). College-educated Americans tend to have a disproportionate role in policymaking and leadership, and they are more likely than other Americans to vote (Blendon et al., 1997, p. 106). "In fact, economic knowledge . . . may be the most critical factor determining public opinion on economic issues" (Walstad, 1997, p. 203).

> It is the attitude of the interested portion of the citizenry that conditions and structures the context in which policy options are debated and adopted, and this attitude is likely to be conditioned by basic courses. (Steiner, 1997, p. 290)

Improvements in general education of the public improves the general level of economic literacy and therefore improves economic policy, while "changes in the franchise that reduce the level of economic literacy should be expected to have a negative impact on the quality of economic policy" (Caplan, 2001, p. 24).

What Do We Teach Students about Deficits and Debt?

The best-selling textbook in the United States, McConnell & Brue, preserved the original tone and attitude of the first edition in 1960 toward balanced budgets. It instructs that balanced budgets should be used to dampen inflation; they put a drag on economic growth and will worsen recessions. As Abba Lerner argued more than 50 years ago, the

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[111]These findings do not contradict other surveys that find that economic literacy among Americans remains abysmally low, or that retention of economic principles from high school and college courses remains inadequate (Hansen, Salemi & Siegfried, 2002).

concern with public debt is a "false issue" because "we owe it to ourselves." In the discussion of deficits and debt, functional finance is the only positive budget philosophy offered to the student. In each edition after, discussion of the bananced budget amendment proposal once brought before Congress is always accompanied by a negative description of how it would intensify the business cycle. Only a "few" monetarists and rational expectations theorists favor the bananced budget amendment proposal, according to the text.

The reluctance in the McConnell text to accept self-adjustment of the economy under the natural rate hypothesis supports the continued emphasis on the need for government to "fix" the economy. The Keynesian idea of the negative effect of balanced budgets such as fiscal drag was not dropped until 1990. The text did not accept the monetarist argument for "crowding out" and the superiority of monetary policy for fine-tuning until 1993. The fallacy of composition for savings (paradox of thrift) was dropped in the 1996 edition and revived in the 2002 edition in reference to Japan. The balanced budget multiplier implying that government expenditure has more effect than private expenditure was not dropped until the 2005 edition. Students were taught a 1960s Keynesian approach to fiscal policy, an approach that continues to advocate deficit spending and mild acceptance of public debt.

The years in which the above issues were accepted (dominance of monetary policy and the crowding-out effect) track those in the Samuelson & Nordhaus text fairly closely. However, as described in Chapter II, the presentation of the federal deficit and public debt is much more nuanced in Samuelson, in part because it places more emphasis

on short- versus long-term issues. Additionally, since the 1985 edition, the Samuelson text put increasing emphasis on the potentially adverse impact of high structural deficits and public debt on economic growth. Furthermore, the section on deficits and debt contained an increasing tone of alarm about the public debt, paralleling increasing public concern about the issue. It also had a more appropriate public choice interpretation of the problem of deficits and debt up until the 1999–2001 Clinton surpluses (after which the public choice section was practically eliminated). But then again, the Samuelson text fell out of the top-10 list of best-sellers in the 1990s.

The Danger of Oversimplification

There is no doubt that one of the main reasons why the McConnell & Brue textbook has been the best-seller for so many years is that it is written in such a clear and straightforward style. By his own admission, his treatment of difficult topics for the "average student" is more "comprehensive and careful," but the reader is reminded that "Simplicity . . . is correlated with comprehensiveness, not brevity."[112] (The simplicity of McConnell's approach was discussed in Chapter I).

McConnell's own writings outside the textbook attest to his educational philosophy of "keep it simple." McConnell believes that students "expect clearly delineated answers to the problems of the day" and that "we cannot reasonably expect the entire tool kit of economics to be swallowed and digested in two semesters"[113] As a textbook writer, he tried to package the consensus into bite-size morsels: "I feel strongly

[112](e.g., 1960, p. vi; 1993, p. xxv).

[113](McConnell, 1980, p. 15 and p. 21). In the same piece he states again that "students . . . expect definitive answers to the socioeconomic problems of the day" (p. 16).

that teachers of economics have some obligation to provide students with a 'general consensus' [*sic*] portrayal of the corpus or content of economics" (ibid., p. 20). He also has stated that he does not agree that U.S. public debt is a serious issue: in response to an observation in Bell (1988) that U.S. debt to the rest of the world should receive more attention in the principles course, he wrote that "our 'worry lists' differ' [and] "the problem of the hour is frequently quite transient" (1988, p. 150).

"Keep it simple" is an appropriate approach in economic pedagogy, particularly when targeting the C+ student; but clearly it has its limitations when treating such a complex issue as deficits and the public debt. Romer complained about "the demands of the textbook market that values simplicity, familiarity, and decisive answers over all else" (Mankiw, Phelps & Romer, 1995, p. 315). There is no doubt that textbook writers are constrained by the requirements of the market. With any textbook, the instructor can always decide to add emphasis to the portions of the text on deficits and debt that treat the public choice issues, or add material of his or her own. However, this is often not feasible. Many factors militate against an augmenting and nuanced approach by the instructor: time constraints; the workload of the average economics instructor, particularly at the community college level; the long list of topics in the principles curriculum; and as discussed in Chapter I, the encyclopedic nature of top-selling textbooks.

