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CHAPTER 2

*Remembrance of Things Past:
Antitrust, Ideology, and
the Development of Industrial Economics*

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Why study the mistakes of the past?

Reaction in a faculty meeting to the suggestion that the Ph.D. program include a required course on the history of economic thought.¹

2.1. Introduction

What it is that economics can, does, or should bring to antitrust is a topic that turns up fairly often in the literature.² The question of what antitrust has brought to industrial economics has received less attention, and it is that question to which I devote myself in this essay.

Stigler (1982, p. 6) has noted the income redistribution consequences of antitrust for the economics profession. Such transfers accrue to individual members of the profession, and are not my topic. Closer to what I have in mind is the invaluable role of antitrust as a rich source of raw material for industrial economists (Coase, quoted in Kitch, 1983, p. 193):

I think you can often learn more about how the economic system works by reading law books and cases in law books than you can be reading economics books because you do get descriptions of actual business practices which are difficult to explain.

¹ I owe this heading to an anecdote of my late teacher and onetime colleague Walter Adams.

² See among others Bok (1960), Sullivan (1977), Baxter (1983), Turner et al. (1983) and Rowe et al. (1984). Let me note here that anonymous referees have suggested that I include in this chapter a discussion of the impacts of contrasting schools of thought in industrial economics on antitrust. That is an interesting topic, and one I take up in Martin (2006).

1 But this raw material is not without its price. I will argue that the antitrust 1
 2 policy implications that can be drawn from scientific research by industrial 2
 3 economists have drawn ideological currents into academic debate as moths are 3
 4 drawn to a flame, and that this phenomenon contributes to explaining a puzzle 4
 5 that has continued for a period now going on thirty years. This puzzle is the 5
 6 ability of advocates who favor a minimal role of antitrust enforcement in the 6
 7 economy to portray their views, to the legal community, as generally accepted 7
 8 by economists, when this claim is now and has always been manifestly incorrect. 8

9 Concerning the current views of the profession, Bolton et al. (2000, p. 2242) 9
 10 write 10

11 A powerful tension has arisen between the foundations of current legal policy and modern eco- 11
 12 nomic theory. The courts adhere to a static, non-strategic view of predatory pricing, believing 12
 13 this view to be an economic consensus. This consensus, however, is one most economists no 13
 14 longer accept. 14

15 U.S. courts continue to be heavily influenced by what Posner (2001, p. 194, 15
 16 fn. 2) terms “orthodox ‘Chicago School’” views toward most strategic behav- 16
 17 ior, not merely predatory pricing. Bolton et al. are correct that most economists 17
 18 do not now accept the orthodox Chicago School analysis. Consideration of the 18
 19 literature suggests that orthodox Chicago School views were *never* accepted by 19
 20 mainstream economists. 20
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22 Of course, scientific validity is not a matter of majority vote, and as John 22
 23 Bates Clark wrote long ago (1887, p. 45) “Conclusions reached by valid reason- 23
 24 ing are always as true as the hypotheses from which they are deduced. If we 24
 25 admit the fact of unlimited competition, we concede in advance many doctrines 25
 26 which current opinion is now disposed to reject.” Mainstream economists have 26
 27 never disputed that the policy recommendations of the orthodox Chicago School 27
 28 follow as a matter of logic from the assumption that observed prices and quanti- 28
 29 ties can be treated as good approximations to long-run competitive equilibrium 29
 30 values (see the discussion, below, of Reder, 1982). What has never been ac- 30
 31 cepted by most industrial economists is that it is appropriate to make this “good 31
 32 approximation” assumption. 32

33 In Section 2.2, I discuss the rise of industrial economics as a branch of mi- 33
 34 croeconomics. In Section 2.3, I review the rise of the first Chicago School of 34
 35 industrial economics, which advocated affirmative government action to ob- 35
 36 tain and maintain good market performance. In Section 2.4, I turn to the rise 36
 37 of the Second Chicago School, which argued that no such government action 37
 38 was needed, and that markets could, with few exceptions, be treated as if they 38
 39 were in long-run perfectly competitive equilibrium (the “good approximation” 39
 40 assumption). Section 2.5 discusses the oligopoly problem, its role in dislodg- 40
 41 ing the structure–conduct–performance paradigm by the Second Chicago School 41
 42 as a source of antitrust advice and in the rise of game theoretic approaches to 42
 43 the analysis of imperfectly competitive markets by economists. Section 2.6 dis- 43
 44 cusses the evolution of the Second Chicago School in the face of the evident 44
 45 failure of mainstream economists to accept the good approximation assumption. 45

1 Section 2.7 concludes with a few remarks on ideology and its impact on industrial economics. 1
2

3 2.2. Early development of industrial economics³ 3 4

5 2.2.1. Origins 5 6

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8 Industrial economics is generally said to have emerged as a distinct branch of microeconomics with Edward S. Mason's Harvard seminar of the 1930s (Markham and Papanek, 1970, pp. vii–viii), but the topics that occupy industrial economists have concerned economists since before the emergence of political economy as a distinct branch of the social sciences in 1776. 8
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13 Policy questions that remain at the heart of industrial organization were the subject of widespread academic and popular debate in the United States between 1880 and 1900, a debate that continued at only a slightly less intense level between 1900 and 1920. Seven of the first 10 presidents of the American Economic Association played active roles in this debate.⁴ Marshall's 1919 *Industry and Trade* made international comparisons in industrial organization and drew conclusions for economic development. Like the bourgeois gentleman who spoke prose without realizing it, economists who studied "railway problems" (Ripley, 1907) or "trust and corporation problems" (Burns, 1937, p. 663) studied industrial economics in everything but name. 13
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23 But they did so using analytical tools that seemed to them to be ill-suited to the task. The mainstream price theory of the early twentieth century consisted of a theory of competitive markets and a theory of monopoly, with a vast wasteland in between.⁵ This theory of competitive markets was not the modern model of perfect competition, but its Marshallian predecessor. To classify a market as competitive in this sense required only that it "would be possible for other businesses to produce a commodity with the same technical specifications as the product of any particular firm, and to offer it for sale to that firm's customers." If this condition were met (Andrews, 1951, pp. 141–142), "the possibility of entry of other producers would ensure that long-run price would be equal to the normal average cost of production." 23
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34 Economists of the period were aware of the disconnect between the implications of this theory of competitive markets and the industrial world around them (Marshall, 1925 [written in 1890], p. 268): 34
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38 ³ For discussions of the development of the field of industrial economics, see Bain (1949a, pp. 129–133), E.T. Grether (1970), Phillips and Stevenson (1974), David Dale Martin (1976), Hay and Morris (?), Schmalensee (1982, 1987, 1988), Davies and Lyons (1989), Bonanno and Brandolini (1990), and, from a perspective of legal scholarship, Hovenkamp (1991, Chapter 22). 38
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42 ⁴ These are Francis A. Walker, John Bates Clark, Henry C. Adams, Arthur T. Hadley, Richard T. Ely, Edwin R.A. Seligman, and Jeremiah W. Jenks. The works of two others (Tassig and Patten) on tariff policy touched upon topics that would now be classified in industrial economics. 42
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44 ⁵ Schumpeter (1934, p. 249); Bain (1944, p. 4); Stigler (1949, p. 12); Andrews (1951, p. 141; 1952, p. 72); Schneider (1967, p. 139). 44
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1 it is chiefly from America that a cry has been coming with constantly increasing force for 1
 2 the last fifteen years or more, that in manufactures free competition favours the growth of 2
 3 large firms . . . ; that such firms, if driven into a corner, will bid for custom at any sacrifice; 3
 4 that, rather than not sell their goods at all, they will sell them at [marginal cost]. . . , which is 4
 5 sometimes very little; that, when there is not enough work for all, these manufacturers will 5
 6 turn their bidding recklessly against one another, and will lower prices so far that the weaker 6
 7 of them will be killed out, and all of them injured; so that when trade revives they will be 7
 8 able, even without any combination amongst themselves, to put up prices to a high level; that 8
 9 these intense fluctuations injure both the public and the producers; and the producers, being 9
 10 themselves comparatively few in number, are irresistibly drawn to some of those many kinds 10
 of combinations to which, nowadays, the name Trust is commonly . . . applied.