A recent meta-analysis of student learning conducted by the National Academy of Science found that students advance from "novice" to "expert" status in a subject area through a series of learning processes (Bransford, Brown & Cocking, 2000, p. 237). One

such process is related to how a particular problem is presented and how it relates to the students' own experience, e.g., personal budgeting. Since most students who take the principles sequence never take another economics course in their life, we probably cannot expect a large proportion of students to reach the "expert" status. Nonetheless, the relationship between the budget issue at the macro level and how it relates to a students' personal budgeting at the micro level should not be breezily dismissed as irrelevant, following Lerner. It needs to be accompanied by a discussion of the fallacy of composition and the controversial nature of the issue.

As one reviewer of textbooks observed, "a good textbook should not present material that is subject to important professional controversy in a manner that makes the reader think it is uncontroversial and well accepted among scholars" (Stockman, 1982, p. 1). This pretty much sums up the central problem of McConnell's presentation of this issue in comparison with the profession's textbook of record.

What are Attitudes of the Educated Public Towards Deficits and Debt?

From the above discussion, we would expect that citizens who have retained some knowledge of economics from the course they took in college would be less inclined to be concerned about rising deficits or public debt than citizens with less education. They would tend to agree with economists that deficits are manageable, and not with the overall public, which is traditionally fiscally conservative. Most general surveys show that the American public is fiscally conservative (lower taxes, lower budget deficits) but paradoxically favors higher spending on infrastructure and social programs (Anderson, 1987; Stern, 1992). The few public opinion surveys that attempt to measure the level of

education and attitudes toward (rather than knowledge about) the federal deficit have mixed results, possibly because opinion surveys depend so much on the way questions are worded, and other factors. The most comprehensive opinion survey to date is the 1996 Survey of Americans and Economists on the Economy. In this survey, better-educated respondents were somewhat less concerned about the deficit than lesser-educated respondents (Blendon et al., 1997, p. 113). A more recent survey (Blinder & Krueger, 2004) found that there was *no significant difference* between the levels of education of respondents and actual concern about the federal deficit (ibid., p. 353).[114] More research needs to be done on this issue.

The Buchanan-Wagner Thesis

In their analysis of budget policy in *Democracy in Deficit*, Buchanan and Wagner (1977) ask the question "Why do voters continue to support politicians who behave irresponsibly in the fiscal sense?" They predicted that in our democratic system the concept of budget surplus would not survive because of institutional biases against balanced budgets. This in turn would produce a bias toward growth in the provision of services and transfers through government, with a shift in the composition of real output toward publicly provided goods and services (ibid., pp. 103–04). This of course has turned out to be the case.

[114]An earlier comparison by Blinder & Haltz–Eakin (1984) of two major polls found their results on education and attitude toward the deficit to be contradictory (p. 148).

According to Buchanan and Wagner, a broad number of factors contribute to the bias against balanced budgets and in favor of increased public debt.[115] The role of textbooks is clearly part of their answer to the question about why voters elect officials who are fiscally profligate: "The Keynesian revolution began in the classroom and was nurtured there, but ultimately it invaded the citadels of power" (ibid., p. 37). But this is more than just part of the answer.

Little has changed in the American principles textbook since Buchanan and Wagner issued their warning about the effects of Keynesianism on government budgets more than 25 years ago. What is not evident is the pervasive influence of the McConnell & Brue textbook that has continued more than 25 years after Buchanan & Wagner made their observations. If anything, they may have underestimated the impact of the principles textbook on the vast majority of economics students who do not go on to major in economics. In other words, we taught our future citizens, business people, and decision-makers—all future voters—that, in the words of Vice President Dick Cheney, "deficits don't matter." Citizens who *are* concerned about this issue should not be surprised by the shift we have seen to bigger government.

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[115]From the point of view of the taxpayer these are "fiscal illusion," where taxes are indirect and difficult to perceive; the idea that public goods and services financed by borrowing rather than through taxation will lower the "price" of public goods and services at every level; and the evident proposition that many voters don't want their taxes increased, or don't want to lose benefits from publicly supplied goods and services.