11 Spurred by this perceived disconnect, some economists developed new theoret- 11
 12 ical tools, while others turned to empirical approaches. 12
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14 2.2.2. Monopolistic competition 14

15 An initial theoretical response was the attempt to refine the cost curve apparatus 15
 16 of Marshall's theories of the firm and of industry supply. Sraffa, commenting on 16
 17 these efforts, drew attention to the importance of the demand side of the market 17
 18 for market performance (1926, p. 543): 18
 19

20 The chief obstacle against which [businessmen] have to contend when they want gradually 20
 21 to increase their production does not lie in the cost of production—which, indeed, generally 21
 22 favours them in that direction—but in the difficulty of selling the larger quantity of goods 22
 23 without reducing the price, or without having to face increased marketing expenses. This nec- 23
 24 cessity of reducing prices in order to sell a larger quantity of one's own product is only an 24
 25 aspect of the usual descending demand curve, with the difference that instead of concerning 25
 26 the whole of a commodity, whatever its origin, it relates only to the goods produced by a par- 26
 27 ticular firm; and the marketing expenses necessary for the extension of its market are merely 27
 28 costly efforts . . . to increase the willingness of the market to buy from it—that is, to raise that 28
 29 demand curve artificially. 29

30 Two books published in 1933, Edward Chamberlin's *The Theory of Monop-* 30
 31 *olistic Competition* and Joan Robinson's *The Economics of Imperfect Competi-* 31
 32 *tion*, followed up on Sraffa's theme.⁶ Both put forward analytical frameworks 32
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 35 ⁶ On the relation between the two works, see White (1936) and Fisher (1989, p. 114, fn. 2, emphasis 35
 36 in original): 36

37 It is interesting to note that Joan Robinson, in her *The Economics of Imperfect Competi-* 37
 38 *tion* (1933) which is often paired with Chamberlin's book, simply failed to understand the 38
 39 oligopoly problem altogether. She assumed (p. 21) that the behavior of each oligopolist can 39
 40 be modelled by creating a demand curve taking the optimal reactions of rivals into account and 40
 41 then having the oligopolist set marginal revenue equal to marginal cost. This totally begs the 41
 42 question of what those optimal reactions are—and the fact that one cannot know the answer to 42
 43 that before creating the theory is the central core of the oligopoly problem. Chamberlin made 43
 44 considerable efforts to differentiate his product from that of Joan Robinson. In the oligopoly 44
 45 dimension, at least, he was right. 45

1 that incorporated firm-specific downward sloping demand curves and costly 1
2 sales efforts as essential aspects of the firm's environment. 2

3 Robinson (1969, p. xiii) acknowledges her debt to Sraffa (1926) and the lit- 3
4 erature of which it was a part. Chamberlin (1961, pp. 517–518) denies any 4
5 connection between his work and the cost curve controversy. He traces it in- 5
6 stead to a much earlier debate on railroad rates, a debate that drew his attention 6
7 to both oligopoly and product differentiation as features of industrial markets.⁷ 7
8 Railroads were the first wave in the rise of large-scale industry in the United 8
9 States, and to this extent Chamberlin's work may be more directly connected 9
10 than that of Robinson with the underlying industrial developments that prompted 10
11 economists to explore new analytical frameworks. 11

12 Samuelson (1967, p. 138) writes of the theory of monopolistic competition 12
13 as a revolution, leading "economists into a new land," the land of imperfect 13
14 competition (Samuelson, 1967, p. 108, fn. 5): 14

15 If the real world displays the variety of behavior that the Chamberlin–Robinson models per- 15
16 mit . . . then reality will falsify many of the important qualitative and quantitative predictions 16
17 of the competitive model. Hence, by the pragmatic test of prediction adequacy, the perfect- 17
18 competition model fails to be an adequate approximation. 18

19 Stigler offers a more measured assessment (1949, p. 24): 19

20 The general contribution of the theory of monopolistic competition . . . seems to me indis- 20
21 putable: it has led to reorientation and refinement of our thinking on monopoly. We are now 21
22 more careful to pay attention to the logical niceties of definitions of industries and com- 22
23 modities. We are now more careful to apply monopoly theory where it is appropriate. The 23
24 importance of the trade mark and of advertising, and the need for the study of product struc- 24
25 ture and evolution, have become more generally recognized. 25

26 Most economists would probably credit the theory of monopolistic competi- 26
27 tion with a greater impact than Stigler is willing to concede. If it appears less 27
28 than revolutionary to contemporary economists, that may well be because they 28
29 have grown up accustomed to having monopolistic competition as part of their 29
30 intellectual landscape.⁸ 30
31 31

32 2.2.3. Structure–conduct–performance 32

33 The analytical framework that came out of the 1930s was the *structure–conduct–* 33
34 *performance* (S–C–P) paradigm. It was formulated in literary rather than mathe- 34
35 matical form, and it held center stage in industrial economics for some 40 years. 35
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40 ⁷ The relation between the railroad rate controversy and Chamberlin's work is discussed by 40
41 Ekelund and Hébert (1990). 41

42 ⁸ For elements of one debate on monopolistic competition, see Archibald (1961, 1963), Stigler 42
43 (1963), Friedman (1963), and also Chamberlin (1957, Chapter 15). I do not pursue this and other 43
44 such skirmishes, as they proved to be false starts in the debate between Chicago and the rest of the 44
45 profession. The seed planted by Chamberlin did not fully flower until much later (Dixit and Stiglitz, 45
1977; Salop, 1979; Wolinsky, 1986).

1 The economists who erected the S–C–P framework were interested in explaining the way prices were determined in imperfectly competitive markets. 2
3 This interest was explicitly motivated by contemporary industrial developments 3
(Mason, 1939, p. 63): 4

5 The growth of corporate bureaucracies (with the consequent institutionalization of manage- 5
6 ment decisions), the separation of ownership from control, and the growing influence of labor 6
7 organization on policy making are all factors “internal to the firm” which may and do affect 7
8 its reaction to market situations. 8

9 Their view was that the models of competitive markets and of monopoly that 9
10 economists had to work with were not suited for this purpose (Mason, 1939, 10
11 p. 61): 11

12 In perfect markets, whether monopolistic or competitive, price is hardly a matter of judgment 12
13 and where there is no judgment there is no policy. The area of price policy, then, embraces 13
14 the deliberative action of buyers and sellers able to influence price; that is to say, it covers 14
15 practically the whole field of industrial prices. 15

16 They rejected early formal theoretical models of imperfectly competitive mar- 16
17 kets as inapplicable in practice (Mason, 1939, p. 62):⁹ 17

18 It would no doubt be extremely convenient if economists knew the shape of individual demand 18
19 and cost curves and could proceed forthwith, by comparisons of price and marginal cost, 19
20 to conclusions regarding the existing degree of monopoly power. The extent to which the 20
21 monopoly theorists, however, refrain from an empirical application of their formulae is rather 21
22 striking. The alternative, if more pedestrian, route follows the direction of ascertainable facts 22
23 and makes use only of empirically applicable concepts. 23

24 They also rejected the then-common institutional approach to industry stud- 24
25 ies, which they felt was primarily descriptive (Burns, 1937, p. 664, emphasis 25
26 added): 26

27 studies of particular industries assumed a conventional pattern. . . . The technical processes 27
28 of production were described. The organization of the industry was discussed in terms of the 28
29 size and location of plants, the scope of ownership control (the size and extent of integration 29
30 of firms), the organization of marketing, labor conditions, and the history of mergers in the 30
31 industry. . . . The discussion of wages and possibly profits implied an interest in the functioning 31
32 of the industry, *but the aspect of its functioning most vital to theorists and purchasers, namely* 32
33 *its price policy, received scant attention.* 33

34 Mason (1939, p. 61) specifically rejects the institutionalist approach. 34
35

36 Economists of the time called for a general analytical framework (Burns, 36
37 1937, p. 665):¹⁰ 37

38 The primary necessity . . . is some broad framework within which price behavior can be 38
39 analyzed in various industries. It must explain the relationship between the organization of 39
40 production and distribution and the behavior of buyers and of prices. 40

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42
43 ⁹ See similarly Bain (1944, p. 5). For later calls for “a return to the data,” see Andrews (1951, 43
44 p. 172; 1952, p. 75) and Coase (1972). 44

45 ¹⁰ See similarly Mason (1939, p. 61) and Andrews (1952, p. 75). 45

1 The structure–conduct–performance paradigm developed out of Mason’s semi- 1
 2 nar. It was the organizing framework of research in industrial organization from 2
 3 the 1930s to the 1970s, and was the basis of the two successive leading textbooks 3
 4 in the field.¹¹ 4

5 The earliest research in what became the S–C–P tradition were book-length 5
 6 studies of single industries. Subsequently, Bain (?) published a comparative 6
 7 study of a small number of industries. He did not employ regression analysis. 7
 8 Other industrial economists soon turned to the econometric analysis of cross- 8
 9 section samples of industry data, first of small numbers of industries, and later 9
 10 of large samples covering essentially all manufacturing. 10
 11

12 **2.2.4. Did the S–C–P paradigm treat market structure as endogenous or** 12 13 **exogenous?** 13 14

15 Because of the role the issue played in the dislodging of the S–C–P approach 15
 16 by what I will call the Second Chicago School and the subsequent dislodging 16
 17 of the Second Chicago School by game-theoretic analysis, I wish to deal explic- 17
 18 itly with the question whether the S–C–P paradigm treated market structure as 18
 19 being determined by economic forces, or as exogenous, determined outside the 19
 20 marketplace? 20
 21

22 Some economists have taken the view that the S–C–P approach paid scant 22
 23 attention to the determinants of market structure. McGee (1988, p. 2, *emphasis* 23
 24 *in original*) takes the view that causation in the S–C–P paradigm was mostly in 24
 25 one direction: “In the beginning, most economists seem to have believed that the 25
 26 structure–conduct–performance relationship was largely or altogether one way: 26
 27 to a significant degree the *structure* of an industry determines the *conduct* of 27
 28 firms in it; and how firms behave to a significant degree determines how well the 28
 29 industry *performs*.” Davies and Lyons (1996, p. 89) write that economists who 29
 30 worked in the S–C–P tradition “gave relatively little thought to the fundamental 30
 31 determinants of concentration itself.” 31

32 This is a difficult position to defend. Heflebower’s (1954) “Theory of indus- 32
 33 trial markets and prices” was as much about factors determining market 33
 34 structure as about factors determining market performance. A widely-known and 34
 35 generally-accepted schematic representation of the S–C–P framework shows 35
 36 clear feedback links from firm conduct to market structure (Scherer, 1970, p. 5). 36
 37 A key theoretical element of the S–C–P analytical framework was the limit 37
 38 price model, associated with Bain (1949b).¹² In its simplest version (Modigliani, 38
 39

40 ¹¹ Bain (1959); Scherer (1970, 1980), and Scherer and Ross (1990). 40

41 ¹² There are many anticipations of the limit price model, including Marshall (1925/1890, p. 270): 41

42 The leaders in the movement towards forming Trusts seem to be resolved to aim in the future 42
 43 at prices which will be not very tempting to any one who has not the economies which a large 43
 44 combination claims to derive . . . from its vast scale of business and its careful organization. . . . 44
 45

1 1958; Sylos-Labini, 1957, 1962) the limit price model supposes that an incum- 1
 2 bent firm or several incumbent firms can discourage future entry by setting a 2
 3 low current price. While this formulation has been subject to criticism from 3
 4 the game-theoretic perspective (Friedman, 1979; see also Bain, 1949b, pp. 452– 4
 5 453), it may be mentioned here simply to note that it explicitly makes the number 5
 6 of firms on the supply side of the market depend on business conduct, so that 6
 7 supply-side market structure is endogenous. 7

8 Passing from the theoretical to the empirical, there is a large literature in 8
 9 the structure–conduct–performance tradition that seeks to explain cross-industry 9
 10 differences in market structure in terms of technological and conduct variables. 10
 11 What may be the earliest of these, Fuchs (1961), studies the impact of multiplant 11
 12 operation on market structure. A prominent paper, Comanor and Wilson (1967), 12
 13 in research that Ekelund and Hébert (1990, p. 28, footnote 3) describe as “con- 13
 14 tinuing the Harvard tradition,” argued that advertising was a factor causing seller 14
 15 concentration. Research seeking to explain the causes of market structure is dif- 15
 16 ficult to reconcile with the claim that the S–C–P approach took market structure 16
 17 to be exogenous. 17

18 S–C–P economists thought market structure changed slowly (Bain, 1970).¹³ 18
 19 But they generally recognized that the nature and rate of change of market 19
 20 structure was affected by economic forces, including underlying demand- and 20
 21 supply-side conditions and the conduct of firms in the market. 21
 22
 23

24 **2.3. The First Chicago School** 24
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26 While it is customary to write of “the Chicago School,” at least two can be 26
 27 distinguished (Bronfenbrenner, 1962, pp. 72–73).¹⁴ The First Chicago School 27
 28 may be dated roughly to the 1930s and 1940s, the Second, insofar as industrial 28
 29 economics is concerned, from immediate post-World War II period.¹⁵ 29

30 The First and Second Chicago Schools had in common beliefs in the effi- 30
 31 cacy of the market system of organizing economic activity and that the role of 31
 32 government should be as limited as possible, consistent with making the market 32
 33

35 ¹³ Later empirical evidence suggests they were correct about this. 35

36 ¹⁴ Reder (1982, p. 1) writes that 36
 37

38 The influence of specialty upon one’s perspective of Chicago economics is not trivial. . . . [the] 38
 39 Chicago corner of the economics profession can look quite different to someone in Monetary 39
 40 Theory or International Trade than to a specialist in Labor, Industrial Organization or Law and 40
 41 Economics. 41

42 When I discuss the Chicago School or Schools, I refer to what Posner (1979) terms “the Chicago 42
 43 School of antitrust analysis.” 43

44 ¹⁵ The 1946 appointment of Aaron Director to the University of Chicago Law School was critical 44
 45 to the transition from the First to the Second Chicago Schools; see Coase (1998), Peltzman (2005). 45
 See also Stigler (2005).

1 system work.¹⁶ Where they differed was in their views on what is the mini- 1
 2 mum necessary role of the government. Economists associated with the First 2
 3 Chicago School were advocates of a *laissez faire* government policy, which 3
 4 (Lange, 1945–1946, pp. 31–32):¹⁷ 4

5 maintains that the capitalist economy, provided it is not hampered by government planning, 5
 6 spontaneously operates in such a way that it secures the maximum of public welfare. 6

7 They were also convinced that government should set the ground rules for pri- 7
 8 vate competition by means of a strong antitrust policy. 8

9 The essential views of the First Chicago School on this matter are laid out 9
 10 in Henry C. Simons' 1934 essay *A Positive Program for Laissez Faire*. Simons 10
 11 defended the market mechanism of resource allocation on the grounds that it was 11
 12 more effective than other systems and that it was essential for the preservation 12
 13 of a free society. *A Positive Program* took the view that government had to play 13
 14 an affirmative (positive) role to maintain the functioning of a market economy. 14
 15 This view was a child of its time (Director, ?, p. vi): 15
 16 16

17 There may once have been substantial merit in the notion that the free-market system would 17
 18 steadily gain in strength if only it were freed of widespread state interference. By 1934 it 18
 19 became evident that a combination of [this] negative attitude, which permitted the proliferation 19
 20 of monopoly power, and promiscuous political interference, which strengthened such power, 20
 21 threatened "disintegration and collapse" of the economic organization. And only the "wisest 21
 22 measures by the state" could restore and maintain a free-market system. 22

23 Simons' positive program envisaged government making a clear distinction 23
 24 between parts of the economy where competition could be an effective resource 24
 25 allocation mechanism and parts of the economy where it could not. Where com- 25
 26 petition *could* be effective, Simons would have had the government pursue an 26
 27 activist antitrust policy, to ensure that competition *would* be effective. Not only 27
 28 should the government prohibit collusion, and punish it if detected, it should 28
 29 proactively control the size of firms to maintain a market structure consistent 29
 30 with competitive outcomes (1936, pp. 70–71): 30

31 There must be vigorous and vigilant prosecution of conspiracy in restraint of trade. . . 31

32 Sharp separation must be made between operating companies and investment trusts . . . 32

33 Operating companies should be denied the right to own securities of other such companies. . . 33

34 Operating companies must be limited in size, under special limitations prescribed for particu- 34
 35 lar industries by the Federal Trade Commission, in accordance with the policy of preserving 35
 36 real competition. 36

37 37
 38 ¹⁶ Compare Friedman (1974, p. 11): 38

39 In discussions of economic policy, "Chicago" stands for belief in the efficiency of the free 39
 40 market as a means for organizing resources, for scepticism about government intervention 40
 41 into economic affairs, and for emphasis on the quantity of money as a key factor in producing 41
 42 inflation. 42

43 ¹⁷ Director (1964, p. 2) writes that "Laissez faire has never been more than a slogan in defense of 43
 44 the proposition that every extension of state activity should be examined under a presumption of 44
 45 error." 45

1 Where the underlying technology dictated that competition could not be an 1
 2 effective resource allocation mechanism,¹⁸ Simons saw the policy choice as 2
 3 being between regulation and public ownership. His view of regulation, based 3
 4 on observation of the way regulation worked in practice, was largely negative 4
 5 (Simons, ?, pp. 50–51): 5

6 With the railroads, the abuse of private monopoly power led finally to real control over the 6
 7 prices of services. We have developed in the Interstate Commerce Commission an unusu- 7
 8 ally competent and scrupulous public body. Even here, however, the preposterous system of 8
 9 relative charges (freight classification), and the disastrous rigidity of freight rates during the 9
 10 depression, testify eloquently to the shortcomings of the regulation expedient; the entrenched 10
 11 position of the railway brotherhoods indicates clearly how governments reconcile the interests 11
 12 of small, organized groups and those of the community at large. In the field of local utilities 12
 13 a half-century of effort at regulation yields up a heritage of results, a cursory inspection of 13
 14 which should suffice to dampen anyone’s enthusiasm for a system of private monopoly with 14
 15 superimposed government regulation.