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Appendix A - Table: Index Citations of Bates Clark & Nobel Prize-Winners by Edition Year of McConnell

	BC	N	60	63	66	69	72	75	78	81	84	87	90	93	96	99	02	05	Leading/lagging?
Boulding, K. E.	49		5	6	6	6	11	10	10	7	6	6	2	2	1				BC lead
Houthakker, H.	63					1				1	1	1	1						BC lead
Griliches, Zvi	65				1	1	1	1	1										BC lead
Samuelson, P.	47	70	3	3	2	1	2	2	4	4	4	3	3	2	1	1	1		BC lead, N lag & lead
Kuznets, S.		71		1	1	1													N lag
Fisher, F. M.	73				1	1	1	1	1										BC lead
Hicks, J. R.		72	1	1		1	1												N lag
Leontief, W.		73	1		1	1	1		2	1	1	1	1	1					N lag & lead
Myrdal, G.		74		1	1														N lag
Hayek, F. A.		74				1	1												N lag
Friedman, M.	51	76				2	8	8	10	10	7	9	7	4	5	4	5	4	BC lead, N lag & lead
Feldstein, M. S.	77										1	2	2						BC lead
Schultz, T. W.		79	1	1		1		1	1	1									N lag
Lewis, W. A.		79	1	1	1	1	1	1	1	1	1	1	1	1					N lag & lead
Tobin, J.	55	81				1			1	1	1		1	1					BC lead, N lag & lead
Stigler, G. J.		82	8	8	8	7	7	8	8	8	6	5	3	3	3				N lag & lead
Modigliani, F.		85											1	1					N lead
Buchanan, J.		86	1	1	2	2	2	1			1	1	1						N lag
Solow, R. M.	61	87				1	1	1	2	1	1	1	2	1					BC lead , N lag
Miller, M. H.		90	1	1	1														N lag
Krugman, P. R.	91														1	1	1	1	BC lead
Coase, R. H.		91											1	1	1	1	1	1	N lead
Becker, G. S.	67	92							1	1	1	1							BC lead, N lag
Lucas, R. E.		95						2	1	1	1		1	1					N lag
Mundell, R.		99				1	1	1	1	1	1	1							N lag
Akerlof, G. A.		01												1	1	1		1	N lag
Stiglitz, J. E.	79	01												1	1				BC lead, N lag
Levitt, S.	03																1	1	BC lag
Galbraith, J. K.	--	--	15	17	14	15	17	19	18	10	12	6	4	3	2				

Note: Stanley Brue was co-author starting in 1990. The purpose of including J. K. Galbraith in this table is to illustrate the very large number of index citations received by him in the McConnell textbook. BC = Bates Clark prize; N = Nobel prize; Edition year = year of publication of new edition; lag = "lifetime achievement award"

Notes to Appendix A

Index Citation Analysis for Bates Clark and Nobel Prize-winners

The central finding in this appendix is that the Nobel is a lagging indicator and the Bates Clark award is a leading indicator of the productivity of prominent economists. Citations were tracked but this is not an author-citation analysis, for the following reasons. Citation studies of authors in principles textbooks by Breit & Huston (1997) and Hoaas & Madigan (1999) confirmed Stigler & Friedland's findings (1979) that a successful contribution by an author can become so widespread that authorship is taken for granted (i.e., common property). One's work becomes common knowledge with no need for citation (Anderson, Levy & Tollison, 1989). This would be particularly true for principles textbooks which often try to keep references to a minimum. A more recent study of text book citations found that the most often cited authors in one decade tend not to be the most cited authors in the following decade (Liner 2001).

Instead, index citations were tracked to determine whether the two most important prizes in economics, the John Bates Clark award and the Nobel prize, are leading or lagging indicators of lifetime production of work in economics. Since the John Bates Clark award offered by the American Economics Association is given to the most promising economist under 40 years of age, it would appear to be a "leading indicator." Similarly, the Nobel prize offered by the government of Sweden would be a lagging indicator, i.e., a "lifetime achievement" award for a career spent authoring important work in the field. Appendix Table 1 shows the results of this analysis of the McConnell

text (McConnell & Brue after 1990), which is the best-selling economics principles textbook in the US.

The Nobel is a lagging indicator. Very close to all of the citations for 21 Nobel-winners cited in the McConnell text show up before the year they won the Nobel. There were six exceptions: Samuelson, Leontief, Friedman and Stigler continued to receive citations three or more years after receipt of the Nobel (in Freidman's case, 29!); and Ronald Coase, who received his first citation a year before the award; and James Tobin who received his first citation three years before the award.

The Bates Clark award is a leading indicator. All but two (Fisher and Levitt) of the citations of the thirteen economists cited in McConnell who received the award came AFTER the year of receipt. One interesting item is Kenneth Boulding, who continued to receive citations in the McConnell text 46 years after he received the Bates Clark in 1949.

Becker (2004) notes that the trend described above is typical of principles textbooks in general, i.e., Nobel prizes are awarded for work completed years earlier. However he also observes from an informal sampling of currently popular macro and micro principles textbooks that there are extremely few references to recent Nobel laureates. This is the case for the McConnell & Brue textbook as well.

Appendix B

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Jonathan Sleeper is an American citizen and served in the U.S. Agency for International Development (USAID) from 1978 to 2003. He designed, managed, and evaluated economic development programs in less-developed countries, such as development of microenterprise projects for poor women in Nicaragua, privatization of government wheat procurement in Bolivia, support to production and marketing of horticultural exports in the eastern Caribbean, cost-benefit analysis of agricultural credit programs for farmers in the Nile Delta, and establishment of cooperatives to enforce rangeland property rights in Morocco. He also co-authored several papers on the Agency's approach to poverty reduction published by the USAID Office of Evaluation.

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