15 Simons therefore reluctantly came down on the side of public ownership of 15
 16 natural monopoly industries (1936, p. 74): 16

17 In my pamphlet, I suggested early transition to government ownership for the railroads, and 17
 18 gradual movement in that direction with the other utilities. Candidly, I feel that our situa- 18
 19 tion with respect to these industries will always be unhappy, at best; and I have no genuine 19
 20 enthusiasm for public ownership. My advocacy of the change is motivated primarily as an 20
 21 attack upon the notion, now common in high places, that our arrangements with respect to the 21
 22 railroads provide a simple and admirable model for the control of other industries generally. 22

23 For Simons, the political and economic justifications for his positive program 23
 24 were inextricably intertwined (1936, p. 75): 24

25 This is the compelling reason for stamping out private monopoly. For every suppression of 25
 26 competition gives rise to an apparent need for regulation; and every venture in regulation cre- 26
 27 ates the necessity of more regulation; and every interference by government on behalf of one 27
 28 group necessitates, in the orderly routine of democratic corruption, additional interference 28
 29 on behalf of others. The outcome . . . is: an accumulation of governmental regulation which 29
 30 yields, in many industries, all the afflictions of socialization and none of its possible benefits; 30
 31 an enterprise economy paralyzed by political control; the moral disintegration of representa- 31
 32 tive government in the endless contest of innumerable pressure groups for special political 32
 33 favors; and dictatorship. 33

34
 35 **2.4. The Second Chicago School** 35

36 The Second Chicago School carried further the antipathy of the First toward gov- 36
 37 ernment involvement in the marketplace, rejecting any antitrust policy beyond 37
 38 a prohibition of collusion and mergers to monopoly or near-monopoly,¹⁹ reject- 38
 39 ing government regulation of natural monopoly, and certainly rejecting public 39
 40 enterprise. 40
 41

42
 43 ¹⁸ Here, notice, we come up against the endogeneity of market structure. 43

44 ¹⁹ Posner (1979, p. 928). Posner also writes that opposition to cartels was (p. 932) “[p]artly, perhaps, 44
 45 for tactical reasons (not to seem to reject antitrust policy in its entirety). . . .” 45

1 Reder writes that a distinguishing characteristic of the Second Chicago School 1
 2 was what he calls the “Tight Prior equilibrium” assumption, the view that the 2
 3 economy could be treated as if it were essentially *Pareto optimal*, that (1982, 3
 4 p. 11): “decision makers so allocate the resources under their control that there 4
 5 is no alternative allocation such that any one decision maker could have his 5
 6 expected utility increased without a reduction occurring in the expected utility 6
 7 of at least one other decision maker.” 7

8 The view that the economy can be treated as if it is Pareto optimal follows 8
 9 from four assumptions that Reder ascribes to Chicago economists (1982, p. 11, 9
 10 emphasis in original, footnotes omitted): 10
 11

12 (1) *most* individual transactors treat the prices of all goods and services that they buy or sell, 12
 13 as independent of the quantities that they transact; 13

14 (2) the prices at which individuals *currently agree* to transact are market clearing prices that 14
 15 are consistent with optimization by all decision makers; 15

16 (3) information bearing on prices and qualities of all things bought and sold, present and 16
 17 future, is acquired in the quantity that markets its marginal cost equal to its price; i.e., infor- 17
 18 mation is treated like any other commodity; 18

19 (4) neither monopoly nor governmental action (through taxation or otherwise) affects rela- 19
 20 tive prices or quantities sufficiently to prevent either marginal products or compensation of 20
 21 identical resources from being approximately equal in all uses. 21

22 As Reder sees it, students of the Chicago School of antitrust policy took the 22
 23 view that (1982, p. 12): 23

24 in applied work, . . . in the absence of sufficient evidence to the contrary, one may treat ob- 24
 25 served prices and quantities as good approximations to their long-run competitive equilibrium 25
 26 values. Call this the “good approximation assumption.” 26
 27

29 2.4.1. Chicago I and Chicago II 29

30
 31 The Second Chicago School repudiated Simons’ *Positive Program for Laissez* 31
 32 *Faire*, on the ground that it advocated an interventionist role for government. 32
 33 This shift may reflect a change in the political atmosphere (Friedman, in *Kitch*, 33
 34 1983, p. 178): 34
 35

36 You have to recognize what the environment was at the time. By comparison with almost 36
 37 everybody else [Simons] was very free market oriented. I’ve gone back and reread the *Positive* 37
 38 *Program* and been astounded at what I read. To think that I thought at the time that it was 38
 39 strongly free market in its orientation! 39
 40

41 It may also reflect evidence about the importance of economies of large scale 41
 42 production, or experience with the ability (or inability) of government to inter- 42
 43 vene effectively in the economy, that accumulated after the appearance of *A* 43
 44 *Positive Program* (Friedman, 1982, p. 32). In any case, the claim that later ad- 44
 45 vocates of a government role essentially the same as that put forward by Simons 45

were making recommendations inconsistent with economic theory would seem to be a delicate one for the Second Chicago School to make.²⁰

2.4.2. Methodology

A methodological debate associated with Friedman (1953) surfaces in connection with the later rise of game theory: is a theory to be judged by the realism of its assumptions, or by the adequacy of its predictions?²¹

Blaug (1986, p. 265) has written that “Methodology is like medicine. We tolerate it because it is supposed to be good for us, but we secretly despise it.” Like many medicines, methodology is probably also best if taken in small doses, and that is what will be offered here.

Stigler states the Chicago position (1949, p. 23):

The purpose of the study of economics is to permit us to make predictions about the behaviour of economic phenomena under specified conditions. The sole test of the usefulness of an economic theory is the concordance between its predictions and the observable course of events. Often a theory is criticized or rejected because its assumptions are “unrealistic.” Granting for a moment that this charge has meaning, it burdens theory with an additional function, that of description. This is a most unreasonable burden to place upon a theory: the rôle of description is to particularize, while the rôle of theory is to generalize—to disregard an infinite number of differences and capture the important common element in different phenomena.

As suggested by the qualification “granting that the charge of unrealism has meaning,” it may first be noted that all theory is unrealistic. It is the essence of theory that it abstracts from reality. While it may be possible to say that the assumptions underlying one theory are more or less realistic than those underlying another theory, all theory is based upon assumptions that are, to some extent, unrealistic. Otherwise, it would not be theory, it would be a list.

At the same time, it is difficult to see how one could evaluate the validity of theoretical predictions except within the framework of a model that permits examination of what are thought to be the interesting alternative hypotheses (Friedman, 1953, p. 38, emphasis added).²²

²⁰ The assertion that Simons should be thought of as an interventionist rather than an advocate of *laissez faire* has not gone unchallenged. de Long (1990) argues that Simons has a legitimate claim to the label “classical liberal.” de Long’s view is that what separates the First and the Second Chicago schools is not their positions about where to go, but rather their positions on how to get there (1990, p. 618). “The conflict between Chicago then and Chicago today is about what the necessary foundations for a competitive free market economy are, and not about the desirability of such an economic order.”

²¹ On Friedman’s methodology, see Samuelson (1963), Machlup (1964), Wong (1973), Boland (1979), Frazer and Boland (1983), as well as comments and replies on the latter in the September 1984 issue of the *American Economic Review*.

²² This passage is quoted by Chamberlin (1957, p. 16). Friedman continues (1953, p. 38) “To perform this function, the more general theory must have content and substance; it must have implications susceptible to empirical contradiction and of substantive interest and importance.” As an example of substantive implications that are subject to empirical contradiction and could not be

1 It would be highly desirable to have a more general theory than Marshall's, one that would
2 cover at the same time both those cases in which differentiation of product of fewness of
3 numbers makes an essential difference and those in which it does not. *Such a theory would*
4 *enable us to handle problems we now cannot and, in addition, facilitate determination of the*
5 *range of circumstances under which the simply theory can be regarded as a good enough*
6 *approximation.*

7 **Koopmans (1957, p. 142)** writes of economic theory "as a sequence of conceptual
8 *models* that seek to express in simplified form different aspects of an
9 always more complicated reality." Industrial economists generally work with
10 models that are less simplified than the neoclassical model of perfectly competi-
11 tive markets.²³

12 **2.5. Confronting the oligopoly problem**

13 **2.5.1. S-C-P to Chicago**

14 Since the industrial revolution, a central problem for public policy toward busi-
15 ness has been that (Second Chicago School assumptions to the contrary notwith-
16 standing), performance in markets supplied by a few large firms seems often
17 to resemble that which results from collusion, without collusion taking place
18 (Mason, 1949, p. 1277):

19 high overhead costs, large cyclical variations in the volume of sales, and immobility of re-
20 sources are combined in a substantial number of industrial markets. Given these conditions,
21 together with a small number of firms, some economists have contended that such phenomena
22 as price uniformity, price leadership and the relative inflexibility of prices . . . are frequently
23 compatible with the independent action of firms all recognizing their interdependence.

24 The problem is, given such an industry, what to do about it (Mason, 1949,
25 p. 1277):²⁴

26 If the behavior is really the result of agreement, enjoining the agreement may, by securing
27 independence of action, change the market behavior. But if the action of firms is already
28 independent, this remedy is useless.

29 One answer, of course, may be to do nothing. Simons argued that regulation
30 often begins with the goal of protecting the consumer from the regulated indus-
31 try and ends up protecting the regulated industry from competition. Government
32 planning may crash on the shoals of information problems and bureaucracy.

33 obtained in analysis that begins from the premise that prices and quantities in the U.S. automo-
34 bile industry can be treated as if they are long-run competitive equilibrium values, one might cite
35 **Bresnahan's (1981)** estimate of consumer welfare losses due to quality downshifting.

36 ²³ It is mainly in the analysis of dynamic models of entry that the literature works with an explicit
37 "as if competitive" assumption, and even in that literature the assumption is far from universal.

38 ²⁴ **Posner (? , 2001)**, and *In re High Fructose Corn Syrup* 295 F.3d 651 (2001), is willing to infer
39 collusion from evidence of market performance that would result from explicit collusion. This posi-
40 tion may reflect the view that collusion can never be entirely tacit. It is a policy view that seems to
41 confront *Theatre Enterprises* (346 U.S. 537 1954).

1 Breaking up large, efficient firms for the sake of artificially maintaining a larger 1
 2 number of smaller and less-efficient firms imposes unnecessarily high produc- 2
 3 tion costs on society. If regulation, government ownership, and imposed limits 3
 4 on firm size are the only policy options, then perhaps to do nothing is best. 4

5 But from the 1950s through the 1970s, mainstream economists championed 5
 6 the kind of deconcentration plan that had been put forward by Henry Simons. 6
 7 [Stigler \(1952, pp. 162, 164\)](#) wrote that few disinterested people would deny the 7
 8 facts that 8

- 9 1. Big businesses often possess and use monopoly power. 9
- 10 2. Big businesses weaken the political support for a private-enterprise system. 10
- 11 3. Big businesses are not appreciably more efficient or enterprising than 11
 12 medium-size businesses. 12

13 He continued that ([1952, p. 164](#)) “to deal with the problems raised by big 13
 14 business” “The obvious and economical solution . . . is to break up the giant 14
 15 companies.”²⁵ 15

16 Stigler came to feel that these views were mistaken ([1988, pp. 97–108](#)). But 16
 17 the fact that he held them in the early 1950s suggests that they were not the 17
 18 hallmark of atheoretical pseudo-economists who did not understand neoclassical 18
 19 economic theory. It is probably fair to say that economists who advanced 19
 20 deconcentration proposals did not accept the position that prices and quantities 20
 21 in most industries, most of the time, could be treated as if they were at their 21
 22 competitive equilibrium values. But that assumption is not part of neoclassical 22
 23 economic theory. 23

24 Kaysen and Turner put forward a detailed deconcentration proposal (?), 24
 25 pp. 113–114): 25

26 The logic of our policy goal . . . calls for a widespread application of dissolution remedies, on 26
 27 the ground that an increase in numbers and reduction of concentration is the surest and most 27
 28 durable way of reducing market power. 28

29 They would not, however, have broken up existing firms if that had meant the 29
 30 loss of economies of large scale production (? , p. 114). 30

31 A government advisory panel ([White House Task Force on Antitrust Policy, 1968–69](#)) 31
 32 subsequently recommended adoption of a law very much like the one 32
 33 suggested by Kaysen and Turner.²⁶ A bill proposing such a law, Senate Bill 1167 33
 34 (“The Hart Bill”) was introduced in the United States Senate in 1967.²⁷ 34
 35 35

36 36
 37 37
 38 ²⁵ Stigler apparently held these views at least through December 1955, when he concluded his 38
 39 contribution to an American Economic Association panel discussion with the statement (Stocking et 39
 40 al., ?, p. 507) “Those of us who wish to see greater use made of what is often the only real remedy 40
 41 are not reckless innovators; we are simply traditionalists who wish to regain the 1911 level of use of 41
 the remedy of dissolution.” 41

42 ²⁶ The task force recommendation is commonly known as the Neal Report, after its chairman, Phil 42
 43 C. Neal, then Dean of the University of Chicago Law School. 43

44 ²⁷ For the text of the Hart bill, see [Goldschmid et al. \(1974, pp. 444–448\)](#). Perusal of this volume 44
 45 brings to mind Viner’s description of an earlier conference (this is quoted by [Reder, 1982, foot- 45
 note 19, from \[Patinkin, 1981, p. 266\]\(#\); emphasis in original\)](#) 45

1 The reaction of the Second Chicago School was to attack the S–C–P para- 1
2 digm, and the case for the deconcentration bill, on two fronts. 2

3 The first was to argue on several grounds that the results of empirical research 3
4 in the S–C–P tradition were invalid. Some of these grounds were technical in 4
5 nature, and need not detain us here.²⁸ The part of this critique that has made 5
6 the most lasting impression was that S–C–P researchers had misinterpreted the 6
7 consistent finding that profit rates tended to be higher where markets were sup- 7
8 plied by a small number of firms. In the Second Chicago School view, far from 8
9 demonstrating the greater ease of tacit or overt collusion in more concentrated 9
10 markets, this result reflected a causal link going in the other direction, from firm 10
11 performance to market structure. This causal link instead demonstrated the en- 11
12 dogeneity of market structure, an endogeneity which, according to the Second 12
13 Chicago School caricaturization, the S–C–P paradigm had ignored. The alterna- 13
14 tive causal mechanism put forward is that more efficient firms, which are more 14
15 profitable because they are more efficient, also tend to grow large. Comparing 15
16 different industries, industries supplied by a few large firms will have higher 16
17 profit rates, on average, than industries supplied by many small firms, but this is 17
18 a sign of differential efficiency, not market power.²⁹ 18

19 The idea of a deconcentration policy is not now on anybody’s radar screen. 19
20 But many of the same issues arise if an antitrust authority is faced with a decision 20
21 whether or not to permit a merger, or if dissolution is proposed as a remedy when 21
22 a firm has been found guilty of monopolization or abuse of a dominant position. 22

23 Since there is a good case to be made that the S–C–P school did in fact re- 23
24 gard market structure as endogenous, there are really two pertinent questions to 24
25 ask. The first is, taking it as given that market structure in any industry tends 25
26 to converge to an equilibrium configuration, must that configuration necessar- 26
27 ily be efficient? Since the Second Chicago School rejected the possibility of 27
28 28

31 It was not until after I left Chicago in 1946 that I began to hear rumors about a ‘Chicago 31
32 School’ which was engaged in *organized* battle for *laissez faire* and the ‘quantity theory of 32
33 money’ and against ‘imperfect competition’ theorizing and ‘Keynesianism.’ I remained sceptical 33
34 about this until I attended a conference sponsored by University of Chicago professors in 34
35 1951. The invited participants were a varied lot of academics, bureaucrats, businessmen, etc., 35
36 but the program for discussion, the selection of chairmen, and everything about the conference 36
37 except the unscheduled statements and protests from individual participants were so patently 37
38 rigidly structured, so loaded, that I got more amusement from the conference than from any 38
39 other I ever attended. Even the source of the financing of the Conference, as I found out later, 39
40 was ideologically loaded. There is a published account of the proceedings of the Conference, 40
41 but it does not include the program, etc., as presented to the participants to direct their discus- 41
42 sion. From then on, I was willing to consider the existence of a ‘Chicago School’ . . . 42

43 ²⁸ See Martin (2002, Chapter 6) for discussion. 43

44 ²⁹ This argument is particularly associated with Demsetz (1973, 1974), whose work was primitive 44
45 by the standards of its time (Rosenbluth, 1976). Subsequent research that controls for efficiency 45
46 differences finds evidence of market power and efficiency effects on profitability. 46

single-firm action to obtain or enhance market power (Posner, 1979, p. 928), their answer to this question was yes.³⁰

The second question is how quickly market structure approaches its equilibrium configuration. If market structure is endogenous and market structure adjusts very quickly to the most efficient arrangement, a deconcentration bill or a vigilant merger policy is unnecessary. The market will get to the efficient configuration on its own, before government can nudge it along.

On the other hand, if market structure is endogenous but market structure adjusts slowly to the most efficient arrangement, one might make a case for a deconcentration bill or a rigorous merger policy, provided policymakers can identify cases in which firms are larger than required for efficient operation. The Second Chicago School rejected this possibility (McGee, 1974, p. 104).³¹

I see little reason to spend much more time estimating optimum plant or firm sizes except perhaps, in a completely centralized and governmentally controlled economy in which the State tries hard to keep markets from working and consumers from expressing preferences. When properties and markets are at work, and consumers are permitted to choose what and from whom to buy, it is, as far as I am concerned, a trivial matter what the facts of technical economies are, or what economists have to say about them.

This view reflects the Second Chicago School assumption that real world data can be treated as if the real world is Pareto optimal. Thus the Second Chicago School criticized the empirical research that had been used to argue in favor of a deconcentration bill.³²

It also criticized the deconcentration bill on the ground that its theoretical underpinning, the S-C-P approach, was inconsistent with the tight prior equilibrium assumption (Posner, 1979, p. 929).³³

Casual observation of business behavior, colorful characterizations (such as the term “barrier to entry”), eclectic forays into sociology and psychology, descriptive statistics, and verification by plausibility took the place of the careful definitions and parsimonious logical structure of

³⁰ Posner (2001, p. 251) writes that the accusation that the “Chicago School” denies the possibility of single-firm exclusion of efficient competitors reflects a misunderstanding that has endured for at least a quarter-century. If the indicated view of the orthodox Chicago School position is a misunderstanding, it is at least one of respectable vintage.

³¹ See also Friedman (1955, p. 237):

If we ask what size firm has minimum costs, and define “minimum costs” in a sense in which it is in a firm’s own interest to achieve it, surely the obvious answer is: firms of existing size.

³² This criticism should perhaps be viewed in light of Reder’s (1982, pp. 12–13, footnote 28) comments on the likely reaction of students of the Chicago approach if Harberger’s (?) estimates of welfare losses in the U.S. economy had suggested significant losses:

But suppose the losses had been “large” (say, 25 per [cent] of potential GNP), would this have lead to an abandonment of [the Tight Prior Equilibrium]? My conjecture is negative; the measurement would have been attacked, both substantively and methodologically, and research would have proceeded on the assumption that the measurements were incorrect.

³³ See also the remarks of Becker quoted at page 173 in Kitch (1983).

1 economic theory. The result was that industrial organization regularly advanced propositions
2 that contradicted economic theory. 1

3 What is meant here by “economic theory” is the neoclassical theory of perfectly
4 competitive markets. 2

5 The Hart deconcentration bill never saw the light of day, and for a period of
6 perhaps 10–12 years from the mid-1970s, the Second Chicago School monopolized
7 the giving of antitrust advice to U.S. courts and policymakers. 3

8 One can find statements from this period that the Chicago approach had become
9 the mainstream approach among professional economists (Posner, 1979,
10 p. 925): 4

11 I shall argue in this paper that although there was a time when the “Chicago” school stood
12 for a distinctive approach to antitrust policy, especially in regard to economic questions, and
13 when other schools, particularly a “Harvard” school, could be discerned and contrasted with
14 it, the distinctions between these schools have greatly diminished. This has occurred largely
15 as a result of the maturing of economics as a social science, and, as a corollary thereto, the
16 waning of the sort of industrial organization that provided the intellectual foundations of the
17 Harvard School. 5

18 The reference to “the Harvard School” is disingenuous, since the S–C–P ap-
19 proach was subscribed to by the bulk of the profession. 6

20 Nelson’s reaction to Posner’s assertion included (1979, p. 949): 7

21 Posner contrasts the “old” school of industrial organization (Harvard) which he proposes was
22 atheoretic with the “new” school (Chicago) which based itself rigorously on price theory. But
23 the price theory to which Posner refers is the old fashioned price theory of the textbooks
24 of twenty years ago. What Posner does not see is that over the last decade or so a newer
25 price theory is replacing the old. I suggest that the new price theory probably provides better
26 support for the old industrial organization than it does for what Posner calls the new. Indeed,
27 the journals are full of a “new new” industrial organization literature based on the newer price
28 theory, viewing the problem in a way that is more consistent with old Harvard than with new
29 Chicago. 8

30 Table 2.1 reports the results of an examination of 117 articles on industrial
31 economics, price theory, and antitrust published in the Papers and Proceedings
32 issue of the *American Economic Review* between 1951 and 1982.³⁴ I classified
33 these papers in three groups: those consistent with the good approximation
34 assumption, those inconsistent with the good approximation assumption and
35 36

37
38 ³⁴ Details of the classification are given in the Appendix. I began the survey with 1951 as the
39 first year of the first postwar decade. I ended the survey in 1982 on the ground that Schmalensee’s
40 statement suggests that if ever Chicago had commanded the mainstream of industrial economics,
41 that moment had by then passed (1982, p. 24): 9

42 Recent work follows Harvard in acknowledging the possibility of markets not well described
43 by either perfect competition or pure monopoly, and it follows Chicago in stressing the value
44 of deductive analysis of explicit economic models. 10

45 I did not include papers on regulation in the survey, and I did not include discussions. 11

Table 2.1: Classification of 117 articles from the papers and proceedings issues of the *American Economic Review*, 1951–1982.

	1950s	1960s	1970–1982	Total
Chicago	7	9	6	22
Mainstream	24	17	20	61
“Think outside the box”	11	9	14	34

consistent with the structure–conduct–performance approach, and those inconsistent with the good approximation assumption and also urging the advantages of heterodox alternative approaches.

There is of course an element of judgment in this classification. Few positions are so straightforward as Nutter’s (1954, p. 70):

We must certainly be struck by the fact that, when we are faced with concrete problems, we place our trust overwhelmingly in the simple and familiar tools of supply and demand, with results that are generally quite satisfactory for most purposes,

as Miller’s (1954, p. 15):

It has become clear that the competitive process is no simple thing and that market structures and behavior defy reduction in either law or economics to a simple dichotomy of monopoly and competition,

or as Simon’s (? , pp. 14–15):

... conclusions about welfare in such areas as tax and antitrust policy depend in an important way upon the underlying postulates about the behavior of the individual firm. The picture of the firm that is emerging from the new research is that of a searching, information processing, allocating mechanism. It is doubtful that the propositions that hold under the assumption of static, profit-maximizing firms under conditions of certainty hold for such firms.

Where classification is ambiguous, my intention has been to give the benefit of the doubt to either the first or the third category, as appropriate. The message of Table 2.1, however, seems clear: it has never been the case that the tenets of the Chicago School were the mainstream view of industrial economics.³⁵

In retrospect, it seems entirely possible that the views of industrial economists about the Chicago School of antitrust policy were something to which Chicago scholars were in some measure indifferent. In its manifestation that is discussed here,³⁶ the Chicago School was primarily a school of *antitrust analysis*, and

³⁵ I have not included Kearn et al. (1979) in the sample classified in Table 2.1. They report the results of a survey of a stratified random sample of 600 1974 members of the American Economic Association. Statement 12 in their survey is “Antitrust laws should be used vigorously to reduce monopoly power from its current level.” They report that 49 per cent of respondents generally agreed with the statement, 36 per cent agreed with provisions, and 15 per cent generally disagreed. For comparison purposes, the 22 papers I have classified as consistent with the good approximation assumption are 19 per cent of the 117 papers examined.

³⁶ See footnote 14.

1 only secondarily a school of thought in industrial economics. Chicago advocates 1
 2 found that (Bork, at p. 8 in Shapiro et al., 1984) "... basic price theory ... is 2
 3 really a quite simple and logical system that can be applied by judges" and that 3
 4 is what appears to have interested them. 4

5 6 7 **2.5.2. Chicago to game theory** 7

8
9 While the Second Chicago School was disputing policy primacy with the S-C-P 9
 10 paradigm, there were developments in another part of the forest (Shubik, 1980, 10
 11 p. 21): 11

12 There is a history of mathematical models of oligopolistic competition dating from Cournot 12
 13 (1838) to the theory of games. There is also a literature generated by institutional economists, 13
 14 lawyers, and administrators interested in formulating and implementing public policy. It has 14
 15 been the tendency of these groups to work almost as though the other did not exist. 15

16 The founders of the S-C-P approach had rejected contemporary economic 16
 17 theory as inadequate for the analysis of imperfectly competitive markets. So, 17
 18 perhaps, it was.³⁷ But game theory, which extends neoclassical price theory 18
 19 to environments of incomplete and imperfect information, provides a natural 19
 20 framework for the analysis of strategic behavior. Mainstream industrial econo- 20
 21 mists, having faced criticism for the failure to use formal models, were not slow 21
 22 to turn to game theory as an alternative approach. Game theory directs atten- 22
 23 tion toward the realism of a model's assumptions (Fudenberg and Tirole, 1987, 23
 24 p. 176, emphasis added): 24
 25

26 Game theory has had a deep impact on the theory of industrial organization ... The reason it 26
 27 has been embraced by a majority of researchers in the field is that it imposes some discipline 27
 28 on theoretical thinking. It forces economists to specify the strategic variables, their timing, 28
 29 and the information structure faced by firms. As is often the case in economics, the researcher 29
 30 learns as much from constructing the model ... as from solving it because *in constructing the* 30
 31 *model one is led to examine its realism.* (Is the timing of entry plausible? Which variables 31
 32 are costly to change in the short run? Can firms observe their rivals' prices, capacities, or 32
 33 technologies in the industry under consideration? Etc.) 33

34 This may be contrasted with the Friedman (1953) view that the realism of a 34
 35 model's assumptions is immaterial, what matters is the accuracy of its predic- 35
 36 tions. 36

37 Like Pandora, who loosed the ills of the world and found they could not be 37
 38 closed up again, the Second Chicago School invoked formal theory in its contest 38
 39 with the S-C-P approach, and found it could not close it up again. Faced with 39
 40 the fact that game theoretic models reproduce, as often as not, the conclusions 40
 41 of the S-C-P paradigm, the reaction of the Second Chicago School was to reject 41
 42 the use of game-theoretic models (Baxter, 1983, p. 320): 42

43
44
45 ³⁷ See Nelson (1979, p. 952) for a similar view. 45

1 What concerns me is that the economists have rather lapped the bar and the courts. Quite 1
 2 frankly, I do not want them back in the courts talking about new and not well-understood jus- 2
 3 tifications for intervention, some of which sounds [sic] like the half-baked oligopoly theories 3
 4 of twenty years ago (although they are not). 4

5 6 **2.6. Chicago transformed** 6

7
8 Having lost the high ground of theoretical rigor, Chicago turned to empirical 8
 9 research. Coase (1972, p. 62) criticized mainstream industrial organization for 9
 10 its focus on price, an element of market performance: “Industrial organization 10
 11 has become the study of the pricing and output policies of firms, especially in 11
 12 oligopolistic situations. . . .” As we have seen, this focus was intentional on the 12
 13 part of those who developed the S–C–P paradigm. 13

14 Coase buttressed his critique of mainstream industrial economics with the 14
 15 plea that attention to market performance was misplaced (1972, p. 60):³⁸ 15

16 We all know what is meant by industrial organization. It describes the way in which activities 16
 17 undertaken within the economy are divided between firms. As we know, some firms embrace 17
 18 many different activities; while for others, the field is narrowly circumscribed. Some firms are 18
 19 vertically integrated; others are not. This is the organization of industry or—as it used to be 19
 20 called—the structure of industry. What one would expect to learn from a study of industrial 20
 21 organization would be how industry is organized now, and how this differs from what it used 21
 22 to be in earlier periods; what forces were operative in bringing about this organization, and 22
 23 how these forces have been changing over time; what the effects would be of proposals to 23
 24 change, through legal action of various kinds, the forms of industrial organization. 24

25 He argued that it was empirical rather than theoretical research that was most 25
 26 likely to generate progress (1972, pp. 70–71): 26

27 it is unlikely that we shall see significant advances in our theory of the organization of industry 27
 28 until we know more about what it is that we must explain. An inspired theoretician might do as 28
 29 well without empirical work, but my own feeling is that the inspiration is most likely to come 29
 30 through the stimulus provided by the patterns, puzzles, and anomalies revealed by systematic 30
 31 data-gathering. 31

32 Further, he argued for a specific rather than a general approach (1972, p. 73): 32

33 In my view, what is wanted in industrial organization is a direct approach to the problem. 33
 34 This would concentrate on what activities firms undertake, and would endeavor to discover 34
 35 the characteristics of the groupings of activities within firms. Which activities tend to be asso- 35
 36 ciated, and which do not? The answer may well differ for different kinds of firm; for example, 36
 37 for firms of different size, or for those with a different corporate structure, or for firms in 37
 38 different industries. 38

39 The position taken by Coase in 1972 has much in common with the position 39
 40 taken by Mason and his students in the 1930s: the theory we have is not satis- 40
 41 factory, let us turn to empirical analysis as a way of laying the foundation for 41
 42 an adequate theory. But the kind of industry study Coase calls for sounds very 42

43
44 ³⁸ In the same place, Coase calls for the study of the division of activity between profit and nonprofit 44
 45 firms and between the private sector and government. 45

1 much like the primarily descriptive industry studies rejected by the developers
2 of the S–C–P approach.³⁹

3 4 **2.7. Final thoughts**

5
6 Industrial economics is a contentious field, as are many other branches of eco-
7 nomics. Lange (1945–1946, pp. 22–23), discusses four reasons economists may
8 differ in the policy recommendations they draw from economic analysis.

9
10 First, Lange writes, economists may differ about social objectives. Two
11 economists who agree about the impact of a tariff on the domestic market will
12 differ in their recommendations for the appropriate tariff level if one economist
13 recommends a policy to maximize consumer welfare and another recommends
14 a policy to protect domestic firms from foreign competition.

15
16 Second, economists may disagree about facts. One economist may think that
17 it is possible for economists to evaluate the minimum size firm needed in (say)
18 electric power generation to obtain the lowest possible average cost, and that this
19 size is small relative to the size of the market. Another economist may think that
20 it is not possible for economists to measure the minimum lowest-average cost
21 firm size, or that if such measurement is possible, that the indicated size is large
22 relative to the size of the market. Economists with such alternative views would
23 make different recommendations about merger policy in the electric power in-
24 dustry.

25
26 Third, some economists may fail to apply scientific procedures correctly. The
27 remedy for this is straightforward, and will manifest itself if the usual process
28 of give-and-take in academic journals runs its course.

29
30 Finally, economists' policy recommendations may differ for reasons of ideol-
31 ogy.⁴⁰ Wiles (1983, pp. 61–62) defines an ideology as

32
33 a general and coherent *Weltanschauung*, felt passionately and defended unscrupulously. It
34 contains *sacred propositions* of a factual sort. In the face of contrary evidence, the words in
35 these propositions will be redefined, or the philosophical status of the propositions will even be
36 changed, in order not to abandon the original concatenation of words. A special methodology
37 and vocabulary will also grow up, the use of which confines the devotees to problems and
38 approaches that cannot threaten the sacred propositions.

39
40 Discussing the impact of ideology on economics, Lange (1945–1946, p. 23)
41 writes:

42
43 The really important influences, however, are those which are subconscious. The economist
44 subject to them is unaware of their existence; the influences operate through processes of ratio-
45 nalisation of subconscious motivations. The result is the production of *ideologies*, i.e. systems

41
42 ³⁹ Posner (1979, p. 931), is quite critical of S–C–P industry studies, which in his view had the char-
43 acteristic that “The powerful simplifications of economic theory—rationality, profit maximization,
44 the downward-sloping demand curve—were discarded, or at least downplayed, in favor of micro-
45 scopic examination of the idiosyncrasies of particular markets.”

⁴⁰ For a call for greater attention to the impact of ideology on policy, see North (1983).

1 of beliefs which are held not on grounds of their conformity to scientific procedure but as
 2 rationalisations of subconscious, non-logical motives. . . . [Ideologies] convince only those who
 3 share the same subconscious motivations and undergo the same processes of rationalisation.

4 Ideology permeates economics. It influences the research topics individual
 5 economists find interesting. It influences the reactions of journal editors and
 6 referees to research results that are subject to the winnowing process of scientific
 7 screening (Schumpeter, 1949, p. 349):

8 The majority of economists . . . are ready enough to admit [ideology’s] presence though, like
 9 Marx, they find it only in others and never in themselves; but they do not admit that it is an
 10 inescapable curse and vitiates economics to its core.

11 Arguments that are made for ideological reasons may nonetheless be correct.
 12 The conclusions reached on the basis of those arguments may be correct, in a
 13 scientific sense. As Schumpeter also wrote, with the bluntness that a great mind
 14 can permit itself (1949, p. 349):

15 . . . *ideologies are not simply lies*; they are truthful statements about what a man thinks he sees.

16 Such arguments should not, therefore, be dismissed simply on the ground that
 17 they are ideological. They should be considered on the merits.

18 I began this essay by asking “What has antitrust brought to industrial econ-
 19 omics?” “Ideology” is a central part of any answer to that question.

20 It is interesting to speculate how the field of industrial economics might have
 21 developed if deconcentration proposals of the kind put forward by Simons,
 22 Stigler, Kaysen and Turner, and others had never seemed to approach a tan-
 23 gible possibility of adoption. I have suggested above (Section 2.5.1) that “the
 24 Chicago School was primarily a school of *antitrust analysis*, and only secondar-
 25 ily a school of thought in industrial economics.” One alternative reality is that
 26 without the target provided by deconcentration proposals, no full-blown attack
 27 (footnote 32) on the structure–conduct–performance approach would have taken
 28 place. Initiatives like Phillips (1960, 1961), Williamson (1965), and Richardson
 29 (1972), which in varying ways pointed out that firms operate not only in product
 30 markets but also within a dense network of interfirm contracts, and that this net-
 31 work has efficiency as well as market power implications, might very well have
 32 had a greater direct following than has been the case.⁴¹ The theoretical tools to
 33 formally model imperfectly competitive markets that did not exist in the 1930s
 34 had been developed by the early 1970s, and game theory would in any case have
 35 supplanted the structure–conduct–performance paradigm.⁴² The antitrust policy
 36 positions supported by mainstream industrial economics would be very much
 37
 38
 39

40
 41 ⁴¹ In this alternative state of the world, transaction cost economics would certainly have empha-
 42 sized the efficiency aspects of interfirm relations. It may well be that the transaction cost economics
 43 message that enduring institutional arrangements may have efficiency implications has been garbled
 44 by the hard-core Chicago message that enduring institutional arrangements can have *only* efficiency
 45 implications.

⁴² This is at least suggested by the size of the “think outside the box” category in Table 2.1.

1 what they are today. What would be absent would be the misinterpretation of 1
2 mainstream economic views embodied in some U.S. antitrust precedents. 2

3 The Second Chicago School did change the landscape of professional in- 3
4 dustrial economics. Mainstream industrial economists now look for efficiency 4
5 as well as market power explanations of real-world observations. Mainstream 5
6 industrial economists now expect theoretical research to be carried out using 6
7 formal models that are consistent with mainstream microeconomic theory, and 7
8 are likely to look askance at theory formulated in the discursive style that char- 8
9 acterized the S–C–P paradigm.⁴³ But mainstream industrial economic theory is 9
10 not neoclassical price theory, nor is it the theory of perfectly competitive mar- 10
11 kets. Mainstream industrial economists today reject the Second Chicago School 11
12 “good approximation” assumption that prices and quantities in real-world mar- 12
13 kets can, most of the time, be treated as if they are competitive equilibrium 13
14 values. 14

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17
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20 anonymous referees. Responsibility for errors is my own. 20
21 21

22 23 **Appendix** 23

24
25 This appendix lists by group the classification of papers reported in [Table 2.1](#). 25
26 All papers are from the *American Economic Review*. 26

27 (1) Implicitly or explicitly consistent with the view that the good approxi- 27
28 mation assumption is appropriate for industry analysis, or with policy positions 28
29 implied by the good approximation assumption. 29

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31 Taylor, O.H. “The future of economic liberalism,” 42(2), May 1952, pp. 1–15. 31

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33 pp. 45–55. 33

34 Reder, M.W. “Rehabilitation of partial equilibrium theory,” 42(2), May 1952, 34
35 pp. 182–197. 35

36 Brozen, Y. “Determinants of the direction of technological change,” 43(2), May 36
37 1953, pp. 288–302. 37

38 Nutter, G.W. “Competition: Direct and devious,” 44(2), May 1954, pp. 69–76. 38

39 Levi, E.H. “The monopoly problem as viewed by a lawyer,” 47(2), May 1957, 39
40 pp. 293–302. 40
41

42
43
44
45 ⁴³ If usage of discursive theory now appears in the literature, it is likely to be employed in an 43
44 institutionalist/transaction cost analysis that is in many ways the successor of the Second Chicago 44
45 School. 45

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- 5 Adelman, M.A. "The antimerger act, 1950-60," 51(2), May 1961, pp. 236–244. 5
- 6 Dewey, D. "Mergers and cartels: Some reservations about policy," 51(2), May 6
7 1961, pp. 255–262. 7
- 8 Heady, E.O. "Efficiency of the farm firm," 54(3), May 1964, pp. 97–106. 8
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12 56(1/2), March 1966, pp. 448–456. 12
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- 16 Telser, L.G. "Searching for the lowest price," 63(2), May 1973, pp. 40–49. 16
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- 19 Carlton, D.W. "Uncertainty, production lags, and pricing," 67(1), February 1977, 19
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22 70(2), May 1980, pp. 356–362. 22
- 23 Bailey, E.E. "Contestability and the design of regulatory and antitrust policy," 23
24 71(2), May 1981, pp. 178–183. 24
- 25 Stigler, G.J. "The economists and the problem of monopoly," 72(2), May 1982, 25
26 pp. 1–11. 26
- 27 (2) Inconsistent with Chicago School positions. 27
- 28 Rostow, W.W. "A historian's perspective on modern economic theory," 42(2), 28
29 May 1952, pp. 16–29. 29
- 30 Kaysen, C. "Dynamic aspects of oligopoly price theory," 42(2), May 1952, 30
31 pp. 198–210. 31
- 32 Galbraith, J.K. "Countervailing power," 44(2), May 1954, pp. 1–6. 32
- 33 Stigler, G.J. "The economist plays with blocs," 44(2), May 1954, pp. 7–14. 33
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11		11
12		12
13		13
14		14
15		15
16		16
17		17
18		18
19		19
20		20
21		21
22		22
23		23
24		24
25		25
26		26
27		27
28		28
29		29
30		30
31		31
32		32
33		33
34		34
35		35
36		36
37		37
38		38
39		39
40		40
41		41
42		42
43		43
44		44
45		45

Proof of Raw Subject Index

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45

Page: 25
antitrust!and industrial economics

Page: 26
antitrust!outdated views on economics
Chicago School!orthodox
Chicago School!orthodox
Chicago School!orthodox
Chicago School!good approximation
assumption
Chicago School!good approximation
assumption

Page: 27
industrial economics!origins

Page: 28
monopolistic competition

Page: 29
industrial economics!structure–conduct–
performance framework

Page: 31
industrial economics!structure–conduct–
performance framework!treatment of
market structure

Page: 32
Chicago School!First

Page: 33
laissez faire
laissez faire

Page: 34
Chicago School!Second

Page: 35
Chicago School!good approximation
assumption

Page: 36
Chicago School!Second!methodology
laissez faire

Page: 37
industrial economics!oligopoly problem

Page: 38
industrial economics!deconcentration
proposals
Chicago School!Second!criticism of
structure–conduct–performance
framework
structure–conduct–performance
framework!criticism by Second Chicago
School

Page: 39
industrial economics!structure–conduct–
performance framework!treatment of
market structure
laissez faire

Page: 41
Chicago School!good approximation
assumption

Page: 42
Chicago School!good approximation
assumption!not accepted by mainstream
industrial economics
Chicago School!good approximation
assumption

Page: 43
industrial economics!game theoretic
reformulation

Page: 45
industrial economics!ideology and
ideology!and industrial economics

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45

Proof of Raw Subject Index

1	_____	Chicago School!good approximation	1
2	Page: 47	assumption	2
3	antitrust!outdated views on economics		3
4			4
5			5
6			6
7			7
8			8
9			9
10			10
11			11
12			12
13			13
14			14
15			15
16			16
17			17
18			18
19			19
20			20
21			21
22			22
23			23
24			24
25			25
26			26
27			27
28			28
29			29
30			30
31			31
32			32
33			33
34			34
35			35
36			36
37			37
38			38
39			39
40			40
41			41
42			42
43			43
44			44
45			45